WHAT'S NEW IN MICROSTRATEGY 2020™
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Introduction

MicroStrategy 2020 is a next-generation platform built for the Intelligent Enterprise. The platform features HyperIntelligence™, a new technology invented by MicroStrategy, that delivers real-time business answers and recommendations for the next best action, in zero clicks, making every user 100x faster.

HyperIntelligence enables every user to find instant insights and take instant action by injecting dynamic cards with enterprise intelligence and workflow triggers directly into the websites, applications, and mobile devices that users rely on every day. HyperIntelligence increases the velocity of information flow and actions within an organization, driving up adoption and productivity seamlessly.

In addition to HyperIntelligence, MicroStrategy 2020 is built to handle the demands of the most sophisticated enterprises. The platform delivers engines designed to support high-performance, governance, and security via an open and comprehensive offering, delivering Modern Analytics on an Enterprise Platform—which gives organizations the flexibility to deploy HyperIntelligence, analytics, and mobility applications that can scale without compromise.

MicroStrategy 2020: A platform for the Intelligent Enterprise

MicroStrategy 2020 differentiates itself from competing business intelligence (BI) and analytics tools by delivering industry leading capabilities for HyperIntelligence, federated analytics, and transformational mobility.

HyperIntelligence

Zero-click Answers. One-click Actions.

HyperIntelligence revolutionizes existing business processes by injecting real-time insights directly into emails, spreadsheets, calendars, ERP systems, Microsoft Outlook, and even mobile devices. With HyperIntelligence, users can get answers to questions about their customers, products, or accounts via cards that provide real-time descriptive and prescriptive analytics alongside dynamic links to transactional systems that allow them to take immediate action.

Federated Analytics


MicroStrategy 2020 is designed to power the tools employees love—including third-party visualization, preparation, or analytical tools—with a single version of the truth, content recommendations, and audit-ready data governance. Tableau, Power BI, Qlik, and Excel users can bring enterprise security, scalability, and performance to their applications by connecting to analytics
via the MicroStrategy Enterprise Semantic Graph™. Available with MicroStrategy 2020, the Enterprise Semantic Graph powers machine learning and analytics applications with a consolidated business glossary, query performance at scale (via push-down analytics and optimized multisource queries), and an adaptive in-memory architecture. The semantic foundation is supplemented with user and system telemetry—enabling a new class of personalized, location-aware applications and experiences.

**Transformational Mobility**

*Insight to Action.*

MicroStrategy 2020 lets you reimagine how people work with mobile productivity apps tailored to any business function or role, on iOS and Android smartphones and tablets. Build apps using any one of three powerful strategies: 1. Mobile dossiers—quickly build interactive books of analytics that render beautifully on smartphones and tablets; 2. No code drag-and-drop—for branded custom apps that mobilize any system, process, or application; 3. Customized development—with SDKs for iOS and Android that let developers extend MicroStrategy content into their apps using XCode or JavaScript.

**New Features That Drive Productivity and Intelligence for Every User**

MicroStrategy 2020 introduces hundreds of transformative features and enhancements for everyone across the enterprise, including business users, analysts, administrators and architects, and developers. Highlights of the release include:

**For Business Users:** HyperIntelligence allows business users to find instant answers to business questions and then take instant action—all from a card. MicroStrategy 2020 extends the reach of HyperIntelligence with support for a new web browser and two new clients that bring HyperIntelligence to Microsoft Outlook as well as to iOS and Android mobile devices. Dynamic links allow HyperIntelligence cards to serve as a launchpad for a wide variety of enterprise workflows. The new release also delivers enhancements aimed at improving usability and OS parity for both the MicroStrategy Mobile and MicroStrategy Library apps on iOS and Android.

**For Analysts:** MicroStrategy 2020 empowers analysts with a wide range of new functionality aimed at helping them to quickly build and deploy impactful, highly customizable content. A new, more flexible card editor makes it easier than ever before for analysts to build HyperIntelligence cards in MicroStrategy Workstation. The card editor introduces new card templates that allow analysts to add images, dynamic links, multiple attribute forms, and a variety of widgets to their card layouts—giving analysts the tools they need to build cards that are well-suited to their organization’s unique data and business use cases. MicroStrategy 2020 delivers enhancements for federated analytics with optimized connectors that enable users of Tableau, Qlik, and Power BI to leverage trusted, governed MicroStrategy datasets from directly within their familiar tools. The release also introduces exciting
new features like free-form dossier layout, compound grids, and support for custom shape files in Geospatial Services that provide analysts with the ability to quickly create highly customized and dynamic content. MicroStrategy 2020 also delivers major enhancements to data source connectivity including support for 17 new cloud applications.

**For Administrators and Architects:** MicroStrategy 2020 delivers major enhancements to the MicroStrategy Cloud Platform that make it easy to deploy the MicroStrategy platform in minutes on either AWS or Microsoft Azure. In addition, the release delivers support for Microsoft Intune via AppConfig for both MicroStrategy Mobile and MicroStrategy Library, and enhancements to Platform Analytics to surface real-time telemetry information via MicroStrategy Workstation.

**For Developers:** MicroStrategy 2020 arms developers with the tools they need to extend, integrate, and embed MicroStrategy analytics into their web and mobile applications using JavaScript libraries, REST APIs, and a rich array of platform SDKs. This release introduces an Embedding SDK that allows developers to easily embed highly responsive dossiers within web applications, as well as major performance optimizations and functionality enhancements for existing MicroStrategy APIs.
New Features for Business Users

HyperIntelligence

HyperIntelligence is a new category of analytics that injects insights into the websites, applications, and devices that people use every day. MicroStrategy 2020 introduces a variety of enhancements to HyperIntelligence including greater flexibility and control when designing cards and two entirely new products that make HyperIntelligence more accessible than ever before: HyperMobile and HyperOffice.

HyperIntelligence cards serve as launchpads for enterprise workflows

With HyperIntelligence, business users can access instant insights on the people, places, products, and more that define their business. MicroStrategy 2020 takes this functionality a step further with support for contextual links within the header of cards. These links transform cards into truly dynamic objects that enable users to take immediate action from directly within a card. With the new release, a user can click on a link within a card to approve an employee review, deny an application for a loan, or freeze a credit account that is exhibiting potentially fraudulent behavior.

HyperWeb

MicroStrategy 2020 delivers major enhancements to the HyperWeb client first introduced in MicroStrategy 2019. These enhancements include everything from additional browser support to performance improvements and new workflows for handling multiple keyword matches.

HyperWeb functionality extended to the Microsoft Edge Beta browser

With MicroStrategy 2020, users can leverage HyperWeb on the Microsoft Edge Beta browser. Microsoft has previously announced the end of support for older versions of Internet Explorer and that the Chromium-based Microsoft Edge browser will be their primary browser moving forward. This release emphasizes MicroStrategy’s continued focus on making it easy for users across the enterprise to access HyperIntelligence on the tools that they already use.
Caching optimization enables support for 500,000 unique keywords within HyperWeb

MicroStrategy 2020 delivers enhanced performance for HyperWeb including support for sub-second response times on large datasets. This release rethinks the caching strategy implemented in previous versions and uses IndexedDB, a low-level API that is designed to optimize client-side storage, to cache keyword elements within the browser. By leveraging IndexedDB, MicroStrategy is able to overcome previous limitations on the number of keyword elements cached in the web browser. This enhancement is particularly valuable for use cases based on large datasets e.g. retailers who want a card for every product SKU, manufacturers who want a card for every part, or financial institutions who want a card for every trade, account, or loan application.

Keywords with multiple matches

Scenarios in which two or more cards match on the same attribute element are identified through a multi-colored keyword underline and carousel interface, designed to help users select the most appropriate card. The multi-colored underline provides a visual indication that the keyword has matched on more than one card, and the carousel allows users to seamlessly click through cards containing a specific keyword.

For example, if there are two cards: "brand performance" and "drug quality," that each have a keyword attribute element match for "Etholeme," the user will be prompted with a carousel interface upon hovering over the highlighted term in their browser.
HyperMobile

HyperMobile is a new app available for iOS and Android that works on both tablets and smartphones. The app can be easily downloaded and installed from the App or Google Play store. Once downloaded, the app automatically points to a demo environment that contains a variety of sample cards. HyperMobile brings the vision of HyperIntelligence—fast, contextual access to information—to the world of mobile.

Calendar integration with HyperMobile for iOS and Android

HyperIntelligence is designed to democratize access to data by making information instantly available to users across the enterprise. HyperMobile helps to further break down siloes by delivering a tight integration between the HyperMobile app and the native iOS and Android calendars. This integration enables users to both keep track of their daily schedules within the HyperMobile app and to...
proactively receive cards containing relevant, contextual information on their upcoming meetings and events through push notifications.

For example, imagine you have a meeting today with a newly assigned client you don’t know much about. To find out information about this client, you’d typically have to comb through a variety of enterprise databases, email correspondence, and even CRM software to get the details you need to be prepared. Now, with HyperMobile, a user can simply navigate to the calendar section of the app and instantly pull up relevant cards. And if they are running a bit behind, the HyperMobile app will automatically surface cards that match keywords sourced from the title, description, and attendee list of their upcoming events—providing the insights they need to walk into any meeting with confidence.

