Microsoft

Dynamics 365 and Power Platform

APRIL 2019 RELEASE NOTES

FEATURES RELEASING FROM APRIL 2019 THROUGH SEPTEMBER 2019

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April '19 Release Notes

The April ’19 release notes describe all new features releasing from April 2019 through September 2019 for Dynamics 365 and Power Platform. Previews for some features will start in February 2019. You can either browse the release notes online or download the document as a PDF file.

April ’19 Release Overview

The April ’19 wave of releases for Dynamics 365 and Power Platform provides you with significant capabilities to transform your business.
These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see Microsoft policy).

Dynamics 365

The enhancements to Dynamics 365 applications in the April ’19 release include hundreds of new capabilities across Sales, Marketing, Customer Service, Portals, Field Service, Project Service Automation, Finance and Operations, Talent, Retail, and Business Central. We're adding a new set of mixed reality experiences using Microsoft Layout and Microsoft Remote Assist.

The April '19 release delivers continued investments in Artificial Intelligence capabilities that leverage the power of Microsoft AI research, tools, data, and the Power Platform to help organizations transform customer service, sales, and marketing functions. AI for Sales provides actionable insights to drive personalized engagement and proactive decision-making. AI for Market Insights enables business users to gather actionable insights based on what consumers say, seek, and feel about their brands and products. Optimize your customer service experience through AI enhanced analysis with Customer Service Insights.

The April ’19 release signifies a key milestone for Dynamics 365. It is the first major update where all our customers across Dynamics 365 will be on the latest version and on a consistent update schedule. It is also a template of how major updates will be done going forward in April and October every year.

Here are the key dates for the April ’19 release.

Milestone	Date	Description
Release notes available	January 21, 2019	Learn about the new capabilities across Dynamics 365 and Power Platform.

Milestone	Date	Description
Preview available	February 1, 2019	Try new capabilities in the April '19 update before they are deployed in production. Learn more
Release notes updates	February 21, 2019	Updates to release notes with additional apps and capabilities.
Virtual launch event	April 2, 2019	Hear from James Phillips, Alysa Taylor, and the product leaders as they preview what's new. Register now
General availability	April 5, 2019	April '19 update available for production deployment. Learn more

Power Platform

New Power Platform capabilities combine Power BI, PowerApps, Microsoft Flow, and Common Data Service into an unmatched palette of tools to extend, customize, and integrate Dynamics 365 and Office 365 into your environment. The April '19 release provides major improvements to enable business analysts and makers to build higher-quality reports, apps, and workflows more easily, while still supporting more advanced enterprise and administrator requirements.

Data Integration

Data Integration provides built-in connectivity to the Power Platform and more, with data across hundreds of business systems, enabling rich and intelligent experiences. The Common Data Model provides semantic consistency for canonical business entities across Dynamics 365 and Common Data Service, increasing value and saving time for application developers, ISV partners, and integrators.

We've done this work to help you—our partners, customers, and users—drive the digital transformation of your business on your terms. We're looking forward to engaging with you as you put these new services and capabilities to work, and we're eager to hear your feedback as you dig into the April '19 release.

Let us know your thoughts. Share your feedback on a community forum for Dynamics 365 or Power Platform (Power BI, PowerApps, and Microsoft Flow). We'll use your feedback to make improvements.

Dynamics 365 for Marketing

Overview of Dynamics 365 for Marketing April '19 release

Dynamics 365 for Marketing is a marketing automation solution that can help businesses turn more prospects into business relationships. Since its launch in April 2018, Dynamics 365 for Marketing has seen increasing adoption by organizations looking to nurture more sales-ready leads, align sales and marketing, make smarter decisions and grow with an adaptable platform. The app goes beyond basic email marketing to provide deep insights and generate qualified leads for your sales teams. Its graphical content-creation and design tools make visually rich emails, landing pages, and customer journeys easy to design and execute.

Our customers are increasingly looking to tailor the app to various roles and personas within their organization. They want to keep their user experience simple while achieving business goals through interconnected customer journeys. This requires support for centralized implementation by a few power users while enabling marketers to tweak their campaigns for the best returns. It also requires integrated actionable intelligence at every step to improve decision making and identify the best path forward.

The April '19 release lights up new intelligent scenarios and enhanced extensibility capabilities so customers and partners can tailor the application to specific needs. The application also adds social marketing capabilities beyond its existing social insights and analytics. Here are the key investment areas for the April '19 release:

- **Actionable intelligence** lets you build optimized target segments, craft appealing content for better delivery, and orchestrate effective communications strategies. It leverages rich data sets available with the marketing app to help marketers maximize the impact of their campaigns.
- **Personalized marketing** now extends to landing pages, which can provide content that's personalized for known visitors. Design innovative new marketing experiences that feature mixed reality to help drive richer engagement with potential leads. Marketers can achieve more on social channels by posting right from the app.
- **Easy Onboarding** Trial sign-ups can now be done in a few steps and spun quickly in minutes. New users can get started through the intuitive dashboard and discover value with guided tasks for common marketing scenarios. This comes along with general usability improvements for better experience.
- **Integrate and extend** the solution. Platform extensibility enhancements help customers and partners meet specific needs, deliver turnkey projects, and support vertical scenarios.

New APIs will enable you to link journeys to business processes, and to create target segments programmatically. You can use your own content management system to submit information directly via forms, and to set up event pages or landing pages. Social integration is further enhanced to include social-posting capabilities. Sales users can now influence marketing with a few clicks.

- **Fundamental investments** continue to deliver improved usability, performance, scalability and throughput for campaign execution and email marketing. The segmentation interface has been improved and optimized for frequently used marketing scenarios. Usability improvements in insights provide complete visibility across all campaign elements, form interactions, email messages, and more.

What's new and planned for Dynamics 365 for Marketing

This topic lists features that are planned to release between April and September 2019. Previews for some features will start in February 2019.

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see Microsoft policy).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the International availability guide.

Feature	Release type	Date
Extensibility for campaigns and segments	General Availability	April 2019
Integration with content management systems	General Availability	April 2019
Easy onboarding	General Availability	April 2019
Lifecycle enhancements and deeper insights	General Availability	April 2019
Sales integration enhancements	General Availability	April 2019
Social posting	General Availability	April 2019

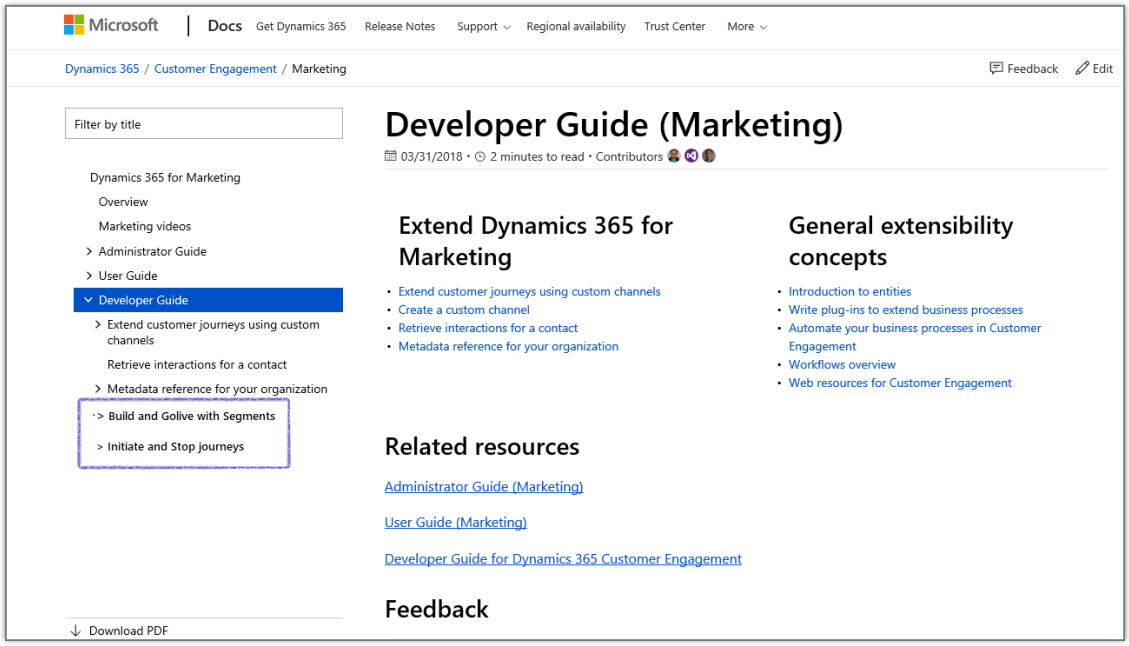
Feature	Release type	Date
Enhanced event registration and check-in experience	General Availability	April 2019
Marketer-friendly segmentation experience	General Availability	April 2019
Smart scheduling	Public Preview	April 2019
Segment boost	Public Preview	April 2019
Spam score	Public Preview	April 2019
Website personalization	Public Preview	April 2019
Mixed reality content	Public Preview	June 2019

Extensibility for campaigns and segments

This release provides a rich set of APIs for customer journeys and segments. These APIs provide key integration points for external services integration and can easily connect with Microsoft tools like Flow.

For example, you can build a customer journey programmatically and modify its properties as needed—or build a new segment based on any existing segment. You can also control entity lifecycles, such as starting, stopping, or editing a journey.

Customers and partners can use these abilities to extend the marketing app, address self-service and lightweight usage scenarios (such as automating repetitive processes), and enable complex scenarios (such as triggering from external systems).

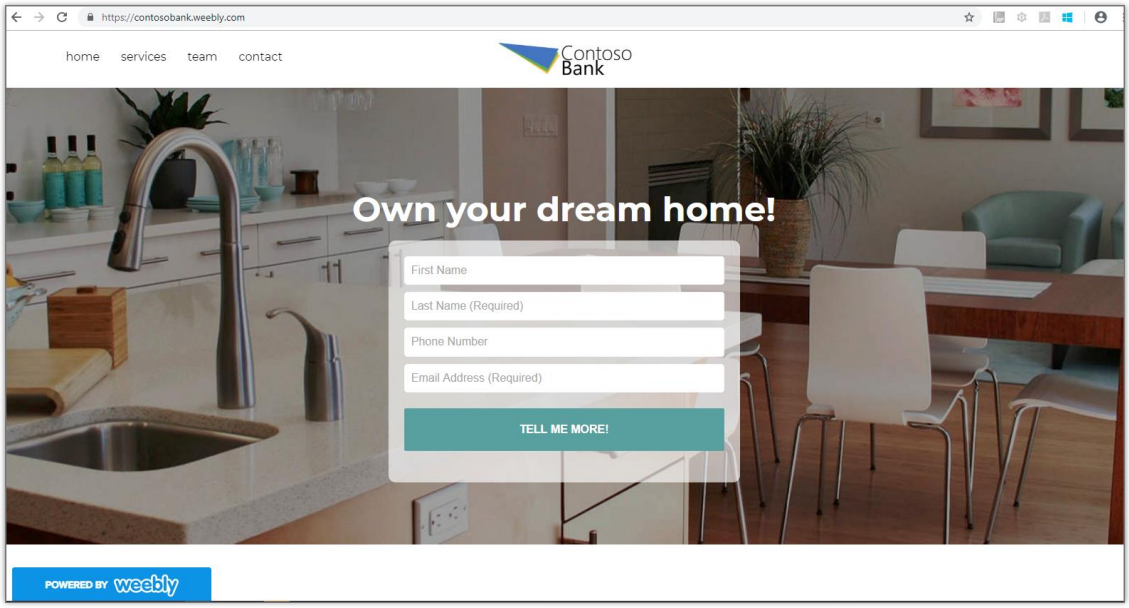


Developer Guide for Marketing

Integration with content management systems

Marketing campaigns need good content with consistent branding, so most organizations already use a content management system (CMS) to help manage and host their online content.

With the April '19 release, Dynamics 365 for Marketing can seamlessly integrate with any third-party content management system while still providing the same level of capabilities and insights. Previously, the application required Dynamics 365 portals to host features like the subscription center and event portal, but in this release, portals will become optional. Now you can choose to host all Dynamics 365 for Marketing forms and content on an external CMS while still collecting rich interaction data like visits, submissions, registrations, and more.



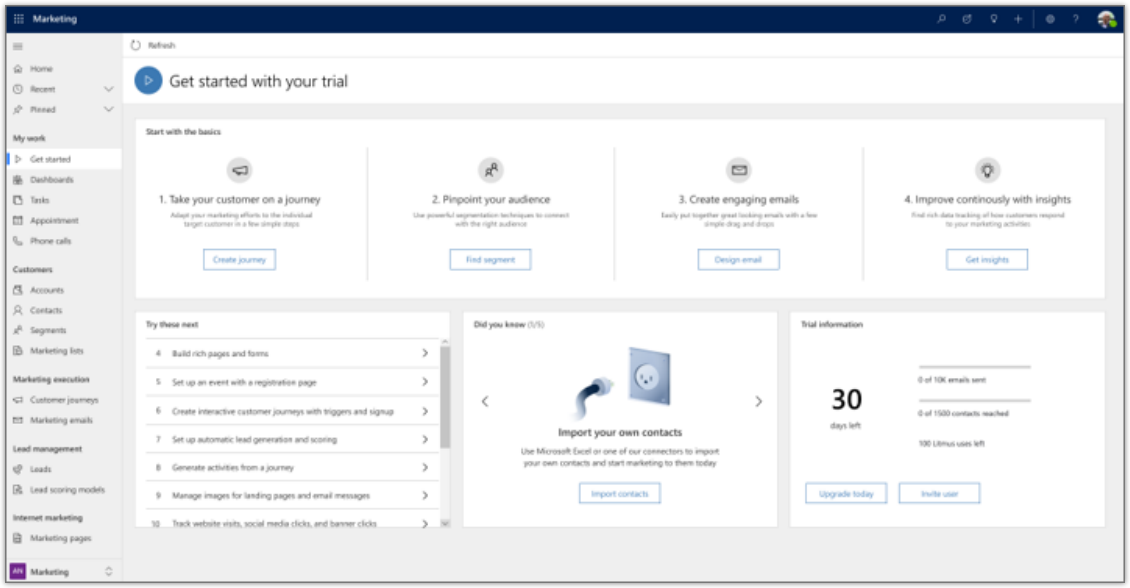
A Dynamics 365 for Marketing form embedded in an external web page

Easy onboarding

We are overhauling the onboarding experience so that new customers can sign up quickly and new users can easily get started on their marketing tasks. The product looks modern and welcoming, and users can discover its value instantly.

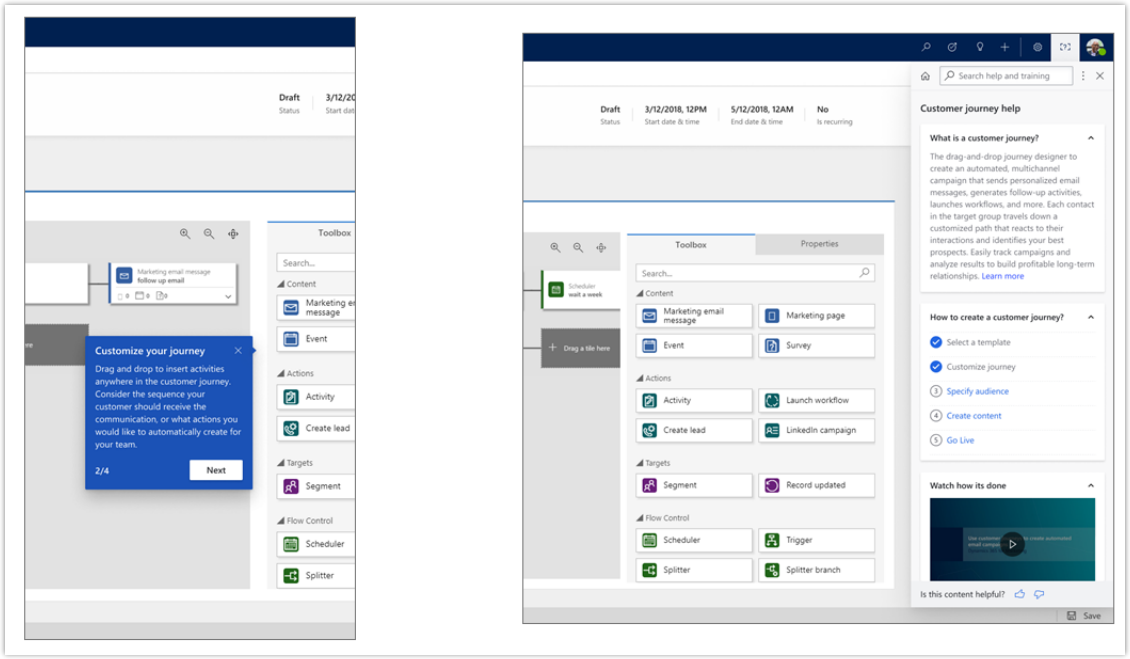
Key improvements include:

- The new *get started dashboard* prominently calls out key marketing tasks like building a campaign and using insights.



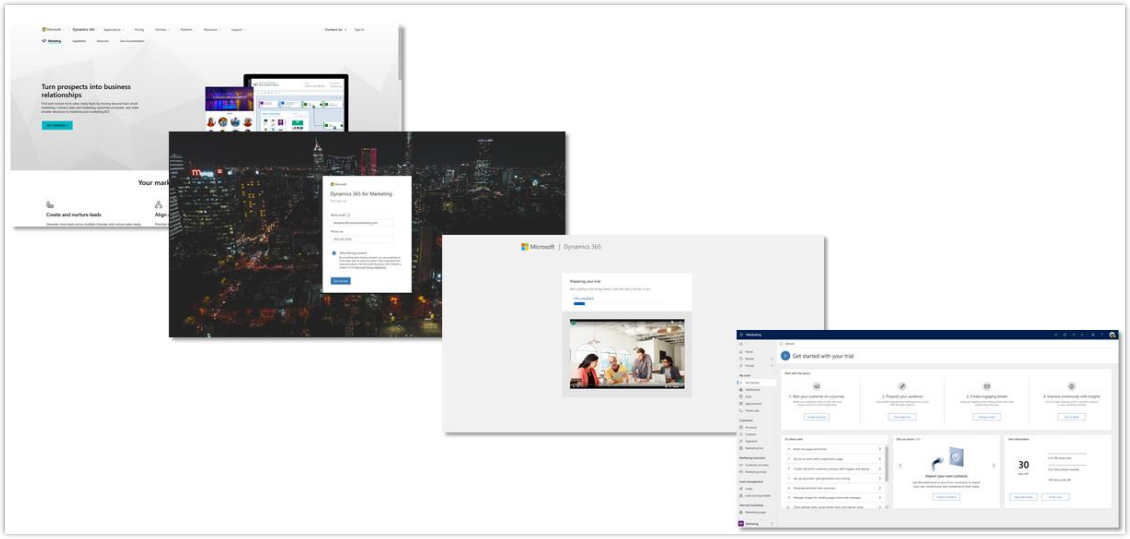
Get started dashboard

- *Guided tasks* provide step-by-step guidance for many scenarios and a context-sensitive help pane.



Guided tasks

- *Simplified trial sign-up* now enables customers to sign up for a trial in just a few steps.

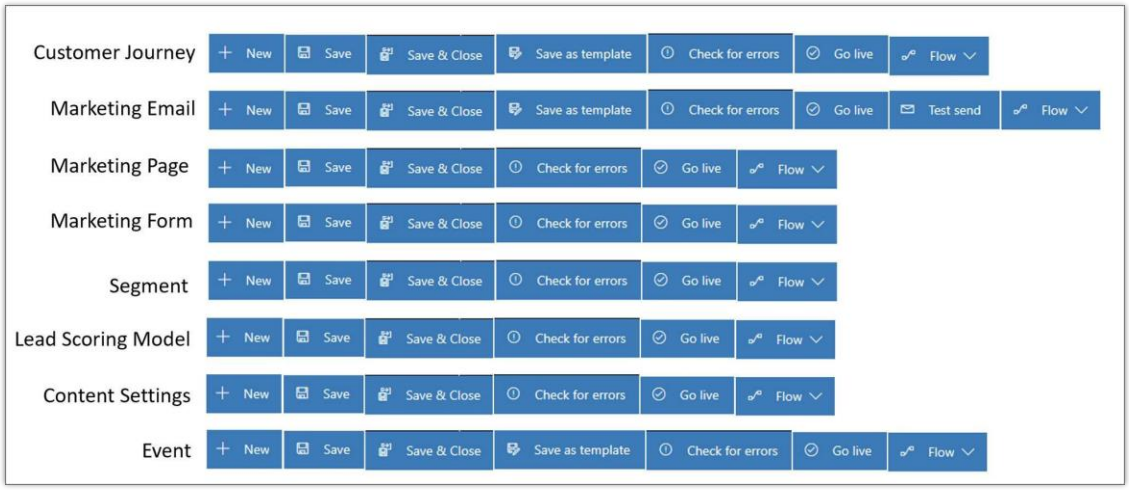


Simplified sign-up

Lifecycle enhancements and deeper insights

Many entities, such as email messages, travel through a lifecycle that takes them, for example, from draft, to live, back to edit, and then live again. We've improved lifecycle management throughout the app to provide a more intuitive and consistent experience across all the phases of a campaign—whether you're drafting an email, crafting a segment, going live with a journey, managing events, or editing a lead-scoring model. This provides a more consistent approach for how and when records can be published, deleted, or deactivated.

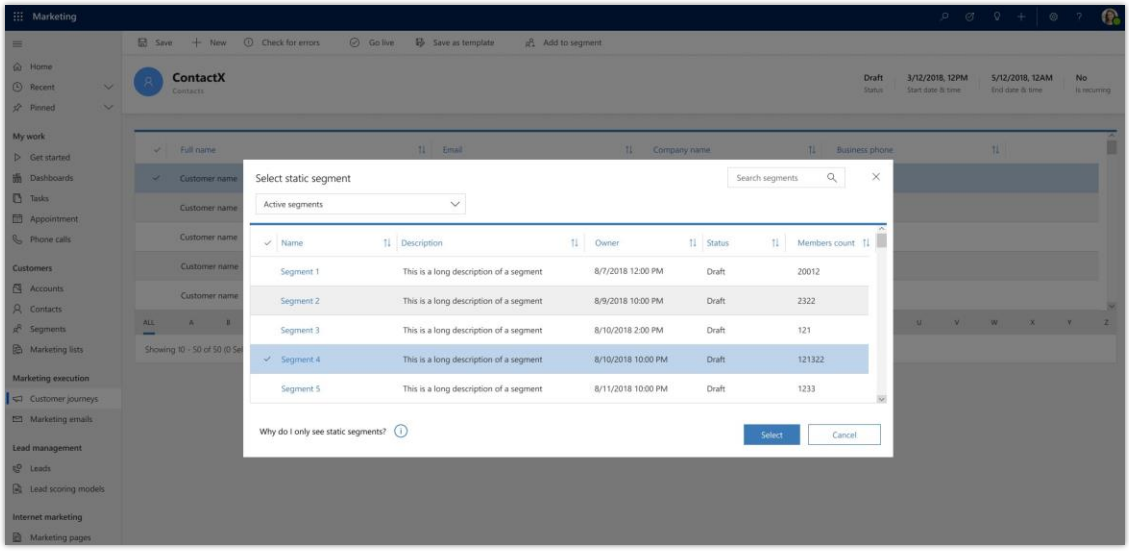
We've also improved our built-in insights pages to make them more comprehensive and easier to use. Marketers can easily understand how journeys are running and see which communications were delivered, which weren't, and why.



Consistent lifecycle

Sales integration enhancements

We continue to break down the silos between sales and marketing departments by enabling salespeople to add contacts to running journeys or specific segments. Dynamics 365 for Sales users could already review some Dynamics 365 for Marketing information through the marketing calendar and contact insights, and now they can influence it, too, with just a few clicks.

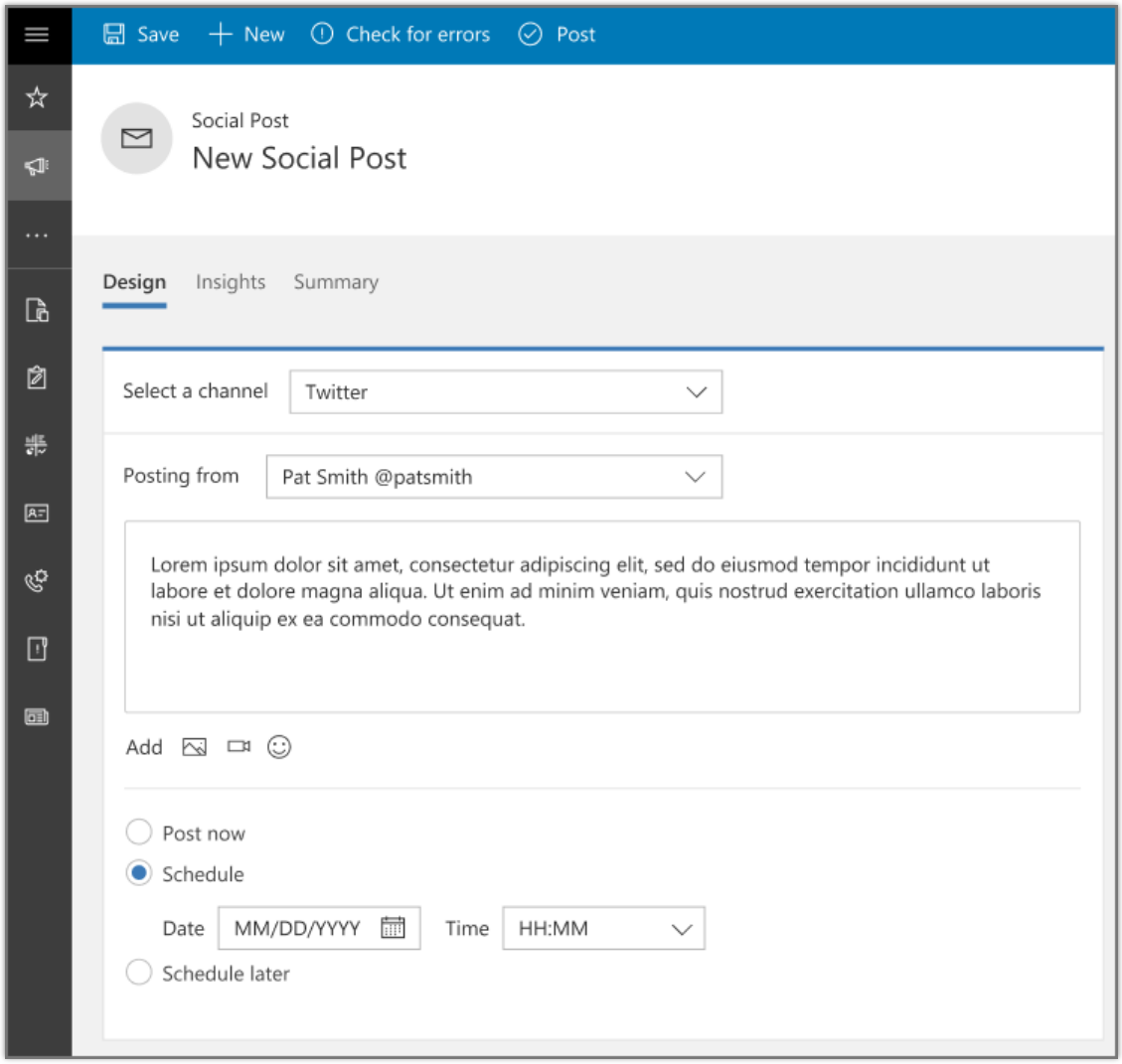


Add to journeys

Social posting

Create social content for multiple channels and schedule social posts to hit the web in sync with your overall campaign. This lets you synchronize audience communication across channels using a single platform.

Social posting is enabled by a new outbound activity that can use dynamic content when posting on social media sites, starting with Twitter. We will be adding more channels over time.

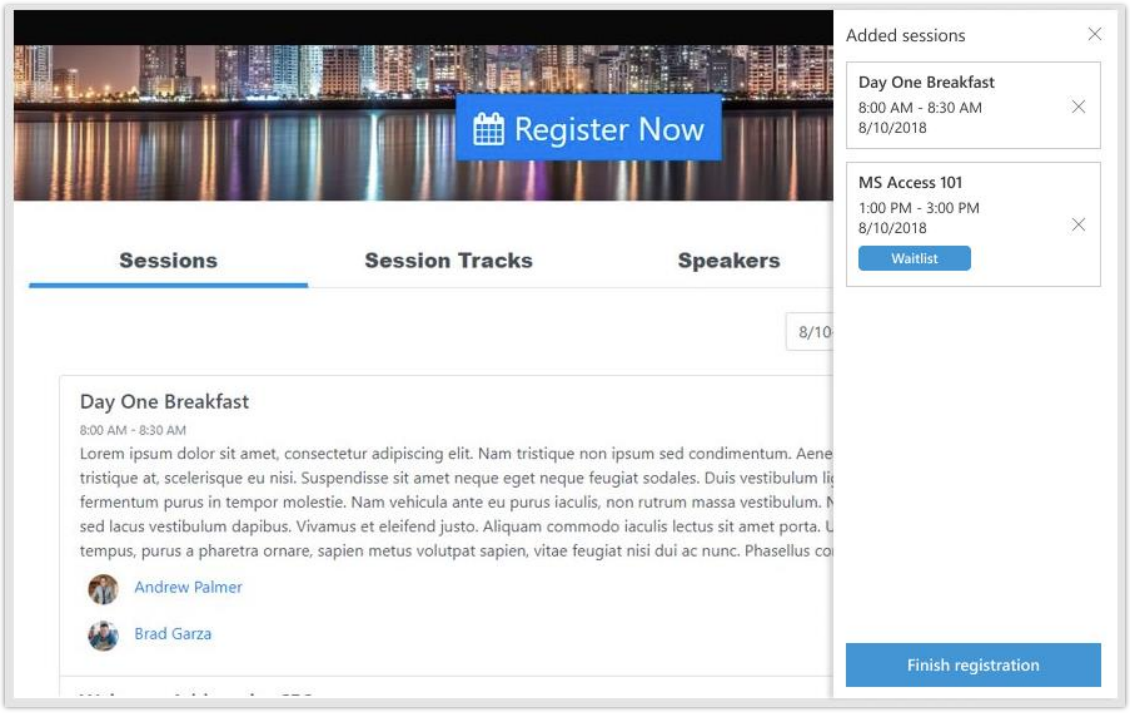


Social posting

Enhanced event registration experience

The event-registration experience is crucial for marketers because it contributes to prospects' early impressions of the related brands or products. Any inefficiencies can result in a potential loss of leads. With this release, we introduce a few enhancements to the event registration experience:

- *Session registration for free events* enables marketers to capture registrations at the session level for free events, which can help you plan room capacities, and indicate sessions already at full capacity.
- *QR codes* for event registration can be embedded into emails, making it easy for registrants to check in using their mobile devices on the day of the event.
- The ability to provide waitlists for events has now been extended to support *Waitlists for individual sessions* (for free events). This provides improved control for event planners, helps them to gauge interest in particular sessions, and helps them plan capacities and services accordingly.



Waitlist for sessions

Marketer friendly segmentation experience

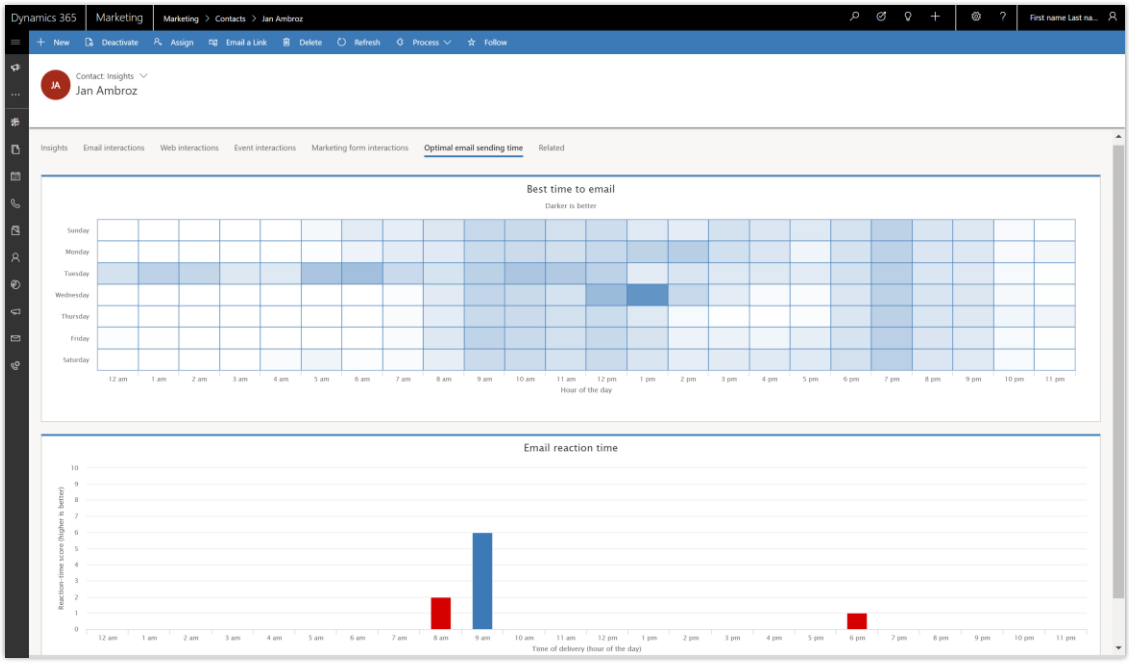
Dynamics 365 for Marketing enables you to create dynamic segments based on rules that combine demographic, firmographic, transactional, and interaction data without requiring technical knowledge or IT support.

In this release, we continue to simplify the process of creating segments. For example, we've made it much easier to traverse complex relationships and build segments based on marketing interactions. We've also improved segmentation performance across the board, so designer load times, segment deployment, and segment provisioning are all significantly faster.

Smart scheduling

People tend to read their email at certain times of the day. Your message is likely to get the most attention if it arrives while the recipient is actively responding to email, but not when their inbox is already full of other messages that also demand attention. Understanding these complex patterns is difficult; they are based on many factors like work profile, demographics, nature of content, time of year, and more. The patterns are hard to predict and practically impossible to schedule manually for each recipient of an email campaign.

This AI feature considers typical patterns and discovers new ones to build a preferred time profile for each contact. Since customer journeys are already capable of sending communications at distinct times, they can schedule emails close to the detected preferred time slots for each recipient. For example, the AI may predict that mid-level managers typically read transactional messages first thing in the morning each day, but typically don't open marketing emails that arrive over the weekend.



Smart scheduling

Segment boost

Segment boost helps you find more prospects who resemble and behave like the best contacts from your current segment.

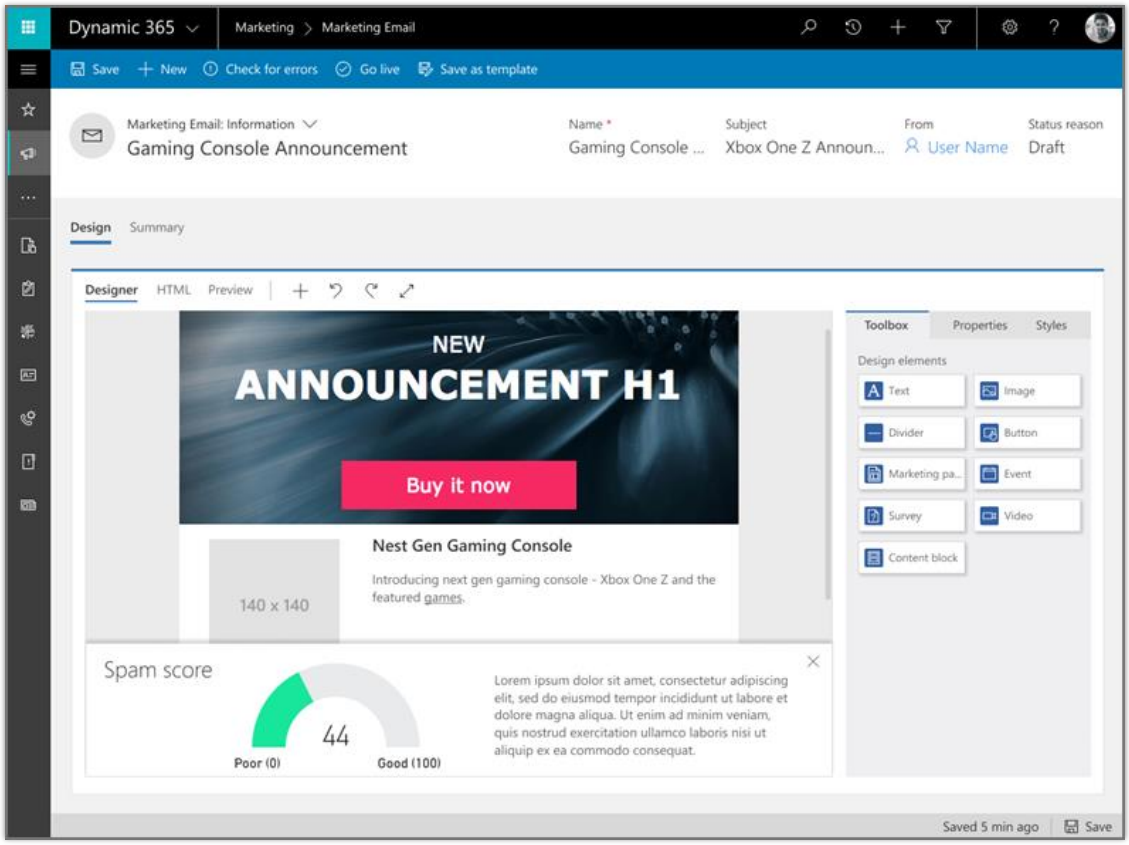
The system works by analyzing an existing segment to find those contacts who have proven to be most successful, and then recommends a new collection of contacts who are "most likely to yield business returns" because they resemble those performing well on the current campaign. The identified contacts are automatically added to the running campaign, and their level of success is then further analyzed for an additional boost. This process will repeat until the campaign reaches its configured size or end date.

For example, if you want to get more subscribers for your newsletter, this technology can analyze your entire Dynamics 365 database to find people who resemble the most engaged of those contacts who already subscribe, and then automatically add them to the segment for a custom journey that sends emails that promote joining the mailing list.

Spam score prediction for emails

As you are creating an email, the system continuously analyzes your content and predicts a spam score based on various factors (such as the sender address, subject line, contents, embedded links, and more). This can help you to craft content that adds value for recipients and avoids a poor response.

This AI feature uses past interactions and other data (including aggregated data from other campaigns and from external sources) to predict the deliverability of each email message.

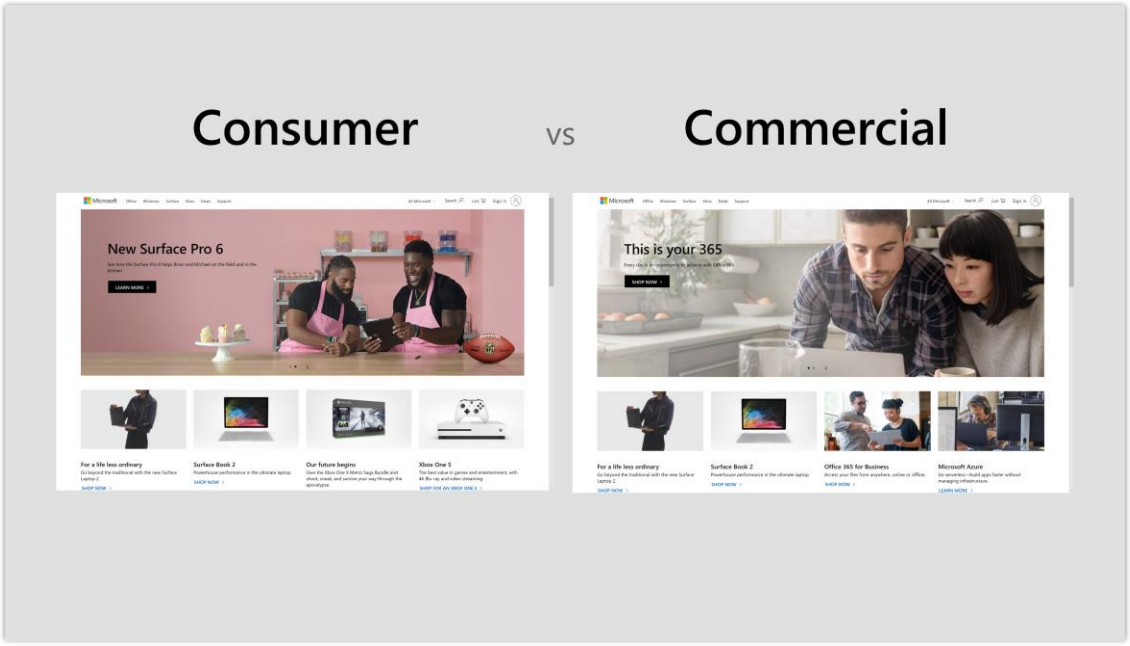


Spam score

Website personalization

Landing pages continue to be the most common call-to-action items within marketing emails. You can now personalize these pages for each prospect based on their attributes and past behavior. This personalization can affect the layout, dynamic content, branding, and more.

For example, a prospect receives a tailored email that shows the logo of their local sports team. When they click a link, the personalization continues by opening a page that shows their local weather and sports news. This maintains a continuum of personalized experience, and is likely to improve demand generation.

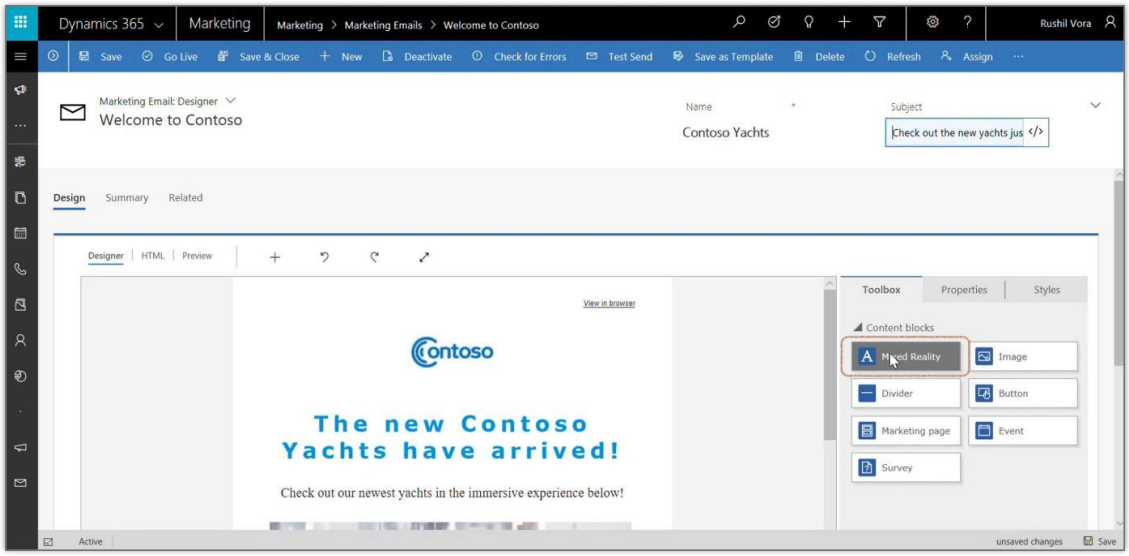


Personalized webpage

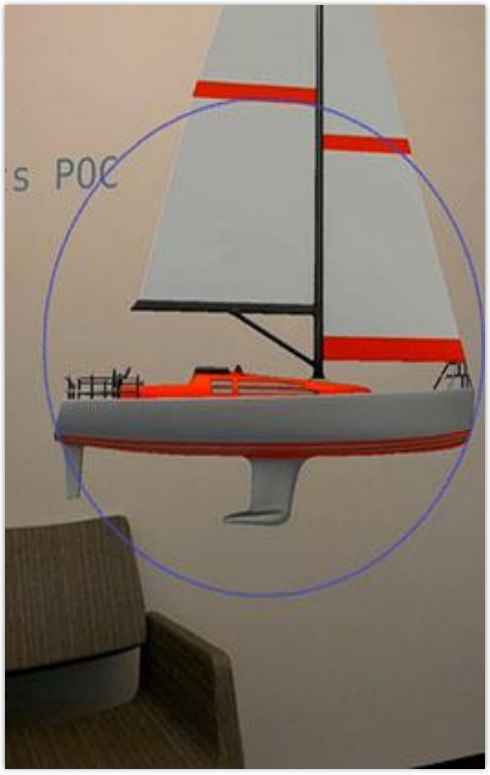
Mixed reality content

Mixed reality is the result of blending the physical world with the digital world. Mixed reality unlocks possibilities that before now were restricted to our imaginations. Marketers would love to use this content that lets their customers experience the products in such an enriched manner.

With this release, marketers can add mixed reality content to their emails and marketing pages. Recipients can open such content on desktop browsers for a rich 3D experience, or on mobile devices for augmented reality, or on mixed reality headsets for a complete mixed reality experience. This would be especially powerful for products that typically need much more of a touch-and-feel experience—luxury goods, for example.



Mixed reality end-user experience



Augmented reality on a camera-enabled mobile device

Dynamics 365 for Sales

Overview of Dynamics 365 for Sales April '19 release

Customer engagement is about more than touchpoints. For sales organization to be successful, it requires creating meaningful connections, building relationships, and nurturing the relationships to establish trust. To build these relationships, sales professionals needs robust and up-to-the-moment customer insights as well as the ability to collaborate effectively to deliver the customer commitments.

Dynamics 365 for Sales and Microsoft Relationship enable sales reps to build deeper customer connections at scale using the power of Dynamics 365, LinkedIn, and Office 365. Sales professionals receive recommended content in addition to activities and notes through the sales playbook when working on an opportunity, helping to ensure they are using the right content for the right context.

Configure-price-quote capability enables sales professionals to efficiently put together the right product solution and quote the solution to customers. Enhanced gamification with new game templates and out-of-the-box integration with triple crown drives sales professionals to achieve sales targets in a more engaging way. The ability to do simple forecasting will help in situations where external checks and adjustments need to be accounted for.

What's new and planned for Dynamics 365 for Sales

This topic lists features that are planned to release between April and September 2019. Previews for some features will start in February 2019.

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see Microsoft policy).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the International availability guide.

Feature	Release type	Date
Intelligent social selling with Microsoft Relationship Sales (MRS)	General Availability	April 2019

Feature	Release type	Date
Robust customer insights from more data providers	General Availability	April 2019
Productive sales collaboration with Microsoft Teams	General Availability	April 2019
Content recommendation through Sales Playbook	General Availability	April 2019
Seamless configure-price-quote integrated experience	General Availability	April 2019
Simple forecasting for effective sales performance management	General Availability	April 2019
Simplified first-run experience to get started with Dynamics 365 for Sales Professional	General Availability	April 2019

Intelligent social selling with Microsoft Relationship Sales (MRS)

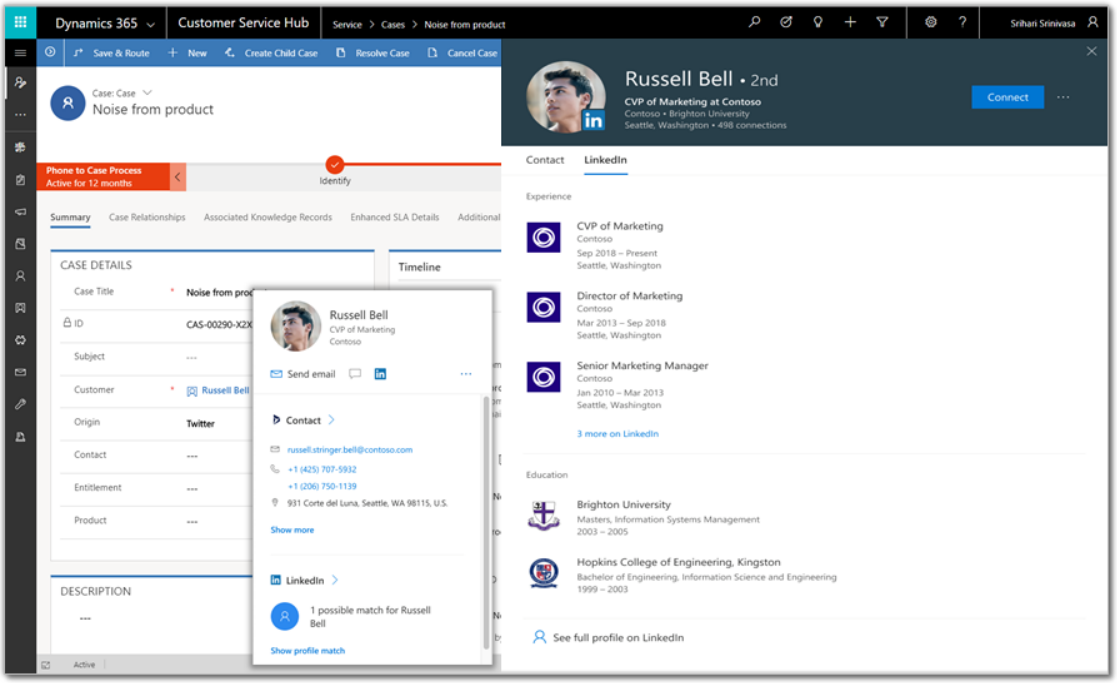
Microsoft Relationship Sales brings together capabilities from Dynamics 365 for Sales and LinkedIn Sales Navigator. It gives sales reps easy access to up-to-date customer insights from LinkedIn.

Persona

Sales representatives can access the latest profile information of their customers.

Features

Every Dynamics 365 for Sales user can view basic customer profiles from LinkedIn right out of the box without any configuration or additional subscription.



View of a customer profile from LinkedIn

The new Live Org Chart experience enables sales professionals to easily curate any customer's organization structure and receive updates from LinkedIn when any contact leaves the position.

Robust customer insights from more data providers

Enrich your customer data using multiple third-party data providers in your geography, business, and industry.

Business value

Sales organizations will now have the choice of selecting from multiple third-party data providers in addition to InsideView and Versium to augment customer data. Customers will have a seamless in-app experience for provisioning selected third-party content with try-and-buy experiences.

Persona

- As a customizer or sales manager, a user will be able to select the third-party data provider to enable customer insights for their orgs. They will be able to choose the sales process/entities at which the customer insights will be available.
- Salespeople will be able to view and use the customer insights data available to them contextually during the sales process.

Features

- Discover multiple third-party data providers from within the Sales applications.
- Seamless in-app try-and-buy experiences for select third-party data provider solutions.

NOTE Third-party data providers are available for both Sales Hub and Sales Professional applications.

Productive sales collaboration with Microsoft Teams

Today's sales process often requires sales reps to collaborate across departments when working on a sales opportunity. McKinsey reports that on average, sales reps need to collaborate with 16 colleagues to close a deal. The Dynamics 365 app for Microsoft Teams enables sales reps to collaborate more effectively using Microsoft Teams.

Business value

Sales professionals can collaborate with anyone through conversation and share files while easily accessing the latest customer information, all without leaving Microsoft Teams.

Persona

Sales representatives to collaborate with colleagues across different teams.

Features

- Collaborate at scale not only on a single Dynamics record (like a sales opportunity) but also on multiple records with a Dynamics 365 view. Collaborate on the set of records (like "active opportunity") through conversation and easily access the records while on the go using Dynamics 365 bot for Microsoft Teams mobile app.
- Enable sales professionals to stay up to date and better prepared for a meeting by providing customer information and related documents directly through Dynamics 365 bot for Microsoft Teams mobile app. After the meeting, the bot provides an automatic reminder for the sales professional to capture a meeting summary through voice-to-text capability. After capturing the meeting notes, the Dynamics 365 bot analyzes them and suggests relevant follow-ups to ensure sales professionals are staying on top of customer commitments.

NOTE Productive sales collaboration with Microsoft Teams is expected to be available for both Sales Hub and Sales Professional applications.

Content recommendation through playbooks

The October '18 release introduced a powerful playbook capability that enables a sales organization to capture knowledge and best practices and convert them to scripted lists of activities (including phone calls, tasks, and appointments). Playbook is manually triggered or preconfigured to run based on entity record events (for example, a new opportunity or lead creation).

Business value

With the April '19 release, sales professionals will also be able to receive content recommendations via playbooks. This gives sellers additional details on what content to refer to while working on the activities that are created when playbook is launched.

Personas

- Sales managers want to provide their teams with the sales materials, product training content, and information needed to close any deal. All this information needs to be contextually available within Dynamics 365 for Customer Engagement.
- Sales representatives want the latest information, news, and updated content to be accessible and always ready to support the deals they are working on.

Features

- Dynamics 365 for Sales provides the foundation of sales enablement, which gives sales teams all the necessary content contextually. Having accurate content helps sales reps successfully engage the buyer throughout the buying process and achieve the desired outcome.
- Sales managers can refer and attach sales literature and documents to playbook activities.
- Sales reps can provide feedback about content to their managers for any needed improvements.

NOTE Content recommendation through playbooks is expected to be available only for Sales Hub, not for Sales Professional applications.

Seamless configure-price-quote integrated experience

Delight your customers with fast turnaround times to consistently and accurately configure price and quote by leveraging Dynamics 365 for Sales integration with partner configure-price-quote (CPQ) solutions.

Business value

Dynamics 365 for Sales partners with the best CPQ solution providers to deliver deep product integration with Dynamics 365 for Sales. Customers can easily discover and install partner solutions to enable salespersons to quickly identify the right configuration of products that fit their customers' needs and rapidly create accurate quotes and contracts with the right pricing, considering all the variable factors including discounts.

Personas

- Administrators will be able to discover and choose the right CPQ partner solution that fits their needs.
- Sales representatives can quickly generate accurate quotes and win more deals.

Features

- Discover the best of third-party CPQ solution providers from within the Sales applications.
- Enable salespersons to get an immersive and intuitive product configuration experience by bringing together services of the CPQ solution providers and multiple Microsoft services.
- Seamless integrated experience between the selected CPQ solution provider and Dynamics 365 for Sales using Common Data Service (CDS) for Apps as the data glue to both read product catalog data generated by Dynamics 365 Backoffice apps (Dynamics 365 for Finance and Operations and Dynamics 365 Business Central) and write back quotes, discounts, and product configuration data, thereby empowering organizations to build analytical and intelligent applications on top of the data coming from the different sources.

NOTE Partner CPQ solutions are available for both Sales Hub and Sales Professional applications.

Simple forecasting for effective sales performance management

Forecasting helps users in situations where external checks and adjustments need to be accounted for. It's also a great way for small and midsize organizations to adopt the forecasting process before stepping up to predictive forecasting.

Business value

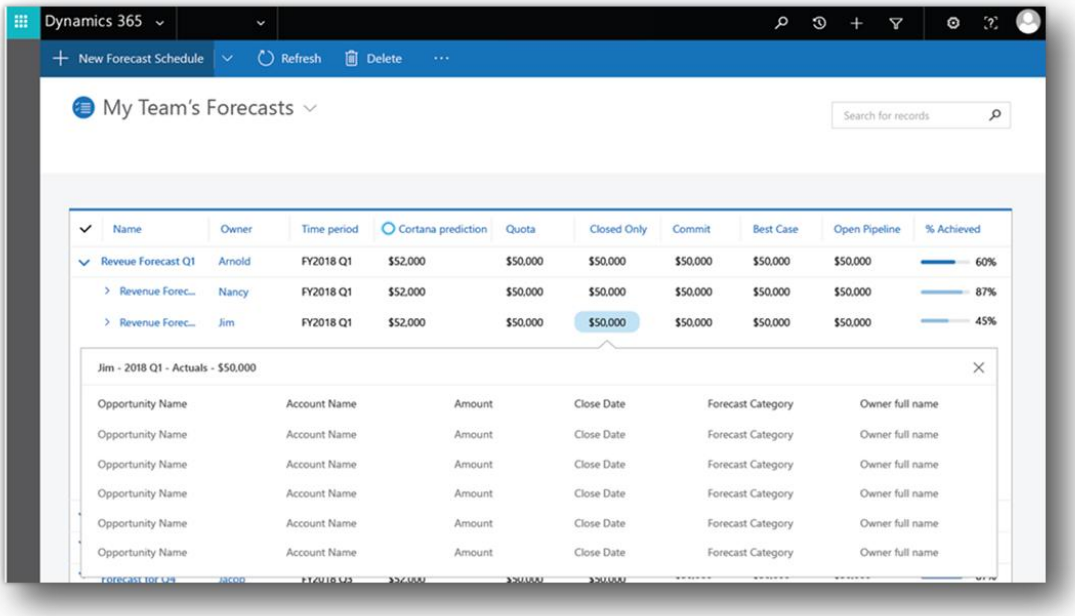
Businesses rely on forecasting to accurately predict revenue for a given period that provides the necessary insights into how a company should manage its workforce, cash flow, and resources.

Personas

- Sales managers want to create a forecast of their team members so that they can accurately predict revenue for a given period and make informed business decisions and predict short-term and long-term performance of their teams.
- Salespeople want to create a forecast for themselves to know whether their quota will be reached, quickly spot pipeline risks, and prevent deals from slipping away by identifying cautionary factors before it's too late.

Features

- Sales professionals can easily get their existing forecasting data from Excel or CSV files into the Dynamics 365 for Sales app.
- Sales professionals can roll up forecasting values based on products, pricing, and accounts.
- New dashboards and reports to show forecasting data and trends.



Sales performance management with forecast

NOTE Simple forecasting is expected to be available only for Sales Hub, not for Sales Professional applications.

Simplified first-run experience to get started with Sales Professional

Dynamics 365 for Sales Professional application now provides a simple setup and configuration experience to enable sales teams to be productive from day 1.

Business value

- Quick and easy setup experience.
- Access all relevant application settings from within the Sales Professional application.

Personas

- Sales managers and administrators can quickly configure the Sales Professional application, integrate with Microsoft Office applications, and bring their data to get started.
- Sales representatives can discover how the application can empower them to be productive from day 1.

Features

- Role-based welcome screen.
- Quick setup guide for administrators to configure the Sales Professional application and integrate with Office applications.
- Access to all relevant application settings from within the Sales Professional application.

Dynamics 365 for Customer Service

Overview of Dynamics 365 for Customer Service April '19 release

Dynamics 365 for Customer Service aims to enable businesses to differentiate themselves from their competition by providing world-class customer experiences. Customers today value the ease and speed of resolution and they want it over the channel of engagement they prefer, at any time and on any device. We are enabling this by building an intelligent omni-channel customer experience and an empowered agent experience.

A true omni-channel experience in the product will preserve context and provide a continuous experience as customers seamlessly switch across self-service, peer-to-peer service, and assisted-service channels. An empowered agent experience will provide an application experience that is unified across channels and LOB applications, is contextual to the engagement, and comes with productivity tools to resolve issues faster.

Themes for Core Customer Service April '19 release

- **Channels**: In line with our goal to provide increased channel flexibility to customers, we will provide live chat as a channel for customers to seek real-time support. We will also enable SMS support for customers to receive automatic notifications and engage with support agents at their own pace.
- **Agent experience**: In the October '18 release, we released the Omni-channel Engagement Hub in preview, a customizable, high-productivity app built on Unified Service Desk (USD) for agents working on multiple channels. In the April '19 release, we will make this generally available. In addition, we will offer a browser-based multi-session, multi-app agent experience built on Unified Interface.

  Case Management is a cornerstone capability in customer service. We will rework key experiences to improve usability and productivity. These include extensibility of the Case Resolution dialog, improved UI density of Case Form, and usability of the SLA timer.
- **Knowledge management**: We will make key enhancements to the knowledge base (KB) authoring and analytics experience. KB admins can create KB templates for common scenarios like FAQs, how-to articles, and so on. KB authors can leverage these templates to quickly create standardized KB articles. Knowledge management (KM) analytics can identify usage and respond to gaps in the knowledge base. Knowledge managers will be able to analyze effective and ineffective searches and take appropriate action.

What's new and planned for Dynamics 365 for Customer Service

This topic lists features that are planned to release between April and September 2019. Previews for some features will start in February 2019.

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see Microsoft policy).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the International availability guide.

Feature	Release type	Date
Core Customer Service		
Case resolution extensibility	General Availability	June 2019
End-user enhancements: usability	Public Preview	March 2019
Knowledge article templates	Public Preview	March 2019
Knowledge management analytics	Public Preview	April 2019
Use Google Chrome browser to host web applications in Unified Service Desk	Public Preview	March 2019
Use Channel Integration Framework with Unified Service Desk	Public Preview	March 2019
Omni-channel Engagement Hub		
Multi-session agent experiences (Unified Service Desk)	General Availability	July 2019*
Multi-session agent experiences (Web)	Public Preview	April 2019
Supervisor experiences	General Availability	July 2019*

Feature	Release type	Date
Unified routing and work distribution	General Availability	July 2019*
Live chat channel	General Availability	July 2019*
Portal messaging	General Availability	July 2019*
SMS	Public Preview	March 2019
Enable customers to bring their bots	Public Preview	April 2019

* Canada, United States, GCC, and Europe in July 2019, followed by rollout to other geographies.

Overview of Core Customer Service April '19 release

As part of Core Customer Service updates, we are making investments across usability, extensibility, and fundamentals. Key enhancements include usability improvements to the Case form, the timeline control, and SLA timer, providing more choice by supporting Microsoft Edge and Chrome on Unified Service Desk and making the Case Resolution dialog extensible. Knowledge enhancements include the ability to create and leverage knowledge base templates and analytics to empower organizations to keep their knowledge bases up to date.

Admin user enhancements: Case resolution extensibility

Customization of the case resolution dialog is an important feature as it enables organizations to tailor the dialog to meet their unique case resolution processes. As part of this feature, administrators can add, remove, or edit any of the fields on the case resolution dialog and customize it as per their requirements.

End-user enhancements: usability

Case management is a core capability of Customer Service. Based on feedback from customers, we have invested in enhancing usability of the case management processes to improve agent productivity. The enhancements are:

- Case form UI enhancements will have improved information density on case form.
- Enhanced timeline will help agents and supervisors visualize activity snapshots in a few clicks.
- SLA timers will have enhanced visualization to depict the elapsed and remaining time.
- SLA timers will show the remaining time in two modes – **Business hours** and **Actual hours**.

Knowledge article templates

Knowledge article templates simplify capturing knowledge by enabling any persona in a customer's organization to easily participate in building a structured knowledge base. These templates help knowledge authors reuse common content and maintain consistent branding, language, and messaging.

Customers will get out-of-the-box templates that they can readily use. They will also have the ability to create, edit, or delete templates as per the needs of the business. Knowledge authors in the customer's organization can use these templates to quickly create knowledge articles.

Knowledge management analytics

Knowledge base analytics help customers easily discover and fix knowledge gaps in their organizations. By analyzing search terms of agents and customers, customers can build an effective knowledge base that in turn contributes to agents' productivity and facilitates end-user self-service by providing relevant knowledge search results.

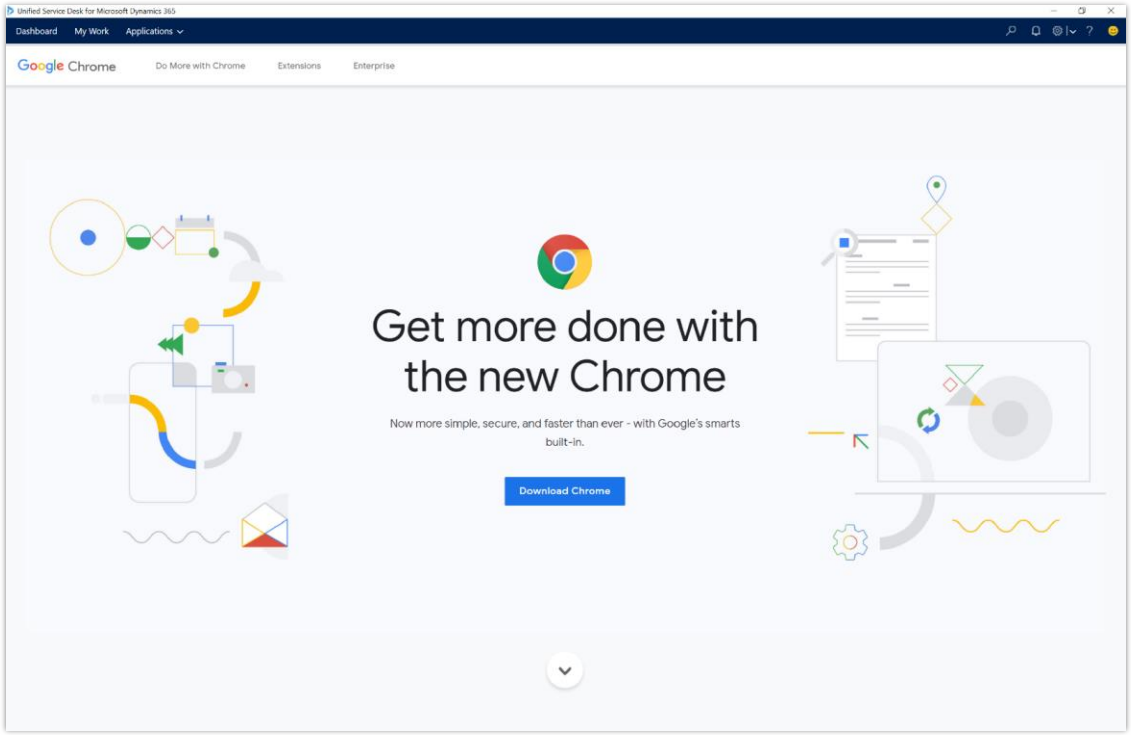
Using knowledge base analytics, knowledge managers will be able to analyze knowledge search in terms of:

- Total searches
- Failed keyword searches
- Ineffective or effective keyword searches

Use Google Chrome browser to host web applications in Unified Service Desk

This release enables Unified Service Desk to host web applications using Google Chrome browser. Customers will have the following capabilities:

- Ability to select Chrome as hosting type for the organization.
- Ability to select Chrome as hosting type for select web applications, side by side with Internet Explorer and Microsoft Edge.



Google Chrome in Unified Service Desk

Use Channel Integration Framework with Unified Service Desk

This release will enable a quick onboarding mechanism for communication widgets built with Channel Integration Framework (CIF) into Unified Service Desk. This communication widget can be used in Unified Service Desk with minimal configuration experience.

Overview of Omni-channel Engagement Hub April '19 release

The Omni-channel Engagement Hub for Dynamics 365 is a cloud-based service that extends the power of Dynamics 365 for Customer Service to enable organizations to instantly connect and engage with their customers via channels like Live Chat and SMS.

Omni-channel Engagement Hub also provides a modern, customizable, high-productivity app that allows agents to engage with customers across different channels. This app offers contextual customer identification, real-time notification, integrated communication, and agent productivity tools like KB integration, search, and case creation to ensure agents are effective.

Supervisors get real-time and historical visibility and insights into the operational efficiency of agents and the utilization across various channels.

The enterprise-grade routing and work distribution engine allows customers to configure agent presence, availability, and routing rules, thus ensuring agents are working on the most relevant engagements.

Multi-session agent experiences (Web, Unified Service Desk)

Agents can use Omni-channel Engagement Hub via two immersive experiences:

- Web experience on Dynamics 365 Unified Interface optimized for multi-session capabilities.
- Unified Service Desk-based thick-client experience that allows multi-session capabilities as well as integration with third-party applications.

Agents can serve customers across all channels from a consistent, easy-to-learn, and familiar Dynamics 365 user interface. By providing a consistent experience regardless of the support channel, organizations can maximize agent productivity as well as reduce training needs. The ability to handle multiple sessions simultaneously (while preserving customer context) allows agents to resolve issues faster and achieve higher productivity. The capabilities we are enabling are:

- **Agent dashboard**: Agents can view their work items, pick open items from the queues they are a member of, and view items they have closed during the last 24 hours.
- **Multiple sessions with easy switching**: Agents can simultaneously work on multiple customer issues with the ability to easily switch between them without losing context.
- **Contextual first-party and line-of-business application tabs in sessions**: Agents can find the relevant information pertaining to the service request in the application tabs associated with the session. The application tabs are contextual and can span from first-party Dynamics 365 pages, first-party web applications like Power BI, to line-of-business web applications.

- **360-degree view of customer**: Agents can see a contextual view of the current customer, recent interactions, issue snapshot, and so on, to get an instant 360-degree view of the situation at hand.
- **Presence management**: Agents can set custom presence status to indicate how occupied they are with work.
- **Screen-pops and notifications**: Agents receive instant notifications whenever new conversations are assigned to them, with additional context information.
- **Search**: Agents can search for customers, issues, and other relevant information required, and link them to the ongoing conversation.
- **Preview and share knowledge articles**: Agents can search for knowledge articles, preview them inline, and quickly send the same to customers. Customers get an inline preview of the knowledge article and also have the option of opening it for a detailed read.
- **Consult with other agents**: Agents can add other agents (such as subject matter experts) to the conversation to consult on the current customer issue without losing context.
- **Transfer conversation to other agents**: Agents can transfer the conversation to other agents.
- **Inline quick replies**: Agents can use preconfigured quick replies to quickly respond to customers, thus adhering to the organization's communication guidelines and reducing typing errors.
- **Send and receive attachments**: Agents can send attachments to the customers and receive attachments from the customer within the conversation control.
- **Inline notes**: Agents can take additional notes related to the conversation, customer, or issue without losing context.

Supervisor experiences

Supervisors need to monitor, manage, and ensure agents remain highly productive for customers to receive excellent support. To manage the agent workforce and the volume of customer requests being handled each day, supervisors require intraday monitoring capabilities.

Supervisor experiences offer several capabilities that enable supervisors to effectively manage the agent workforce, monitor intraday KPIs on agent productivity, and contact center operations to take prompt corrective action.

Unified views for different roles

Supervisor experiences offer relevant and contextual information that caters to the entire organization hierarchy, spanning agent managers, operations managers, and all-up organization heads.

Intraday health tracking

Supervisors can track parameters such as conversations handled, average handling times, and so on to track and monitor agent productivity and performance throughout the day.

Real-time conversation monitoring

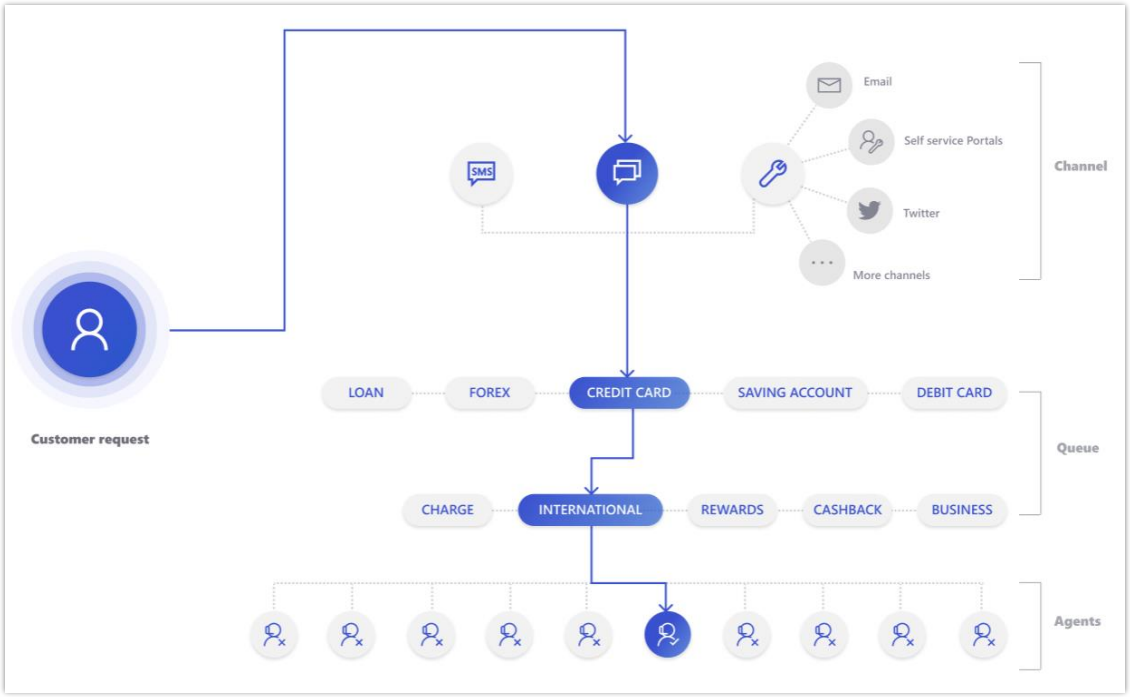
Supervisors can track conversations and assist agents in resolving the issues in real time.

Consult

Supervisors can step in to help agents during their conversation with customers. The supervisor can converse with only the agent or with the agent and the customer.

Unified routing and work distribution

Organizations can leverage the unified routing and work distribution capabilities to route work items originating from channels like chat and messaging as well as entities like Case to different customer service support teams within the organization. Through the configuration interfaces, organizations can tightly define the work profile that their agents are supposed to handle. During run time, the system will automate the flow of work to various agents based on their capacity and availability.



Unified routing and work distribution

The unified routing and work distribution system ensures that the right task is assigned to the right agent. It also unifies the work items and requests across channels and asynchronous work items like cases, leads, and so on.

Live chat channel

Live chat has emerged as one of the primary channels for customers to interact with support agents because of its simplicity and ease of use. Customer service centers prefer customers to connect via the live chat channel because it allows service agents to be more productive by simultaneously engaging with multiple customers.

The Live Chat channel offers several capabilities to ensure the support agents and end users can interact effectively and remain highly productive:

- **Quick and easy provisioning of multiple chat widgets**: Create multiple chat widgets to segregate C2 users and create personalized experiences based on their profile, organizational preferences, and their location on the website.
- **Authenticated and unauthenticated visitor support**: Identify and set up different chat experiences and interaction flows for authenticated and unauthenticated users; for example, different pre-chat questions.

- **Custom theming of chat widgets**: Design chat widgets to match your brand using various customizations available like color, position of widget, title, subtitle, logo, and so on.
- **Inline conversation-based pre-chat questionnaire**: Configure a pre-chat questionnaire, and show it inline in the chat widget to get user inputs and route them to appropriate agents based on the pre-chat answers.
- **Inline conversation-based post-chat feedback experience**: Configure a post-chat questionnaire, and show it inline in the chat widget to get feedback from the user once the conversation has ended.
- **Configure visibility, availability, and offline surveys based on business hours**: Configure business hours to hide the chat widget, show only during specific times, or show an offline survey outside business hours.
- **Set up proactive chat to drive customer engagement**: Anticipate customer issues and address them proactively by creating rule-based triggers to create dynamic call-to-action bubbles on chat widgets. Define rules based on target audience, location, user context, and so on.
- **Data masking to secure sensitive information**: Mask sensitive data within the conversation (credit card numbers, profane words, and so on) using data masking rules to avoid sharing sensitive information with agents, supervisors, or end users.
- **Chat transcripts for users**: Enable customers to download and email the chat transcript at the end of the chat session.
- **Attachments for agents and customers**: Support agents and customers can share attachments during the conversation.

Portal messaging

It's possible today for customers to create cases and request support using Dynamics 365 Portal. With Portal messaging, these work items can be routed to appropriate agents via the unified routing and work distribution system of Omni-channel Engagement Hub.

Agents can use the same multi-session experience to handle these work items alongside those coming in from channels such as Live Chat, SMS, and so on.

SMS

SMS channel is a powerful mechanism for organizations to reach and interact with their customers in a timely and convenient manner. Two-way conversational messaging through SMS

can help organizations increase their customer satisfaction, improve agent productivity, and reduce support cost (when compared to phone or voice channel).

Key capabilities of SMS channel are:

- Seamless setup experience of SMS channel inside the application (phone numbers, short codes).
- Two-way texting between customers and agents. Customers can interact with organizations for product inquiry, installation query, support issues, and more through text messages.
- Updating customers with automated SMS notifications, including notifications to customers during case creation, case resolution, appointment reminders, and more.
- Automated response management: welcome messages, thank you messages, and more can be automatically sent to customers.
- Conversational view of SMS messages that will help increase the productivity of support agents.

Customers will need an SMS subscription with Telesign to leverage the two-way texting capabilities.

Enable customers to bring their bots

Today, consumers are increasingly demanding that companies serve their needs and meet their requirements quickly, efficiently, and accurately. At the same time, there is a strategic shift toward use of self-service channels, with customers looking to solve product or service issues themselves.

Recent evolution in machine learning technologies, natural language research, and linguistic analysis, along with the ability to provide scalable, immediate, and contextual assistance, has made self-service tools like chatbots (or virtual agents) a key necessity to be incorporated within an organization's customer service operations.

Apart from the ubiquity and nonstop availability offered by these chatbots, interactions with them could also be analyzed in regard to understanding consumer sentiment, level of engagement, and product feedback. Integration of intelligent bots within customer service operations positively impacts customer service KPIs like average handling time and average number of cases, while simultaneously reducing cost.

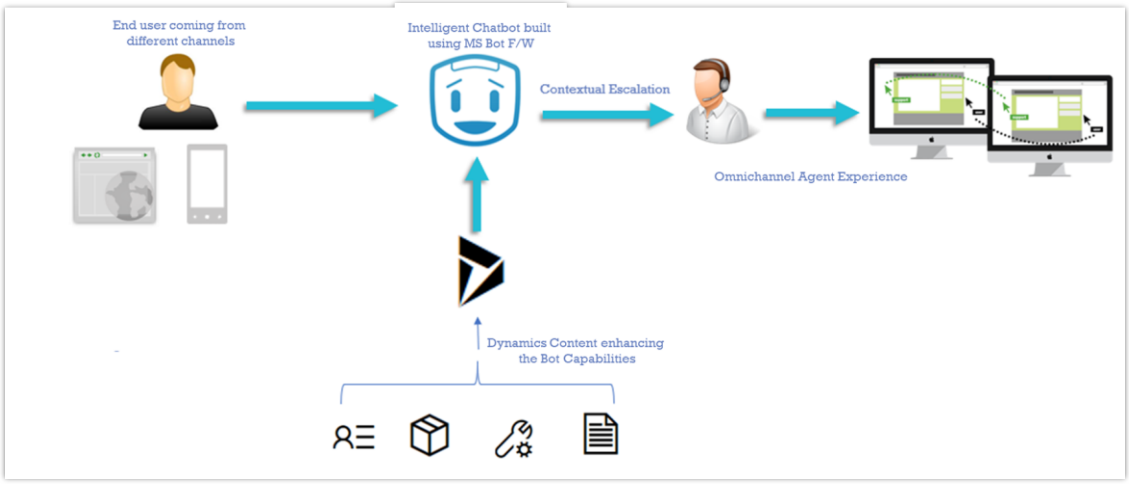
Bring your bot to Omni-channel Engagement Hub

With Omni-channel Engagement Hub, customers can now bring their own bots (built on Microsoft Bot Framework) and connect them with the Omni-channel Engagement Hub ecosystem.

As part of the Bring Your Own Bot feature, customers can now:

- Configure their bots in Omni-channel Engagement Hub through a simplified setup experience to enable routing of conversations to bots.
- Provide seamless, contextual escalation with consistent experience for end users.
- Enable agent productivity with rich bot-user conversation transcript and chat context.

Intelligent conversational bots at the frontline help to deflect the routine queries, while maintaining a natural experience for users. Integration with Omni-channel Engagement Hub enables a smooth, contextual handoff to the agents, helping them to focus on complex queries, while empowering them with relevant information, leading to a good experience for end users.



