

OFFERING OVERVIEW

Oracle Analytics: One Platform for Cloud, SaaS and On-Premises Demands

Oracle Tackles Modern Deployment Needs and Cloud Application Requirements with a Unified Platform



Doug Henschen
Vice President and Principal Analyst

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EXECUTIVE SUMMARY

Oracle has reasserted itself in the business intelligence (BI) and analytics market by significantly upgrading and rationalizing its product lineup, simplifying its pricing and embracing transparency by sharing its analytics road map publicly. A 2019 revamp created a unified platform available through three products: Oracle Analytics Cloud, Oracle Fusion Analytics and Oracle Analytics Server. Oracle Analytics Cloud delivers BI and analytical capabilities in the Oracle Cloud. Oracle Fusion Analytics (formerly known as Oracle Analytics for Applications) builds on Oracle Analytics Cloud, adding a prebuilt data warehouse instance and analytic content for Oracle Fusion software-as-a-service apps, starting with Oracle Fusion ERP Analytics and Oracle Fusion HCM Analytics. Oracle Analytics Server is nearly identical to Oracle Analytics Cloud, but it deploys behind corporate firewalls and on third-party clouds.

This Offering Overview examines the three-part Oracle Analytics platform, but it focuses mainly on Oracle Analytics Cloud and Oracle Fusion Analytics, the most future-focused elements of the platform. This report identifies key differentiators, examines functional capabilities, considers the offering's strengths and weaknesses, and provides use cases. Technology buyers should use this report to evaluate Oracle Analytics for implementation.

Business Themes



Data to Decisions



Matrix Commerce



Technology Optimization

ABOUT ORACLE ANALYTICS

Overview

In 2019, Oracle announced an updated and consolidated BI and analytics platform deployable through three products: Oracle Analytics Cloud (OAC), Oracle Fusion Analytics (formerly known as Oracle Analytics for Applications) and Oracle Analytics Server. OAC has been maturing as the company's multitenant, cloud-based service on Oracle Cloud for nearly four years. The emphasis is on self-service data exploration, data visualization, dashboarding and reporting supported by next-generation "augmented analytics" features based on machine learning (ML), natural language (NL) processing and automation capabilities. Augmented capabilities are designed to enhance and complement human understanding, thereby making the platform more accessible to less sophisticated users and more productive for all users.

Oracle Fusion Analytics (OFA) integrates OAC with Oracle cloud applications. The two offerings available at this writing are Oracle Fusion ERP (enterprise resource planning) Analytics, released in 2019, and Fusion HCM (human capital management) Analytics, introduced in May 2020. OFA is delivered entirely as a service, and it includes a premodeled data warehouse instance based on the Oracle Autonomous Database. Also included are turnkey data integration services to move and transform predefined application data as well as prebuilt, templated reports and dashboards. The vision is to go beyond Oracle Fusion ERP Analytics and Oracle Fusion HCM Analytics to address Oracle NetSuite, Oracle Fusion SCM (supply chain management), and Oracle Fusion CX and third-party party applications including rival customer relationship management (CRM) systems. As new systems are added, OFA will deliver integrated strategic and holistic analytics across all available application domains.

Oracle Analytics Server (OAS), made generally available in late 2019, is an on-premises-oriented, customer-deployed product that updates and combines the capabilities of Oracle Business Intelligence Enterprise Edition (OBIEE) with newer capabilities from OAC, including its data visualization and augmented analytics features. OAS is also Oracle's option for deploying and using Oracle Analytics on third-party public clouds.

All three versions of Oracle Analytics are aimed at a broad spectrum of users (see Figure 1), ranging from experienced data engineers and data scientists to power users (such as data analysts and citizen data scientists), business analysts and business users.

Market Segment

Business intelligence (BI) and analytics products exist to help organizations drive better, data-driven decisions. The technology has evolved over decades, starting out in the 1980s and '90s as products focused mostly on rearview-mirror reporting. These products were deployed and maintained primarily by information technology (IT) departments.