Additionally, the HyperMobile for Android app supports a new date selector feature that allows users to quickly switch weeks and swipe between days within their calendar view.
HyperMobile delivers powerful enterprise search

By giving people the power to use keywords to search their organization's entire analytics catalog and surface HyperIntelligence cards, the HyperMobile app enables true enterprise search. Designed to take advantage of familiar workflows and native device capabilities, the search functionality of the HyperMobile app makes it radically simple for a business user to type in a search term and instantly pull up relevant, contextual information sourced directly from the MicroStrategy platform. The HyperMobile app supports two primary search workflows: in-app search (supported in both iOS and Android) and Spotlight Search (supported only in iOS).

In-app search functionality in the HyperMobile app for iOS and Android

HyperMobile supports in-app search on iOS and Android devices through a search bar within the application interface. In-app search enables users to quickly find a specific card and provides a gateway to a wide range of cards on the nouns that represent the people, products, places, and processes within an organization.
Spotlight Search integration in the HyperMobile app for iOS

Spotlight Search seamlessly integrates cards into a user’s existing mobile search workflow. Users simply pull up the Spotlight Search interface on their iOS device and type in a keyword—any matches with active cards will automatically appear within the result set.
What's New In MicroStrategy 2020

View notification history within the HyperMobile app on both iOS and Android

HyperMobile supports notification history within the app on both iOS and Android devices. Whenever a user receives a notification through the app’s integration with the native calendar application or accesses a card via Spotlight Search on iOS, the relevant cards will be highlighted within the history section of the app. This enables end users to quickly access recently viewed cards or find out more information on notifications they may have dismissed.

![Image of HyperMobile app]

Offline access to cards

With HyperMobile, cards are securely cached on the device to enable easy offline access. Cards are automatically cached when activated in the settings menu, allowing users to search for specific cards using Spotlight or in-app search while offline. Support for offline mode means that insight and productivity never depend on internet connectivity.

HyperOffice

HyperOffice brings the power of HyperIntelligence to the world’s most popular business productivity tools. In MicroStrategy 2020, organizations can leverage HyperOffice to supercharge emails within Microsoft Outlook—bringing HyperIntelligence directly to over 400 million Outlook users. This new capability enables users to leverage HyperIntelligence cards to find relevant, contextual insights within their emails and Outlook-based workflows. These cards consolidate a variety of enterprise data into bite-sized views of information that are injected directly into the Outlook application. The cards are
accessible via an add-in for the Outlook client on both Windows PC and Mac that works seamlessly across both the Outlook desktop client and web application.

HyperOffice in the Outlook desktop application

HyperOffice works seamlessly on the native Outlook desktop application for both Mac and PC. Users can quickly enable HyperIntelligence within the Outlook desktop application by clicking the "Get Add-ins" icon on the main Outlook menu and configuring the add-in. Alternatively, the add-in can be automatically pushed to end users by an IT administrator.

Once configured, users will see a new add-in within the Outlook toolbar, clicking on the add-in icon brings up a panel on the right-hand side of the Outlook desktop application. This panel is where a user logs in to HyperOffice, toggles cards on or off, applies card and content filters, and interacts with individual cards. The panel can be pinned to the application or allowed to float free as a separate window.

The add-in supports environments that contain a wide variety of cards—just as they would for any other HyperIntelligence application. For example, a single add-in could contain cards on the names of people, products, companies, or any other noun that is critical in the enterprise context.
The add-in automatically scans the content of a selected email and identifies any attribute element matches within the email body, as well as the sender, subject line, or recipient (To, Cc, and Bcc) fields. The number of card matches generated by an email is specified at the top of the panel, which allows the user to quickly infer the volume of information available in the form of cards for each individual email. End users can also use filters to control the fields that are searched for matches—including fields such as sender name, recipient names, and subject line. This filter is especially useful in scenarios where the recipients field contains a large list of people that would otherwise trigger a large number of card matches.

Much like the experience in the HyperWeb and HyperMobile clients, users of HyperOffice within Outlook can quickly toggle individual cards on or off using a simple switch.
Unlike the experience in HyperWeb, the add-in does not underline keyword matches within the context of an email. Instead, each card associated with a selected email is displayed within the panel on the right-hand side of the Outlook application. To pull up a card, the user simply needs to hover over an attribute element match in the add-in panel. The workflow for Outlook users on the web app mirrors the functionality provided on the Outlook desktop client.

Each add-in points to a single MicroStrategy environment. In order to configure multiple environments, or to switch between environments, separate add-ins are required, all of which will show up in the main menu of the Outlook client.
HyperOffice on the Outlook web application

HyperOffice also works seamlessly within the Outlook web app—without any restrictions on specific browsers. Accessing HyperIntelligence cards within the Outlook web app is easy. Just click on an email and select the HyperOffice icon on the right. A new panel will appear on the right-hand side of the screen that mirrors the functionality provided on the Outlook desktop client. From here, you can view cards associated with a specific email, toggle cards on or off, and use filters to control where the add-in looks for attribute matches.

Ability to generate logs within the HyperOffice add-in for Microsoft Outlook

MicroStrategy 2020 gives users the ability to quickly generate logs from within the HyperOffice add-in for Microsoft Outlook. This gives administrators the information they need to more accurately troubleshoot error messages and resolve issues in a timely manner.

General enhancements for business users

Improved export options window with new functions

New exporting options

MicroStrategy 2020 provides users with PDF export options that establish parity across all MicroStrategy products. By providing better default settings, the platform helps to avoid confusion.
when exporting to PDF. Now, users have the option to export just the current page or visualization, rather than defaulting to exporting the entire dossier.

Users have the flexibility to choose the level of detail they need on their PDFs. Users can pick page level, a snapshot of each page; visualization level, to export individual visualizations; or full, a combination of page level and visualization level.

With 2020, business users can also select an option to fit grid content to one page or break the columns by horizontal pagination. Fit to page will dynamically compress or expand a grid's content to make it fit across one PDF page width. Horizontal pagination would break a wide grid with all columns presented in full detail in different pages.

MicroStrategy 2020 also delivers improved performance when exporting large PDFs, even with multiple, simultaneous requests. In testing, export performance has been improved by more than 60% in single memory usage and by more than 90% in concurrency memory usage. The MicroStrategy 2020 Export Engine optimizes the memory usage for both Java VM and Node.js. The default server JSON length limitation has been enlarged to 400M. This length limitation can satisfy most large dossier cases, and it won't hit Node.js or Java VM memory problems, even if there are multiple users exporting concurrently.
New support for page and file links on PDFs

Within a dossier, a text box can include links to webpages, to other pages of the dossier, or to other documents or dossiers within the same MicroStrategy project or application. In previous versions of MicroStrategy, only links to websites persisted during the export to PDF process. With MicroStrategy 2020, business users will be able to export to PDF while maintaining links to other pages of the exported dossier or other files—enhancing navigation within the exported PDF.

Smart pagination support for KPI widget and custom visualizations

Previous versions of MicroStrategy provided smart pagination functionality for both grids and dossiers with multiple chapters and pages. With the new release, this functionality is extended to the KPI visualization—a visualization with multiple layout modes. When exporting to PDF, MicroStrategy will automatically change the stacked layout of a KPI visualization to a grid layout, applying smart pagination that intelligently exports content across multiple pages of a PDF.

In addition, business users are now able to export custom visualizations to PDFs with full pagination support—helping to improve parity between the customer and out-of-the-box visualizations.

MicroStrategy Mobile and Library

MicroStrategy 2020 delivers new features, enhancements, and certifications for both the MicroStrategy Mobile and MicroStrategy Library apps on iOS and Android.

Enhancements to both the iOS and Android apps

Improved experience when linking dossiers from documents

Now, when dossiers are linked to from a report service document in the MicroStrategy Library app, users can leverage dossier capabilities such as table of contents, filter panels, native gestures, keep only, share, and much more. The dossier can also carry over the prompt answers from the source document. This provides end users with the ability to consume dossiers from within their documents while maintaining a consistent user experience.

New features for iOS

MicroStrategy Mobile and Library support for iOS 13

Both the MicroStrategy Mobile and MicroStrategy Library apps are compatible and certified with Apple’s latest operating system release, iOS 13. This gives iOS users the ability to leverage the latest enhancements in terms of performance, security, responsiveness, and look and feel.
Certification for Apple’s new iPad Pro

Apple introduced a completely redesigned iPad Pro packed with their most advanced technology. MicroStrategy Mobile and MicroStrategy Library are now certified for the new iPad Pro’s liquid retina display, enabling users to leverage the latest Apple devices and take advantage of exciting new technologies, such as all-screen design, Face ID, and more.

Face ID integration for more convenient access to MicroStrategy content

The new iPad Pro tablets (11” and 12.9”) allow users to log in with Face ID. The MicroStrategy Mobile and MicroStrategy Library apps now support Face ID to enable seamless access when using an iPad Pro. Face ID can now function as an authentication method via a native integration with the apps. Users can also use Face ID to unlock apps and gain access to documents and reports. This provides on-the-go business users with a quick, convenient way to access their apps and analytics.
Leverage auto-correct while collaborating with your peers using the MicroStrategy Library app for iOS devices. Users can now leverage the native autocorrect capability on their iOS devices while typing comments and collaborating with one another within the MicroStrategy Library app.
**Full screen view in landscape mode on iPhone**

MicroStrategy Mobile users now can view more content on their smartphones by leveraging the full screen experience available in the landscape mode on iPhone models X and above. App developers can enable the full screen view from within the configuration settings in order to provide an even richer data consumption experience for those using the latest iOS smartphones.

![Full screen view on iPhone](image)

**Link a dossier to an image or text in MicroStrategy Library for iOS**

App designers can define a "File" link over a text or image in a dossier through the "Edit Link" feature. This allows end users to open a dossier linked from a text or image directly in the MicroStrategy Library app for iOS—enabling them to get additional context on the text or image.