Schematic representation for customer-owned bots with Omni-channel Engagement Hub

Dynamics 365 for Field Service

Overview of Dynamics 365 for Field Service April '19 release

Dynamics 365 for Field Service empowers organizations to move from being reactive to providing proactive or predictive field service, and to embrace new business models such as outcome-based service or "anything-as-a-service."

The April '19 release includes investments in these areas:

Embedded IoT enhancements: The October '18 release included integration with Azure IoT Central to enable the flow of IoT information between IoT Central and Field Service. Azure IoT Central is a fully managed global IoT software as a service (SaaS) solution that makes it easy to connect, monitor, and manage your IoT assets at scale. Measurements from devices flow into IoT Central where the devices can be monitored. In addition, rules can be created to identify conditions or events that require service action. These come into Field Service as "IoT alerts." IoT alerts can be monitored and tracked in Field Service.

The April '19 release will include the next level of integration with IoT Central to be fully embedded within the Field Service application. The flow of alerts can be managed through cases and work can be defined based on the details of the alert.

Within context (for example, within alerts, cases, or assets), measurement of current and historical information from IoT Central will be shown using visualizations. The visualizations provide the capability to manipulate the device data to diagnose alerts and determine next actions. Based on the diagnosis, commands can be triggered from the Field Service application and executed on the device through IoT Central.

Scheduling capabilities: Over the past two years we have made significant investments in automated and optimized scheduling capability for field service through resource scheduling optimization (RSO). In November 2018, we released single resource optimization, which enables organizations to quickly optimize the schedule for a selected resource.

The April '19 release will include the following enhancements to scheduling:

- Variable resource location will enable resources to work from different areas and have schedules reflect that shift in resources.
- Optimization insights will provide service managers and dispatchers an insightful Power BI analytical dashboard to show optimization summarization and statistics to help ensure the desired optimization results.

- Self-service scheduling via a portal will enable engaging customers on their time, and at their convenience.

Technician productivity enhancements: We continue to enhance and improve the Field Service mobile application. In the October '18 release, we released push notifications and real-time geo tracking. In the October '18 release, we also enabled embedded Field Service context within the HoloLens Remote Assist app.

In the April '19 release, we will add embedded IoT data, inspections, and time entry capabilities to the Field Service mobile app.

Service delivery improvements: The April '19 release will include inspections capabilities to enable technicians to quickly and easily account for a checklist of items to meet process, safety, or regulatory requirements. Also, time-tracking capabilities ensure a more accurate accounting for technician time, which helps with calculating cost and revenue.

What's new and planned for Dynamics 365 for Field Service

This topic lists features that are planned to release between April and September 2019. Previews for some features will start in February 2019.

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see Microsoft policy).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the International availability guide.

Feature	Release type	Date
Embedded IoT (with IoT Central)		
Embedded IoT visualizations	General Availability	July 2019
Device commands	General Availability	June 2019
Device provisioning	General Availability	June 2019
Scheduling		

Feature	Release type	Date
Variable resource location optimization	General Availability	September 2019
Self-service scheduling via a portal	General Availability	September 2019
Optimization insights	General Availability	September 2019
Optimization objective for as soon as possible (ASAP)	General Availability	September 2019
Technician productivity		
Embedded IoT	General Availability	April 2019
Service delivery		
SLA enhancements	General Availability	June 2019
Enhanced multi-resource work order management	General Availability	June 2019

Embedded IoT (with IoT Central)

This article describes enhancements to embedded IoT capabilities in the April '19 release.

Embedded IoT visualizations

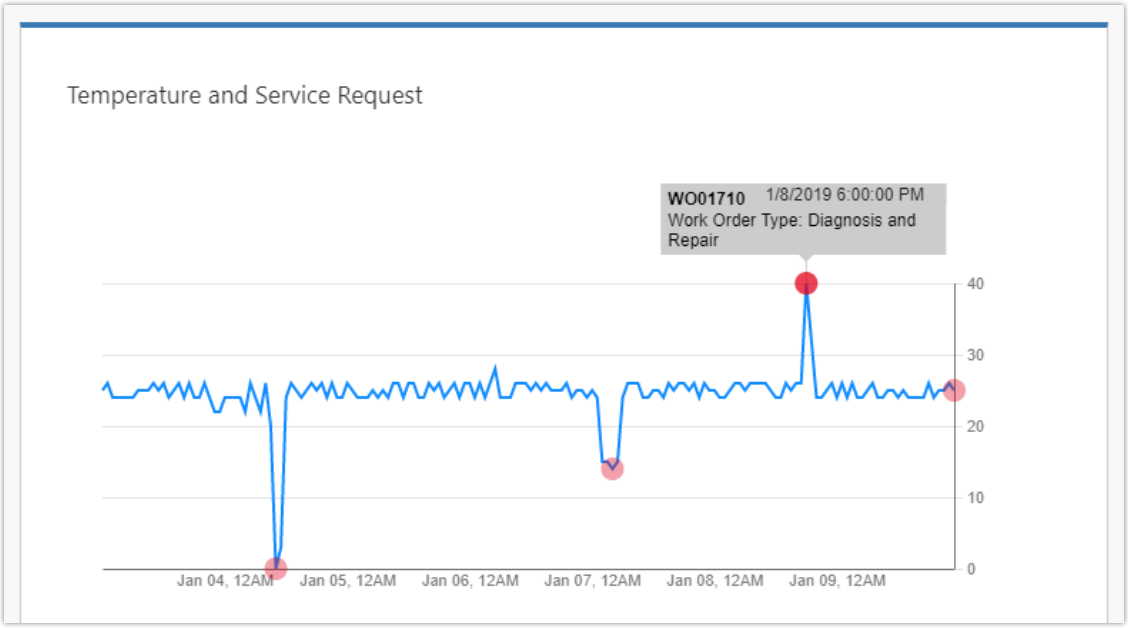
After an IoT alert is received, the alert needs to be diagnosed. Measurement data from IoT Central is available to be related to and used throughout field service.

- The current state of the asset or device is the first step to understanding the alert. The current heartbeat with ability to view multiple measurements and adjustable time window will be shown. This gives a picture of what is happening on the device in real time.
- The next level of analysis is to view the history and trending of measurements from the asset. This helps to understand if there are isolated events, or part of a pattern or trend. This will include an adjustable time scale. Recent repair history for the asset will also be included in the historical view. This helps to understand the relationship to repairs, events, and trends.

- Another area of analysis is comparison with similar assets/devices. For example, view the same measurements for other assets in the same category. This is useful to better understand what is normal and determine if similar events or trends are occurring on related assets/devices.

This information is available through visualizations within the following contexts:

Case or Work order	Alert	Asset	Mobile
Current and recent history	Current and recent history	Current and recent history	Within Field Service mobile app
Related repair history	View across similar devices	View across similar assets	Current and recent history

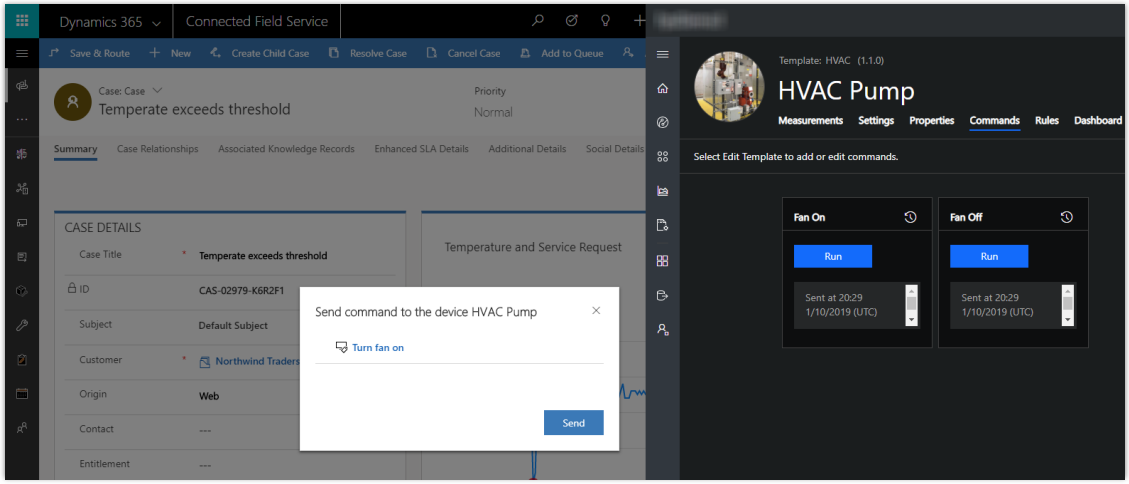


Embedded IoT visualization

Device commands

When an alert is diagnosed, in some cases the alert can be resolved by sending a command to the device. The Field Service application includes the capability to categorize devices and define commands that can be sent to any device within the category. Commands can be originated in field service (manual or automated) and executed on the device through IoT Central.

The command payload is sent from the Field Service application to IoT Central using flows (based on Microsoft Flow templates). After sending a command, the result can be monitored using the IoT visualizations.



IoT visualization

Device provisioning

Mapping between IoT Central devices and Field Service devices or assets is key to using embedded IoT capability, including appropriate mapping to field service accounts.

The capability for synchronized mapping for a device, asset, or account is available as part of IoT Central integration.

Scheduling capabilities

This article describes the new scheduling capabilities in the April '19 release.

Variable resource location (optimization)

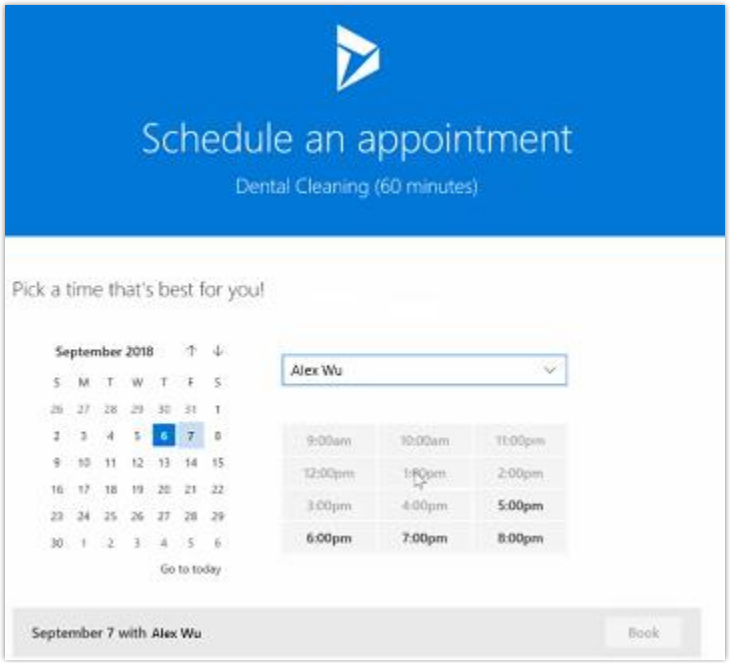
Transform your operation with support for staffing your team in different locations on different days. Based on customer demand, you might need to send resources to different areas. These might be local areas, or even outside the country or region. In some cases, resources might travel to a remote area once a month and perform work in that area, or perhaps your team travels from customer location to customer location without having a home base. Maybe resources pick up their parts at the warehouse every Wednesday but start from their homes on other days. With date-effective location support, you can meet these variant location-based demands interacting with an API that allows you to change your resources' location.

Variable resource location optimization enables setting start and end locations for a technician on a daily basis, which can be done by a service manager, dispatcher, or another employee.

Self-service scheduling via a portal

Engage your customers on their time, and at their convenience with self-service scheduling. Scheduling appointments can be time consuming, resource intensive, and prone to communication mistakes. Now, you can empower your customers to simply schedule appointments on their own, at their convenience, while ensuring the skills and availability of your staff are fully considered.

In addition to engaging customers in a modern and convenient manner, self-service scheduling empowers your sales and marketing organization to embed self-scheduling into your organization's marketing journey.



Self-service scheduling via a portal

Let's say your field service division has quarterly preventive maintenance visits that need to be booked. Perhaps you captured a lead from your website and are following up with a drip marketing campaign to engage this lead. By offering self-scheduling as an action item in the marketing plan, you can increase conversion rates and decrease follow-up time.

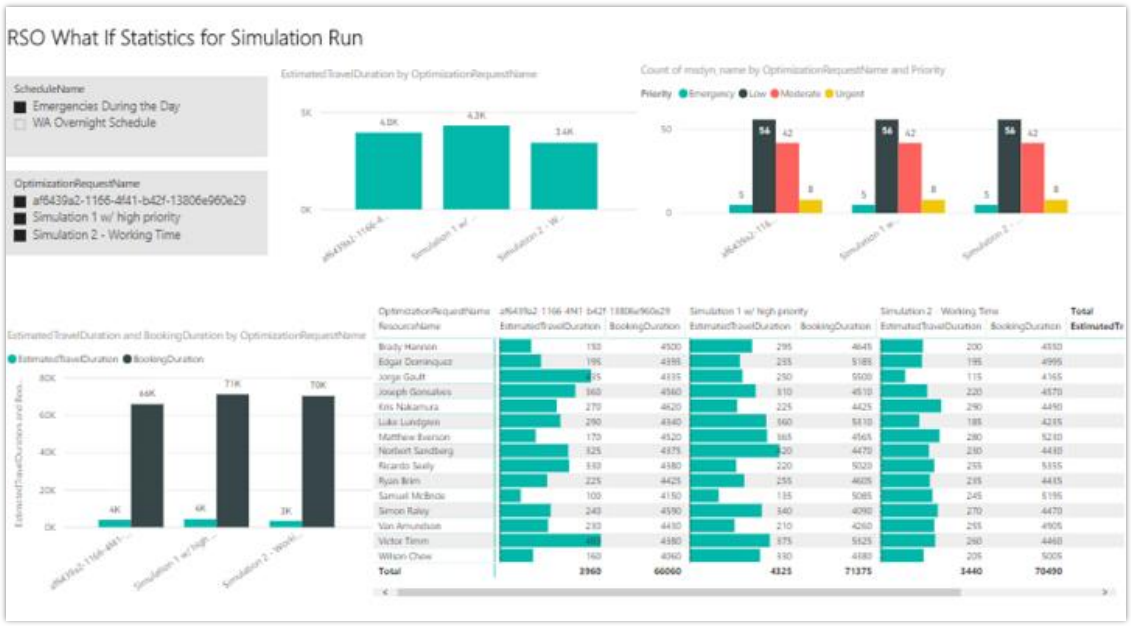
Through a portal, your customers can search for and book an available time slot within a day. Customers are presented with time slots that have available resources with the proper skills.

After booking an appointment, at a later point in time, customers are able to cancel or rebook the appointment.

Optimization insights

Service managers and dispatchers are responsible to assure resources are being effectively scheduled and also to assure scheduling results are consistent with their business goals.

This feature provides an insightful Power BI-based analytical dashboard to show optimization summarization and statistics for simple run or across multiple runs to help business evaluate optimization results, measure scheduling objectives and resource usage, and more.



Optimization insights

Optimization objective for as soon as possible (ASAP)

Occasionally, there might be more resource capacity than there is demand for resources (for example, work orders). In these circumstances, there is a business decision about whether to fully book some resources or leave resources with some capacity as a contingency for emergency or unplanned work.

The April '19 release enables a new objective for as soon as possible (ASAP), so that organizations can select and rerank with other scheduling objectives to balance the need to reserve some capacity with the need to keep resources busy all day.

Technician productivity enhancements

The April '19 release includes investments to enhance technician productivity.

Embedded IoT

Leveraging IoT information is key to accurate diagnosis and taking the right corrective action.

The Field Service mobile app will be augmented with IoT data. This data will show the current readings for a given asset or device. It will also show the reading history and trending for that asset or device. In addition, the technician will be able to view this information for related or similar assets/devices.

Service delivery

SLA enhancements

Based on investments in the October '18 release, SLAs can now be defined related to work orders with SLA KPIs that automatically drive work order arrival time, influencing scheduling logic from both the Schedule Assistant and resource scheduling optimization. However, the logic must still be applied either manually or via customer-defined logic.

SLAs can now be automatically applied when a work order is created based on customer-defined parameters.

Enhanced multi-resource work order management

Based on investments in the October '18 release, the Field Service application now supports many multi-resource work order scenarios. For example, an incident type can specify that multiple resources are required to complete the work.

Improvements have been made to crew management and requirement group scheduling to facilitate easy multi-resource work order scheduling, management, and completion.

Dynamics 365 for Project Service Automation

Overview of Dynamics 365 for Project Service Automation April '19 release

The release notes for Dynamics 365 for Project Service Automation will be published in a future update. Stay tuned for details.

Dynamics 365 for Finance and Operations

Overview of Dynamics 365 for Finance and Operations April '19 release

Dynamics 365 for Finance and Operations unifies global financials and operations to empower people to make fast, informed decisions. Finance and Operations helps businesses adapt quickly to changing market demands and drive rapid business growth. The April ’19 release will bring users together on One Version (version 10) for Dynamics 365 for Finance and Operations. This release marks a monumental shift in supportability and allows the community to be on a continuous update cadence. The community can continue to build extensible solutions for Dynamics 365 for Finance and Operations.

The core capabilities being introduced in the April '19 release will be made available for customers on a continuous monthly cadence. These core capabilities will be persona opt-in enabled, which allows the customers to implement these new features at their own cadence. The key driver for any core capability is to increase productivity and ROI of the solution.

This release also focuses on the fundamentals to enhance the user experience of the solution with Net Promoter Score (NPS) feedback as a primary driver. The targeted areas of these enhancements include performance, compliance, automation, and supportability of the service.

Financial management

The April ’19 release for financial management focuses on responding to customer feedback for regulatory features and usability. Customers will have the capabilities needed to comply with IFRS 15 and for responding to the guidance on accounting for revenue recognition on contracts. Users will experience an enhanced expense report entry experience with a new header and details expense report, as well as automated settlements in the general ledger, a process completed periodically. A top 10 feature request has been fulfilled by adding bank foreign currency revaluation.

Supply chain management

Product information management and inventory management

The continuous feedback obtained when operating the service allows us to identify specific subprocesses within the inventory management area that can be subject to tangible

performance improvements. This is an ongoing effort with broad impact on several areas of the service—it allows for faster feedback, less waiting time, and unblocks resources that otherwise will be waiting for a process to finish. With the April '19 release, the ability to configure and apply unit of measure (UoM) conversions for product variants has also been expanded so that UoM conversions at the product variant level are now supported throughout the application.

In future releases, we will continue to invest in both our product information management and inventory management capabilities. New classes of products and production processes will drive an evolution of the product definition and supporting elements. The inventory valuation capabilities will be expanded to support scenarios where multiple valuation methods and multiple currencies are required—for example, in case of different managerial reporting and statutory reporting requirements. We will also invest in making inventory on-hand information more readily available in distributed scenarios, such as in the retail industry.

Warehouse management

The Warehouse Management System (WMS) is a recent successful addition to the application suite that serves several industries, each with specific requirements on how to operate a warehouse. The solution has been gradually enhanced since its introduction in Microsoft Dynamics AX 2012, and a large suite of enhancements has recently been licensed from an ISV. With the April '19 release, the integration of these enhancements will begin, and the ability to handle catch weight (CW) products in WMS processes will be added.

Going forward, we will continue enhancing the released CW feature by adding capabilities of the second CW purpose-built solutions with the aim of allowing existing customers to upgrade to the April release or its following monthly releases. The solution will fit the needs both of distributors as well as manufacturers. The lack of this integration has been hampering the uptake of the WMS solution at certain customers—this reservation will be removed. The suite of 30-plus distinct features will partially be integrated as preview for the April release and its subsequent monthly releases. For example, a feature like enable label printing during wave adds flexibility in configuration and operation. All feature exposures will be achieved through flighting to allow for a controlled roll-out.

Sales and procurement

The April ’19 release brings usability enhancements in sales and procurement that increase user productivity and satisfaction. Super users will be able to propose filtered views and build forms where unnecessary fields or actions can be removed. As a result, knowledge from the super users can be disseminated to the organization and all skill levels of users can benefit from targeted views, crafted to fit the task at hand.

Going forward, the focus for sales and procurement and sourcing areas will be on improving business support for supplier collaboration, extended self-service, data sharing and maintenance

capabilities, and improving business support within integration scenarios covering purchase requisition, request for quotation and purchase ordering relative to data flow and accounting distribution constraints.

Across the sales and procurement areas, the primary focus will be on improvements in our ability to track and account for goods in transit scenarios. Enhancing support of business scenarios within kit to stock, as well as kit to order, and extending our support for sales price and promotion management by adding extended price management flexibility leads to improved efficiency and lower cost of maintenance.

Manufacturing

It is a core priority to leverage the continuous feedback obtained from operating the service to drive tangible performance improvements, as well as to optimize core manufacturing business processes. In the April '19 release, the focus is on optimizing the resilience of master planning toward platform and infrastructure errors, as well as to deliver incremental master planning performance improvements. This is an ongoing effort that will continue in future releases as opportunities for process and performance improvements are identified.

We are also continuously enhancing and evolving our current manufacturing functionality to support the connected, intelligent operations of modern manufacturers. We will integrate with the intelligent Microsoft Azure IoT service to help our manufacturing customers close the digital feedback loop. This will consolidate close to real-time information from the shop floor with business data to generate business events and actionable insights.

Beyond the April '19 release, we will introduce enterprise asset management capabilities that will enable customers to track the total cost of ownership of operations assets, as well as to manage the ongoing maintenance of those assets. Maturing additive manufacturing technologies represent a shift in how to approach manufacturing and will also drive enhancements of how manufacturing processes are defined, planned, and executed.

Globalization

To operate in many countries or regions, businesses need to quickly respond to changing regulatory requirements and meet very specific requirements of industries and verticals. With the April '19 release, we continue to make focused investments in globalization to expand the areas of configurable localization to simplify this process. With configurable engines for both Electronic Reporting and Global Tax, which are accessible through Regulatory Configuration Service, users can extend Microsoft-delivered regulatory configurations or build new configurable features from scratch.

In the April ’19 release, we made several of the most frequently changed features in Brazil and Mexico configurable, specifically electronic invoicing features for Brazil and Mexico and some Brazil Fiscal Books reports. Also, as the invoice layout is one of the most-customized areas by

customers who deploy globally, in the April ’19 release we are extending the number of configurable invoice layouts beyond the Free Text Invoice layout that shipped in the October ’18 release. We continue enhancing the configurable engines capabilities in several areas such as performance optimization of customer-built features, simplification of post-processing operations, and improving tax configuration usability. In April ’19, we are also shipping several Russian localization features.

Platform

Between April and July 2019, several improvements to the developer tools will be previewed, making development environments more cost effective and productive. Development of more than one application on the same environment will be possible. Build automation will not require build virtual machines and will enable automated deployment to Lifecycle Services (LCS).

In addition, the Web Client introduces new features guided by user productivity, usability research, and customer feedback. This includes personalization of forms and workspaces, interacting with large data sets (with better filtering), and mobile device responsive capabilities. An improved workflow experience, including integration with Microsoft Flow, will be available.

Analytical Workspaces support new personalization options and power user editing tools of Power BI reports within the Finance and Operations client. Power users can extend reports and do data mashups using PowerBI.com functionality without any developer intervention.

New tools for management of network printers are also introduced. The Entity Store is supported for on-premises deployments.

Integration

With the April ’19 release, customers will be able to seamlessly link to Common Data Service (CDS) for Apps from Dynamics 365 for Finance and Operations. A breadth of Finance and Operations entities will be available in CDS for Apps. Additionally, Entity Store will be staged in a customer’s Azure Data Lake. Microsoft will keep the data fresh with incremental syncs.

Event-driven integrations is a new capability that provides a framework to allow Finance and Operations business and workflow events to be consumed by Microsoft Flow and external systems. For example, this will enable a PO confirmation to trigger fulfillment by the vendor earlier; or enable a receipt of a damaged part to trigger the vendor claim process in real time.

Cloud operations and lifecycle services

Microsoft will manage the continuous updates of Platform, Application (Finance and Operations, Retail), and Financial Reporting with no costly upgrades required. A set of tools and experiences to support this experience (called One Version) will be made available in Lifecycle Services and

will enable predictability, reliability, and continuous delivery. The service will be made available in the China Sovereign Cloud with all customer data maintained within the region.

What's new and planned for Dynamics 365 for Finance and Operations

This topic lists features that are planned to release between April and September 2019. Previews for some features will start in February 2019.

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Financial management

Feature	Release type	Cloud or on-premises	Date
Automatic ledger settlements	General Availability	Both	July 2019
Reverse journal posting	General Availability	Both	July 2019
Revenue recognition	General Availability	Both	June 2019
Bank foreign currency revaluation	General Availability	Both	June 2019
Expense client usability	General Availability	Both	June 2019
Billing schedules	General Availability	Both	July 2019

Product information management and inventory

Feature	Release type	Cloud or on-premises	Date
Inventory performance optimizations	General Availability	Cloud	April 2019
Unit of measure conversions for product variants	General Availability	Both	April 2019

Warehouse management

Feature	Release type	Cloud or on-premises	Date
Catch weight product processing with warehouse management	General Availability	Both	April 2019

Sales and procurement

Feature	Release type	Cloud or on-premises	Date
Simplified view - templates	General Availability	Both	April 2019

Manufacturing

Feature	Release type	Cloud or on-premises	Date
Master planning stability and recovery improvements	General Availability	Both	April 2019
Improved removal of obsolete planning data	General Availability	Both	April 2019
Planning service	Public Preview	Cloud	April 2019

Globalization

Feature	Release type	Cloud or on-premises	Date
Additional configurable invoice layouts	General Availability	Both	July 2019
Configurable e-invoices for Brazil (NF-e and NFS-e)	General Availability	Both	April 2019
Configurable Mexican e-invoice (CFDI)	General Availability	Both	April 2019
Additional Russian localization features	General Availability	Both	April 2019
Expanded regional coverage for Regulatory Configuration Service (RCS) deployments	Public Preview	Cloud	April 2019
Electronic reporting - Performance optimization of customer-built configurations	General Availability	Both	April 2019
Electronic reporting - Setting up parameters by legal entity	General Availability	Both	April 2019
Electronic reporting - Post-processing of generated files	General Availability	Both	April 2019
Electronic reporting - Post-processing of imported files	General Availability	Both	April 2019
Electronic reporting - Generate documents in PDF format by filling in PDF templates	General Availability	Both	April 2019
Global Tax Engine - Improving tax configuration usability with reduced number of lookups	General Availability	Both	April 2019

Feature	Release type	Cloud or on-premises	Date
Global Tax Engine - Simplifying tax setup maintenance with Excel integration	General Availability	Both	April 2019
Global Tax Engine - Enabling tax configuration with tax currency and sales tax codes	General Availability	Both	April 2019

Platform

Feature	Release type	Cloud or on-premises	Date
Analytics			
Entity store support for on-premises deployments	Public Preview	On-premises	May 2019
Web edit tooling for analytical workspaces	Public Preview	Cloud	April 2019
Personalization options for analytical workspaces	Public Preview	Cloud	July 2019
System management of network printers	Public Preview	Cloud	April 2019
Client			
Enhanced grid experiences	General Availability	Both	July 2019
Saved views	General Availability	Both	July 2019
Client productivity and usability improvements	General Availability	Both	April 2019 – July 2019 (Incremental feature releases)

Feature	Release type	Cloud or on-premises	Date
Updated navigation bar that aligns with the Office header	General Availability	Both	April 2019
Development			
Developer tools and application lifecycle management	Public Preview	Both	April 2019 – July 2019 (Incremental feature releases)

Integration

Feature	Release type	Cloud or on-premises	Date
Event-driven architecture for integrations	General Availability	Cloud	June 2019
Finance and Operations, entities in CDS for Apps	General Availability	Cloud	April 2019
Entity store in your own Business Data Lake	Public Preview	Cloud	June 2019

Cloud operations and Lifecycle Services

Feature	Release type	Cloud or on-premises	Date
Data residency – China cloud	General Availability	Cloud	April 2019
One Version experience	General Availability	Cloud	April 2019
Diagnostic assistant	Public Preview	Cloud	July 2019
Self-service deployment	General Availability	Cloud	May 2019

Automatic ledger settlements

Ledger settlements let you match debit and credit transactions in the general ledger and mark them as settled. Advanced ledger settlements provided additional capabilities for filtering and selecting transactions. We are adding the ability to create rules that will enable additional filtering of the information and will automatically settle transactions.

Rules filtering

The ledger settlement rules will allow you define how you want to filter transactions. You'll be able to select accounts, dimensions, and other criteria that will define your filter. You can then apply the rule to your ledger transactions and preview the results before matching.

Automatic matching

The ledger settlement rules will also allow you to select from a list of criteria such as accounts, dimensions, and posting types that define which transactions you want to match. When you add the rule to your ledger transactions, not only will the filter be applied but the matching transactions will be selected for settlement. The process will also be available for processing in batch.

Reverse journal posting

Reversals are improved to allow the reversal of multiple general journal lines or an entire general journal. Reversal from the voucher transaction form allows reversal of a limited number of subledger journal entries. Reversals are also allowed from the accounting source explorer.

Revenue recognition

Revenue recognition management provides automation to help accounting and finance professionals comply with International Financial Reporting Standard (IFRS) 15 and Accounting Standards Codification (ASC) 606.

New capabilities will include support for product bundles and kits such as:

- Software and maintenance
- Software and services
- Software
- Hardware and service

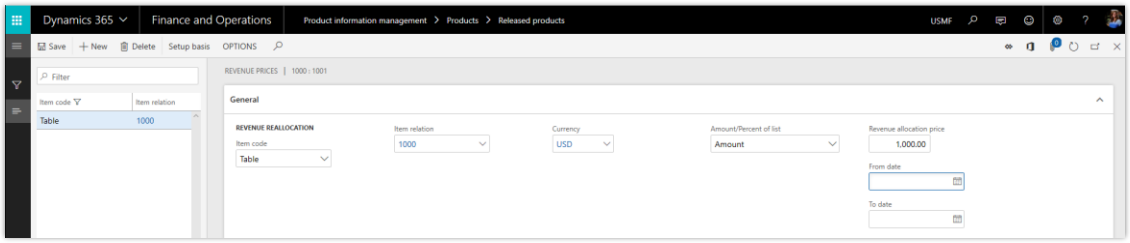
These capabilities will handle the following features:

- Revenue pricing

- Revenue schedules
- Bundle setup
- Multiple sales order reallocation
- Workspace navigation and reporting

Revenue pricing

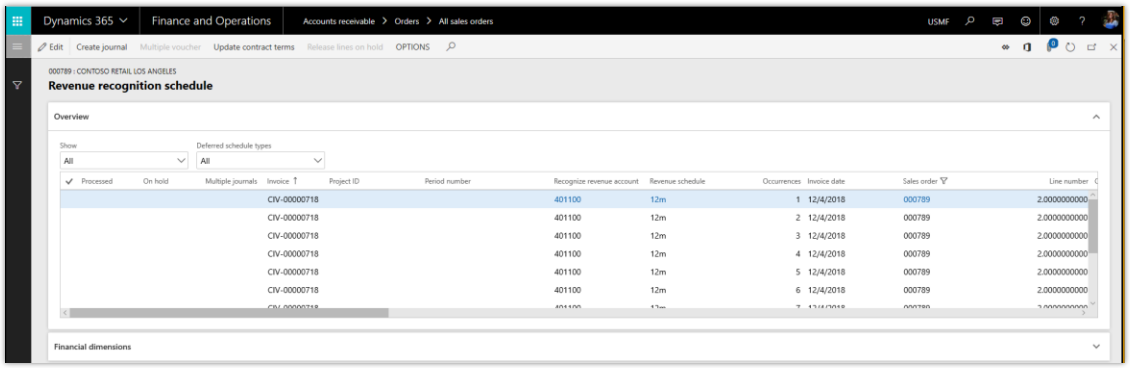
Users can enter a different price that they will recognize that is different than they charge the customer.



Revenue pricing screenshot

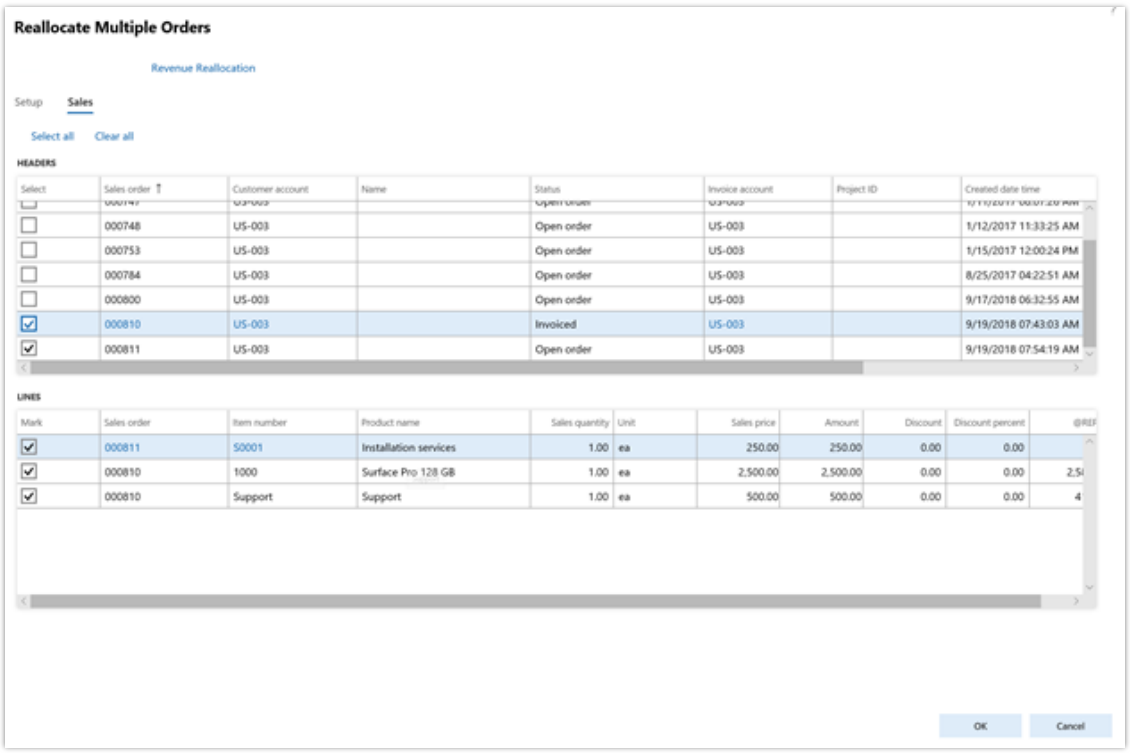
Revenue schedules

Revenue schedules determine the number of months for the revenue deferral. Options are available to create the schedule based on actual days of the month, splitting equally across month or based on a set number of occurrences.



Revenue schedules screenshot

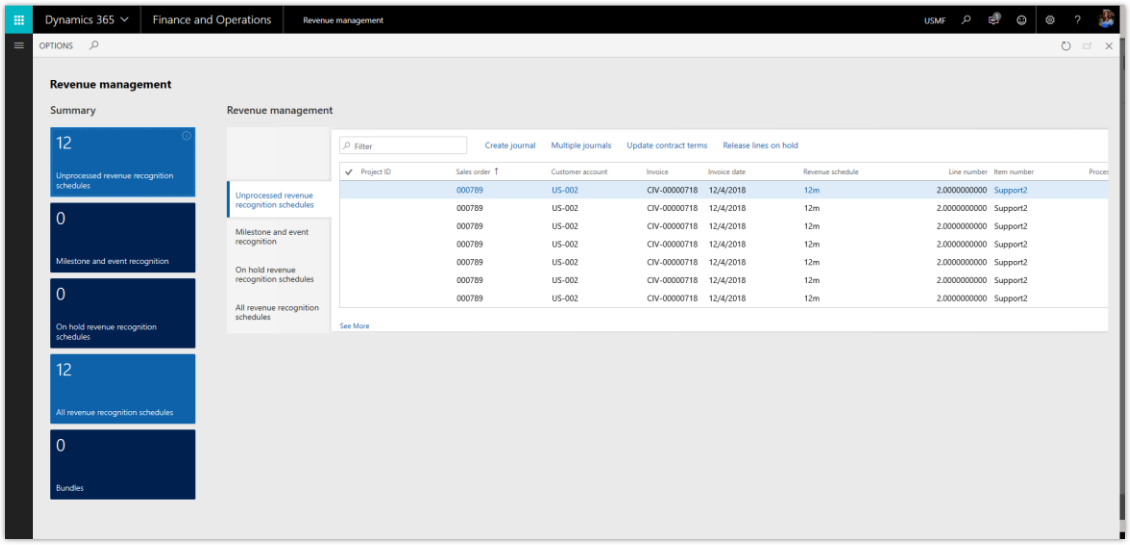
Multiple sales order reallocation



Multiple sales order reallocation screenshot

Workspace

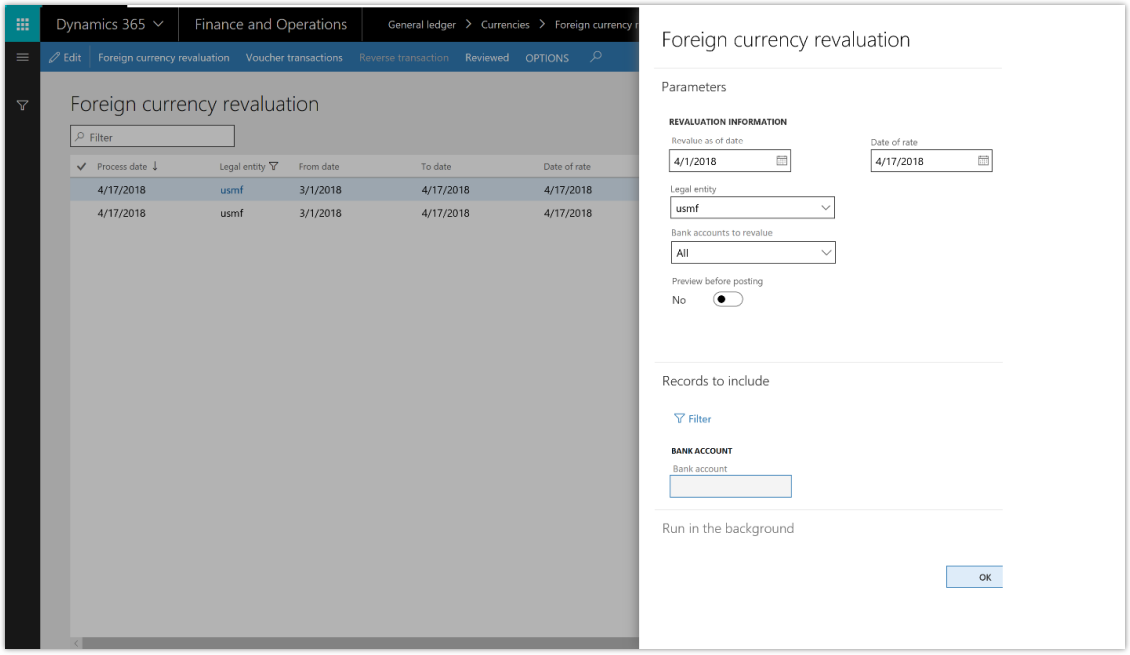
The new workspace is used to look at the status of the revenues schedule records created for deferred revenue.



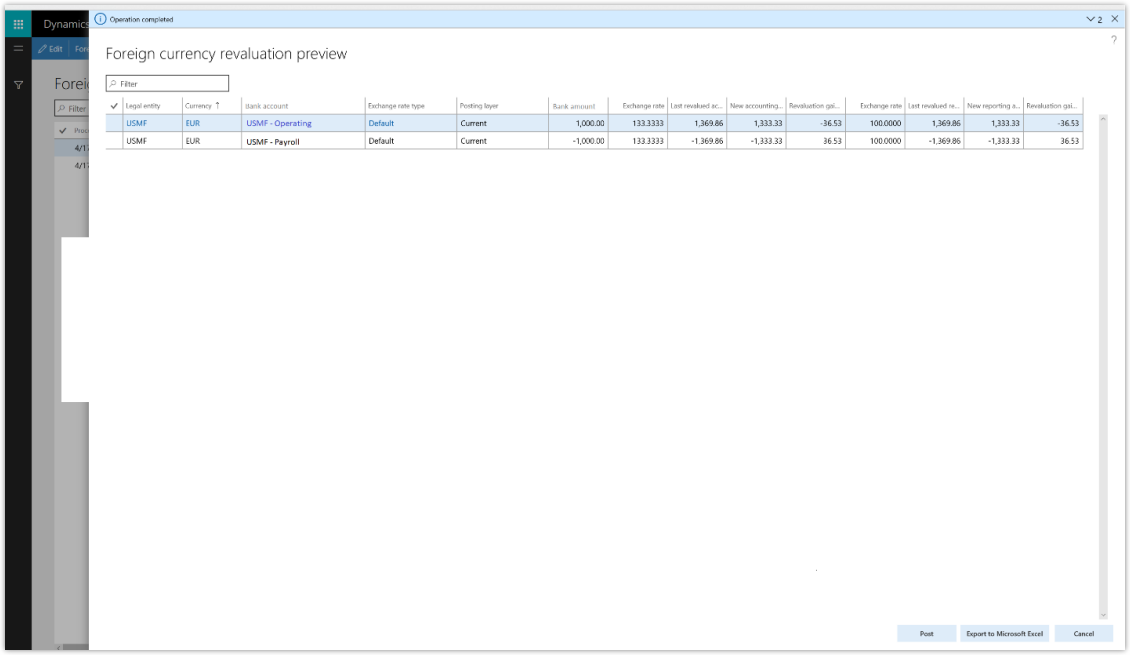
Revenue recognition workspace screenshot

Bank foreign currency revaluation

Users can run foreign currency revaluation for bank balances as part of their periodic processes. Users select the date, currency range, and the accounts they want to include across legal entities. Adjustments will be created based on the difference in exchange rates.



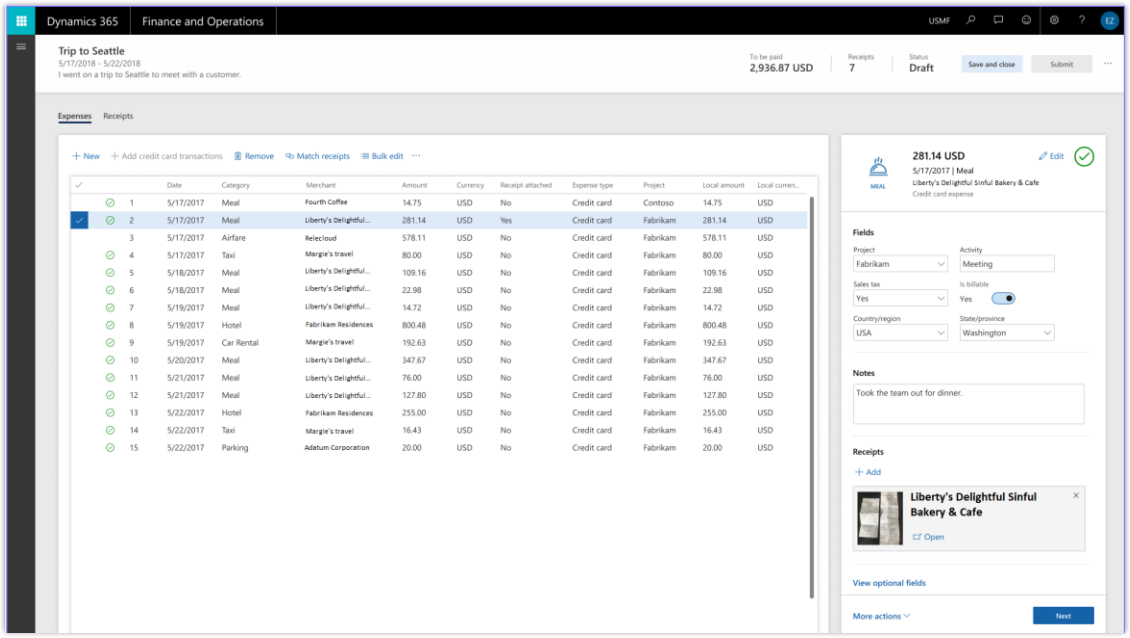
Bank foreign currency revaluation screenshot



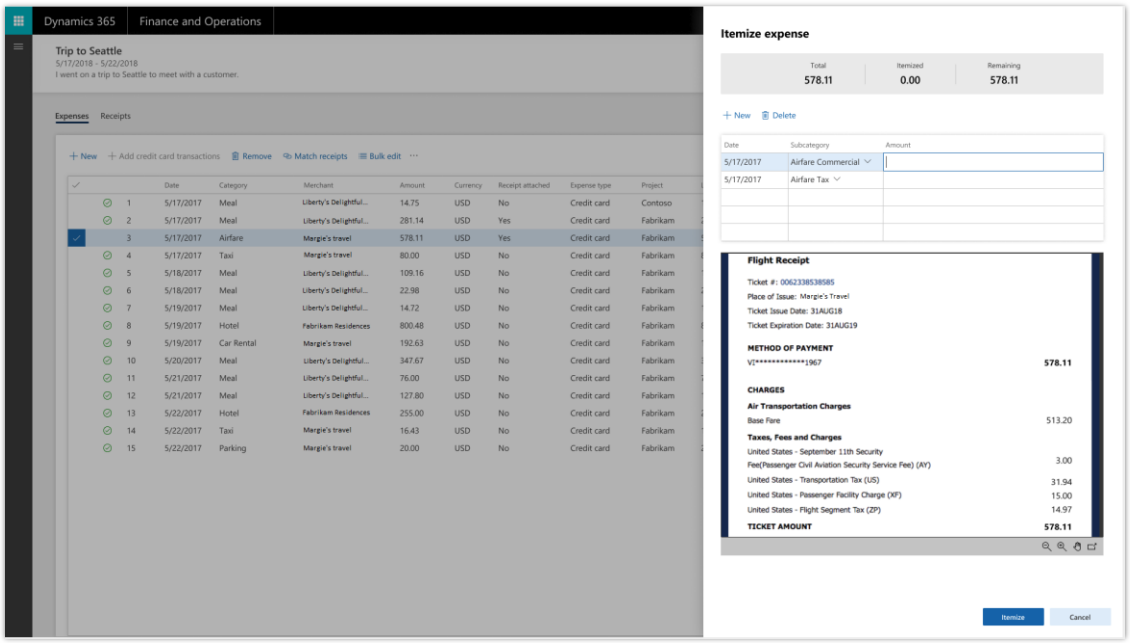
Preview bank foreign currency revaluation screenshot

Expense client usability

Large numbers of users enter expenses daily in Finance and Operations. Enhancements to the entry experience around adding and modifying expense address requirements such as receipts capture and early visibility for policy violations. This feature also makes it easier to itemize expenses, making the experience quicker and more focused for users.



Mocked-up screenshot of a proposed Expense interface



Receipt details

Billing schedules

Billing schedules allows for flexible billing rules against customer sales orders. Different billing schedules can be defined on each line of the sales order. Currently you can use Payment

schedules to immediately post the full amount to Accounts receivable, spread over various periods based on the payment schedule. Billing schedules will instead post to Unbilled accounts receivable, and then create invoices based on the billing schedule. Each invoice will create an accounting entry to move the balance from Unbilled accounts receivable to Accounts receivable. This allows future periods to also remain on hold until the invoice is posted.

Inventory performance optimizations

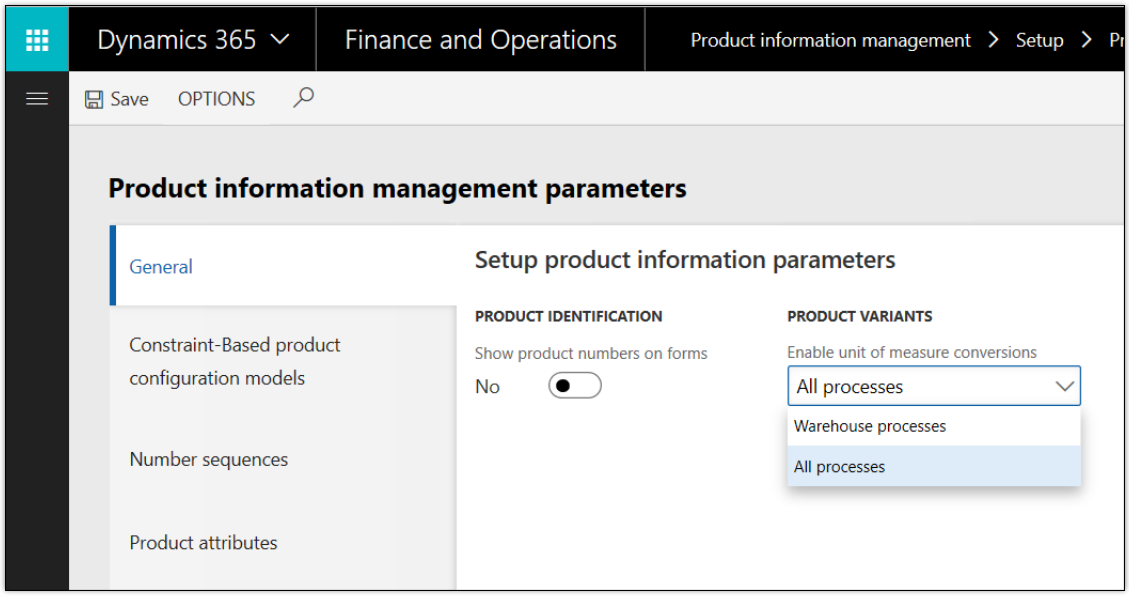
The performance of inventory operations and on-hand lookups will be improved through multiple, incremental enhancements. This will have a positive impact on system performance throughout many parts of the application.

Unit of measure conversions for product variants

Unit of measure (UoM) conversions at the product variant level have previously been supported only in a select set of warehouse management scenarios. This functionality has now been expanded to provide support for UoM conversions at the product variant level throughout the application.

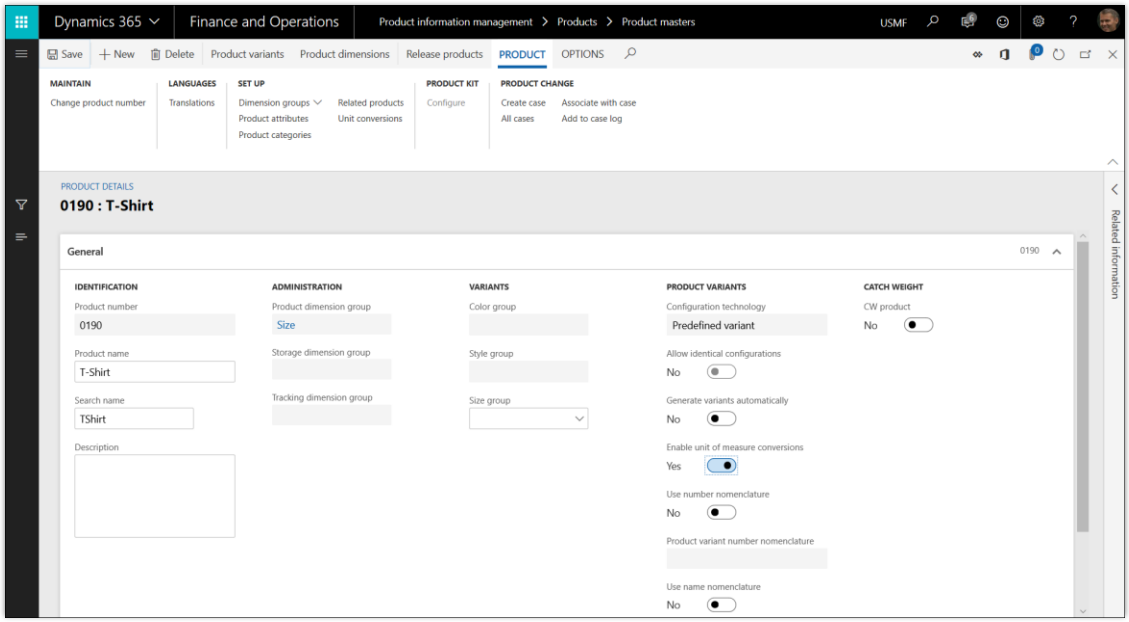
You can use product variants to create variations of a product instead of creating several individual products that have to be maintained. A product variant could, for example, be a t-shirt of a given size and color. So far, it has only been possible to set up the unit conversion on the product master, so all the product variants had the same unit conversion rules. If the t-shirts, for example, are sold in boxes, and the number of t-shirts that can be packed in a box depends on the size of the t-shirts, then this new feature can be used to set up the unit conversions between the different shirt sizes and the boxes used for packaging.

The general use of the feature is enabled in the **Product information management parameters** page. The feature is enabled for all products masters or only for product masters enabled for the warehouse processes.



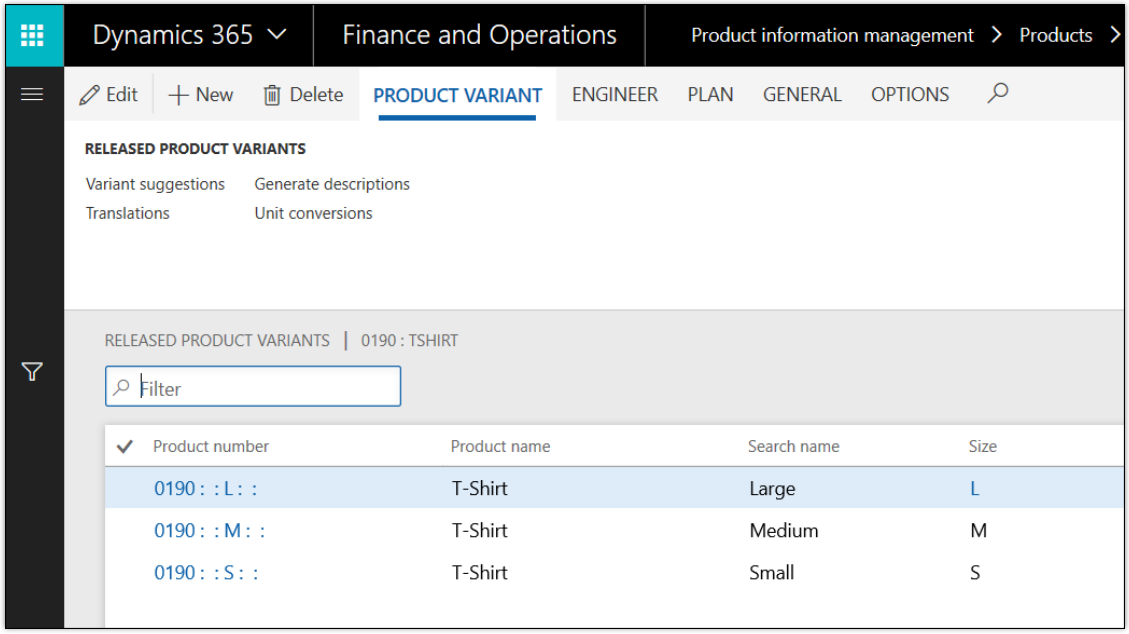
Enabling unit of measure conversions by product variants on the Product information management parameters page

For a specific product master, the feature is enabled by selecting the **Enable unit of measure conversions** field on the **Product details** page.



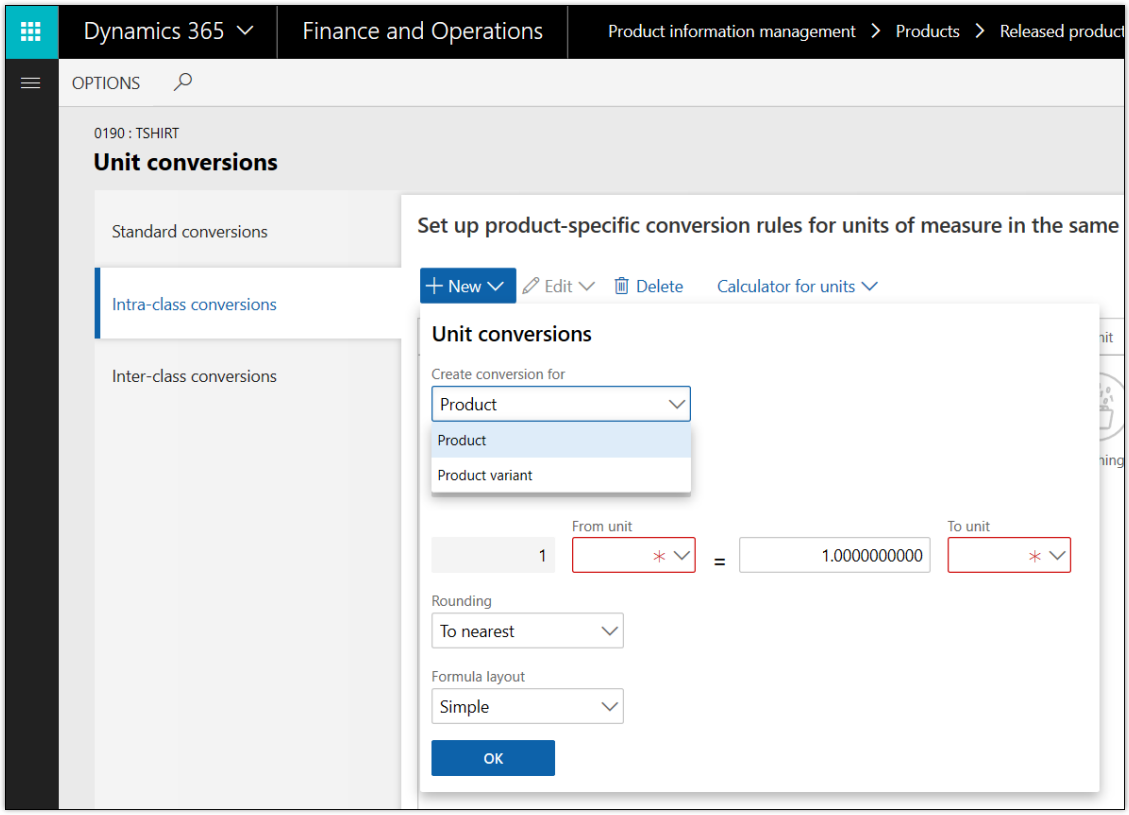
Enabling unit of measure conversions by product variants for a specific product master on the Product details page

In this example the t-shirt has three released product variants: Large, Medium, and Small.



Released product variants page showing three t-shirt variants: Large, Medium, and Small

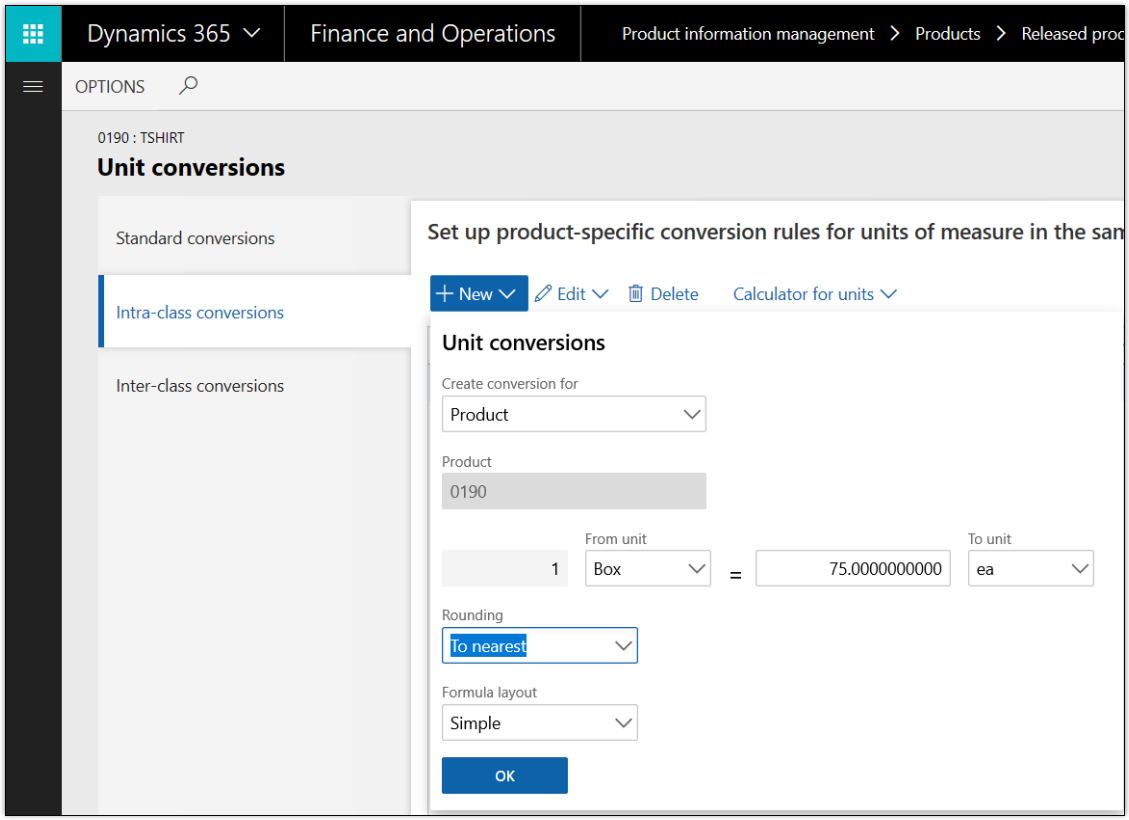
From the Product master you can open the **Unit conversions** page. On this page, you first select whether you are setting up the unit conversion for the product or the product variant.



Selecting whether to set up unit of measure conversions for product variants or the product master on the Unit conversions page

If you select **Product variant**, you set up the unit conversion for a specific product variant. In this example, the unit conversion between the units "Box" and "Ea" is set up for the t-shirt in size small.

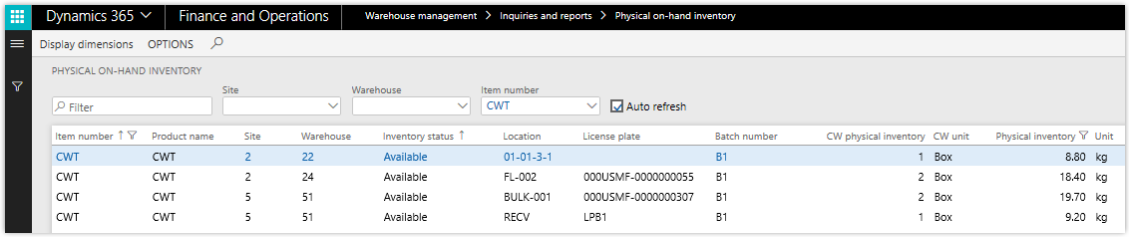
If you select **Product**, you set up the unit conversion for the product master, and this unit conversion will serve as fallback for all product variants that have no unit conversion defined.



Defining fallback unit of measure conversions for the product master on the Unit conversions page

Catch weight product processing with warehouse management

This functionality will provide support for using catch weight products within warehouse management processes. Catch weight products are often used in industries where products vary by weight and/or size, such as the food industry. Catch weight products use two units of measure—an inventory unit (such as kg, lb, or oz) and a catch weight unit (such as box, each, or pallet). The inventory unit is the unit of measure in which the product is weighed and invoiced. The catch weight unit is the unit in which the products are handled, such as received, transferred, and shipped.



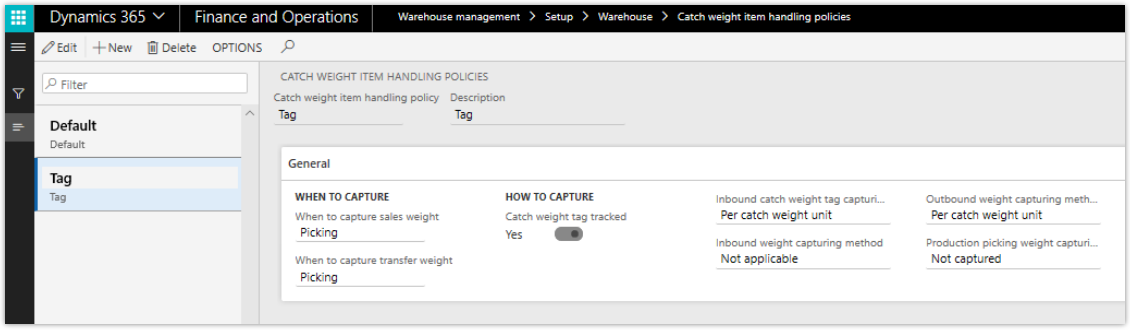
Catch weight quantities shown together with inventory quantities on the Physical on-hand inventory page

Within the warehouse management processes, the catch weight products can be handled in different units, such as pallets and boxes, and the business processes can be granularly defined to, for example, perform the inbound weighing per pallet level and capture the outbound sales process during picking or packing per catch weight quantity (box).

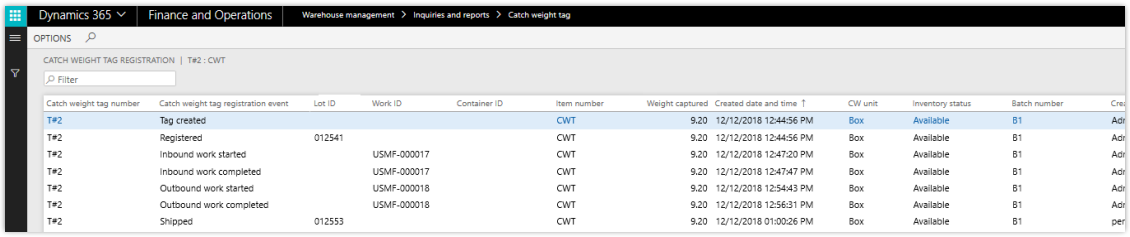
This feature also allows you to use a catch weight tag that will get the captured weight per catch weight unit assigned. The goal of this approach is to weigh the product only once at the time of receipt. This works for products that do not change weight over time (frozen shrimp, for example) and products that have a handling unit of measure that is shippable (such as a box of shrimp).

Mobile warehouse app showing how tag weight is captured

With this approach, the user scans the catch weight tag to identify the weight at the time of picking or packing based on product configuration and then invoicing is based on the weight that is associated with the captured catch weight tag.



Enabling weight tag tracking on the Catch weight item handling policies page



Catch weight registrations shown on the Catch weight tag registration page

Simplified view - templates

With the April '19 release, you will be able to create, manage, and publish your own personalized views of the pages so that the experience and interaction with the application becomes simple, highly discoverable, and efficient.

Built on this new facility, a set of preconfigured view templates will be available on selected documents and entities. The composition of a template will be driven by information relevant to both a specific user role and a given task performed by the same user role. Types of documents and entities for which view templates will be available are as follows:

Documents

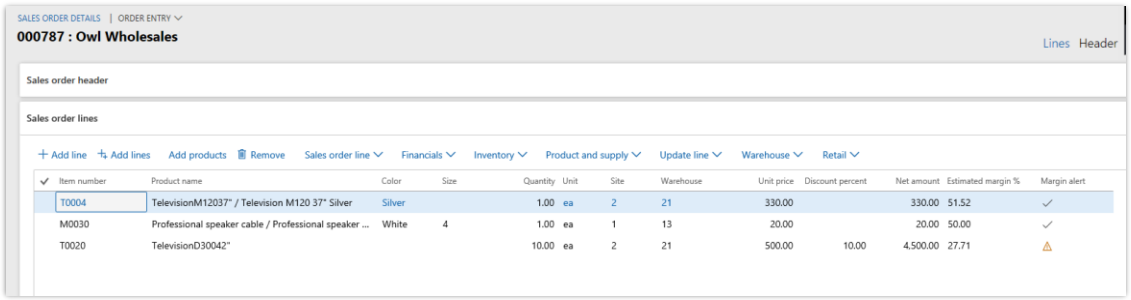
- Sales orders
- Purchase orders
- Purchase requisitions
- (Select) journals

Entities

- Customers
- Vendors
- Products

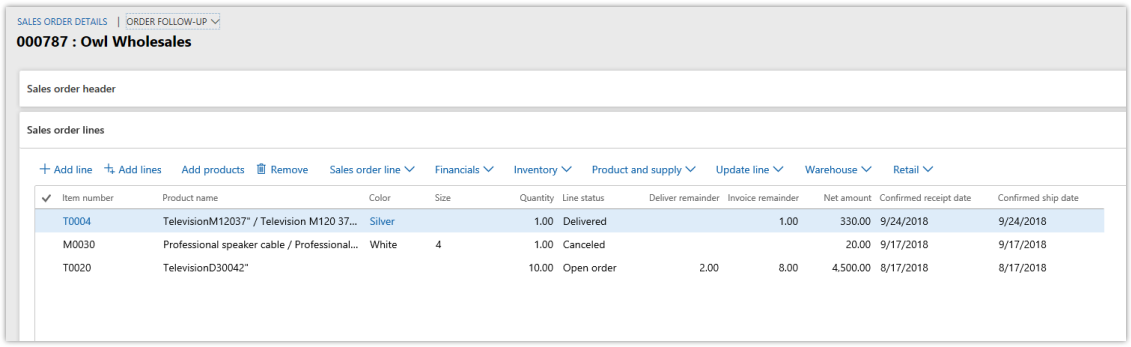
More specifically, two separate views of a sales order detail page will be available out of the box for a customer service representative and A/R clerk, to reflect their different needs for order details relevant to their roles. Two additional page views will be provided for a customer service representative to accommodate the need to see different order information depending on the stage of the order processing and fulfilment.

The **Order entry** view will focus on displaying order line details that are essential to order entry and order preparation, such as product name and attributes, quantity, price- and margin-related values, and total amounts:



Simplified view templates example 1

When an order has moved into fulfilment, and the customer service rep needs to answer the customer's inquiry, the **Order follow-up** view that prioritizes details related to fulfilment status will be of use:



Simplified view templates example 2

Master planning stability and recovery improvements

Master planning will be made more resilient to failures and connectivity issues through multiple, incremental improvements. This will enhance the ability for Master planning to recover from exceptions without being stopped.

If master planning is stopped, it has been necessary to restart the master planning run. This process has been improved so that master planning will now restart automatically from where it was stopped. This will be a significant improvement for customers where master planning is a time-critical process.

Improved removal of obsolete planning data

After a successful master planning run, a clean-up job is scheduled to remove planning data that is no longer necessary. In some cases, however, such as a failed master planning run, the data would not be cleaned up thereby incurring risk of aggregating unnecessary data.

The clean-up job has now been enhanced to remove data from previously failed master planning runs, and the design has been optimized to never block other threads, leaving all helpers available for the master planning run. These improvements also apply to intercompany master planning.

Planning service

A hyper-scalable multitenant real-time distribution requirement planning service. The service enables companies to maintain a dynamic plan that's close to real time and supports high data volume.

Customers today are relying on prompt system reply, and companies that operate close to 24/7 can't afford a planning batch job that runs for several hours every night to generate the needed master plan. Many companies would like to run the planning multiple times during working hours to stay updated on demand and supply changes. The planning service will remove the load of master planning from their ERP system and provide a constantly updated dynamic plan that will give them close to real-time insight to requirement changes and potentially enable them to achieve savings by reduction of the total lead time, as new demands are detected and managed earlier.

Planning hub

With the standalone planning service, you can connect multiple ERP systems or other data sources to the planning engine for a combined optimized plan. The design is prepared for input from external data sources like IoT or additional forecasts data.

This enables customers to achieve:

- Planning hub cross-multiple ERP systems where supply suggestions are distributed based on origin.
- Connections to multiple types of ERP systems with a generic API interface allowing enterprises to operate a variety of systems and still get a centralized plan.
- Planning in a connected supply chain with communication between suppliers and customers.

Real-time planning

The planning service provides a constantly updated dynamic plan with close to real-time insight to requirement changes on the supply side as well as affected existing orders.

This enables customers to achieve:

- Potential savings and improved sales by reduction of the total lead time, as new demands are detected and managed earlier—order same day because you don't have to wait for the nightly plan.
- Improved customer service and order taking, as the impact of other changes as well as the entered sales order is detected and the plan is fully optimized accordingly.

Performance

If you have long-running master plans in Dynamics 365 for Finance and Operations, will the planning service work for you? Yes, the planning service is specifically designed for very fast calculations with massive data volume. It's built as a hyper-scalable multitenant service, meaning that multiple tenants can cooperate simultaneously to calculate the plan. Also, the planning service will remove the load of master planning from your ERP system and work with a data stream that minimizes the server load.

This enables customers to achieve:

- Greatly improved planning performance with shorter run time.
- Ability to unload master planning from the ERP system.
- More frequent planning runs—not just daily or weekly.
- Comfort that future business growth will not overload the planning system.

Availability

At first the planning service will be available to selected customers via a preview program. Later the preview will open up to a wider range of customers before becoming generally available.

Feature highlights

- The first version of the planning service will address the needs of both distributors and wholesalers (Distribution Requirement Planning, or DRP).
- Out-of-the-box integration with Dynamics 365 for Finance and Operations to support real-time planning.
- Standalone planning service that can support additional ERP systems, besides Dynamics 365 for Finance and Operations.
- Generic API interface that can support integration to multiple ERP systems. For example, one or more of the following: Finance and Operations, Business Central, Dynamics NAV, AX2012, SAP, or Salesforce.
- Support purchase and transfer supply suggestions.
- Ensure supply suggestions to maintain fixed safety stock levels, based on on-hand levels and future demand.
- Time-based safety stock option, to support fluctuation and seasonality in demand.
- Include purchase and transfers lead times, for duration and order date calculation.
- Pegging between supply and demand, providing full visibility for how a given demand is fulfilled or what demand a given supply fulfills.
- Lot-for-lot reordering policy support, combining all demand within a defined period into one supply suggestion.
- Calendar-controlled lot-for-lot demand period between fixed days. As an example, every Monday with exceptions for holidays.
- Order quantity modifiers that adjust order suggestions to a desired minimum, multiple, and/or maximum quantity.
- Plan just one item or a subset of all products by filtering the products included in a given planning run.
- Multiple plans with specific setup, allowing the planner to simultaneously operate with a daily static plan, a dynamic real-time plan, as well as multiple what-if plans.

- Real-time dynamic plan.
- Detect and communicate order delays and possible fulfillment dates, when the plan can't be optimized to fit all demands.
- Calendar support to handle available and closed periods related to warehouses, vendors, customers, and more.
- Time margins to simulate the actual time needed to reorder, receive, and issue goods.
- Support for reservations between supply and demand are recorded and respected by the planning engine.
- Option to include demand forecast with reduction based on recorded demand.
- Reordering policy that supports refilling to a predefined maximum inventory level.
- Support for rule-based auto-firming of planned orders—mark orders to be auto-firmed by the ERP system.
- Suggestions to optimize the supply plan by modifying existing supply orders—for example, move, decrease or cancel an existing purchase order.
- Global usage with globalization to include localization and translation support.

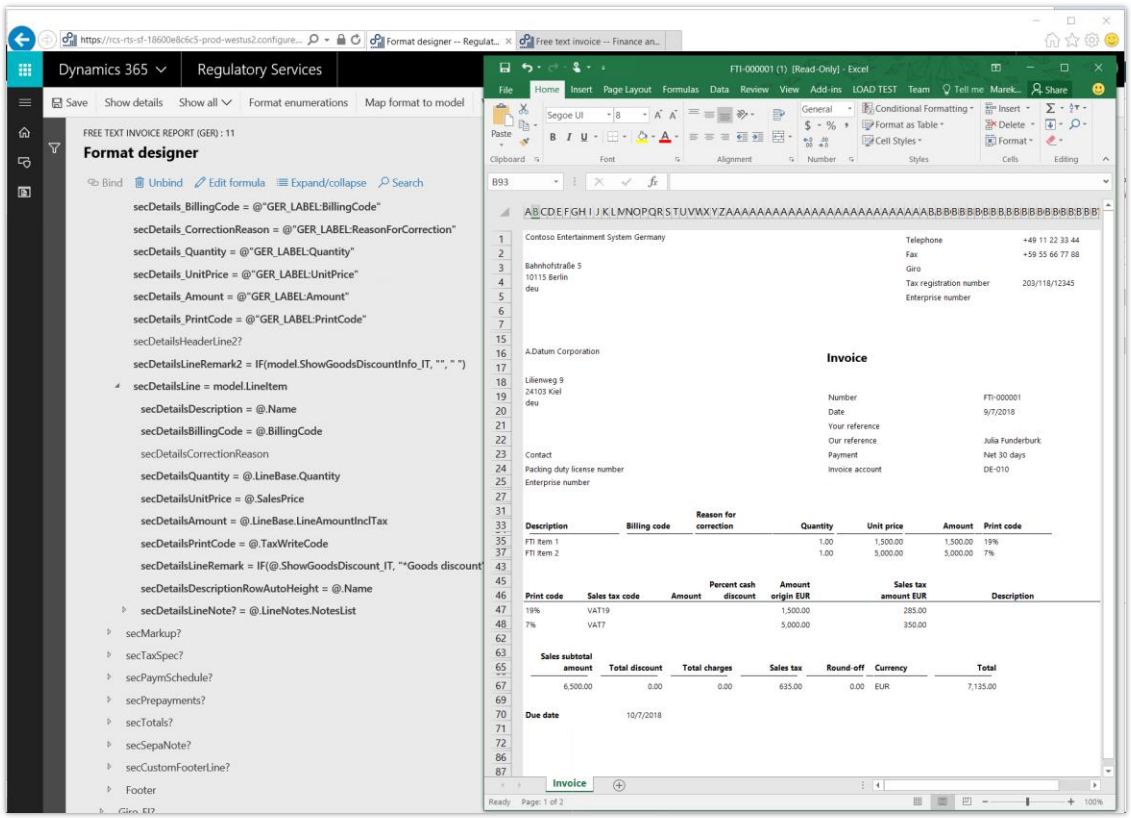
Additional configurable invoice layouts

Invoice layout is one of the most-customized areas by customers who deploy globally. In October '18, we started making it configurable by providing a Free Text Invoice (FTI) layout, which allowed power users to adjust it without developer help. Now, we are extending the number of configurable invoice layouts by providing the following core templates and their localized versions:

- Customer invoice
- Sales advance invoice
- Sales delivery documents

Configurability for other types of documents like project invoice, vendor invoice, or payment advice is planned for future releases.

Example of Electronic reporting format designer for configurable free text invoice layout:



Configurable free text invoice

Configurable e-invoices for Brazil (NF-e and NFS-e)

The Brazil tax authority, also known as SEFAZ, defined an electronic communication standard that all companies must adhere to for e-invoicing. In the Brazilian localization, you can generate a Nota Fiscal Eletrônica (NF-e or NFS-e) to register the movement of items or services between two parties. The generated fiscal document can be submitted as the digitally signed NF-e to the Secretaria da Fazenda (SEFAZ) in an XML message. The NF-e process includes the following steps:

1. The fiscal establishment posts a fiscal document.

2. The NF-e export or import process detects the posted fiscal document and generates an XML message in the specified format. A separate XML message is generated for each NF-e. The XML message is transmitted to SEFAZ.