The self-service era of BI and analytics emerged in the mid-2000s, opening access to data exploration and analysis, primarily through data visualization tools and quick-to-develop dashboards. These visualizations and dashboards could be linked to data sources and shared and refreshed online, bringing fresh insight to more users.

Despite the advances of the self-service era, data-driven decision-making still isn't as pervasive as it could or should be. Software deployment and maintenance requirements remain a barrier to user adoption, contributing to complexity and IT dependency.

Figure 1. With Its Extensive Self-Service and Augmented Capabilities, Oracle Analytics Is Aimed at a Broad Base of Users

			
Data Engineers	Citizen Data Scientists	Business Analysts	Business Users
Agile and modern developer experience to unlock data for all users	Train and deploy ML models for business specific needs, no PhD required	Self-service data access, prep, analysis and visualization – augmented by ML algorithms	Personal data assistant, powered by AI, Natural Language, Voice, Mobile

Source: Oracle

Complexity also remains a barrier to adoption where data access and data analysis are concerned, particularly for untrained business users who are accustomed to using spreadsheets. Another barrier to adoption and truly “democratized” BI and analytics is the prevailing separation of BI and analytics products from the productivity and transactional applications where most businesspeople are accustomed to making decisions and acting.

Market Trends

To overcome the constraints that continue to curb BI and analytics adoption, vendors and customers alike are pursuing three trends: cloud deployment, augmented analytics and embedded analytics. Each trend is described in detail below.

Cloud Deployment

It's hard to ignore the tectonic shift of IT and IT workloads into the cloud. It's a move that's pulling BI and analytics deployments right along with it because it makes sense to deploy analytics wherever the center of data gravity may be. High-scale data and efforts to drive cutting-edge data science are increasingly moving into the cloud to take advantage of limitless scalability and rapid elasticity of compute, storage and networking capacity in the cloud. Application workloads, such as CRM, human capital management and enterprise resource planning, are steadily moving to software-as-a-service (SaaS) providers, and SaaS providers are increasingly turning to major public cloud providers—in many cases, multiple cloud providers—for compute and storage capacity and the capacity automation underpinning their services.

Many end-user organizations are moving significant workloads into public clouds. But some data, such as privacy-sensitive or commercially sensitive information, and certain workloads, such as highly regulated and country-specific transactions, might require on-premises deployment. In addition, some customers are wary of being locked into a single cloud service provider. Thus, hybrid-cloud and multicloud flexibility are in high demand.

Nearly every BI and analytics vendor has made at least some effort to address cloud deployment, including multiple (and several now-prominent) BI and analytics options that were born as cloud-

native services. Below are a few of the more popular approaches to addressing hybrid- and multicloud deployment.

- **Hosted/managed services.** Hosting (aka managed services) was an early response to the cloud, but the approach is typically more about outsourcing software deployment and administration than it is about embracing cloud concepts. In this approach, the vendor or a separate service provider takes care of software deployment and ongoing management for the customer. Hosting typically involves a one-off deployment of conventional software (rather than software run as a service for many customers). Even when deployment takes place on public cloud infrastructure as a service (IaaS), many cloud advantages are lost. It's a valid and useful option, but it's more about outsourcing than embracing the cloud.
- **Cloud-friendly software.** Another early step for incumbent BI and analytics vendors was to rearchitect their software for cloud deployment. RESTful interfaces and, more recently, microservices architectures make it easier to deploy on public cloud IaaS, but differences from cloud to cloud complicate matters. More helpful was the move to get software to be deployable from public cloud marketplaces. Certification by the cloud provider ensures that the software will work on native cloud services. Users need only bring their own license keys to quickly get the software up and running on IaaS, but ongoing management and maintenance of the software is still up to the customer.
- **Software as a service.** Early SaaS offerings were sometimes run on independent data centers, but most vendors are now taking advantage of the economies of scale, elasticity and automation capabilities of the big public clouds, gaining cost advantages over hosting approaches.