![Edit Link dialog](image)
New features for Android

Attribute thresholds for highlighting data within a grid on MicroStrategy Mobile for Android

MicroStrategy Mobile for Android now allows users to leverage attribute thresholds when a value meets a specific condition. This functionality delivers further parity with existing iOS features and provides end users with the ability to analyze large amounts of data quickly by using color thresholds to easily identify outliers or other key data points.

New calendar selector in MicroStrategy Mobile for Android

MicroStrategy Mobile users can now intuitively filter data within their mobile applications with a new calendar selector that is optimized for Android phones and tablets. The new selector can filter data based on single dates, date ranges, time stamps, and dynamic date expressions such as “Last 10 days” or “YTD.”
Badge

Background NFC Support in MicroStrategy Badge

Badge users with iPhone XS and iPhone XR can take advantage of background NFC support to access doors by NFC without needing to have the app in the foreground. This allows users to simply tap their device to the NFC tag without requiring the added step of launching the app.
New Features for Analysts

**HyperIntelligence**

MicroStrategy 2020 delivers major enhancements to the card editor in MicroStrategy Workstation—giving analysts a wide range of flexibility when building and deploying cards. With support for new card templates that support images, multiple attribute forms, dynamic links, enhanced formatting controls, additional widgets, and more, analysts can now build highly customized cards that support a wide range of business use cases.

Enhanced card formatting options

MicroStrategy 2020 delivers a new formatting panel within the card editor that allows card designers to control a wide range of formatting options. Users can select the card template they want to use as a starting point, mix and match widgets by dragging and dropping them into the body of the card, and even adjust granular formatting options that cover everything from the header style to preferred font weight, matrix cell height, and the colors of charts or widgets within the card.
New card templates

MicroStrategy Workstation makes building cards a snap. Just select the card template you want to use as a starting point, and then drag and drop attributes and metrics into the pre-defined drop zones. In MicroStrategy 2020, card authors can choose from four distinct templates when building a card: Basic, Ring, Section, and Matrix.

Card authors now also have the ability to mix and match header styles when building a card. This gives them the freedom to combine elements from different templates and choose the header style that best fits their data and use case.

Customize card content with a variety of widgets

MicroStrategy 2020 gives card authors the ability to leverage four interchangeable widgets to customize the look and feel of their cards: List, Text Box, Ring, and Matrix. Card authors can simply drag and drop these widgets onto the design canvas to create a card that is visually compelling while meeting the needs of their unique business use case.
**List Widget**

The list widget gives card authors the freedom to add lists of attributes and metrics of variable length to the body of a card. Authors can control both the width of the columns and the number of rows within the list. Flexible column width is valuable when dealing with long attribute names, and flexible row count comes in handy when a business use case demands the display of a large number of attributes for context within the body of a card.

![List Widget](image)

**Matrix Widget**

The matrix widget gives card authors additional flexibility when laying out the content of a card. This widget is especially useful for displaying rows of related data (e.g. revenue for a specific store YoY, MoM, and WoW). Card authors can customize the matrix dimensions with flexible row and column count options, as well as modify the height of the matrix to better fit their content. These options help preserve valuable real estate both on the card and on the end user’s screen.

![Matrix Widget](image)
Ring Widget

The ring widget gives card authors the ability to include visual representations of percentage-based metrics within the body of their cards. This is particularly useful to highlight KPIs such as utilization, customer satisfaction, and YoY growth. The ring widget has a wide range of applications across different industries and business functions and gives card authors the flexibility to visually highlight specific KPIs.

![Product Performance KPIs](image)

Text Widget

The text widget gives card authors the ability to either enter static text (that remains the same regardless of the attribute element displayed) or drag and drop a descriptive attribute into the field to create dynamic text that will change based on the attribute element. For example, imagine a card built to look at the performance of a chain of retail stores. In this scenario, a text widget could be used to insert the static text “Performance Vs. Last Year” that will remain the same on all instances of the card. However, a text widget could also be used to insert an attribute called “Location Description” that would update to provide information on the location of the individual store being displayed.

![Text Widget Example](image)

Dynamic linking allows cards to serve as launchpads into enterprise workflows

MicroStrategy 2020 supports dynamic links that allows cards to serve as a launchpad into other applications and workflows. Within the card editor, a user simply needs to click on the “Add a Link” button within the card header, enter the URL they want to link to, and then choose the attribute...
that will dynamically update based on the attribute element displayed in the card. Users can further customize the look and feel of their card by selecting a link icon from a pre-populated icon library. By leveraging this functionality, cards can pass through context via dynamic links. For example, when creating an account card for “Gladio,” a dynamic link can be used to link directly to that account record in Salesforce.

Some header options also give card authors the ability to include more than one link within the header of a card. To do this, they simply click on the plus sign within the header in the card editor, select an icon to display, and define the links they want to include by adding display text and a URL. By giving card authors the ability to include more than one link within the card header, MicroStrategy makes it possible for a single card to act as a launchpad for business workflows that span multiple enterprise applications.

**Federated Analytics**

MicroStrategy 2020 supports the tools employees love—including third-party visualization, data preparation, and analytical tools—with a single version of the truth, content recommendations, and
audit-ready data governance. With MicroStrategy for Tableau, MicroStrategy for Qlik, and MicroStrategy for Power BI, Tableau, Qlik, and Power BI users can take advantage of all the enterprise capabilities of the MicroStrategy platform, from governance to performance, scalability, and security. With the MicroStrategy for Office Excel add-on, the platform continues to ensure that users can take advantage of the MicroStrategy platform across a wide range of enterprise use cases, regardless of the tools they use on a daily basis.

**MicroStrategy connectors for Tableau, Qlik, and Power BI**

MicroStrategy 2020 delivers connectors for Tableau, Qlik, and Power BI. Users of these tools can now leverage these connectors to access trusted, governed information from across the enterprise directly through MicroStrategy. These connectors deliver a foundation for all users to get more from the tools they have invested in while accelerating access to data and enhancing trust. Using these connectors, Tableau, Power BI, and Qlik users can import data 2x faster thanks to API improvements and optimization in connectors.

**Support for prompted reports with the MicroStrategy for Tableau connector**

Most enterprises leverage MicroStrategy prompted datasets and reports in order to display only subsets of relevant data to individual users. Prompts allow content creators to serve more users with fewer reports, since each analyst can answer prompts identifying the data they want to see. Tableau users can import data from prompted reports and datasets from MicroStrategy using the Tableau connector. Prompts are displayed during the creation of the data extract in the Tableau connector interface. This enhances the workflow of Tableau users who need to import data from both static and prompted reports and datasets. The Tableau connector supports the following prompt types: attribute element, value, object, expression, and hierarchy.
Certifications for Tableau, Power BI, and Qlik

MicroStrategy 2020 is now fully certified on the following versions of Tableau, Power BI, and Qlik:

- Tableau Desktop November 2019 (version 2019.4), Tableau Desktop October 2019 (version 2019.3.1), and Tableau Desktop September 2019 (version 2019.3)
- Power BI Desktop November 2019, October 2019, and September 2019
- QlikSense September 2019 (13.9.4) and QlikSense November 2019 (13.9.5)

Interface enhancements for both MicroStrategy for Tableau and MicroStrategy for Power BI

MicroStrategy 2020 provides a revamped interface for both the Tableau and Power BI connectors. The Tableau connector was revamped to provide users with easier workflows, a more modern look and feel, and a simpler login process. The Power BI connector interface was also improved to provide a better overall user experience.
**MicroStrategy for Office**

Microsoft Excel users can now supercharge their spreadsheet applications with enterprise capabilities. The new MicroStrategy for Office allows users to leverage governed, certified enterprise reports and datasets sourced from MicroStrategy from directly within the Excel interface. Users can select attributes, metrics, and filters from the MicroStrategy application without leaving Excel—ensuring that business analysts can remain productive with the tools they love while accessing trusted information from across disparate enterprise systems.

The new MicroStrategy for Office works with both the Excel desktop client for Windows and Mac, as well as with Excel Online through the Office 365 cloud. The MicroStrategy for Office add-in can be generated directly from MicroStrategy Workstation. The add-in is then connected to a MicroStrategy environment through a straightforward configuration. Users can benefit from the standard methods of authentication supported by MicroStrategy—including LDAP, Standard, Badge, Trusted, Kerberos SSO, and SAML.

*Easily revise attribute or metric selections within Excel*

Previously, in order for Excel users to change the selection of attributes and metrics imported from MicroStrategy, they had to completely re-import the file. With MicroStrategy 2020, users can now simply edit the selections on top of existing datasets or reports that have been imported into an Excel workbook.

*Import reports that leverage subtotals and cross-tabs*

MicroStrategy 2020 gives users of MicroStrategy for Office the ability to import reports containing totals or subtotals into Excel. This ensures that users can leverage the analytical processing power of the MicroStrategy platform and eliminates the need to compute totals in Excel once data is imported. In addition, Excel users can also now import cross-tabbed reports from MicroStrategy.
Support for prompts within MicroStrategy for Office

MicroStrategy 2020 delivers further enhancements to prompting workflows within MicroStrategy for Office. Excel users are now also able to re-prompt a report from directly within the Excel interface. This allows users to dynamically change or modify their current prompt selections and import new data within the same worksheet—greatly enhancing flexibility.