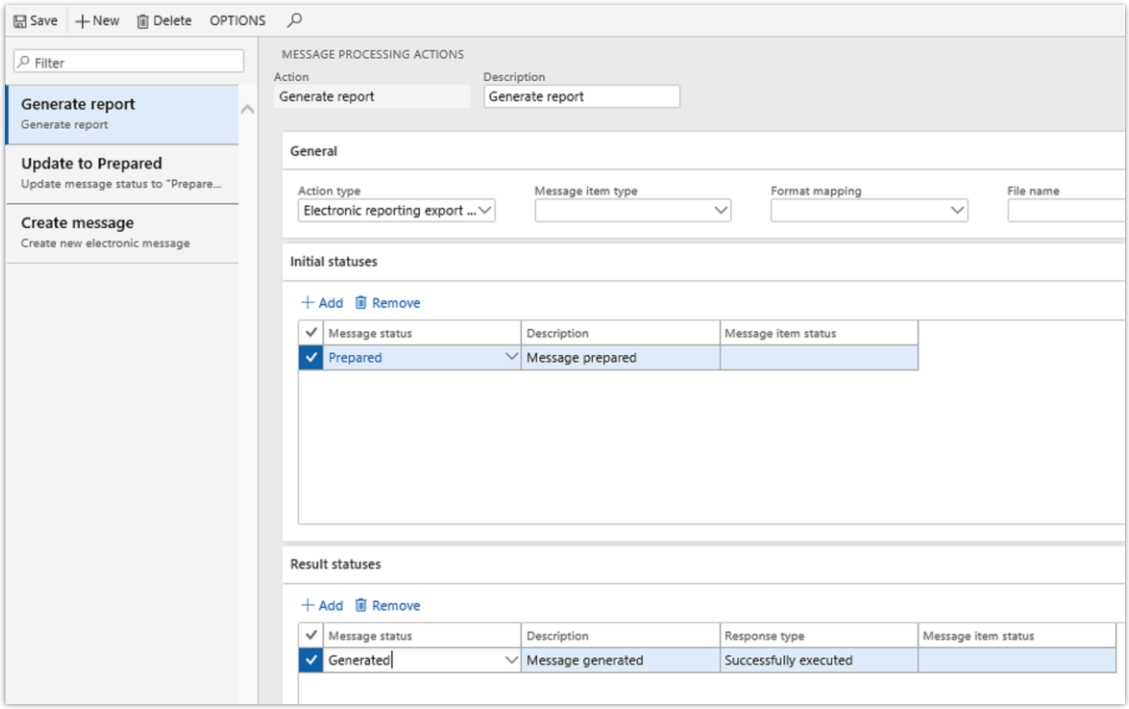
3. SEFAZ processes the XML message and returns a protocol and status for each NF-e.

Upon the status receipt of the NF-e from SEFAZ, you can perform different sets of actions, like approval, cancellation or correction and resending of the document.

Brazilian NF-e is subject to frequent law changes and there are planned changes in requirements for NFS-e. This feature will make both fully configurable, so it will be quicker for Microsoft to release regulatory updates and for partners and customers to customize integrations and export/import formats, if required, without code changes. In addition, configurable e-invoices will make it simpler for partners to extend localization coverage for non-supported states, cities, and verticals in Brazil.

Configurability goals both for NF-e and NFS-e are planned to be met through integration with Electronic messaging and using Electronic Reporting capabilities.

Message processing actions example



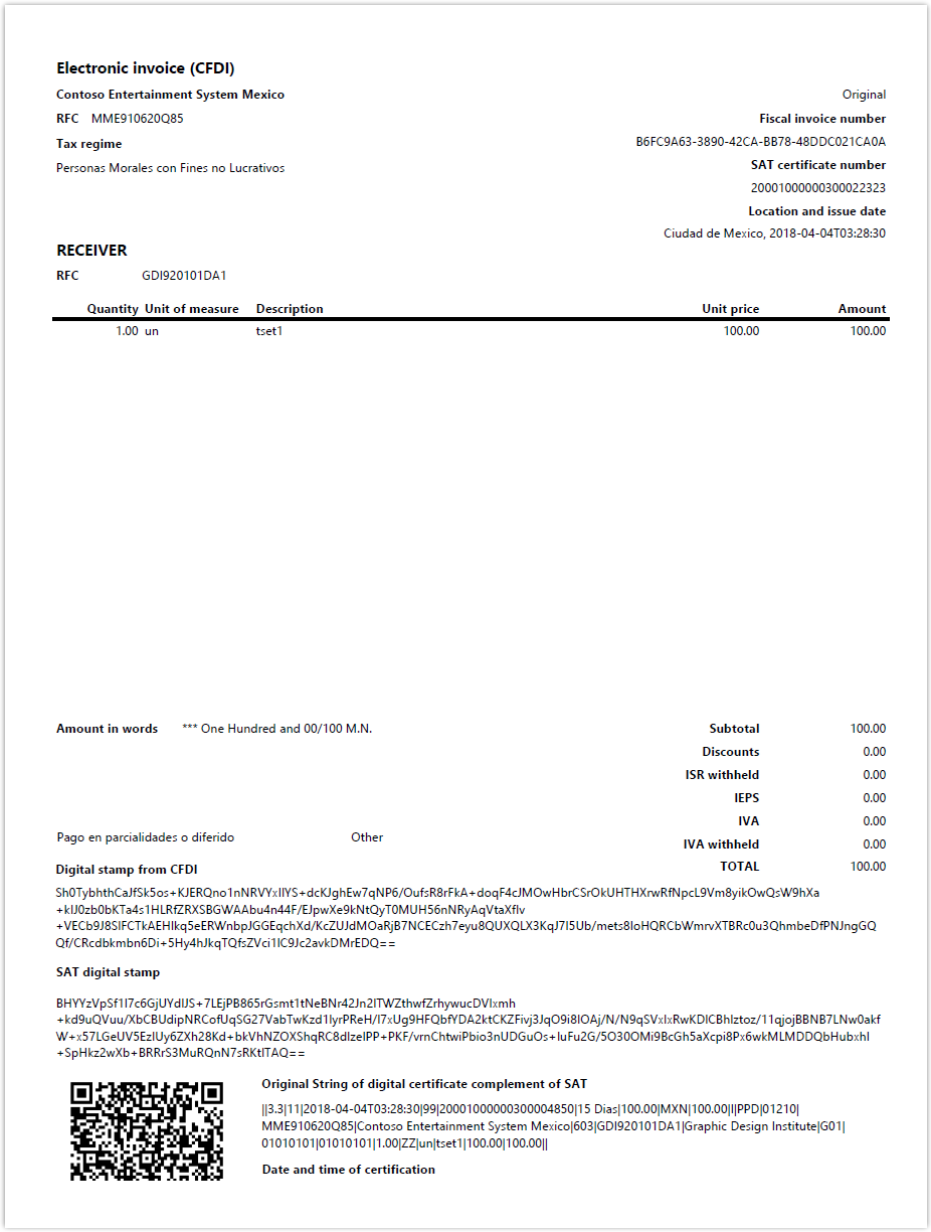
Electronic messaging - Message processing actions

NOTE This feature will replace some parts of already existing non-configurable NF-e and NFS-e functionality. With introduction of the new feature and updated user experience, the old feature will be deprecated and corresponding code will be removed in a future update.

Configurable Mexican e-invoice (CFDI)

Electronic billing in Mexico requires the Comprobantes fiscales digitales por internet (CFDI) electronic invoice format. An electronic invoice is a legally accepted digital tax receipt that your organization submits to the Mexican tax authority - Servicio de Administración Tributaria (SAT).

CFDI is the current method for generating electronic invoices in the format that SAT requires. In this method, the invoices are verified and certified by a digital signature service provider (PAC). Before you can use the CFDI method to generate electronic invoices, your organization must set up a web service connection to an authorized PAC. For the CFDI method, you send an XML message from Finance and Operations to the PAC. The PAC validates each invoice, assigns a folio number, and then incorporates the digital stamp that the service tax authorities provide. After the PAC completes the approval process, your organization receives the approved XML message, and can then submit the invoice to the customer in XML or PDF format. Example of the printable CFDI form:



Electronic invoice (CFDI)

Contoso Entertainment System Mexico

RFC MME910620Q85

Tax regime

Personas Morales con Fines no Lucrativos

Original

Fiscal invoice number

B6FC9A63-3890-42CA-BB78-48DDC021CA0A

SAT certificate number

20001000000300022323

Location and issue date

Ciudad de Mexico, 2018-04-04T03:28:30

RECEIVER

RFC GDI920101DA1

Quantity	Unit of measure	Description	Unit price	Amount
1.00	un	tset1	100.00	100.00

Amount in words *** One Hundred and 00/100 M.N.

Subtotal	100.00
Discounts	0.00
ISR withheld	0.00
IEPS	0.00
IVA	0.00
IVA withheld	0.00
TOTAL	100.00

Pago en parcialidades o diferido Other

Digital stamp from CFDI

Sh0TybhthCaJfSk5os+KJERQno1nNRVYxIIYS+dcKJghEw7qNP6/OufsR8rFkA+doqF4cJMOwHbrCSrOkUHTHXrwRfNpcL9Vm8yikOwQsW9hXa
+kIJ0zb0bKTa4s1HLRfZRXSBGWAAbu4n44F/EJpwXe9kNtQyT0MUH56nNRyAqVtaXflv
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Qf/CRcdbkmbn6Di+5Hy4hJkqTQfsZVci1IC9Jc2avkDMrEDQ==

SAT digital stamp

BHYYzVpSf1I7c6GjUYdIJS+7LEjPB865rGsmt1tNeBNr42Jn2ITWZthwfZrhywucDVIxmh
+kd9uQVuu/XbCBUdipNRCofUqSG27VabTwKzd1IyrPReH/I7xUg9HFQbfYDA2ktCKZFivj3JqO9i8IOAj/N/N9qSVxlxRwKDICBhlztoz/11qjojBBNB7LNw0akf
W+x57LGeUV5EzIUy6ZXh28Kd+bkVhNZOXShqRC8dIzeIPP+PKF/vrnChtwiPbio3nUDGuOs+IuFu2G/5O30OMi9BcGh5aXcpi8Px6wkMLMDDQbHubxhI
+SpHkz2wXb+BRRrS3MuRQnN7sRKtITAQ==

Original String of digital certificate complement of SAT

||3.3|11|2018-04-04T03:28:30|99|20001000000300004850|15 Dias|100.00|MXN|100.00||PPD|01210|
MME910620Q85|Contoso Entertainment System Mexico|603|GDI920101DA1|Graphic Design Institute|G01|
01010101|01010101|1.00|ZZ|un|tset1|100.00|100.00||

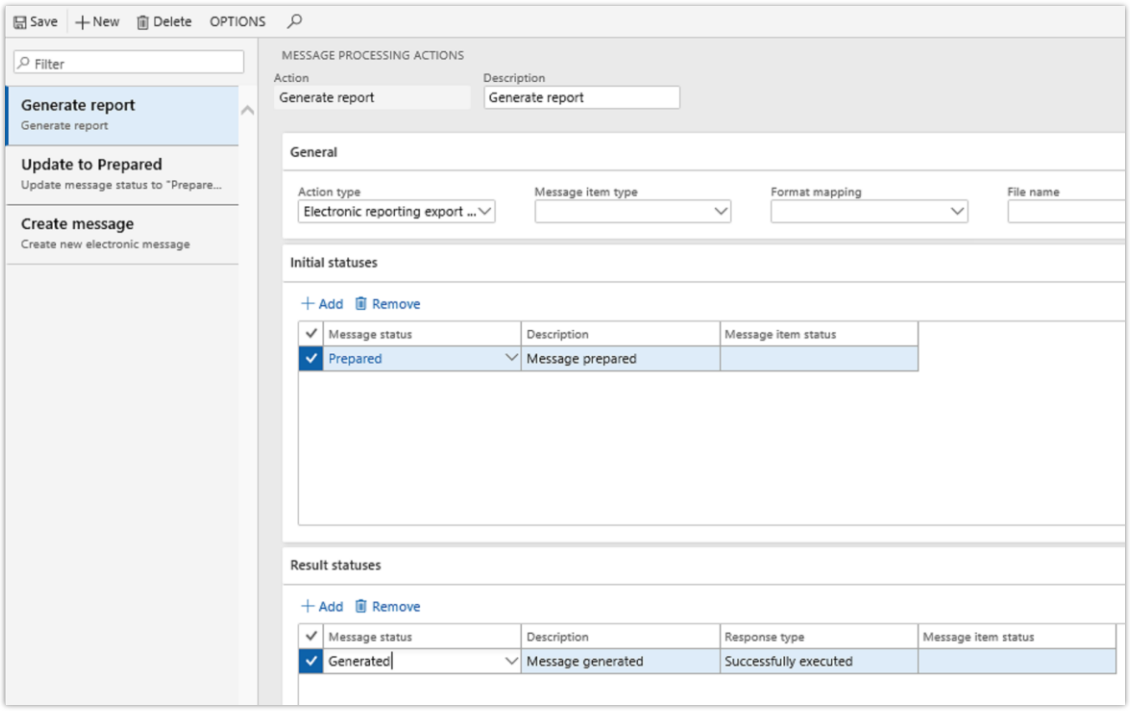
Date and time of certification

Printable CFDI form

Integration with the PAC web service is not part of the Mexican localization. Apart from that, CFDI has recently become a subject to frequent law changes and there is increasing demand for customizing printable CFDI forms. This feature will make it fully configurable, so it will be easier to integrate with PAC web services and to release regulatory updates. Partners and customers will have a better experience to customize integrations, export and import formats and printable forms, if required, without code changes.

Configurability goals are planned to be met through integration with Electronic messaging and using Electronic Reporting capabilities.

Message processing actions example



Electronic messaging - Message processing actions

NOTE This feature will replace some parts of already existing non-configurable CFDI functionality. With introduction of the new feature and updated user experience, the old feature will be deprecated and corresponding code will be removed in a future update.

Additional Russian localization features

The following additional Russian localization features will be delivered.

Cash flow management

This functionality allows you to do the following:

- Obtain a cash flow forecast and perform an analysis.
- Manage payments on a daily basis using payment schedule journals.
- Control the company's cash position.
- Maintain the company's cash flows with centralized control.

Other incomes and expenses profit tax registers

The following tax registers are available:

- Current period incomes
- Tax expenses
- Other expenses of current period
- Unrealized expenses of current period
- Other unrealized expenses

Localization of process industries

Basic localization in the following two areas is available:

- Correspondence of accounts for all new general ledger postings.
- Functional coexistence of PI features and Russian country context.

Journal of alcohol sales

This functionality includes printing the journal of Alcohol retail sales in statutory format.

Electronic format of profit tax declaration

Electronic reporting configuration is available, which allows you to generate the profit tax declaration in an electronic format that contains data that is calculated based on the configured Financial report.

Electronic format of accounting reporting

Electronic reporting configuration is available, which allows you to generate the accounting reporting in electronic format, and contains data calculated based on the configured Financial report.

You can find more details on how to do the following tasks in the article Financial reporting (Russia):

- Set up financial reports.
- Configure Electronic reporting to use the results of financial report calculations.
- Configure electronic messages to generate the financial report and store the results.

Transport tax registers and electronic format of declaration

This functionality allows you to keep technical and tax information for vehicles, calculate transport tax registers, and generate transport tax declaration in electronic format.

Land tax registers and electronic format of declaration version 5.06 (from 2018)

This functionality allows you to keep technical and tax information for ground areas, calculate land tax registers, and generate land tax declaration in electronic format, applicable from the annual reporting for year 2018.

Assessed tax registers and electronic format of declaration version 5.05 (from 2019)

This functionality allows you to keep technical and tax information for realty assets, calculate assessed tax registers, and generate assessed tax declaration in electronic format, applicable from the reporting for year 2019.

Alcohol sales declaration in electronic format

Electronic reporting configurations are available that will let you print alcohol sales declarations' forms 5,6,7,11,12 in electronic formats.

VAT declaration in electronic format version 5.06 (from 2019)

This functionality allows you to generate a VAT statement in XML format that is applicable from the reporting for year 2019.

For more information, see VAT declaration (Russia).

Sales, purchase books, and factures journals in electronic format (from 2019)

This functionality allows you to generate sales, purchase books, and factures journals in electronic format applicable from the year 2019. You can find more details on how to work with sales and purchase books in the article Sales books, purchase books, and invoice-factures journals.

Indirect taxes declaration on import of goods in electronic format

This functionality allows you to calculate indirect (withholding) taxes return (VAT and Excise) on the import of goods from state members of Customs union and generate tax declaration in an electronic format.

Expanded regional coverage for Regulatory Configuration Service (RCS) deployments

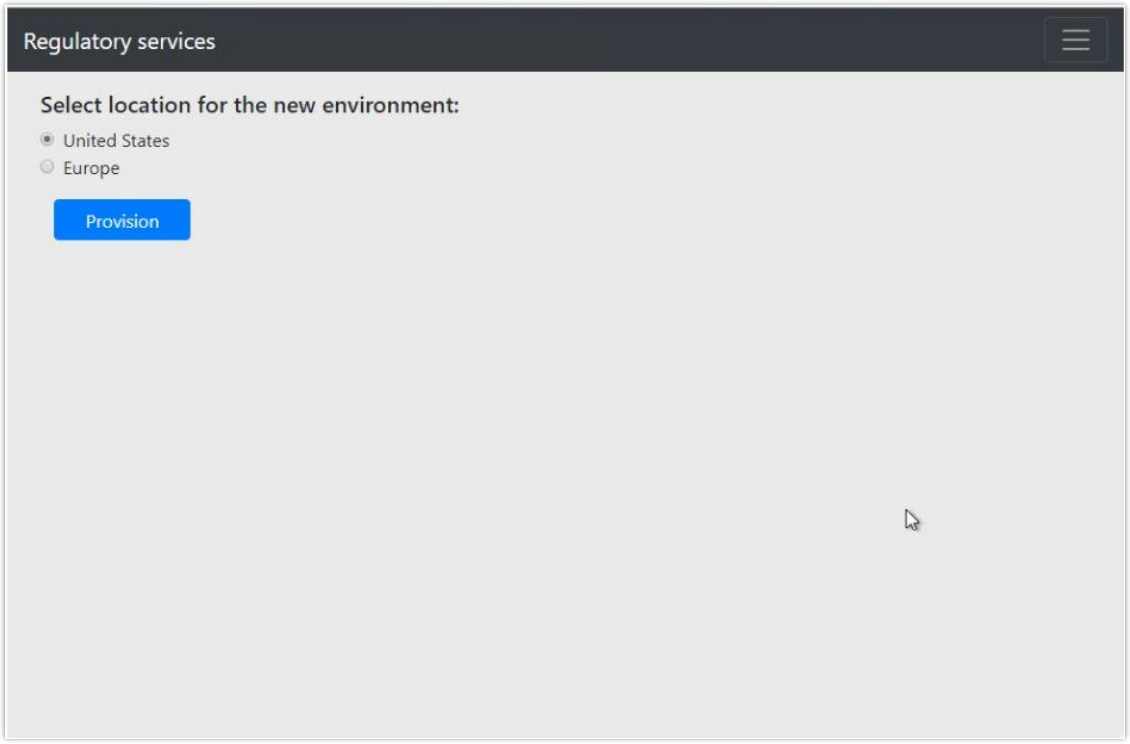
Microsoft is improving the digital workspace by streamlining the power and experiences of business applications, allowing business users to be more efficient while navigating across applications. The Regulatory Configuration Service (RCS) lets power users configure the regulatory reports, e-invoices, payment formats, and tax rules that are frequently affected by

changing legal requirements. This configuration can be done in one place rather than writing code in multiple applications.

As part of the ongoing enhancements to RCS, we are increasing the breadth of regional coverage where service environments can be deployed through end-user selection. As part of the April '19 release, users can host their RCS environments in the following countries or regions:

- United States (already available)
- India (already available)
- Europe (Preview from April 2019)
- China (Preview from April 2019)

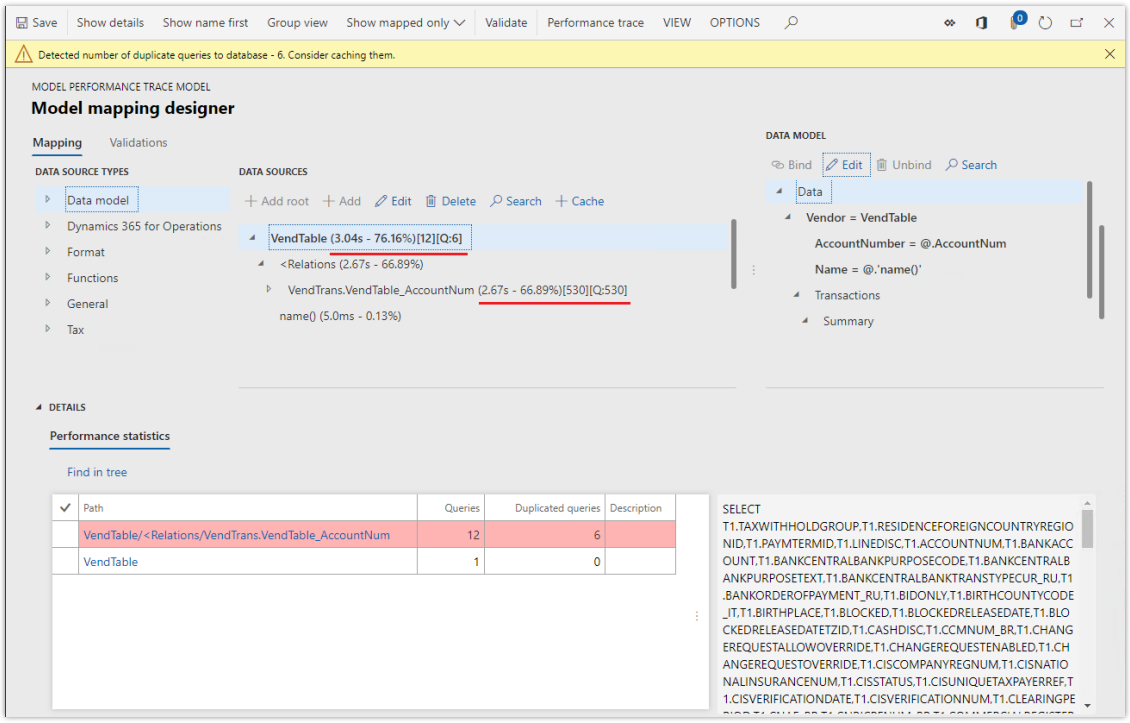
The RCS environment can be provisioned in selected geographic data centers:



RCS environment provisioning

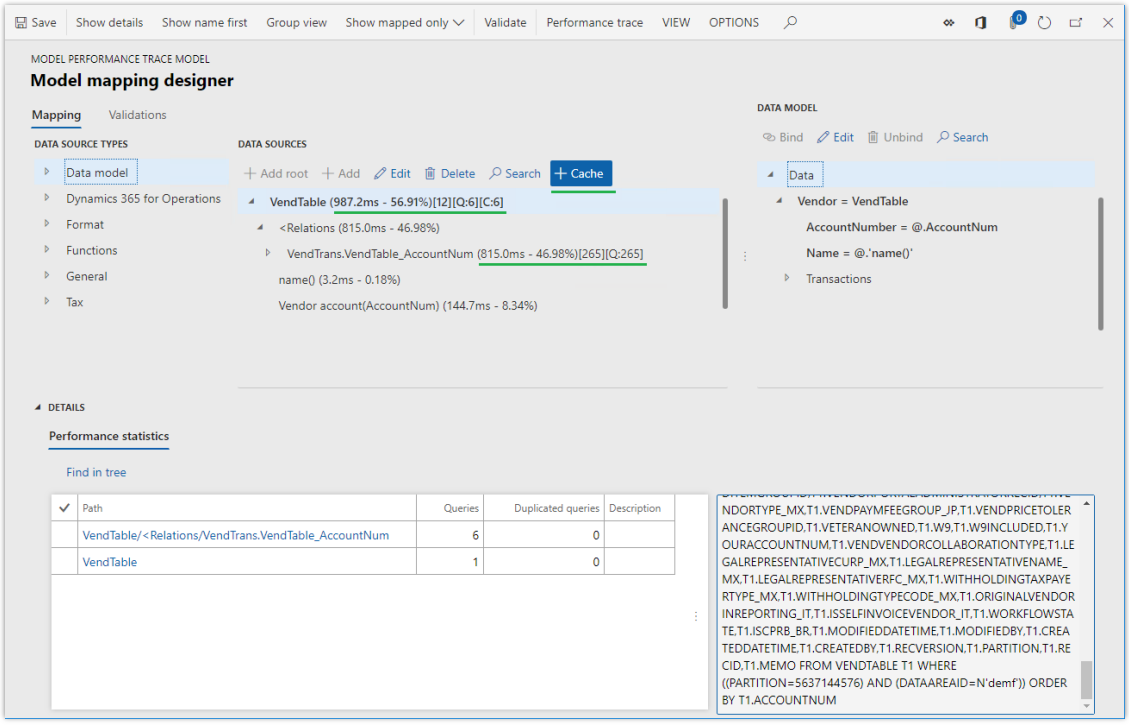
Electronic reporting - Performance optimization of customer-built configurations

A functional consultant persona can enable tracing of execution of electronic reporting configuration. This consultant can also analyze generated trace and optimize electronic reporting configuration performance by setting caching on frequently used nodes.



Model mapping designer

Currently, this caching supports only flat list of records, so any related records are not cached. This feature will allow caching of nested records. It also allows users to enable "lazy" caching, when only referenced records are being cached, not the whole list.



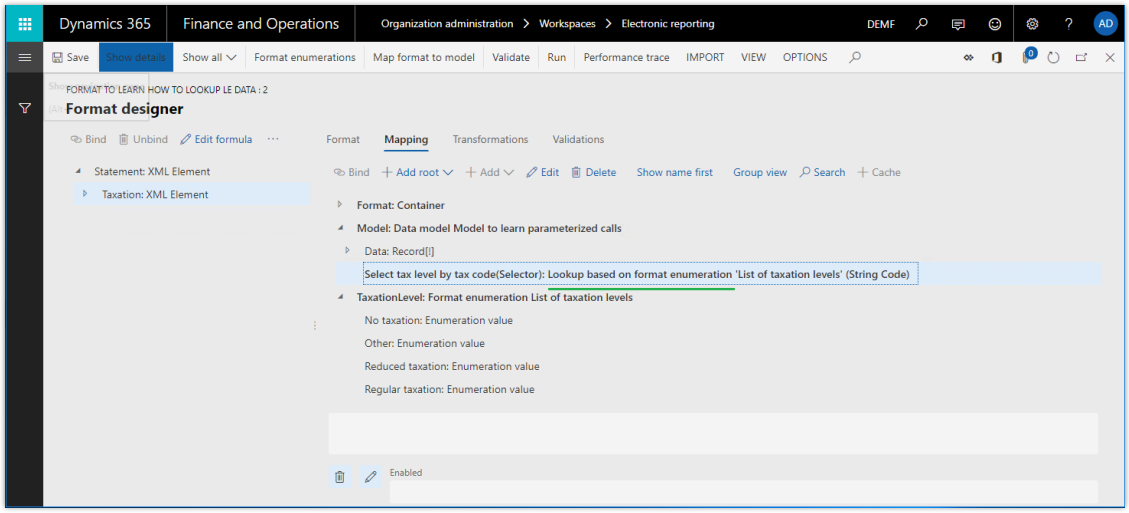
Model mapping designer performance statistics

Electronic reporting - Setting up parameters by legal entity

In many electronic reporting configurations, some data must be filtered based on a set of values that are specific for each legal entity. Currently, a power user can specify such data sets only as part of configured Electronic reporting (ER) model mappings or ER formats. This makes such ER configurations dependent on settings of the particular Microsoft Dynamics 365 for Finance and Operations instance and complicates distribution as well as further maintenance of such ER configurations and their derived copies.

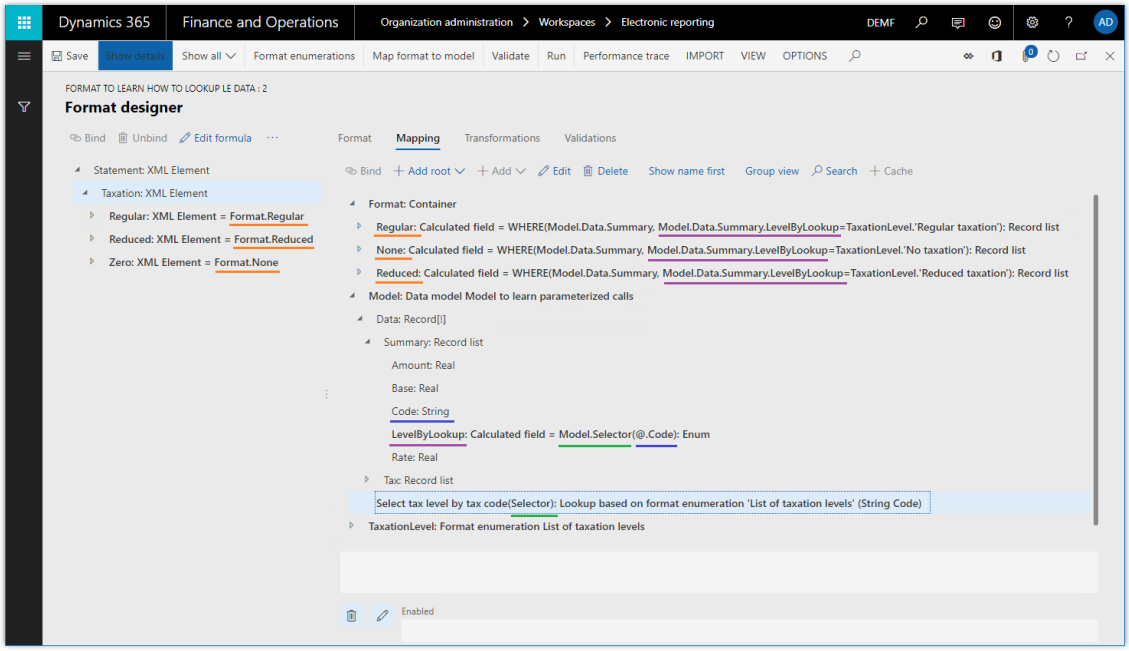
This configuration-specific parameters feature will allow a power user to configure in an ER format an abstract data source specifying how this data source will be filled in by a business user:

- What data will be offered upon request of a business user filling in this data source.
- What type of values will be returned back to an ER format at run time by this data source.



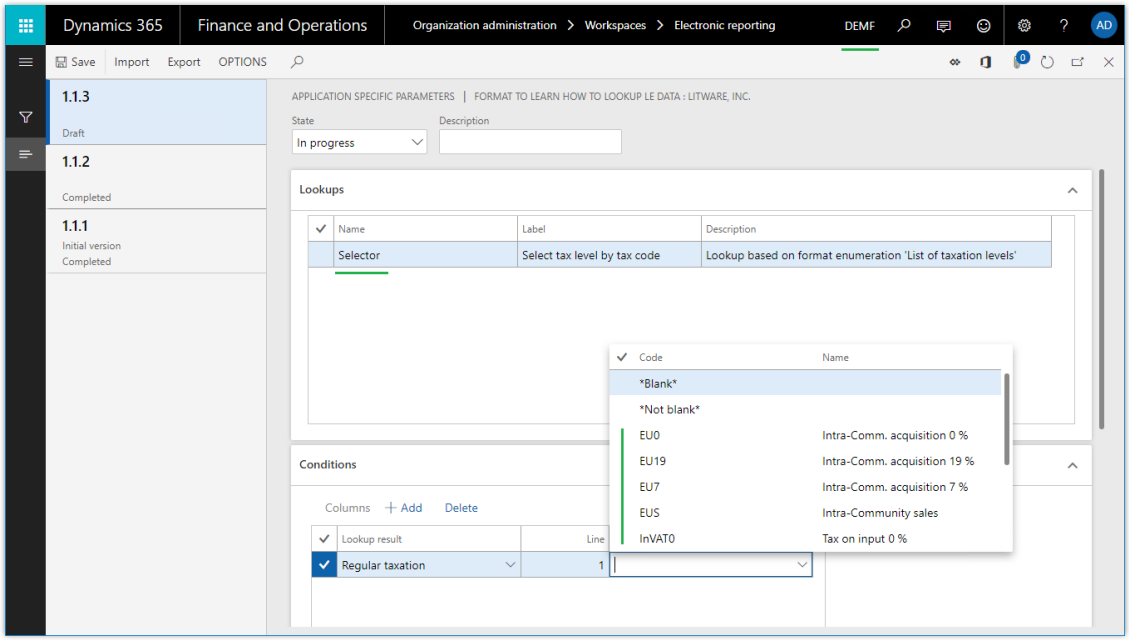
Format designer: Taxation XML element

By using this data source, a power user may configure data filtering in an ER format as a legal entity independent rule having no references to actual legal entity related data sources.



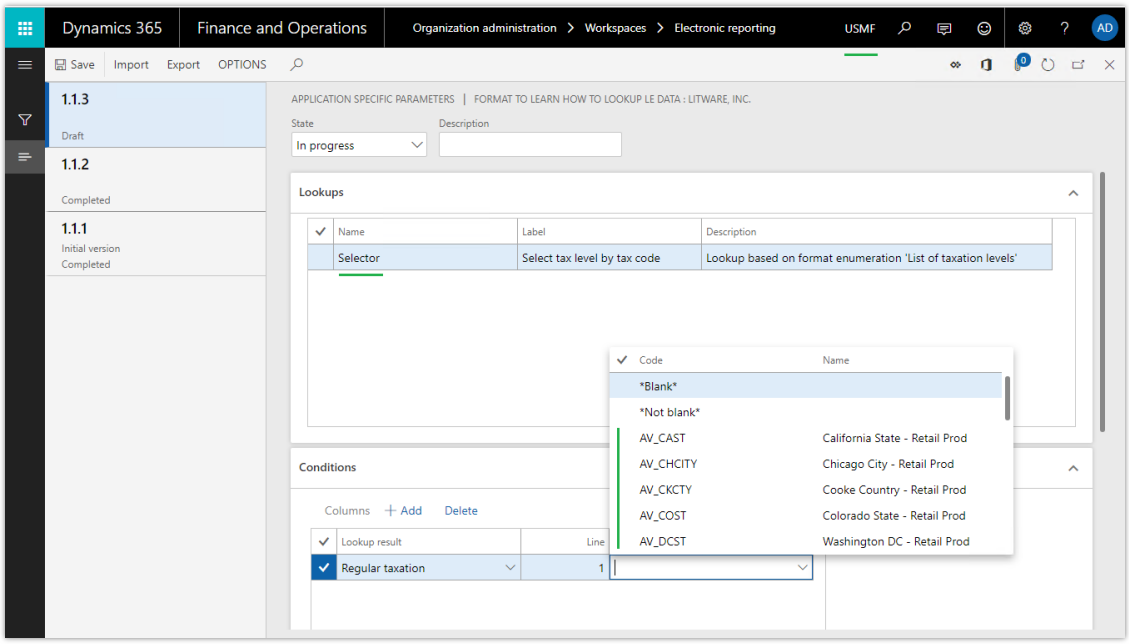
Format designer mapping screenshot

This feature will allow a business user to set up an ER format-specific company master data in the Finance and Operations user interface.



Application-specific parameters: Conditions screen 1

This can be done for any legal entity that might control execution of the corresponding ER format.



Application-specific parameters: Conditions screen 2

While an ER format is run, a legal entity specific set of master data will be used by a corresponding data source of an ER format depending on a legal entity controlling this execution.

This feature also enables a business user to export an ER format-specific company master data from one Finance and Operations instance and import it to another one.

Electronic reporting - Post-processing of generated files

Existing functionality in electronic reporting allows business users to do the following:

- Configure the layout of an electronic document.
- Specify data sources to fill in the document at run time.
- Assign destinations (filing and emailing) for the generated electronic document.

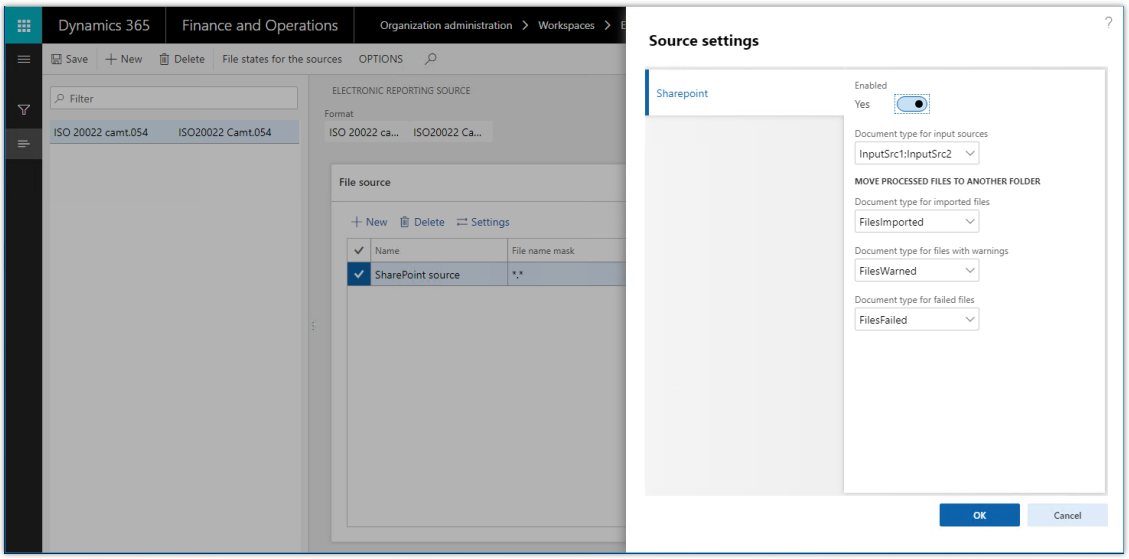
Without this feature, the user can't configure additional destinations for the generated document and can’t apply custom transformations to entirely modify the generated document at run time. To get this functionality before this feature, you had to create a unique and difficult customization. This feature gives more power to business users and allows configuring the required post-processing actions by reusing existing logic of Finance and Operations as well as the functionality of surrounding applications (files encryption, conversion to another format, direct printing, and so on).

Electronic reporting - Post-processing of imported files

Import functionality in electronic reporting (ER) uses SharePoint folders to get the next set of files for processing. As of now, there is no automatic procedure to manage processed files; for example, successfully processed files are automatically deleted from a SharePoint source folder and can’t be moved to another location. It results in additional manual work and potential errors. This feature automates this procedure and allows configuring of the post-processing actions. By changing source settings of an ER format, the user can configure the following actions:

- For successfully processed files:
  - Delete files from the source SharePoint folder
  - Move files to another SharePoint folder
- For processed-with-warning files:
  - Keep files in the source SharePoint folder
  - Move files to another SharePoint folder

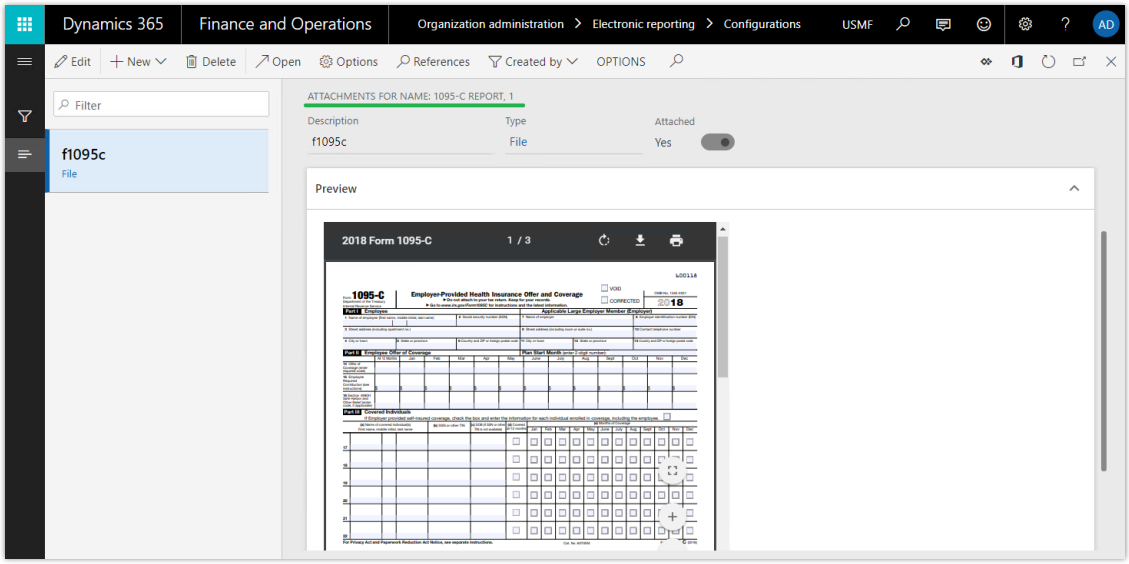
- For failed files:
  - Keep files in the source SharePoint folder
  - Move files to another SharePoint folder



SharePoint source settings

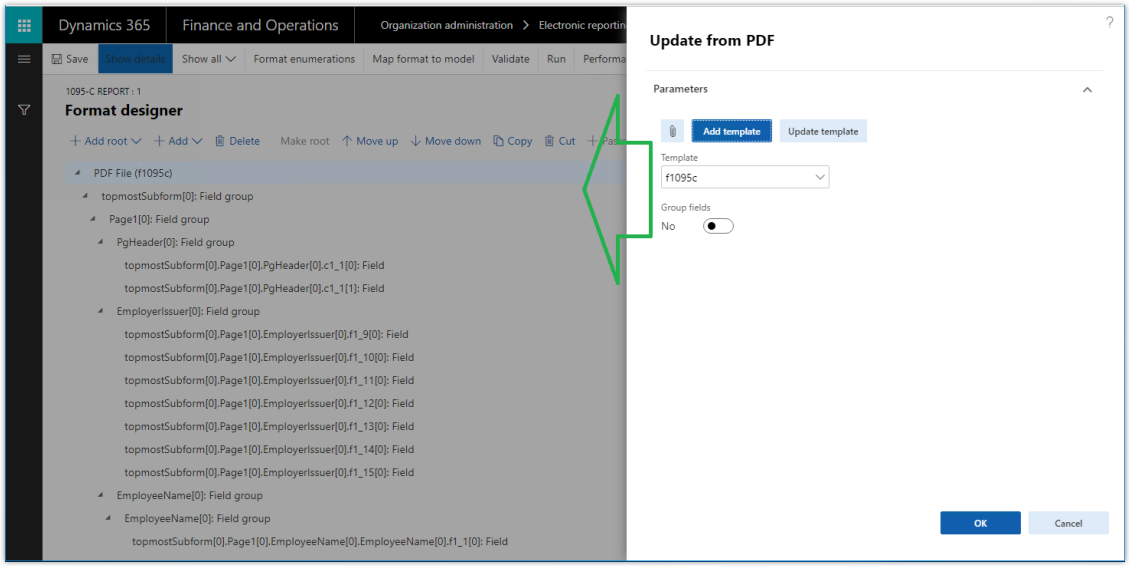
Electronic reporting - Generate documents in PDF format by filling in PDF templates

Existing functionality in electronic reporting (ER) allows business users to design necessary configurations using Microsoft Excel and Microsoft Word documents as templates of electronic documents generating at run time. This feature allows business users to use a fillable PDF document as a template for generation of reports in PDF format.



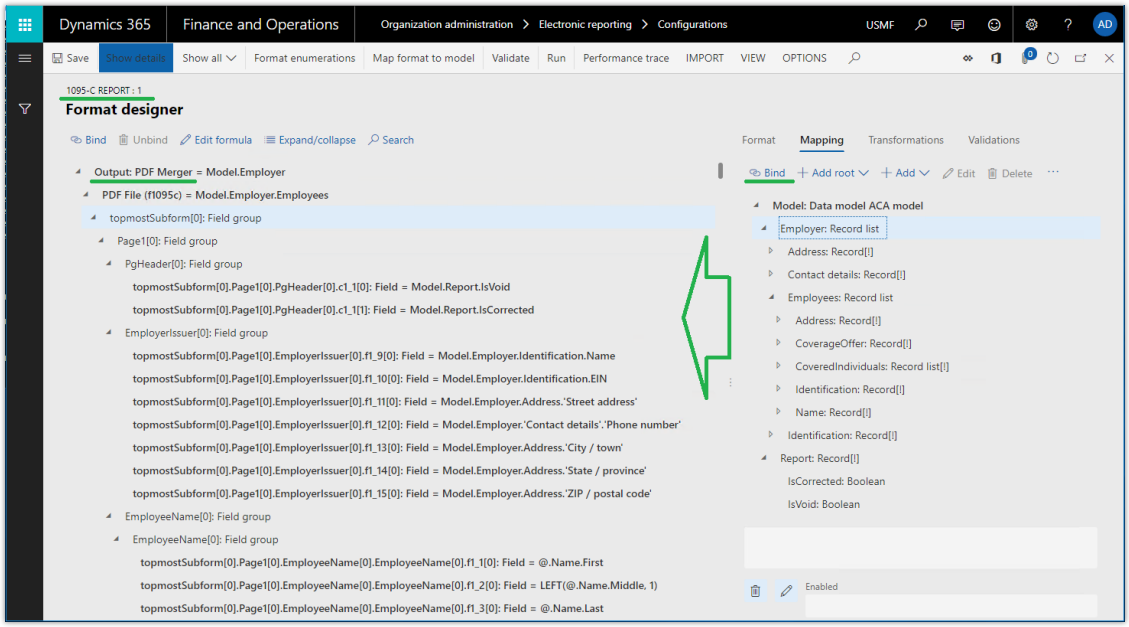
File preview

It also allows users to automatically discover fields of such fillable PDF document generating new components of an ER format at design time that are necessary to fill in these fields of a PDF template at run time.

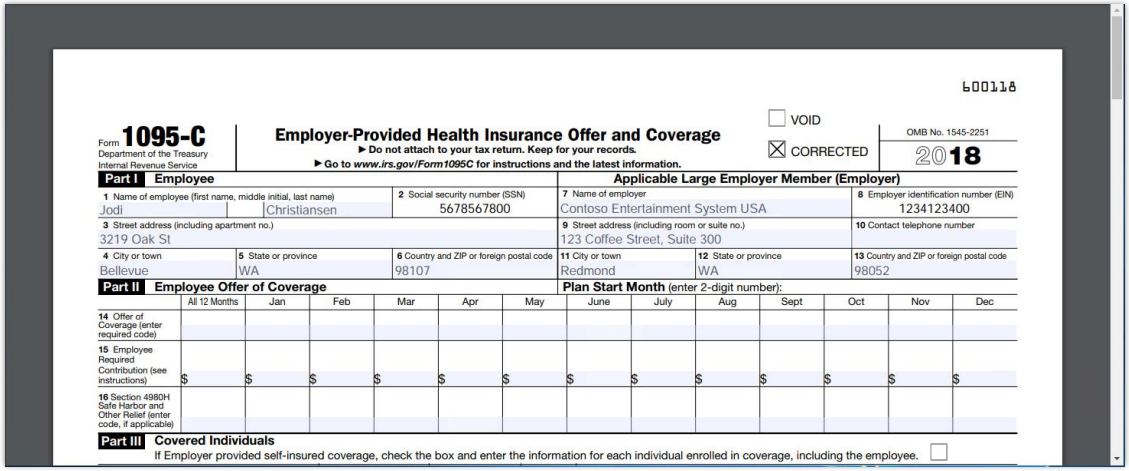


Update from PDF page

This feature also enables users to configure an ER format generating multiple PDF documents and automatically merging them into a single, final PDF document.



Format designer

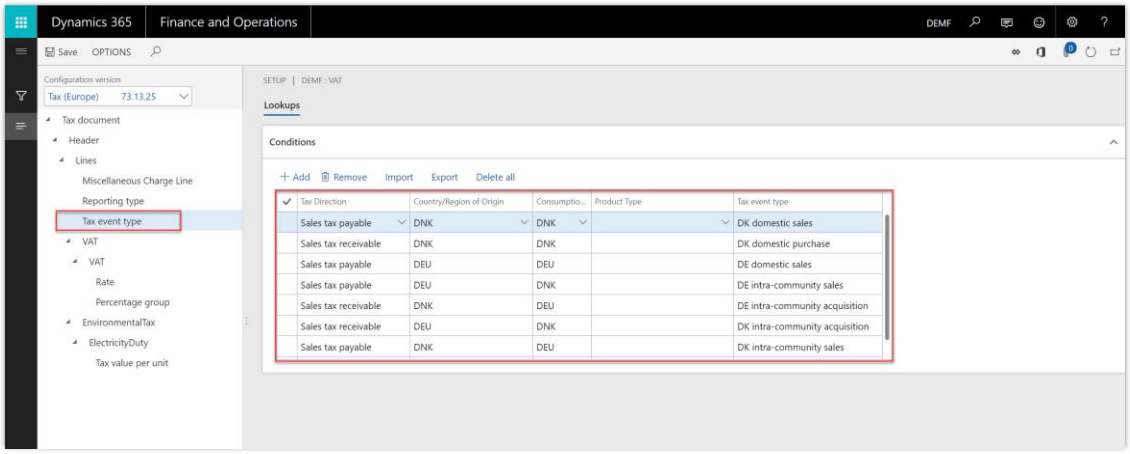


Sample 1095-C form

Global Tax Engine - Improving tax configuration usability with reduced number of lookups

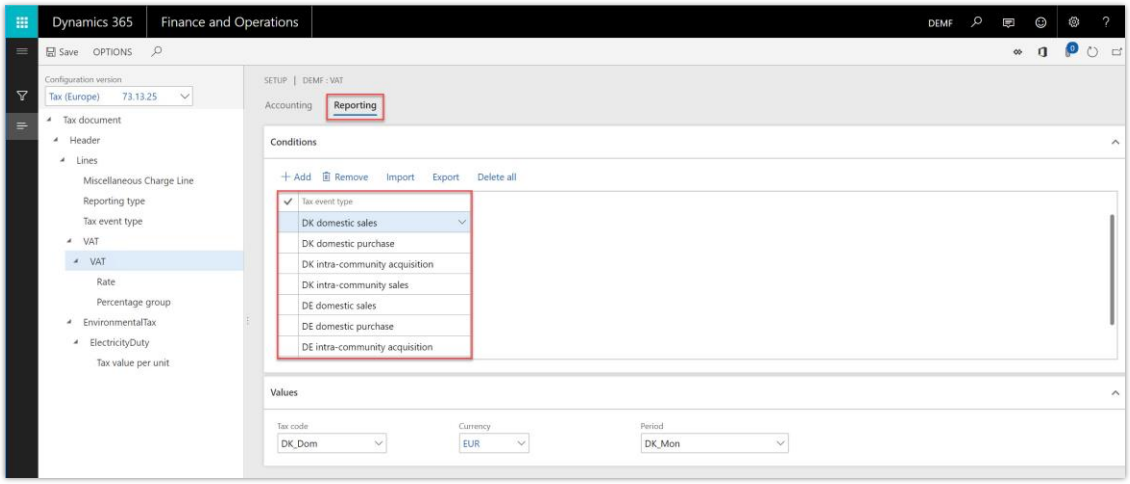
While configuring tax in Global Tax Engine (GTE), users can define multiple tables to look up tax rates, non-deductible percentages, tax components, tax periods, and more. In the real business practice, users want to reduce the number of lookup tables by combining them; for example, such data model properties as Country/Region of Origin, Consumption of Country/Region, and

Product type determine the nature of the tax transaction, which can be reused in many places. In this release, users can add a string-type measure at the line level, which can be a lookup:

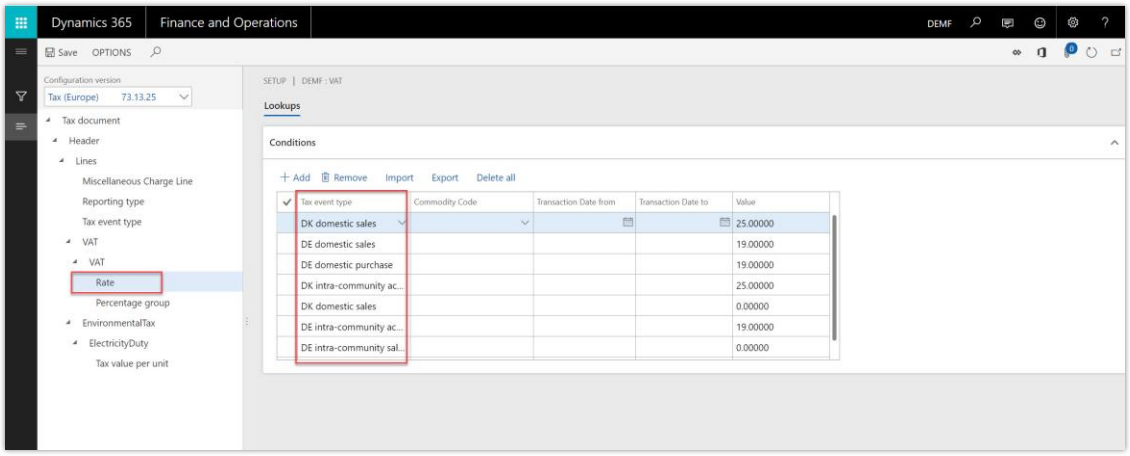


Tax setup event type

This measure can be further used in other lookups, like reporting, rate, and so on.



Tax setup event type reporting



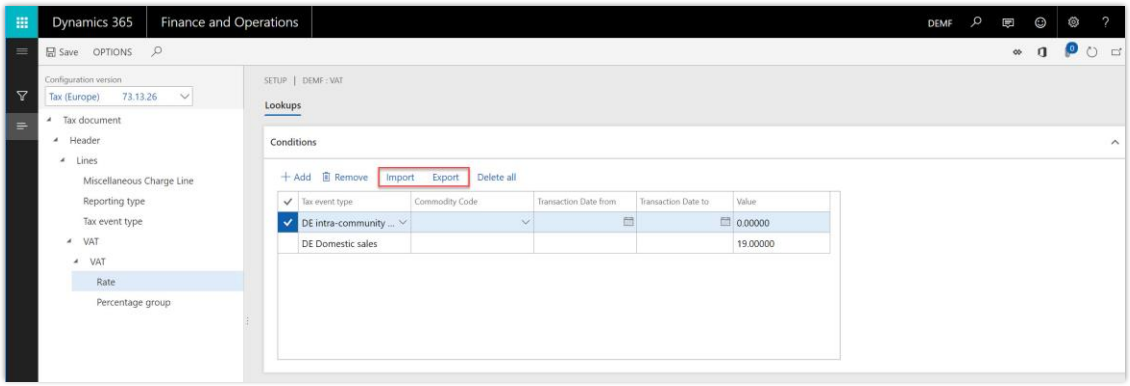
Tax setup event type rate

It will dramatically reduce the number of lookups that users need to maintain and will improve the tax configuration usability. This line-level string-type measure will also be shown in the tax document user interface.

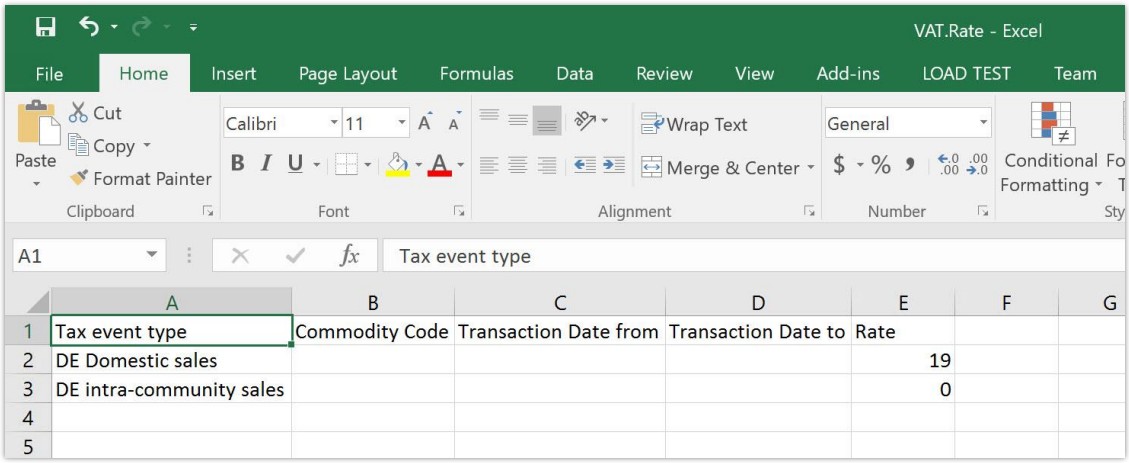
NOTE Currently, GTE is available for India only.

Global Tax Engine - Simplifying tax setup maintenance with Excel integration

Maintaining tax setup parameters (tax rates, non-deductible percentages, and so on) for tax configurations can be a very effort-intensive task for some countries/regions and types of businesses. Now users can maintain these parameters in Microsoft Excel files automatically generated based on tax lookup tables and integrated with the tax setup.



Tax setup import/export



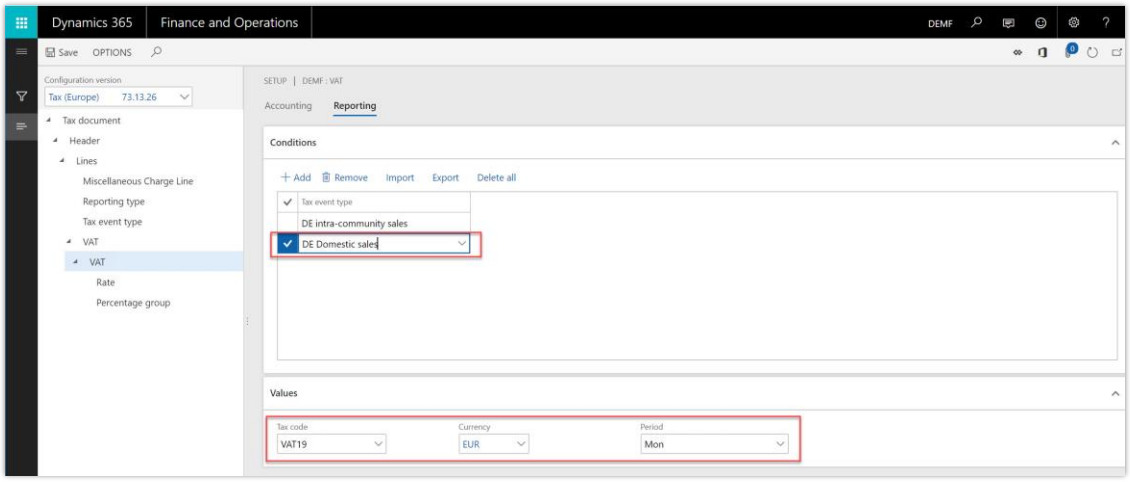
Tax setup import/export Excel

NOTE Currently, Global Tax Engine is available for India only.

Global Tax Engine - Enabling tax configuration with tax currency and sales tax codes

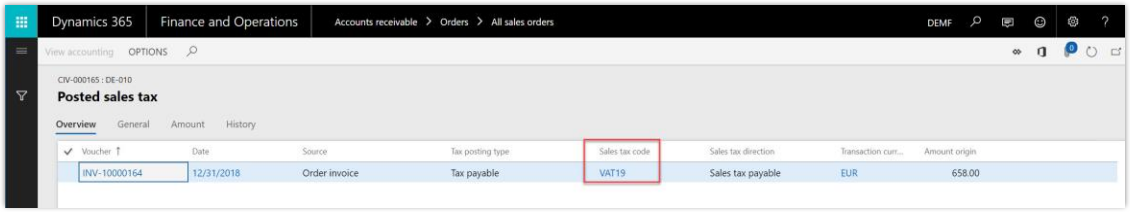
Sales tax code is a mandatory setup for Global Tax Engine (GTE) to integrate with Dynamics 365 for Finance and Operations. Previously, GTE created sales tax code with the same name as the tax component when synchronizing the tax configuration, and it used the accounting currency for the auto-create sales tax codes.

Companies with multiple tax registration across the world need to maintain different tax currencies for tax components used in different countries. With the release of this feature, users can maintain the sales tax code in tax setup, map the tax component to sales tax code in lookup tables, and maintain tax currency and settlement period of these sales tax codes.



Tax setup reporting

With the tax setup, GTE will use the mapped sales tax code, tax currency, and settlement period for posting the tax transactions.



Tax setup reporting posted sales tax

NOTE Currently, Global Tax Engine is available for India only.

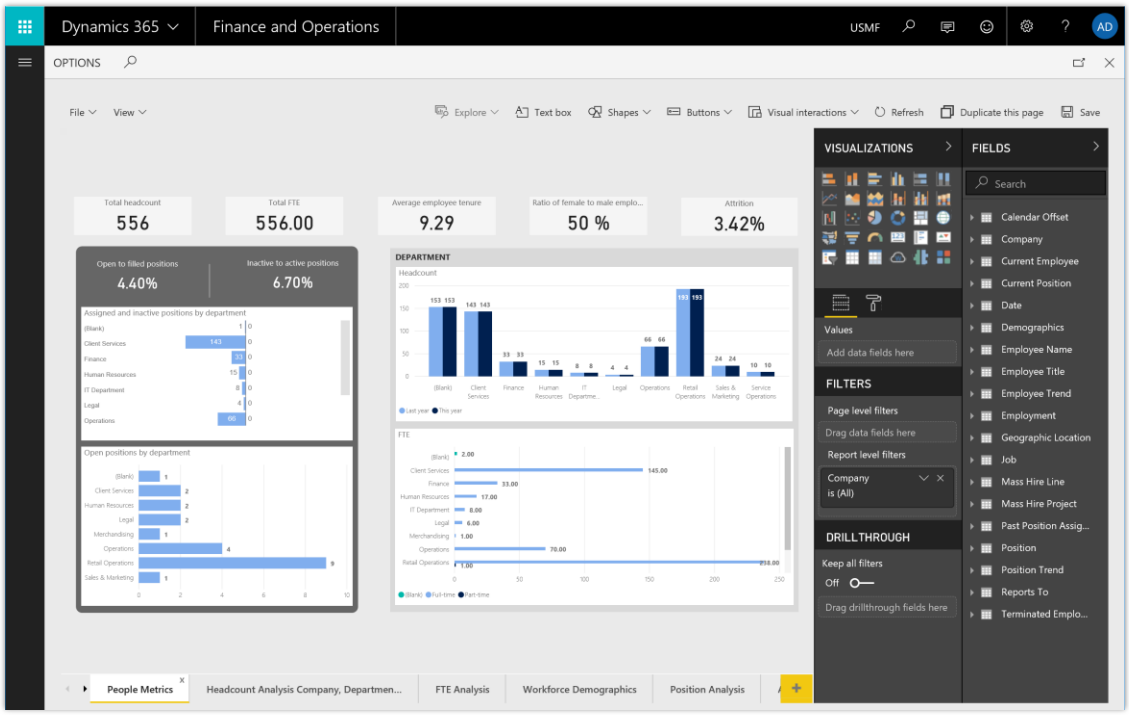
Entity store support for on-premises deployments

Entity store is an operational data store that lets an administrator or power user stage aggregate measurements in a dedicated data store for reporting and analytics. Customers can use Microsoft Power BI DirectQuery models together with entity store to enable high-volume, near-real-time analytical reporting over large volumes of data. Data from the transactional store is synced in real time and made available in the entity store.

Entity store will be made available to all customers on version 10.0 and later with all default aggregates defined and synced in near real time for on-premises. On-premises customers will get the ability to use the ready-made reports authored against entity store and deploy to their own Power BI subscription. However, on-premises deployments will not contain Analytical workspaces.

Web edit tooling for analytical workspaces

Take advantage of the new Analytical Workspace customization options for power users. Use built-in tooling to extend and enhance the analytical reports that are embedded in the application workspaces. With Dynamics 365 for Finance and Operations, power users are able to customize application workspaces without requiring development support. These updates are available immediately to other users of the workspace, replacing the default solutions. Customization options include the ability to revert back to the analytical reports that were originally bundled with the application.



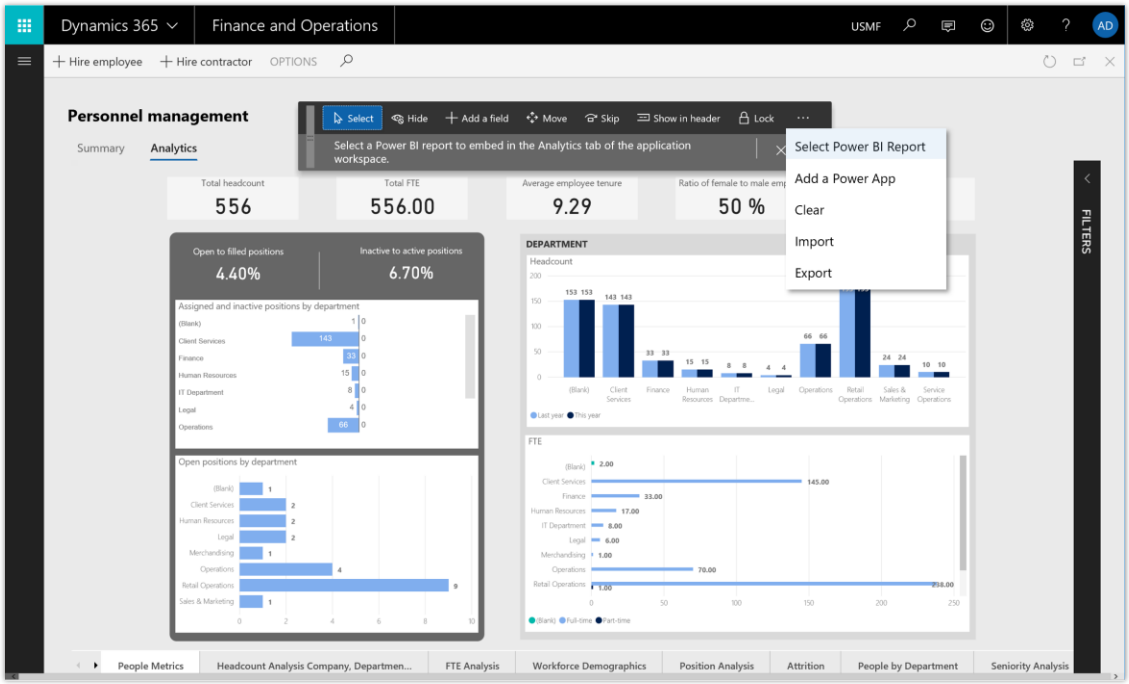
Screenshot of personnel management Analytical Workspace

Make improvements to the embedded analytical reports without the burden of bringing in a developer or waiting months for the next service update. Empower users with flexible tooling that can be used to tailor applications solutions. Create custom solutions to deliver insights targeting the specific needs of your business.

Personalization options for analytical workspaces

We're excited to announce new personalization options available to replace out-of-the-box solutions embedded in analytical workspaces with reports hosted on PowerBI.com. Take advantage of these zero code, application customization options that allow users to replace the

standard solutions. Dazzle users with seamless integration of PowerBI.com reports that can include visualizations of data from external sources.

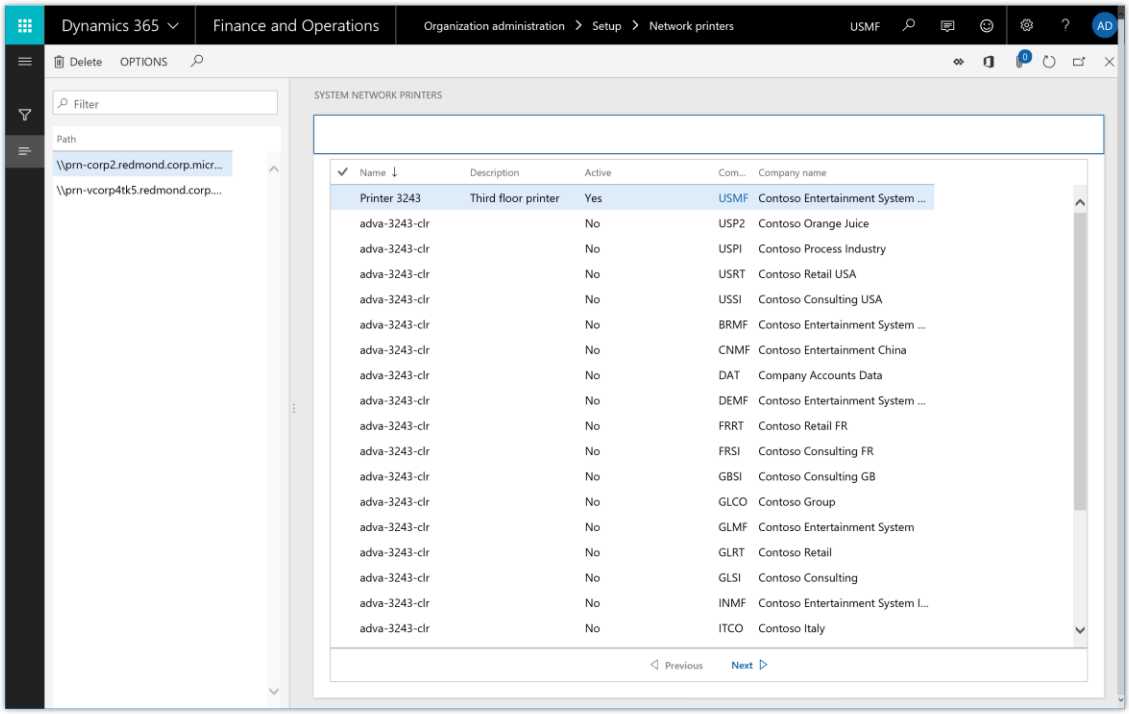


Screenshot of Personalization toolbar for analytical workspaces

Best of all, these personalization selections can be shared with other members of the organization. Additional options include the ability to revert back to the analytical reports that were originally released with the application.

System management of network printers

Take advantage of a new tool for administrators to use when tasked with managing network printers for the organization. The **System network printers** page allows administrators to update settings and delete network printers across all organizations using a single view. This management utility is designed to simplify the task of configuring network printer devices available within Dynamics 365 for Finance and Operations applications.



System network printers form

Common scenarios

- **A system administrator needs to delete a network printer instance**: This is common for cases where the network printer path is updated or hardware has been replaced.
- **An organization wants to purge all documents in the printer queue**: Documents rendered by the service that are waiting to be printed can be deleted using options available on the **System network printers** page.
- **Quickly toggle availability of network printers for multiple legal entities**: You can manage the printer properties including the active state for a printer in multiple legal entities using a single view.
- **Provide friendly names for network printers for multiple legal entities**: You can establish friendly names and descriptions for printers that make sense to the users associated with individual legal entities.

This is both a recovery tool for cancelling active print instructions and a means of simplifying the task of managing network printer settings across legal entities for the entire organization.

Enhanced grid experiences

The following enhancements are planned for the grid in Microsoft Dynamics 365 for Finance and Operations.

New and improved grid control

A new grid control will be available throughout Finance and Operations that is faster, more usable, and opens the door for more advanced functionality to be built into the grid in the future. Any business scenarios that involve interactions with a grid should benefit from this feature from both a performance and usability perspective.

The grid control will provide improved rendering speed and much faster scrolling through the grid. Users are also able to positionally scroll within the data that has been loaded in the browser.

Totals in grids

Business users will be able to see totals for numeric columns in tabular grids in Finance and Operations. For example, financial users will be able to view totals for a filtered set of transactions for a specific customer.

Grouping in grids

In tabular lists, business users will be able to group data based on the values in one or more columns. Once grouped, users will be able to expand or collapse each group. Also, users will be able to see subtotals in numeric columns for each group.

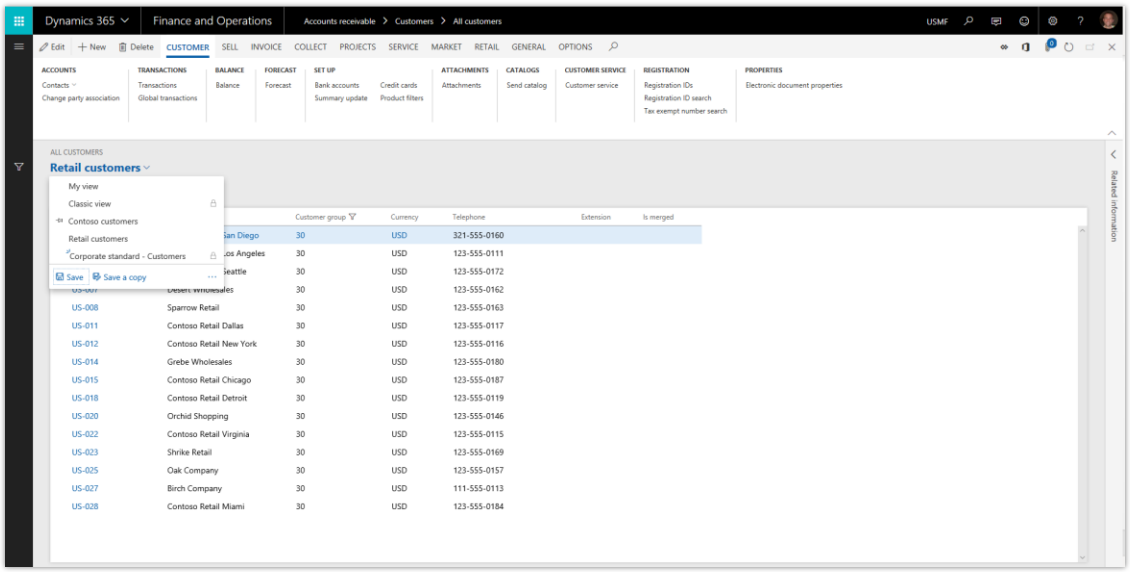
Saved views

Finance and Operations allows users to modify a form via personalization to optimize it for their needs. While previously a user could only have a single set of personalizations per form, the Saved views feature allows users to have multiple, named sets of personalizations per form. This allows a business user to create, save, and share multiple, optimized views of a form, where each view is ideal for a certain group of users or for performing a particular business task.

By default, each of these views will contain any modifications to the form done through personalization. For some forms—list pages, for example—these views might additionally include the query, which allows users to quickly return to commonly filtered datasets.

Because Saved views can be "published" to security roles, new users who join an organization will automatically have access to optimized views targeting the roles given to the new user. This publish capability allows organizations to define and publish corporate, standard views that are optimized for their business.

Saved views has the potential to significantly ease the management of personalizations for administrators, greatly simplify the user experience, and improve user productivity.



View selector on the Customer page

Client productivity and usability improvements

Customers have ever-increasing expectations of their user experience in ERP systems. Users want modern interfaces that are attractive, easy to use, informative, intuitive, and customizable. Users expect these systems to have features that allow them to maximize their productivity regardless of the device they are using.

To this end, Dynamics 365 for Finance and Operations is committed to continued investment in improvements to its web client that are targeted at increasing usability, user productivity, and overall user satisfaction with the product.

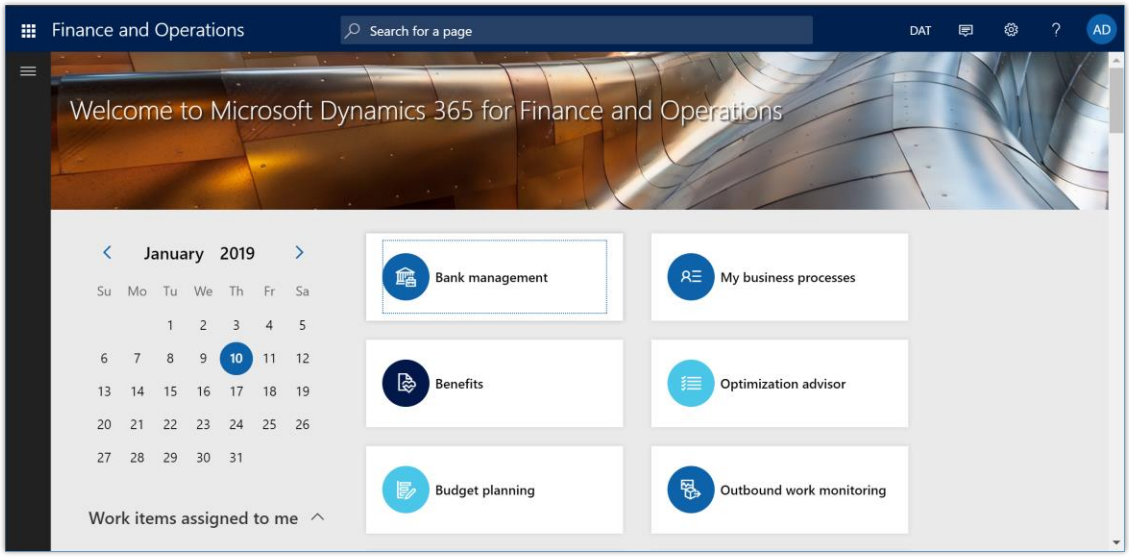
Some enhancements that will be included are:

- A continued focus on enriching our personalization capabilities to better enable customers to create and manage simplified and optimized user experiences targeting their organization and their users.
- Continued improvements in data filtering to help users more easily find the data they are interested in.
- Progressive work toward increased usability of the web client on mobile devices, by building more responsive and adaptive capabilities into various controls and form patterns.

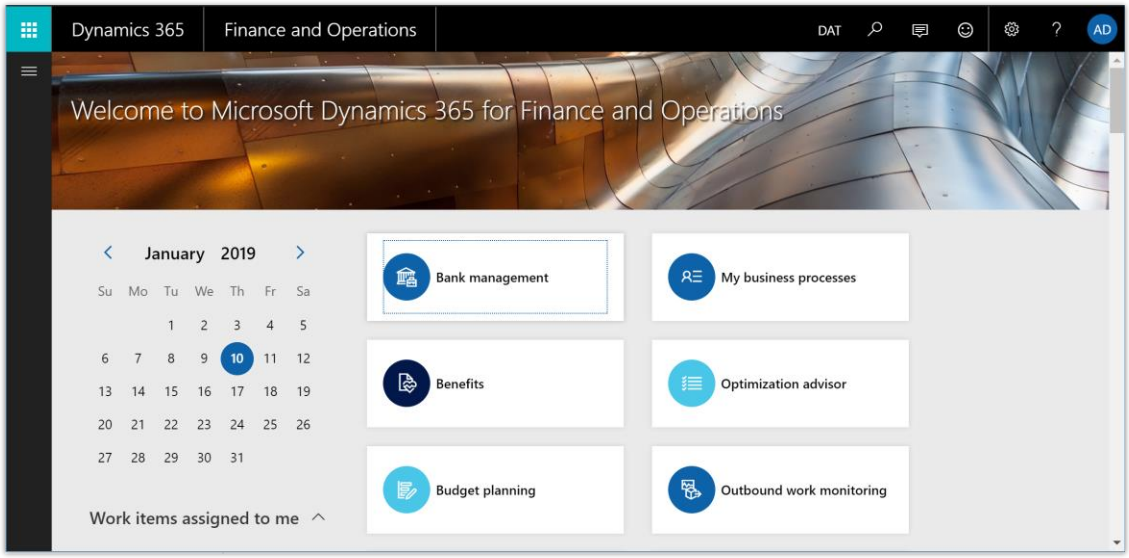
- Development of a mobile application that provides access to the responsive web client and adds environment discovery, push notifications, performance improvements, and better device integration.
- An improved document attachments experience that allows users to easily see attachments across a business process.

Updated navigation bar that aligns with the Office header

Dynamics 365 products are working to align their respective headers with the Office header to provide a more cohesive shell experience for users across Microsoft products. For Finance and Operations users, this header update will be seen as a completely restyled navigation bar that more prominently features navigation search. Notably, the new design is not expected to include a breadcrumb.