A key question is whether such a BI and analytics offering is available only as a service, or is it based on software that's also available to run on-premises? Either way, what are the provisions for accessing data from on-premises and cloud sources? Does the data have to be replicated in BI/analytics platform? Can data be accessed and queried without being moved? What are the performance penalties and networking costs when data and the BI and analytics platform are separated?

- **Virtual machines and container-based deployment and portability.** Virtualization technology is now used ubiquitously in the enterprise to gain deployment flexibility, and it's also supported in the cloud. VMware, for one, is supported on every major cloud. The next generation of virtualization is based on container and container-orchestration technologies supporting hybrid- and multicloud deployment with portability. In this approach, software is adapted to run in containers, with scaling achieved simply by adding more containers, whether on-premises or on one or more clouds. The vision (mostly yet to be realized) is to make workloads portable across on-premises and multiple cloud deployment options with monitoring and managed through a unified administrative interface.

Augmented Analytics

The next generation of BI and analytics products harnesses heuristics, ML and artificial intelligence (AI) technologies and techniques to improve data access, suggest data sources and analyses, uncover latent insights, predict future outcomes and even suggest actions. Natural language understanding and NL generation, two important AI capabilities, are making it easier for users without knowledge of data science or query languages to ask questions about data.

These emerging statistical, ML- and AI-based features, along with automation, are known as "augmented analytics." Constellation Research sees augmentation as a next step for BI and analytics. Augmented features will not only extend self-service to a broader base of users, it will also speed data prep, analysis and predictive work for more-advanced users. Ultimately, and most importantly, it will lead to better, data-driven decision-making.

Constellation sees the following augmented capabilities emerging:

- **Augmented data prep**, including automated data profiling, guided cleansing and formatting steps, recommended data sources and assisted joins, and assisted data-enrichment steps and sources.

- **Augmented discovery and analysis**, including recommended insights, recommended visualizations, key-influencer/driver analysis and intent-driven recommendations based on content/source popularity or more-sophisticated analysis and learning of behavior patterns by user, group and role.
- **Natural language interaction** includes both NL generation and NL query. NL generation adds detailed textual descriptions to key performance indicators (KPIs), charts and dashboards to provide additional context and improve human understanding. NL query supports data exploration and analysis through typed-in (or speech-to-text translated) questions rather than SQL code.
- **Automated trending, forecasting and prediction** features start with simple push-button trending and forecasting features that can be harnessed by data-savvy analysts. More advanced are automated ML and predictive modeling features.

Embedded Analytics

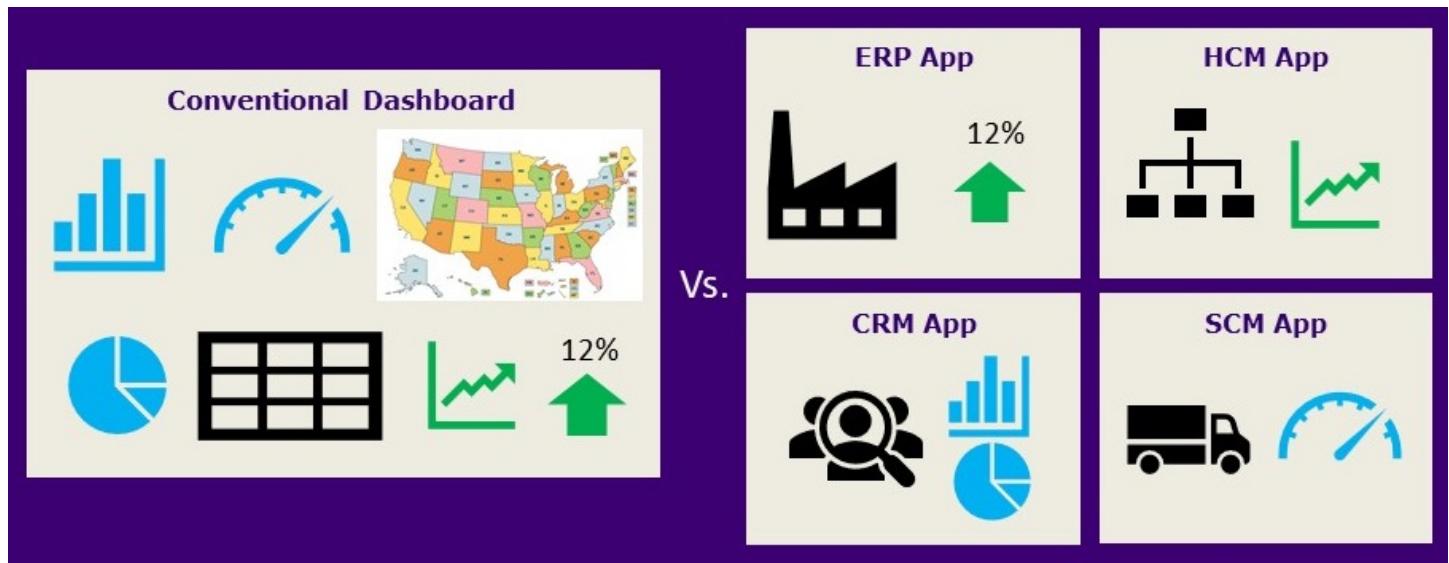
Embedded analytics has long been associated with the independent software vendor (ISV) practice of licensing core reporting, dashboarding and exploratory analysis technologies from well-known BI and analytics vendors and building these capabilities into their applications. ISVs—companies in the business of selling software and SaaS applications—have been responsible for the majority of embedding, but that's now changing.