Work with multiple MicroStrategy reports and datasets at once

The MicroStrategy for Office product allows users to bring in multiple reports or datasets in a single Excel workbook. Users can easily refresh multiple reports and datasets at the same time, even when they come from different sources, in order to pull the most recent information from the MicroStrategy platform. Any additional Excel formatting or calculations done on top of these datasets will automatically be preserved upon refresh.

In scenarios where more than one dataset has been imported, users can select a specific dataset within the MicroStrategy for Office add-in panel and automatically highlight the related data within the Excel sheet.
With MicroStrategy 2020, MicroStrategy for Office users can leverage faceted content filters to quickly find relevant reports and datasets to import into Excel. Using a built-in filter panel, users can filter reports and datasets by application, content type, owner, and certification status. Combined with search, users now have a quick and easy way to find the exact datasets they need.

Up to 74% performance improvements in MicroStrategy for Office

MicroStrategy 2020 delivers a variety of enhancements designed to optimize performance and processing speed for MicroStrategy for Office users across a range of clients. Users can expect to see up to 74% improvement across different clients on both Mac and Windows PC. The tables below show results for datasets consisting of 100,000 rows across the various clients, although similar performance improvements were also seen for other datasets during testing.

<table>
<thead>
<tr>
<th>Apps</th>
<th>% Improvement*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desktop</td>
<td>60%</td>
</tr>
<tr>
<td>Chrome</td>
<td>69%</td>
</tr>
<tr>
<td>Firefox</td>
<td>67%</td>
</tr>
<tr>
<td>Safari</td>
<td>73%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Windows Applications</th>
<th>% Improvement*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desktop</td>
<td>39%</td>
</tr>
<tr>
<td>Chrome</td>
<td>71%</td>
</tr>
<tr>
<td>Firefox</td>
<td>74%</td>
</tr>
<tr>
<td>Edge</td>
<td>57%</td>
</tr>
<tr>
<td>IE</td>
<td>73%</td>
</tr>
</tbody>
</table>
MicroStrategy for Jupyter and MicroStrategy for RStudio

MicroStrategy 2020 introduces a new SKU designed for data scientists that bundles two previously separate products into a single offering: MicroStrategy for Jupyter and MicroStrategy for RStudio. Data scientists can now bring trusted, governed data from MicroStrategy directly into their predictive analytics projects in order to build better models.

With these new connectors, users can extract attributes and metrics from multiple MicroStrategy applications or projects through a Jupyter Notebook GUI or RStudio.

With intuitive drag and drop interfaces, users can apply filters to MicroStrategy reports and cubes to bring just the relevant data to their analysis, even before pulling it to Jupyter or RStudio environments.

Furthermore, the connectors have write-back capabilities to the MicroStrategy environment. By pushing data from R or Python data frames to in-memory cubes in MicroStrategy, the results of the model are made available to other MicroStrategy users for integration in dossiers, reports, cards, and more.
Users can leverage Standard and LDAP authentication to connect to their MicroStrategy environment. Check out MicroStrategy’s Community page for Python & R for details and demos, and download the packages from PyPI and CRAN, respectively.

**MicroStrategy Mobile and Library**

MicroStrategy 2020 delivers several key enhancements to MicroStrategy Mobile and MicroStrategy Library for Android that help to drive parity between the user experience on Android and iOS devices.

*Offline support for dossiers in MicroStrategy Library on Android*

With MicroStrategy 2020’s sophisticated caching algorithms, users can access their dossiers in areas with limited or no network availability, helping them to maximize their productivity while on the move. Dossiers that are not available in offline mode are grayed out.

*Device logging helps deliver performance improvements in MicroStrategy Mobile on Android*

With MicroStrategy 2020, users can generate device logs directly from the MicroStrategy Mobile app on their Android devices. Device log entries provide app developers and administrators with greater visibility and insight into performance, memory usage, notifications, network, preferences, EMM, restrictions, and other general usage statistics. For example, an app developer may look at the error log in order to better understand why an end user did not receive a push notification or to analyze whether a device has been successfully registered with Google services. Administrators can also leverage user-generated device logs to tweak their environment to optimize performance.
Support for attribute selector in the grid/graph template in MicroStrategy Mobile for Android

Android users can now pass multiple selector values from a source document to a target document by using the attribute selector in their apps. This provides users with the ability to filter the data and change the grid or graph view on the fly.
Enable "Fit to page" in grids to seamlessly align with different device resolutions in MicroStrategy Mobile for Android

App developers can now design grids that automatically render to the device screen size and resolution by enabling the "Fit to page" feature for grid in the document properties. This provides users with the flexibility to render mobile apps seamlessly in any Android device screen size and form factor.

Improvements to Hierarchy Reporting in MicroStrategy Library for iOS

The MicroStrategy Library app incrementally fetches the attribute elements as the end user expands, collapses, or filters their selection, to preserve performance and usability. This feature leverages the incremental fetching and cache management of recursive attribute hierarchies on the dossiers rendered in mobile devices and maintains parity with the dossiers rendered in web browsers.

MicroStrategy 2020 now supports all types of dynamic filtering including level, branch, and level in branch filtering, allowing the analysts to directly expand or collapse elements directly on the grid.

Survey-based transactional workflows in dossiers in MicroStrategy Library for iOS and Android

MicroStrategy 2020 includes new transactional capabilities in dossiers for use cases centered around surveys. Dossier authors will be able to publish a survey directly to their MicroStrategy Library apps that references a survey definition from providers such as SurveyGizmo and SurveyMonkey. Surveys within dossiers will have the option to map user information or data from attributes and metrics to custom variables in the survey in order to parametrize the response submissions. At runtime, users will be able to navigate through the different sections of the survey as originally designed and submit their responses instantly from their iOS and Android devices.
Data Source Connectivity

MicroStrategy 2020 delivers major enhancements to data source connectivity including a wide range of brand-new connectors, new data integrations, usability and performance enhancements for existing connectors, and updated drivers and certifications for popular enterprise data sources.

Enhancements to existing connectors

Key enhancements to the native Salesforce connector

MicroStrategy 2020 delivers substantial improvements to the native Salesforce connector. MicroStrategy now supports the latest Salesforce SOAP API version in the Salesforce data connector—allowing organizations to take full advantage of the latest Salesforce features from within MicroStrategy. Furthermore, the new release delivers performance enhancements that significantly improve folder and report load times when using the Salesforce connector, resulting in a better end user experience.

Key enhancements to the native Microsoft SharePoint connector

MicroStrategy 2020 delivers a redesigned connector for Microsoft SharePoint that leverages Microsoft’s latest API to deliver a seamless experience to users looking to connect to data stored in SharePoint.

Out-of-the-box data integration with SurveyGizmo and SurveyMonkey

MicroStrategy 2020 is enhancing the experience with survey connectors, previously available through the MicroStrategy community. Analysts looking to create surveys to retrieve and analyze data, can now have a faster integration by accessing SurveyGizmo and SurveyMonkey directly from the Data Import interface, without the need to install the connector in advance.
**Key enhancements to the native MicroStrategy connector**

Previously only available in the MicroStrategy Community, MicroStrategy 2020 delivers an out-of-the-box connector as the first entry point to other projects in the same environment.

**New connectors for enterprise data sources**

**Support for new out-of-the-box data source connectors**

MicroStrategy 2020 adds out-of-the-box connectivity for 17 new cloud applications, helping address the larger trend towards the adoption of cloud-based business applications. These additions enhance MicroStrategy’s ability to serve as an enterprise analytics hub for applications across everything from HR and CRM systems to T&E, accounting, and e-commerce.

Out-of-the-box connectors are now available to the following applications via the data import interface in Desktop, Workstation, and Web: ConnectWise CRM, Act! Essentials, Sage Accounting, Sage Financials, SAP SuccessFactors, Agile Central, Infusionsoft CRM, BambooHR, ServiceMax, Citrix ShareFile, Freshdesk, Autopilot, Stripe, Ecwid, Chargify, Chargebee, and Greenhouse.io.

**Community support for Huawei GaussDB**

MicroStrategy 2020 delivers support for the Huawei GaussDB data source via the MicroStrategy Community. Huawei GaussDB is an AI-powered, MPP analytical database that is capable of processing petabytes of data and supporting a wide range of data warehousing, business intelligence, and decision support systems.
Data integration with Teradata Vantage
Teradata recently released the Teradata Vantage platform. Organizations who use Teradata Vantage can now integrate their Teradata assets with the MicroStrategy platform.

Updated data source drivers

Updated drivers for popular data sources deliver optimized performance
MicroStrategy 2020 ships updated drivers for a variety of popular enterprise data sources.

Google BigQuery
MicroStrategy 2020 delivers support for the latest ODBC and JDBC drivers for Google BigQuery. The latest Google BigQuery drivers support the use of a Storage API that improves data transfer speeds up to 80%.

SQL Server
MicroStrategy 2020 delivers support for the latest ODBC and JDBC drivers for SQL Server.

Oracle
MicroStrategy 2020 delivers support for the latest JDBC driver for Oracle.

Cassandra
MicroStrategy 2020 delivers support for the latest ODBC driver for Cassandra.

Apache Hive
MicroStrategy 2020 delivers support for the latest ODBC and JDBC drivers for Hive.

Apache SparkSQL
MicroStrategy 2020 delivers support for the latest ODBC and JDBC drivers for SparkSQL.

Cloudera Impala
MicroStrategy 2020 delivers support for the latest ODBC and JDBC drivers of Impala.