Updated navigation bar



Current navigation bar

Developer tools and application lifecycle management

Setting up a Unified Operations (Finance and Operations, Retail) development environment is simple and reliable through the availability of ready-to-use cloud and on-premises virtual machines (VMs). This great feature has, however, proven costly to customers and partners because they need to manage many development environments as their development team grows or when they are developing multiple applications or multiple versions of the same application. In addition, our automated build framework also relies on similar VMs (in addition to Azure DevOps) and does not provide automatic deployment of builds to Lifecycle Services (LCS) and sandbox environments.

The Unified Operations development tools, application metadata, and platform will be componentized into standard modules to enable the development of more than one application on the same environment. This will set the stage to remove the dev tools' dependency on preconfigured VMs and will improve the development experience on local computers.

In addition, the build automation framework will not require a VM and will solely rely on Azure DevOps build capabilities. Builds that are release candidates can be automatically deployed to LCS and sandbox cloud environments.

For new customers, preconfigured development environments (VMs) in LCS will be hosted in the customer's Azure subscription and will not be managed by Microsoft. New LCS features will be introduced to reduce the cost of running these environments. Tier-1 environments managed by Microsoft (which are currently dev/test environments) will become test and configuration environments only (no RDP access) and will align in architecture with other types of cloud environments.

Event-driven architecture for integrations

Events exist in Finance and Operations, but their consumption was previously confined within Finance and Operations. This new capability will provide a framework that will allow business processes in Finance and Operations to capture business events as business processes are executed, and send the events to an external system or application.

This will allow, for example, a purchase order approval to trigger a fulfillment in the vendor organization sooner than later; a receipt of a damaged part to trigger the vendor claim process in real time; and so on. Since these events happen in the context of business processes, they are called *business events* which enable *business process integration*.

External business processes will subscribe to specific business events from Finance and Operations to get notified when they occur. The business events can also be consumed as "triggers" in the Finance and Operations connector.

Some capabilities that will be included are:

- Business events administrator experience - enable and disable business events as needed
- Application business events
- Workflow business events
- Business events framework - for partner- and customer-defined events
- Endpoint support for Event Grid - for integration scenarios
- Connector triggers for "when a business event occurs" - for use in Flow and LogicApps. The user will then be able to subscribe to specific business events available in Finance and Operations.

Finance and Operations, entities in CDS for Apps

Get your Dynamics 365 for Finance and Operations data in Common Data Service (CDS) for Apps and keep it up to date.

With a few clicks, customers will be able to seamlessly link to Common Data Service for Apps from Finance and Operations. Changes in Finance and Operations will propagate to CDS for Apps and vice versa without much configuration. A breadth of entities covering Finance and Operations will be available in CDS for Apps with supporting bidirectional sync. This will enable out-of-the-box integration between Dynamics 365 for Sales, Marketing, and Finance and Operations for areas such as product definition and customer configuration.

Optionally, Finance and Operations administrators will be able to use an advanced version of the set-up in which they can customize entities and field mappings for the integration, as well as do source data filtering and transformation.

Entity store in your own Business Data Lake

Customers appreciate the analytical workspaces that are built in to Dynamics 365 for Finance and Operations due to:

- **Embedding with Finance and Operations context**: Security and data filters are based on the user's context. Users can drill through to take action.
- **Predictable pricing**: Customers get the experience when they license Finance and Operations.

However, a common requirement is to extend embedded reports often by adding KPIs, calculations, or to merge with their own data. The cost of modifying embedded reports are high (in other words, developer involvement is required). Therefore, customers also use BYOD and export data into their own databases for reports—often duplicating the same report with a few changes. While Data Management will continue to support exporting data into SQL databases (such as BYOD), we want to reduce the administrative overhead associated with exporting data and managing exceptions.

To reduce pain and to simplify the experience, we're leveraging the Business Data Lake (ADL Gen2) infrastructure along with Power BI dataflows. The feature is as follows:

Customers can bring their own Data Lake (Azure Data Lake Storage Gen2) and configure within Finance and Operations. Data Lake is a cost-effective option compared to SQL databases.

Transactional and master data in the Entity store will be published to customer's Data Lake. Microsoft will keep the data fresh on a real-time basis. While the initial focus is to enable aggregate measurements and aggregate dimensions in the Data Lake, we will enable staging regular data entities in the Data Lake as feature improvements.

Customers can also bring their own PowerBI.com subscription and configure within Finance and Operations. This feature is already available in the system. When the customer provides this information, Power BI reports contained in analytical workspaces will also be published into the customer's own PowerBI.com subscription. Power users and consumers of PowerBI.com can use as well as extend reports and dashboards. They can also use the full features available in PowerBI.com, including use of Power Q&A and mobile dashboards.

While this feature will eliminate current pains associated with developing operational reports, it also accrues to strategic benefits:

- Transactional and master data available in the Entity store will be accessible via a Data Lake. No need to export the same transactional data into BYOD. Ready-made integration with PowerBI.com via data flows will enable easy data mash-ups.
- Customers can bring their own data into the Data Lake and achieve mash-up scenarios easily without having to download the data onto on-premises data warehouses. The cost of storing data in a Data Lake is much lower than storing it in a SQL database.
- Enable building analytic apps across applications within the Dynamics domain. For example, customers will be able to combine data between Customer Engagement applications and Finance and Operations.
- Reduction in COGS for customers (reduce usage of BYOD).

Data residency - China cloud

Companies in China are looking to keep their data within the China region to comply with government regulations. As Dynamics 365 for Finance and Operations and Dynamics 365 for Retail expands global availability, we'll include the China sovereign cloud with all customer data resident within the Azure China cloud.

Customers in China can now set up an implementation project and start building solutions using Lifecycle Services (LCS), which has a dedicated instance within the China datacenter with a new endpoint (dynamics.cn). Customers can request development/test, sandbox, and production environments, which can also be deployed within China datacenters. Customer operational and Lifecycle Services data does not leave the China region boundary.

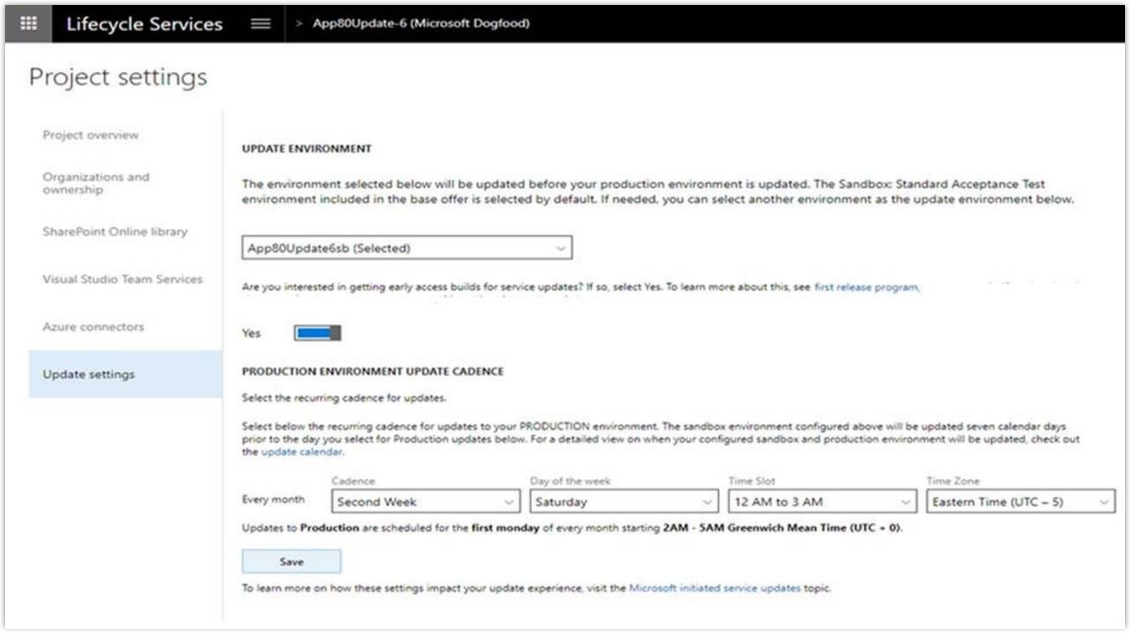
One Version experience

Several changes to the update experience will be made available in Lifecycle Services (LCS) to support continuous service updates with predictability.

The true value of a cloud service is realized through continuous updates that can provide both improved reliability and new features, while minimizing operational impact. We are optimizing the way we deliver updates for a more consistent, predictable, and seamless experience for every customer. Our monthly update cadence aims to provide predictability, lower upgrade costs, user access to the latest product capabilities and performance improvements, and a better support experience.

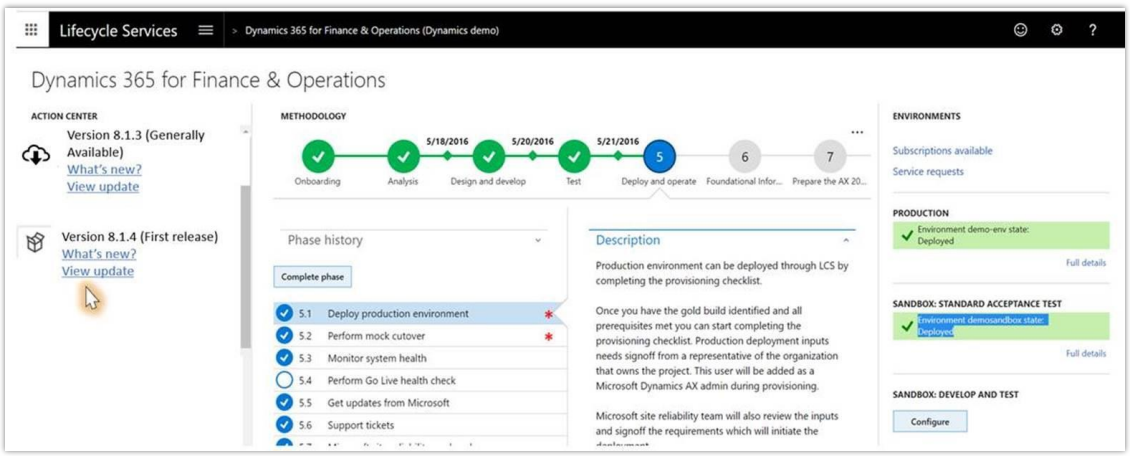
To support One Version, we will be making the **ONE-V** update experience available to customers and partners.

- **O**nboard: This is a one-time activity where the customer or partner can come to LCS **Project Settings** and configure the environments for the update, configure the date and time for their production update, select to pause updates up to three months, and sign up for any first-release programs.

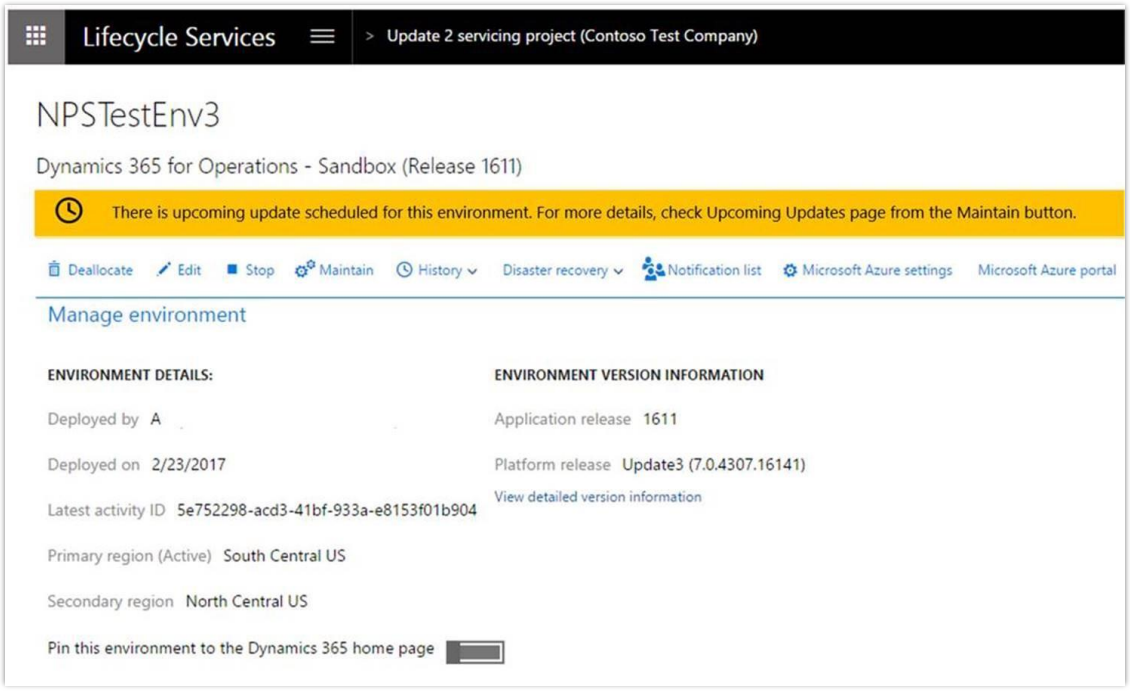


LCS Project Settings

- **N**otify: This is a monthly activity where a customer or partner can see the monthly service updates released by Microsoft in the LCS project action center, access the *What's new* for the update being made available, and get upcoming update notifications through email as well as through LCS.

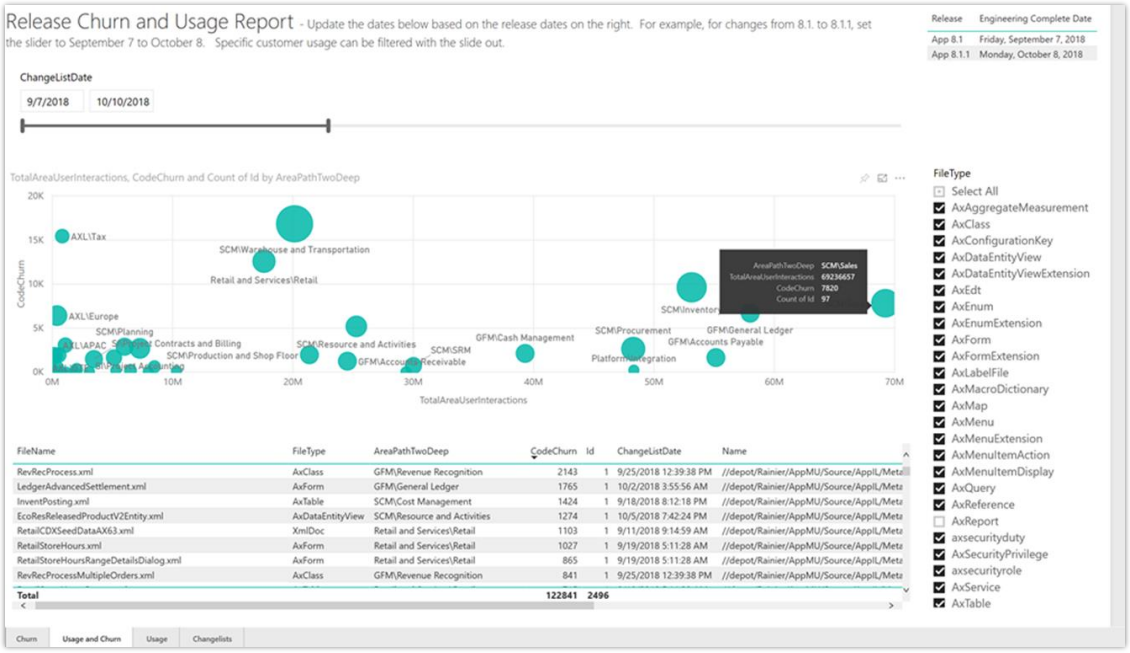


View updates



List of updates

- **E**xecute: This is a monthly activity where customers can either **self-update** their environments, or their environments will be **auto-updated** by Microsoft. With a self-update, customers can take the monthly service update and apply it to their sandbox and production environments using the regular servicing flows. With auto-update, Microsoft will apply the update at the configured cadence. Microsoft notifies the customer five days prior to updating the configured sandbox environment and five days prior to updating the production environment.
- **V**alidate: With this optional activity, customers can use the tools made available by Microsoft to validate the monthly service updates. The tools available are:
  - **Impact analysis tool**: This tool provides insight into the usage, churn, and feature areas that can help assess risk and drive smarter testing.



Impact analysis tool

- **Regression Suite Automation Tool (RSAT)**: Customers and partners can use this tool to validate business processes by using the web client without having to write code. This tool relies on the task recording framework that allows functional users to record business flows and play them back.

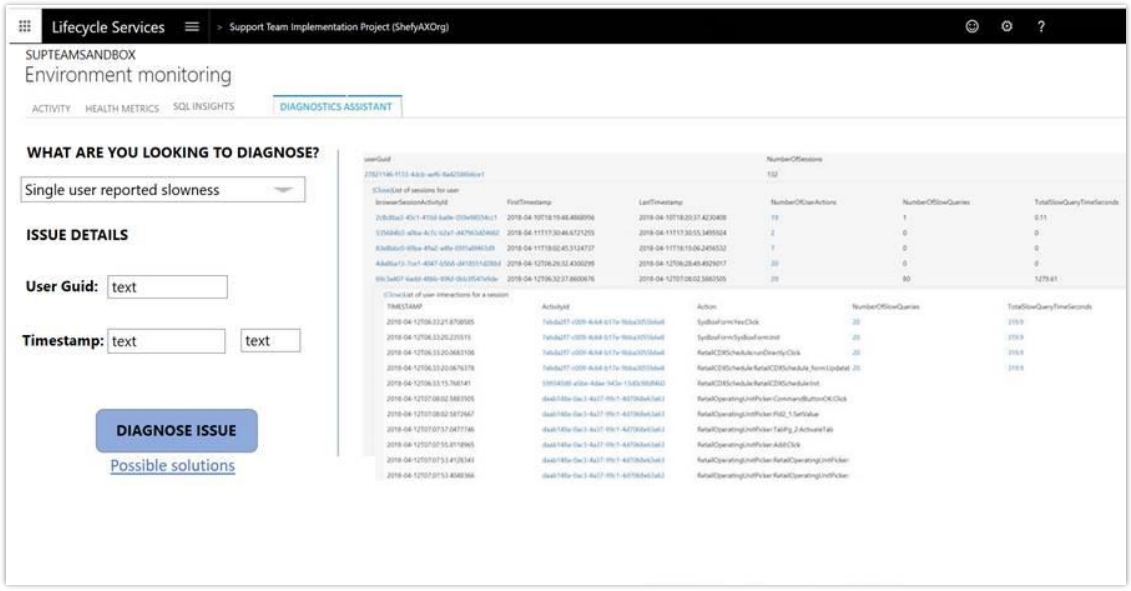
- **Data Task Automation**: This tool allows the automation of data import and export tasks by using a data task manifest and data project definition, which therefore provides a robust framework for regression testing of data integration scenarios.

Diagnostic assistant

Dynamics 365 for Finance and Operations is extensively customized. Diagnostic assistant enables an IT administrator to diagnose user-reported issues or performance issues using a guided troubleshooting experience in Lifecycle Services (LCS). The administrator selects from a list of predefined issues and provides a set of inputs to narrow down the search results. The inputs could vary based on the issue selected. They will then be guided on a drill-through experience that correlates multiple sources of information to help the administrator identify the root cause quickly and efficiently. Today, a lot of this information is available in LCS, but you need an expert to correlate the different pieces.

To troubleshoot the issues that arise from customization, activity monitoring, SQL insights, critical health metrics, and live view are made available to the IT administrator. The goal of this feature is to help simplify this experience. Once a potential root cause is identified, the

administrator can choose from a set of predefined actions that they can take to mitigate the originally reported issue.



Issue diagnosis and possible solutions

Self-service deployment

The self-service deployment option for new implementation projects was released with limited availability in December 2018. We are now adding support for production environments. Production environments can now be deployed for all Lifecycle Services (LCS) projects that are configured for self-service deployments.

Currently only a small percentage of new projects are onboarded to the self-service deployment option. We will incrementally increase the percentage of new projects onboarded over time. There is no impact to any pre-existing projects and environments. We will work with the customers, not on self-service deployment, to bring the new experience to their environments.

All features applicable to Tier 2+ sandbox environments will be consistent with the production environments.

Production environments

1. You will be able to deploy production environments as a self-service action. You will no longer need to raise a Microsoft service request.

2. Deployments will be complete in less than 3 hours, or a third of the time taken to deploy using the current method.

3. In order to apply updates, the combined deployable package will be applied to the Tier 2 sandbox environment. Once the package is applied and validated, it will be promoted to the production environment.

Tier 1 through Tier 5 sandbox environments

Configure Tier 1 build environment

You will need to configure a Tier 1 build environment to be able to apply updates to Tier 2+ and production environments. Using the Tier 1 build environment, you will need to create a single, deployable update package that combines ISV solutions and customizations. Whatever is supplied in the package is applied to the environment and it overwrites what is already present in the environment.

Remote desktop access

Today there is no remote desktop access to production environments. Going forward, you will not have remote desktop access to the Tier 2 to Tier 5 sandbox environments. However, you will continue to have access to the Azure SQL database associated with the Tier 2, Tier 3, Tier 4, and Tier 5 sandbox environments. The access will not be persistent; but rather, it will be granted as and when needed.

To access the Azure SQL database:

1. From Lifecycle Services (LCS), add the IP address of the machine that you will use to connect to the Azure SQL database using SQL Server Management Studio.

2. Use LCS to request access to see the database credentials. You must provide a reason for requesting access.

As soon as you submit the request, it's automatically approved. Within a minute or two, you will be able to see the database access credentials on the **Environment Details** page in LCS. You can use the credentials to connect to the SQL database.

NOTE The credentials are valid for eight hours, and then they expire. After the credentials expire, you will have to request access again.

All other actions that require remote access into the machine, such as database movement across environments, seeing the health metrics such as CPU and memory consumption, getting access to the failure logs, and running regression tools, will be made available through LCS or in a way that does not require remote access into the machine.

Dynamics 365 for Talent

Overview of Dynamics 365 for Talent April '19 release

We continue to invest the majority of our energy on the talent acquisition and onboarding portion of the broad Human Capital Management (HCM) space. Our investments currently rise up in two applications that are separate but complementary to one another: Attract and Onboard. We are also making incremental investments in Core HR to support our ongoing customer deployments.

Attract – Hire the right people, faster

The April '19 release will be focused on moving the Attract application from being something that would be considered a basic application tracking system into something that is more powerful and differentiated. We've identified a set of themes that represent big areas of investment in the Attract application for FY19. The remainder of this overview will be organized by these themes.

Better together, with LinkedIn

LinkedIn is the world's premier source for candidates, jobs, and professional communities. We are partnering closely with LinkedIn to build bridges between Attract and LinkedIn that let users seamlessly transition from LinkedIn to Attract and back again while completing workflows that are common to talent acquisition. Here are a few examples to make this more real:

With the recent Recruiter integration, a recruiter can use LinkedIn to search the vast database of candidates and then, with a single click, mark those candidates in a way that has them surface in our Attract application in the context of a specific job where they can be compared to other candidates, get scheduled for interviews, and eventually receive an offer.

As a hiring manager, you can use Attract to craft a compelling job description and then, with a few clicks, publish that job opening to LinkedIn. Once the job has been posted, the recruiter can go to LinkedIn to do a search for candidates that are a good match for that job description.

Candidates don't want to take a lot of unnecessary steps to apply for a job. If applying is too tedious, they might just move on. Using Apply with LinkedIn, candidates will now be able to easily use their full LinkedIn profile to auto-fill applications for jobs within the Attract career site. This capability streamlines the application for the candidate and removes one of the largest barriers that candidates face when applying. If the candidate comes across the job posting on LinkedIn, they will be able to apply for the job directly in LinkedIn using LinkedIn Easy Apply.

This rich integration between Attract and LinkedIn enables LinkedIn to surface Attract-specific questions and fields to the candidate to complete within the application pages in LinkedIn.

Wide net, fast funnel

Finding the best candidates for a role generally involves searching broadly. In some sense, a company's chances of successfully finding the best person for a role is directly proportional to the number of candidates that they look at and evaluate. Our LinkedIn integration is a great first step, but we will continue to add support for popular third-party job boards. This job board support will allow you to post jobs directly to their board and eventually import candidates directly into Attract.

Casting a wide net increases your chances for success, but it could become a detriment if we don't provide the right tools to quickly narrow in on the small set of candidates that are a good fit. This rapid focus is what fast funnel is all about. We will leverage AI, features that streamline workflow, support for third-party screening tools, and Office collaboration tools to reduce the amount of time recruiters and hiring managers spend selecting, analyzing, and collaborating on candidates.

Internal mobility

In some ways, it is easier to find and hire external candidates than it is to hire internal candidates. External hiring is more expensive, involves a longer ramp-up period, and in some cases, encourages people to leave the company when internal opportunities are regularly given to external candidates.

Internal employees can be searched against job requirements, added to talent pools, and go through custom workflows that are tailored toward internal applicants.

The profile view of an internal applicant is rich and can contain data that comes from core HR systems, Office 365 Delve and Graph, and external sites like LinkedIn.

Analytics and actions

Data and action are the fuel that power the digital feedback loop and digital transformation. As we think about the problems Attract seeks to solve, there's an opportunity to leverage data and analytics to evolve our software and the recruiting processes of the hiring managers, recruiters, and candidates using our software. Here are a couple of examples:

Attract is about streamlining the talent acquisition process. If we see that the hiring pipeline has stalled, we will notify the hiring manager and provide easy actions that will move things along.

Attract seeks to improve the efficiency of hiring. We will use hire/no-hire decisions on candidates and machine learning to continuously tune and improve our highlighted candidate feature.

Onboard – Set up new hires for success

Frictionless onboard guide creation and administration

Most hiring managers have not traditionally used a dedicated onboarding tool to get their employees ramped up. For the onboarding application to be impactful, the manager must put some up-front effort into the creation of an onboarding guide. If it takes too much effort to create this guide, hiring managers will fall back to their old ways and just not use our onboarding application. We must find creative ways to enable hiring managers to create powerful, impactful guides, with the least amount of effort. To that end we are focusing on building templates, reusable content, and the ability for managers to enlist the help of others on the team in the guide creation and overall onboarding process.

Drive to completion

Creating a great onboarding guide is only useful if the new hires complete the tasks that were assigned to them. We are looking at creative ways to ensure a high percentage of completion for onboarding guides. We are creating gentle nudges that remind new hires that they have more work to do, reports that let the manager see how all their new hires are tracking with respect to completion, and gamification elements that play on people's sense of accomplishment, completion, and maybe even their competitive nature.

Analytics and actions

Data and action are the fuel that power the digital feedback loop and digital transformation. As we think about the problems Onboard seeks to solve, there's an opportunity to leverage data and analytics to drive change into our software and the onboarding processes of the customers using our software.

Our approach will entail identifying pairs of analytics with suggested actions. Analytics or actions alone don't really deliver on the promise—both are required. Here are a couple of examples:

Onboarding templates and reusable content will be available in a marketplace. Some of the templates and content will be more usable to specific disciplines and departments. Rather than presenting a flat list, we will use usage data to highlight the templates and content that are likely to be most useful to the hiring manager creating an onboarding guide.

Onboarding is a team sport. During the creation of an onboarding guide, we will use the people graph to suggest contacts who should meet with the new hire during their first few weeks and automatically schedule meetings. If the hiring manager picks someone who was not in the suggested list, we will use that information and machine learning to tune the recommendation engine.

Core HR – Extending core capabilities and deepening leave and absence

Greater data entities on CDS for Apps

Integration and extension are key areas within Core HR that will enable customers and partners to meet regulatory requirements, fill the white space in their HR business processes, and drive digital transformation in their organizations. Broadening the footprint of the data available in Common Data Service (CDS) for Apps allows customers and partners to continue leveraging the power of the Dynamics 365 and CDS for Apps data connectors. Users can create rich canvases and model-driven applications with PowerApps, build powerful workflow automation using Microsoft Flow, as well as drive intelligent insights and analytics with Power BI—unlocking the power of the data in Dynamics 365 for Talent.

The areas where entities will be expanded include competencies, job, benefits, compensation, organization management, and tasks.

Leave and absence

Effective leave and absence management is key to not only being compliant, but also to having an engaged workforce. Enhancements in this area of Talent will allow organizations to configure leave and absence plans and policies to meet regulatory and company policies and provide additional insight into employee time off.

Each organization and region has unique business requirements related to leave and absence management. These might include policies on how employees can take time off or accrue time off. Allowing organizations to configure leave and absence to fit their unique business needs helps them stay compliant and streamlines the leave and absence management process.

What's new and planned for Dynamics 365 for Talent

This topic lists features that are planned to release between April and September 2019. Previews for some features will start in February 2019.

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see Microsoft policy).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the International availability guide.

Attract

Feature	Release type	Date
Wide net, fast funnel		
Easily post your jobs to more sites	General Availability	April 2019
Improve candidate engagement via career site	Public Preview	April 2019
Source tracking	Public Preview	March 2019
Take administrative actions on multiple candidates with a single click	Public Preview	March 2019
Create customizable job and profile forms	Public Preview	April 2019
Inclusive language checker	Public Preview	June 2019
Create custom recruiting workflows that map to candidate origin (internal vs external)	Public Preview	February 2019
Search enhancements	Public Preview	February 2019
Provide an out-of-the-box integration with a candidate assessment solution	Public Preview	April 2019
Track silver medalists	Public Preview	March 2019
Analytics and actions		
Use analytics for hiring process insights	Public Preview	April 2019
Internal mobility		
Organize internal candidate pipeline	Public Preview	March 2019

Feature	Release type	Date
Better together with LinkedIn		
Use LinkedIn profile to apply for a job	General Availability	April 2019
Apply for a job directly from within LinkedIn	Public Preview	April 2019
Sourcing and Talent relationship management		
Invite prospects to apply	Public Preview	June 2019
Talent pool enhancements	Public Preview	April 2019
Administration and compliance enhancements		
Audit your hiring process	Public preview	May 2019
Create customized email templates and accounts for candidate communications	Public preview	June 2019
Customize hiring processes to meet organizational needs	Public Preview	May 2019
Faster offer preparation	General Availability	April 2019

Onboard

Feature	Release type	Date
Analytics and action		
Use action-oriented dashboards to streamline your daily tasks	Public Preview	April 2019
Leverage rich analytics to get insight into your new hires and processes	Public Preview	April 2019

Feature	Release type	Date
Drive to completion		
Encourage guide completion with new hire reminder emails	Public Preview	March 2019
Get your new hire integrated quickly by automatically scheduling 1:1s with relevant team members	Public Preview	May 2019
Quickly view a list of all your onboarding guides	Public Preview	April 2019
Solicit new hires for feedback on their onboarding guides	Public Preview	March 2019
Frictionless guide creation and administration		
Streamline guide administration by assigning activities to roles	General Availability	April 2019
Share best practices across your organization using Onboard Teams	General Availability	April 2019
Accelerate guide creation by importing an existing template into yours	General Availability	April 2019
Jumpstart your onboard journey through a quick zero-to-guide experience	Public Preview	April 2019

Core HR

Feature	Release type	Date
Expand Core HR entities in CDS for Apps	General Availability	April 2019
Leave and absence rules and policies	General Availability	April 2019

Easily post your jobs to more sites

Hiring teams want to get their open positions in front of as many qualified candidates as possible. Job sites are one of the key ways to reach a lot of potential qualified candidates, at scale. Hiring teams also want to spend advertising dollars on channels that deliver the best outcomes. Integration with external job sites for job postings helps organizations achieve this goal. By publishing jobs through these sites, organizations improve efficiency and save time by multi-posting jobs to a network of thousands of job sites, aggregators, and social networks in a single click. By automating this process, recruiters can focus their time on screening candidates and identifying the right fit, instead of the mechanics of job posting. A fully traceable application process enables organizations to measure performance at a company, team, and individual level.

This feature enables recruiters to:

- Post new jobs to one or more external job sites.
- Edit jobs posts and repost to one or more external job sites.
- Remove posts from one or more external job sites.

Improve candidate engagement via career site

The average tenure of employees with organizations worldwide has been steadily reducing across industries worldwide. In this environment, to win the competition for talent, organizations must start continuously engaging with potential candidates as they might not be ready to apply the first time they discover your organization. Having a compelling career site that attracts the right candidates and helps them stay engaged is one significant way to achieve the above goal. By using the Attract career site, organizations can provide a world-class experience for candidates, without writing any code.

Investments in this area would allow candidates to:

- Find open jobs posted to the Attract career site via direct search from popular search engines.
- Save job search and filter criteria and create email alerts to get notified when new jobs matching the criteria are posted.
- View recommended jobs based on profile and application history.
- View a list of similar jobs as they are viewing a particular job.
- Tag any open job as a favorite as they are browsing through jobs and revisit their favorites to proceed further.

Track the source of candidate profiles and applications

As job markets become increasingly competitive, organizations need to be nimble and efficient in the way they source talent. Organizations need to be able to continuously monitor the effectiveness of various sourcing channels so that they can pivot and course correct as needed, investing monetary and human resources in channels that have the highest returns. Having a mechanism to keep track of the sources for candidate profiles and applications is a key capability for doing so.

This feature enables recruiters and admins to:

- View the source of a candidate profile, tracing back to the origin of the candidate in Attract. How did the organization first learn about this candidate?
- View the source of a specific application. Where did the applicant find out about this job and decide to apply?
- Automatically track source information from candidate profiles and applications from sources such as the Attract career site, social media posts, and LinkedIn.
- Add and edit source information for a candidate's profile or that of a specific application.

Take administrative actions on multiple candidates with a single click

Many industries have the need to process multiple candidates and applicants at one time. Whether this is moving multiple people through the hiring stages or completing their journey in the hiring process, recruiters need to work quickly and efficiently.

This feature enables recruiters to:

- Select multiple individuals and advance their stage or disposition them.
- Select the appropriate disposition reason to apply to a group.
- Optionally select a preformatted email template.
- Have insight into the last hiring stage of dispositioned applicants.

Create customizable job and profile forms

Businesses have complex hiring needs and want to capture various kinds of data for positions and the candidates who apply for them. The ability to add custom fields empowers recruiters and hiring managers to define what kind of additional data needs to be tracked for any given job. Be it a certification requirement or a required start date, you can use custom fields to embellish the base entities in Attract.

This feature allows:

- Recruiters and hiring managers to capture additional data about a job or applicants by adding additional fields.
- Admins to predefine a library of custom fields for their organization to use to enforce standard naming and format conventions.

Inclusive language checker

Diversity and inclusion are of fundamental importance in the realm of recruiting. Studies have shown that the language used in the job description that accompanies the job posting can have detrimental effects on the demographics of the applicant pool. Writing an inclusive job description is central to attracting a diverse pool of talent. The language analysis tools help reduce bias by flagging words and phrases that may alienate certain groups and by promoting the use of inclusive language.

These features will enable the hiring team to:

- Write inclusive job descriptions that avoid gendered or otherwise biased language.
- Avoid using prohibited or proprietary words and phrases as configured by the administrator.
- Curate the library of words and phrases being flagged by the analyzer and add any domain-specific or organization-specific words that might need to be flagged.

Create custom recruiting workflows that map to candidate origin (internal vs. external)

The recruiting process can vary depending on whether the applicants are internal or external. Hiring managers and recruiters often have access to additional information regarding internal employees and therefore can skip steps in the process. Alternatively, external candidates may require additional screening and require more steps in the process. Recruiters need a low-maintenance hiring process that is flexible and provides a seamless flow for applicants whether they are internal or external.

This feature allows recruiters to:

- Select whether a hiring activity applies to an internal or external candidate.
- Select whether to provide additional content such as a video, web form, or Microsoft Form to an internal or external candidate.
- Completely track activities.

Search enhancements

A powerful search is essential to any recruiting tool. We have made improvements to the search experience in talent pools that will make it more intuitive and efficient.

These enhancements will enable the hiring team to:

- Search through candidate documents and attachments in addition to their profiles.
- See match highlights in the search results based on the search query.

Provide an out-of-the-box integration with a candidate assessment solution

Attract will support the use of at least one assessment solution out of the box to provide organizations with a straightforward low-friction mechanism to set up and administer candidate assessments.

With this capability:

- Recruiters and hiring managers can share links to surveys, questionnaires, and assessments hosted by the solution provider with candidates via Attract.
- The assessments can be embedded within the candidate experience using an iFrame.
- Organizations can configure the hiring process using platform extensions to surface results of evaluations within the recruiter and hiring manager workflows.

Designate silver medalists to track high-value candidates

Organizations spend considerable resources as well as time in assessing and evaluating candidates. Several candidates are considered for a single position yet only one of them is eventually converted into an employee. Other candidates who perform well in their evaluation and who might be a perfect fit for a similar or identical position are often lost because there is no way to earmark them. These candidates, termed silver medalists, are high value and should be on top of the recruiter's list the next time a similar position opens. Hiring managers too are interested in tracking such candidates for consideration in the future or in case the candidate who received an offer declines. Being able to track such assets can help save on resources and reduce time to fill.

With this feature, recruiters and hiring managers will be able to:

- Keep track of candidates who are a great fit for a role and did well in their evaluations for consideration in the future by designating them silver medalists for a particular job.
- Easily add high-value or high-potential candidates to talent pools and identify/search for them.

Prospect recommendations for jobs

Every time a new job is created, the recruiter starts sourcing by looking through past applicants for similar positions as well as scouting for new talent in order to create a short list of prospects. This is a time-intensive task and, often, past applicants for similar positions are not even reviewed. Attract can make this process easier by using machine learning algorithms to give recruiters a head start by scouring your global talent pool and surfacing candidates who would be a good fit for the job the recruiter just finished creating.

The matching is based on the skills and experience required for the job cross-referenced with those highlighted by candidates in their resumes/profiles. This capability drastically reduces the time spent in looking through profiles of past candidates, and can help recruiters find the right future employee much faster.

This feature will allow recruiters to:

- View recommendations based on an intelligent matching of the job details and responsibilities with candidate profiles from the global talent pool.
- See a recommended candidate's skills and education information at a glance.
- Easily add the recommended candidates as prospects on a job.

Use analytics for hiring process insights

Hiring teams want to understand the status of their pipeline and what levers to pull to improve the hiring process. Analytic reports aggregate data and raise key metrics, highlighting potential areas for process improvement. The integrated analytics experience of Attract brings transactional data and key hiring metrics together to give hiring teams the insights they need to hire the best talent, faster.

This feature will provide:

- A dedicated Analytics Hub to help your pipeline aggregate across all jobs.
- Job Analytics to take a snapshot of the hiring process for a job.
- Key process metrics such as yield rate, offer accept rate, and time to hire.
- Interactive reports with cross-filtering for insights into how key metrics relate.

Organize internal candidate pipeline

Internal mobility is an essential part of retaining employees by empowering them to achieve their career goals while aligning with the goals of your organization. This capability aims to simplify the search and application experience for internal candidates, helps hiring teams

organize themselves when internal candidates express interest in their open jobs, and overall, streamlines the movement of talent internally within the organization. Some of the features to enable internal mobility are:

- Enable interview schedulers to view internal candidate's calendars and get schedule recommendations for faster interview scheduling.
- Unique job posting view for internal candidates and enabling internal candidates to reach out to the hiring team.
- Enable hiring team members to organize all internal candidates who have contacted the hiring team as prospects.

Use LinkedIn profile to apply for a job

Providing relevant information about themselves is one of the largest hurdles that candidates must go through when applying for jobs. Completing multiple forms is tedious and might lead to qualified candidates dropping off before application submission. Using Apply with LinkedIn, candidates will now be able to easily use their full LinkedIn profile to auto-fill applications for jobs within the Attract career site. This capability streamlines the application for the candidate and removes one of the largest barriers that candidates face when applying. Additionally, for the hiring organization, the LinkedIn Apply Starters feature helps to keep track of candidates that started their application with LinkedIn data but did not submit. This allows recruiters to add these candidates to talent pools and nurture them for opportunities across the organization.

This feature enables candidates to:

- Apply to a job posting in the Attract career site using LinkedIn profile data.
- Add/modify the data synced from a LinkedIn profile before submitting the application.

This feature enables recruiters to:

- View and engage with candidates who started to apply to a job posting in the Attract career site but did not submit the application.

Apply for a job directly from within LinkedIn

Candidates want to apply for jobs at the time they discover them. Every additional click between discovery and application submission has the potential to lead to candidates dropping off. With LinkedIn Easy Apply enabled, when candidates find jobs in LinkedIn that are a good match, they can apply for the job directly in LinkedIn using the LinkedIn Easy Match button. This rich integration between Attract and LinkedIn enables LinkedIn to surface Attract-specific questions and fields to the candidate to complete within the application pages in LinkedIn. This will help prevent candidate drop-off in application flow and lead to an increase in applications.

This feature enables candidates to:

- Apply to open jobs in Attract directly from LinkedIn.

Invite prospects to apply

Finding the right people for a position can often entail making the barrier to creating an application as low as possible. Often emails are the best way to persuade a candidate to apply for a position.

With this feature, recruiters can:

- Extend an invitation to a candidate with a direct link to the job page in one click. Any candidate who applies using the link will automatically be promoted to an applicant.
- Edit the invitation email before sending it to add in their personal touch.
- Create templates for invitation emails.

Enhancements for talent pools

Attract will support additional capabilities for talent pools.

These enhancements will enable recruiters and hiring managers to:

- Save the results from a candidate search as a talent pool.
- Use multi-select to add multiple candidates to talent pools from a job's applicant/prospect list.
- Use multi-select to add multiple candidates to a particular job from a talent pool.

Audit your hiring process

Organizations need to understand each detail of their hiring process from beginning to end. They should know who created, posted, or edited job details and processes, the different stages that a candidate went through, the notes and feedback from the entire hiring team, and creation and approval of the offer document. From a compliance perspective, businesses need to go through audits to make sure they have the complete history on all jobs and candidates. Some of the auditing capabilities could include:

- Audit reports about a candidate's history, in context of a job or their application in general context of the organization they applied to.
- Audit reports for all activities related to a job.

- Audit reports for actions associated with any offer from creation and approvals through acceptance, including versioning.
- Audit reports for candidate rejection reasons.

Create customized email templates and accounts for candidate communications

Recruiting communications are a prospect's first interaction with an organization. Being able to visually represent and instill company culture in emails is an essential part of making a great first impression. Attract supports the customization of all system- and user-sent emails, allowing an organization to create compelling narratives that best represent their values and brand.

With this capability:

- Admins can curate a library of email templates and standardize the look and feel of all recruiting communications.
- Admins can control whether hiring managers or recruiters can modify the text content of user-sent emails.
- Admins can configure AAD service accounts, allowing them to use custom mailboxes for their organization's recruiting team.

Customizable hiring processes to meet organizational needs

Depending on size, seasonality or industry type, the hiring process can vary widely across businesses. Some small businesses would like to have the recruiter be able to edit the process as needed. However, larger organizations might want consistency in the activities that go into the hiring process and would like the process managed by a central owner. Having the ability to shape these processes to meet business needs provides a robust solution that can be consumed by a diverse set of organizations.

This feature allows businesses to:

- Optionally allow only administrators to manage the hiring process templates.
- Define whether a stage can be edited by a recruiter.
- Indicate if a stage can be added on a job by the recruiter.

Faster offer preparation

Offers need to be created as fast as possible. Administrators can define the package templates in such a way that offer creators can focus on the values that are most important to them to get the offer out of the door quickly. Candidates are more likely to accept an offer if an offer is quickly rolled out to them after they have been selected for an open job.

Some of the key features as part of the next wave of offer management capability are:

- Ability for offers to be sent and signed via Adobe Sign and DocuSign.
- Administrators will be able to define the mandatory and optional offer data in an offer package as well as be able to define default values of offer data.
- Offer emails will be configurable and the appropriate email template can be chosen and edited as necessary before the offer is sent to the candidate.

Use action-oriented dashboards to streamline your daily tasks

A hiring manager wants to understand what tasks and individuals need more focus than others. A departmental admin wants to understand what the overall onboarding progress is in their cohort and which managers need a little extra push. Our new dashboard uses onboarding data to surface relevant insights and allows managers/admins to act on those insights.

Dashboards will consist of signals such as, but not limited to:

- Managers that have not sent guides to their existing new hires.
- Managers that are customizing their guides.
- New hires that have not completed their guides.
- New hires that have late activities in their guides.

Leverage rich analytics to get insight into your new hires and processes

Organizations and managers have an increasing desire to be data-driven. Once organizations make the leap to digitally transforming their onboarding, the next step is to understand the impact of such an initiative. Are new hires more engaged? Are they more likely to complete their required training? Are they building out their networks? We will provide these reporting capabilities both within the product and through self-service reporting using Power BI.

Key features include:

- Team-based analytics for departmental admins.
- Individual manager effectiveness analytics.
- Power BI content pack.

Encourage guide completion with new hire reminder emails

Onboarding can be hard. It can also be very busy. It's easy to get lost in the swarm of emails, appointments, and documents that need to be addressed in the first few weeks. With Onboard,

we want to help you succeed by making sure that none of the important activities slip through the cracks. We're addressing this by sending out reminder emails and notifications to new hires at important junctures in their onboarding journey. We will also allow hiring managers to customize the frequency and timing of these emails.

Key features include:

- Activity completion reminder emails relative to due date.
- Guide opening reminder emails.

Get your new hire integrated quickly by automatically scheduling 1:1s with relevant team members

Starting a new job can be overwhelming. In order for the new hire to feel prepared to succeed, they need to feel engaged with their team. This is primarily achieved by introductory meetings that a new hire participates in during their first few weeks. Although it is essential that everyone have a 1:1 with their manager, there can be anywhere from two to 20 other people that need to be met. We want to help automate this process by leveraging the power of the Office 365 productivity suite.

Key features include:

- Hiring managers/new hires can set up appointments in Onboard.
- Hiring managers/new hires can export calendar invites as iCal.

Quickly view a list of all your onboarding guides

Employee onboarding begins as soon as an offer is accepted. But it can last until weeks and even months after a new hire starts the job. In addition, the set of processes performed during onboarding can also be applied to transfer and offboarding scenarios. This creates a situation where a new hire can have multiple onboarding guides during their tenure at the company. Also, each guide might not be accessed weeks and months into a role. We're addressing this by allowing new hires to sign using the app URL and access all the guides that have been assigned to them.

Key features include:

- New hires can sign in directly using our app URL.
- New hires can look at all the guides that have been assigned to them.

Solicit new hires for feedback on their onboarding guides

Managers want to make sure their onboarding templates stays relevant and useful. However, things change with time. Documentation becomes outdated, trainings are not as useful, or adopted technologies change. New hires want to be able to communicate this back to their managers in a simple and intuitive fashion. We will enable this feedback by allowing new hires to rate the content on their guide and relay that back to the hiring manager. Future iterations of guides can incorporate this feedback to improve the new hire experience.

Key features include:

- New hires can upvote/downvote activities in their guide.
- New hires can upvote/downvote resources in their guide.
- Managers can see activity rankings within a guide/template.

Streamline guide administration by assigning activities to roles

Some of the activities in a guide are meant to be completed for a new hire, but not by the new hire themselves. This is why we introduced a notion of an assignee. Depending on the activity, it may need to be completed by the onboarding buddy, IT admin, or even the hiring manager. To build a repeatable motion, managers want to be able to assign these activities to those specific roles but may not know in advance who that might be for a given new hire. The assignee placeholders feature will allow users to create a template with activities assigned to specific roles which can then be filled at the time of guide creation.

- Managers can assign activities to roles.
- Managers can define what roles they'd like to create.
- Managers can assign those activities to specific team members during guide creation.

Share best practices across your organization using Onboard Teams

The value of onboarding truly comes to life the closer you get to the department or team. Department leaders want visibility into onboarding progress and manager engagement. They also want the ability for seamless content sharing within their department or team. However, the boundaries of a department might not always be represented by the organizational reporting structure. With Onboard Teams, department leaders can define their team or department members to streamline reporting, collaboration, and content sharing.

- Department leaders can add new members to a team.
- Members can share their templates with other members of the team.

- Department leaders can leverage analytics/dashboards within the scope of their teams.

Accelerate guide creation by importing an existing template into yours

Hiring managers can import content from other guides or templates to ensure that the latest content is always reflected. This helps their hires get started quickly and makes it easier to include the latest content from their manager or department leader.

- Managers can import activities from another template into their own.
- All changes on activities in imported template can be pushed downstream.
- Managers can choose to detach relationship on activities.

Jumpstart your onboard journey through a quick zero-to-guide experience

Creating something out of a blank slate is very challenging. Our goal is to ensure that a first-time user never has to land on a blank page. By leveraging the corpus of knowledge built in our template gallery, we will navigate a new user into the most relevant template and use that as a starting point for their journey.

- All new users will land on a guided first-run experience.
- The experience will land the user on the most relevant template to their role.
- The experience will end with the user having a personalized guide.

Expand data entities in CDS for Apps

Customers need efficient means to drive the digital transformation of their HR and Talent experiences to attract and retain critical talent. Having a single and coherent view of people is one of the critical foundations to achieve this. Most Core HR entities are already available in Common Data Service (CDS) for Apps. Other areas will now also be made available to drive this digital transformation.

Customer and partners have more data available for the unmatched palette of tools to extend, customize, and integrate provided by Common Data Service for Apps. This includes tools such as Power BI, PowerApps, and Microsoft Flow.

The following areas will be made available or expanded in CDS for Apps

- Competencies (skills, certificates, education)
- Job
- Benefits

- Compensation
- Organization management

Leave and absence rules and policies

Talent will continue to provide more flexibility in how rules and policies are configured to meet regulatory and company requirements. One policy is related to how carryover is applied and taken. HR will be able to configure carryover whether carryover is included with a leave plan. They'll also be able to configure when carryover needs to be taken if it's included as part of the leave plan.

Organizations may also require reason codes to be set on specific leave types when employees submit time off. This may be required based on a regulatory requirement in their country/region or a company policy. Talent will provide the ability for HR to specify which leave types require a reason code. When employees submit time-off requests where the type requires a reason code, they'll have to select one of the reason codes specified by HR.

Updating time off

Employee time-off requests might need to be updated or canceled after they've been approved through workflow. In many cases, the HR person or the employee's manager makes these updates. Talent will provide managers and HR the ability to update or cancel an employee's time-off request after it's been approved. This helps to streamline the process and keep time-off data up to date.

Book future time off

Within employee self-service, employees now see not only their current time-off balances, but also what their time-off balances will be in the future. They'll also be able to submit time-off requests for the next leave period. This enables employees to meet company policy as well as understand how much time off they have in the next leave period and how much they will or won't carry over.

Dynamics 365 for Retail

Overview of Dynamics 365 for Retail April '19 release

Today's consumers demand great and integrated shopping experiences across channels. Traditional channels are getting disrupted while new ones are emerging constantly. Retailers need a modern, flexible cloud solution that will help them be nimble, compete better, and build lasting relationships with their shoppers.

Dynamics 365 for Retail provides an end-to-end integrated solution for retailers that includes back office processes (merchandising, inventory, and so on) as well as front office channels (in-store, call center). In addition, Dynamics 365 for Retail also provides an omni-channel, fully extensible "headless" commerce engine that is leveraged by all channels including partner-led e-commerce channels.

The investments will span the following core pillars.

Unified commerce

- Customer-centric experiences that honor and differentiate a retailer's brand.
- Enhanced in-store experiences building on current solution capabilities.
- Omni-channel capabilities including payments, loyalty, and more to enhance experiences across channels.

Core capabilities and fundamentals

- Retail Cloud Scale Unit: Multiple scale units spanning multiple Azure regions with active-active support to deliver scalability, reduced latency, and downtime during servicing and phased rollouts.
- Extensibility and improved developer experiences: Enhanced extensibility across all channels and components.
- Broadcast and push updates for retail cloud-deployed components.
- Regulatory and compliance-related enhancements to provide service in all supported countries and regions.

Intelligence and insights

- Distributed Order Management enhancements that provide intelligent order orchestration capabilities to reduce costs for retailers while improving speed of delivery for shoppers.

What's new and planned for Dynamics 365 for Retail

This topic lists features that are planned to release between April and September 2019. Previews for some features will start in February 2019.

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see Microsoft policy).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the International availability guide.

Feature	Release type	Date
Distributed order management enhancements	General Availability	April 2019
Product discoverability enhancements	General Availability	April 2019
Retail cloud scale unit – multi-region	General Availability	April 2019
Retail broadcast updates	General Availability	April 2019
Retail extension platform and developer experience enhancements	General Availability	April 2019
Extension of fiscal printer integration sample for Italy	General Availability	April 2019
Fiscal service integration sample for Austria	General Availability	April 2019
Fiscal printer integration sample for Poland	General Availability	April 2019
Fiscal service integration sample for Czech Republic	General Availability	May 2019

Distributed order management enhancements

This feature expands on the Distributed order management capabilities that were released as a part of the October '18 release for Dynamics 365 for Retail by lighting up B2B scenarios in addition to core enhancements like support for additional cost factor, optimization within regional locations, and more.

Business value

In the new paradigm of retail, retailers strive to provide personalized customer engagement, omni-channel experiences, and frictionless interactions to consumers. Retailers expect to compete mainly on customer experience. With so many choices available to consumers, they'll shop with whoever provides a more favorable experience. Price and product will no longer be the top deciders.

To improve the customer experience, retailers must gain real-time inventory visibility across all their channels. A single, holistic view of all inventory allows companies to optimize order fulfillment, allocation, and distribution.

As such, adaptation and implementation of a distributed order management (DOM) system is no longer a matter of choice for retailers. DOM optimizes order fulfillment across a complex network of systems and processes. It relies on a single, global view of inventory across an entire organization to intelligently manage orders, so they are fulfilled accurately and cost effectively. Distributed order management improves the efficiency of a retailer's supply chain, allowing them to better meet customer expectations.

In short, DOM has moved from a top trend to a necessity for retailers.

Feature description

The feature enhancements will enable the following scenarios and capabilities for retailers:

Handle fulfillment constraints of specific product types

Retailers often have the requirement that certain products can only be shipped in complete. There cannot be partial delivery of these products from a location nor can these products be partially shipped from one location and partially from another location. This constraint is due to the nature of these products. For example: ropes. Ropes are configured in the system as a product with their Unit of Measure (UOM) typically defined in meters. When customers order this product (for example, 50 meters), they expect to receive a single rope that is 50 meters long and not two ropes of 25 meters each.

This attribute of a product to always be fulfilled in complete will be defined on the product master. The DOM solver will consider this constraint while optimizing the order line assignment

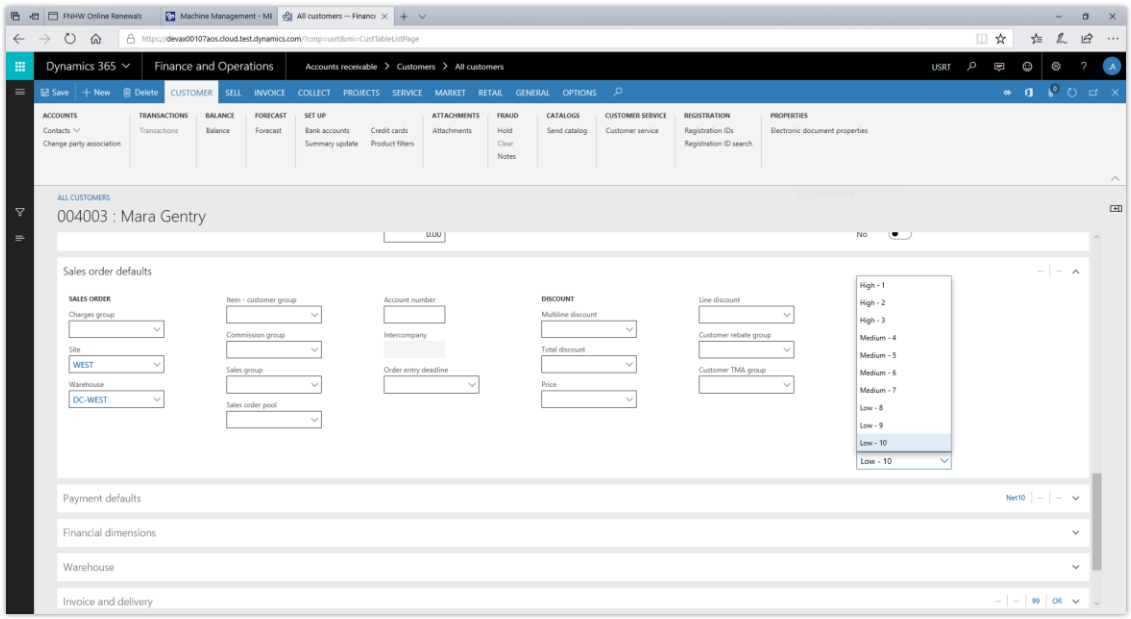
to distinct locations. This constraint will be honored even if the DOM partial rules is configured to allow for partial delivery of order and order lines.

The order fulfillment processes in terms of pick, pack, and ship in headquarters and stores will also enforce this validation that products of such types can only be shipped in full.

Customer priority

Every customer has a value quotient in terms of revenue and gross margin that they contribute to the organization. Given the reality that not all customers are equal, organizations like to focus their energies on the high-value customers in terms of customer engagement and experience that they provide to them. A direct correlation of this is in terms of how organizations prioritize fulfillment of orders for high-value customers, while according secondary importance to orders from other customers.

The value quotient for a customer is defined as a rank on the Customer master record in the system as seen in the following screenshot.



Value quotient for a customer is defined as a rank on the Customer master record

When orders are placed by the customers in the system, the DOM solver will prioritize the maximum fulfillment of order lines and quantity for the High - 1 group of customers, followed by High - 2 group of customers, and so on. Within a group, the orders will be optimized based on regular parameters like inventory availability, cost of fulfillment, and so on.

Customer preferences

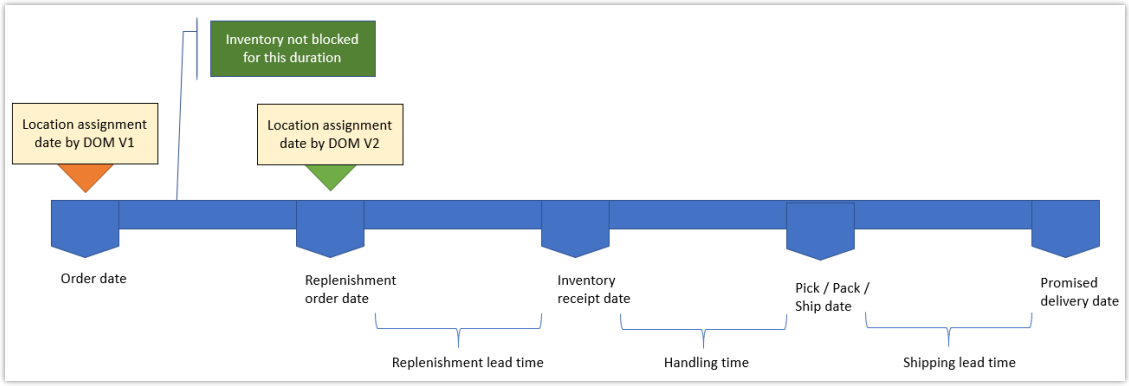
In the business-to-business (B2B) business model, customers do specify preferences in terms of either expecting only one shipment for an order, expecting shipment only on specific days of the week, expecting complete delivery of order or order lines, and so on

These customer preferences would be captured in the system and accordingly, the DOM solver will respect this setting during the optimization and fulfillment location assignment process.

Factor "Requested ship date" and "Confirmed ship date"

In the V1 version of DOM, orders are picked up for assignment as soon as orders are created and confirmed in the system. However, there is a definite business case for orders to not be immediately assigned to a location and for inventory to be reserved, if the requested delivery date is so far out that the product can be replenished and shipped out in a future date such that it will still meet the customer's requested delivery date.

Accordingly, to pick an order for processing, DOM will factor in attributes on the order line like "Requested ship date" and "Confirmed ship date" ("Confirmed ship date" is derived based on the "Delivery date control" feature in the product, which considers multiple factors like ship calendar, ATP, sales lead time, and more).



Distributed order management enhancements

Order consolidation

Organizations try to optimize the fulfillment process of an order by incurring the lowest fulfillment cost while meeting customers' expectations on delivery dates. In doing so, many times it is much cheaper to consolidate the products for an order in a specific location and ship from that location instead of each location shipping directly to the customer. This would be true when the cost of internal transfer to consolidate an order and then ship it is much lower than shipping from individual locations.

The V1 version of DOM always recommends to ship products from individual locations even if it is cheaper to consolidate the order in one location and send out one shipment from that location. This behavior is improved to factor in order consolidation as an option to determine the optimal place for fulfillment of an order.

Zoning of locations

Many organizations are geographically spread out and have multiple fulfillment centers across multiple regions and states, making it necessary to define some sort of zoning of these locations either by state or by region or other criteria that is relevant for their business.

The expectation of these organizations is that optimization of orders for fulfillment happens within the constraint of these zones first before locations from other zones are considered.

The DOM solver will consider the zoning of locations, and will first attempt to optimize and fulfill orders from locations within that zone before locations from other zones are considered.

Additional cost factor consideration

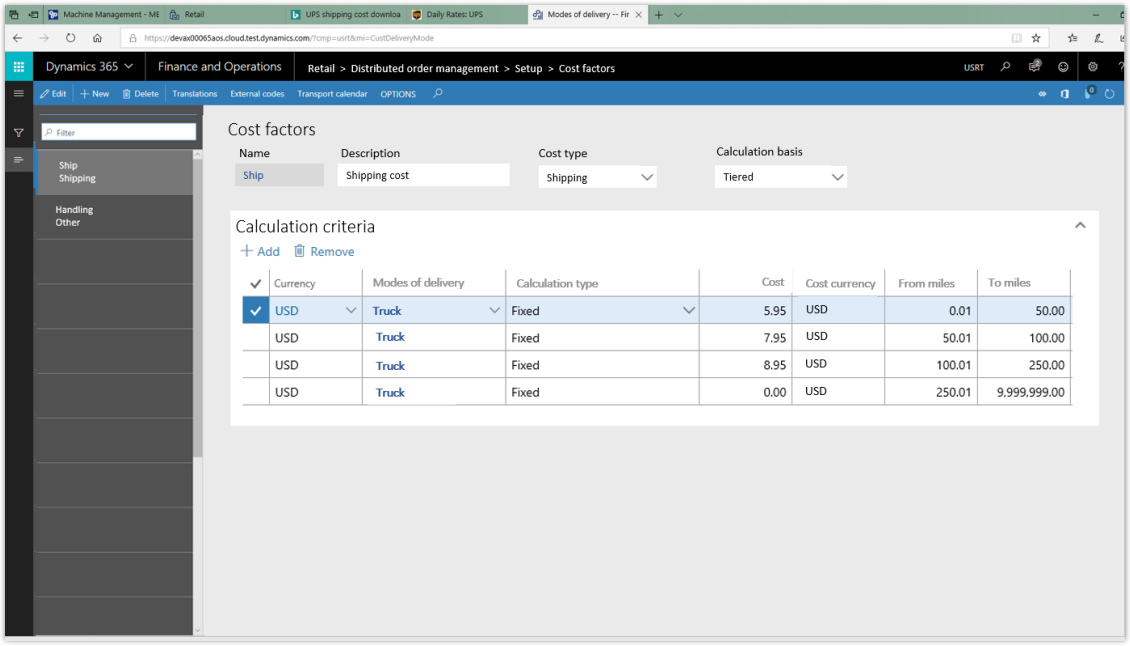
Organizations consider multiple factors to determine the optimal fulfillment location of orders. Some of these are shipping cost, handling cost, packaging cost, and so on. A combination of these costs is considered to decide the optimal fulfillment location for an order.

The V1 feature of DOM only factored for distance when optimizing the assignment of orders to locations. While distance can be correlated with cost, it is not the same, because an overnight shipping method will cost more than three-day shipping or seven-day shipping for the same distance.

The additional cost factor feature enables retailers to configure and define an additional cost component that needs to be calculated for orders and factored in when deciding the optimal location for fulfillment.

In a business-to-customer (B2C) business model, the order lines get tagged with a shipping method based on the customer's choice when the orders are created, and these cannot be changed. So, in the B2C scenario, shipping cost is a known variable. In the B2B business model, the requested ship date is the key driver and the shipping method is flexible if the requested ship date is met.

In both the scenarios, DOM will add up all the different cost factors to arrive at a "true" cost of fulfillment when determining the locations to fulfill an order. The only difference in the B2B context is that the shipping method on the order can be changed as a part of the optimization process so that customers get delivery on the requested ship date with the shipping method that contributes the lowest to the "true" cost.



Distributed order management enhancements

Round robin allocation of orders

Every store and distribution center has limited capacity in terms of how many orders can be fulfilled in a day. Even if there is capacity in a location, organizations like to spread the load of fulfillment among the locations and not just continuously assign order to the same location.

The V1 version of DOM did not have the capability to spread out the load for fulfillment within or across DOM runs. With the enhanced capability around this feature, the spread of the load for fulfillment would happen across DOM runs in each business date. The spread of the load will be done across locations such that there is no significant fulfillment cost difference between the locations involved in the load spread. There could be acceptable differences in cost and the tolerance for the same can be configured by the user with a parameter in the system.

Factor for sales velocity

Given a choice, organizations would prefer to ship an item from a location (store) where they are not sold as much as compared to a location (store) that sells a lot of it. This strategy helps in inventory turns and helps reduce operational cost for a retailer.

The V2 feature of DOM will factor in sales velocity when determining the optimal fulfillment location.

Inventory in a store for an item that is not part of the store assortment

Retail stores are managed through Assortments that determine what products would be sold in what stores. Not every product that a retailer carries in their portfolio is sold through every one

of their stores. The determination of what needs to be sold from where is based on multiple factors like demography, purchasing power, and so on of the population staying in the area where the store is located.

Having said that, customers have a choice to return a product in any of the retailer's stores and that is a key part of the omni-channel experience that retailers want to provide to customers. As such, there is a good possibility that certain products are returned to a store that normally does not carry them.

In such scenarios, retailers expect that the orders that need to be fulfilled should consume such inventory instead of having the store return the merchandise to the distribution center. The V2 feature of DOM will prioritize the fulfillment of products from locations that do not have them in their assortment.

Product discoverability enhancements

Business value

All retailers consider product discovery as a primary tool for customer interaction across all retail channels.

Retail customers are used to web search engines, sophisticated e-commerce websites, and social apps that offer great relevance, search suggestions as they type, faceted navigation, highlighting, and more, all with near-instantaneous response times. If they don't find the right product quickly, they don't hesitate to move to the next best e-commerce store, because it is that easy.

This investment for enhancing product discoverability in Dynamics 365 for Retail will help retailers continue to grow their share of consumer retention and conversion rates across all channels.

Feature description

With this investment, we will be able to leverage the power of Azure Search across all of our existing end-user-facing clients and provide a consistent experience across all channels.

Browse and search

Search relevance and performance is key to our omni-channel experience as product discovery relies primarily on search for information retrieval and content navigation. An effective and efficient search helps increase conversion.

Refiners and faceted navigation

Faceted navigation helps users browse for content more easily by filtering on refiners that are tied to terms in a term set. By using faceted navigation, you can configure different refiners for different terms in a term set without having to create additional pages.

Retail cloud scale unit – multi-region

Retail organizations with channel operations across wide, geographically distributed locations find themselves unable to provide low latency, highly responsive user experiences for their employees in locations farther away from the primary cloud region for their environment.

To mitigate high network latency in such cases, IT administrators today typically deploy the environment in a hybrid topology, with some components installed on-premises (in a physical retail store) or in a regional private data center. This, however, imposes additional capex and operational burdens on these organizations.

Multi-geo support for retail alleviates this pain and enables administrators to leverage Microsoft's global network of cloud data centers to serve each of their stores from cloud regions within much closer proximity, and thereby provide improved latency and user-perceived responsiveness.

Business value

This feature allows for reduced latency for point of sale (POS) operations in a retail organization operating across geographically distributed locations. By serving requests from cloud regions closest to the retail channel, latency and performance at point of sale can be considerably better than otherwise, and prevent long checkout lines and purchase abandonment during peak hours and seasons.

Feature description

Retail IT administrators can serve channels from multiple different cloud regions and provide improved network latency and overall faster response times for their point of sale operations in the store. This allows retail organizations to operate in a cloud-first model and alleviates the need for local deployment of in-store components (such as RSSU and POS offline) to experience low improved latency.

IT administrators can configure one or more channels to be served from a specific cloud region. IT administrators still retain control on data residency and can control which regions their data can be served from.

Retail broadcast updates

Seamless and automatic updates are a key element of any software as a service (SaaS) solution. In our evolution from a legacy on-premises solution to a modern cloud-operated SaaS solution, we've made considerable strides, including progressive lockdown (with regard to invasive customizations) of all key Retail components, including Commerce Runtime (CRT), Channel Database, Point of Sale, and at the same time invested considerably in developing specific extension points (based on direct feedback to unblock each of our customer implementations). We are now at a point where Microsoft updates to a customer environment can be applied with no need for code merge with a customer's customization. Customers, however, are still expected to explicitly initiate update deployment. This feature takes things to the next level and automatically applies the updates in customer environments.

Business value

Keeping retailers up to date has benefits for all stakeholders. Retailers benefit from the latest improvements from Microsoft, across the fundamentals (availability, reliability, performance, and security) as well as functional innovations in the product. They are much less likely to be affected by issues that have previously been discovered and fixed in other retailers' environments and thereby avoid preventable disruptions to their business.

Feature description

This feature will auto-update cloud-hosted Retail components. Updates will be rolled out in a staged fashion across various exposure rings and allow retailers to validate the changes in preproduction environments before these get rolled out to their production environments. Retailers will have 30 days for regression testing and the ability to delay updates in production by up to 90 days, in case of any regressions or other impacts discovered during testing in the preproduction environment.

Retail extension platform and developer experience enhancement

We are making major enhancements in our Retail extensibility framework to simplify the customization, packaging, and deployment experience by introducing new features like Order attributes and more extension points (APIs, triggers, and overridable handlers).

Business value

The new framework and extension point will reduce the effort required to customize and upgrade to the new version easily.

Development enhancements

We added many new extension points to support different extension scenarios. Developers can now extend the user interface with custom controls, app bar buttons, and custom columns, or build custom views. Many new overridable requests and triggers have been added in the POS to support different extension scenarios. We added support for custom comment in cart and journal view, and more dialog and POS controls to simplify the POS UI extensions. Also, the POS screen layout designer has been enhanced to support custom columns on the deliverable tab, and custom controls and custom fields in the totals panel.

For the full list of new extension points, see the following topics:

POS APIs

POS Views

POS Triggers

CRT Services

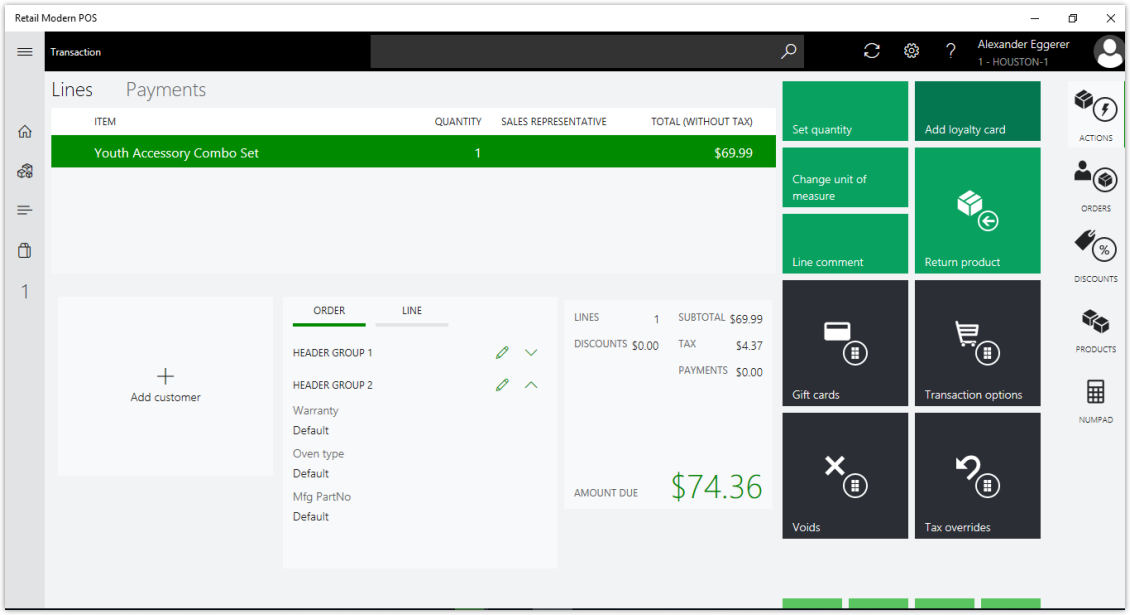
POS Custom column

POS Custom field

Order attributes

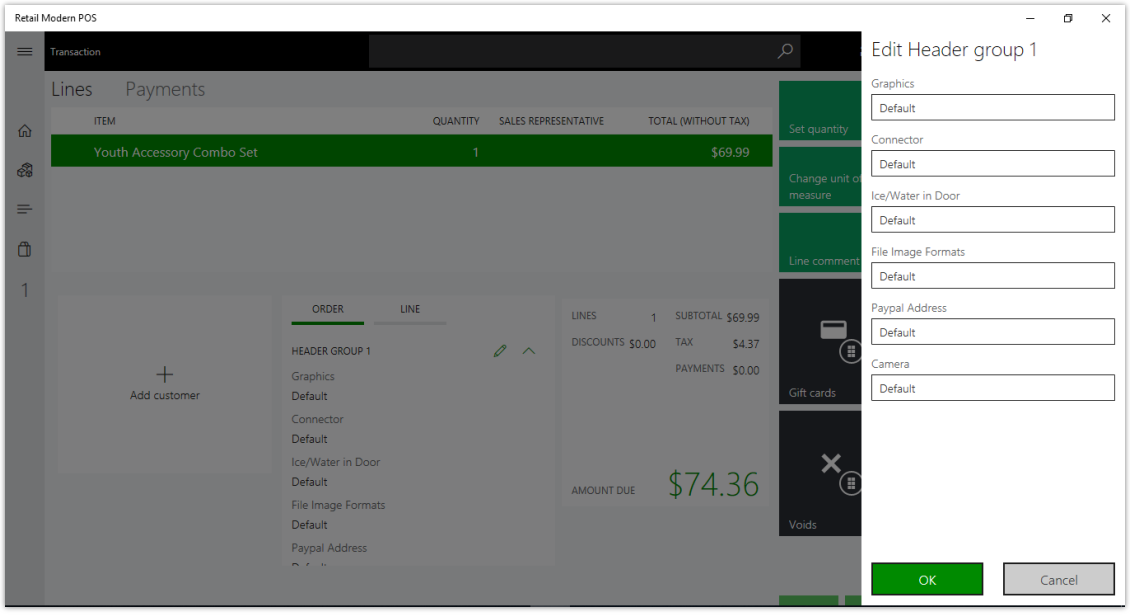
We are enhancing the order attribute framework to show and update the attribute values for the cash-and-carry (C&C) transaction and customer order directly from the POS. With this new feature, retailers can configure the attribute control layout position in the Retail headquarters screen layout designer and access it in the POS to set the attribute values for both C&C transaction and customer order header and lines without any code.

Display attribute in POS



New attribute control in POS transaction view

Edit attribute in POS



Dialog control to edit the attribute value in POS

Extension of fiscal printer integration sample for Italy

The fiscal printer integration sample for Italy is extended to support customer order scenarios, issuing and refilling gift cards, Italy-specific representation of discounts, as well as some advanced error handling scenarios (such as printing a receipt for a previously completed transaction that was not previously registered in the fiscal printer). In addition, the sample now supports Electronic Transmission of daily revenues (Registratore Telematico).

Fiscal service integration sample for Austria

Microsoft Dynamics 365 for Retail now contains a sample of the integration of POS with fiscal services for Austria. The integration sample supports one of the popular fiscal services available on the Austrian market and enables registration of sales in various cash-and-carry and customer order sales scenarios in stores in Austria. It also provides options for error handling in basic scenarios (such as when retry is possible) as well as more advanced scenarios, such as registering a previously completed transaction that was not previously registered in the fiscal service. The sample is a part of the Retail SDK and can be built and used as is. Implementation partners can also extend the integration functionality to cover all required retail scenarios or build integration with other fiscal services based on the sample.

Fiscal printer integration sample for Poland

Microsoft Dynamics 365 for Retail now contains a sample of the integration of POS with fiscal printers for Poland. The integration sample supports one of the popular fiscal printer models available on the Polish market and enables printing sample fiscal receipts in various cash-and-carry and customer order sales scenarios in stores in Poland. It also supports running end-of-day reports (so-called X- and Z-reports) and provides options for error handling in basic scenarios (such as when retry is possible) as well as more advanced scenarios, such as printing a receipt for a previously completed transaction that was not previously registered in the fiscal printer. The sample is a part of the Retail SDK and can be built and used as is. Implementation partners can also extend the integration functionality to cover all required retail scenarios or build integration with other fiscal printer models based on the sample.

Fiscal service integration sample for Czech Republic

Microsoft Dynamics 365 for Retail now contains a sample of the integration of POS with fiscal services for the Czech Republic. The integration sample supports one of the popular fiscal services available on the Czech market and enables Electronic Registration of Sales (EET - Elektronická evidence tržeb). This is the online transmission of the sales data to a fiscal web-service of tax authorities. The integration ensures online registration of sales in various cash-and-carry and customer order sales scenarios in stores in the Czech Republic. It also provides options for error handling in basic scenarios (such as when retry is possible) as well as more

advanced scenarios, such as registering a previously completed transaction that was not previously registered in the fiscal service. The sample is a part of the Retail SDK and can be built and used as is. Implementation partners can also extend the integration functionality to cover all required retail scenarios or build integration with other fiscal services based on the sample.

Dynamics 365 Business Central

Overview of Dynamics 365 Business Central April '19 release

Since its launch in April 2018, Dynamics 365 Business Central has seen increasing adoption by organizations looking to digitally transform their businesses. In October '18, we launched Business Central as also available in on-premises deployments. April '19 brings an update to Business Central that aims to enhance current customer satisfaction with the product.

Powerful new features for business users

We are pushing productivity to the next level by delivering a smooth and fresh experience to all customers of Business Central—those using the web interface in the browser or the modern Windows App for desktop and tablet. Combining modern trends around web-based applications and complex requirements of a Business Central customer resulted in several improvements addressing productivity of a busy professional.

Among those many changes, we have enabled even more keyboard-centric scenarios around the important features of the product, keeping in mind speed of data entry and analysis, such as quick entry, list sorting, and data values. We have introduced several improvements to features related to the customer context, such as work date and the company indicator, plus added options enabling advanced users to be even more productive, such as focus mode, totals for lists, improved search, and the new page inspector. We have also addressed feedback related to filters in Excel export, common auto-save experience, and modern interface elements, such as the date picker, refreshed action bar, and all-product navigation.

Additionally, Business Central becomes more intuitive thanks to an advanced personalization experience and better discoverability of new features—that includes refreshed action menus and groups across the product but also the ability to personalize those to suit the user's preference.

Performance, reliability, and scalability enhancements

No matter the industry or size of a small or medium-sized business (SMB), business users expect a dependable service and platform on which to run their business, collaborate, and get work done. Along with our wave of innovative new features, we've invested heavily in boosting performance, reliability, and scalability of Business Central, across the platform and business application.