MicroStrategy 2020 certifications for latest systems
In order to provide a frictionless experience to customers while installing MicroStrategy or during upgrade cycles, MicroStrategy is committed to certify both current and previous major versions of any product that MicroStrategy integrates with. MicroStrategy 2020 certifies the latest updates of the systems listed below.

For more information on all recent MicroStrategy certifications, click on this link.
New Application Server certifications
MicroStrategy 2020 delivers support for:

- Apache Tomcat 9.0.x
- Jboss Enterprise Application Platform 7.2
- Wildfly 15, 16, and 17

New JDK certifications
MicroStrategy 2020 delivers support for:

- AdoptOpenJDK 8
- Oracle JDK 8

New Web Browser certifications
MicroStrategy 2020 delivers support for:

- Microsoft Edge Chromium

New Repository certifications
MicroStrategy 2020 delivers support for:

- Microsoft SQL Server 2019
- Oracle Database 19c and 18c
- Oracle Database Cloud 19c and 18c
- PostgreSQL 11.x
- Teradata 16.x

New Operating System certifications

- Red Hat Enterprise Linux 8.0 and 7.7
- CentOS 8.0, 7.7, and 7.6
- Oracle Linux 8.0, 7.7, and 7.6

Geospatial Services
Enhancements to Geospatial Services, a premium add-on that delivers advanced mapping functionality, enable users to easily leverage custom shape files in their geospatial analyses.
Support for custom shape files through Mapbox

MicroStrategy 2020 delivers enhancements to Geospatial Services that make it easy to deploy custom shape files. These custom files allow analysts to plot non-standard geographic attributes (like department, sales territory, or region) as area maps within a dossier. This new functionality gives analysts much greater flexibility when it comes to visualizing geospatial information and extends mapping functionality beyond standard geographic attributes such as country, state, and zip code.

Previous versions of the MicroStrategy platform supported the deployment of similar custom shape files through our integration with ESRI, but they required action on the part of an administrator to deploy to end users. MicroStrategy 2020 makes great strides in terms of usability and ease of deployment. Now, analysts can simply import a custom shape file (either GeoJSON or KML) using the familiar data import workflow and immediately leverage the custom shapes within a map visualization.
General enhancements for analysts

Compound grid

With MicroStrategy 2020, analysts can create a view of their data through multiple different lenses, rather than a crosstab single lens. Compound grids allow authors to combine multiple lenses to form a single view, pivoted around the primary dimension they are breaking down. A compound grid is a visualization that allows users to build complex grids by positioning attributes and metrics in different groups of columns.
Additionally, compound grids support:

- Quick sorting across the entire grid
- Thresholds within column sets
- Keep Only/Exclude within column sets
- Advanced (View) Filter within the visualization context menu

**Free-form layout**

With MicroStrategy 2020, analysts can now organize and overlap visualizations, filters, selectors, images, and HTML containers within dossiers. Each container can be independently positioned, sized, and layered on every page.

All elements appear in auto layout by default, where containers automatically fill the entire canvas and can be repositioned around each other. With MicroStrategy 2020, on the top menu, a new Free-Form button is now available to convert the canvas into a free-form layout. A new Layers panel is also now available for analysts and authors to quickly identify all the elements on the page and arrange them with a z-index when using the free-form layout.

Analysts can position multiple objects and select from: Align Left, Align Center, Align Right, Align Top, Align Middle, Align Bottom, Distribute Horizontally, or Distribute Vertically. Individual containers can be positioned and resized as well; smart snap guides appear automatically to help users align the containers. Additionally, containers can be overlapped to create a specific design. Similar to other familiar design tools, users can: Bring to Front, Bring Forward, Send to Back, or Send Backward.
Within the new Layer panel, layers can be renamed, rearranged, grouped, ungrouped, or modified in the Editor, Filter, and Format panels.

Load pages on demand

Data in a dossier is automatically loaded by default, across all chapters, when users open a dossier. Prior to 2020, analysts were able to select “Load chapters on demand” once they are selected. This option increases performance by reducing load time when opening dossiers that contain a large amount of data. With MicroStrategy 2020, this functionality is now extended to pages within the same chapter. Now the dossier can be configured to:

- Load chapters on demand
- Load pages on demand
- Neither
Attribute and Metric selector

Analysts can choose attributes or metrics to use as selectors within a visualization. Business users can select multiple objects, replace, or toggle them within a visualization in an interactive way, instead of having to use separate visualizations. This interactivity was previously available for attribute elements and metrics, but with MicroStrategy 2020, the selector functionality that currently exists today in Report Services Documents, is now also available for dossiers. The selector can be applied to a specific visualization, or multiple visualizations, within a page that adjusts either the attribute(s) or metric(s) that are included within the visualization.

Two types of attribute/metrics selectors are supported:

- When targeted visualizations are a combination of grids and other visualizations, a single selection is allowed. The selected attribute or metric within the selector will replace a specific target within the visualization(s) selected as target.
- If the target visualizations are grids only, multiple selections of attributes or metrics within the selector can be allowed and the selections will be included within the targeted grids.
The styles supported for attribute/metrics selectors are:

- Link Bar
- Button Bar
- Radio Buttons
- Dropdown

**Contextual linking from visualizations to another dossier**

Before MicroStrategy 2020, analysts could use one visualization to filter other visualizations, even in a different chapter or page, within the same dossier. With MicroStrategy 2020, users can link to another existing dossier and pass their data selection as a filter to the destination page. If the link is to another visualization within the same dossier instead of a different one, the filter panel selections are passed or matched to target chapters.

When end users hover on the visualization, they will see the link information displayed on the tooltip and can click on the blue text to go to the targeted object.
Additionally, prompts within the targeted dossier are supported and analysts can choose from among multiple responses:

- Prompt user
- Use the same answer from the source prompt
- Use the selected object as the answer
- Use the default answer
- Ignore the prompt

New survey widget out-of-the-box

MicroStrategy 2020 provides a new out-of-the-box widget that supports survey visualizations. The survey widget integrates with popular online survey platforms SurveyGizmo and SurveyMonkey.

Analysts can import a survey created on SurveyGizmo or SurveyMonkey in the form of a new visualization within the dossier interface and, with the proper account/credentials, map the data from attributes and metrics to custom variables in the survey. Business users can fill in the information required from the survey when accessing it from MicroStrategy consumer interfaces, MicroStrategy Library, or MicroStrategy Mobile. These answers will then be reflected directly in the survey.

Additionally, analysts can have a complete and integrated solution by using the SurveyGizmo or SurveyMonkey connectors to import the survey results and visualize them in a dossier.

Optimized rendering of long-form attributes in grids with pixel-perfect documents

MicroStrategy 2020 gives content creators greater control over how attributes are displayed within a grid. Previous versions of MicroStrategy relied on spaces within attribute values when wrapping text.
(i.e. a longer name like Aristotelis Andrianakis would be broken by the space). Long-form attributes lacking spaces (e.g. email addresses like aristotelis.andrianakis@mail.com) did not follow this behavior and were instead cut off within the grid. The “Break Words” option available in MicroStrategy 2020 gives document authors fine-grain control over how individual attributes and metrics are rendered, both in the body of the grid and the header.

Proactively alert content authors of unused derived objects within a dossier

In MicroStrategy 2020, content authors are automatically alerted when they go to save a dossier that has unused derived objects. Once identified, these objects can simply be deleted from the dataset by the user. While these unused objects are ignored during dossier execution, their continued presence within the dataset increases the likelihood of unintentional future usage, potentially impacting dossier performance, memory usage and CPU utilization, and even the overall stability of an environment. By proactively identifying unused derived attributes and metrics, MicroStrategy makes it easy for analysts to build more stable and highly performant analytic content.

Overhauled data import workflow for JSON files delivers enhanced performance

MicroStrategy has long supported working with JSON files through the data import workflow; however, certain scenarios could result in cube republication failures or slow initial data load times. MicroStrategy 2020 completely overhauls the way that the data import engine handles JSON files.
By changing the way the product refers to tables (using table names instead of indexes) and storing attributes and metrics as rows instead of columns in the data import workflow, MicroStrategy is able to eliminate the vast majority of cube republication errors and greatly speed up the time it takes to import a JSON file.

Hierarchy Reporting

MicroStrategy 2020 delivers enhancements for hierarchy reporting against MDX data sources including support for filtering on hierarchical attributes within dossiers, parity between the web and mobile experiences for hierarchy reports, and support for hierarchical reporting on top of SAP HANA.

Enhancements for hierarchy reporting

The new release introduces two usability enhancements to the filtering experience when using hierarchical attributes. The first enhancement allows users to preserve the full branch of a hierarchy when using another hierarchy element as a filter across visualizations within a dossier. Persisting hierarchical relationships across the filtering action allows users to continue to navigate down the hierarchy tree—greatly increasing flexibility.

The second enhancement deals with how hierarchical attributes are visually represented within the filter panel. Within the filter panel, hierarchical attributes are displayed in a tree structure, giving users the ability to expand or collapse individual branches to show lower-level elements within the hierarchy. Previously, if a parent element was fully collapsed, there was no visual indicator to identify that a child element of a particular branch was selected within a filter. In MicroStrategy 2020, an icon automatically appears within the filter panel to indicate if child elements have been selected, allowing users to quickly identify the exact filter criteria applied to a dossier.
**Mobile Support for Hierarchy Reporting**

MicroStrategy 2020 also delivers enhanced support for hierarchy reporting on mobile devices. Previous versions of MicroStrategy preloaded the entire attribute hierarchy on the device—a workflow that resulted in sub-standard performance against large MDX cubes. In MicroStrategy 2020, this has been revised to incrementally fetch and cache hierarchy nodes and attributes on the mobile device as the user navigates the tree.