Business Central runs much faster with a focus on typical business scenarios and usage patterns. The experience in the browser is more responsive thanks to on-demand loading of page

elements, server resources are optimized for fast user interaction, and the database has been tuned to handle more data and load it faster.

Users experience a more stable service because upgrades are scheduled to suit the individual business, users are no longer interrupted by maintenance during work hours, and we've also matured service health practices to ensure maximum uptime. Users requiring assistance now have a single screen through which to find self-help material, share ideas with the community, and request support that has also been streamlined to reduce response time.

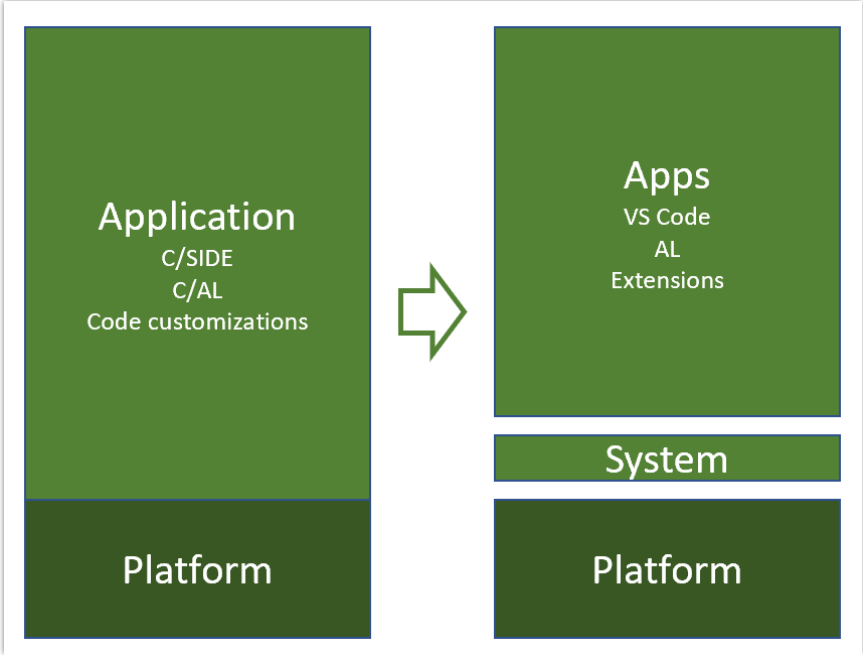
The Business Central security team works tirelessly behind the scenes to safeguard the security of your data. In addition to continual improvement of our security infrastructure and processes, we ensure Business Central continues to meet ISO27001, ISO27017, ISO27018, SOC 1 & 2 Type 2, HIPPA BAA, and FERPA industry security and privacy compliance standards. For more details and a list of all certificates, see https://aka.ms/d365-compliance-list.

Accessibility

Business Central is ready to support the diversity of your workforce where both the desktop and mobile interfaces are now highly accessible.

Base application as an app

We are making investments in the platform to make it easier for ISVs to get into the cloud. We will achieve this by splitting the big application that we have today into a system app and an app on top of that as an extension, compiled in AL using Visual Studio Code.



Moving the application to AL

Data and AI

The last major investment for the April release is starting our course into the Data and AI future. The only platform that will matter in the next decade is the data platform and the only cloud that will matter is the AI cloud. We need to ensure that we have data sanity, which means that we need to make investments into storing the product data into CDS. The first will be to strengthen and prepare integration with Dynamics 365 for Sales through CDS and ensure Business Central data contributes to intelligent insights (notes synching, late payment prediction) in Dynamics 365 AI for Sales apps and Business Central users get intelligent insights generated by Dynamics 365 AI for Sales (predictive opportunity scoring).

What's new and planned for Dynamics 365 Business Central

This topic lists features that are planned to release between April and September 2019. Previews for some features will start in February 2019.

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see Microsoft policy).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the International availability guide.

Productivity enhancements for business users

Feature	Release type	Online vs on-premises	Date
Application enhancements	General Availability	Both	April 2019
List views	General Availability	Both	April 2019
Rich notes and links	General Availability	Online	April 2019
Document focus mode	General Availability	Both	April 2019
Work date indicator	General Availability	Both	April 2019
Context or system indicator	General Availability	Both	After April 2019
Quick Entry	General Availability	Both	April 2019
New keyboard shortcuts	General Availability	Both	April 2019
Autosave indicator	General Availability	Both	April 2019
Improvements to scrolling in lists	General Availability	Both	April 2019
Improved contextual search experience	General Availability	Both	April 2019
Improved all-product navigation	General Availability	Both	After April 2019
Personalization enhancements	General Availability	Both	April 2019

Self-help and support

Feature	Release type	Online vs on-premises	Date
Simplified Help and Support experience	General Availability	Both	April 2019
Page inspection	General Availability	Both	April 2019

Productivity enhancements for administrators

Feature	Release type	Online vs on-premises	Date
Hardening the integration between Business Central and Dynamics 365 for Sales	General Availability	Both	April 2019
Enhancements for application lifecycle management	General Availability	Both	April 2019
Enhancements to the intelligent cloud for Dynamics SMB and Dynamics 365 Business Central	General Availability	Both	April 2019

Powerful features for developers

Feature	Release type	Online vs on-premises	Date
Designer enhancements for developers	General Availability	Both	April 2019
Visual Studio Code and AL	General Availability	Both	April 2019
Application as an app	General Availability	Both	April 2019
Standard Web API	General Availability	Both	April 2019

See also

Summary of what's new in Dynamics 365 Business Central October 2018

Application enhancements

We will continue to enhance the application through our focus on performance in the most used areas. Proficient users will experience faster entry of data through the optimization with focus mode. At the same time, they will experience faster responses as a result of optimizing the application code, such as optimizing how quickly the Home page loads, and performance improvements in key application scenarios that are used on a daily basis.

We will continue to improve the application to make it easier for ISVs to build extensions on top of our applications, such as extensibility for default dimensions, better handling of messages during unit test execution, refactoring production and planning engines so that it can be easily extended, and many more. The Business Central Ideas site continues to be a source for application enhancements. This release includes the following enhancements:

Write longer names and descriptions

You can now enter up to 100 characters (used to be 50) in all **Description** and **Name** fields across Business Central. This change applies to:

- The **Name** and **Description** field on master data cards, such as customer, vendor, item, contact, and resource cards.
- The **Name** and **Description** field on documents, such as sales and purchase orders, invoices, and quotes.
- The **Description** field on journals, such as general journal and item journal.
- The **Description** field on ledger entries, such as customer, vendor, and item ledger entries.

In addition, you can now enter up to 50 characters (used to be 10) in the **Unit of Measure Description** field.

Use physical inventory orders to better structure your physical inventory counting

Physical inventory counting is one of core inventory processes happening in all distribution companies either once a year or multiple times per year. The existing functionality for this process is based on journals, which makes it difficult to track the process and distribute work in larger-scale inventory counting. The **Physical Inventory Order** and **Physical Inventory Recording** pages increase productivity and address gaps in the existing functionality. The new feature is based on the popular German local functionality, which has been widely used in practically all implementations where larger-scale inventory counting is needed.

Select multiple items to add to a sales or purchase document

You can now select multiple items at once from the items list to add to sales or purchase documents. On any sales or purchase document, choose the **Select Items** line action.

TIP: If you select the **Default Item Quantity** check box on the **Sales & Receivables Setup** page, the **Quantity** field on sales lines will be prefilled for all selected items as they get added to the sales document.

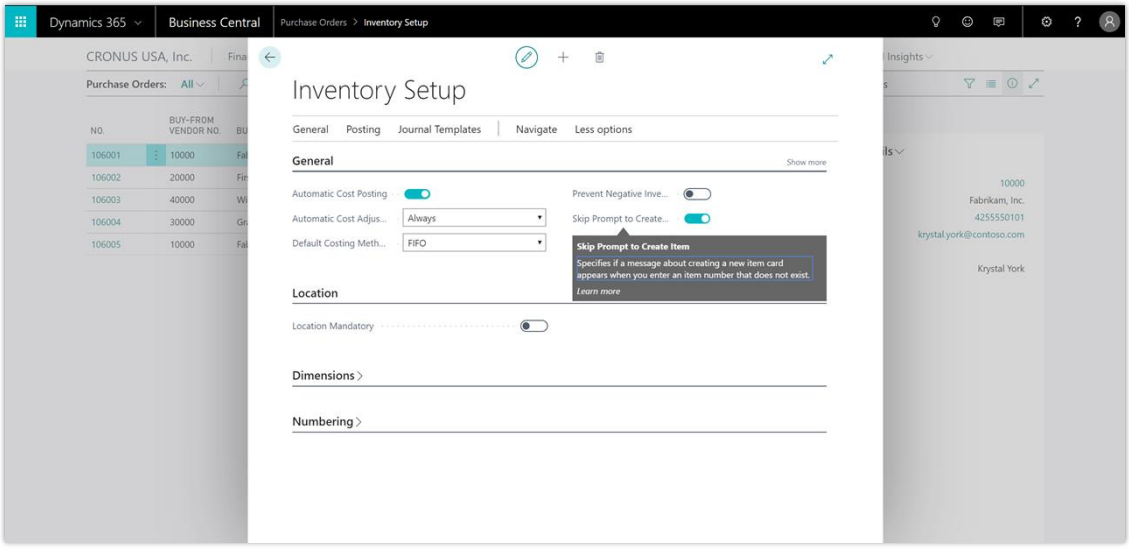
Use a sales quote validity policy to control when sales quotes expire

You can now set date formula in the **Quote Validity Calculation** field on the **Sales & Receivables Setup** page that will be used to calculate the **Quote Valid Until Date** field on sales quotes.

TIP: To make sure that sales quotes with expired quote validity dates are deleted, you can run the **Delete Expired Quotes** batch job. And if you enable sales quote archiving (**Sales & Receivables Setup** page), deleted sales quotes will also be archived, so you can restore them from the archive if customers calls again.

Control item and customer creation from lookups on sales documents

When you enter an item that does not exist on a sales line, you are prompted to either create a new item card or select an existing item. In some cases, such as when importing many new items, this prompts blocks the process. Therefore, you can now select to skip the prompt. On the **Inventory Setup** page, select the **Skip Prompt to Create Item** check box.



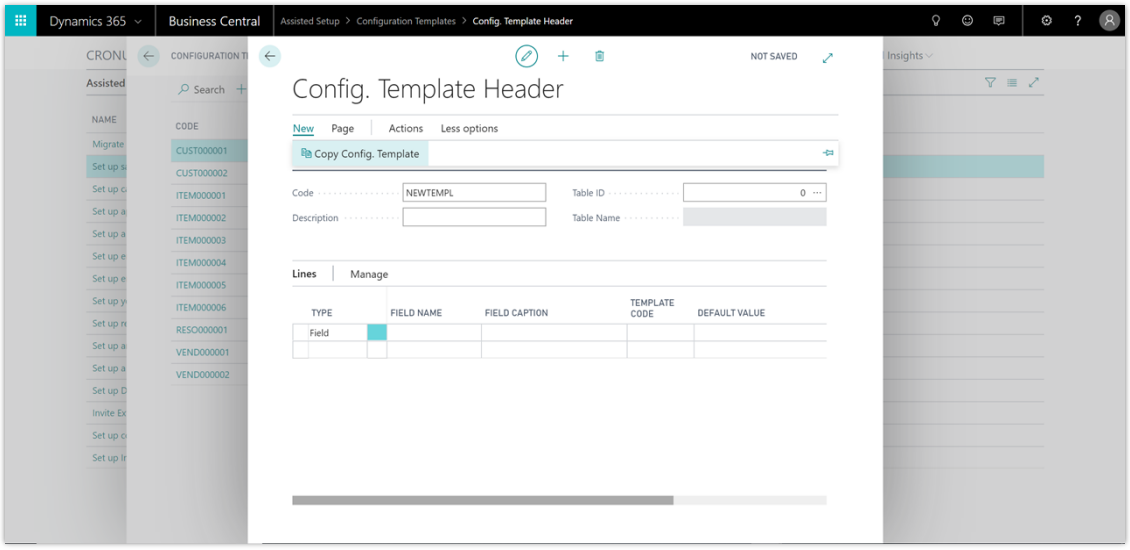
Inventory setup page showing the new Skip Prompt to Create Item setting

Copy customer dimensions to jobs created for the customer

When a job is created and a customer is assigned to the job, default dimension values from the customer are copied to the job. This means that users only have to modify the dimension values of the job, if needed, and that reporting is consistent because the customer's existing dimensions are assigned to a job.

Copy templates used to create customers, vendors, and items

You can now copy existing data templates when you create new ones. Data templates (configuration templates) can be used to quickly create cards for customers, vendors, items, or contacts. To copy an existing data template, choose the **Copy Config. Template** action on the **Config. Template Header** page.



Config. Template Header page showing the Copy Config. Template action

Merge duplicate customers or vendors

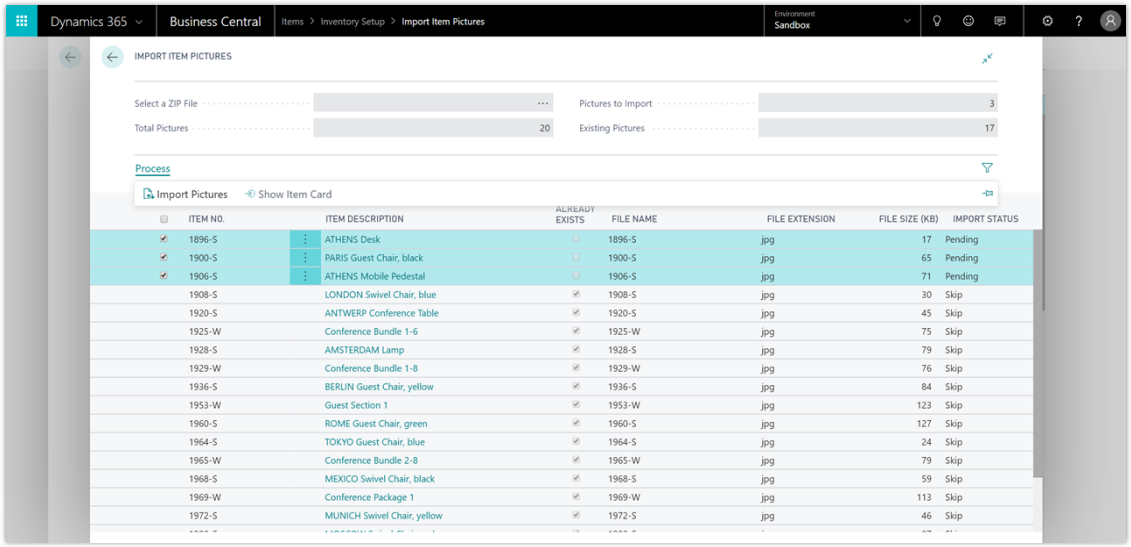
When a duplicate customer or vendor record is created by mistake, you can now merge such duplicate records to a single record.

Dynamically set shortcut dimension columns in lists, documents, and journal lines

Fields for the two global dimensions that you set up on the **General Ledger Setup** page are always available on journal and document lines. Now, also the shortcut dimensions that you have set up that setup page are always available. This means that you can also add shortcut dimension values directly to journal and document lines without opening the **Dimensions** page.

Bulk import item pictures

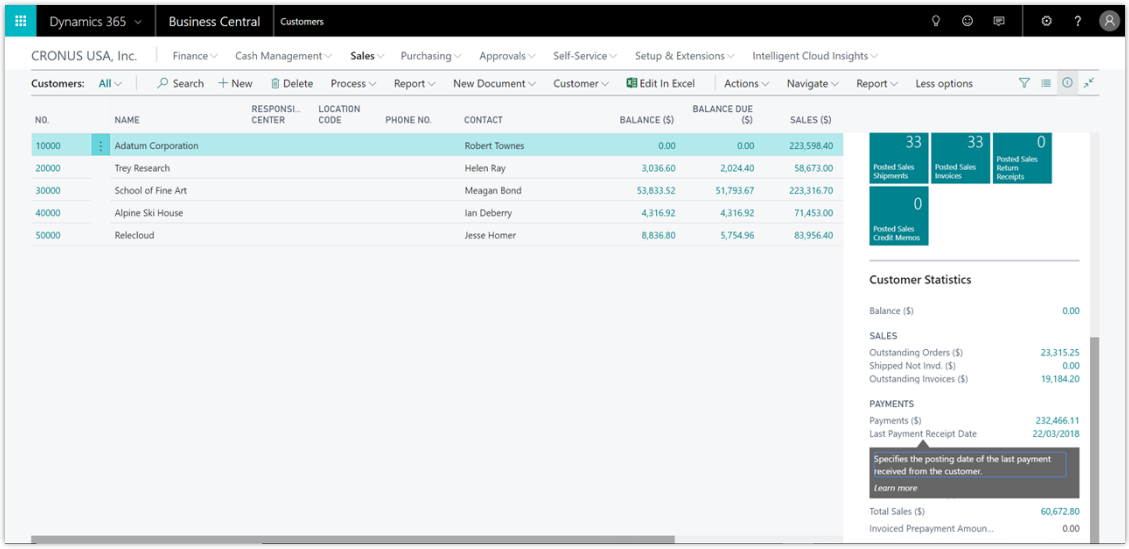
You can now import multiple item pictures in one go. Simply name your picture files with a name corresponding to your item numbers, compress them to a zip file, and then use the **Import Item Pictures** page. Alternatively, you can use the **Set Up Item Pictures** assisted setup guide. Only item cards that do not already have pictures will be updated.



Import Item Pictures page showing the Import Pictures action

View payment information on customer and vendor statistics FactBoxes

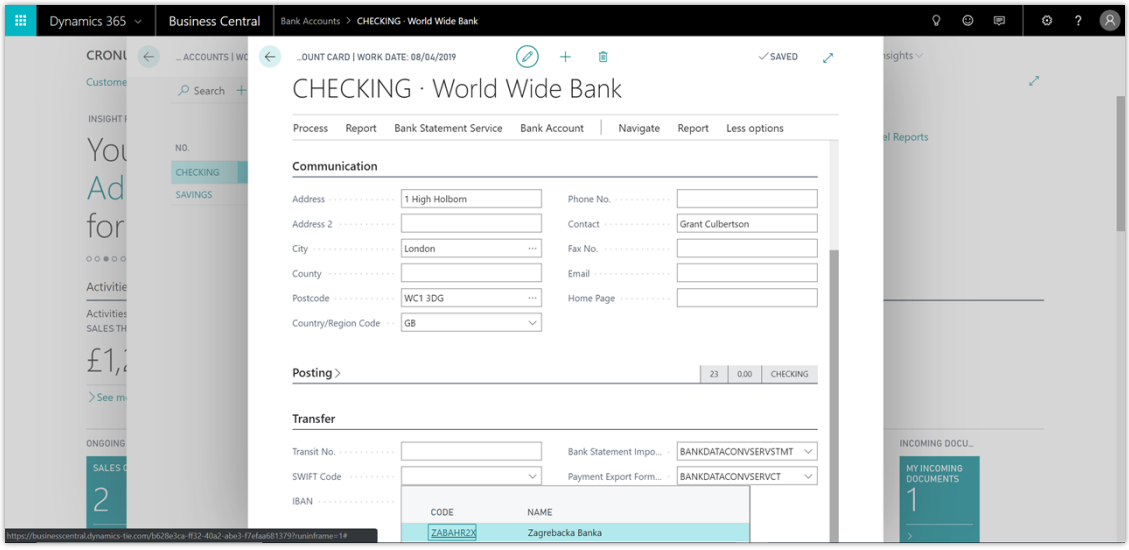
Information about payments and last payment dates is now available on customer and vendor statistics FactBoxes.



Customer list page showing FactBox with information about payments received and last payment date

Look up SWIFT codes

You can now keep a list of SWIFT codes for banks that you work with and use it on pages where you use bank accounts. This allows for accurate preparation of payments and forces users to pick from predefined lists of SWIFT codes rather than entering SWIFT codes as free text.



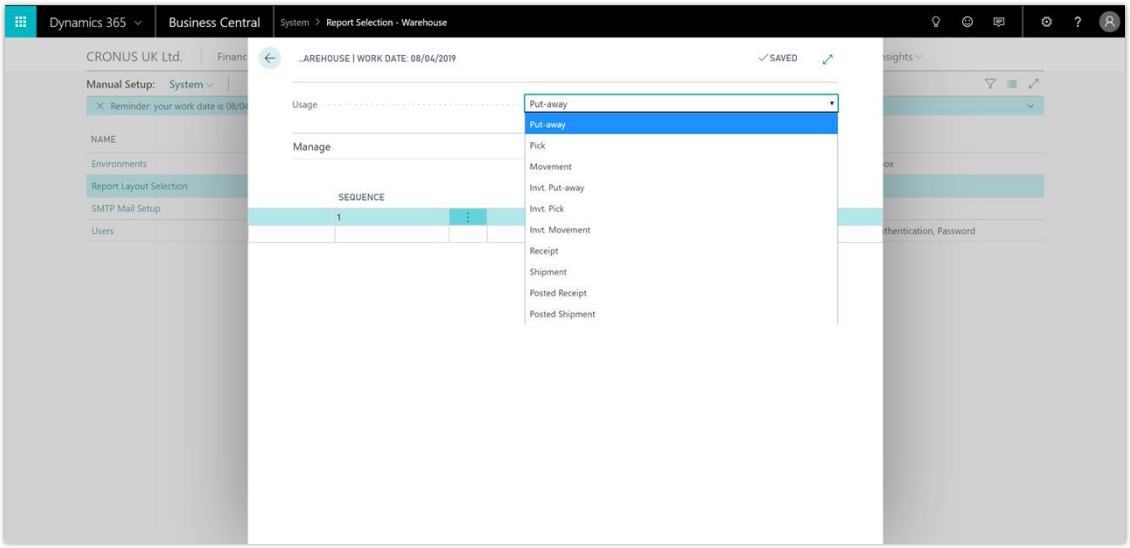
Bank Account page showing lookup on SWIFT Code field

Ensure that approval users are set up to run approval workflows

A check is added to ensure that the user is set up on the **Approval Users** page before they can initiate an approval workflow.

Configure reports for warehouse documents

You can now configure which reports will be printed for warehouse documents such as **Pick**, **Put-away**, and **Shipment** by using the Report Selection feature as for documents in other areas.



Report select page showing reports available for selection in warehouse management

View vendor invoice number on purchase invoice and credit memo lists

The **Vendor Invoice Number** column is now shown on the **Purchase Invoices** and **Purchase Credit Memos** pages.

View time information on registers

You can now view time information on various Register pages, such as **G/L Register**, **Item Register**, and **Job Register**. This allows you to find transactions in registers faster, not just by date but also by the time that the transactions were created.

Tell us what you think

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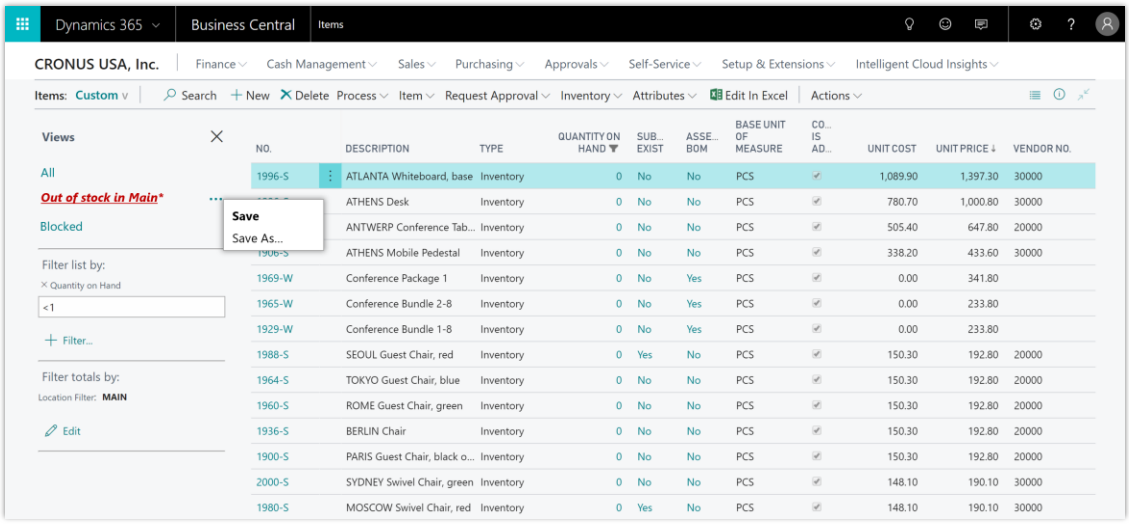
List views

In response to one of the top ideas from our community, users can now save their list filters and similar personalizations to create different ways of slicing their data. List views are given a name, such as "Items I sell," and might include filters on totals and dimensions, filter tokens (such as %MyCustomers) to dynamically filter to the right data, as well as different sorting allowing more complex and tailored views of a list. Views now appear on any list irrespective of how you navigate to it. Users can quickly switch between different views of a list, which includes their own personal views or views that come as standard in their business application or for their role. Similar to other personalizations, list views roam with the user, no matter which device or browser they sign in to.

Developers also have a new, simple and elegant model to build custom list views in Visual Studio Code.



Concept design illustrating how changes to a list view could be saved using a menu in the filter pane

Notes and links

We have enabled the ability to add improved internal notes to business data captured and processed in Business Central. Notes are displayed next to the card data and users have the ability to add and edit them directly on the card. Users can also include Internet links accessible from data cards opening more advanced extensibility scenarios.

Business value

An ability to add notes representing a slightly more unstructured data is essential in the modern ERP system. Notes and links are now available for cloud version users of Business Central enriching their capabilities to store data in the cloud.

Document focus mode

For those of our customers who often edit long and demanding documents, we have created a special view expanding the line item section of the document to take a larger part of the screen and leave more room for productive and fast data entry. When viewing documents in that mode, it is also possible to use advanced filtering, so browsing and searching through longer documents becomes easier.

Context or system indicator

We are bringing a set of features allowing advanced users to understand the work context in an easy and quick way. That includes a work date presented directly on-screen in relevant scenarios and a company indicator helping advanced users to switch between companies or databases to easily understand the context of the current view.

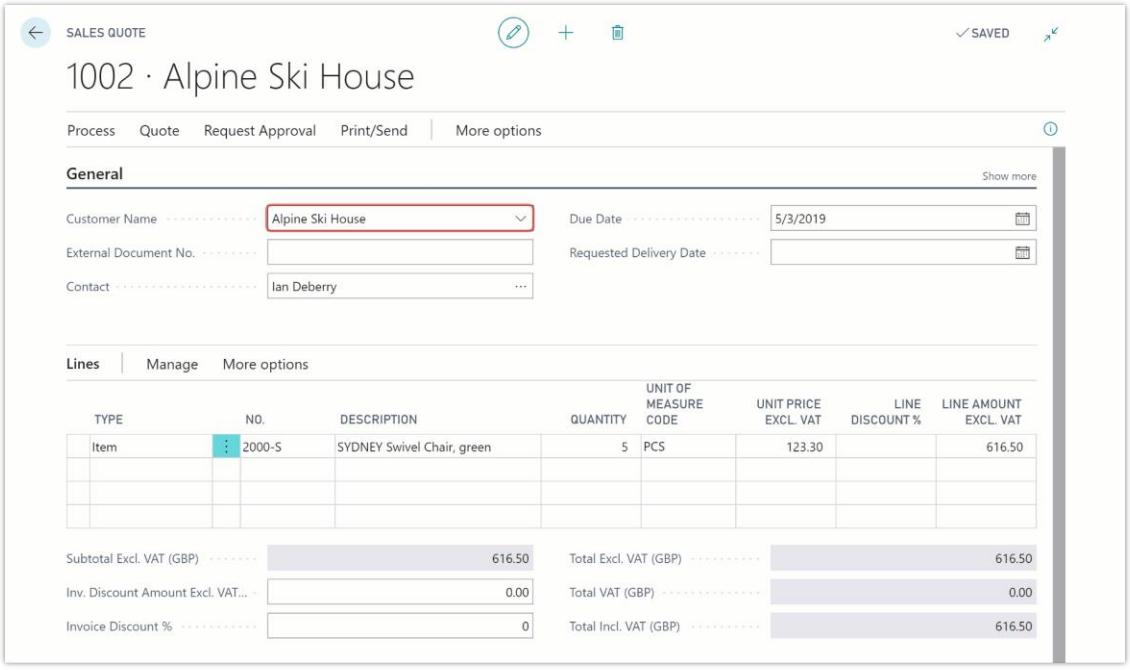
Quick Entry

Accelerate repetitive entry of records with the powerful Quick Entry feature for the desktop browser and Windows desktop app.

Business value

Desktop users spend significant time on repeatedly typing in information to create records in sequence, such as taking orders over the phone, digitizing receipts or registering new items. While users want to view as much detail as possible on a page, only a fraction of those fields must consistently be filled in when creating the record. Navigating to those essential fields becomes cumbersome when working mouse-free, as users are forced to follow the standard tab order of fields on the page.

Quick Entry is a powerful and simple feature that provides an alternate path through editable fields on a page. It changes the behavior of the Enter key to be different from the Tab key, moving the focus to the next Quick Entry field across the page and skipping over non-essential fields.



Screenshot of a page with multiple fields, artificially highlighting those that are included in Quick Entry

Including or excluding fields from the Quick Entry path

Quick Entry can be personalized using the modern and immersive personalization experience, empowering users to tailor Business Central to how they or their department typically enters data.

Developers can define an initial path of Quick Entry fields per page in their application, customize that in extensions, and also tailor it to specific role profiles. Furthermore, the Quick Entry AL property supports expressions to create dynamic Quick Entry paths to different fields.

A truly productive experience

Carefully designed for the needs of intensive users, Quick Entry includes improvements over the earlier Quick Entry feature in Dynamics NAV, such as:

- Moving to any Quick Entry field across the page, including moving in and out of editable parts such as list parts, by using a powerful combination of keys: **Enter**, **Shift+Enter** and **Shift+Ctrl+Enter**.
- Expanding a collapsed FastTab (field group) if the next Quick Entry field is in that group.
- Cycling from the last Quick Entry field to the first Quick Entry field on the page.

Tell us what you think

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New keyboard shortcuts

The tremendously popular list of keyboard shortcuts already available in the desktop experience of the Business Central October '18 release has been expanded with many additional combinations (examples include slim/wide page mode, show/hide fact box, add new item, and previous/next navigation). On top of that we have added an easily accessible list of keyboard shortcuts to the documentation page and made it easier for users to discover available shortcuts.

Autosave indicator

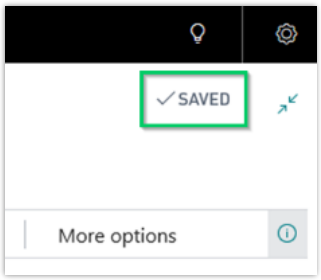
Current Business Central customers as well as customers of Dynamics NAV are very familiar with the concept of autosave common in our products. This is a very much loved and welcomed feature, but we heard from many of our customers moving from other ERP systems that they are not aware data is saved and secured in Business Central—even without explicitly using any save function. It is for those customers that we have built a smart autosave indicator showing when the data is being saved for them.

Business value

This new element indicates directly the state of card or document data being saved in the background and provides any user with a clear indication that the entered information is secure.

Autosave indicator appearance

The indicator is shown on the right side of the card on screen and changes values when the computer communicates with the server and saves the data. The indicator can display **Saving** or **Saved** depending on current state. In case a data validation error appears, it would also display **Not saved**. An example of the indicator in action can be seen below:



The new Autosave indicator in Business Central

Tell us what you think

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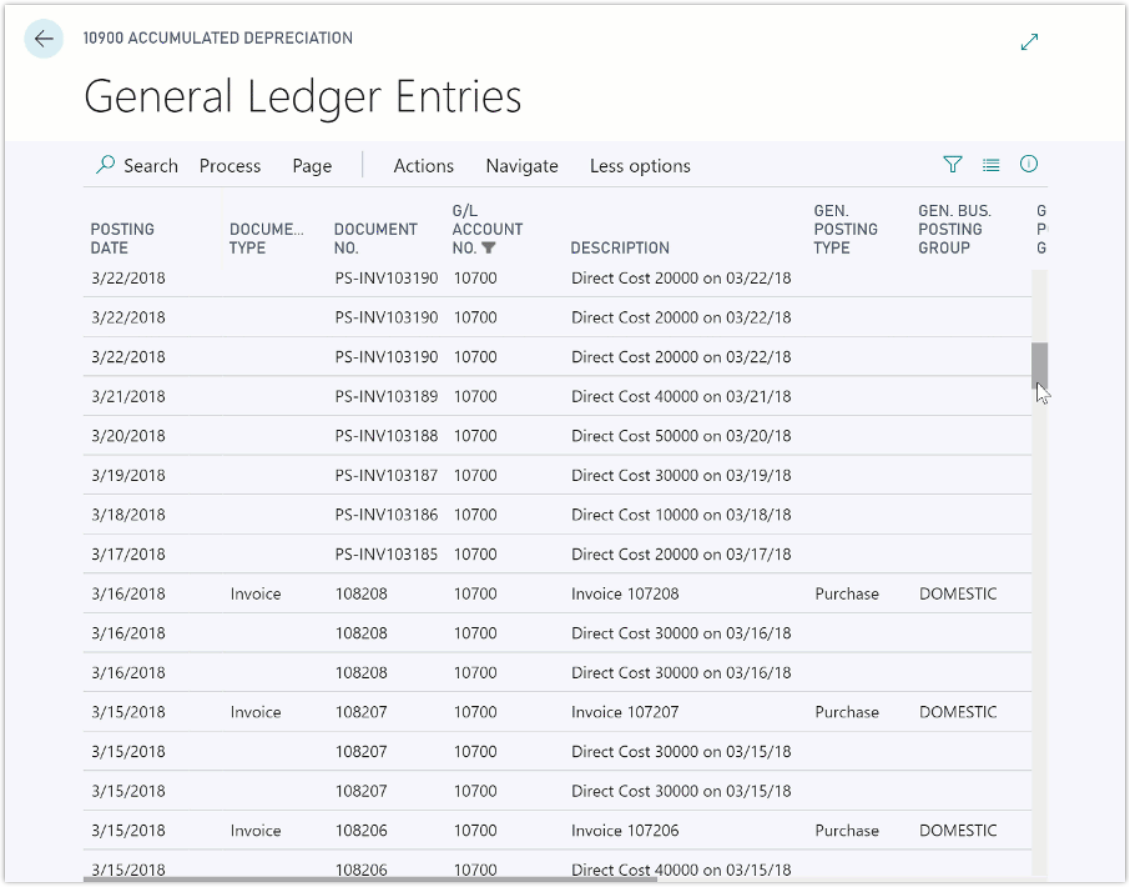
Improvements to scrolling in lists

Work efficiently in lists in Dynamics 365 Business Central with improved grid performance, scrolling, and keyboard navigation.

Back-office information workers spend significant time working with lists: analyzing trends and anomalies or entering and modifying data. As the business database grows, the experience must remain performant and enable users to continue working efficiently.

Improved scrolling and load time

We've rewritten how rows are displayed in a list and how they fetch data, improving the initial display time as well as the snappiness of navigating across cells. Users can now scroll unhindered to any position in the list using the keyboard or scroll bar, without ever pausing at the "fetching more rows" message. The scrolling experience is seamless when scrolling at a pace where rows can be comfortably read. Rows are always loaded on demand to ensure that larger lists do not degrade the experience.



POSTING DATE	DOCUME... TYPE	DOCUMENT NO.	G/L ACCOUNT NO.	DESCRIPTION	GEN. POSTING TYPE	GEN. BUS. POSTING GROUP	G P G
3/22/2018		PS-INV103190	10700	Direct Cost 20000 on 03/22/18			
3/22/2018		PS-INV103190	10700	Direct Cost 20000 on 03/22/18			
3/22/2018		PS-INV103190	10700	Direct Cost 20000 on 03/22/18			
3/21/2018		PS-INV103189	10700	Direct Cost 40000 on 03/21/18			
3/20/2018		PS-INV103188	10700	Direct Cost 50000 on 03/20/18			
3/19/2018		PS-INV103187	10700	Direct Cost 30000 on 03/19/18			
3/18/2018		PS-INV103186	10700	Direct Cost 10000 on 03/18/18			
3/17/2018		PS-INV103185	10700	Direct Cost 20000 on 03/17/18			
3/16/2018	Invoice	108208	10700	Invoice 107208	Purchase	DOMESTIC	
3/16/2018		108208	10700	Direct Cost 30000 on 03/16/18			
3/16/2018		108208	10700	Direct Cost 30000 on 03/16/18			
3/15/2018	Invoice	108207	10700	Invoice 107207	Purchase	DOMESTIC	
3/15/2018		108207	10700	Direct Cost 30000 on 03/15/18			
3/15/2018		108207	10700	Direct Cost 30000 on 03/15/18			
3/15/2018	Invoice	108206	10700	Invoice 107206	Purchase	DOMESTIC	
3/15/2018		108206	10700	Direct Cost 40000 on 03/15/18			

Scrolling slowly and then quickly through a list

Improved keyboard navigation

Using the keyboard cursor keys to go up or down to the next row is snappy and you can also hold down the keys to navigate unhindered.

Tell us what you think

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Improved contextual search experience

We have improved the Tell me (Alt+Q) feature by allowing more flexible terms and surfacing results for partner solutions on AppSource. This allows users to seek help and easily extend Business Central with the many solutions that are available from the partner community.

Additional search terms

New users often use different business terms than those used to name the related entities in Business Central. For example, they may use "product" instead of "item" or "client" instead of "customer".

Developers can now add alternate search terms to pages and reports to make it easier for users to find what they are looking for. In the AdditionalSearchTermsML property on pages and reports, developers can add company-specific terms that users can then enter in the Tell me box to find the page or report in question.

Business Central is published with around 200 of such alternate search terms for selected pages and reports, such as "product" to find the Items page and "kit" to find the Assembly BOM page.

Improved all-product navigation

Finding the features in the product easily is essential for all users. So is getting an overview of what's in the product. For the April '19 update, we are making it easier to find functionality by providing a full overview of features in the product based on the content of RoleCenters. This makes it much easier for our customers to navigate and find the right features in the product while also giving an overview of RoleCenters and their content. As a supplement to using the current RoleCenters navigation bar, the command bar, or Tell-Me searches, this new overview brings the actions or modules you need and use closer to you so that you can stay focused and productive.

Personalization enhancements

We are giving our users the ability to personalize their workspaces even further. Business users can now personalize the Action Bar on every page, hiding or reordering actions to conveniently perform to the most common tasks. On top of that, users can personalize the Navigation Bar on Role Centers, which includes pinning any list.

Users can fine-tune Quick Entry and importance of fields on task pages such as documents and cards, and personalizing columns in lists has been streamlined to be more discoverable and accessible.

All personalizations in Business Central continue to roam with the user, no matter which device or browser they work on.

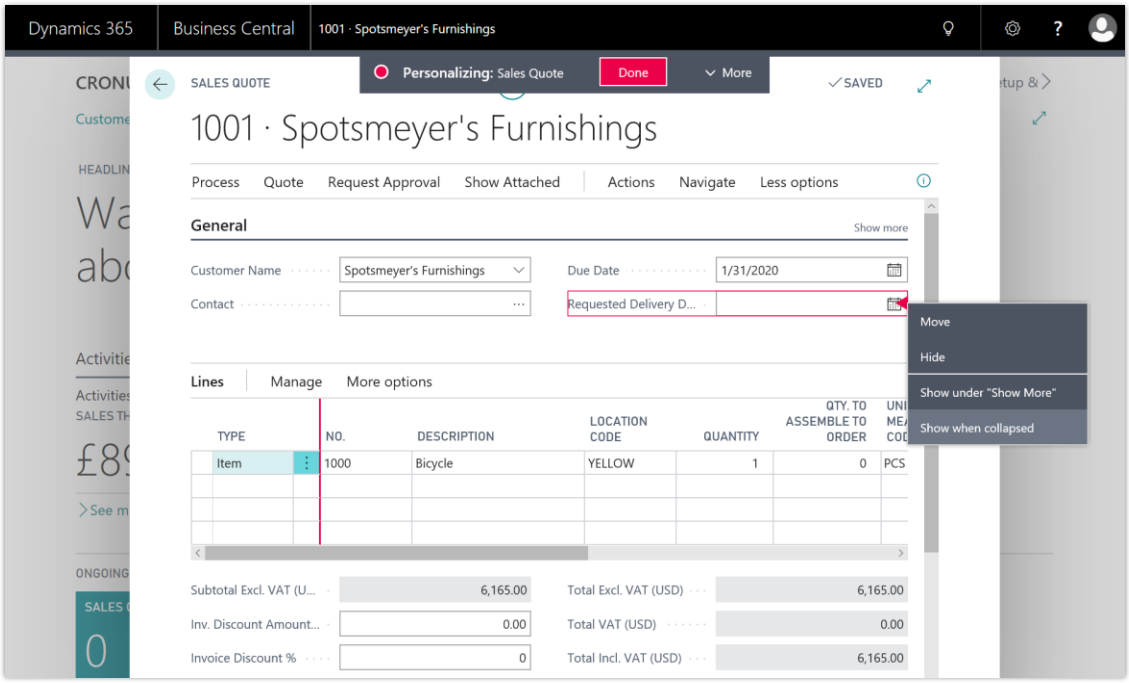
Optimize for data input with Quick Entry

Quick Entry is a productivity feature for desktop users that accelerates repetitive entry of records. When Enter is pressed on a field, the focus moves to the next editable Quick Entry field, skipping over other fields that are auto-filled or occasionally specified. On any page, users can personalize how fields behave and optimize for how they or their department typically works

when entering records. Simply use the personalization menu to include or exclude fields in Quick Entry.

Optimize readability by adjusting field importance

Some fields are needed only occasionally, while others are so important that business users need them visible at all times. Fields on card and document pages can now be personalized to adjust whether they are hidden until choosing **Show more** or are displayed in the FastTab summary when the FastTab is collapsed. Combined with the ability to move, hide, and show fields, this provides maximum flexibility to optimize each page for readability. Clicking a field in a FastTab summary will conveniently expand the FastTab and focus on that field.



Screenshot of a sales quote undergoing personalization where a field is being customized to show when its group is collapsed

Tell us what you think

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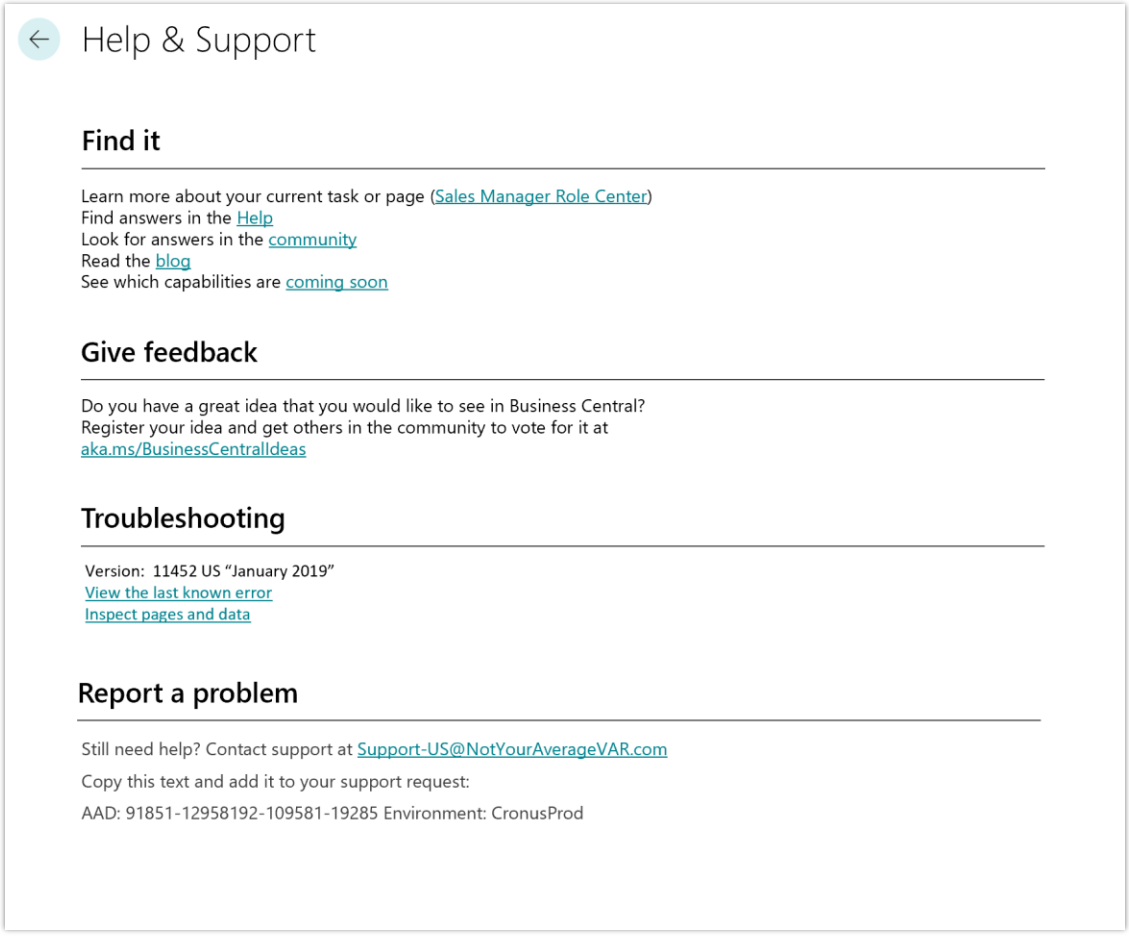
Simplified Help and Support experience

Get unblocked using the new unified Help and Support experience that brings together our breadth of tools and links when assistance is needed. Users will now find links to self-help content and documentation, commonly requested troubleshooting information to self-diagnose

or hand over to Support, seek advice from the community, or post new ideas. Administrators can configure a single support email address for the customer's organization, that allows any user to get in contact with their IT administrator or supporting partner to receive support.



Concept design for the new, in-app Help and Support screen showing a number of links for self-help, giving feedback, troubleshooting issues or contacting support

Page inspection

Troubleshooting errors in business data or feature configuration often requires an additional level of insight beyond what is shown on the page. Power users and support staff can now inspect any page or the page parts within a page, revealing the entire contents of the current record including fields that are not shown on the page.

Getting started

Start inspecting the page you are currently viewing in the desktop browser or Windows desktop app by choosing **Inspect** from the top menu or use the **Ctrl+Alt+F1** keyboard shortcut.

An evolution of the toolset

Unlike its predecessor in Microsoft Dynamics NAV, commonly known as "About this Page," page inspection is an immersive and highly interactive, point-and-click experience that conveniently displays information alongside your page without interrupting how you interact with the page itself. Apart from the improved clarity on precisely what you are inspecting, you can now view which extensions affect the page and/or underlying table, and learn which pages and fields were added by those extensions.

Feature highlights

Depending on the page you are inspecting, some or all of the following is displayed:

- The page or page part name and identifier.
- The underlying table name and identifier.
- The entire set of table fields for the current record, including their caption, value, field identifier, primary key indicator, and which extension has introduced them.
- Which extensions extend the page or the underlying table.
- Which filters are currently applied to the table.

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Hardening the integration between Business Central and Dynamics 365 for Sales

As an increasing number of Business Central users use Dynamics 365 for Sales, the Business Central integration with Dynamics 365 for Sales has to deliver reliable synchronization, improved sales order integration, and shared AI insights with Dynamics 365 for Sales.

Business value

To avoid duplicated entry of data, data is synchronized between Business Central and Sales. When the synchronized data is changed in both Business Central and Sales, synchronization conflicts can occur. Sales people must be made aware of such conflicts and must be able to resolve them easily without involving the IT department or a partner.

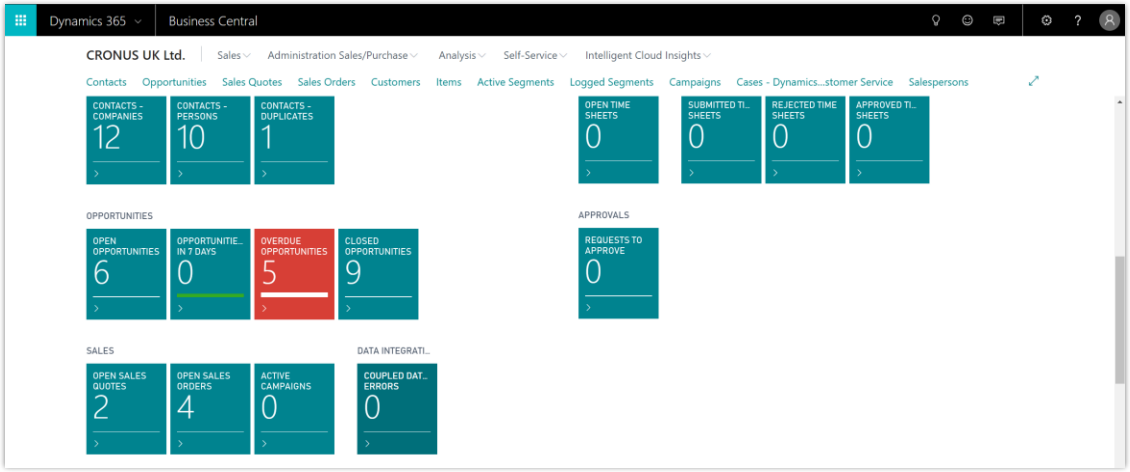
To enable work on the go, sales people must be able to work in a modern mobile app with a responsive user experience, both for Business Central and Sales.

During the fulfillment of sales orders, order processors may update prices, read notes entered by sales people, enter substitute items, or change expected shipment dates. It is important that such changes are available to sales people who work in Sales so that they can quickly notify customers.

Sharing AI-based insight generated from Business Central and Sales data helps sales people focus on the opportunities that are most likely to be closed and it reduces the risk with customers who are expected to be late with payments.

Self-service in resolving synchronization conflicts

Surfacing actionable synchronization issues on sales-related Role Centers, such as the Sales and Relationship Manager Role Center, enables sales people to decide how to resolve them, for example in bulk, because they are the owners of such data.



Synchronization conflicts tile

Open coupled Sales records from Business Central in Unified Interface

You can now open coupled Sales entities from Business Central in the new Unified Interface. If you have the Dynamics 365 Sales Hub app installed, you can select the **Open Coupled Entities in Dynamics 365 Sales Hub** check box on the **Connection Setup** page. This will open coupled Dynamics 365 for Sales entities in Unified Interface when you choose actions, such as **Accounts**, **Contacts**, and **Products**.

Sales order synchronization

Once a sales order has been submitted in Sales and created in Business Central, various changes can occur. Such changes can be synchronized back to Sales. You can now synchronize notes that your sales people make in Sales to Business Central.

Sales quotes synchronization

Once a sales quote has been activated in Sales, you can now pick it up and create it in Business Central. As various changes and revisions of quotes can occur, such changes are synchronized back to Sales.

Shared AI between Business Central and Sales

Sales people working in Business Central can consume intelligence generated by AI for Sales, and sales people working in Sales can consume intelligence generated by Business Central.

Tell us what you think

Help us improve Dynamics 365 Business Central by discussing ideas, providing suggestions, and giving feedback. Use the Business Central forum at https://aka.ms/businesscentralideas.

Enhancements for Application Lifecycle Management

The April'19 release for Business Central brings enhancements for how you can manage your customers' Business Central tenants.

Manage upgrade schedule

Visibility and control of the upgrading of your Business Central environments is improved with the April '19 release. Business Central tenants will now be scheduled for upgrade on a predetermined date, allowing users and admins to better plan for the upgrade. Admins will also have the option in the Business Central Admin Center to reschedule the upgrade for a different date, or select to have the environment upgraded immediately by choosing an *Upgrade now* action. The admins can also view errors in telemetry that may be causing the upgrade to fail.

Monitoring and notifications

Business Central admins can subscribe to receive notifications of more events happening in their environments. The admins can use the Business Central Admin Center to select recipients that should receive notifications for each of the different event types. The new event notifications include details about upcoming upgrades, upgrade schedules, upgrade results, and available extension upgrades. Admins can also use a new page in the Business Central Admin Center to view the list and details of all notifications.

Version previews

Release candidates of new application versions will be available in sandbox environments. Tenant administrators and ISVs can upgrade a sandbox environment to the new release candidate version, or create a new sandbox environment on the new version. This will allow administrators and ISVs to do testing, verify extension compatibility, and review new application

functionality in a sandbox environment prior to the upgrade happening in the production environment.

Multiple sandboxes

Sandbox environments are critical for successfully creating, testing, and upgrading extensions for Business Central. In many scenarios, there is the need to have more than one sandbox environment. In the April '19 release, admins will be able to create multiple sandbox environments for their tenant. Each sandbox is a different environment and can be modified, upgraded, and removed independently, without affecting the production environment.

Enhanced sandbox management

The April '19 release provides enhancements to the sandbox management experience in the Business Central Admin Center. The environment overview will display additional information about the sandbox environment and provide the ability to upgrade sandbox environments to preview versions of the application. The administrators can also upload and deploy per-tenant extensions to a sandbox just as they do with the production environment. The per-tenant extensions and AppSource apps that are deployed to a sandbox will also be upgraded in the same way they are upgraded in production, enabling the administrators to fully test the upgrade in a sandbox environment.

Enhanced extension management

Keeping per-tenant extensions and AppSource apps up to date and making sure they work with upcoming versions is critical. The April '19 release includes a number of features that help administrators with this task. The first is an automated service that validates per-tenant extensions against upcoming versions of the base application and notifies the admins/developers when an incompatibility is found. Notifications will also be sent to admins when a new version of an installed AppSource app is available. The administrator can then select to upgrade the app from the extension management page on their schedule.

Lifecycle Services (Preview)

Business Central ISVs can receive support for the lifecycle of their apps through Lifecycle Services (LCS). Lifecycle Services will be the portal for ISVs to perform full lifecycle management of their solutions, including deployment, upgrade, surfacing preview versions for early testing and evaluation, approval of VARs, monitoring, live site troubleshooting, and more.

Enhancements to the Intelligent Cloud for Dynamics SMB and Dynamics 365 Business Central

The April '19 release of Business Central adds a number of new business value opportunities in the intelligent cloud for our customers.

Dynamics SL 2018 and the intelligent cloud

With Dynamics SL 2018 CU1, existing customers can leverage the features and functionality that the Business Central Intelligent Cloud provides. Customer can replicate open transactional and master record data from their existing Dynamics SL 2018 on-premises solution to their Business Central cloud tenant. Once data replication is completed, the Dynamics SL data can be used in cloud services such as PowerApps, Microsoft Flow, Power BI, and Azure.

Dynamics GP 2018 R2 historical data available in the intelligent cloud

The April '19 release adds support for additional data from Dynamics GP 2018 R2 to be replicated to the Business Central intelligent cloud. The October '18 release introduced the availability for Dynamics GP 2018 R2 customers to replicate open transactional and master record data to their Business Central cloud tenant. We have heard your feedback, and beginning in with the April '19 release, historical data will also be supported in the data replication process.

Dynamics NAV 2018 and the intelligent cloud

To complete the data replication support for all Dynamics SMB products in the intelligent cloud, Dynamics NAV 2018 will be fully supported as part of the April '19 release for Business Central. Dynamics NAV 2018 customers can replicate virtually all on-premises tables to their Business Central cloud tenant, except for customized tables.

Improved data replication services

We are also hardening the data replication service and improve performance and telemetry of the same service.

SmartLists

We're adding SmartLists for simplified business intelligence within Business Central (online) and build a foundation for creating a SmartList Designer tool in a later release.

With SmartLists, users can view query information within Business Central (online) list pages that dynamically renders data on the page based on the query definition.

We expect the October '19 release to introduce the SmartList Designer that will enable users to create new queries or modify existing queries.

Designer enhancements for developers

The Designer accompanies Visual Studio Code and is a convenient way for developers to test and rapidly adjust visual content on page objects. We've enriched the Designer with some of the most requested features, including:

- The Designer no longer automatically adds dependencies to all deployed extensions on the test environment. When exiting the Designer, extensions upon which no dependency was taken are silently filtered out.
- Fine-tune field importance and Quick Entry.
- Adjust the Action Bar and Navigation Bar on your page by reordering, hiding or regrouping actions and lists respectively.
- Define variations of your lists by creating named views that include specific filters and sort order.

Designing Quick Entry

Quick Entry is a productivity feature for desktop users that accelerates repetitive entry of records. When the Enter key is pressed on a field, the focus moves to the next editable Quick Entry field or cell, skipping over other fields that are not always needed or are auto-filled. You can include or exclude fields from the Quick Entry path in the Designer using the menu on any field, and immediately test the outcome of your changes across the page. This is far more efficient than fine-tuning Quick Entry in Visual Studio Code.

Designing field importance

Some fields are only needed occasionally, while others are so important that business users need them visible at all times. Along with the ability to move, hide, and add fields, the Designer now also allows developers to fine-tune a field's Importance property in a highly visual and interactive way.

Tell us what you think

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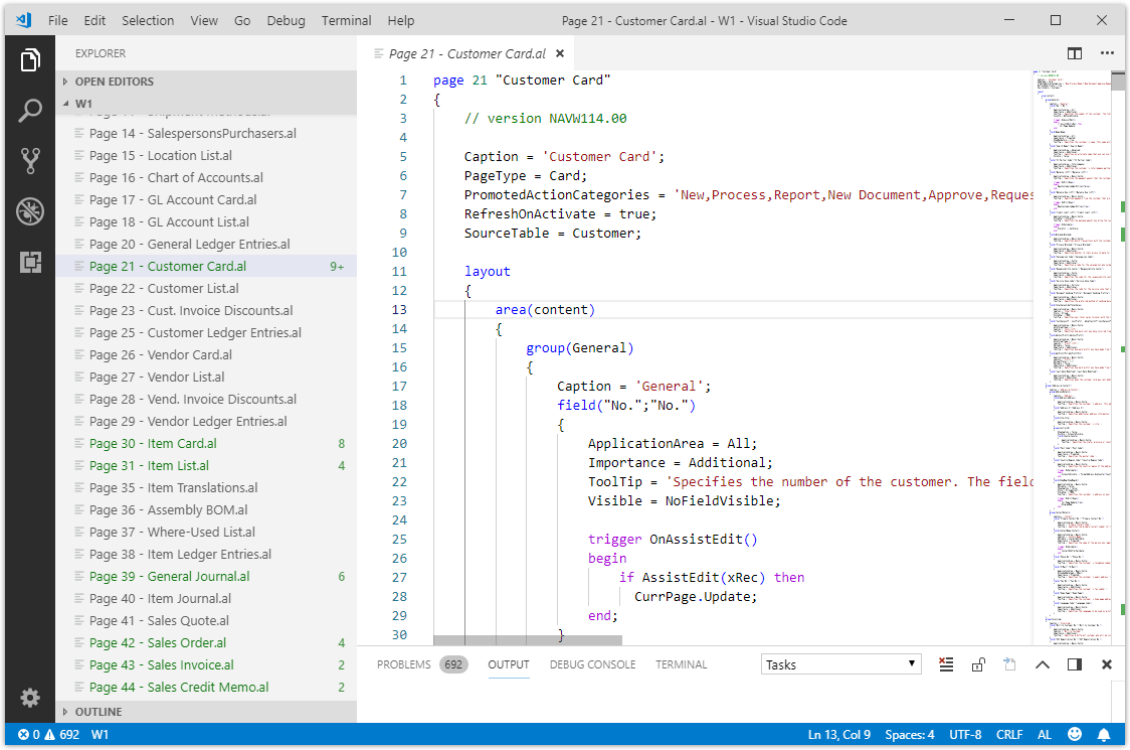
Visual Studio Code and AL

The April '19 release focuses on preparing to move the base application and country modifications from C/AL to AL, on optimizations for working with large projects (such as the base app on AL), as well as on additional productivity features addressing feedback from internal and external developers.

Application as an app

As shown at the Directions 2018 conferences in North America and EMEA, we are working on moving the base application and tests from C/AL to AL. We will be running these in parallel internally and are planning to ship these in preview mode on Docker images before or as part of the April '19 release. The April '19 release is based on C/AL and C/SIDE, and plans are on track to switch to AL and Visual Studio Code as the supported platform for new releases within 12-24 months from our October '18 release.



W1 application converted to AL

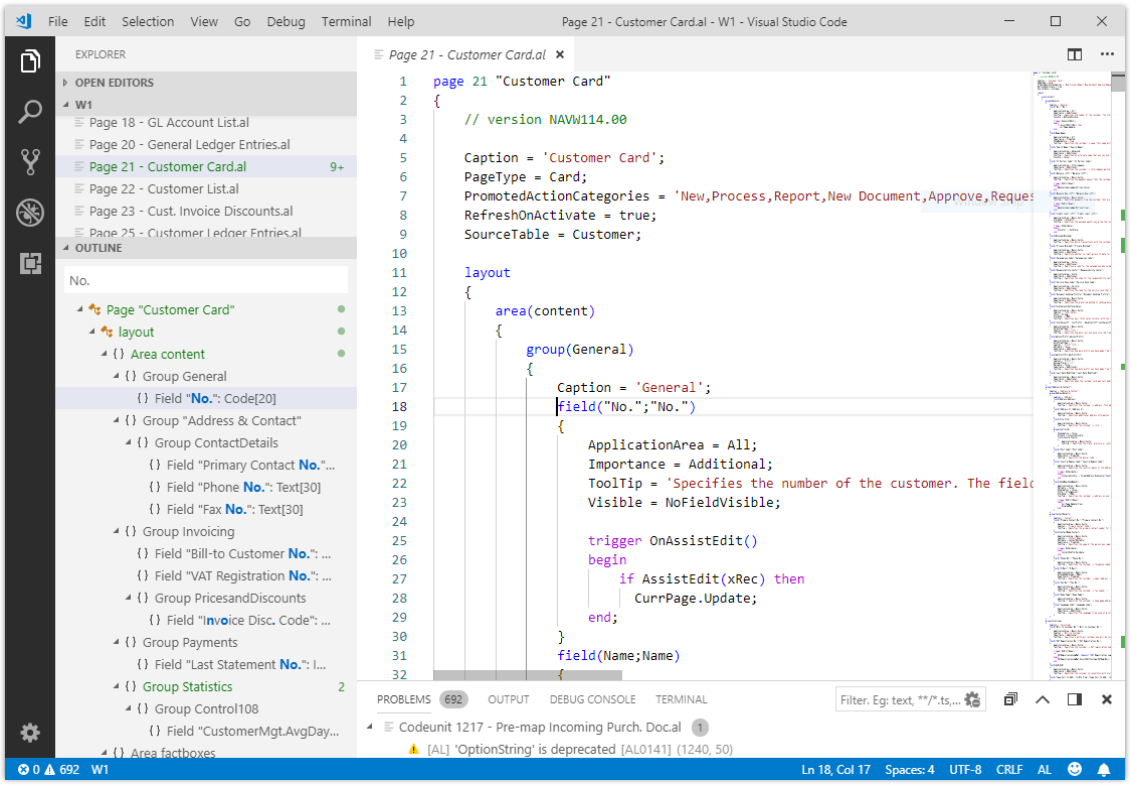
Supporting larger projects

In parallel to converting the base application to AL, we are focusing on optimizing the developer experience when working with large projects such as the base application. Some of the investments involve improving:

- Performance on the internal metadata repository used by compiler and IntelliSense.
- Load, compile, and build times for large projects.
- Working with project references.

Outline View

We are adding support for the standard Outline View in Visual Studio Code. This allows developers to get an overview of the symbol tree of the currently active editor and navigate to locations in code editor. There are different sort-by modes—you can find or filter on symbols as you type, and errors and warnings are also shown in Outline View, letting you see a problem's location at a glance.



Outline View

Designer no longer takes dependencies on all extensions

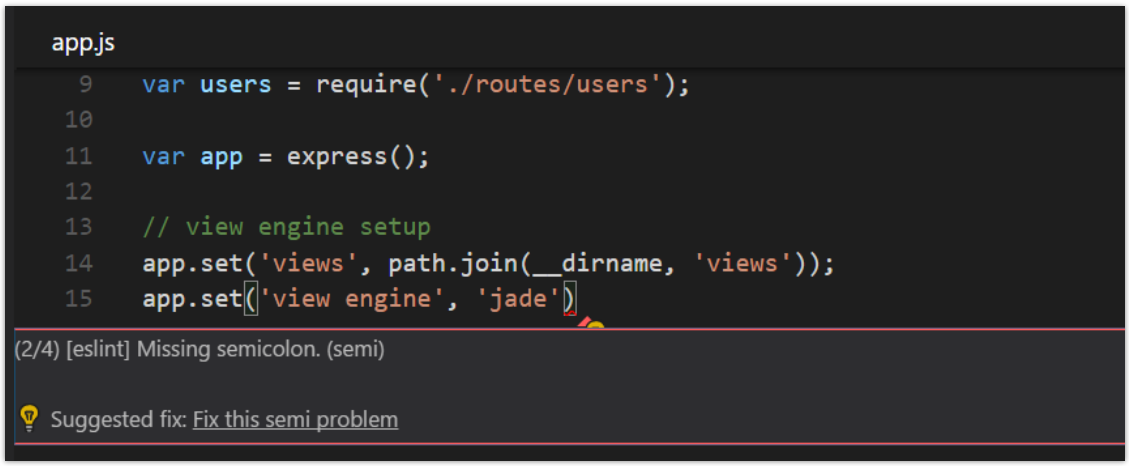
The In-Client Designer used to take dependencies on all the extensions installed. This is no longer the case—it only takes dependency on the extensions that are necessary, removing the need to edit these in Visual Studio Code after consultants or customers have used the Designer for small changes.

Debugging client sessions

Due to a gap from earlier versions, and responding to community requests, we are adding support for attaching to already running client sessions (for example, browser and web services) when debugging.

Code Actions support

Visual Studio Code has a framework, Code Actions, for quickly fixing errors or performing refactoring. We are adding support for this framework in AL projects, and will also be releasing some quick fixes for common problems.



Code Actions

Multiple objects ID ranges in app.json

With this release, you can now add multiple ID ranges in the app.json file to have the compiler issue warnings if IDs are outside of those ranges.

Extension IP

We are adding support for a protected visibility modifier and have also modified the runtime extension format to a binary format.

Standard web API

The standard web API is moving out of beta. The API has been in beta while evolving based on feedback from the partner community. This release integrates final improvements and several new entities in the API as version 1.0.

Developer improvements

- Developing APIs in AL using custom namespaces
- Open API Specification 3.x

Changes from beta to v1.0 APIs

- Deep entity nesting
- Simple keys
- Employee timesheet registration API

Business value

The standard web API exposes more than 48 entities, enabling loosely coupled integrations to Business Central. If you use the web API, you don't need development or deployment within Business Central. Key design objectives have been to provide APIs that do not require deep knowledge of Business Central and to provide a fixed versioned contract, which enables a standardized way to integrate across localizations and deployments of Business Central.

The standard API is enabled by default in Business Central online and can be enabled for on-premises deployments as well.

Developing APIs in AL

Extensions can expose APIs, which takes advantage of the API platform in Business Central. This means that custom APIs have the same capabilities as the standard APIs. This includes support for webhooks, OAS 3.0, OData v4, and versioning.

Developing APIs leverages *custom namespaces*—a way to segment APIs into groups. This requires the API to specify APIPublisher, APIGroup, and APIVersion properties.

```
page 50100 ApiPageExpenses
{
    PageType = API;
    Caption = 'apiPageName';
    APIPublisher = 'contoso';
    APIGroup = 'expenses';
    APIVersion = 'v2.0';
    EntityName = 'Receipt';
    EntitySetName = 'Receipts';
    SourceTable = ContosoReceipt;
    InsertAllowed = true;
    DeleteAllowed = true;
    layout
    {
        area(Content)
```

At deployment time, the example shown above causes routing tables to be updated, and with that exposes the endpoint in the specified namespace.

```
GET https://api.businesscentral.dynamics.com/v1.0/api/contoso/expenses/v2.0/companies(7d0b2f2d
-150e-4596-b064-e66f3491811c)/Receipts
```

Open API Specification 3.x

Business Central will provide support for generating OAS 3.0. OAS provides a common metadata format from which SDKs can be generated for most programming languages.

After April 2019, Business Central API documentation will also generate via OAS.

Deeper entity nesting

Due to limitations in Part Pages, it isn't possible to have an entity structure deeper than two levels. An example is:

```
/journal({id})/journalLine(id)
```

Having that limitation, for this specific example, makes **attachments** to **journalLines** cumbersome to use, as there is no way to address the resource directly:

```
/journal({id})/journalLine(id)/attachment(id)
```

Current beta implementations have **attachments** in the root.

Simple keys

Multipart/complex keys are making the APIs harder to use, as constructing requests can require several parameters. By April 2019, APIs will use simple keys.

Employee timesheet registration API

Employee timesheets will be enabled through the standard API. Timesheets within Business Central currently support employee time registration on resources. With current implementation, a resource can represent several machines and persons. By April 2019, using employee timesheet registration will require the resource to which time is registered to point to one employee.

Personas

End users, admins, customizers, citizen developers, developers

Status

Currently all APIs are in beta. By April 2019, v1.0 APIs will be published, containing improvements described above.

Availability

SaaS, on-premises

Tell us what you think

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Artificial intelligence

Overview of artificial intelligence (AI) capabilities in the April '19 release

The April '19 release delivers continued investments in AI capabilities that leverage the power of Microsoft AI research, tools, data, and the Power Platform to help organizations transform customer service, sales, and marketing functions.

AI for Sales enhancements

AI for Sales enables sellers to build relationships and increase revenue. AI for Sales provides actionable insights to drive personalized engagement and proactive decision-making. AI for Sales will now allow sales organizations to adapt the experience to their unique business needs. Organizations will be able to customize the experience, create and configure actions for the Relationship Assistant, and access it from Microsoft Teams. Additionally, managers will be able to customize and extend their AI for Sales reports. With predictive forecasting, managers will be able to leverage AI-based models to accurately predict their team's revenue.

The call intelligence capabilities surface customer sentiment, keywords, and conversational KPIs such as talk-to-listen ratio and speaking speed to sales managers. Using this data, sales managers can provide targeted coaching to their sellers and improve how they engage with customers.

AI for Customer Service enhancements

AI for Customer Service Insights will become generally available with the April '19 release, with key new functionality such as enabling data connection directly to Salesforce, Zendesk, and ServiceNow, combined analytics across human and virtual agents in a single dashboard, and more.

AI for Market Insights enhancements

AI for Market Insights will enable business users to gather actionable insights based on what consumers say, seek, and feel about their brands and products. The April '19 release will empower organizations to answer the important questions, beginning with suggesting related topics while creating searches. Data analytics will become more powerful and sophisticated by relating Bing search data with information found on social media. Additionally, alerts—an email service for daily or weekly updates—keeps users up-to-date on topics that matter to them.

Overview of Dynamics 365 AI for Sales April '19 release

Dynamics 365 AI for Sales helps organizations improve their sales force automation process, drive more revenue and ultimately become a best-in-class sales organization. In 2018, Dynamics 365 AI for Sales started the journey to bring sales organizations to the next level with AI-driven insights. In April '19, the journey will continue with best-in-class artificial intelligence for every sales organization, either embedded directly in Dynamics 365 for Sales or as a standalone offering. Our **embedded experience** is predominantly focused on driving sales execution to the next level. Dynamics 365 AI for Sales also enables sales managers to lead proactively throughout the entire sales cycle with the purpose-built **Sales Insights** application.

What's new and planned for Dynamics 365 AI for Sales

This topic lists features that are planned to release between April and September 2019. Previews for some features will start in February 2019.

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see Microsoft policy).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the International availability guide.

Dynamics 365 AI for Sales: embedded capabilities for sellers

Dynamics 365 AI for Sales further enriches existing Dynamics 365 for Sales functionality by infusing AI.

Relationship Assistant enhancements

The Relationship Assistant empowers sellers with actionable insights during every phase of the sales journey. Going forward, it will guide sellers by providing them with the next best action.

Feature	Release type	Date
Create and configure suggested actions for Relationship Assistant	Public Preview	April 2019
Access Relationship Assistant from Microsoft Teams	Public Preview	April 2019

Dynamics 365 AI for Sales: Sales Insights application for sales managers

Sales Insights is built so that any organization can use new AI capabilities. The application is focused on providing the insights that sales managers need to improve their business.

Pipeline and team management

Dynamics 365 AI for Sales provides interactive reports that include key performance indicators (KPIs) for pipeline and deals. On top of KPIs and reports, AI for Sales gives sales managers AI-driven insights and actions to take.

Feature	Release type	Date
KPIs, visuals and reports	General Availability	July 2019
Customization and extension options for AI for Sales reports	Public Preview	July 2019
Improved search experience	Public Preview	July 2019
Predictive forecasting	Public Preview	July 2019

Call Intelligence

The call intelligence capabilities enable smarter coaching to boost sales conversion rates. By connecting call center telephony recording systems to the app, call center managers can generate conversation insights that help them better understand how sellers are engaging with customers.

Feature	Release type	Date
Enrich existing call intelligence functionality and user experience	Public Preview	July 2019

Dynamics 365 AI for Sales: embedded capabilities for sellers

Relationship Assistant enhancements

Currently, Relationship Assistant provides sellers with contextual, embedded insights from Dynamics 365 for Sales that reveal the next best step to move each customer relationship forward. It suggests new records to create, such as contacts and activities, or deadlines that were

missed. Through contextual and embedded insights, Relationship Assistant helps sellers find information before they reach out to their customers. This helps them be better informed and not miss anything pertinent. Going forward, these capabilities will be more extensible to fit every business need.

Create and configure suggested actions Relationship Assistant (Public Preview)

With the April 2019 release, admins can create their own suggested actions easily and directly from the Relationship Assistant settings experience. They can use events and conditions to customize the circumstances on when the suggestion is created. This capability gives organizations the flexibility to push information into the seller's workflow, helping them close deals faster.

Access Relationship Assistant from Microsoft Teams (Public Preview)

Today's sellers require constant connection to the latest business insights and the ability to make decisions swiftly to achieve their goals. Relationship Assistant meets modern sellers' needs by delivering insights contextually across multiple devices. In the April '19 release, Relationship Assistant will become available inside Microsoft Teams and integrated with the existing bot experience.

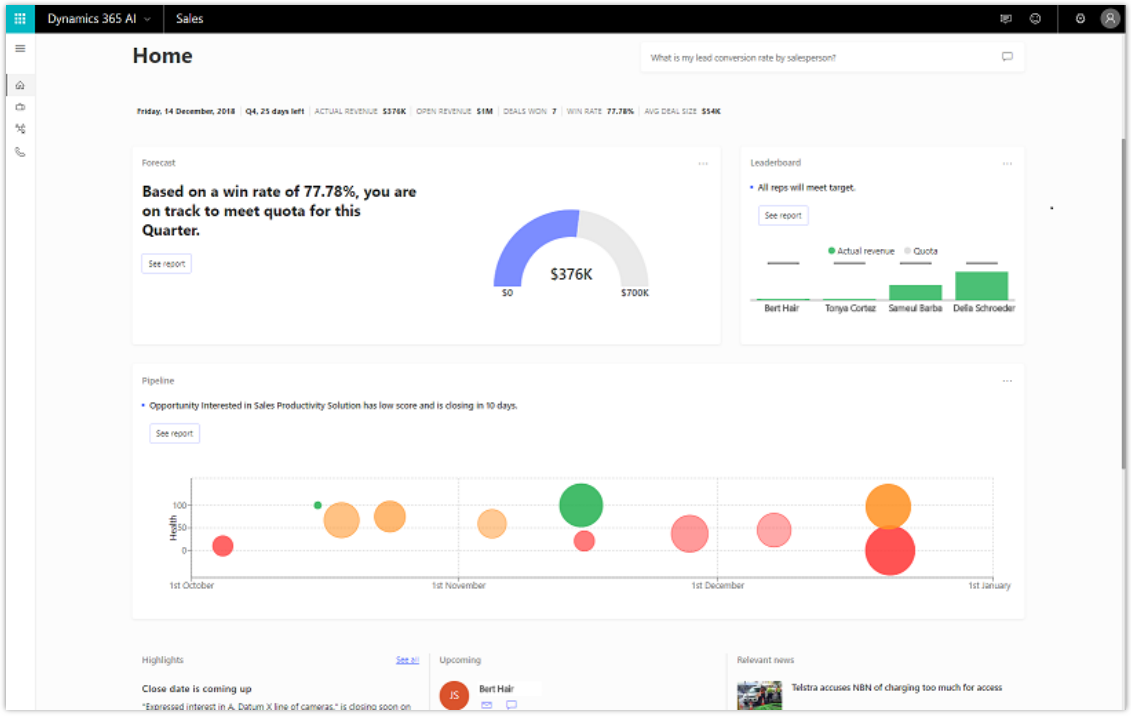
Dynamics 365 AI for Sales: Sales Insights application for sales managers

Pipeline and team management

Dynamics 365 AI for Sales provides interactive reports that include key performance indicators (KPIs) for pipeline and deals. On top of KPIs and reports, AI for Sales gives sales managers AI-driven insights and actions to take.

KPIs, visuals, and reports generally available

In fall 2018, we released a preview of the Sales Insights application, which provides sales managers with interactive reports that include key performance indicators (KPIs) to help monitor and manage pipeline and deals. They can drill down into individual reports and analyze their team's behavior. The *Highlights* section shows relevant deal insights and customer news, providing managers with the information they need to run their business. If something is not available as a chart, sales managers can use natural language to query it with embedded Q&A.



Dynamics 365 AI for Sales: standalone experience homepage

Customization and extension options for AI for Sales reports

Using the prebuilt reports, sales managers get an overview of how their team is performing. They see visualizations that showcase quota attainment and where seller's time is being spent. They also get insights on what the data represents and non-obvious trends. To enable every sales manager to get the exact information they need, Dynamics 365 AI for Sales will now allow sales managers to make customizations and even host their own Power BI reports. This will enable sales managers to see everything in one place.

Improved search experience

Sales managers can find the information and insights they are looking for more quickly with improvements to the search experience within the standalone experience for sales managers. Answers to most common and important questions are provided through curated results that help sales managers quickly open and filter interactive reports including the best key performance indicators to answer their questions.

Additionally, for less common questions, the best available data that might help sales managers get to the insight they are looking for can be automatically located and visualized. To help sales managers understand the best questions to ask, the search experience also provides improved auto-complete and a comprehensive library of recommended questions.

Predictive forecasting

By removing the manual and error-prone steps from the forecasting process, sales managers will be able to leverage AI-based models to accurately predict their team's revenue at the end of each period. They'll be able to visualize these predictions against quotas to identify opportunities for coaching and course correction. Predictive forecasting will allow managers to deliver even more accurate forecasts and focus on the right deals.

Call Intelligence

The call intelligence capabilities enable smarter coaching to help boost sales conversion rates. By connecting call center telephony recording systems to the app, call center managers can generate conversation insights that help them better understand how sellers are engaging with customers.

Enrich existing call intelligence functionality and user experience

In fall 2018, the call intelligence product capability enabled inside sales managers to generate call insights and increase the output of their reps. In the April '19 release we plan to provide additional functionality and an enhanced user experience.

Overview of Dynamics 365 AI for Customer Service April '19 release

Dynamics 365 AI for Customer Service focuses on digitally transforming customer care at scale through the power of artificial intelligence (AI).

The April '19 release marks a major milestone: AI for Customer Service Insights is now generally available.

Dynamics 365 AI for Customer Service Insights gives you an actionable view into critical performance metrics, operational data, and emerging trends for your customer service organization. Built-in dashboards, interactive charts, and visual filters provide insights into support operations across channels, automatically highlighting areas for improvement with the greatest impact on customer satisfaction levels.

AI for Customer Service Insights uses AI technology to detect emerging support topics as they arise, allowing you to proactively deliver better customer service experiences. The AI-driven technology enables targeted actions to improve resolution rates, reduce wait times, and decrease customer service costs.

What's new and planned for Dynamics 365 AI for Customer Service

This topic lists features that are planned to release between April and September 2019. Previews for some features will start in February 2019.

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see Microsoft policy).

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Dynamics 365 AI for Customer Service Insights

Feature	Release type	Date
Artificial intelligence (AI) continuously improves topic clustering based on human feedback	General Availability	April 2019
Agent overview, escalated cases, and SLA compliance dashboards	General Availability	June 2019

Feature	Release type	Date
Bring your data from Salesforce, Zendesk, ServiceNow or other data sources	General Availability	July 2019
Embed AI for Customer Service Insights within the Dynamics 365 for Customer Service experience	General Availability	August 2019
Personalize the AI for Customer Service Insights experience	General Availability	August 2019
Share insights and workspaces with co-workers	General Availability	April 2019
Generate insights from support data stored in custom entities and fields	General Availability	April 2019
Export data to Azure Data Lake v2 for further analysis	General Availability	September 2019
Set up organizational workspaces	General Availability	April 2019

Overview of AI for Customer Service Insights April '19 release

Dynamics 365 AI for Customer Service Insights gives you an actionable view into critical performance metrics, operational data, and emerging trends for your customer service organization. Built-in dashboards, interactive charts, and visual filters provide insights into support operations across channels, automatically highlighting areas for improvement with the greatest impact on customer satisfaction levels.

AI for Customer Service Insights uses AI technology to detect emerging support topics as they arise, allowing you to proactively deliver better customer service experiences. The AI-driven technology enables targeted actions to improve resolution rates, reduce wait times, and decrease customer service costs.

Starting with the April '19 release, Dynamics 365 AI for Customer Service Insights is now generally available.

Key new functionality added since the preview includes:

- **Artificial Intelligence (AI) continuously improves support topic clustering based on human feedback**: Users can improve the AI topic clustering by providing input to the AI model. They are now able to rename topics, combine them, separate them or control cluster granularity to tailor the AI model to their business.

- **Bring your data from Salesforce, Zendesk, ServiceNow or other data sources**: Users can take advantage of Dynamics 365 AI for Customer Service Insights by connecting directly to Salesforce, Zendesk, and ServiceNow case data. Other case management systems can be connected through ETL into Common Data Service for Apps.
- **Get Insights directly from Dynamics 365 for Customer Service**: Users can access AI for Customer Service Insights directly within the Dynamics 365 for Customer Service application through embedded Insights dashboards. There is no need to switch context.
- **Ready for organizations of all sizes**: AI for Customer Service Insights now supports collaboration and other enterprise capabilities such as sharing dashboards, using custom entities or fields, and setting up tenant-wide workspaces. The service is now deployed in more regions.

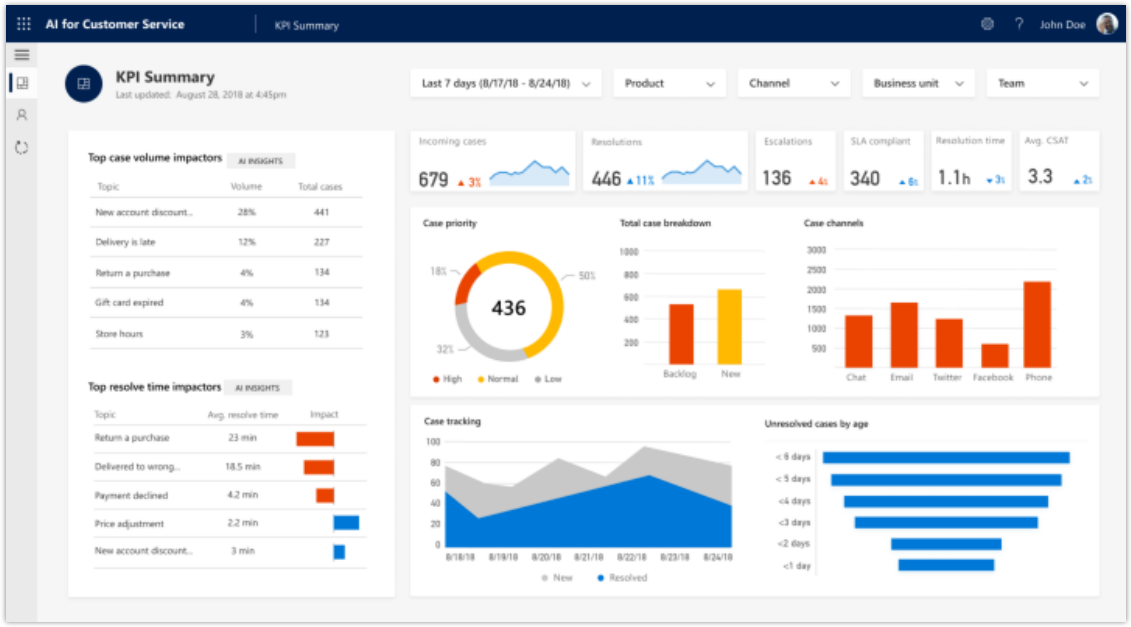
Artificial intelligence (AI) continuously improves topic clustering based on human feedback

Users can improve the results of topic clustering by managing the generated topics. AI models learn from feedback to improve topic clustering and personalize topic generation over time. A variety of new capabilities are available to help improve topic clustering:

- Generated topics are kept stable over time to ensure that users can correlate them over time.
- Users can rename topics to suit their business requirements.
- Users can provide quick feedback on cases within a topic to indicate which cases should or shouldn't be included in the topic.
- Users can combine or split generated topics to achieve the desired granularity.
- Users can control the overall granularity of topic generation.

Agent overview, escalated cases, and SLA compliance dashboards

In addition to the existing dashboards for KPI summary, incoming cases, case resolutions, and customer satisfaction available since public preview, users can get contextual insights into agent performance, escalated cases, and service level agreement (SLA) compliance.



The KPI summary dashboard gives you a snapshot of key performance indicators for measuring customer service

- The agent overview dashboard gives visibility into agent performance such as average resolution times, customer satisfaction (CSAT), SLA compliance, and response times. You can get AI-driven insights across multiple channels, highlight the areas of strengths and performance impact, and identify opportunities for training and improvement.
- The escalated cases dashboard provides AI-driven insights into the common trends and patterns among customer case escalations. You can identify emerging topics in escalated cases, letting you proactively address problems before they have a wide impact. A set of out-of-the-box metrics, charts, and historical comparisons help you visualize and assess the impact of escalations on customer service performance.
- The SLA compliance dashboard helps users understand how well their customer service team is meeting SLA obligations. AI-driven insights along with out-of-the-box metrics, charts, and historical comparisons help assess SLA compliance levels, identify trends, and highlight common topics that result in SLA breaches.

Bring your data from Salesforce, Zendesk, ServiceNow, or other data sources

To use AI for Customer Service Insights with data in Salesforce, Zendesk, ServiceNow, or other data sources, you can currently map the data to the Common Data Model and import it within Common Data Service for Apps.

With the April '19 and future releases:

- AI for Customer Service Insights understands the source schema for Salesforce, Zendesk, and ServiceNow data, and converts it into the Common Data Model automatically without manual input.
- The newly supported data sources can be imported into any new or existing workspace and are refreshed daily.
- Salesforce support is available starting in August 2019.
- Zendesk and ServiceNow support is available starting in September 2019.
- Users can continue to use Common Data Service for Apps to get insights on other data sources.

Embed AI for Customer Service Insights within the Dynamics 365 for Customer Service experience

AI for Customer Service Insights can be embedded within Dynamics 365 for Customer Service experiences, letting you get insights in context. AI for Customer Service Insights can be embedded within the Unified Interface on the web or the Unified Service Desk client. You can select the set of dashboards from AI for Customer Service Insights that you want to embed.

Personalize the AI for Customer Service Insights experience

Customer service managers can now focus on the areas that they care most about by personalizing their experience. You can set default filters once and they will be consistently applied to all dashboards across sessions.

Share insights and workspaces with co-workers

Insights can be shared across the organization by inviting others to access your workspaces.

- Allow invited users to view all the data within the workspace, or limit access based on rules.
- Control invited users' permissions, contributor or reader, for access.
- Users that are allowed to contribute can manage topics in the workspace.

Generate insights from data stored in custom entities and fields

While AI for Customer Service Insights works out of the box with data stored in the Common Data Model, or default Dynamics 365 entities and data fields, the data mapping wizard also allows importing data from custom entities and fields.

- Users can map their custom entities and fields to the AI for Customer Service Insights schema.
- The wizard lets you filter the data being imported based on time or other properties.

Export data to Azure Data Lake v2 for further analysis

In addition to what AI for Customer Service Insights provides out of the box, you may require further analysis or correlating with other data. With the April '19 release, you can export data from AI for Customer Service Insights to your own Azure Data Lake v2 storage. The exported data is based on the Common Data Model, which provides a consistent schema and contains both AI-generated topics and business intelligence (BI) aggregated data.

Set up organizational workspaces

Use the admin experience to create organizational workspaces and grant specific privileges to users. Organizational workspaces provide a more holistic and consistent view to all users, and reduce the load on a Dynamics 365 instance by consolidating data pulls. The tenant admins get a central view to review and manage all the workspaces in the organization. In addition, with support for more geographies, customer data now remains in the region of their choice.

Overview of Dynamics 365 AI for Market Insights April '19 release

Business transformation occurs when organizations make better decisions and drive efficiency through data-driven insights. Dynamics 365 AI for Market Insights enables business professionals to gather actionable insights based on what consumers **say, seek and feel** about their brands and products. With these actionable insights, customers can stay on top of the emerging trends in their market and react quickly to them. Through AI-powered insights on social signals and Microsoft's unique web and search data, Market Insights provides a comprehensive and accurate understanding of consumer sentiment, search trends, audience interests, and product feedback, keeping customers regularly updated with relevant news stories and search and social insights.

The April '19 release of Dynamics 365 AI for Market Insights empowers customers to answer the following questions, beginning with **suggesting relevant topics** (companies, brands, products, entities—existing and emerging) they should be monitoring to get relevant insights.

Industry insights:

- What **trends are emerging** in their market that they should be paying close attention to?
- Who and what are the **top and emerging influencers** (people and web destinations) used by these consumer groups for doing their research on their products?
- What are the **relevant news stories and social insights** on their monitored topics?

Competition insights:

- How is search and social **interest** trending on their products **compared to competitors**?
- What is the **sentiment** on their products **compared to competitors** in the web and on social media?

Consumer insights:

- What **issues sought or spoken of** on their consumer products online should they address?
- What **consumer groups and segments are most and least interested** in their brand, product or topic of research, or that of their competitor?
- What is the **impact of their product marketing activities** (for example, product promotions, pricing, and launches) on consumer interest online (search and social buzz, influencer blogs, and so on)?

What's new and planned for AI for Market Insights

This topic lists features that are planned to release between April and September 2019. Previews for some features will start in February 2019.

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see Microsoft policy).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the International availability guide.

Feature	Release type	Date
AI assisted query builder	Public Preview	April 2019
Bing web search analytics	Public Preview	April 2019
Conversation analytics	Public Preview	April 2019
Daily or weekly alert notifications	Public Preview	April 2019
Geographic expansion	Public Preview	April 2019

AI assisted query builder

To get relevant market insights, it is extremely important to ensure that search rules are set up correctly to provide insights on brands, products, and topics that are very relevant and precise to the user's needs. Currently, it can be difficult for users to get the configuration of search rules correct on the first run because it typically takes weeks of iterations before the rules are refined to the level of precision required.

A few reasons make this difficult:

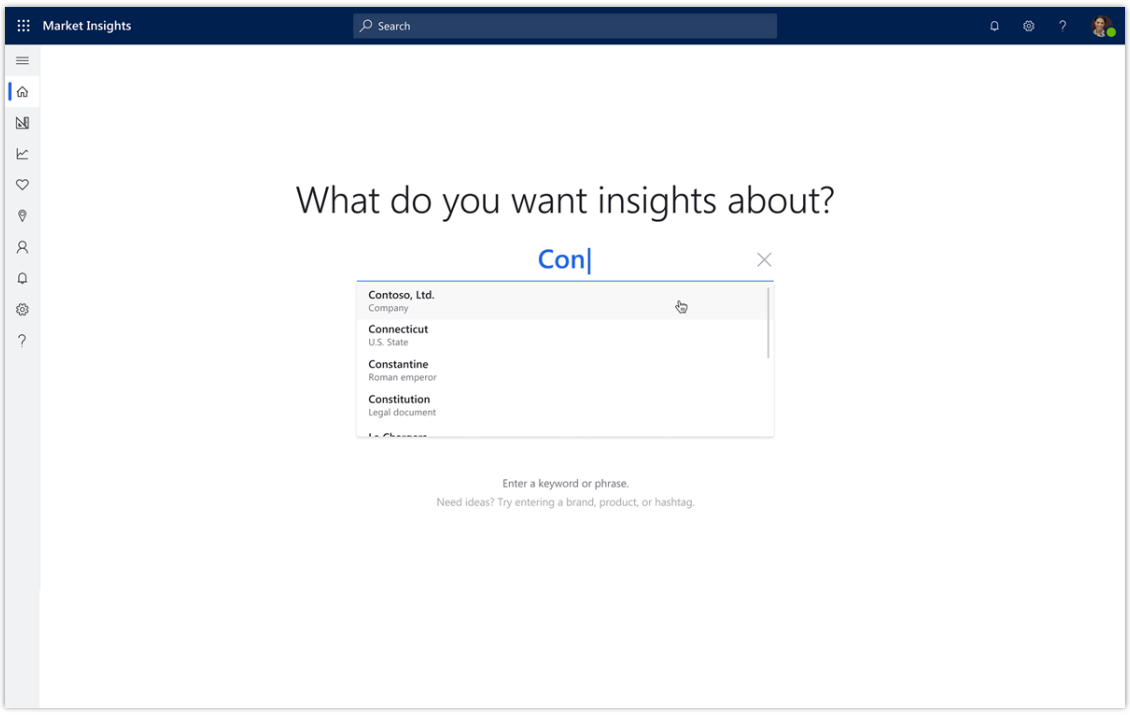
- Consumers search for and mention brands in many ways (for example, Chevy for Chevrolet, FB for Facebook).
- Brand names can conflict and refer to entities in more than one industry (for example, Dove is a soap and a chocolate brand).

- Users often want to exclude specific entities from their topics (for example, a user might want to track trends on “Nike Air Jordan 1” but not the “High Zip” model).
- Users can’t always anticipate what related topics are worth monitoring (for example, consumers who searched for Nike Air searched for what else?).

As a result, the relevance and cost of generating insights heavily depend on cutting out the noise and getting your search set up right.

Our AI-powered assisted query builder solves this core problem. As users start typing their search term, they will be presented with suggested terms most relevant to them. For example, if a user types “Eagle,” they can choose from “American Eagle” (the clothing brand), “Eagles” (the music band), “Philadelphia Eagles” (the football team), and more. By providing users with a highly relevant list of brands, products, and entities to select, the assisted query builder helps to reduce the cognitive load of search setup so that they spend less time setting up their searches and more time acting on the insights.

The following sample screen shows the experience when a user starts typing “Con”. Selecting “Contoso Ltd.” would make the results relevant and exclude other “Con”-related noise.



Search results when entering a search term

Bing web search analytics

This feature provides users with insights on search query trends and age and gender demographics from Microsoft proprietary search signals.

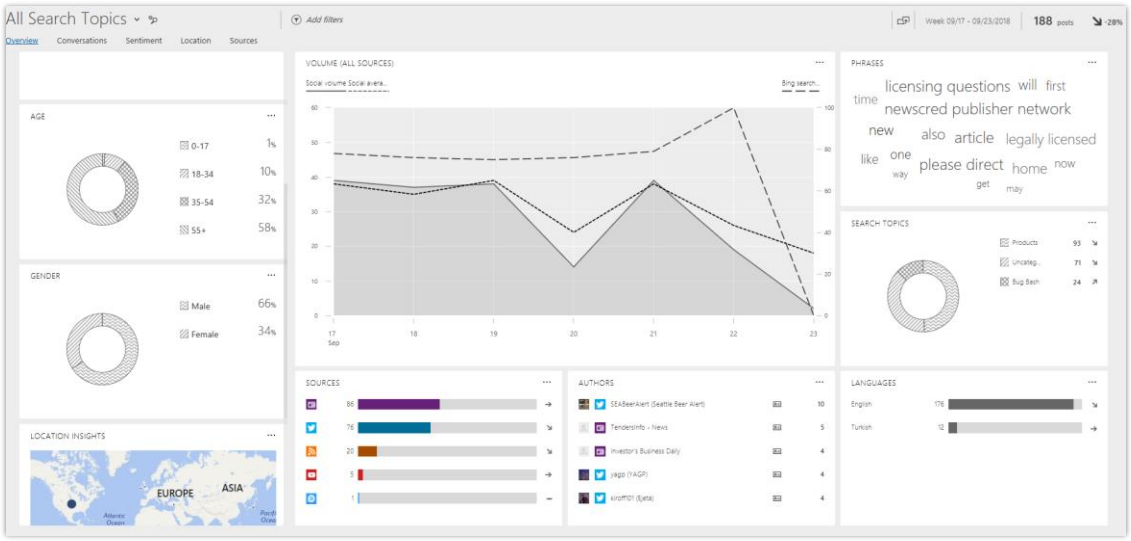
Marketers can leverage search trends (in addition to social insights) for **understanding the trends in the market** to predict demand for their product and monitor their brand awareness. In addition, they can also leverage age and gender insights for improved targeting and gaining new users.

Bing search trend: The volume widget gets additional data points on the Bing search volume for the keywords in the search topic. Users can change the timeframe to see the search volume change over the specified period.

Age: This provides a breakdown of age groups that represent consumers who have searched Bing for the keywords in the search topic. The age groups are represented as 0-17, 18-34, 35-54, 55+.

Gender: This shows the gender of consumers who have searched Bing for the keywords in the search topic.

Geography: These insights are supported for the United States, the United Kingdom, Australia, Canada (English and French), France, Germany, the Netherlands, Brazil, Austria, Belgium, Norway, Sweden, Switzerland, Hong Kong SAR, India, and Taiwan.



A screenshot showing demographics breakdown from search

Conversation analytics

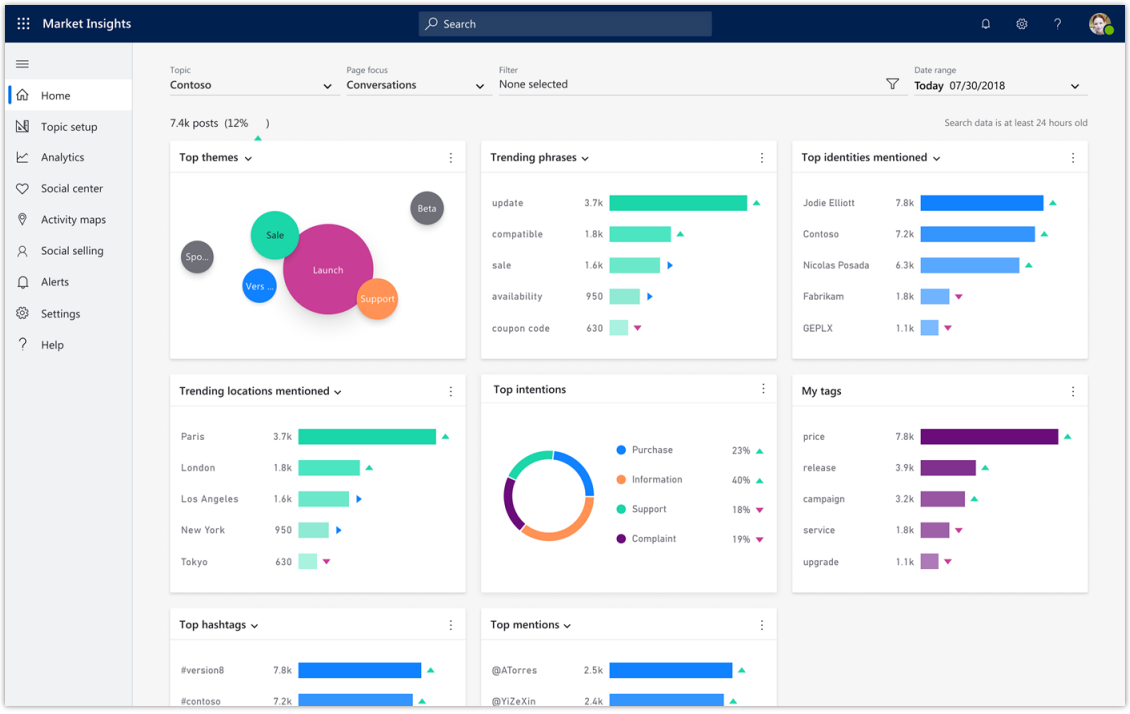
Understanding what people **say, seek, and feel** is at the core of this offering. By leveraging AI and Natural Language Processing (NLP) technologies, this feature eliminates the noise from online media and distills the key insights for marketing planning, execution, and measurement activities.

Marketing professionals can identify themes for planning and measuring **marketing message effectiveness**. They can use entity recognition capabilities to identify key locations, people, and organizations mentioned for potential new market opportunities.

Themes identification: By using AI and NLP techniques, this feature identifies the top themes or categories of the conversations discussed online that match your search topic. You can use these insights to validate your marketing message identification and measurements.

Entity extraction: This feature uses AI techniques and Microsoft's proprietary knowledge graph to identify people, organizations, locations, and hashtags mentioned online in the context of your search topics. For example, these insights can be used for promotion, bundling, or partnership strategies.

Phrase cloud improvements: Using advanced clustering models, this feature improves the quality of phrases shown in the tag cloud. This helps you identify relevant keywords that can be used for SEO, SEM, and social creative optimizations.



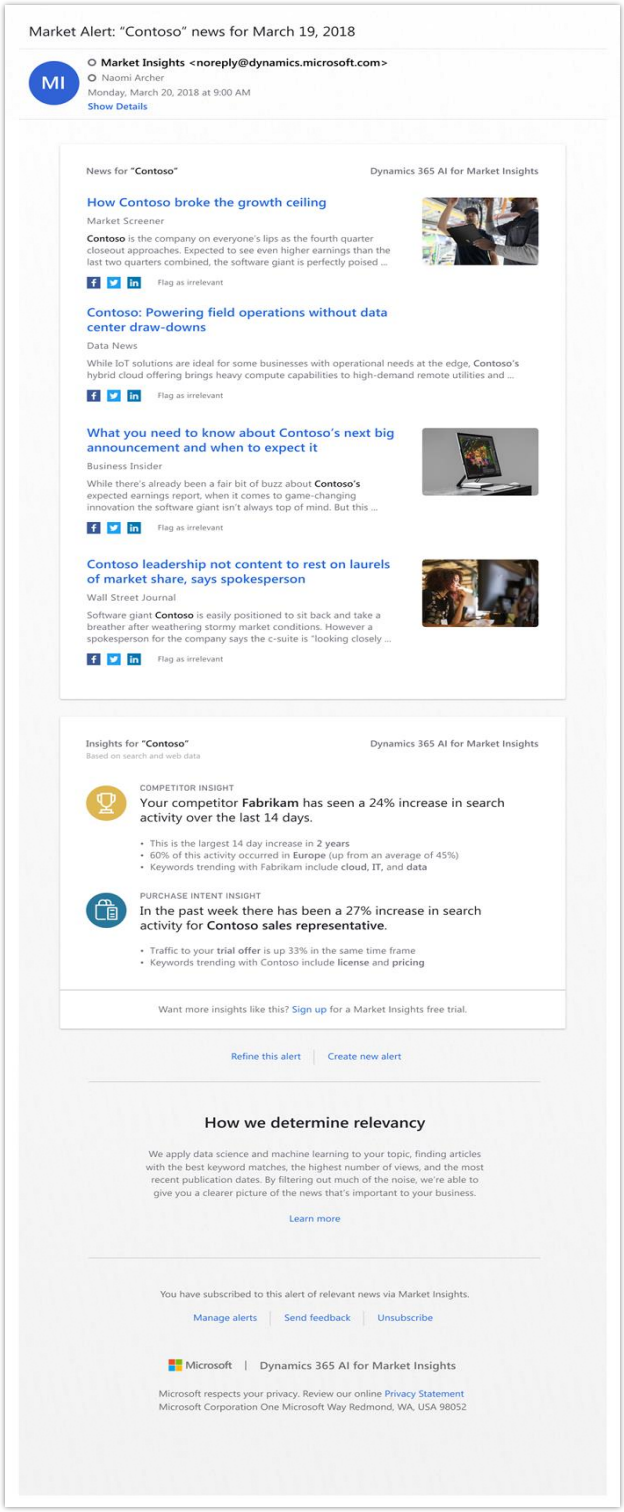
Sample screenshot of the Conversations page

Alerts

Alerts is a service through which users can monitor the web for topics of their interest. Users can create an alert simply by typing in a topic they want to monitor and providing their email address. The alert is sent in the form of an email and will contain relevant news and key insights based on online searches and web activity. These could be new emerging competitors, customer issues, PR issues, things likely to go viral, increasing interest in specific products from customers, and more.

This service is the eyes and ears of business professionals to stay better informed about what's happening in the online landscape related to their monitored topics, so they can rest assured that critical information related to their topics is delivered directly to their inbox.

Users can customize the alert frequency (daily or weekly) as well as other preferences to suit their specific needs. Additionally, they can refine their search topic by providing granular details to make the news and insights even more tailored.

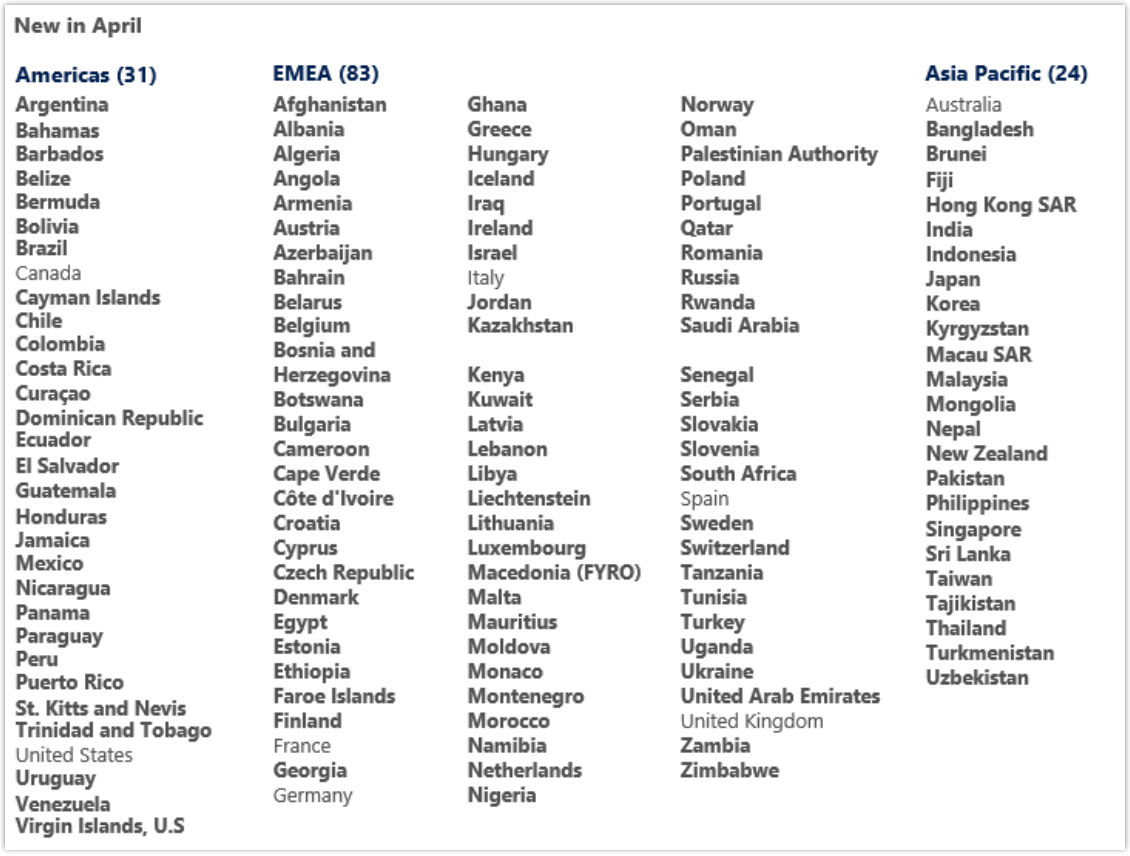


Sample screenshot for an alert

Geographic expansion

To better serve our customers across the globe, we are expanding the regions in which AI for Market Insights is available, as well as the regions from which search signals are available as a data source.

Refer to the following table for a list of the regions where Public Preview of AI for Market Insights is available. New regions are listed in **bold** text.



This image shows geographic expansion for April '19

For a list of the regions where Dynamics 365 business applications are currently generally available, see the International Availability Guide.

Search-based data insights will also be available from these additional regions:

- Brazil
- Austria
- Belgium

- Netherlands
- Norway
- Switzerland
- Sweden
- Hong Kong SAR
- India
- Taiwan

Mixed reality

Overview of mixed reality April '19 release

We introduced Dynamics 365 Layout and Dynamics 365 Remote Assist for General Availability on October 1, 2018. These two new mixed reality applications help employees work smarter, faster, and more efficiently with information they can access in a real-world context. The apps also improve cross-team collaboration with technology that enables employees to work together from a shared perspective.

The following table outlines our April '19 investment areas:

Application	Focus areas	Learn more
Layout	- Real-time collaboration and editing, that enables users to get feedback by inviting stakeholders to review designs - Improved asset importing process and the ability to import entire CAD and other layouts - Improved accessibility	- Detailed overview - Summary of new features
Remote Assist	- An expert on the mobile version of Microsoft Teams can annotate the space of a HoloLens user (Android and iOS devices) - Group calling with two or more experts to solve problems faster - Ability for experts to share their screen with Remote Assist users - Ability for Remote Assist users to access mixed reality tools before and after a sharing session with an expert - Improved integration with Dynamics 365 for Field Service - Improved accessibility	- Detailed overview - Summary of new features

Overview of Dynamics 365 Remote Assist April '19 release

Dynamics 365 Remote Assist empowers technicians to solve problems faster the first time. With heads-up, hands-free video calling on Microsoft HoloLens, technicians can collaborate with remote experts on a PC or mobile device to troubleshoot issues in context.

The primary focus of the April '19 release will be to address our highest customer needs, including two new features focused on our most frequent customer requests—mobile annotations and group calling. With mobile annotations, experts around the world will be able interact with a field service worker on a HoloLens by using an iOS or Android mobile device. Group calling will expand calling to multiple experts in a single call session. Group calling will make two new scenarios possible:

- Inspections with multiple inspectors.
- Field service calls where multiple experts are required to complete the maintenance.

We're also improving the usability and value for customers using Dynamics 365 for Field Service together with Remote Assist. New additions, such as automatic call reports and more robust booking interactions, will help field service workers using Remote Assist to get more done, faster.

Finally, we'll continue to improve compliance and accessibility for the HoloLens platform.

What's new and planned for Dynamics 365 Remote Assist

This topic lists features that are planned to release between April and September 2019. Previews for some features will start in February 2019.

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see Microsoft policy).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the International availability guide.

Feature	Release type	Date
Improved integration with Dynamics 365 for Field Service	General Availability	April 2019
Mobile annotations	General Availability	April 2019

Feature	Release type	Date
Group calling	General Availability	April 2019
Improved accessibility	General Availability	April 2019
Screen sharing	General Availability	April 2019
Preview arrows	General Availability	April 2019
Persistent sessions for mixed reality tools	General Availability	September 2019
Localization	General Availability	September 2019

Improved integration with Dynamics 365 for Field Service

Our next step for Dynamics 365 for Field Service integration focuses on benefits for both Remote Assist and Field Service users.

New Field Service features will save users time by automatically capturing data for each call in an activity log.

Remote Assist users will be able to do more directly in Remote Assist. They'll be able to update fields and images in a work order, and close a work order from Remote Assist.

Mobile annotations

When a Remote Assist user contacts an expert, they need to be able to reach the expert no matter where they are worldwide, including times when the expert is out of the office without a PC.

With this feature, experts using the mobile version of Microsoft Teams on an iOS or Android device will be able to fully participate in a Remote Assist call. The expert will be able to add arrows and ink for the Remote Assist user, and will be able to insert files through OneDrive.

Group calling

Group calling is our #1 customer request. Currently all Remote Assist calls can include just two users—one on HoloLens (the field service worker) and one on Microsoft Teams (the expert). With group calling, multiple experts will be able to connect and annotate in a single call to help the Remote Assist user figure out a difficult solution.

Scenarios enabled by group calling include:

- Maintenance involving multiple experts.
- Inspections where multiple inspectors on the same call can improve the quality of the remote inspection or work together on complex inspections.
- Live training involving multiple experts. For example, watch a repair to learn how to solve a problem.

Improved accessibility

We'll continue our efforts to make Remote Assist increasingly accessible to first-line workers of all abilities and work toward meeting 21st Century Communications and Video Accessibility Act (CVAA) compliance. This work includes:

- Adding audible caller ID so that a caller's name, if available, is announced during an incoming call.
- Placing ink and arrows using only voice and gaze (no gestures required).
- Providing visual cues, without the use of color, to show the author of an annotation.

Screen sharing

Through Microsoft Teams, experts will be able to share their desktop with a Remote Assist user on HoloLens. The shared desktop will appear in a separate pane on HoloLens.

First-line workers will be able to:

- Scale the size of the shared screen.
- Move and pin the shared screen in their 3D world.

Preview arrows

Preview arrows will add more confidence to arrow placement for Remote Assist users on HoloLens. When they select the arrow tool and hold up their hand, users will see a translucent preview arrow. They can air tap to place the arrow at that preview location.

Persistent sessions

Users will be able to access all the mixed reality tools (previously only available during a call) at any time. For example, a user will be able to annotate their space, start a call, have a conversation with an expert, end the call, and continue to see any holograms created before or

during the call. Users will also be able to take screenshots or record the call and send to an expert.

Localization

Remote Assist will be localized into multiple languages.

Overview of Dynamics 365 Layout April '19 release

Microsoft Dynamics 365 Layout provides a new way for space planners to bring designs from concept to completion with confidence and speed. Lay out spaces with imported or gray box assets and view high-quality holograms overlaid in the real world with HoloLens or in a virtual representation in Windows Mixed Reality. Import 3D models and experience designs as high-quality holograms. Edit and review with stakeholders in real time through videos, photos, and screen sharing.

The April '19 Layout release focuses on achieving our vision of an enterprise-level, feature-rich release.

The list of capabilities for the April '19 release includes:

- **High-value manufacturing scenarios.** Continuing with our product mission to enable high-value manufacturing scenarios, we'll add support for real-time collaboration and add support for rich editorial functions.
- **Customer adoption needs.** Customer requests are foundational for this release. Customers have asked for increased precision during space planning and the ability to import an entire room.
- **Compliance and regional support.** Quality and compliance is essential for our product line. This release will feature improved accessibility.

What's new and planned for Dynamics 365 Layout

This topic lists features that are planned to release between April and September 2019. Previews for some features will start in February 2019.

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see Microsoft policy).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the International availability guide.

Feature	Release type	Date
Hologram stability	General Availability	April 2019

Feature	Release type	Date
Improved importing process	General Availability	April 2019
Measurement tool improvements	General Availability	April 2019
Import and review CAD and other layouts	General Availability	September 2019
Collaborate in real time	General Availability	September 2019

Hologram stability

Customers have noted that some holograms appear to "drift" as they move through space. In the April '19 release, we're addressing hologram drift to make sure holograms are stable.

Improved importing process

Space planners often need to import their own assets into Dynamics 365 Layout. To make the process of uploading assets to HoloLens frictionless, space planners will be able to import entire layouts to HoloLens all at once; they won't need to separate assets and upload them one at a time. For individual, complex assets, space designers will be able to make simple trade-offs to quickly upload their content so they can maximize their time designing spaces.

We're also making the import process more seamless and adding the ability for customers to provide feedback in case assets aren't imported correctly.

Measurement tool improvements

Measurement tool improvements for April '19 include the following:

- Ability to do precise perpendicular measurements between objects and walls, and between walls and ceilings.
- Ability to connect a new measurement to the end point of a previous measurement.
- Ability to measure the shortest distances between assets to increase space planning accuracy.

Import and review CAD and other layouts

Space planners often work in 3D design tools such as AutoCAD or SketchUp. In the April '19 release, Layout will better accommodate the tools and workflows that space planners use most

often. They'll be able to view their whole layout (not just individual models) at real-world scale and easily navigate through those worlds. Specific capabilities include:

- Place a whole layout at real-world scale, in the correct position.
- Realign the layout to match the real world.
- Navigate through a layout (teleport in Virtual Reality, walk through in HoloLens) at real-world and smaller scale.
- View designs holistically by viewing layouts at a smaller scale.

Collaborate in real time

For space planners to iterate easily, they need to be able to get feedback in context. Stakeholders and reviewers have difficulty understanding a design holistically and are hesitant to move forward until they can "feel" the design. With the real-time collaboration features included in the September release, space planners will be able bridge the communication gap by inviting reviewers to see their designs in real time. Reviewers will also be able to see the data that backs up the design. Specific capabilities include:

- Share a design and communicate/collaborate in real time.
- Join another person's Layout session.
- See edits other users make in real time.

Dynamics 365 Portal

Overview of Dynamics 365 Portal April '19 release

Dynamics 365 Portal enables organizations to easily extend entities, features, and functions of Dynamics 365 to external audiences like customers and partners. As part of the October '18 release, we embarked on a journey to make Dynamics 365 Portal an external customer-facing platform for all Dynamics 365 applications.

The April '19 release would be a step toward realizing that vision, where we continue to:

- Drive improvements in *fundamentals*.
- Invest in *integration* with other Microsoft services.
- Provide new *extensibility* patterns to enhance capabilities.
- And most importantly, extend Power Platform to external users.

Fundamentals

The Portal self-service diagnostic tool, released in the October '18 wave, would be enhanced to detect and troubleshoot additional scenarios like identifying incorrect site markers, issues with data visibility due to incorrect entity permissions, and so on.

We will also be launching a new maintenance mode capability in Portal to allow organizations to display maintenance messages on the portal.

Integration

Building on Power BI integration launched during the October '18 wave, we will be enhancing it to support Power BI Embedded capabilities.

Extensibility

A recurring theme among our customers is the need to access data storied in external line-of-business applications. With the enhancements in this release, Portal users can now access data stored in external applications by using client-side API calls secured via OAuth Implicit Grant Type flow.

Extend Power Platform

One of the key promises of Portal is to extend your business processes to external users. With the enhancements in this release, organizations using Common Data Service (CDS) for Apps would be able to connect a portal to their CDS for Apps organization.

What's new and planned for Dynamics 365 Portal

This topic lists features that are planned to release between April and September 2019. Previews for some features will start in February 2019.

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For a list of the regions where Dynamics 365 business applications are available, see the International availability guide.

Feature	Release type	Date
Enhancements to portal diagnostics tool	General Availability	April 2019
Maintenance mode for portals	General Availability	April 2019
Displaying external data in portals	General Availability	April 2019
Power BI Embedded support for Portal	Public Preview	April 2019
CDS starter portal	Public Preview	April 2019

Enhancements to portal diagnostics tool

Business value

The portal self-service diagnostic tool released in the October '18 wave looks at portal configuration and identifies potential configuration problems as well as provides solutions on how to resolve the issues. Portal customizers can use this tool to quickly resolve common issues and reduce the amount of time spent on diagnosing issues. As part of this feature enhancement, we will be adding enhancements to identify more scenarios.

Persona

Portal administrators

Features

The feature enhancements allow users to:

- Identify incorrectly configured site markers.
- Identify performance impacting entity permissions and slow running queries.
- Identify portal solution installation and update failures and suggestions.

Maintenance mode for portals

Business value

Customers can display a "Website under maintenance" message during routine maintenance or major upgrade activities on their portal.

Maintenance mode lets portal administrators avoid showing intermittent service unavailability errors to end users during portal maintenance that otherwise can impact user satisfaction and portal search rankings.

Persona

Portal administrators

Features

This feature provides the ability to:

- Enable and disable maintenance mode from the portal admin center.
- Specify a custom message that is shown to portal users when the website is in this mode.

We'd like to thank

Thank you for submitting this idea with votes and comments that helped us prioritize it.

Displaying external data in portals

Business value

One of the recurring themes for portal customers is to be able to get data from external applications and display it in portals in a secure manner. This feature will allow customers to make client-side calls to external APIs and secure them by using OAuth Implicit Grant Type flow.

Personas

- Portal administrators
- Portal customizers

Features

This feature will provide an endpoint to obtain secure access tokens that will contain user identity information that external APIs can use for authorization following OAuth Implicit Grant Type flow.

Power BI Embedded support for Portals

Business value

In a recent release of Dynamics 365 Portal, we added support for Power BI integration. In this feature, we are extending Portal's support for Power BI Embedded services.

With Power BI Embedded, customizers can provide access to Power BI dashboards and reports to users who don't have a Power BI account.

Persona

Portal customizers

Feature

Ability to surface Power BI reports and dashboards to portals users who don't have a Power BI account.

CDS starter portal

Business value

Since the launch of Common Data Service (CDS) for Apps in 2018, one of the recurring asks is to provide the ability to connect a portal to the CDS for Apps environment. This feature brings in the ability to connect a portal to a CDS for Apps environment that does not have any Dynamics 365 applications (Sales, Service, or Marketing) preinstalled.

Persona

Portal administrators

Features

This feature will allow customers to:

- Use a new template, CDS Starter, which can be installed in CDS for Apps organizations.
- Provision a portal for CDS for Apps organizations.

Microsoft PowerApps

Overview of Microsoft PowerApps April '19 release

PowerApps is a suite of apps, services, connectors, and a data platform that provides an environment for rapidly developing applications and building custom apps for your business needs. Using PowerApps, you can quickly build custom business apps that connect to your business data stored either in the underlying data platform (Common Data Service for Apps) or in various online and on-premises data sources (SharePoint, Excel, Office 365, Dynamics 365, SQL Server, and so on). Use PowerApps documentation to get expert information and answers to address your needs, regardless of how you use PowerApps.

The April '19 release provides major improvements across the themes in this list to enable app makers to build higher-quality apps more easily, while still supporting more advanced enterprise and administrator requirements. Improvements in PowerApps focus not only on introducing capabilities but also on simplifying existing concepts to improve maker productivity. They include:

- New and improved capabilities for app makers
- Better platform for administrators
- Unified Interface for everyone
- Enhanced platform capabilities
- Embed apps everywhere
- Build apps at scale with ISV Pro Dev Tooling

What's new and planned for Microsoft PowerApps

This topic lists features that are planned to release between April and September 2019. Previews for some features will start in February 2019.

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see Microsoft policy).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the International availability guide.

New and improved capabilities for app makers

New capabilities and improvements to existing features to support more productive makers of canvas and model-driven apps.

Feature	Release type	Date
New view designer for CDS for Apps is generally available	General Availability	April 2019
View results of formulas and subformulas in canvas apps	General Availability	April 2019
App-licensing requirements presented to makers while building apps	General Availability	April 2019
App usage reports in your inbox	General Availability	April 2019
Improved inline help for makers and admins	General Availability	April 2019
Improved solution checking capabilities	General Availability	April 2019
Embedding canvas apps in model-driven forms is generally available and enhanced	General Availability	June 2019
New CDS for Apps form designer is generally available	General Availability	June 2019
Create canvas apps with responsive layout	Public Preview	February 2019
Better support for many-to-many relationships in canvas apps	Public Preview	April 2019
One unified control framework for PowerApps	Public Preview	April 2019
Compose and reuse rich components and controls in canvas apps	Public Preview	April 2019
Canvas-app delegation of aggregate functions in Common Data Service for Apps	Public Preview	April 2019

Feature	Release type	Date
Leverage views from CDS for Apps in canvas apps	Public Preview	May 2019

Improvements in end-user experiences

We have doubled-down on providing high-quality end-user experiences.

Feature	Release type	Date
Sign in more easily to Dynamics 365 on a mobile device	General Availability	April 2019

Better platform for administrators

Admin experiences are key to the adoption of any trusted platform.

Feature	Release type	Date
Test out new updates first in Preview	General Availability	April 2019
Improved supportability for admins	General Availability	April 2019
New storage-consumption and trend reports	General Availability	April 2019

Unified Interface for everyone

The Unified Interface is the mainline experience for Common Data Service for Apps.

Feature	Release type	Date
Unified Interface as the default experience	General Availability	April 2019
Unified Interface is the experience of choice by users	General Availability	April 2019*
New control functionality enables advanced canvas apps	General Availability	April 2019

* This feature will be available for preview on February 1, 2019. Read more about previewing upcoming features.

Enhanced platform capabilities

App makers can use enhanced platform capabilities to support lifecycle, integration, and sharing in PowerApps.

Feature	Release type	Date
Access data from CDS for Apps offline in model-driven apps	General Availability	April 2019
Office value-adds in Dynamics 365	General Availability	April 2019
Streamlined PowerApps experience	General Availability	April 2019
Share entities by using security groups in Azure Active Directory	General Availability	April 2019
Improved solution support for canvas apps and flows	General Availability	June 2019
Seamless image support in CDS for Apps	Public Preview	June 2019

Embed apps everywhere

End users can find PowerApps in more places, including Teams.

Feature	Release type	Date
Teams is a first-class distribution channel	Public Preview	April 2019

Build apps at scale with ISV Pro Dev Tooling

Feature	Release type	Date
Tooling update for ISVs and professional developers	Public Preview	April 2019

New and improved capabilities for app makers

Improvements for makers are focused on improving productivity by introducing capabilities and simplifying existing concepts to remove barriers while still providing rich capabilities for advanced users. PowerApps will introduce capabilities for reusable components, formula and error handling improvements, and experience improvements for form and view designers. In addition to improvements to the general app-building experience, canvas apps will also introduce capabilities in working with Common Data Service for Apps to simplify working with data and more advanced relationship concepts.

New view designer for CDS for Apps is generally available

The new view designer for CDS for Apps lets makers more quickly build new system views. Some notable new features with the view designer include the ability to:

- Add fields to the entity directly within the view designer.
- Drag in new columns from the field drawer.
- Add advanced filtering in the property pane.
- Select columns to change the header name and to define a specific column width.

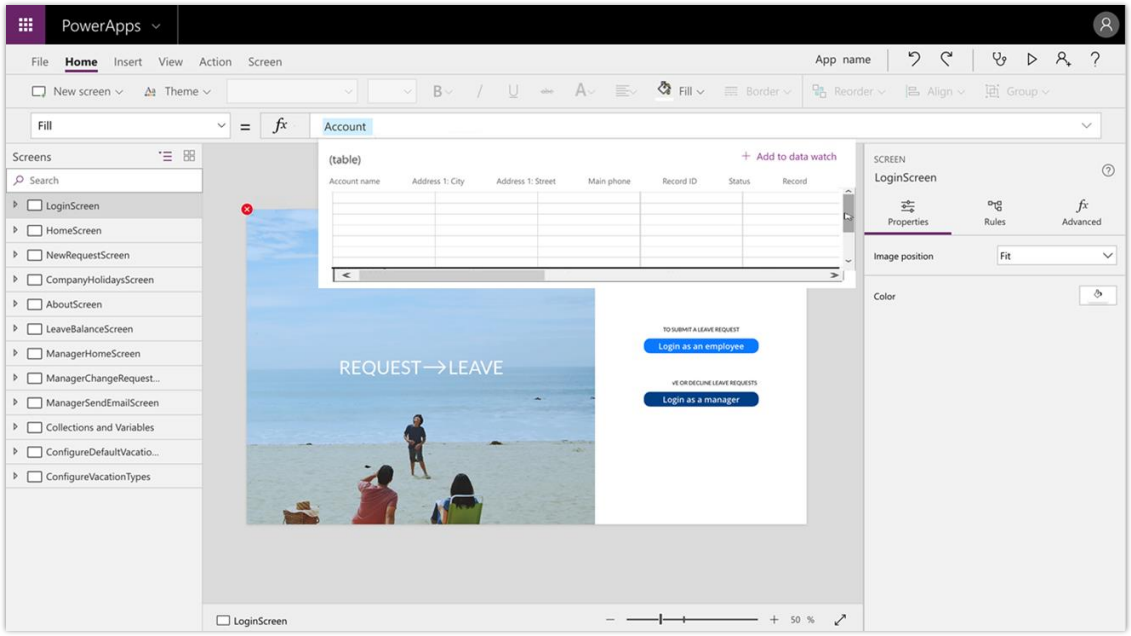
View results of formulas and subformulas in canvas apps

Canvas apps operate by composing functions, such as **Filter** and **Sort**, to form powerful formulas. The result is often fed directly into a control, such as a gallery, which can interpret it further.

As compositions get more complex, it can become difficult to understand the impact of each function on the result. Makers will sometimes capture intermediate results into variables or create separate debug screens to display them. The lack of transparency makes it difficult to understand what's happening and debug issues.

This feature helps you get into the middle of the formula and understand what's happening. As in many other programming environments, you can select the entire formula or parts of the formula directly from the formula bar and see the data that's flowing from just that portion. Understanding and debugging apps get a lot easier and quicker.

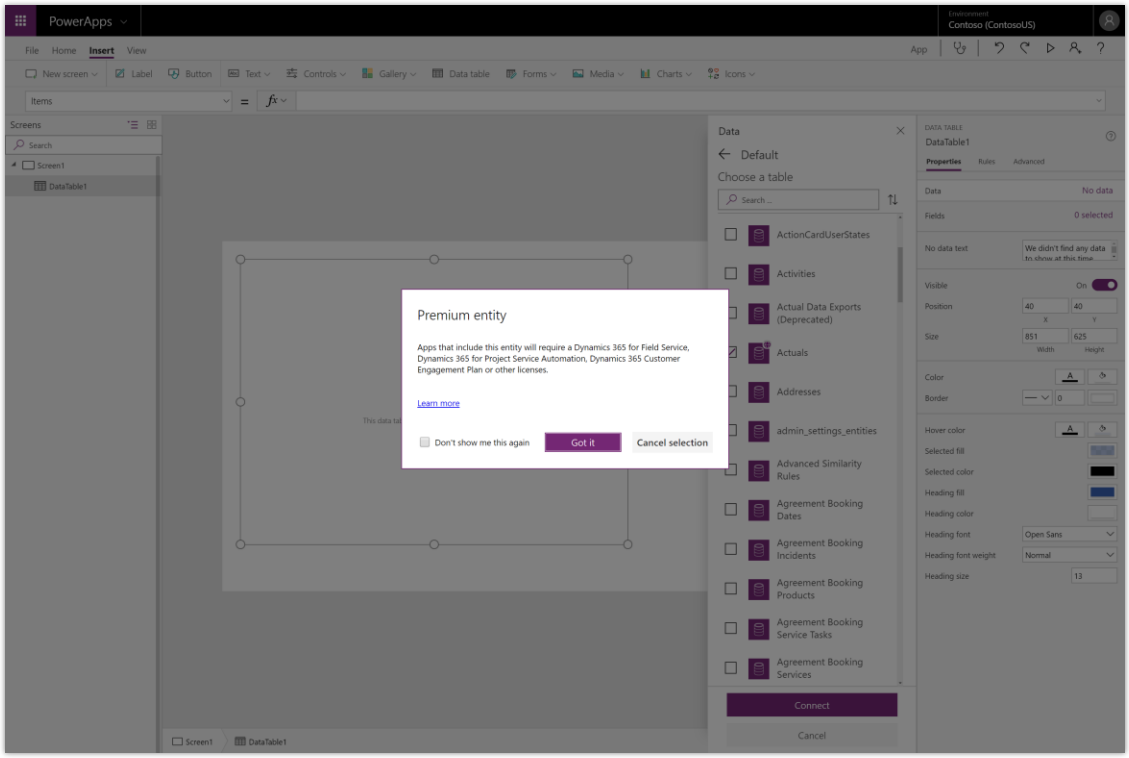
Here is an early conceptual sketch that shows the contents and type of account simply by selecting it in the formula bar:



In an early conceptual sketch, Result View shows the value of what is selected in the formula bar, in this case the contents of Account table

App-licensing requirements presented to makers while building apps

If a maker adds a complex or restricted entity to a canvas app, users might need a different license to run the app (https://powerapps.microsoft.com/pricing/). Therefore, makers are notified if they add an entity that will affect the app's license requirements, and a summary of requirements for an entity appears before makers include it in the app.



Makers are prompted when they add entities or connections to their app that require a higher license level

App usage reports in your inbox

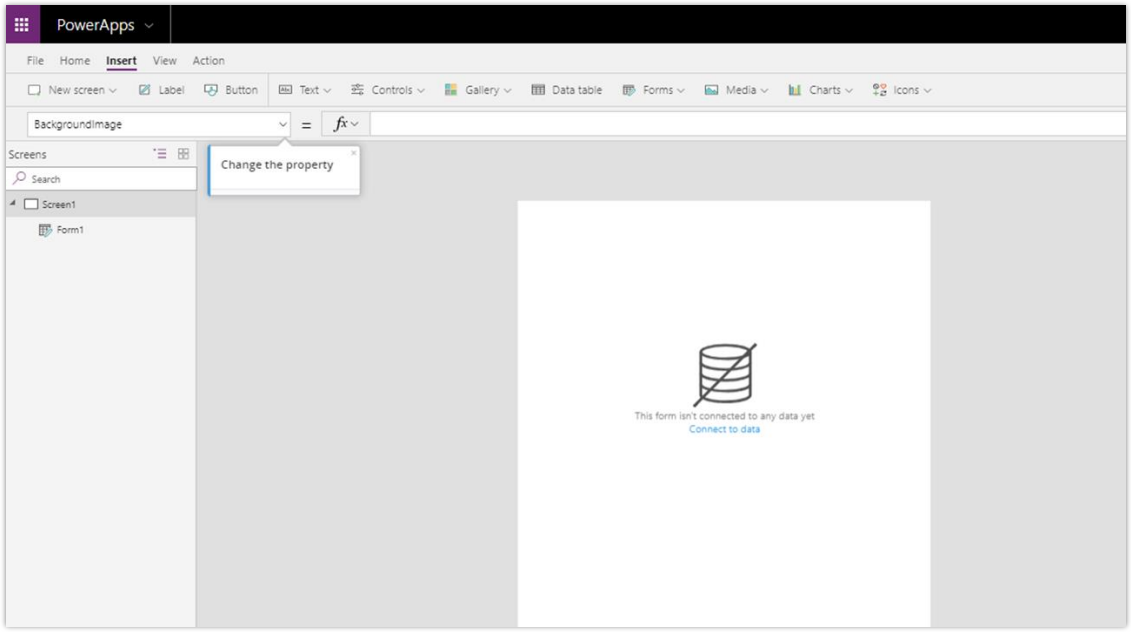
Makers now receive regular reports (by email and in-product) about end-user app usage, including recommendations on how to improve experiences after apps are first published. This communication is tailored based on the apps that a maker is building and includes targeted recommendations for learning resources.

Improved inline help for makers and admins

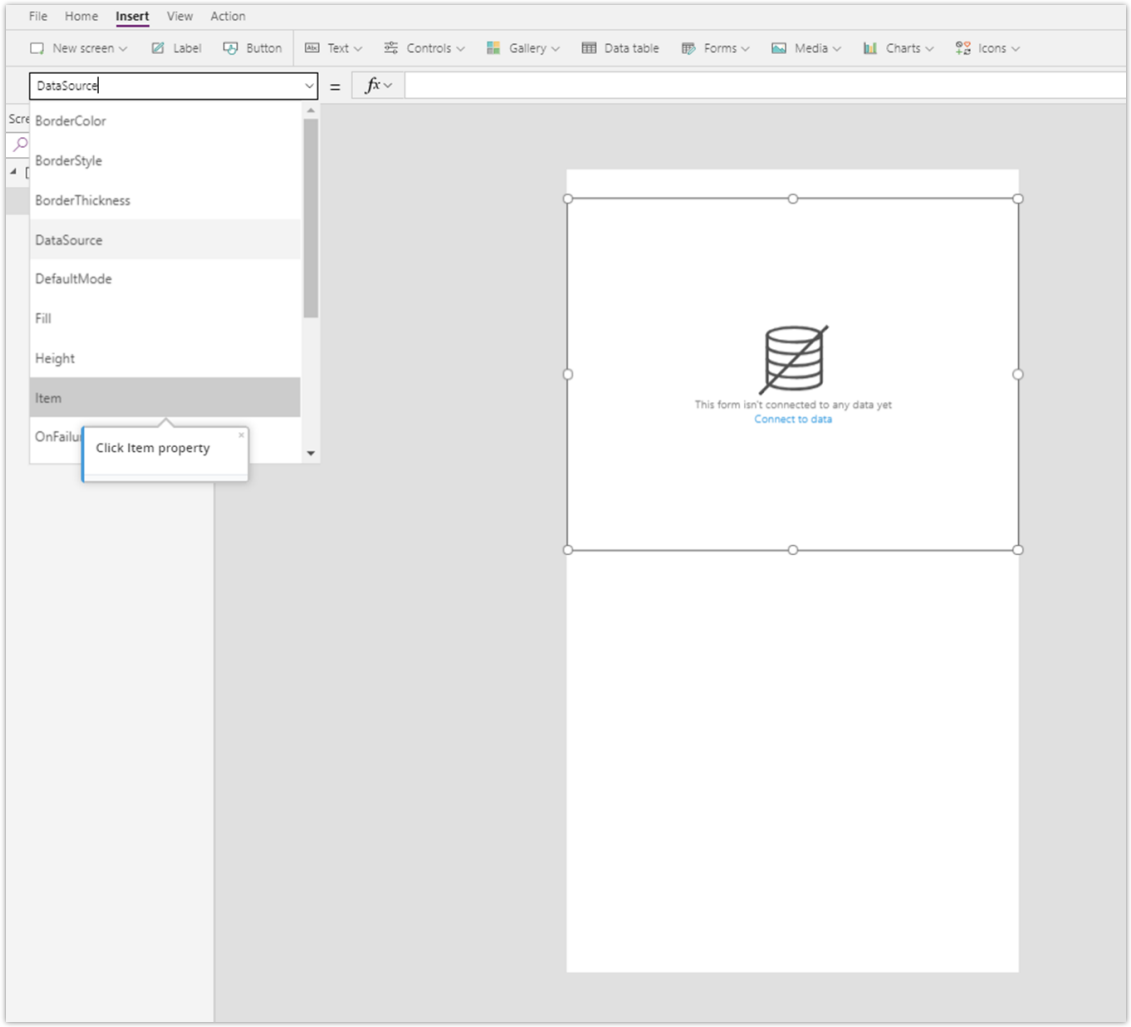
Makers and admins can now get step-by-step, guided-learning help in context for common scenarios. Guided help will be available in PowerApps Studio, the Power Platform admin center, and Microsoft Flow.

Guided-learning help will be available for these common scenarios, among others:

- In Microsoft Flow, create an approval process.
- In the Power Platform admin center, enable a mailbox to use server-side sync.
- In PowerApps Studio, reuse menu selection in different screens.



Guided help in PowerApps Studio - change property



Guided help in PowerApps Studio - click property

Improved solution checking capabilities

Building on the October preview, Solution Checker is now generally available with improved capabilities for parsing and acting on results at PowerApps.com, as well as new performance and stability checks implemented so you can quickly identify problematic patterns in your solutions.

Embedding canvas apps in model-driven forms is generally available and enhanced

With embedded canvas apps, makers can now easily create custom visual sections and layouts in their forms using the low-code, WYSIWYG canvas app designer. They can also bring in and display data from 200-plus data sources on their forms. The embedded canvas apps also provide a deep contextual integration with the host model-driven form.

Following the preview release, embedded canvas apps now include additional new capabilities that enable deeper integrations between model-driven forms and embedded canvas apps. Some of these capabilities include:

- Trigger methods on the host model-driven form from the embedded canvas app.
- Enhanced and streamlined authoring experience via the new model-driven form designer.

NOTE This feature is available on Unified Interface only.

New CDS for Apps form designer is generally available

The new CDS for Apps form designer offers a major experience improvement from the legacy Dynamics 365 experience of authoring forms.

Following the preview release, this designer includes new capabilities to help makers productively author model-driven forms. Some of these capabilities include:

- Drag-and-drop support to add fields and controls.
- Authoring Quick create, Quick view, and Card forms.
- Support for adding sub-grid and Quick view controls to the form.
- Controls pane to easily discover and add custom controls to forms and deliver rich end-user experiences.
- Ability to add embedded canvas apps in model-driven forms using the new model-driven form designer.

Create canvas apps with responsive layout (Public Preview)

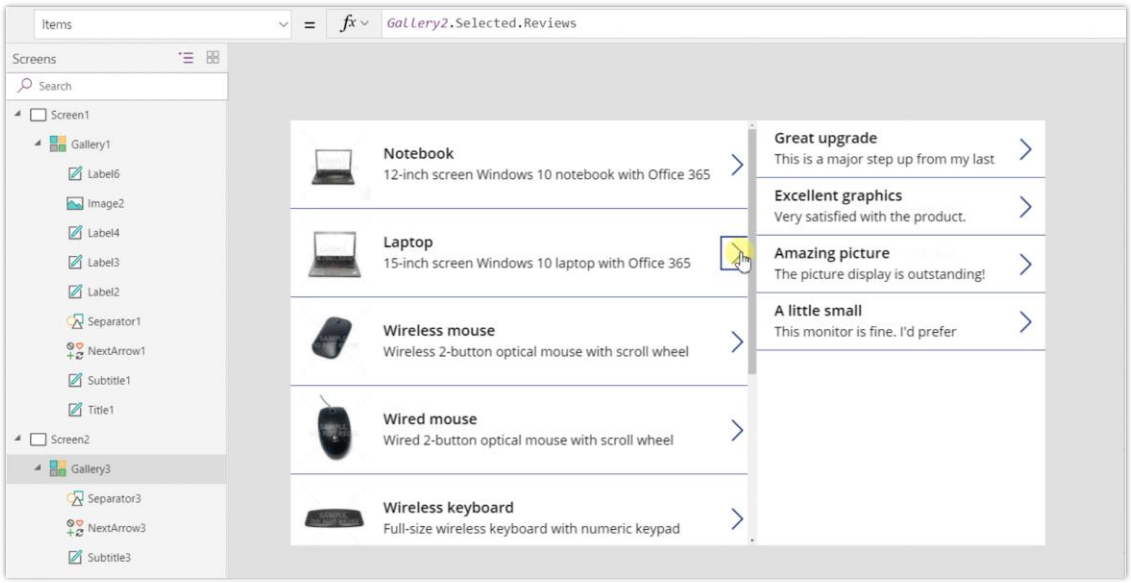
The screens of a canvas app are usually scaled to fit the space that the app host provide. This makes it easy to create an app and know that it will look proportionally correct on any screen in which it's used. But it comes at a price - as screens get bigger, the app can't adapt to take advantage of the additional real estate. Many websites today are "responsive" in that they adjust to the size of the screen on which they appear, adapting from small screens on phones to large screens on desktops.

With this feature, experienced app makers can create responsive canvas apps. You must write formulas that adapt the size and position of controls based on the size of the screen at runtime. You can turn off the default scaling behavior. As a result, screens show more information with more appropriate font sizes, all making for a better app experience.

Better support for many-to-many relationships in canvas apps (Public Preview)

Business data is relational. Customers, employees, suppliers, shippers, products, and inventory inter-relate through orders and purchase orders. In Common Data Service (CDS) for Apps, these relationships are modeled as one-to-many, many-to-one, or many-to-many relationships.

Makers can walk all of these types of relationships in CDS for Apps by using a simple object-dot notation, just as they have previously done with many-to-one relationships. For example, Orders.Employees.Name walks from the Orders entity across a many-to-one relationship to the Employees entity and retrieves the Name field. Conversely, Employees.Orders returns the table of orders that this employee has assigned, and many-to-many relationships are handled in the same manner. In addition, many-to-many relationships aren't based on a lookup field in either entity, so makers can relate and unrelate records by using new functions.



Walking from the Products entity to the reviews of a selected product with a simple formula

One unified control framework for PowerApps (Public Preview)

PowerApps Control Framework (PCF) is the fundamental building block for all new controls across PowerApps, whether you're building controls on a canvas or for model-driven apps. First- and third-party developers can build, package, and deploy their own controls for model-driven apps. PCF is available in preview for canvas apps. Developers have access to a rich framework API set and can build production-grade controls due to continued investments in framework capabilities. Dev tools support building PCF controls, rule-based validation, faster testing and debugging, and solution deployment.

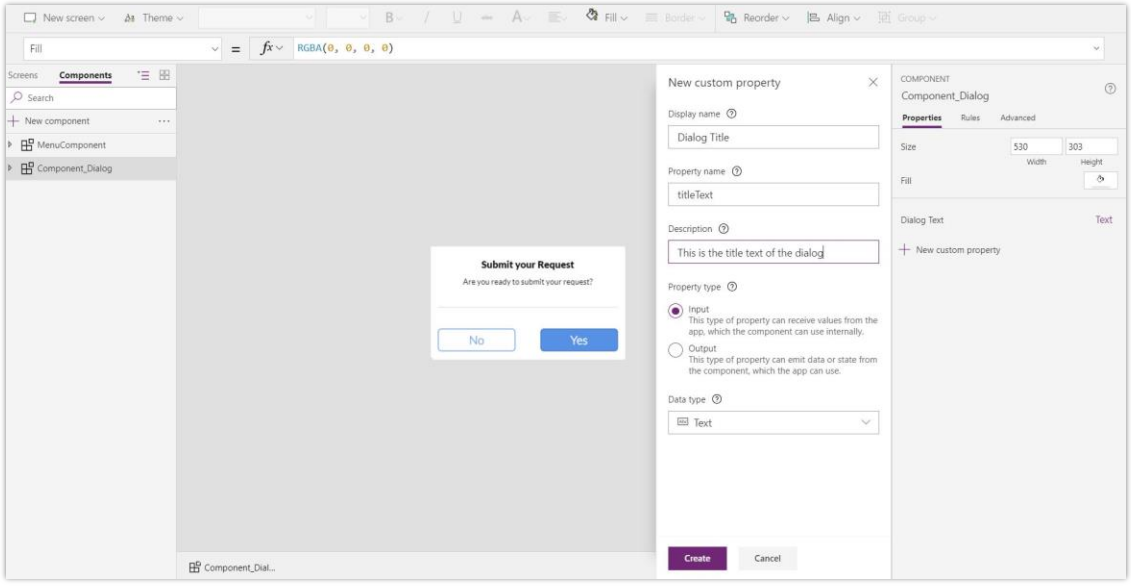
Compose and reuse rich components and controls in canvas apps (Public Preview)

Makers can build and share elements, such as menus or calendars, on multiple screens of the same app or in multiple apps. Makers can build these reusable components and composite controls in PowerApps Studio, just as they build canvas apps.

These improvements include:

- Use PowerApps Studio to build components by using canvas controls and expressions.
- Use a component multiple times within a single app.
- Use a component across different apps.
- Define the inputs and outputs that are required when a component is consumed.
- Update components in a single location, and manage updates and versions of components that are consumed in apps.
- Export and import components from environments.
- Consume built-in components for common scenarios.

By using canvas components, makers can quickly create, consume, and share their building blocks across screens and apps, build apps more quickly, and maintain apps more easily.



Create canvas component

Canvas-app delegation of aggregate functions in Common Data Service for Apps (Public Preview)

In canvas apps, makers can use aggregate functions to summarize data across larger sets of data in Common Data Service for Apps. Makers can delegate these calls because the local processing limit has been eliminated.

Leverage views from CDS for Apps in canvas apps (Public Preview)

In canvas apps, makers can sort and filter a gallery based on a view in Common Data Service (CDS) for Apps. This unlocks the power of the modern View Designer, in which you can centrally define more a complex set of filter, sort, and related entity fields. The canvas designer then provides a guided experience on the gallery or data table controls. It improves the selection of data sources in CDS for Apps by recommending entities to use and selecting the public views for the entity. The maker can then extend the **Items** property with app filtering and sorting, which is merged with the view. This allows app-specific behavior while getting the value of a shared view.

Improvements in end-user experiences

PowerApps is a best-in-class, enterprise-ready platform that provides end users with fast, reliable, and consistent user experiences across web and mobile devices.

Customers of Dynamics 365 for Sales, Customer Service, Field Service, and Project Service, as well as IT and ISV apps, can use the Unified Interface for adaptable, performant, and responsive experiences that provide the functionality they need. A unified mobile player also provides a single place to find and launch model-driven and canvas apps built by Microsoft, ISVs, and IT departments.

Sign in more easily to Dynamics 365 on a mobile device

Users of Dynamics 365 Online or model-driven apps on PowerApps can sign in to the Dynamics 365 app on an Android or iOS device by using their email addresses instead of server URLs. After users sign in, they can see and access apps across all their available online organizations and environments.

Better platform for administrators

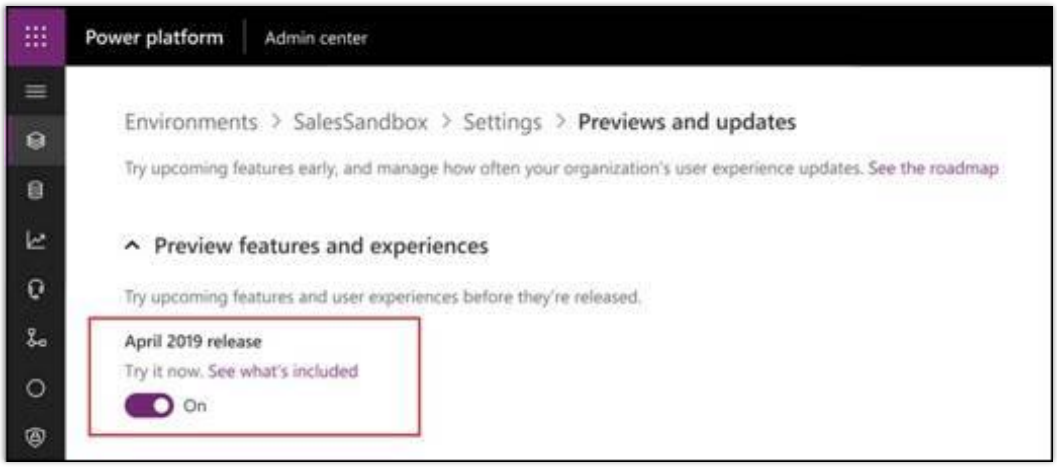
PowerApps makes maintaining and managing apps across your organization easier than ever. The Power Platform admin center offers admins and partners a more reliable, unified experience to manage storage capacity, environments, and deployments. Powerful analytics empowers admins to investigate and diagnose issues with their deployments, and the integrated Help &

Support experience allows them to find the help they need and escalate to Microsoft Support when necessary.

Test out new updates first in Preview

Since Customer Driven Updates (CDU) are no more, you can test out new updates in preview (for Dynamics 365 Customer Engagement, PowerApps, and Microsoft Flow). Until now, customers were not able to sign up easily to get early access to the updates across Dynamics 365 for Customer Engagement; they were not able to develop and validate the apps on a regular basis prior to the next update.

With the new preview, customers now have a way to develop and test new updates to the platform before they are rolled out broadly to all production orgs, providing a self-service way to ensure continuity with their own deployed solutions. Customers can create a 'preview' environment in the United States or they can copy an existing environment over to 'preview' from the Power Platform admin center.

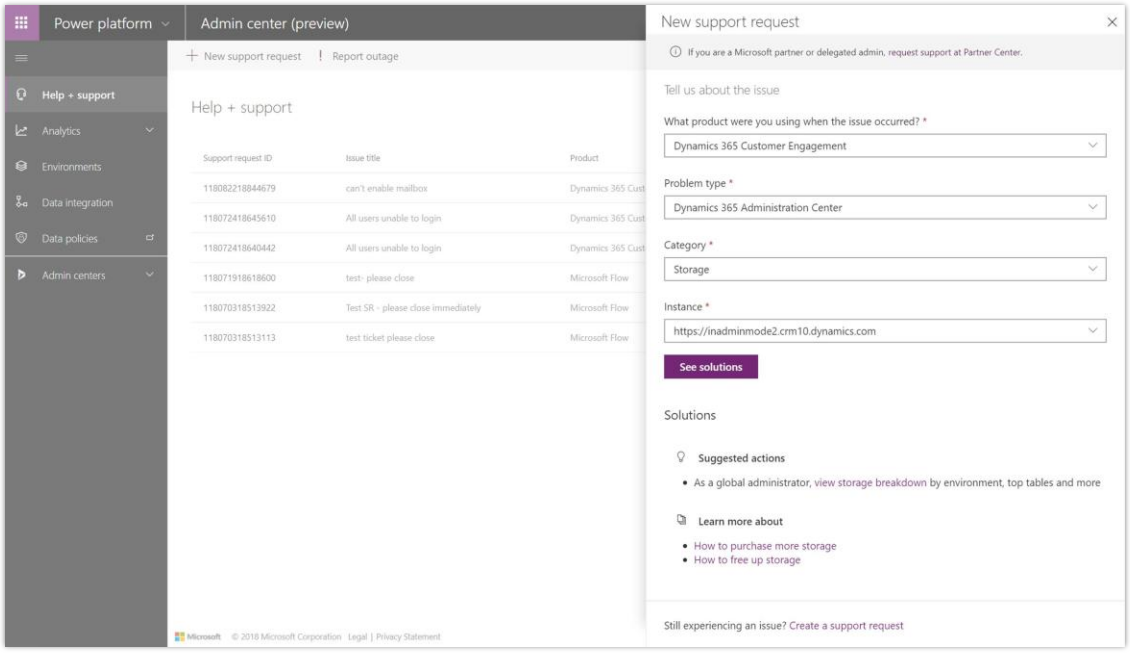


Turn on preview of April '19 release

For more information, see the blog [Previewing April 2019 release functionalities and updates for Dynamics 365 for Customer Engagement](#).

Improved supportability for admins

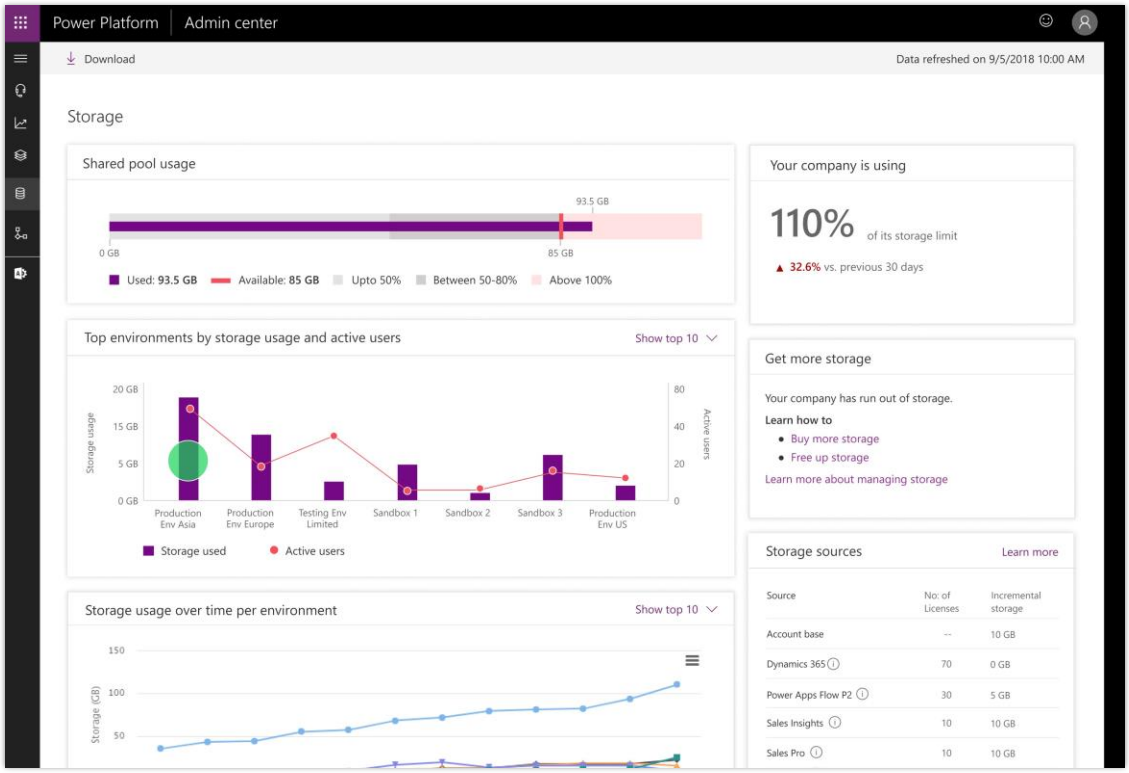
Power Platform admins now have a unified support experience across all apps and support plans. In the Power Platform admin center, all admins not only have a seamless experience to connect with Microsoft support agents, but they also have an option to get quick help in case of a system-wide issue impacting all users. Admins can get contextual self-help recommendations to diagnose or resolve issues on their own.



New support request

New storage-consumption and trend reports

Admins have more visibility than ever into how their organizations consume storage capacity. New (and accessible) storage-consumption reports are available for all Common Data Service for Apps environments, by default, directly from the admin center. The data in these reports is refreshed periodically to provide the most up-to-date information.



Storage usage report

Unified Interface for everyone

The Unified Interface is the mainline experience for Common Data Service (CDS) for Apps.

Unified Interface as the default experience

System administrators and customizers can now set Unified Interface as their default web client. This improves the user's home page experience to show all available model-driven apps, and gives them the ease of working in simple purpose-built apps. All the PowerApps model-driven apps as well as deep-linked URLs run in the Unified Interface, so users can take advantage of the many features and experiences that make Unified Interface better and more capable than the legacy web experience. In addition, system administrators and customizers can choose to hide the monolithic Dynamics 365 - custom tile on the apps home page, to give their users a truly modular apps-only interface.

Unified Interface is the experience of choice by users

Users can navigate with an updated sitemap, leverage enhanced filtering on grids, save the filters to existing or new personal views, expand sub-grids to full view, quickly find records

across searchable columns in grids, create personal charts, reset default dashboards, see appointment conflicts, customize their timelines, receive improved form notifications, and more.

New control functionality enables advanced canvas apps

By allowing users to reliably scan barcodes, QR codes, and data matrix codes with their mobile devices, as well as to show locations and routes on a map, a whole range of new field apps can be targeted. A new rich-text editor allows a more seamless transition of existing corporate apps into PowerApps, while support for Stream videos supports workflow productivity within the Microsoft ecosystem.