In addition, MicroStrategy 2020 introduces several mobile UI enhancements that help to achieve parity with the web experience for hierarchy reporting. Users will now have a consistent experience on the right-click context menu for displaying, expanding, and collapsing a hierarchy across both web and mobile; the ability to search for individual elements of a hierarchical attribute within the filter panel on mobile; and the ability to apply dynamic filters for an entire branch, level, or level within a branch has been added to the mobile filter panel.

**New data source support for hierarchy reporting**

Previous versions of the MicroStrategy platform supported hierarchy reporting on top of both Microsoft SQL Server Analysis Services (SSAS) and Oracle Essbase. MicroStrategy 2020 provides support for the same functionality on top of SAP HANA 2.0 calculation views.

**New Features for Administrators and Architects**

**MicroStrategy Workstation**

Targeted at administrators and developers, MicroStrategy Workstation is a unified administration product that makes it faster and easier to build and maintain scalable enterprise content, manage users and groups, assign security roles, create data models, and much more. MicroStrategy Workstation allows administrators and architects to:

- Create datasets, cards, dossiers, documents, and applications
- Connect to data assets to create or edit dossiers, both locally and on MicroStrategy servers
- Connect to on-premises and cloud environments
- Connect and save content to multiple MicroStrategy environments or servers
- Find and interact with cards, dossiers, documents, datasets, and reports via separate smart folders
- Create and manage users or groups and assign roles
- Manage permissions and access to content (ACLs)
- Schedule datasets for publishing
• Certify cards, dossiers, documents, and datasets
• Share dossiers and documents by adding them to users’ libraries
• View usage activity of cards, dossiers, documents, reports, datasets, applications, and users
• Monitor and start or stop services via Topology view
• View system certificates
• Monitor licenses
• Use advanced settings to customize the analytical engine behavior
• Manage environment and application settings, such as governing and cache settings
• Create and manage row-level and column-level filters on datasets
• Use a quick start page to get users up and running quickly
• Integration with the MicroStrategy Community

**Access schema and application objects within Workstation**

With MicroStrategy 2020, administrators use Workstation to view, copy, move, rename, delete, or change the ACL permissions for all the MicroStrategy schema objects in the same project. These include attributes, facts, functions and operations, hierarchies, partition mapping, tables, and transformations.

Similarly, administrators can use Workstation to view, copy, move, rename, delete, or change the ACL permissions for all application objects within the same project—including custom groups, consolidations, documents, drill maps, filters, metrics, prompts, reports, searches, auto styles, and templates.
Create and modify metrics in Workstation

With MicroStrategy 2020, architects are able not only to view standalone metrics, but to create and edit them without leaving the Workstation interface. When editing a metric at the project or application level, the object will be available for reuse in multiple dossiers, reports or documents, and even across users. When a metric is edited, all dependent objects will be automatically updated.

View, edit, and export environment and application level settings from Workstation

With MicroStrategy 2020, Workstation offers three new tabs at the application level for administrators to manage: Result Caches, Intelligence Cubes, and Intelligence Server Governing Settings.
With MicroStrategy 2020, administrators can quickly view and manage from Workstation the Result Caches settings. Users can edit the Cache file directory and specify the maximum memory usage for the different objects—documents, dossiers, or reports—to meet hardware configuration or system usage.

Additionally, administrators can also access and manage the behavior of the Intelligence Cubes of a specific application from Workstation. They can even export all the defined settings into a CSV file to match and compare settings between environments.

Create new security roles

In previous versions, Workstation allows administrators to have access to an intuitive and easy-to-use interface to quickly change the security role of users or a user group, such as browse, read, use, execute, write, delete, and control dossiers, documents, or reports. Workstation provides five pre-defined, commonly used roles: Application Administrator, Certifier, Analyst, Collaborator, and Consumer. Beyond that, administrators can customize and restrict the security access (ACLs) as needed.

With MicroStrategy 2020, administrators can now also create new security roles and customize their associated privileges. This provides greater flexibility to meet specific requirements about the level of privileges a user must have.
Import user and user groups from LDAP directory

With MicroStrategy 2020, administrators in Workstation can import users or user groups by connecting directly to LDAP for each environment.

Searching for dossiers offline

With MicroStrategy 2020, Windows administrators can access a single window that lists all dossiers that are stored locally on the laptop. So, no matter where the dossiers (.mstr files) are stored, users can easily find them with Workstation. This provides parity with Mac users to deliver a consistent user experience and behavior across different Windows and Mac.
Improved Monitoring of Memory Issues in Topology
MicroStrategy 2020 now exposes low memory situations via Topology in Workstation. When a low memory situation is encountered, platform administrators will now be able to see this information in Topology in Workstation, along with guidance about where governing limits are set, so that they can be addressed.

MicroStrategy Cloud Platform
New capabilities and enhancements available in MicroStrategy 2020 allow administrators to easily deploy the MicroStrategy Cloud Platform in minutes, on both AWS and Microsoft Azure. This release introduces several major enhancements for AWS and Azure deployments and increases the parity between the two cloud platform providers.

MicroStrategy Cloud Platform for AWS
Improved Vertical Scaling for MicroStrategy Cloud Platform for AWS
Customers can provision new environments or scale existing environments to up to 2 TB of memory per node.

New security features for MicroStrategy Cloud Platform for AWS
Organizations who leverage the MicroStrategy Cloud Platform (MCP) to deploy their MicroStrategy applications on AWS can now benefit from security features, including fully encrypted storage.
Additionally, MicroStrategy on AWS is now compliant with Center for Internet Security (CIS) benchmarks, ensuring all AWS deployments meet safeguards crafted by cybersecurity experts.

In order to further enhance security capabilities, MicroStrategy on AWS now offers individual security groups per load balancer for Team, Department, and Enterprise deployments.

**New region and language available for MicroStrategy on AWS**

Organizations can now choose Polish as a translation option for MicroStrategy on AWS within the Cloud Console and select the EU (London) Region under deployment region.

**MicroStrategy Cloud Platform improves ability to dynamically scale storage with EFS**

To make storage dynamically scalable, Department deployments on the MicroStrategy Cloud Platform for AWS will use dynamically scalable storage, similar to Enterprise deployments. This will help customers to take full advantage of the pay-as-you-go model offered by AWS.

**MicroStrategy Cloud Platform for Azure**

**Deployment options for MicroStrategy on Azure within the MicroStrategy Cloud Console**

Organizations can now choose from pre-packaged options when deploying MicroStrategy on Azure environments through the Cloud Console. These environments are designed to meet the needs of a wide range of organizations and greatly improve the time-to-value when deploying applications using the MicroStrategy Cloud Platform.

Companies can now deploy MicroStrategy Cloud Platform for Azure at the Team, Department, or Enterprise level based on their operational requirements. System administrators can also provision the MicroStrategy Cloud Platform on Azure environments into an existing secure VNet, providing organizations using Azure with greater flexibility and functional parity when compared with MicroStrategy Cloud Platform for AWS.
New administrative features within the Cloud Console for Azure

MicroStrategy for Azure offers features that make it easy for administrators to manage, maintain, and automate activities for MicroStrategy deployments on Azure. MicroStrategy 2020 delivers increased parity with the administrative capabilities available with MicroStrategy for AWS. Organizations can now schedule administrative tasks via user-defined schedules—making it significantly easier to start, stop, resize, and terminate Azure environments as needed—reducing the administrative overhead required to keep an environment up and running. Administrators can also perform tasks for MicroStrategy on Azure via APIs.

Using the MicroStrategy Cloud Console, administrators can easily manage their Azure subscriptions, monitor their environments, and view cost estimates for their deployments, providing easily accessible monitoring capabilities and information to organizations. For administrators who need more precise control over access and security within their deployments, the Cloud Console now also allows administrators to define role-based access, including extending administrator privileges and restricting functionality based on user type.
MicroStrategy on Azure is compliant with new security benchmarks

To ensure parity, MicroStrategy on Azure is also compliant with the CIS benchmarks, certifying that all Azure deployments meet safeguards crafted by cybersecurity experts.

New regions available for MicroStrategy on Azure

Users can provision the MicroStrategy Cloud Platform on Azure environments in Central Canada, Southeast Asia, Australia Southeast, North Europe, West Europe, Central US, West US, West US 2, and East US in order to support better performance around the globe.

MicroStrategy on Azure environments can be deployed or managed via API

With MicroStrategy 2020, all Azure environments licensed on the MicroStrategy Cloud Platform now have access to the powerful set of REST APIs available to the cloud console. This enables customers to automate the deployment, upgrade, and management of all their environments on MCP.
Enterprise Platform

HyperIntelligence

Support for trusted authentication in HyperWeb

HyperWeb now supports Trusted Authentication Mode. This enhancement allows organizations to seamlessly leverage their existing investments in third-party authentication tools—providing users with trusted, secure access to HyperIntelligence on the web. MicroStrategy 2020 delivers support for third-party authentication providers: SiteMinder, IBM Tivoli, Ping Federate, and Oracle Access Manager.

Support for SAML authentication in HyperWeb and HyperMobile

MicroStrategy now supports non-Badge SAML providers, allowing organizations to let users seamlessly authenticate into both HyperWeb and HyperMobile and delivering single sign-on capabilities for organizations leveraging a SAML provider.

Report Services Documents

MicroStrategy’s most used object to present and distribute content—documents—can be now created and edited directly in our most user-friendly interface: Workstation. With this new capability for creating and editing documents within Workstation, MicroStrategy 2020 is consolidating the most used formatting and editing functions into a single editor, so users don’t have to switch tools while creating documents and dossiers.

Architects can create new documents and edit existing ones within Workstation in a revamped editor interface, share these documents, and manage ACLs, permissions, and privileges.
A modern look and feel allows architects to create or edit documents within Workstation. Some changes include an updated color scheme, modern fonts, completely new icons, clean lines, and a less cluttered toolbar.

Previously, architects formatted graphs on Developer. With MicroStrategy 2020, new enhancements to the Graph Formatting Properties were introduced within Workstation. Architects can have the Axis Formatting Properties available in the same interface, including Label Rotation, Label Position, Value Position, Label Alignment, and Axis Label visibility.

Workstation includes all the existing functionality architects have in MicroStrategy Web for creating and editing documents, including configuring a Transaction Services document by enabling a grid or creating a form and linking it to an existing transactional report. It should be noted that the ability to create a Transaction object is not yet available in Workstation.
Mobile

Support and certification of Microsoft Intune via AppConfig for MicroStrategy Mobile and MicroStrategy Library

The MicroStrategy Mobile and MicroStrategy Library apps have been certified to be deployed and configured using Microsoft Intune as EMM. Mobile administrators can use AppConfig-compatible applications to deploy MicroStrategy Mobile and MicroStrategy Library to their organization using the standard methods for configuration, including authentication, data loss prevention policies, and per-app VPN.

Platform Analytics

Platform Analytics surfaces real-time telemetry usage data for new types of objects

MicroStrategy 2020 delivers enhanced capabilities for Platform Analytics. Platform Analytics exposes usage telemetry data for MicroStrategy objects via Workstation. This allows administrators to easily monitor the real-time usage of applications across MicroStrategy projects. Users can find the telemetry and usage information by simply right-clicking on an object and selecting "Get Info" from the drop-down menu.

Platform Analytics is now available for dossiers, applications, datasets, documents, reports, cards, and users. This makes it easy for administrators to monitor the actions taken by users and provides opportunities for both security and performance enhancements. The following usage information is available for every user: subscriptions, executions, sessions, objects owned, error rate, last week trend of connection source, last week trend, and top 10 objects by total runs for the last week.
Additionally, users can also see telemetry information related to:

- Cube in-memory usage
- Database type, version, name, and usage
- Dossier certification flag
- Folder object information

For full documentation related to the Platform Analytics Data Model, please visit this page.

**Message delivery for Platform Analytics**

MicroStrategy 2020 adds guaranteed message delivery for telemetry information sent to Platform Analytics. Starting in this release, if the Intelligence Server is unable to connect to the Platform Analytics Telemetry Server, messages sent during that period are stored locally and re-sent to the Telemetry Server once the connection is re-established.

**Data cleanup**

MicroStrategy 2020 includes new functionality that helps administrators control how much data is retained in the Telemetry repository. Administrators can now purge data based on several different rules that can be configured. Data can be purged based on age, specific projects, specific metadata repositories, and/or whether it is telemetry related to objects that had been previously deleted from the repository.

**Improved performance and scalability**

MicroStrategy 2020 includes performance improvements for the Platform Analytics Telemetry Consumer. This has been accomplished by breaking down many of the underlying warehouse tables into daily and historic tables. With MicroStrategy 2020, the consumer will load data into the daily tables, thus reducing the amount of data that is loaded by the consumer. The daily ETL will ensure that the content from the daily tables is also loaded into the historic tables to ensure that there is always a full view of telemetry data.

**New performance troubleshooting dossier**

Platform Analytics in MicroStrategy 2020 ships with a dossier to aid in troubleshooting performance issues for application objects. When advanced statistics are enabled for a project, information will be logged about every job step or SQL pass. Administrators and content authors will be able to leverage this information to make design decisions that result in the most performant application objects.
Governance and Certification Workflows

Certify reports in order to deliver governed data

Content authors and data stewards can now watermark their dossiers, documents, cards, and datasets with a certified stamp from directly within the Workstation interface. The ability to certify content is especially important for organizations who have invested in rolling out self-service analytics to their business users. Since self-service analytics often goes together with the ability to blend data from various sources, this feature will help users differentiate between content that is certified and that which may be based off potentially unverifiable data. The certification feature makes reliable self-service possible across the enterprise and makes it easy for users to identify trusted, vetted data and analytical content.
Sort content within Workstation by certification status

MicroStrategy 2020 gives users the ability to quickly apply filters within the Workstation interface to see only content that has been certified. Users can now sort and filter objects by name, modified date, creation data, owner, application, ascending/descending order, and certification status.

Enterprise Manager

New options for Enterprise Manager in the MicroStrategy Configuration Wizard

The MicroStrategy Configuration Wizard allows administrators to configure the metadata repository, Enterprise Manager repository and statistics tables, History List tables, the MicroStrategy Intelligence Server, and multiple project sources. In prior versions, the wizard only provided the ability to enable or disable statistics when configuring the Intelligence Server. MicroStrategy 2020 gives administrators added flexibility when configuring statistics settings. They can now choose to keep the existing statistics settings in addition to enabling and disabling statistics for all projects.
Installation

Certification and validation of AdoptOpenJDK

MicroStrategy has been delivering Java Runtime Environment (JRE) and Oracle Java Standard Edition (SE) as part of its installation package. Until recently, Oracle had been providing the updates and releases of Java SE at no cost. However, Oracle recently announced that customers must now license the product for a fee. To ensure that none of our customers have to pay the additional fee, MicroStrategy has validated and certified AdoptOpenJDK 8. Customers can now use OpenJDK 8 for MicroStrategy deployments.

New MicroStrategy embedded repository

MicroStrategy 2020 ships with an embedded data repository that can be leveraged by Platform Analytics, Collaboration Server, and the Metadata Repository. Installed, configured, secured, and backed up by default, this repository eliminates the need for platform administrators to run a separate database to support these MicroStrategy services. Customers can choose to continue to use their existing Metadata and Platform Analytics repositories, or they can opt to leverage the embedded repository and take advantage of its benefits. Some of these benefits include automated scheduled backups, optimization, and statistics collection to power the new Platform Analytics Capacity Planning dossier. For customers that wish to take advantage of this repository, data migration scripts and documentation are provided. Please contact us through the MicroStrategy Community.

New Features for Developers

Enhancements to the Embedding SDK

With MicroStrategy 2020, developers can now embed a dossier within a web application and make it reactive to inputs provided within the same web application. With the Embedding SDK, developers can now pass the instance ID of a dossier or report, generated through separate REST API calls, to render the dossier or report within the web application.

With this new functionality, users can select one or more elements within a web application that will be transmitted to MicroStrategy to create a dossier or report instance ID. The web application passes the instance ID to the embedded visualization to render the visualization with the selected parameters by the user. Users will have a seamless experience where selected criteria will be reflected within the application interface.
Increased performance and throughput for MicroStrategy Push APIs

MicroStrategy 2020 introduces performance optimizations that allow developers using Push APIs to push larger volumes of data to the server and publish in-memory cubes in less time. This is useful in scenarios where organizations are looking to publish large volumes of data directly to in-memory cubes on the MicroStrategy Intelligence Server (e.g. when using data preparation or ETL tools like Alation, Paxata, or Trifacta). In internal benchmark tests, publishing in-memory cubes was shown to be faster, depending on the volume of data, the number of incremental chunks of data, and available system resources.

Additionally, MicroStrategy 2020 offers a new REST API framework to support OpenAPI 3.0 and provide better documentation and infrastructure.

Enhanced MicroStrategy REST APIs for a faster performance

One of the greatest strengths of MicroStrategy is its openness on top of a centralized metadata. This metadata layer supports reports, dashboards, and other analytical applications across the MicroStrategy environment and helps to ensure a trusted, single version of the truth. Organizations can use REST APIs to leverage MicroStrategy’s semantic layer within other third-party or front-facing applications. MicroStrategy 2020 introduces enhancements made to the MicroStrategy REST APIs for MicroStrategy cubes, reports and dossiers, to improve the way users can interact with and export data. These enhancements result in a 40% improvement over previous versions of the API.

Export data from cross-tabbed reports

In addition to performance improvements, MicroStrategy 2020 gives developers greater flexibility when accessing data from MicroStrategy via REST APIs. In previous releases, developers could only use REST APIs to export data from formatted tabular reports. MicroStrategy 2020 allows developers to export data from cross-tabbed reports. That means developers can export a report containing a pivot table [e.g. a report of sales data by region (rows) and sales per quarter (columns)] and embed the results within an external web application. Developers can also use REST APIs to export subtotals from within an individual report, helping eliminate unnecessary re-computation.

Support API field selection

With API field selection, the API developer can specify the exact data they need from the API. This allows developers to have more precision in their application integrations, and it improves application performance through less data being transferred.
Full prompt support with REST APIs for dossiers, documents, and reports

With MicroStrategy 2020, developers have a comprehensive prompt support for dossiers, reports, and documents. Using REST APIs, users can now view prompts, answer prompts, change the default answer, re-prompt dossiers, documents, and reports, and have all prompt workflows and behaviors.

Manage and monitor user and DB connections through REST APIs

With MicroStrategy 2020, developers can now connect all the users on a specific server node through REST APIs. Now, instead of going through MicroStrategy Developer and clicking on user connections, developers can automate tasks, such as disconnecting users when they meet certain criteria, and take full advantage of the REST API functionality.