Enhanced platform capabilities

Building apps is supported by enterprise capabilities to facilitate sharing, offline data access, and full lifecycle support for canvas apps, model-driven apps, and Microsoft Flow across environments.

Access data from CDS for Apps offline in model-driven apps

Users of model-driven apps can access their data even while offline.

Office value-adds in Dynamics 365

Live Profile Cards are standard for inline People experience in Microsoft 365, across 30-plus endpoints for both Work and Life. Dynamics 365 users are part of this coherent experience, as their contact management in Unified Interface is enhanced by a seamless integration with live profile cards.

Streamlined PowerApps experience

Users now have a more consistent way of completing common actions and can move more seamlessly between key experiences on the platform. New modern experiences working with Common Data Service for Apps are moving into one streamlined portal experience. Users will be able to move between form, entities, solution, and view designers in one shared web experience. This new modern experience will be faster than moving between tabs and popups of the past.

Share entities by using security groups in Azure Active Directory

You can share data in Common Data Service for Apps with one or more security groups in Azure Active Directory. To share this data, create one or more custom security roles for your entities and assign those roles to security groups instead of to individual users. You can, for example, share apps, flows, and entities with the same security group.

Improved solution support for canvas apps and flows

Solution support for canvas apps and flows has several key improvements over the October preview. You can track dependencies and, when a managed solution is uninstalled, remove apps.

Other improvements include:

- Parameters in environments.
- Moving custom connectors in solutions.
- Adding canvas apps and flows to a solution even if they weren't created in a solution.

Seamless image support in CDS for Apps (Public Preview)

PowerApps that are built on Common Data Service (CDS) for Apps offer seamless support for images from all app types. Apps for scenarios such as mobile inspections in the field are easier to build, and users can provide richer data in addition to attaching files and notes.

Embed apps everywhere

End users can find PowerApps in more places, including Teams.

Teams is a first-class distribution channel (Public Preview)

A new deep integration into Microsoft Teams is another example of how the platform will help ISVs scale with greater democratization of app distribution, discovery, and consumption. Deeper integration with Teams will allow IT admins to seamlessly publish any app built on the Microsoft Business Application Platform to the Teams App Catalog for broad app distribution in the enterprise through Teams.

Build apps at scale with ISV Pro Dev Tooling

Tooling update for ISVs and professional developers (Public Preview)

For the professional developer, we will deliver an updated set of tooling experiences. In particular, we will focus on delivering enhanced experiences for developing plug-ins and for packaging of solutions.

Microsoft Flow

Overview of Microsoft Flow April '19 release

Microsoft is modernizing business processes across productivity: CRM and ERP applications. It's easier for every business (and business function) to transform how people work. Microsoft Flow, Microsoft's workflow and business process management platform, is core to the success of this mission.

Microsoft Flow offers rich workflow and business process capabilities for the Business Application platform, and for the Dynamics 365 and Office 365 services that build on that platform. This April, Microsoft Flow is doubling down on the platform integration by releasing key capabilities that enhance the power of all the above products.

Microsoft Flow is the connective glue that's used by end users and app developers alike for digital transformation, no matter what application they are using.

What's new and planned for Microsoft Flow

This topic lists features that are planned to release between April and September 2019. Previews for some features will start in February 2019.

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see Microsoft policy).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the International availability guide.

AI-enabled experiences

Microsoft Flow will help users across a range of skillsets increase their overall productivity by more easily digitizing processes through expansion of our built-in AI advisors and smart process designers.

Feature	Release type	Date
Improved Flow checker and remediation steps	General Availability	April 2019

Feature	Release type	Date
Action center for business process flows	General Availability	April 2019
Microsoft Learn integration	General Availability	June 2019
Extract structured data from emails, HTML, and PDF	Public Preview	April 2019

Unified platform across Dynamics 365 and Office 365

Microsoft Flow will help organizations automate and extend processes directly from business and productivity apps like Microsoft Teams, Excel, and OneDrive.

Feature	Release type	Date
Contextual flows power automation in Microsoft Teams	General Availability	June 2019
Automated flows can call any CDS for Apps action	General Availability	April 2019
Dynamics 365 applications building features on Flow	General Availability	April 2019
Seamless flow creation in PowerApps	General Availability	June 2019
Use Microsoft Flow in OneDrive for consumers	General Availability	June 2019
Integrated alert creation in Power BI	General Availability	June 2019
Improved Power BI connector	General Availability	June 2019
Automated flow parity with classic CDS for Apps workflows	General Availability	June 2019
Automated flows support batch operations in CDS for Apps	General Availability	June 2019
Automated flows support change sets in CDS for Apps	General Availability	June 2019

Enterprise-grade governance and compliance

Microsoft Flow will help organizations with data security, application lifecycle management, and supportability.

Feature	Release type	Date
Support for guest users in flows and approvals	General Availability	April 2019
General availability of solution parameters	General Availability	April 2019
Analytics enhancements	General Availability	April 2019
Flow is available in more geographies	General Availability	June 2019
Data Loss Prevention enhancements	General Availability	June 2019

AI-enabled experiences

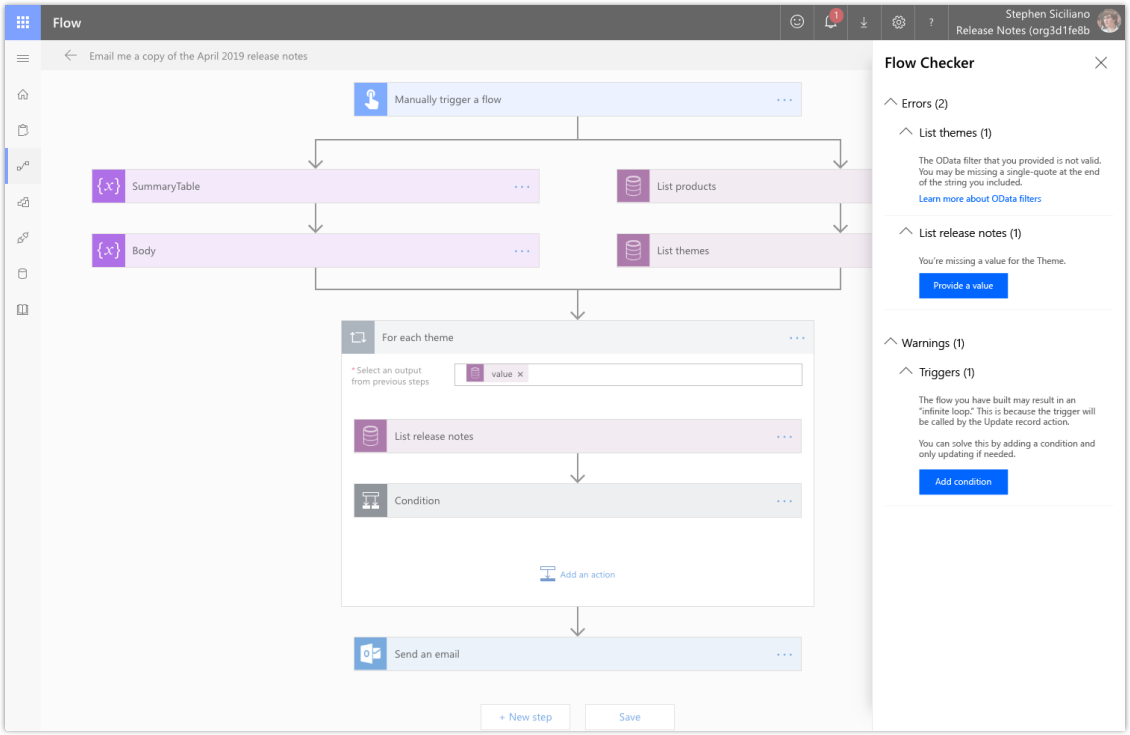
In October 2018, Microsoft Flow released features like Flow checker and rich, contextual remediation actions to help users build and fix flows. We have continued to invest in the intelligence of the checker and have added even more use cases to the remediation steps. There have been several UI changes to streamline specific experiences, and investments in many of the top key ideas on the Flow ideas forum, such as supporting guest users for approvals.

Improved Flow checker and remediation steps

In October 2018, Microsoft Flow released features like the Flow checker and rich, contextual remediation actions to help users fix common errors and build reliable flows. By running the checker, makers can answer questions such as:

- What areas of my implementation pose a performance or reliability risk?
- Am I using the 200-plus connectors appropriately?
- Have I made any errors in the Flow expressions that I've entered?

Makers can access an actionable scorecard that lists top issues. For each issue identified, the scorecard points to specific occurrences within the flow experience where improvements may be required. Most importantly, makers can discover how to implement these improvements by following detailed guidance.



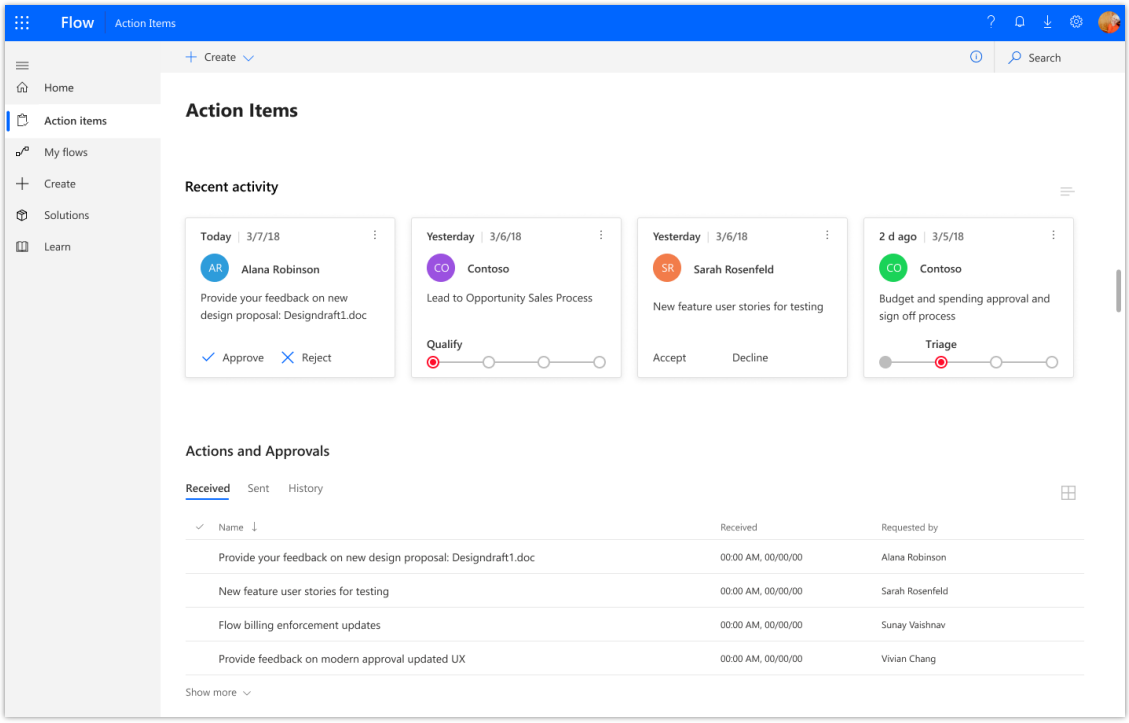
Improved Flow checker

We have continued to invest in the intelligence of the advisor and added even more use cases to help users build reliable and robust flows. These improvements have come from learnings based on the AI capabilities in the platform. With hundreds of additional rules, and deeper static analysis, makers can get feedback on all the risks they may encounter before publishing their flows.

Action center for business process flows

Currently, Microsoft Flow approvals allow a user to have multiple business process flows on a single record. However, there is no way for users to have a single view of all the processes that await action from them.

Microsoft Flow now provides a unified landing page for approvals and business process flows. This page allows the user to view approval requests pending their action and active business processes they own.



Microsoft Flow Action Center

In addition to having a consolidated view of all the pending actions, users can take actions—including bulk actions—from this view, including:

- Launch the items into another window.
- For business process flows—finish, abandon, restart, or email a link.
- For approvals—approve or reject, cancel, or email a link.

Microsoft Learn integration

Microsoft Learn is a new approach to learning for Microsoft products, including Microsoft Flow. We have built Microsoft Learn because the skills required to advance your career and earn your spot at the top do not come easily. Now there's a more rewarding approach to hands-on learning that helps you achieve your goals faster. You can earn points, levels, and achieve more.

We are now launching new trainings, new learning paths, and tutorials for Microsoft Flow. In addition, the Microsoft Flow learning paths now include interactive environments that provide free access while you are walking through a tutorial. As a part of these tutorials, we offer contextual tips throughout the product, pointing at exactly what the user needs to do next.

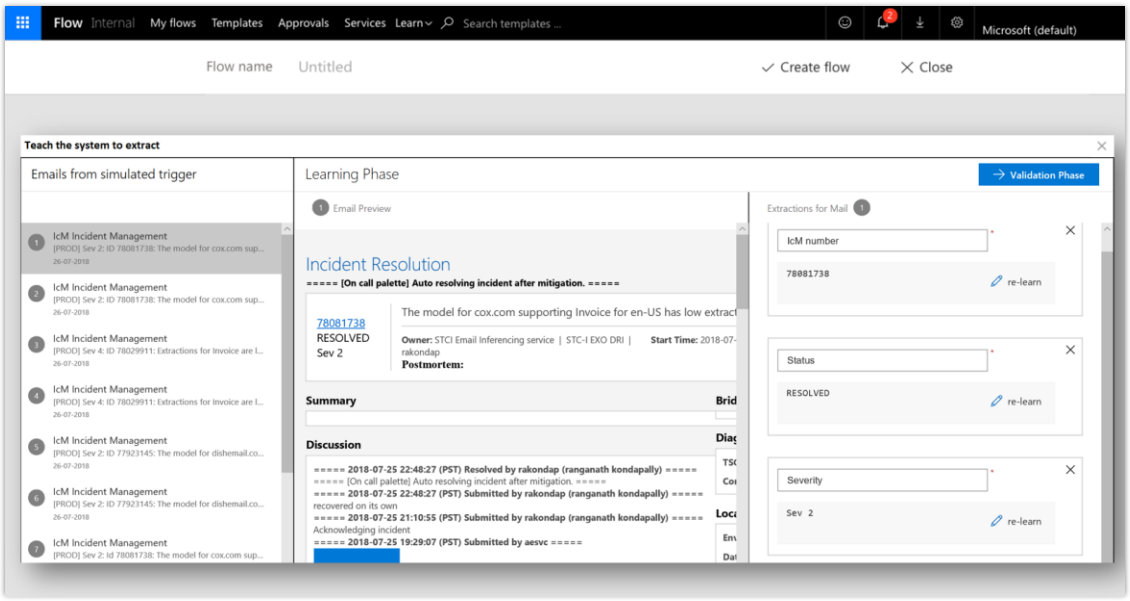
Extract structured data from emails, HTML, and PDF (Public Preview)

We have integrated new intelligence features into Microsoft Flow that allow users to parse content from email, HTML files, and PDFs. This allows users to retrieve structured data that can drive logic in a flow and be used in downstream connectors.

Historically, working with email is the No. 1 task that happens with Automated Flows. However, our ability to parse and reason over the content of the body of an email has been extremely limited. Users can receive hundreds of emails in a day and need to be able to respond to them quickly. Now, with the intelligence features in Microsoft Flow, it's possible to extract content even from the body of an email. Users can now:

- Extract **tables** contained in emails. For example: vendor price lists.
- Extract **specific entities** from an HTML/text document. For example: extract ID and status from a service incident.
- If email contains a **repeating pattern**, extract all the instances of it. For example: flight tickets with multiple legs.

All you do is select the content you want from one or more example documents or emails, and then in the future that content will be extracted on future documents that have the same characteristics.



Configuring email extraction

Unified platform across Dynamics 365 and Office 365

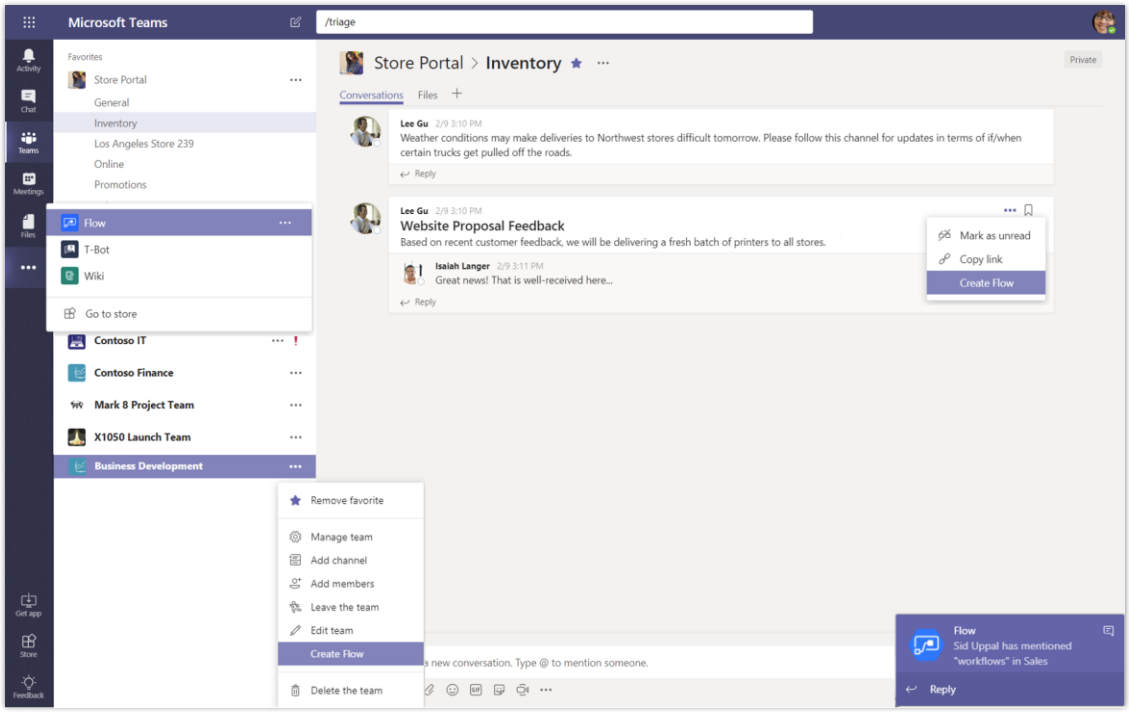
Microsoft Flow is reaching more users than ever with its rich integrations into other Microsoft products, primarily Teams, OneDrive, and SharePoint. In Microsoft Teams, Microsoft Flow is now the easiest way for any user to have rich automatic behaviors—like Outlook rules—but in Microsoft Teams. This works through both the Teams apps as well as contextually on file views. Additionally, there have been ongoing investments in SharePoint, including powering the modern alerts feature. We have also been investing in integrations with other Microsoft Power Platform products like PowerApps and Power BI. Finally, Microsoft Flow has been reaching more people by leveraging its rich community—for example, through the Flow champions program, we now recognize evangelists who encourage use of the product elsewhere.

Contextual flows power automation in Microsoft Teams

Microsoft Flow is now the way that any user can have rich automatic behaviors in Microsoft Teams. Our vision is to deliver a world-class experience—like Outlook rules—for Microsoft Teams. This means that users can:

- Get notified about important updates in their teams from external services and act on them.
- Interact with services through commands and actions directly built into the Teams experience.
- Automate teamwork by setting up workflows based on Teams events.

These new capabilities are enabled through both the Teams *apps* (for example, a dedicated Flow tab) as well as contextually via menu items from entities like messages or files:



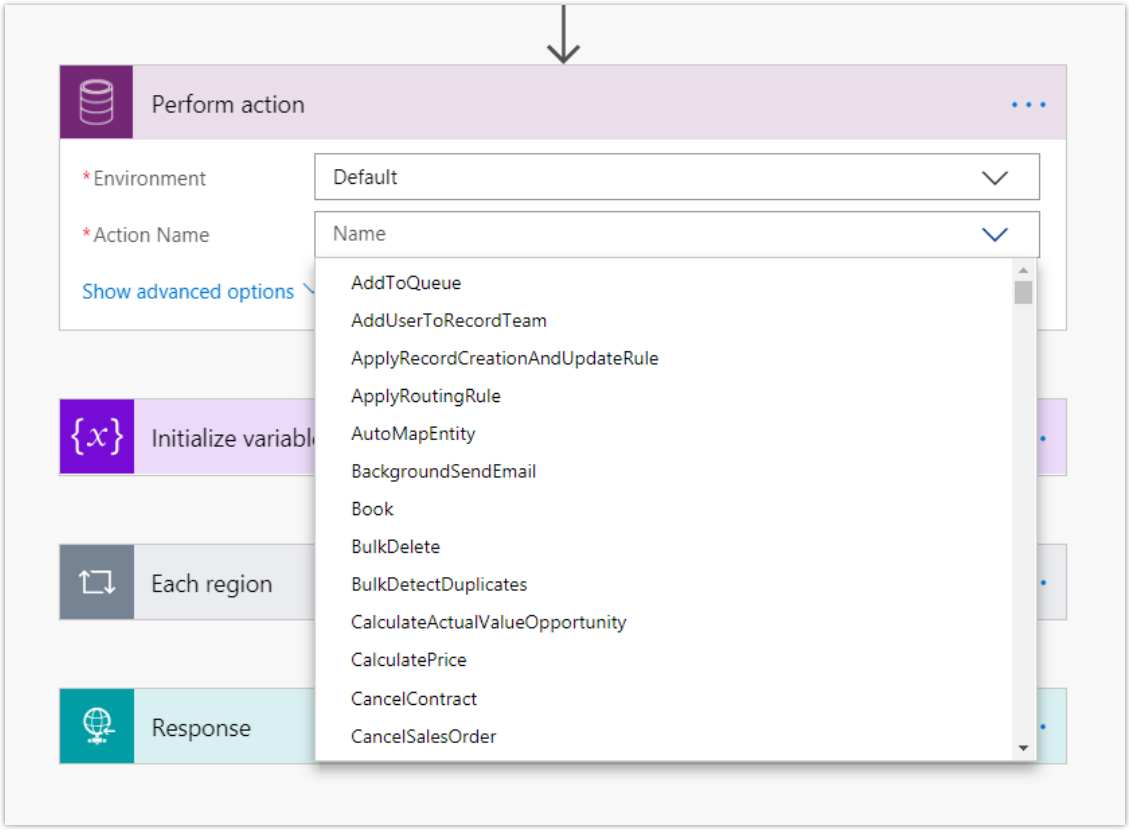
Microsoft Teams integration points

Beyond just easier setup, Microsoft Flow now supports channel notifications with adaptive cards, personal notifications, and even the ability to create workflows for Team or channel events. Some example scenarios include:

- As a project lead, you can get notified when someone talks about your project in a team.
- As a team admin, you can send out a welcome message, which includes links to onboarding resources to new users when they join your team.

Automated flows can call any CDS for Apps action

As a part of reaching parity with the Classic Common Data Service (CDS) for Apps Workflows, automated flows can now call all actions that are available in CDS for Apps. This includes everything from fulfilling a sales order to exporting an Excel file. Actions represent operations that might have side effects in the database, such as creating or updating records. An Action might require parameters and might return a value, and can be associated with certain records.



Flow calling CDS actions

These actions include the **out-of-box SDK messages**, **process and custom actions**, and even **custom workflow activities**.

Dynamics 365 applications building features on Flow

In addition to the strong platform and standalone capabilities that Microsoft Flow provides, Dynamics 365 applications are now building many of their features directly on top of Flow. Two examples include:

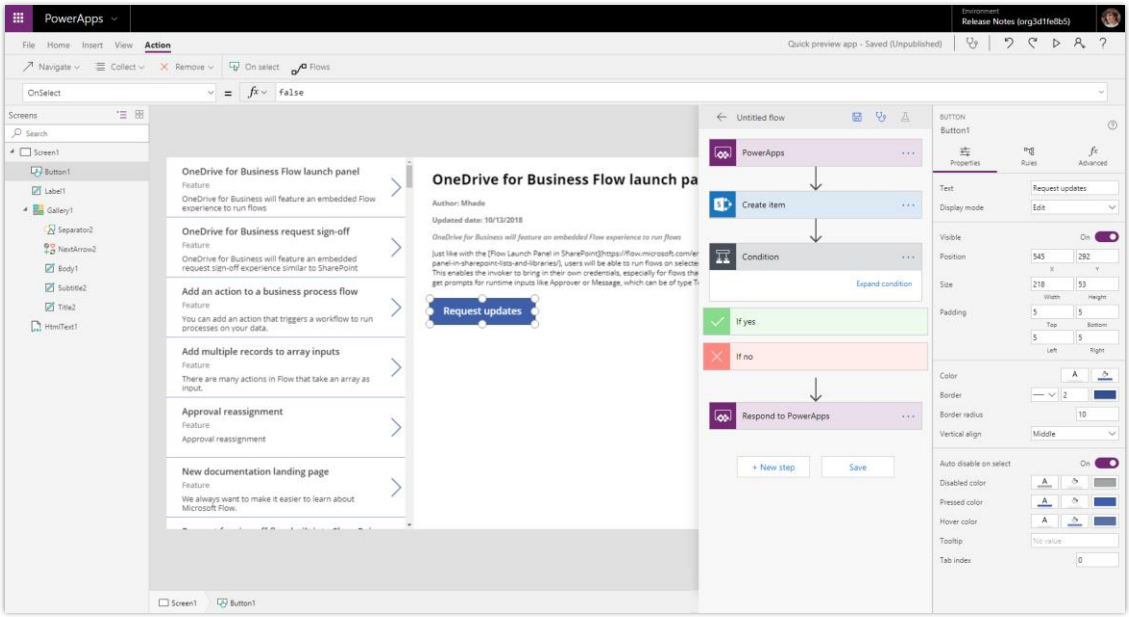
- The Service application helps organizations to track their SLAs. These SLAs were previously built on classic Common Data Service (CDS) for Apps workflows, which meant they had very limited connectivity. Now, you can configure SLA actions with any of the 230-plus services that Flow can connect to.
- The Sales application has a new playbook feature for tracking sales plays. These playbooks now leverage business process flows so they can leverage the rich conditional logic that business process flows support.

Seamless flow creation in PowerApps

Microsoft Flow is the best way to design logic for your model-driven and canvas-based PowerApps. Instead of writing code, you can use the point-and-click flow designer to build out your business logic. Easily run flows in your app with buttons, actions, and data inputs. These flows can fire-and-forget, or return data back to your app to display information to the user.

Moreover, with business process flows, you can keep users on track and ensure data consistency regardless of where it's entered across multiple stages. For example, you can create a flow to have everyone handle customer service requests the same way, or to require approvals before submitting an order.

Now, we are providing a seamless authoring experience for building flows—both business process flows and instant flows—in the context of model-driven and canvas-based apps. All you do is select **Flow** in the command bar and you'll have the full flow authoring experience right inside the PowerApps studio. Once you're done working on your flow, you're still in context of your app, so you can easily continue working on building it out. If you ever want more real-estate to design your flows, you can pop out to a new tab to work in the full Flow designer, and your flow will be preserved.



Create inside PowerApps canvas studio

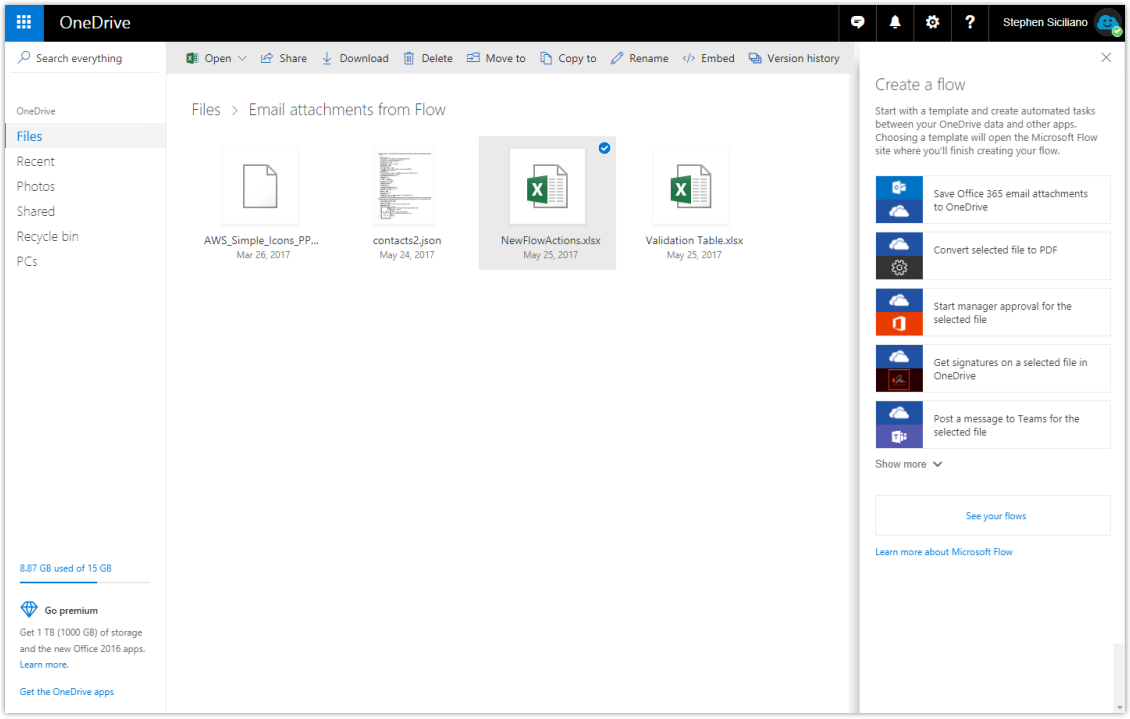
Beyond just improving the authoring experience, there are these key, functional improvements:

- **Easily define complex data types**: When you use an instant flow to return data to a PowerApps-created app, you can now easily define complex data types (such as nested tables and records), rather than having to understand JSON format.

- **Bind flows to a data gallery**: In addition to invoking a flow on demand, you can now use flows to populate data in a gallery—for example, by calling a stored procedure in SQL and returning that data.

Use Microsoft Flow in OneDrive for consumers

The rich Microsoft Flow experiences in SharePoint Online, including Request-Sign Off and Convert to PDF, are now available for all OneDrive users. This means, without any additional configuration or setup, OneDrive users can have someone else review and collaborate on their documents. We have also included educational "coachmarks" that help users learn about the different scenarios that Microsoft Flow supports.



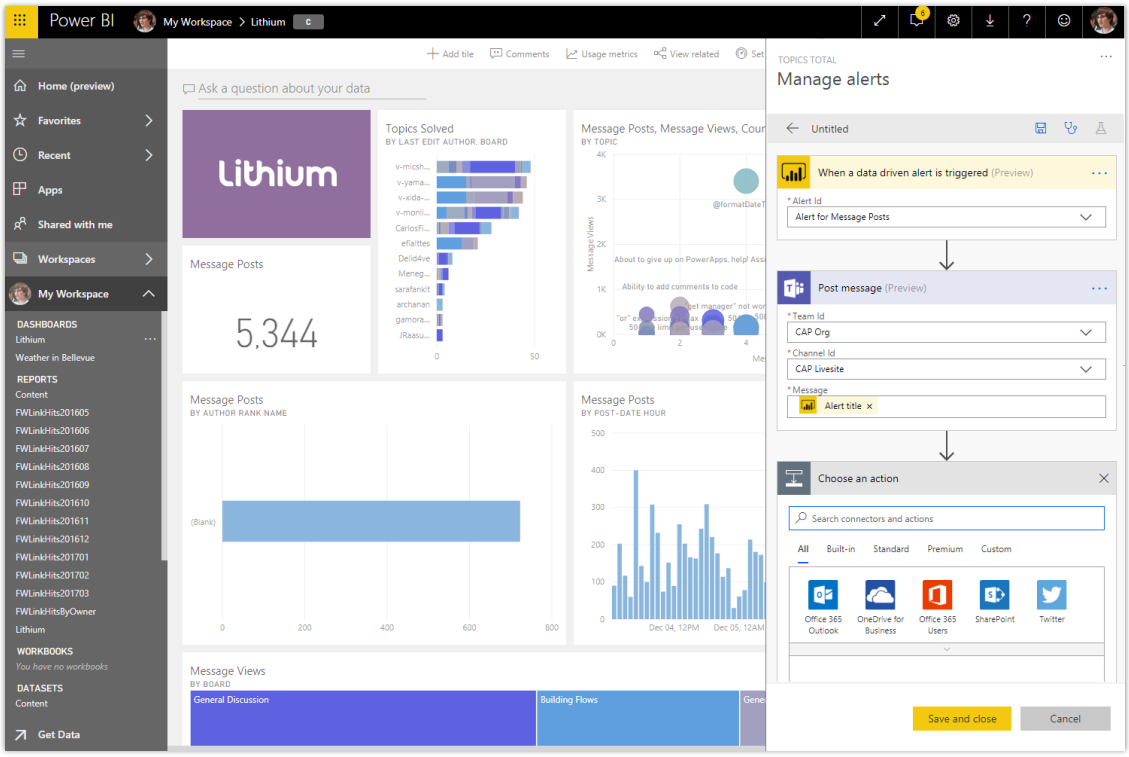
Flow inside of OneDrive

- **Request-Sign Off**: This flow lets you send an item to others to get their approval. Any one of the approvers can approve. You can track the status for this request in email.
- **Convert to PDF**: When you select a file, you can get a PDF copy sent to yourself or any of your contacts.

Finally, these capabilities are available for all OneDrive users, including consumers, not just OneDrive for Business users.

Integrated alert creation in Power BI

Power BI is expanding its integration with Microsoft Flow to make it even easier to go from insight to action. Data alerts keep you up to date through notifications in the web and mobile apps as well as emails. And with Microsoft Flow plus Power BI integration, alerts can trigger actions in other systems such as Microsoft Teams, the Flow mobile app, the SharePoint mobile app, and text messages for endless opportunities to enable collaboration and automation.



Create Flows in Power BI

We have simplified the process of creating a flow from a data alert to make this process even simpler.

Improved Power BI connector

There are two key improvements for the Power BI connector. First, you can trigger data refresh of a dataset in Power BI, perfect if your flow updates underlying data sources and you want your reports always to be up to date.

Second, we are adding an action that performs a query against a Power BI dataset so you can use that result later in your flow execution.

Automated flow parity with classic CDS for Apps workflows

Automated flows will, over time, replace the existing Classic Common Data Service (CDS) for Apps workflows. With this release, it is now possible to accomplish all scenarios that asynchronous classic CDS for Apps workflows supported with automated flows. Several capabilities, including action support and batching support, are covered elsewhere in the release notes. Here's a list of the new features in automated flows:

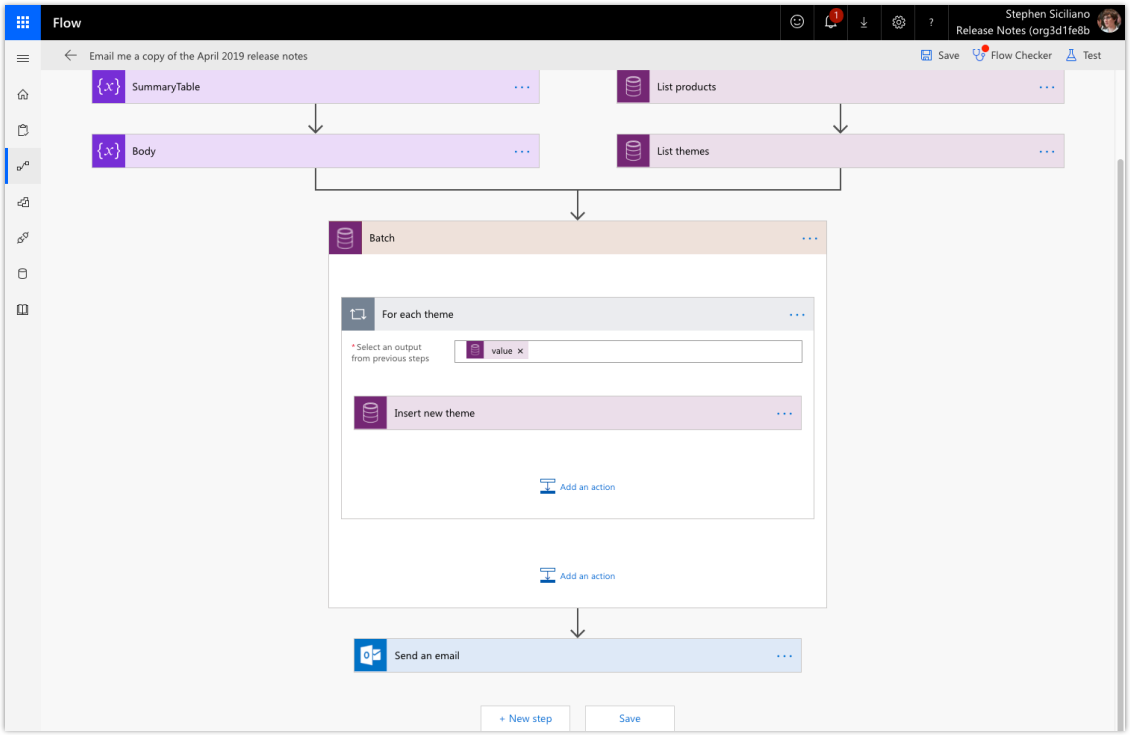
- **Provide filters to triggers**: You can control exactly which records trigger your automated flows. By including triggers in the middle of flows, you can leverage them as **Wait conditions** inside of a flow.
- **Run As** capabilities: Automated flows that are triggered by CDS for Apps can run with either an account defined by the owner of the flow, or with the identity of the user who performed the change that caused the trigger.
- **Resume flows from a failed action**: If a flow fails on an action, makers can resume the flow right from that action once they've repaired the error.
- **Support for multiple trigger types**: Flows can now both be automated (triggered by events in the system), and instant (triggered on-demand) at the same time.
- **Call other flows**: Flows can now call other flows and pass parameters to them.

Finally, we are also providing migration guidance for our customers, although there is no automatic migration at this time.

Automated flows support batch operations in CDS for Apps

If you want to perform many different actions in Common Data Service (CDS) for Apps at once—such as inserting 100 different records at once—normally Microsoft Flow will make many different calls to CDS for Apps. Although this works fine, it can often take a long time for such a flow to run.

Now, you can add a **Batch** scope to your flows that will group all these different operations into a single call to CDS for Apps to dramatically improve performance. To use this, search for **Batch** under the **Common Data Service** connector. Once you add this scope into the Microsoft Flow designer, you can then add any CDS for Apps action inside of it. You cannot include actions for other services inside of a Batch scope. Instead, you will need to perform those other actions before or after the Batch.



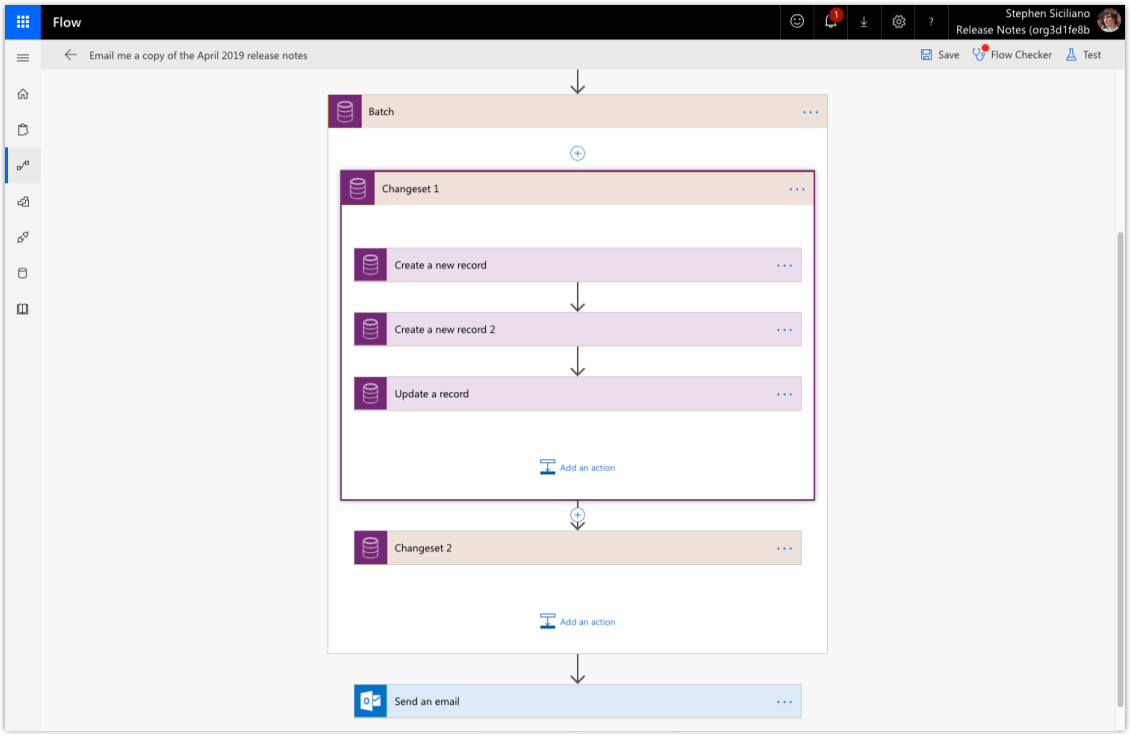
Batch scope in Flow

Remember, batch requests are best used when performing operations on entities that aren't associated with each other. Some operations on associated records, such as getting the primary contact of an account, can be performed in a single operation without using batching.

Automated flows support change sets in CDS for Apps

Change sets are an important part of working with Common Data Service (CDS) for Apps because all operations are considered atomic, which means that if any one of the operations fails, any completed operations will be rolled back. This is often referred to as a *transaction*.

We have now added native understanding of Change set scopes to the Flow designer so that users can replace classic Common Data Service workflows that previously needed atomic transactions.



Change sets in Flow

Change sets can be added inside of **Batch** scopes. To use this, search for **Change set** under the **Common Data Service** connector. Once you add this scope into the Microsoft Flow designer, you can add CDS create, update, or delete actions inside of it (read operations cannot be in a change set).

NOTE You cannot include actions for other services inside of a change set scope. Instead, you will need to perform those other actions before or after the Batch.

Enterprise-grade governance and compliance

Microsoft Flow has a number of new features for enterprise scenarios and will be available to sell in more markets, including the United States government cloud and the US Department of Defense. In addition, we have ensured that automated flows now have virtual parity with the classic Common Data Service (CDS) for Apps workflows. This allows us to start transitioning users from the classic workflow infrastructure to Microsoft Flow. To do this, Microsoft Flow now has a native understanding of CDS and supports it in the Microsoft Flow portal. Specifically, features like transactional atomicity across CDS actions and batching operations are now supported. With these improvements, first-party Dynamics 365 applications are now building their features on automated flows, including the SLA feature.

Support for guest users in flows and approvals

Before, flows could only be shared with other users inside the same organization. Moreover, *approvals* could only be sent to other people in the same company, which is problematic for many businesses because processes often span organizational boundaries. Now, flows and approvals both support sharing and assignment to people in other organizations.

This is enabled through support for Azure Active Directory (Azure AD) guest users—flows and approvals are still in the original organization, so that they can be managed by their tenant administrators. However, users from other tenants can be invited as *guests* and then assigned roles, giving them the permissions to participate in processes.

General availability of solution parameters

In October 2018, we offered the basic capability to import and export solutions that contain Automated Flows. Now, we are adding several additional solution capabilities so that makers and ISVs can more easily move assets from one environment to another. For example, Microsoft Flow now supports parameterization of solutions so that configuration can be varied from environment to environment. If a flow points to a SharePoint list, you can have the test environment point to a different SharePoint list than the production environment.

Analytics enhancements

Analytics reports now include more details about who owns flows across environments that have been used, created, shared, or have errors. Additionally, we'll be providing a connectors report that will outline which connectors are being used within an environment.

We have provided more granular access to analytics reports so that environment admins have access to reports without requiring tenant administration privileges.

Finally, we are now providing aggregated tenant-level analytics so that admins can see summary-level information across their entire tenant.

Flow is available in more geographies

Users in several new markets can now purchase Microsoft Flow, including Microsoft Flow for the US government and Microsoft Flow for the US Department of Defense (DoD).

Data Loss Prevention enhancements

Data Loss Prevention (DLP) policies provide organizations with the ability to group connectors into Business and Non-Business Data Groups. This allows organizations to build flows that contain only *Business* data sources and prevent business data from leaking to non-business data sources. A common example is: *I don't want my SharePoint data to end up on Twitter*.

In addition to these capabilities, users have wanted the ability to respect data classifications and the direction of data flow. By supporting this, the number of flows that people build will increase because we can be more specific about what scenarios are blocked.

For example, in many environments, Twitter is classified as *non-business* and SharePoint as *business*. Under the current model, this means that people can't gather sentiment analysis data and put it in a SharePoint list—something highly useful for product teams around events and collecting feedback.

With our new enhancements to DLP, this would now be enabled. There are two important aspects to this:

- First, administrators can now choose the direction that data can travel between connectors. For example, an organization might be comfortable with Twitter data to enter a flow, but they don't want that data leaving the flow and onto Twitter.
- Second, Data Classification is enforced by Microsoft Flow at both design time and run time. For example, you can't take data from a Highly Confidential SharePoint site and send it to a public SharePoint site. However, you can take data from the public site and move it to the Highly Confidential site.

Business intelligence

Overview of business intelligence April '19 release

This topic describes the theme areas for the April '19 release.

Power BI makes it very simple to derive insights from transactional and observational data and then get those insights into the hands of every employee to support decision making. This helps organizations **create a data culture** where every employee can make decisions based on facts, not opinions. Through integration with PowerApps and Microsoft Flow and embedding in applications, we close the loop from insight to action.

We're making investments in five areas key to driving a data culture:

- **Simple, fast, intuitive experiences** that get every employee motivated to participate.
- **Support for large-scale, enterprise-wide BI with self-service.**
- **Enabling agile, self-service, big data prep with Azure** so business analysts can participate in the synthesis and enrichment of digital signals and so organizations can accumulate data of analytical value in Azure Data Lake Storage.
- **Pervasive application of AI** to make the inherently difficult task of determining what truly matters easier for business users by automatically uncovering hidden insights, and helping business analysts with data preparation.
- **Enabling solution developers** to embed insights within the applications where actions are taken.

Simple, fast, intuitive experiences

We will focus on:

- **A streamlined content consumption experience.** Streamlined viewing, navigation, and collaboration for end users. As Power BI is increasingly used for large-scale enterprise deployments, usability for end users is critical. With a redesign of the consumption interface in Power BI, end users will have a simpler, more intuitive experience. Additional features such as personal user bookmarks, commenting on reports, and improvements to Power BI Home will provide additional capabilities highly requested by end users.
- **Richer authoring control, ensuring the best experience for your users.** With the ability to drill through to another report in the Power BI service, report authors will be able to create separate reports that drill into a specific area. End users can navigate between

reports with the filter context passed along with it. In addition, authors will have full control over the filtering experience in Power BI. This includes hiding specific filters from end users, locking filters from being modified as well as control over the look and feel within the report. Formatting options will continue to evolve—from usability additions including PowerPoint-like smart alignment guides on the canvas to powerful expression-based formatting, leveraging the DAX formula language to dynamically format visual properties in the report.

- **Performance profiling of reports.** Report authors will be able to profile their reports created in Power BI Desktop using the Performance Analyzer. This will provide visibility into load time of reports and how that time is being spent, and offer tips to improve to ensure the best experience for end users of the report.

Support for large-scale, enterprise-wide BI with self-service

- **Enabling enterprise-grade semantic models.** Building an enterprise-wide BI solution is more complex than departmental or self-serve use cases and it demands more of the platform. By adding support for the XMLA protocol, the data models in Power BI can be accessed by pretty much any BI tool. XMLA support also brings the community of Application Lifecycle Management tools for SQL Server Analysis Services to Power BI. The Power BI Desktop will have a redesigned relationship view, optimized for models with a large number of tables. In addition, SAP connectors will now enable end users to modify variable selection both in Power BI Desktop and in the Power BI service.

- **Worldwide scale.** Multinationals must operate globally, while also ensuring that local regulations and performance needs are met. With Premium Multi-Geo, we allow capacity to be deployed in any of our nine public geos to ensure data residency.

Agile, self-service big data prep with Azure

Data preparation is the most expensive step in BI, typically accounting for 60-80% of the cost of a typical BI project. Today we have a powerful data preparation tool, Power Query, that's a shared experience across Excel, Power BI, PowerApps, and Flow. While it's a great tool for many self-service scenarios, it has constraints in terms of enterprise manageability and scale.

- The data preparation logic is bound to a single BI data model, so it's not reusable.

- Scale is limited by a single computer on which the logic was created.

- Data is not schematized so applications cannot easily leverage the data.

We are making self-service data preparation more manageable for the enterprise with:

- **Reusable data-prep.** The data preparation logic is elevated as a first-class artifact that can be reused across multiple BI models.
- **Big-data scale.** We are addressing the scale limitations to enable business analysts to ingest, transform, integrate, and enrich big data.
- **Common Data Model.** Business analysts can bring data in Common Data Model (CDM) form within Power BI.
- **Extensibility through Azure data services.** We will land data in Azure Data Lake Storage Gen2 to facilitate collaboration and reuse between business analysts, data engineers, and data scientists.

We're fueling collaboration across roles by unifying access to data between Power BI and Azure Data Lake Storage. Business analysts can seamlessly operate on data stored in Azure Data Lake Storage with the self-service capabilities in Power BI, while data engineers, data scientists, and other professionals can extend access to insights with advanced analytics and AI from complementary Azure data services like Azure Data Factory, Azure Databricks, and Azure Machine Learning.

For example, data engineers can add, enrich, and orchestrate data; data scientists can build machine learning models; and business analysts can benefit from the work of others and the data available in Azure Data Lake Storage while continuing to use the self-service tools in Power BI to build and share insights broadly.

Pervasive application of AI

AI can aid in data exploration, comb through the data to automatically find patterns, help users understand what the data means, and predict future outcomes to help business drive results.

Power BI has been a pioneer in applying AI through capabilities such as natural language, which enables users to get answers by asking questions in plain English, or Quick Insights, which automatically finds patterns in data. We're making another major step forward in bringing AI to business intelligence and delivering several new AI features in Power BI:

- Q&A is simpler than ever with a better autosuggest and "Did you mean" feature to catch and correct natural language queries.
- Users can now get capabilities such as image recognition and text analytics directly in Power BI.
- Key driver analysis helps users understand what influences key business metrics.

- Users can create machine learning models directly in Power BI using automated machine learning.
- Users now have seamless integration of Azure Machine Learning within Power BI.

All these new AI capabilities require no code. This enables all Power BI users to discover hidden, actionable insights in their data and drive better business outcomes with easy-to-use AI.

Enabling solution developers

- **Power BI service apps** to enable customers and partners to create, share, market, sell, and grow their business faster. We will enable a Power BI user to become a 'service app creator' that can create and package analytical content. The resulting package can be deployed to other Power BI tenants through AppSource, or through a self-maintained web service.
- **Power BI Embedded** analytics enables developers of SaaS services and enterprise portals to embed stunning interactive reports and dashboards in a fraction of the time and cost. We will add more security, scalability, and features to support application lifecycle management for data models, to make embedded analytics ready for the enterprise. We will improve the interaction between embedded analytics and the hosting application or web portal. We will enhance capacity management for scaling resources and improve monitoring by integrating with common Azure tools for health, availability, and usage. We will also bring Power BI to Visual Studio to allow developers to easily integrate Power BI code and ship their applications faster.

What's new and planned for business intelligence

This topic lists features that are planned to release between April and September 2019. Previews for some features will start in February 2019.

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see Microsoft policy).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the International availability guide.

NOTE For information about Power BI features releasing before April 2019, see the October 2018 release notes.

Power BI Desktop

Feature	Release type	Date
Connector for LinkedIn Sales Navigator	Public Preview	June 2019
Improved relationship view	General Availability	April 2019
New filter experience	General Availability	April 2019
Drill between PBIX reports	Public Preview	April 2019
Expression-based formatting	Public Preview	April 2019
Performance analyzer for reports	Public Preview	May 2019

Power BI Service

Feature	Release type	Date
End user consumption		
Power BI Home and global search	General Availability	September 2019
App navigation	Public Preview	March 2019
Management, collaboration, and distribution		
New workspaces	General Availability	May 2019
Shared and certified datasets	Public Preview	March 2019
Enterprise BI		
Third-party BI tool connectivity for read-only scenarios (XML/A) *	Public Preview	February 2019

Feature	Release type	Date
Paginated reports feature updates *	Public Preview	April 2019
Enhanced email subscriptions	General Availability	April 2019
Premium metrics *	General Availability	August 2019
Metadata translations for AS models	General Availability	June 2019
SAP variables	General Availability	April 2019
Additional Power BI geos and regions *	General Availability	September 2019
Power BI Dataflows		
Self-service data prep with dataflows	General Availability	April 2019
Azure integration	Public Preview	April 2019
Computed entities *	General Availability	April 2019
Incremental dataflow refresh *	General Availability	April 2019
Dataflows on Premium capacity *	General Availability	April 2019
Linked entities *	General Availability	April 2019
Large-scale data compute engine *	Public Preview	April 2019
New dataflow viewer to visualize dataflow dependencies	Public Preview	April 2019
Pervasive Artificial Intelligence for BI		
Azure ML Integration	General Availability	April 2019

Feature	Release type	Date
Automated ML: Binary and multiclass classification models *	Public Preview	April 2019
Cognitive Services Integration (Premium) *	General Availability	April 2019
Insights – Key influencers	General Availability	April 2019
Q&A - AutoSuggestions	General Availability	April 2019
Q&A - Did you mean	General Availability	April 2019
Q&A - Follow-up questions	General Availability	April 2019
Python support in the service	General Availability	April 2019

* This feature requires Power BI Premium.

Power BI Mobile

Feature	Release type	Date
B2B support	General Availability	April 2019
Home	General Availability	April 2019
Report commenting	General Availability	April 2019
Portrait orientation in tablet experience	General Availability	April 2019

Power BI Template Apps

Feature	Release type	Date
Self-service builder experience for template apps	Public Preview	February 2019

Feature	Release type	Date
Self-service creation of a Power BI template app in AppSource	Public Preview	February 2019
Power BI tenant admin control (Governance)	Public Preview	February 2019
Template app customization and personalization	Public Preview	February 2019

Power BI Custom Visuals

Feature	Release type	Date
Custom visual policy in desktop	General Availability	April 2019
Custom visual favorites	General Availability	April 2019
Freemium visuals enabled through AppSource	General Availability	April 2019
Power BI admins can restrict usage to certified visuals only	General Availability	April 2019

Power BI Embedded

Feature	Release type	Date
Multi-geo **	General Availability	April 2019
Dataset sharing and dynamic binding **	General Availability	April 2019
Themes API	General Availability	April 2019
Report loading time improvements	General Availability	April 2019
Developer tools	General Availability	April 2019

Feature	Release type	Date
Export data programmatically	General Availability	April 2019
Embed Q&A with row-level security	General Availability	April 2019
Scheduled refresh API	General Availability	April 2019
Service principal authentication **	Public Preview	April 2019

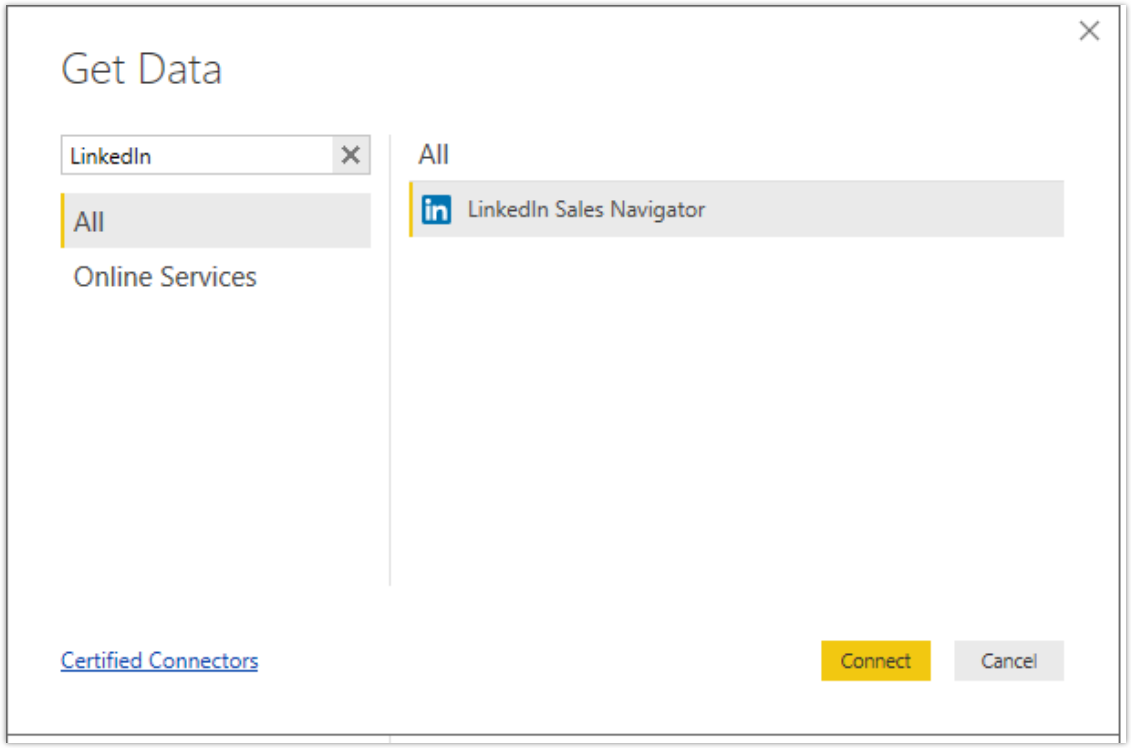
** This feature requires Power BI Premium or Power BI Embedded (A SKU). More information: FAQs for Power BI Embedded

Power BI Report Server

Feature	Release type	Date
Power BI Report Server May 2019 Update	General Availability	May 2019
Row-level security for Power BI reports	General Availability	September 2019
Export to Excel for Power BI reports	General Availability	September 2019
PowerPivot model refresh	General Availability	September 2019

Connector for LinkedIn Sales Navigator

A new connector will be added to the Power BI Desktop, allowing import of your organization's data from LinkedIn Sales Navigator.



LinkedIn Sales Navigator connector in Power BI Desktop

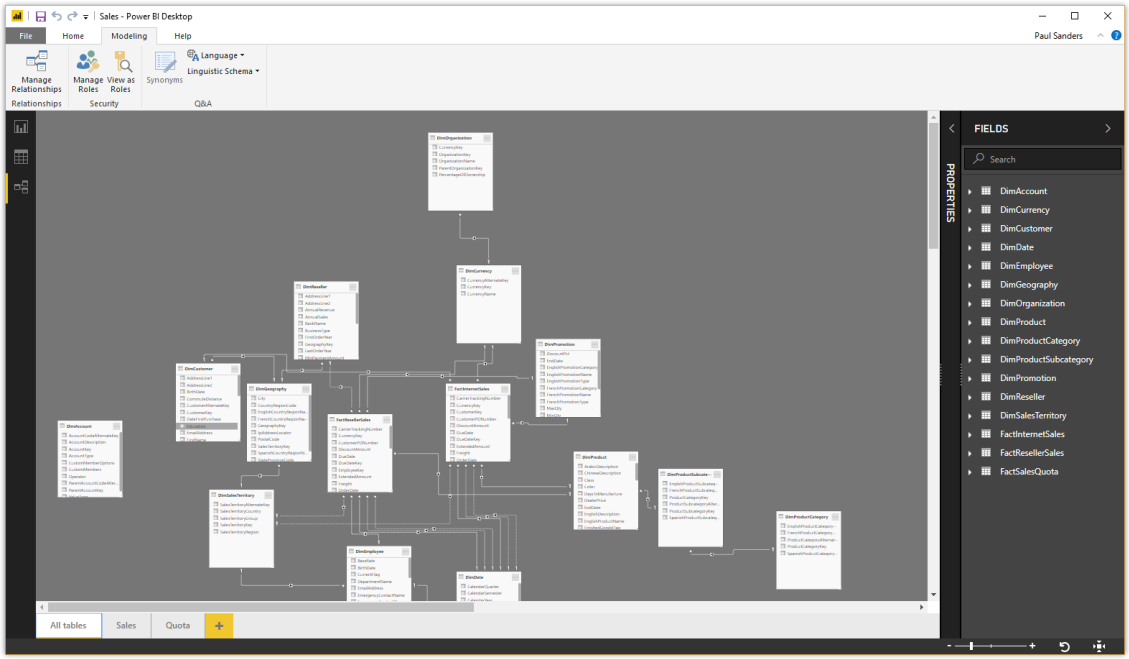
The available data includes the history of how Sales Navigator is being used by your organization, along with the history of the key Social Selling Index metrics for your users.

This data can then be combined as normal with other data drawn from different sources, providing a valuable signal on what drives sales.

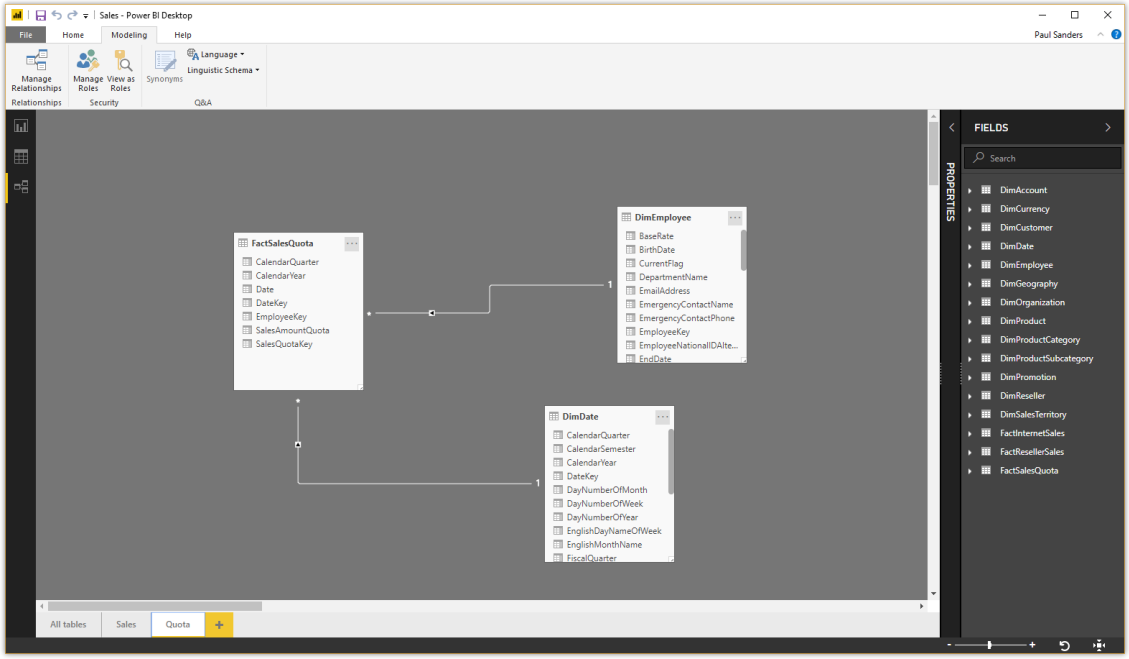
Improved relationship view

Report authors can create reports that contain dozens of tables and hundreds of fields. We will be improving the relationship view to make it easier to deal with large-scale models. As the number of tables grows, it becomes increasingly difficult to understand and maintain the network of relationships in a single diagram. The improved relationship view will allow multiple layouts to be created, each of which can show a subset of the tables, and the relationships between them. It will be possible to have separate diagrams containing just the tables that are relevant to a subject area.

In the following example, while the main layout "All tables" includes all 16 tables in the model, the "Quota" layout includes just the three tables relevant to Quota. Tables can be added to a layout by dragging from the field list, or by including all tables that are related to a chosen table that is already included in the layout.



A model with many tables in the improved relationship view

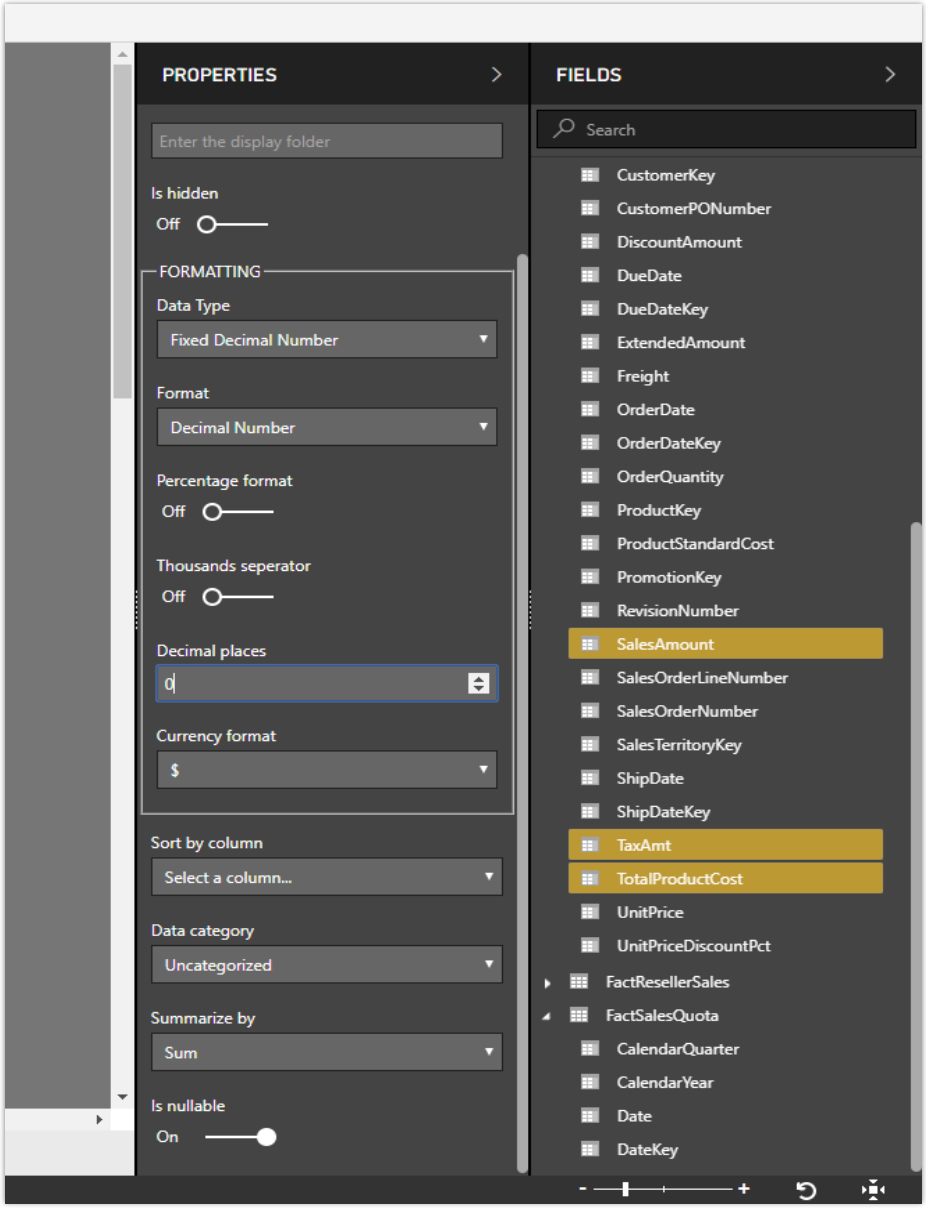


Improved relationship view showing a subset of the tables in your model

The new relationship view will also make it easier to set properties on tables and columns as the model size grows. When an object (table, column, measure, and so on) is selected in the field list, then all the properties (visibility, formatting settings, default summarization etc.) of that

object will be displayed in the property pane, where the values can be changed. In addition, it will be possible to select multiple objects in the field list, and then change the value of properties for *all* of the selected objects, in a single edit.

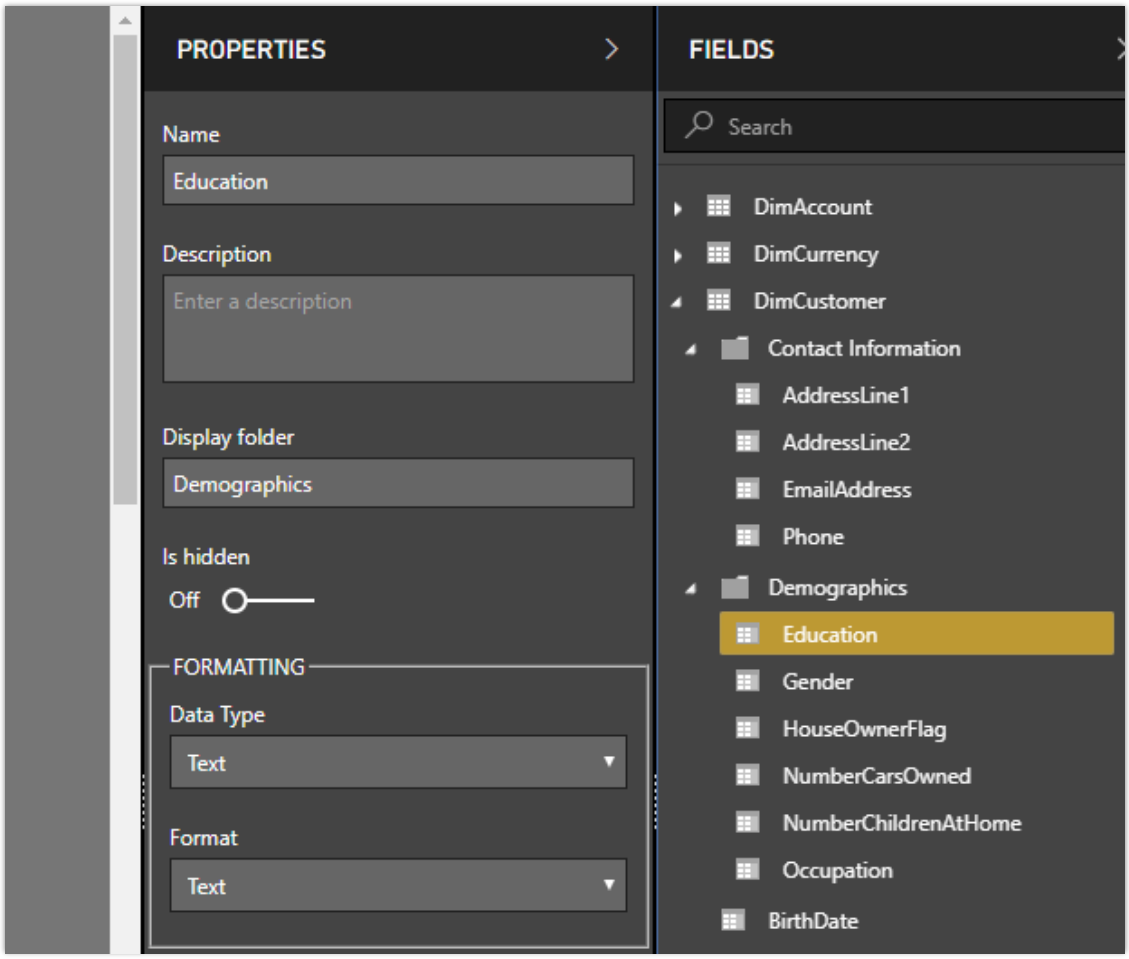
In the following example, the formatting options for use of a thousand's separator, and the number of decimal places to display, can easily be changed in one edit for the three selected fields "SalesAmount", "TaxAmt", and "TotalProductCost".



Formatting of properties can easily be modified with bulk edit in the improved relationship view

It will be possible to use search to find tables and fields, as is the case for the field list in the report view.

Finally, properties will include a new "Display folder" property. This allows the model author to organize fields into folders to avoid dozens of fields being presented as a single flat list. In the following example, some fields on the Customer table have been organized in folders for "Contact Information" and "Demographics". This organization will then be used when displaying the fields, both within the Power BI Desktop and after publishing the report to the Power BI service.



Display folders can be created in Power BI Desktop

New filter experience

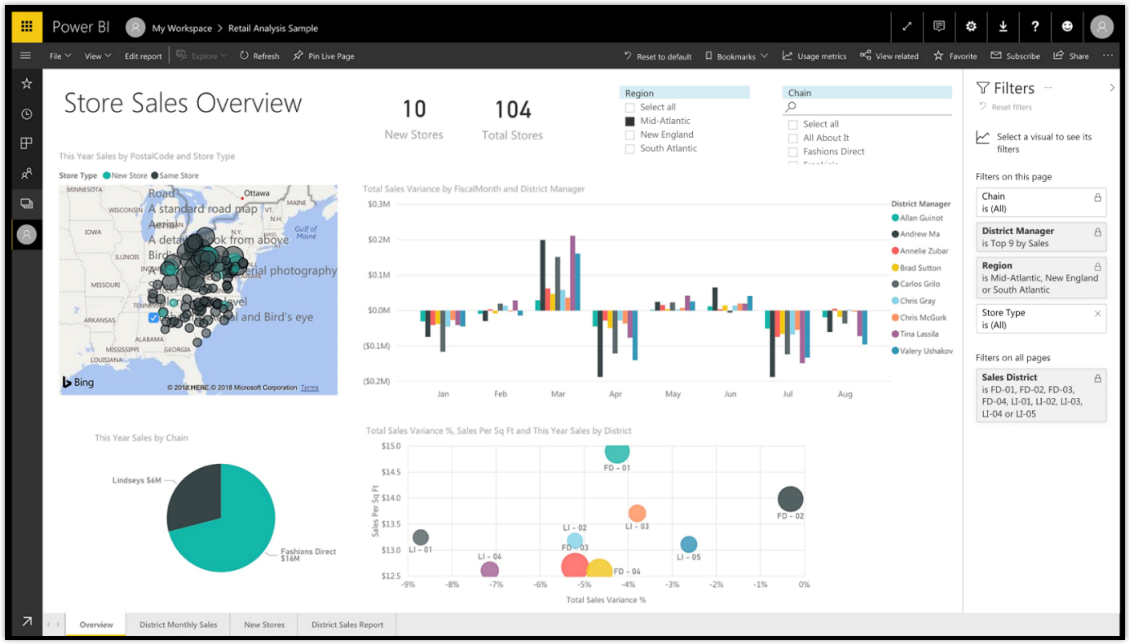
This public preview of the revamped filter experience went live with the November 2018 release of Power BI Desktop. This experience helps consumers of reports to better understand which

filters are affecting a visual. It also helps with discoverability and gives report authors full control over the look and feel.

- Authors can hide a filter card from end users even though it is applied to the report.
- Authors can apply a filter and lock it, so end users will not be able to modify the filter but will show it to them for their information.

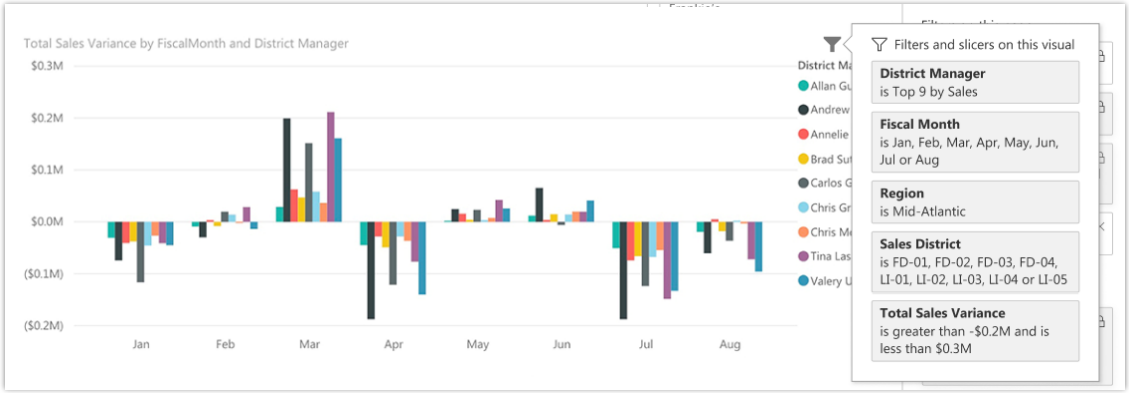
The redesigned filter pane includes the ability to:

- Hide individual filters or the entire filter pane from report consumers.
- Lock filters as read-only for report consumers.
- Format the filter pane to make it feel like a part of the report design.
- Define the default experience, expanded or collapsed, at report load time for report consumers.
- Understand what filters are being applied to a visual, including slicers, filters, and cross-highlighting.
- Search for filter values.



Report using the new filter pane experience

In addition to the changes to the filter pane, we are also giving authors the flexibility to show filters (including slicers) that are affecting a visual. Authors can enable a filter icon as a visual header and all the filters affecting that visual will show up when the end user hovers or clicks on that filter icon. This will help end users to understand which filters are impacting the visual to better interpret the insights.



Hover on the filter icon for any visual to see which filters have been applied

We are actively listening to feedback from users of the public preview and improving the experience before making it generally available. The following capabilities are planned and will ship before or alongside general availability of the new filtering experience:

- Accessibility for end users and report authors.
- Additional formatting capabilities.
- Consolidating the filtering experience to a single pane.
- Ability for authors to sort and reorder filter cards.

The new filter experience addresses the following Power BI Ideas requests:

- Active filter indication
- Search options in filter
- Hide filter
- Prevent user from changing filters

Drill between PBIX reports

Report authors can now set up drillthrough actions across reports published to the Power BI service. This is important because sometimes an author will have multiple reports, with

additional information or levels of detail, and would like to contextually transition from one report to another. The end users' experience allows easy contextual jumps by simply selecting a source visual in a report and drilling into another report that is now filtered to the same context as the source visual. Provided that the schema of the reports match, the following filter context will get applied to the destination report:

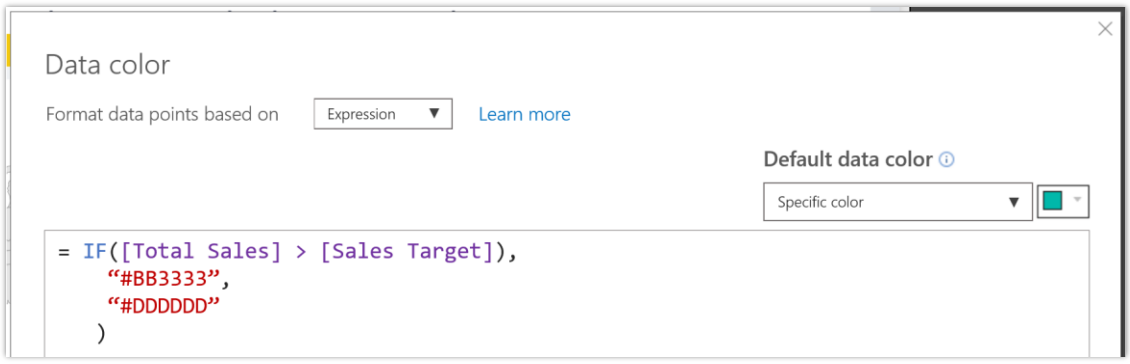
- Report, page, and visual level filters affecting the source visual
- Cross-filtering and cross-highlighting that impacts the source visual
- Slicers on the page and sync-slicers
- URL parameters

This feature addresses the following Power BI Ideas requests

- Drill to a report
- Drillthrough functionality for reports
- Cross-report drill

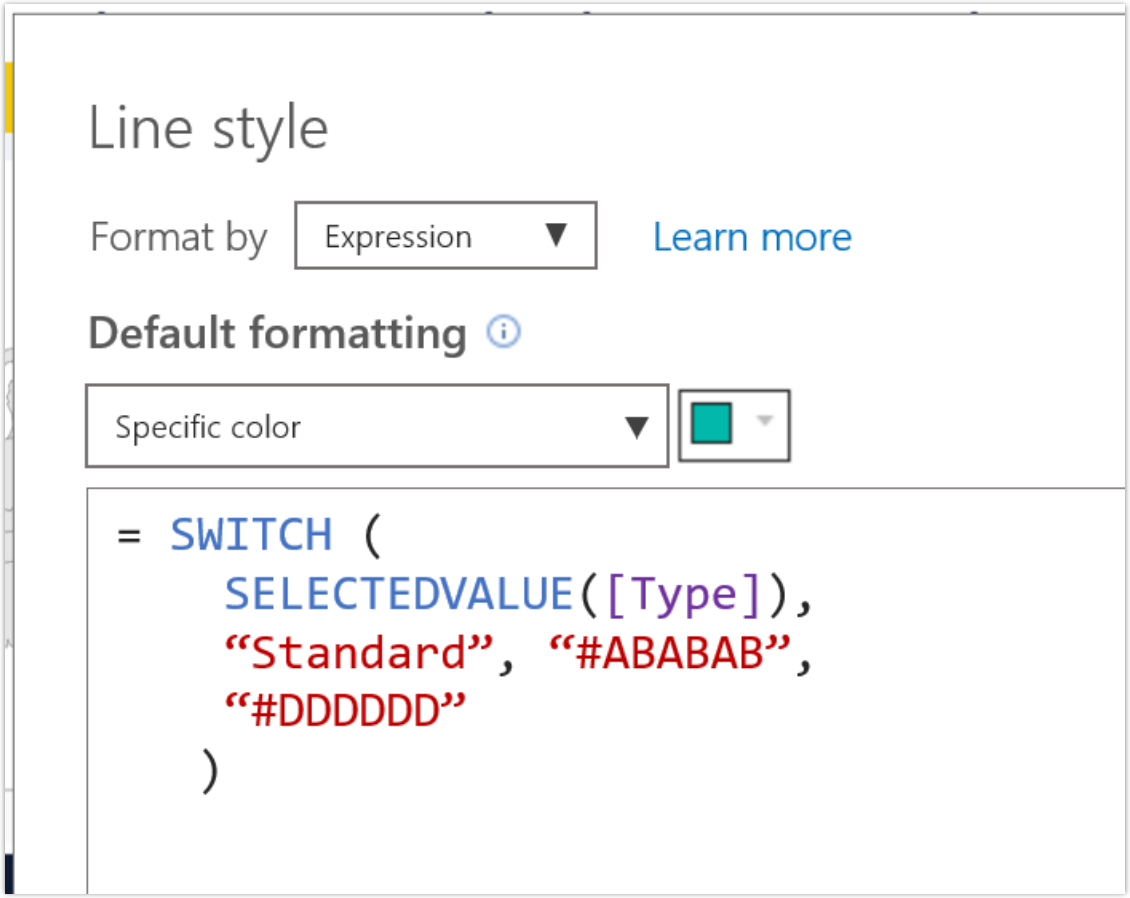
Expression-based formatting

Power BI provides a variety of formatting options for all its visuals, and this semester we're adding more advanced controls for report authors to dynamically change formatting based on the data in their model. Analysts can define expressions that modify the color, style or visibility of all elements within their charts. For example, they might change the color of a datapoint when the amount exceeds a target:



Data colors using expression-based formatting

Or they might adjust the style of one line in a series to call attention to it:



Line styles using expression-based formatting

Formatting can be based on any DAX expression and is affected by the context of any filters in the report.

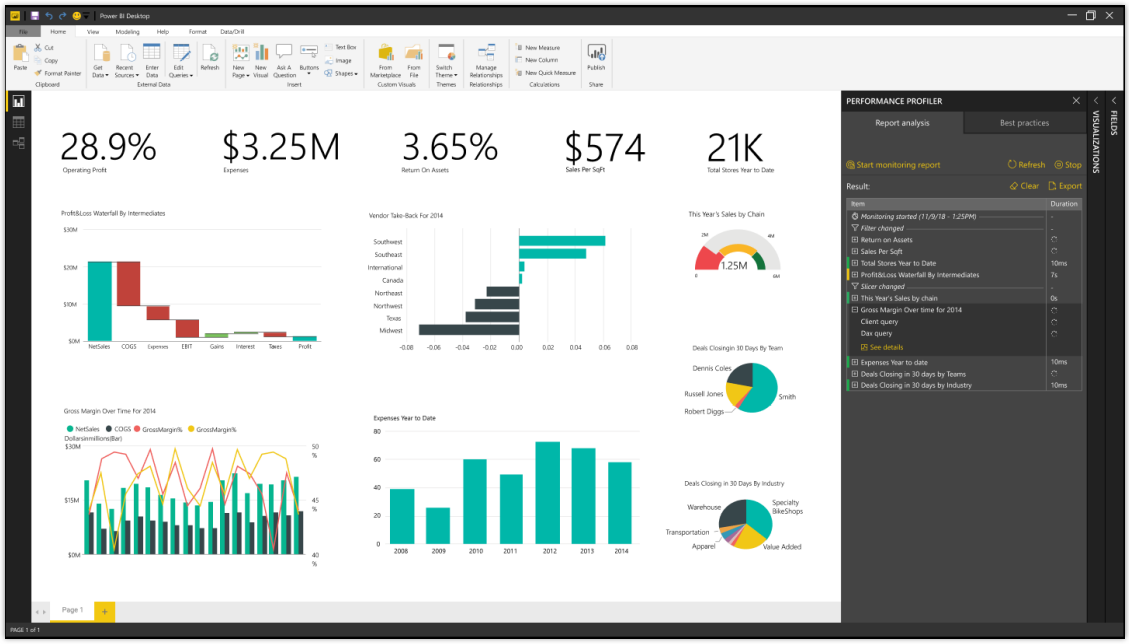
This feature addresses the following Power BI Ideas requests:

- Conditional formatting throughout
- Better conditional formatting tools
- Conditional formatting for text
- Dynamically specify data color using column e.g. #A66999

Performance analyzer for reports

Performance analyzer will allow report authors to easily see the effect of every interaction on a page. This includes how long each visual takes to refresh and where the time is going. By using

this tool, authors will be able to produce reports that are much more responsive for their end users.



Performance analyzer in Power BI Desktop

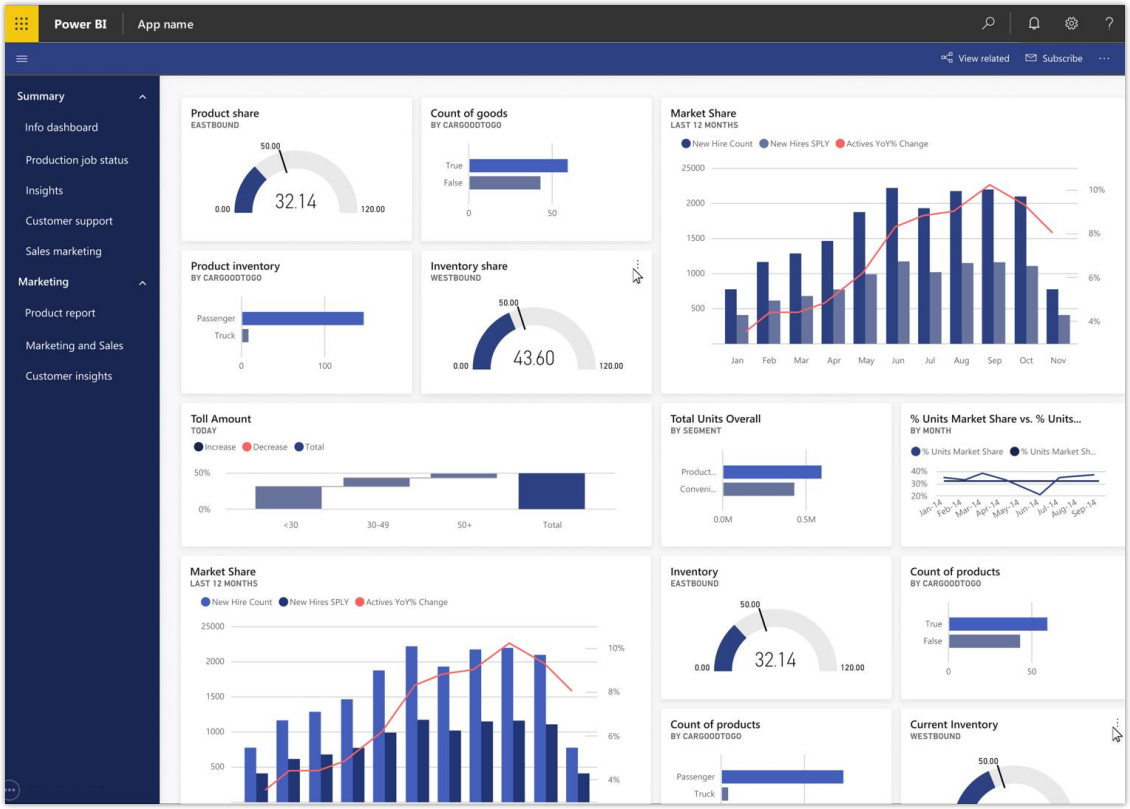
Power BI Home and global search

Following the preview of Power BI Home and global search in October '18, we are adding new capabilities based on user feedback. Some of these capabilities include:

- Showing workspaces on Power BI Home, both in the Favorites & Frequents area as well as with a new Workspaces area. Workspaces will be shown based on how frequently a user accesses the content list for that workspace.
- Support for more types of visuals in the pinned tiles area.
- Organizational branding, allowing administrators to set the background image, color, and default content in the pinned tiles area on Home for their users. By setting default content, an organization can ensure that users have a consistent and standardized experience for navigating to content.
- Allowing administrators to configure the documentation links in the "Learn how to use Power BI" section for their tenant.
- Migrating featured dashboards to make Home the default landing page for all users.

App navigation

In large-scale deployments, end users often need to navigate between different reports. With app navigation, we are giving reporting teams the power to customize navigation for end users, so they can find content quickly and understand the relationships between different reports and dashboards.



Easy navigation for report consumers

Improvements to Power BI workspaces

In August 2018, we released a preview of the new Power BI workspaces, which allowed you to:

- Manage access using **security groups**, **distribution lists**, and even multiple **Office 365 Groups**.
- Create a workspace in Power BI without creating an Office 365 group.
- Effectively manage workspaces, with tools and APIs for Power BI admins.

Now, we are taking the next step by making these new workspaces generally available, which will include the following additional features:

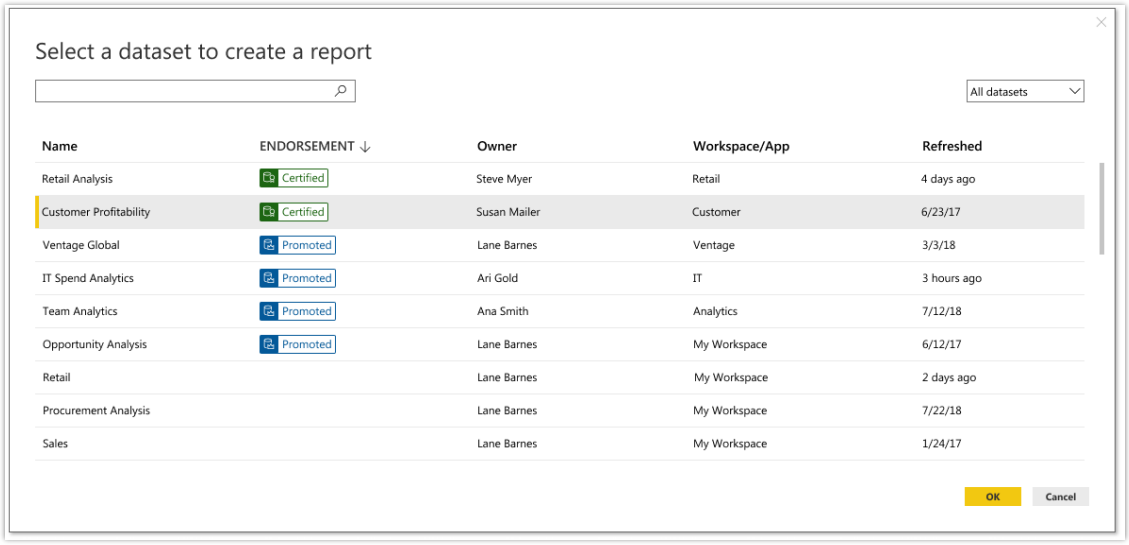
- A new **viewer role**, perfect for users who need to view content within workspaces without the ability to modify. This additional role will be available at a time later than the initial General Availability.
- Quick access in "Get Data" to specific file storage locations, making it faster to import reports.
- Migration of existing workspaces to become new workspaces. Migration will be available at a time later than the initial General Availability.
- Support for usage metrics in new workspaces.
- Support for the SharePoint Web Part with new workspaces.
- Admin Portal support to view all workspaces in the tenant and recover workspaces with no owners.

Shared and certified datasets

In many cases, data already exists to answer your business question. The challenge for the data provider is to share it in a way that encourages reuse and preserves a single version of the truth. For the report author, the challenge is to find reliable and high-quality data quickly and easily in both the service and Power BI Desktop.

With shared datasets in Power BI, we are allowing a single dataset to be used by multiple reports, across workspaces. As part of this work, we are expanding the Power BI permission model to add a new "explore" permission, separating out the permission to view pre-created reports on a dataset from those with "explore", which will allow the creation of new content, whether that is through the Power BI service (reports, Q&A), Desktop, Analyze in Excel, or third-party BI tools.

To help users discover shared datasets relevant to them, we are introducing a new dataset discovery experience in the Power BI service and Desktop that makes it easy to browse and search to find content (see the following screenshot). Organizations will be able to certify datasets that are the authoritative source for critical information, which will be prominently featured in the discovery experience.



Shared and certified datasets

Third-party BI tool connectivity

With the support of the XMLA protocol, for datasets in the Power BI service, customers will have more flexibility in how they deliver and manage their BI deployments. XMLA will allow connectivity to Power BI datasets from third-party applications. XMLA also enables programmatic access to manage and update datasets from scripts or applications you write. Since XMLA is the same protocol used for managing SQL Server Analysis Services and Azure Analysis Services models, a variety of Microsoft and third-party tools for lifecycle management, operations, and management can be used for Power BI datasets.

Publish SSRS paginated reports to Power BI Premium workspaces

In November 2018, we released a preview of Paginated reports in the Power BI service. With feedback from the public preview, we are releasing additional capabilities:

- Ability to build Paginated reports based on Power BI datasets, allowing authors to reuse the same data model between both their Interactive and Paginated reports.
- Ability to distribute Paginated reports as part of Power BI apps.
- Ability to subscribe to Paginated reports.

Enhancements to email subscriptions

While Power BI already supports email subscriptions, we will be extending the capabilities in this area, so they are more suited for centrally managed distribution.

Specific enhancements include:

- Scheduled distribution, allowing emails to be sent at specific times of day, independent of the refresh schedule for the dataset.
- Support for paginated reports, including the ability to include attachments to email distributions in the various formats supported for paginated reports in the Power BI service.
- Setting filters or parameters for email subscriptions to paginated reports so they can be customized for a specific audience.

New metrics for Premium

In August 2018, we released Power BI Premium Capacity Metrics service app for Power BI Premium, giving capacity admins visibility into the use and health of their Premium nodes. We have since released a few versions of the app with additions as query metrics: max/average duration, max/average wait times, top datasets by duration/wait times, and query histograms.

We will add other capabilities in the next versions of the app, including:

- Additional metrics to effectively manage the following Power BI datasets to improve report usability:
- Total active datasets in memory
- Active memory
- Dataset load time
- Dataset load wait time
- Datasets failure to load
- Metrics to manage additional Premium workloads, including dataflows, paginated reports, and AI.
- Support for national clouds.

Metadata translations for Analysis Services models

Power BI users see dataset fields in their client locale or language when translations are defined in the dataset or Analysis Services model.

Support for SAP variables

Power BI supports connecting to both SAP Business Warehouse (BW) and SAP HANA. It is commonly the case that the SAP BW or SAP HANA objects being used have variables or

parameters defined on them. For example, an SAP BW Infocube or SAP HANA Analytical View might have variables defined for country and year that restrict the data available to the selected country or year. Such variables might be defined as either required or optional in the SAP BW or SAP HANA source. An example of a parameter might be TaxRate, which determines the TaxRate that will be used in calculations.

Power BI Desktop will add support for such variables and parameters, for both SAP BW and SAP HANA, when importing the data and when connecting using DirectQuery. This allows the report author to set the values, such as the country and year to be used, that then restricts the data shown in the report to the selection made. The report author sets the values upon first connecting and can then change the selections later if required.

After the report is published to the Power BI service, it is not possible to change the selections made for the report in the Power BI service. As a result, all users who open the report would see the same data, reflecting the selections made by the report author.

For reports that use DirectQuery, we will be improving this by adding the ability for the users who open the report to make their own selection of these variables and parameters. For example, a user opening a report might choose to see data for France/2018, while another user opening the same report might choose to see USA/2017. The choices made by each user will be remembered and reused when they next open the report, much like slicer selections are today.

Additional Power BI geo regions

Customers use Power BI in conjunction with other Azure data services. To help optimize performance and user experience, Power BI is expanding to several new regions, so data can be located close to reporting. Additionally, we are adding several new geos for customers who have specific data residency requirements. A summary of the regions (and geos) is shown below. Geos in parentheses marked with **NEW** are new geos for Power BI.

- Korea Central (Korea **NEW**)
- France Central (France **NEW**)
- South Africa North (South Africa **NEW**)
- UAE North (UAE **NEW**)

New Power BI customers will automatically be placed in these new regions based on tenant location. Existing customers can take advantage of the new regions using Power BI Premium Multi-Geo.

General availability of Power BI dataflows

Power BI introduces dataflows to help organizations unify data from disparate sources and prepare it for modeling. Analysts can easily create dataflows using familiar, self-service tools. Dataflows are used to ingest, transform, integrate, and enrich big data by defining data source connections, ETL (extract, transform, load) logic, refresh schedules, and more. Data is stored as entities in Common Data Model-compliant folders in Azure Data Lake Storage Gen2. Dataflows are created and managed in app workspaces by using the Power BI service.

You can use dataflows to ingest data from a large and growing set of supported on-premises and cloud-based data sources, including Dynamics 365, Salesforce, Azure SQL Database, Excel, SharePoint, and more.

You can then map data to known Common Data Model entities, modify and extend existing entities, and create custom entities. Advanced users can create fully customized dataflows using a self-service, low-code/no-code, built-in Power Query authoring experience, similar to the Power Query experience that millions of Power BI Desktop and Excel users already know.

Once you've created a dataflow, you can use Power BI Desktop and the Power BI service to create datasets, reports, dashboards, and apps that leverage the power of the Common Data Model to drive deep insights into your business activities.

Dataflow refresh scheduling is managed directly from the workspace in which your dataflow was created, just like your datasets.

Power BI dataflows include more than 40 connectors to common data sources such as Excel, SQL Server, Oracle, Azure SQL Data Warehouse, Dynamics 365, and Salesforce.

Azure integration

Power BI can be configured to store data in Common Data Model-compliant folders in your organization's Azure Data Lake Storage Gen2 account where data developers and data scientists can access that data via Azure services. Over time, more and more Azure services (such as Azure Machine Learning, Azure Databricks, and Azure Data Factory) will introduce built-in support to read and write Common Data Model-compliant folders.

Power BI can also connect to Common Data Model-compliant folders created by Azure services in your organization's Azure Data Lake Storage account, enabling analysts to work seamlessly with this data in Power BI.

Computed entities

Dataflow entities are stored in Common Data Model-compliant folders (CDM folders) in Azure Data Lake Storage Gen2. After your entities have been loaded to CDM folders, you can generate new insights by transforming, modifying, and enriching entities, and aggregating large-scale data. These newly created entities are also stored in CDM folders. Static analysis of Power Query

M expressions makes it possible to identify dependencies between entities automatically, so they'll always be updated in the optimal order, with no need for manual orchestration.

Support for computed entities allows third parties to build Power BI apps leveraging dataflows with richer insights and AI capabilities. For example, you could enrich a customer account entity from Dynamics 365 for Sales with information from open service tickets in Dynamics 365 for Service, and relevant customer meeting information from Office 365.

Refreshing computed entities requires Power BI Premium.

Incremental dataflow refresh

Power BI supports advanced dataflow refresh features, including incremental dataflow refresh, to streamline and speed the dataflow refresh process and to support the ingestion of larger data sets. Incremental refresh requires Power BI Premium.

Dataflows also support full data refresh either using scheduled refresh or refresh now that does not require Power BI Premium.

Dataflows on Premium capacity

Power BI administrators can easily assign workspaces with dataflows to Premium capacity and manage usage as part of a Power BI Premium subscription. Once capacity is allocated, dataflows will have access to the Power BI Premium storage (100 TB per P1 node), and dedicated capacity. Dataflow workload resource utilization metrics are available in the Power BI Premium Capacity Monitoring app, allowing capacity admins to monitor, manage, and adjust dataflow resource utilization within their organization.

Dataflows hosted on Premium capacity will support advanced features, such as calculated entities, linked entities, incremental refresh, and more.

Linked entities

Power BI makes it possible to link entities from one dataflow to another without duplicating them. Linked entities can be used in the transformation, enrichment, or calculation of new entities. Avoiding duplication with linked entities makes it possible to maintain a single source of truth across your organization. Refreshing linked entities requires Power BI Premium.

Large-scale data compute engine

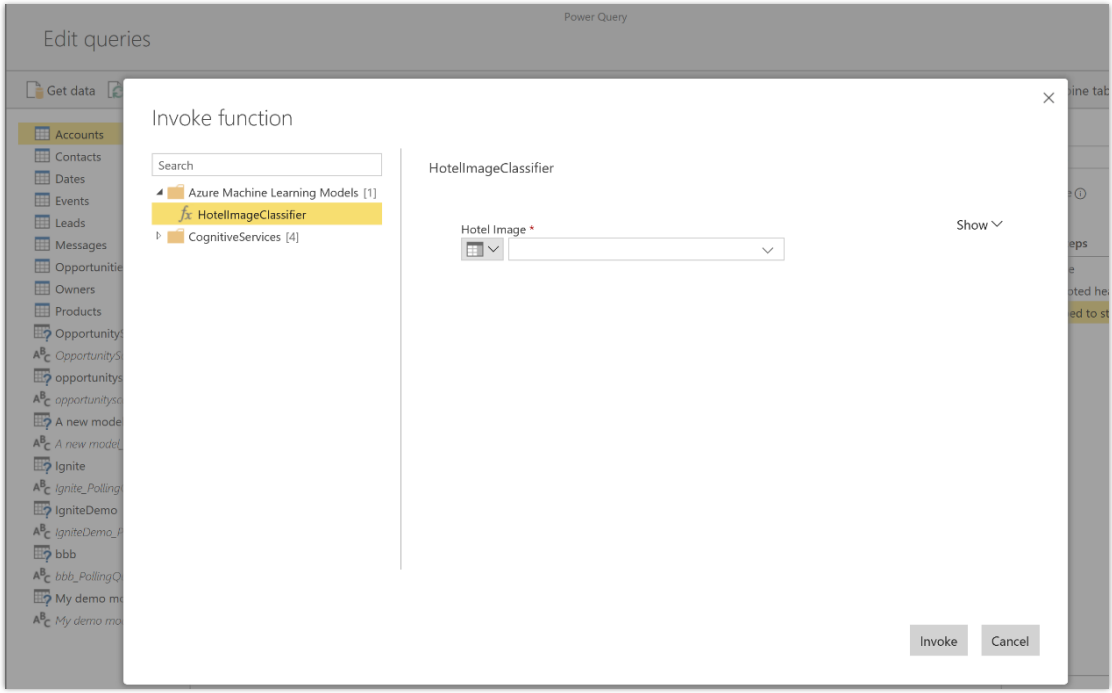
We are enhancing the dataflow calculation engine in Power BI Premium to enable high-performing large-scale data transformations (TBs of data).

New dataflow viewer to visualize dataflow dependencies

BI professionals can use dataflows to handle complex data preparation tasks, reusing work with linked entities and dependencies. We are introducing a new user experience for visualizing dataflow dependencies and connections between entities, making it easier for analysts to understand how entities relate to each other and to manage their ETL (extract, transform, load) projects.

Azure Machine Learning integration

How Azure Machine Learning functions are exposed in Power BI, in a low-code way, is a key collaboration feature between data scientists and analysts. Once a Power BI user is given access to an Azure Machine Learning function, the function will be automatically discovered and shown to that user in Power Query Online and in the Power BI Desktop, with the function parameter requirements.

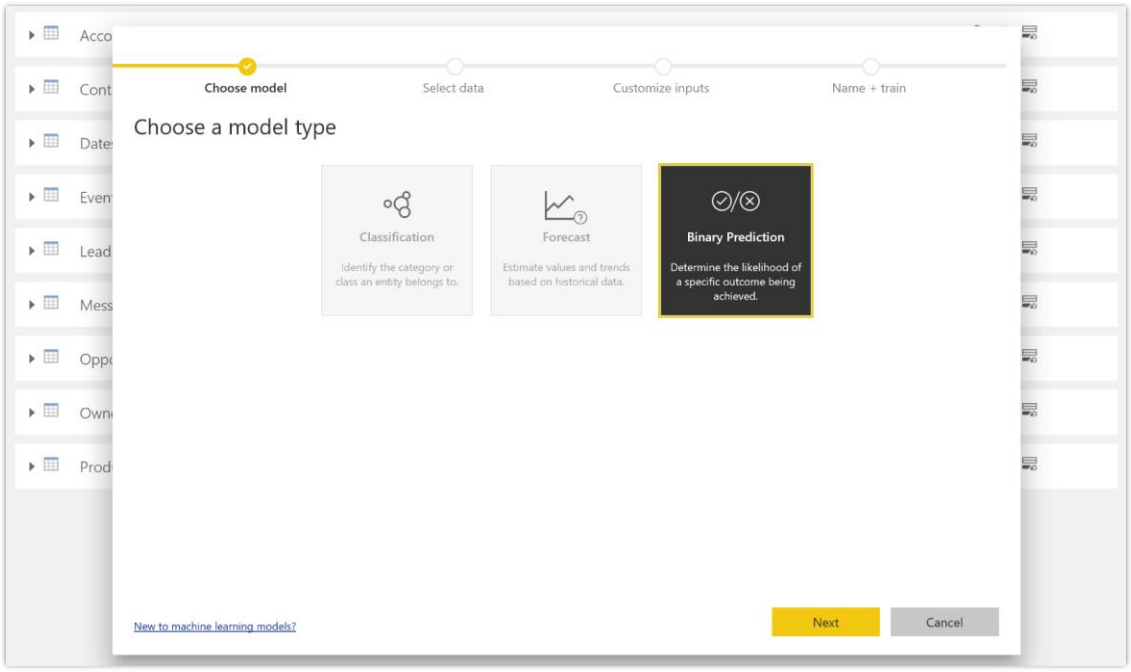


Azure Machine Learning integration

AutoML: Binary and Multinomial Classification Models

BI pros and data analysts can now build machine learning inside Power BI with just a few clicks. AutoML uses Azure Machine Learning technology to perform highly specialized tasks such as feature selection, algorithm selection or hyper-parameter optimization. These models can be customized via Power Query with filters or feature engineering.

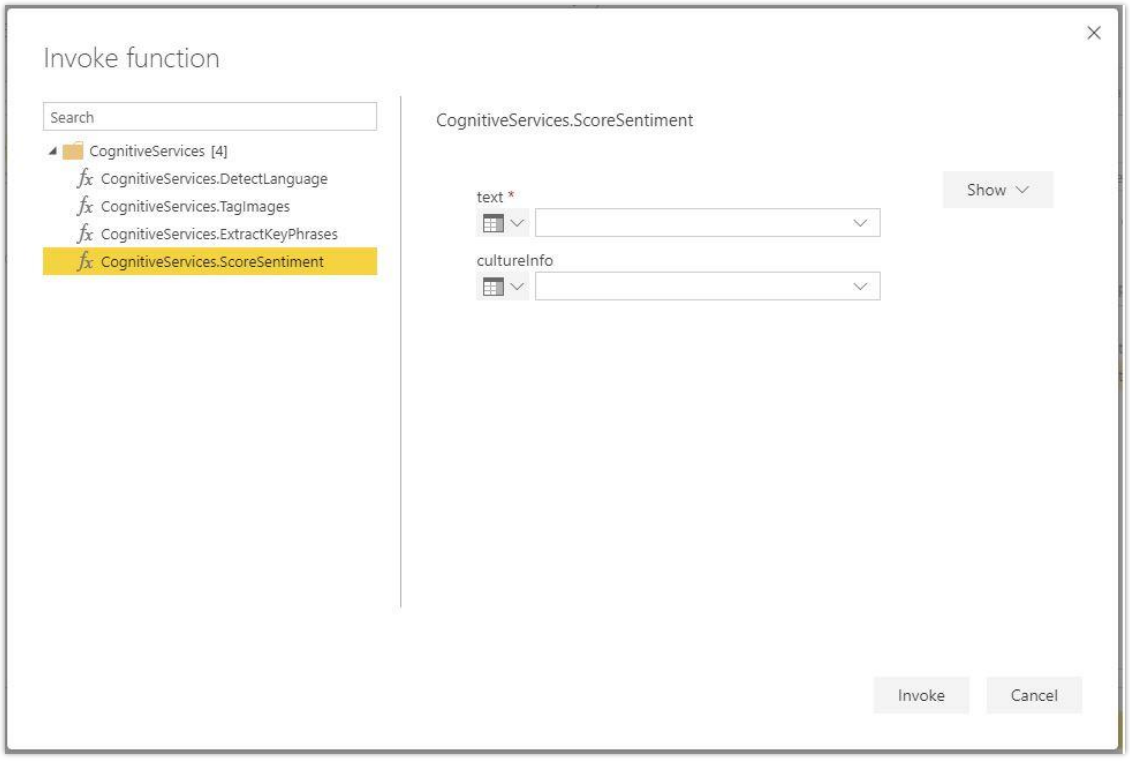
Models are applied automatically during data ingestion and refresh. Rich Power BI reports are generated for each model, describing the performance of the model, as well as explaining the key influencers' impact on the predictions generated by the model.



AutoML: Binary and Multinomial Classification Models

Cognitive Services integration (Premium)

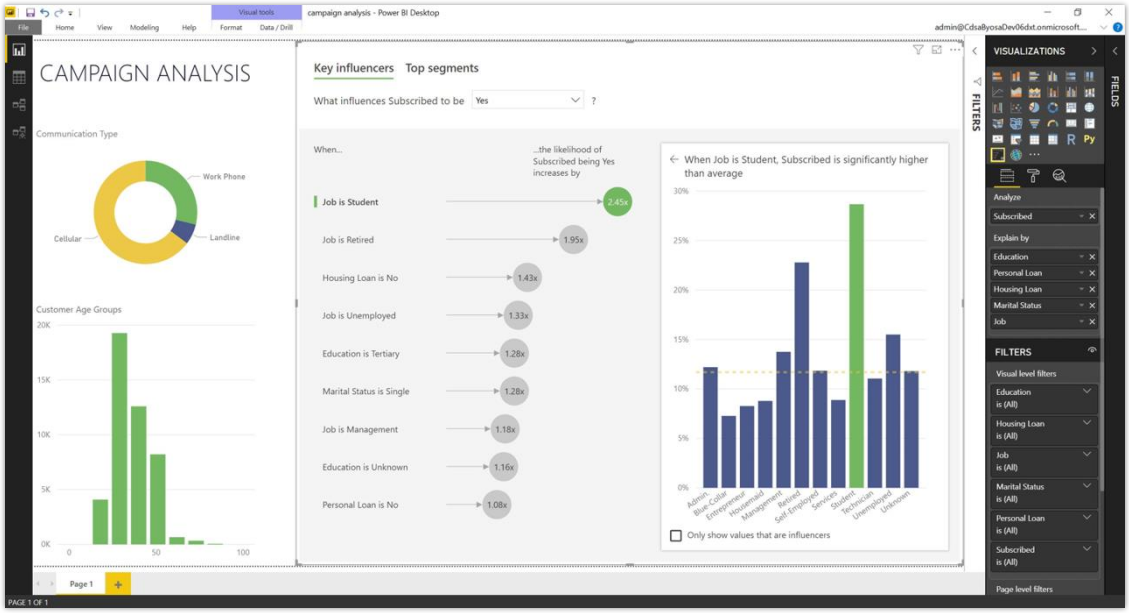
Power BI users can now use intelligent algorithms to understand and interpret unstructured data. A set of Azure Cognitive Services are exposed as Power Query functions and can be used to perform tasks such as key phrase extraction, language detection or sentiment analysis for text, as well as tagging for images. The set of Cognitive Services exposed in Power BI will be extended in subsequent releases.



Cognitive Services

Insights – Key influencers

Analysts and end users are interested in what drives their business results. The new Key influencers visual surfaces what increases or decreases the likelihood of a business event occurring or what influences a KPI's rise or fall. Machine learning is used to rank influencers, from most to least impactful, and a likelihood score and natural language description is provided to explain the impact. Users can also drill into a factor to see the distribution of their data for that variable/category.



Insights - Key influencers

As users interact with their reports, either through filtering or selecting visuals, the key drivers are re-evaluated and updated in real time.

Q&A – AutoSuggestions

Q&A will now automatically deliver suggested questions to all Q&A users. This will help first-time users and give existing users the ability to ask a range of questions they might not have known they could ask before. The suggested questions will appear underneath the existing saved questions that a user can define.

Q&A – Did you mean

Q&A will now try to assist users when they ask questions. For example, it will help users fix spelling errors and ambiguity in their questions. When Q&A detects these types of errors, it will assist the user with a search-like experience and ask for clarification or confirmation, with suggested corrections on whether this is what the user meant.

Q&A – Follow-up questions

Q&A provides the means for customers to ask natural language questions of Power BI. Q&A Follow-up questions supports questions in the context of past questions, so customers can have a dialog with Power BI. Follow-up questions can add more detail, such as filters, or ask for quick insights on the prior question.

Python support in the service

Power BI enables analysts and data scientists to leverage Python scripts and Python visuals inside Power BI Desktop.

The new Python visuals support in the service allows consumers of dashboards and reports to see Python-generated visuals. We will initially support Python version 3.x and support five of the most commonly used packages in Python and plan to continue expanding this feature over the year.

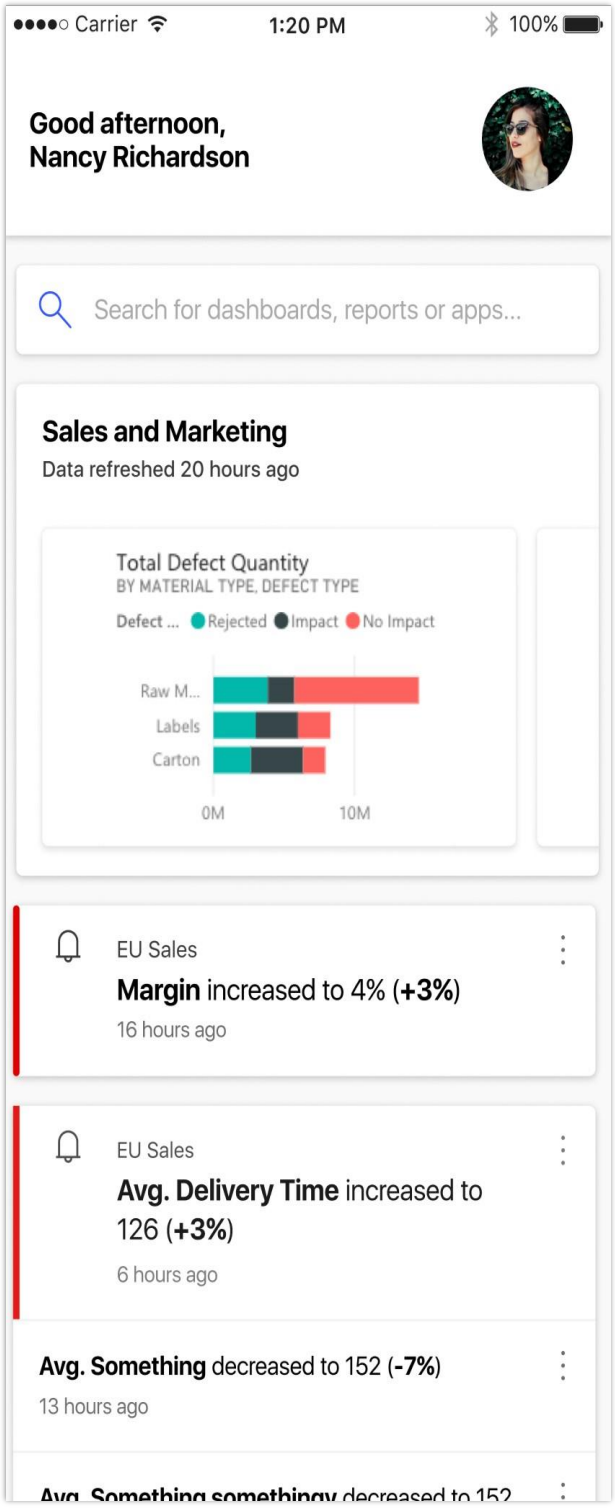
Business to Business (B2B) Support

Business to business collaboration is relevant for many organizations and scenarios, such as holding companies that have a central organization and multiple affiliate brands, or supply chain companies that work with multiple partners. Azure Active Directory B2B (Azure AD B2B) enables that collaboration, and with Power BI and Azure AD B2B integration, Power BI users can distribute and share Power BI apps, dashboards, and reports to users outside of their organization. The Power BI Mobile app will allow external users who received a "shared artifact" email to access those artifacts directly from the mobile app by clicking on the artifact link.

This feature addresses the following customer request in Power BI Ideas: https://ideas.powerbi.com/forums/265200-power-bi-ideas/suggestions/32393443-azure-ad-b2b-guest-users-able-to-open-power-bi-app

Home

Home will be a Power BI mobile user's landing experience, providing an at-a-glance view of a user's most important metrics and a launching point to their content. Home will be personalized and contextual to the user, presenting their most viewed dashboards and a feed with activities relevant to the user, such as recent commenting, data refresh notifications and alerts. Users will be able to navigate to their content directly from Home.



Home phone view

Report commenting

Collaboration around data is key for organizations. It allows business managers and workers to share findings, discuss their meaning, and provide business context and ideas for improving business results. Power BI now provides a platform to collaborate around data in reports by enabling commenting and conversations on **reports** in addition to commenting and conversations on dashboards and tiles.

Users can start a conversation or join an existing one to add their insights and comments from their web browser or their **mobile app**. Report commenting will include @mention and mobile push notification features to keep recipients up to date with the discussion, directly from their mobile app.

Portrait Orientation in tablet experience

Many tablet users are using their tablet in portrait orientation (especially for midsize tablets). Those users expect the Power BI Mobile app to render a report's phone layout (which is optimized for portrait orientation) to better use the device real estate and provide a better user experience.

Self-service builder experience for template apps

Power BI enables its users to go into a template app builder mode to create template apps and switch existing workspaces into Power BI template apps that can then be packaged and deployed to other tenants. The template app package consists of one artifact per type (one dashboard, one report, one dataset, one dataflow). As a template app creator, you can configure your app to block content from being available for editing by those who install the app.

There are several scenarios where such a deployment package could be used. In the enterprise, you can promote content between your test, preproduction, and production environments. As a system integrator, you can create a template app to deliver an analytics solution based on 'M' code running during data ingest as part of a dataflow, or dataset that is used to deliver unique insights for your customers.

Self-service creation of a Power BI template app in AppSource

We are adding a new offer type to the Cloud Partner Portal, so partners can register their template apps and market them through AppSource to the millions of Power BI users searching for apps within Power BI.

Power BI tenant admin control (Governance)

As a Power BI tenant admin, you will have the ability to govern and control who in the organization is authorized to create template apps.

Template app customization and personalization

After installing a template app, users will have the ability to personalize and customize the installed content to suit their needs. The template app installation automatically creates a workspace and deploys the package content into that workspace. It then automatically publishes the workspace as an app, available by default only to the installer. Post-installation, an installer can modify the content in the workspace and choose when and what to publish to the organization, just like they would for any other workspace.

Custom visual policy in Desktop

Today the custom visuals setting in the admin portal is enforced only in the Power BI service. This feature will enable admins to control custom visual usage in Power BI Desktop using Group Policy.

Custom visual favorites

Custom visuals can be pinned to the visualization pane and can be saved side-by-side with the "pre-packed" visuals. Report creators won't need to download custom visuals for each report because they will have their favorite visuals in their visualization pane.

Freemium visuals enabled through AppSource

Adding support for visuals with the “May Require Additional Purchase” price tag in AppSource. Today, only free visuals are allowed in our marketplace. ISVs are selling premium visuals separately. Enabling freemium visuals in the marketplace will increase the number of visuals and will help our partners with marketing.

Power BI admins can restrict usage to certified visuals only

Enable admins to limit custom visual usage in the organization to certified visuals only. Report creators will only be able to pick certified visuals in the marketplace. Private visuals will continue to be enabled and consumed through the organization store.

Multi-geo

Multi-geo for compliance in Azure capacities will be generally available.

Dataset sharing and dynamic binding

Dataset sharing will allow cross-workspace usage of certified and reliable datasets, reducing redundancy and the overhead of managing duplicated datasets. Dynamic binding will allow developers to define the connection between a report and a dataset programmatically, using the embed token. These capabilities will enable ISVs to use a single report for multiple

customers, while binding it in real time to the relevant data for each user, ensuring the security of their customers' data.

Themes API

Apply a theme to your entire report using the Power BI Embedded Themes API. Themes include corporate, seasonal, or any other colors you might want to apply to your visuals. When you apply a theme, all visuals in a report, or tiles in a dashboard, will use the colors from your selected theme. Also use APIs to apply and change the theme at a session level for an embedded object.

Report loading time improvements

The loading time of analytic visuals plays a crucial role in application users' experience and willingness to engage and explore data. We are planning significant infrastructure work on report loading time, to reduce the mean load time by up to 50 percent, giving end users a smoother experience and enabling developers to add analytics to pages they were reluctant to before.

Developer tools

We plan to add tools for developers integrating Power BI Embedded into their applications, making it faster and easier. Some of the capabilities we plan to release include:

- An interactive tool to explore REST API capabilities without writing code.
- More conceptual articles for Power BI Embedded best practices.
- New samples, in different languages, for the main use-cases for integrating analytics in your application.
- New showcases in the Power BI Embedded Playground.

Export data programmatically

Power BI Embedded supports session-level JavaScript configuration of options and context menu actions, separately for each visual in a report. This provides more control over which actions a user can perform in a Power BI Embedded visualization, such as export data, drill through, and more.

Embed Q&A with row-level security (RLS)

Power BI Embedded supports row-level security for Q&A. This allows different users to ask questions about their data and get answers based on their specific data view. This means each

user of a Power BI Embedded application gets answers to questions based on the data they have permission to view.

Scheduled refresh API

The Power BI Embedded Scheduled Refresh REST API enables dynamic configuration of the data refresh schedule. This allows dataset owners to make fast, automated changes, or to update many datasets at once by defining the frequency of data refresh.

Service principal authentication

To enhance deployment, security, and application lifecycle management of applications using Power BI Embedded, support for service principal is planned. This recommended authentication approach allows applications to authenticate without a user context and use Power BI APIs. To use service principal in Power BI API, an Azure Active Directory web application needs authorization by a Power BI admin.

New features from Power BI Desktop

The May 2019 release of Power BI Report Server will include new data sources, modeling, and reporting features from Power BI Desktop releases.

Row-level security for Power BI reports

Support for user-based security with row-level security for reports published to the Power BI Report Server to restrict the data seen by each user and compartmentalize sensitive information within the organization.

Export to Excel from tabular visuals

Ability to export data to Excel from a tabular visual in the Power BI Report Server so that users can analyze data.

PowerPivot model refresh

You can refresh Excel workbooks that contain PowerPivot models.

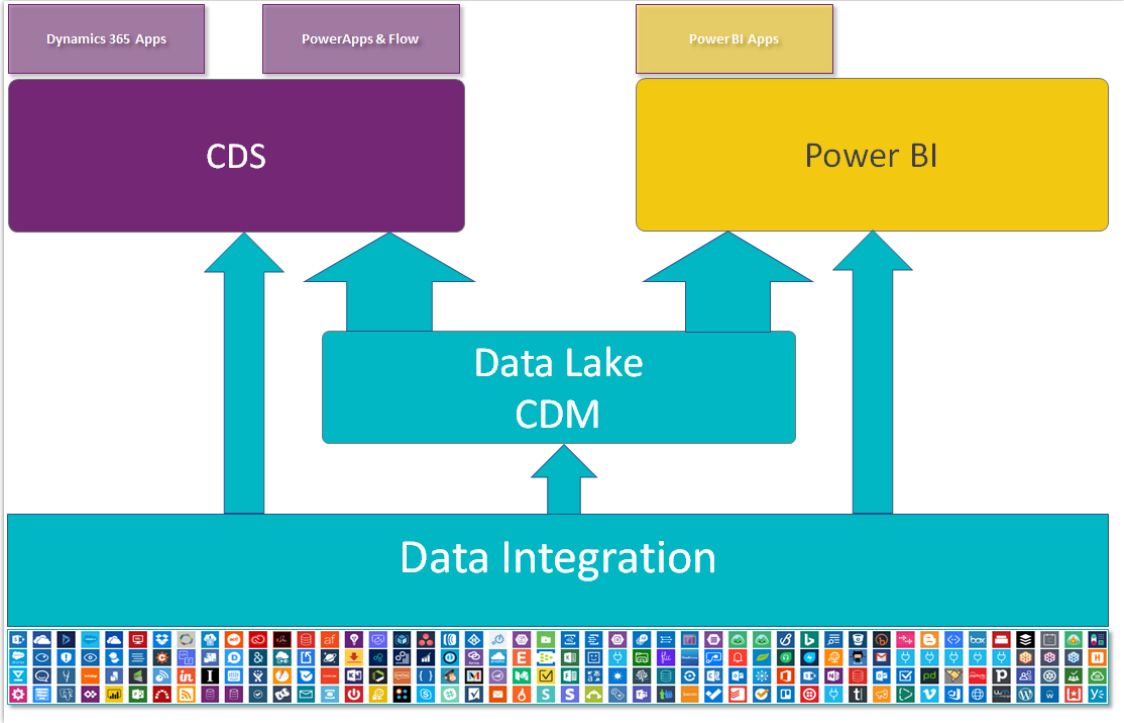
CDM and Data Integration

Overview of Common Data Model and Data Integration April ’19 release

The Data Integration team delivers experiences and services to bring data into Common Data Service (CDS) for Apps, Power BI dataflows, and Azure Data Lake Storage (ADLS) Gen2 from a wide variety of sources to help accelerate our data-gravity strategy. As part of this vision, we worked within Microsoft and with third parties to form the Common Data Model (CDM) and worked with Adobe, SAP, and others on the Open Data Initiative.

As a result of this effort, we will deliver:

- An extensible platform that supports a rich ecosystem of ISVs and partners who develop hundreds of connectors to new sources.
- The Common Data Model, which is used and extended by ISVs and industry (and which is evolving into One Data Model as part of the Open Data Initiative).
- Power Query as the data prep solution through Microsoft products, including Power BI, PowerApps, Logic Apps, Microsoft Flow, and Analysis Services (both Azure-based and SQL Server Analysis Services), and Microsoft Excel.
- Hybrid connectivity via the on-premises data gateway.
- Dual-write and Data Integration solutions.



The Data Integration team delivers experiences and services to bring data into a variety of products and services

What's new and planned for Common Data Model and Data Integration

This topic lists features that are planned to release between April and September 2019. Previews for some features will start in February 2019.

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see Microsoft policy).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the International availability guide.

The April '19 release has four themes for these areas: Power Query, Connector Platform and Extensibility, Common Data Model (CDM), Dual Write (Link to Common Data Service for Apps), CDS Data Integrator, Data Export Service, Data Integration Templates, and Gateway.

Power Query Desktop

Area	Feature	Release type	Date
New and enhanced connectors	We're working on connectors for PDF, AtScale, Essbase, and IBM DB2 DirectQuery. April 2019	General Availability	April 2019
New and enhanced data preparation capabilities	Based on customer feedback, we'll improve "Smart Data Prep" Power Query Desktop features and make them generally available over the next six months. April 2019	General Availability	April 2019
Connectivity Platform	We're adding support for developer-signed custom connectors.	Public Preview	April 2019

Power Query Online

Area	Feature	Release type	Date
New and enhanced get data capabilities	We're making it possible to create tables by typing or copy-pasting data into Power Query Online and to browse OneDrive for Business when connecting to file sources in Power Query Online.	General Availability	April 2019
SAP data connectivity	Support for modifying SAP HANA and BW variables in PowerBI.com for a published report.	Public Preview	April 2019
New data connectors	We're working on new data connectors, including Amazon Redshift, Impala, Apache Spark, HDInsight Spark, HDInsight Hive Interactive Query, Vertica, Google BigQuery, Teradata, Informix, Sybase, MySQL, and PostgreSQL.	Public Preview	April 2019

Area	Feature	Release type	Date
Fundamentals and compliance	Power Query Online support in new regions and GCC.	Public Preview	April 2019
Mapping entities to CDM schema	Includes support for mapping to CDS for Apps data types when creating new entities via Power Query Online Data Integration and improved experiences for browsing entities when mapping entities to CDM schema.	Public Preview	April 2019
Common Data Service for Apps	Includes support for lookup import using natural keys when creating new entities via Power Query Online Data Integration.	Public Preview	April 2019

Common Data Model

Feature	Release type	Date
Updated documentation and quick-start guides for developing with the Common Data Model	General Availability	April 2019
Extensions to CDM schema documents including namespace and versioning	Public Preview	April 2019
SDK and tooling in multiple languages for CDM schema documents, CDM folders, and model.json files	Public Preview	April 2019
New CDM entity definitions covering key scenarios from popular Dynamics offerings, including Finance, Operations, and Marketing	Public Preview	April 2019
CDM entity packs for industry solutions such as education, non-profit, and retail	Public Preview	April 2019

Dual Write (Link to Common Data Service for Apps)

Feature	Release type	Date
Get your Dynamics 365 Finance and Operations data in CDS and keep it up to date	Public Preview	April 2019

CDS Data Integrator

Feature	Release type	Date
SDK for Data Integrator	Public Preview	April 2019
Enhancements for error handling, project management, and troubleshooting	Public Preview	April 2019
Ability to propagate template updates to projects	Public Preview	April 2019
Data integrator is GCC compliant	Public Preview	April 2019
Performance guidelines for high-volume integration and for commonly used integration write patterns	Public Preview	April 2019

Data Export Service

Feature	Release type	Date
Show count and trends for records from Dynamics 365 for Sales (CRM) and Azure SQL	General Availability	April 2019
Mitigate known issues	General Availability	April 2019
Reduce latency and improve perf on processing deletes	General Availability	April 2019

Data Integration Templates

Feature	Release type	Date
New templates and updating existing templates (Dynamics 365 for Finance and Operations, Field Service, Project Service, Dynamics 365 for Talent and Salesforce)	General Availability	April 2019

Connector Platform and Extensibility

Feature	Release type	Date
New and enhanced connectors for PowerApps and Microsoft Flow	Public Preview	April 2019
Rich documentation and guides for developing connectors	General Availability	April 2019
Custom connector SDK and APIs for PowerApps and Microsoft Flow	Public Preview	April 2019
Support for policy templates in custom connectors for PowerApps and Microsoft Flow	Public Preview	April 2019
Open source connector development on GitHub for PowerApps and Microsoft Flow	General Availability	April 2019
Improved connector certification process	General Availability	April 2019

Gateway

Feature	Release type	Date
OOTB certified data connectors support (Extensibility support)	Public Preview	April 2019
Multiple credentials for an on-premises data source	General Availability	June 2019
Gateway administration across a tenant	General Availability	April 2019

Feature	Release type	Date
Gateway management enhancements	Public Preview	April 2019
Improved reliability, supportability, and diagnostics	General Availability	April 2019
SAP BW single sign-on (Kerberos) in Power BI Service (via On-premises data gateway), for SAP BW Application & Message Server	General Availability	April 2019
SAP HANA single sign-on (SAML) in Power BI Service (via On-premises data gateway)	General Availability	April 2019
Support for developer-signed custom connectors	Public Preview	April 2019

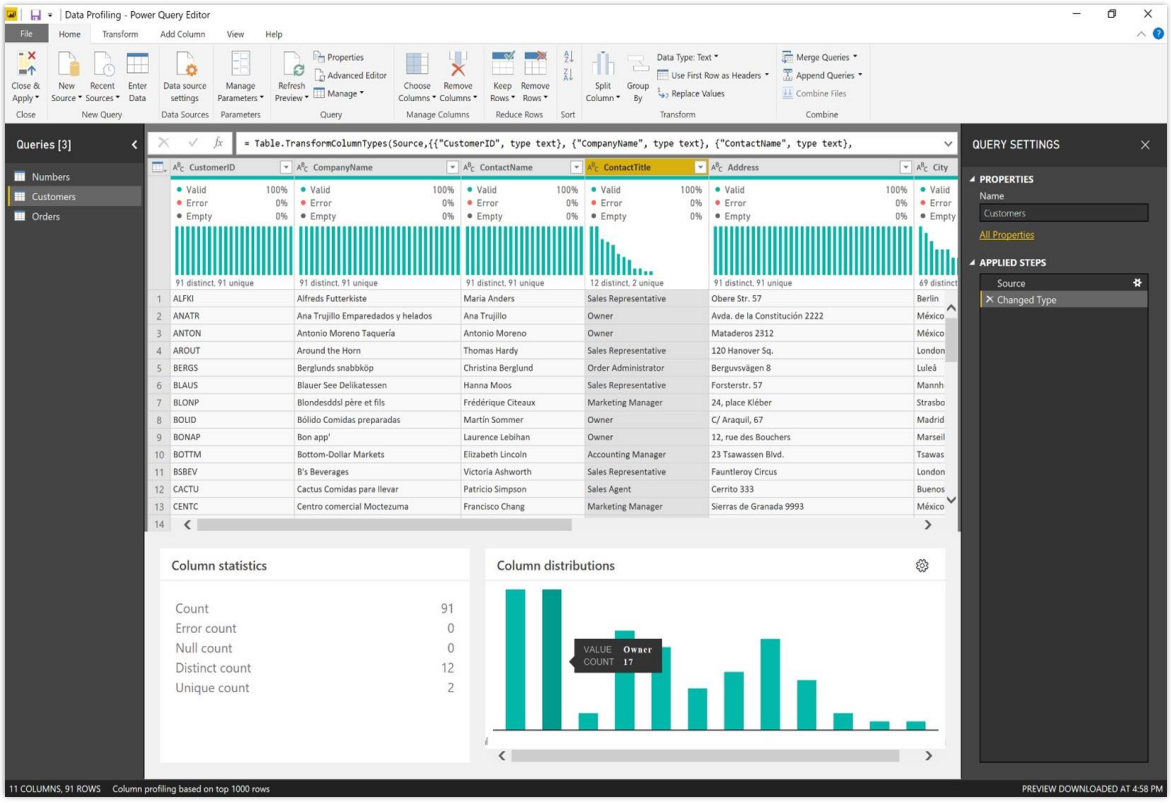
Power Query becomes smarter and more powerful

One of the major trends within the self-service data preparation space is *smart data preparation*. It brings the power of AI into the hands of the data analyst, democratizing access to AI algorithms to enrich and enhance data, whether that is automatic (such as built-in recommendations) or by means of user interaction (such as calling in to AI/ML functions).

Over the last 6-12 months, Power Query added a lot of smart data preparation capabilities to its core experiences, including:

- **By example data extraction capabilities**: Allows users to extract data from existing table columns or from HTML pages. This is based on letting users specify a set of sample output values, having Power Query infer the users' intent, and then extracting the remaining values by applying AI algorithms.
- **Fuzzy merge**: Allows users to easily combine data from multiple tables using fuzzy matching algorithms instead of strict matching.
- **Data profiling**: Helps users easily identify error, empty, and outlier values within their Power Query Editor data previews.
- **Built-in browsing and invocation experiences in Power Query Online**: Uses Azure Machine Learning models and Azure Cognitive Services functions as regular data preparation steps in Power BI dataflows. This brings together the out-of-the-box Cognitive Services capabilities built in to the Azure cloud platform, as well as the ability to consume

Azure Machine Learning models created by an organization's data scientists, and shared with data analysts for consumption.



Data profiling image

In the upcoming months, we will continue building on this foundation to make Power Query's smart data preparation capabilities even more powerful, helping data analysts achieve more from their data with even less effort.

High enterprise value connectors become generally available for Power BI customers

By April '19, many of the recently shipped Public Preview capabilities for enterprise-grade connectors in Power BI will become generally available, including:

- SAP BW single sign-on (Kerberos) in Power BI service (via on-premises data gateway)
- SAP HANA single sign-on (SAML) in Power BI service (via on-premises data gateway)
- PDF connector
- AtScale connector

- Essbase connector
- IBM DB2 DirectQuery

Additionally, Power BI is enabling a new Public Preview capability on top of the SAP HANA and BW connectors based on enterprise customer feedback, allowing report consumers to modify SAP HANA/BW variable values within the PowerBI.com report consumption experiences.

Power Query Online adds several new data connectivity and preparation capabilities

Power Query is available as a Windows/Desktop embeddable component (currently integrated with Power BI Desktop, Excel Desktop, and SQL Server Data Tools) as well as a web-based, Azure-hosted service (currently integrated with Power BI dataflows, Common Data Service for Apps, and Microsoft Flow).

Over the next six months, we'll add the following data connectors to Power Query Online:

- Amazon Redshift
- Impala
- Apache Spark
- HDInsight Spark
- HDInsight Hive Interactive Query
- Vertica
- Google BigQuery
- Teradata
- Informix
- Sybase
- MySQL
- PostgreSQL

Increased support for developers on the Power Query platform

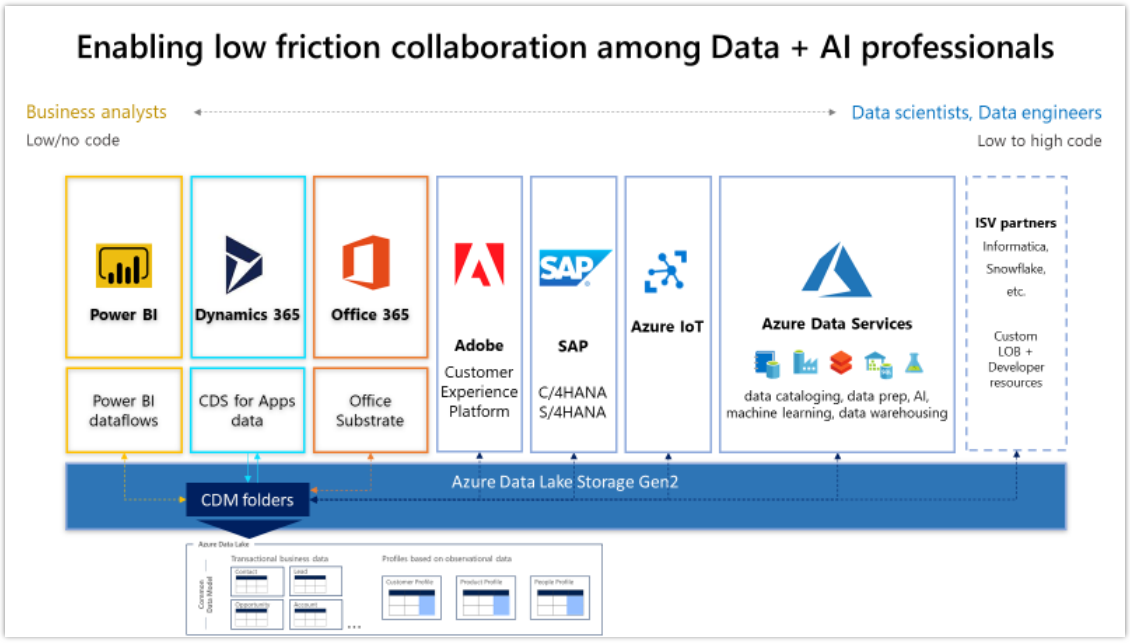
With the general availability of certified connectors and custom connector development for Power BI, the Power Query platform has made the same tools that we use to develop connectors available to developers around the world.

Over the next six months, we will continue to expand our offerings to developers and the ability for anyone to connect their data to the Power Query platform.

Developers have asked us to support a way to deliver connectors that have been signed with their certificate, rather than going through Microsoft's process. We will be introducing a method to enable developers and users to use connectors signed by third parties.

Common Data Model (CDM)

Today's Common Data Model (CDM) provides modular and extensible business entities (account, lead, opportunity, and so on) as well as observational data concepts (such as Link clicks and Email opens). It unifies data in a well-known schema with semantic consistency across data silos, applications, and deployments.



CDM allows producers and consumers to interoperate within the data lake

The span of products, platforms, and services that implement, produce, and consume data in CDM form continues to grow, inside and outside Microsoft.

Additional capabilities and features as part of the Open Data Initiative

As part of the Open Data Initiative, "one data model" across the founding partners supports a customer-owned shared data lake for intelligence and knowledge creation scenarios with direct access to the underlying data and metadata. The founding partners (and additional ones) will land their data with well-defined semantic metadata in that data lake and pull from it. This resembles the first version of "CDM folders" in Azure Data Lake Storage (ADLS) Gen2 but

requires significant evolution, with multiple Azure data services and partners (for example, Informatica) building toward it.

With the huge volume of existing customer data and applications on the existing transactional platforms (such as CDS), it is not a tractable problem to converge those onto the same "one data model." We need to ensure we make landing the data in the lake seamless and automatic. Similarly, it must be easy to gain insights from the shared data lake and bring those insights back into the platforms. This also extends the effort to include data assets from Adobe and SAP in our AI and intelligence offerings.

Updated developer and consumer documentation

The Common Data Model continues to evolve in scope and capabilities, which increases the importance of the public documentation for both consumers and developers. The release of additional quick starts, best practices, and more to the public documentation set provides a destination where anyone interested in CDM can learn how best to leverage its power.

CDM schema documents

The CDM schema definition has continued to improve based on needs from the ecosystem. Examples include adding support for namespacing, allowing partners to develop and release schema in CDM form that can be identified and versioned as concepts specific to their solution. We've also released an official versioning scheme for the CDM schema documents. This scheme ensures that producers and consumers can report and identify the versions they support.

SDK and tooling

In order to create and leverage the data in CDM shape, we've released an SDK and tooling to explore, read, modify, and create content in CDM form. These tools make the initiative approachable to developers across a wide range of platforms and services. These tools open their data to the growing set of services and experiences that understand data in CDM form.

New entity definitions

CDM continues to expand with the release of new industry accelerators and concepts from core Dynamics 365 solutions. For example, the release of accelerators from the education and non-profit industries, as well as updates to the healthcare accelerator, have brought more than 100 new entities to the CDM model. Additionally, entity definitions from Dynamics 365 for Finance and Operations, Marketing, Talent, and more continue to make CDM relevant to customers and partners of all sizes.

Dual write (link to Common Data Service for Apps)

Customers should be able to adopt business applications from Microsoft and expect they speak the same language and seamlessly work together. Dual write (link to Common Data Service for Apps) allows our customers to not think about these apps as different systems to write to independently; rather, the underlying infrastructure makes it seamless for these apps to write simultaneously.

Get your Dynamics 365 Finance and Operations data in CDS and keep it up to date

With a few clicks, customers will be able to seamlessly link to Common Data Service (CDS) for Apps from Dynamics 365 for Finance and Operations. Changes in Dynamics 365 for Finance and Operations will propagate to CDS and vice versa without much configuration. We will support a subset of entities at first and will grow this over time.

Optionally, Dynamics 365 for Finance and Operations admins will be able to use an advanced version of the set-up in which they can customize entities and field mappings and also do source data filtering and transformation.

CDS Data Integrator

The CDS Data Integrator (for Admins) is a point-to-point integration service used to integrate data into Common Data Service (CDS) for Apps. It supports integrating data from multiple sources into Common Data Service for Apps. It supports process-based integration scenarios like Prospect to Cash that provide direct synchronization between Dynamics 365 for Finance and Operations and Dynamics 365 for Sales. The Prospect to Cash templates that are available with the data integration enable the flow of data for accounts, contacts, products, sales quotations, sales orders, and sales invoices between Finance and Operations and Sales. We continue to enhance this service based on customer use and feedback by making the following investments for April '19.

SDK for Data Integrator

We are providing a CDS Data Integrator SDK to help developers create, update, and schedule data integration projects programmatically, without user interaction.

Enhancements in Project management, Error handling and troubleshooting

With these features, customers have better visibility into integration issues with pointers to source and destination error logs. We also provide early warnings to ensure that mandatory fields are mapped while customizing field mappings. We also show active lists of errors across projects and provide the ability to retry failed records.

Additionally, data integration projects now have support for multiple legal entities or companies within a single project. This is especially beneficial for enterprise customers with large number of legal entities. In the past, when you updated a template, you had to manually update the projects that used the old template. With this feature, you can push updates to projects if the source template is updated.

Guidance for performance tuning and integration write patterns

Based on our experience and interaction with customers, we are providing documented guidance on how to optimize performance for high-volume integration. Additionally, we are publishing guidance around write patterns for integrations that covers common requests around moving entity data for many-to-one and one-to-many patterns.

Compliance for government cloud

We are also making the Data Integrator compliant to GCC so that our government customers can adopt and use the benefits of our service.

Data Export Service

Microsoft Dynamics 365 Data Export Service (DES) is a free add-on from Microsoft AppSource that synchronizes Microsoft Dynamics 365 (online) data to a Microsoft Azure SQL Database in a customer-owned Microsoft Azure subscription.

The supported target destinations are Microsoft Azure SQL Database and Microsoft SQL Server on Microsoft Azure virtual machines. The Data Export Service does a full write, followed by delta changes on a continuous basis, as they occur in the Microsoft Dynamics 365 (online) system. This helps enable several analytics and reporting scenarios on top of Dynamics 365 data with Azure services such as Power BI, and opens up new possibilities for customers and partners to build custom solutions.

Per feedback from our customers, we continue to improve the Data Export Service to be more reliable and performant by making the following investments for April '19.

Trending insights that show your records are up to date

Showing the count and trend of records from Dynamics 365 for Sales (CRM) and Azure SQL Database has been a top request from our customers who want to view the counts from both source and destination to ensure that their changes were written successfully. Additionally, this feature provides a trend of record counts by comparing the number of records by entity in both Dynamics 365 for Sales (CRM) and Azure SQL Database on an hourly basis. We are also providing a comparison of the latest version and the version of metadata of records by entity in both Dynamics 365 for Sales (CRM) and Azure SQL Database.

These investments will let our customers predict convergence (or divergence) of records and take appropriate measures, as necessary. We are also adding more alerting mechanisms to inform users when the entity records have failure notifications because the data is out of sync.

Design changes to mitigate known issues

One of the common failures we have seen in customers' environments is when the data shows up prior to the metadata, causing write failures. With the help of this feature, we implement a queue to prioritize the metadata messages over the data messages and pause the processing of data messages when metadata message processing fails. We also validate the "metadata version coming" part of the data message and, if it is different from the one in SQL, do not process the data messages and put them in the queue.

In the past, there was no easy way to identify entities that do not have change tracking enabled, and are thereby unsupported. With this change, we will show all entities in the user interface and gray out the unsupported ones for change tracking. This provides a more intuitive experience.

It is also common to see failures due to incorrect field lengths between Dynamics 365 for Sales and Azure SQL Database. With this change, the DES will use the appropriate property from Dynamics 365 for Sales, which will prevent the problem in which customers were unable to push data to Azure SQL Database due to incorrect field lengths.

Reduce latency and improve performance

Data Export Service maintains a single delete log per profile. This log is used to track deletes along with their timestamps. Based on discussions with customers, especially in larger profiles with many entities, a single delete log causes performance bottlenecks. With this change, we split the delete log for each entity, creating one per entity and thereby drastically reducing latency to process deletions. An additional index on the delete log table further improves performance on queries.

Data integration templates

Integrating data from various sources requires a business user or administrator to have intricate knowledge about the source and destination entities and field mappings. More importantly, they need to know how these entities are to be mapped from source to destination. They also have business needs that require them to transform the data before importing it.

An integration template serves as a blueprint that provides predefined entities and field mappings to enable the flow of data from source to destination. It also provides the ability to transform the data before importing it. Often, the schema between the source and destination apps is different. The template with the predefined entity and field mappings serves as a great starting point for an integration project.

Integration templates make it easy to integrate data from various data sources

Over the last few months, we worked closely with the application teams to ship out-of-the-box templates for Dynamics 365 Finance and Operations, Field Service, and Project Service applications. We also shipped a Salesforce preview template to bring data into Common Data Service for Apps.

We will continue this momentum and partner with the Dynamics 365 for Talent, Dynamics 365 for Sales, and other application teams to bring more out-of-the-box templates, which will help expedite integrating data and reducing overall burden and cost. See the release notes for the corresponding application teams to understand the rich, process-based integration and analytics scenarios that these templates will help with.

Connector platform and extensibility

A critical part of Data Integration and the suite of products it supports—PowerApps, Microsoft Flow, Power BI, and Power Query—is connectivity to external data sources. While we continue to invest in a set of enterprise-grade data sources, there are a growing number of databases and services many users come to depend on outside of that set. To ensure our users can connect to the data they need, we continue to invest in our extensibility points throughout the platform. Developers and ISVs looking to develop connectors have a way to build connectors and certify the connectors for the products they are targeting.

New and enhanced connectors for PowerApps and Microsoft Flow

Connectors for PowerApps and Microsoft Flow are added continuously as we engage partners and ISVs to build them. As the ecosystem grows, we expect more partners to build connectors and get them certified. These connectors will also continue to be updated on an ongoing basis as new features are added to the connectors.

Rich documentation and guides for developing connectors

While we already have partners building connectors today, there is often a great deal of handholding for some of the advanced capabilities to ensure a good end-user experience. This leads to increased load on our certification engineers and a long lead time during development. Common feedback from our partners and customers has been about improving the documentation we have around building custom connectors.

This release includes an updated set of reference documentation on developing connectors. A developer guide is also provided along with the documentation that helps ISVs and partners developing connectors on the guidelines for a certified connector as well. Multiple samples and guided learning documents will help developers on specific topics as well. This will lead to decreased development time while building connectors.

Custom connector SDK and APIs for PowerApps and Microsoft Flow

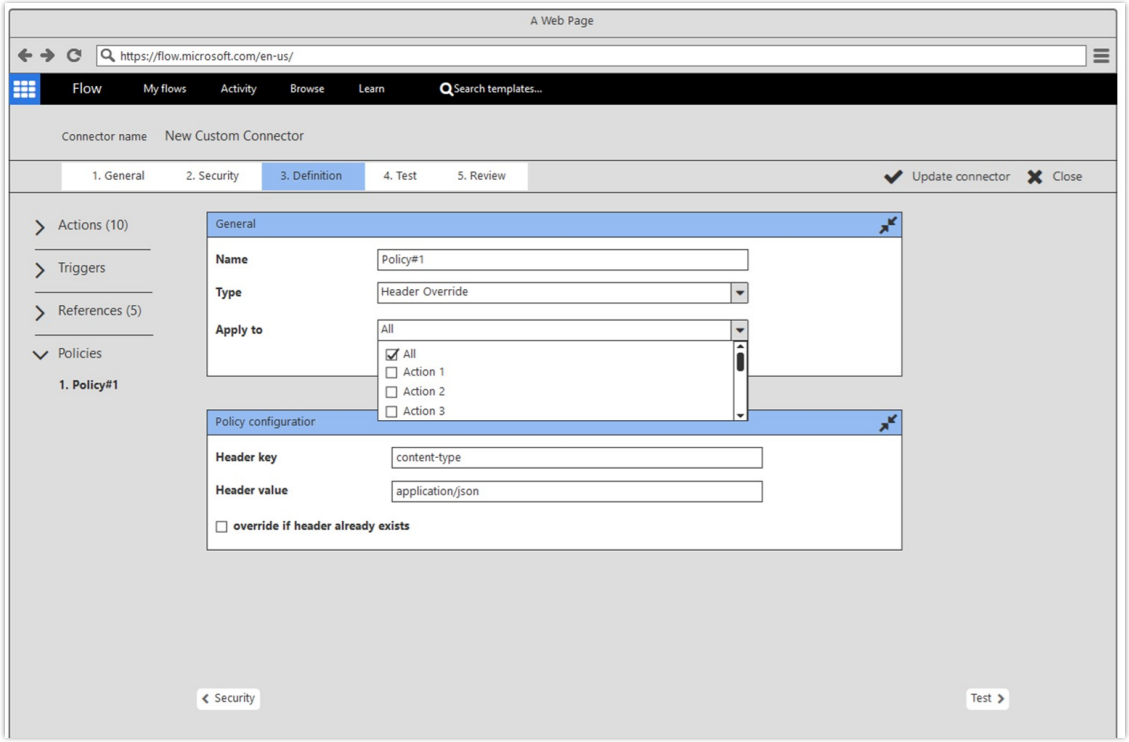
While the Power Query SDK can be used by developers for building rich data connectors for Power BI and Power Query Online, this release also includes a set of command-line interface (CLI) scripts that developers can use to deploy their custom connectors for PowerApps and Microsoft Flow. In addition, developers also have access to API documentation, so they can develop their own tooling as well. While developers can still use the portal to build and modify their connectors, these scripts will allow developers to use their source control systems and automatically deploy their connectors. This will provide an option for a more advanced workflow for connector development.

Support for policy templates in custom connectors for PowerApps and Microsoft Flow

While building a connector for PowerApps and Microsoft Flow, we often need to modify certain behaviors for the underlying API. These behavioral modifications can be achieved today using Azure APIM policies for any of the standard built-in connectors. Many connectors rely on these policies today. The biggest drawback for the APIM policies, however, is that they are not available for custom connectors. This means any modification to any of these custom connectors must be done in-house. Partners who built these connectors rely on us for any modification to their connectors—even to try out and test them. This leads to a high-touch development model that often frustrates our partners.

With this release, we now enable policies to be applied on your custom connector for your PowerApps or flows. A policy can be used to modify a certain behavior of the connector. For instance, policies will allow you to limit the number of calls from a connection on one or more operations in your connector. Other policies can be used to fix header or query parameter, or even modify a field or a parameter. Policies can be used to improve the overall user experience of your connector.

This release includes a set of fixed policy templates for use in custom connectors. Over time, we will add more policy templates that will provide more functionality.



Mockup of policy templates in connector authoring experience

Open source connector development on GitHub for PowerApps and Microsoft Flow

Developers can now use GitHub to develop and deploy connectors for PowerApps and Microsoft Flow. With this, Microsoft is encouraging partners to adopt an open source connector development model and leverage the developer ecosystem for maintaining their connectors.

Microsoft is also leading by using open source for many connectors on its GitHub repository. With this, the developer ecosystem will have access to the source code behind real examples of connectors and contribute changes that improve the connectors.

Improved certification process

As we work with various developers and partners, the certification process needs to be improved so that there is a predictable SLA, visibility into status, decrease in human errors, and an overall improvement in the time and process for certification.

With support for the rich tools and open source development model on GitHub, ISVs and partners who want to certify their connectors now have an option to use a simpler certification process. This process eliminates the need for manual handoff—instead, it relies on a common

source code repository. This cuts down the time for certification and additional verification for deploying those connectors.

Gateway

On-premises data gateway supports out-of-box certified data connectors

Certified custom connectors will be available out of the box on the on-premises data gateway. This will help developers and gateway admins select certified custom connectors as data sources with minimal or no configuration changes.

The user can discover Microsoft-certified custom connectors and add them as new data sources in the manage gateway experience. This eliminates the need to manage these certified connectors across all gateways in a gateway cluster.

Ability to create multiple credentials for an on-premises data source

Different security levels implemented for the same on-premises gateway data source will help gateway admins manage security efficiently by granting access to end users based on their allowed access level. Gateway management today supports only one credential per data source in each gateway. Due to this restriction, users can connect to unauthorized data from a data source if the data source credential has superior access and vice versa. To resolve this issue, gateway admins had to spin up a new gateway. With this new capability, they can now create multiple data sources connecting to the same source, each with a different credential, and add users to each of these data sources based on their access level.

Gateway administration across a tenant

- **Tenant admin portal**: The tenant administrator can review and manage all on-premises gateways installed within their organization via this portal.

  There is currently no single place where tenant administrators can manage all gateways that other users have installed and configured unless all users in the organization add the tenant admin as an administrator to every gateway they install. To mitigate this issue, tenant admins can now see all gateway clusters and also individual gateway machines listed under each gateway cluster and gateway admin information.

- **Tenant admin to restrict users from installing on-premises gateway**: This lets tenant administrators allow selective users in the company to install the on-premises gateway for better manageability.

Management enhancements

- **Centralized gateway management**: Gateway admins will have a standard experience for managing configuration for gateway clusters, individual gateway machines, and associated data sources across the Power Platform including Power BI, PowerApps, and Microsoft Flow. This will also help gateway admins view and manage gateways within each cluster.
- **Deprecation of older versions of a gateway**: Gateway admins and report users using older versions of the on-premises gateway will be notified to upgrade to the latest version of the gateway. This will help gateway admins plan for upgrades to the latest version and improve supportability. Report users and gateway admins will also benefit from the updates and latest features shipped with the most recent releases of the on-premises gateway.

Improved reliability, supportability, and diagnostics

These are some improvements related to the fundamentals:

- Actionable messaging for errors in multiple areas like installation and data refreshes.
- Faster releases and improved reliability of the gateway metadata service.
- Improved gateway logging related to usage, refreshes, data sources, and connectivity.
- Updated gateway documentation including documentation for public REST APIs and PowerShell cmdlets (update data sources and cluster).

SAP BW single sign-on (Kerberos) in Power BI service (via on-premises data gateway), for SAP BW Application and Message Server

This feature will enable users to leverage Kerberos-constrained single sign-on delegation when publishing DirectQuery-based reports on top of SAP BW Application and Message Server data.

SAP HANA single sign-on (SAML) in Power BI service (via on-premises data gateway)

You've been able to use single sign-on leveraging Kerberos when connecting to SAP HANA in DirectQuery mode from Power BI. With this feature, you will now also be able to connect to SAP HANA using single sign-on leveraging SAML.

Support for developer-signed custom connectors

We've been asked by developers to support a way to deliver connectors that have been signed with their certificate, rather than going through Microsoft's process. We will be introducing a

method to enable developers and users to use connectors signed by third parties. This feature will be supported via the on-premises data gateway in addition to Power BI Desktop.

Got feedback?

Share your feedback on a community forum for Dynamics 365 or Power Platform. We'll use your feedback to make improvements. To find out about updates to these release notes, follow us on Twitter @MSFTDynamics365.

Microsoft