Similarly, developers have more control over database connections through REST APIs. Users can get a list of the databases an environment is connected to and manage the connectivity in an automated process through REST APIs. Users can also view and manage intelligent server cluster memberships, such as adding and deleting nodes and clusters.

Mobile

Support for App Delegate and custom login in MicroStrategy Mobile for Android

MicroStrategy 2020 delivers support for AppDelegate via the MicroStrategy Mobile SDK for Android. This allows app developers to track the state of an app (app is launched, app goes to background, etc.) through a custom application. Additionally, with the custom login support app, developers can customize the client login workflow using authentication protocols like OAuth, OpenID Connect, and more to support a customized login experience.
Finally, MicroStrategy 2020 delivers 64-bit compatibility for both the MicroStrategy Mobile and MicroStrategy Library apps in Android to comply with Google Play policies. The new 64-bit version of the app provides performance improvements, makes way for future innovation, and caters to devices with 64-bit-only hardware.
## Appendix

### 2020 Features by Product

<table>
<thead>
<tr>
<th>Type</th>
<th>Product</th>
<th>2020 Features</th>
</tr>
</thead>
</table>
| Clients Desktop | | New exporting options  
New support for page and file links on PDFs  
Compound grid  
Load pages on demand  
Attribute and Metric selector  
Contextual linking from visualizations to another dossier  
Alerts for unused derived objects within a dossier |
| Clients Web | | New exporting options  
New support for page and file links on PDFs  
Compound grid  
Load pages on demand  
Attribute and Metric selector  
Contextual linking from visualizations to another dossier  
Alerts for unused derived objects within a dossier  
Enhancements for Workstation:  
Create and edit Report Services Documents  
Ability to certify reports  
Sort content within Workstation by certification status |
| Clients Mobile | | Improved experience when linking dossiers from documents  
Mobile Support for Hierarchy Reporting  
New features for iOS:  
MicroStrategy Mobile and Library support for iOS 13  
Certification for Apple’s new iPad Pro  
Face ID integration  
Auto-correct while using the MicroStrategy Library app  
Full screen view in landscape mode on iPhone  
Link a dossier to an image or text in MicroStrategy Library  
Improvements to Hierarchy Reporting in MicroStrategy Library for  
New features for Android:  
Attribute thresholds for highlighting data within a grid  
New calendar selector  
Offline support for dossiers in MicroStrategy Library  
Device logging to deliver performance improvements in MicroStrategy Mobile  
Support for attribute selector in the grid/graph template in MicroStrategy Mobile  
Enable “Fit to page” in grids to seamlessly align with different device resolutions in MicroStrategy Mobile |
<table>
<thead>
<tr>
<th>Type</th>
<th>Product</th>
<th>2020 Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clients</td>
<td>Reporter</td>
<td>New exporting options&lt;br&gt; New support for page and file links on PDFs&lt;br&gt; Compound grid&lt;br&gt; Load pages on demand&lt;br&gt; Attribute and Metric selector&lt;br&gt; Contextual linking from visualizations to another dossier&lt;br&gt; Alerts for unused derived objects within a dossier</td>
</tr>
<tr>
<td>Clients</td>
<td>Application-API</td>
<td>Increased performance and throughput for MicroStrategy Push APIs&lt;br&gt; Enhanced MicroStrategy REST APIs&lt;br&gt; for a faster performance&lt;br&gt; Export data from cross-tabbed reports via REST APIs&lt;br&gt; Support API field selection&lt;br&gt; Full prompt support with REST APIs for dossiers, documents, and reports&lt;br&gt; Ability to manage and monitor user and DB connections through REST APIs</td>
</tr>
<tr>
<td>Clients</td>
<td>Application-Tableau</td>
<td>Support for prompted reports&lt;br&gt; Certifications for Tableau Desktop November 2019 (version 2019.4), Tableau Desktop October 2019 (version 2019.3.1), and Tableau Desktop September 2019 (version 2019.3)&lt;br&gt; Revamped interface</td>
</tr>
<tr>
<td>Clients</td>
<td>Application-Power BI</td>
<td>Certifications for Power BI Desktop November 2019, October 2019, and September 2019&lt;br&gt; Revamped interface</td>
</tr>
<tr>
<td>Clients</td>
<td>Application-Qlik</td>
<td>Certifications for QlikSense September 2019 (13.9.4) and QlikSense November 2019 (13.9.5)</td>
</tr>
<tr>
<td>Clients</td>
<td>Application-Office</td>
<td>Revise attribute or metric selections&lt;br&gt; Leverage subtotals and cross-tabs&lt;br&gt; Support for prompts&lt;br&gt; Support for multiple MicroStrategy reports and datasets at once&lt;br&gt; Up to 74% performance improvements in</td>
</tr>
<tr>
<td>Clients</td>
<td>Application – Data Science</td>
<td>A new SKU that bundles two products into a single offering: MicroStrategy for Jupyter and MicroStrategy for RStudio</td>
</tr>
<tr>
<td>Clients</td>
<td>Architect</td>
<td>Enhancements for Workstation:&lt;br&gt; Access schema and application objects&lt;br&gt; Create and modify metrics</td>
</tr>
<tr>
<td>Clients</td>
<td>HyperWeb</td>
<td>Support for Microsoft Edge Beta browser&lt;br&gt; New caching optimization to support 500,000 unique keywords&lt;br&gt; Keywords with multiple matches</td>
</tr>
<tr>
<td>Clients</td>
<td>HyperMobile</td>
<td>Calendar integration for iOS and Android&lt;br&gt; Powerful enterprise search&lt;br&gt; In-app search functionality in the HyperMobile app for iOS and Android&lt;br&gt; Spotlight Search integration in the HyperMobile app for iOS&lt;br&gt; View notification history within the HyperMobile app on both iOS and Android&lt;br&gt; Offline access to cards</td>
</tr>
<tr>
<td>Clients</td>
<td>HyperOffice</td>
<td>Available in the Outlook desktop application&lt;br&gt; Available in the Outlook web application&lt;br&gt; Ability to generate logs within the HyperOffice add-in for Microsoft Outlook</td>
</tr>
<tr>
<td>Type</td>
<td>Product</td>
<td>2020 Features</td>
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<td>---------</td>
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</tbody>
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| Servers | Intelligence | Features for authoring cards:  
Enhanced card formatting options  
New card templates  
A variety of widgets to customize card content  
Support for dynamic linking on cards  
Support for trusted authentication mode in HyperWeb  
Support for SAML authentication in HyperWeb and HyperMob  
Enhancements for Workstation:  
View, edit, and export environment and application level settings  
Create new security roles  
Import user and user groups from LDAP directory  
Searching for dossiers offline  
Improved Monitoring of Memory Issues in Topology |
|         |         | MicroStrategy 2020 certifies the latest updates of the following systems:  
Apache Tomcat 9.0.x  
Jboss Enterprise Application Platform 7.2  
Wildfly 15, 16, and 17  
AdoptOpenJDK 8  
Oracle JDK 8  
Microsoft Edge Chromium  
Microsoft SQL Server 2019  
Oracle Database 19c and 18c  
Oracle Database Cloud 19c and 18c  
PostgreSQL 11.x  
Teradata 16.x  
Red Hat Enterprise Linux 8.0 and 7.7  
CentOS 8.0, 7.7, and 7.6  
Oracle Linux 8.0, 7.7, and 7.6  
General Features  
Overhauled data import workflow for JSON files  
Certification and validation of AdoptOpenJDK  
New MicroStrategy embedded data repository |
|         |         | Platform Analytics:  
Platform Analytics exposes usage telemetry data for dossiers, applications, datasets, documents, reports, cards, and users  
Additional telemetry information for cube in-memory usage, database type, version, name and usage  
Dossier certification flag and folder object information  
Message delivery for telemetry information sent  
New functionality that helps purge the data |
<table>
<thead>
<tr>
<th>Type</th>
<th>Product</th>
<th>2020 Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Servers</td>
<td>Transaction</td>
<td>Survey-based transactional workflows in dossiers</td>
</tr>
<tr>
<td>Servers</td>
<td>Geospatial</td>
<td>Support for custom shape files through Mapbox</td>
</tr>
</tbody>
</table>
| Drivers and Gateways      | Relational      | Enhancements to the native Salesforce, Microsoft SharePoint and MicroStrategy connector  
Out-of-the-box data integration with SurveyGizmo and SurveyMonkey  
New out-of-the-box data source connectors  
Community support for Huawei GaussDB |
| Drivers and Gateways      | OLAP Drivers    | Updated drivers for popular data sources: SQL Server and Oracle  
Enhancements to the filtering experience for hierarchy reporting  
Support for hierarchy reporting for HANA 2.0 |
| Drivers and Gateways      | Big Data Drivers| Updated drivers for popular data sources: Google BigQuery, Apache Hive, Apache SparkSQL and Cloudera Impala | |
| Drivers and Gateways      | EMM Gateways    | Support and certification of Microsoft Intune via AppConfig  
Support for App Delegate and custom login in MicroStrategy Mobile for Android |
| Platforms                 | Cloud Platform for AWS | Vertical Scaling for MicroStrategy Cloud Platform  
New security features  
New region (London) and language (Polish) available  
Improved ability to dynamically scale storage with EFS |
| Platforms                 | Cloud Platform for Azure | Team, Department, or Enterprise deployment options  
New administrative features  
Compliant with the CIS benchmarks  
New regions available  
Azure environments can be deployed or managed via API |