Innovative “end-user” organizations across every industry are increasingly recognizing the value of embedded analytics, and it’s a trend that’s growing for three reasons: rising demand for easier and faster decision-making; the pursuit of innovation and new business models; and emerging opportunities to harness prediction and automation.

To meet the demands of the three trends described above, embedding capabilities are evolving, as described below.

- **Web embedding.** The most basic approach to embedding analytics is to publish conventional reports, data visualizations or dashboards to web pages. In this approach, static assets are shared using iFrames or other simple HTML or JavaScript embed codes.
- **Secure custom portals.** The next step up in sophistication—and the prevailing approach used by end-user organizations to date—is to publish analytic assets to internal-, partner- and/or customer-facing portals.
- **SaaS/COTS embedding.** The next step up in sophistication—an approach that's quickly growing in popularity—is embedding targeted visualizations or complete dashboards into SaaS offerings or commercial-off-the-shelf (COTS) software. SaaS apps such as Salesforce, NetSuite and Workday; on-premises apps such as SAP ECC 6 and Oracle E-Business Suite; and even personal productivity apps, such as Microsoft Office apps, are leading targets for embedded analytics.
- **Concise, real-time and interactive embedding.** Here's where innovators—whether commercial software vendors or leading end-user organizations—are embedding concise analytics at the point of decisions and actions (see Figure 2). The innovation might also extend to personalization, near-real-time insight, interactivity and even predictive capabilities.
- **Embedded analytic apps and action-oriented dashboards.** Spurred on by an important tech trend that is democratizing application development, leading BI and analytics vendors are adding low-code and no-code development options as well as support for event triggers, workflows and automation. These options support both the development of custom analytic applications and active dashboards with embedded transactional capabilities that can trigger actions in third-party systems.

Figure 2. Dashboards Are Typically Purely Analytical; Embedding Puts Concise Analytics at the Point of Decision-Making



Source: Constellation Research

FUNCTIONAL CAPABILITIES

Oracle Analytics converges the capabilities of classic, centrally governed BI and analytic platforms and self-service BI and analytics products. Governed capabilities include semantic modeling, dashboarding and schedulable pixel-perfect reporting. Self-service capabilities include data prep, data visualization, data storytelling and collaboration.

Many BI and analytics vendors have successfully blended the benefits of centrally governed and self-service BI and analytics. Constellation sees much more differentiation emerging in BI and analytics around cloud deployment options, augmented analytics features and embedded analytics capabilities. Below is an in-depth look at Oracle Analytics capabilities in these three areas along with a preview of important new capabilities promised over the next 12 months.

Cloud Deployment Options

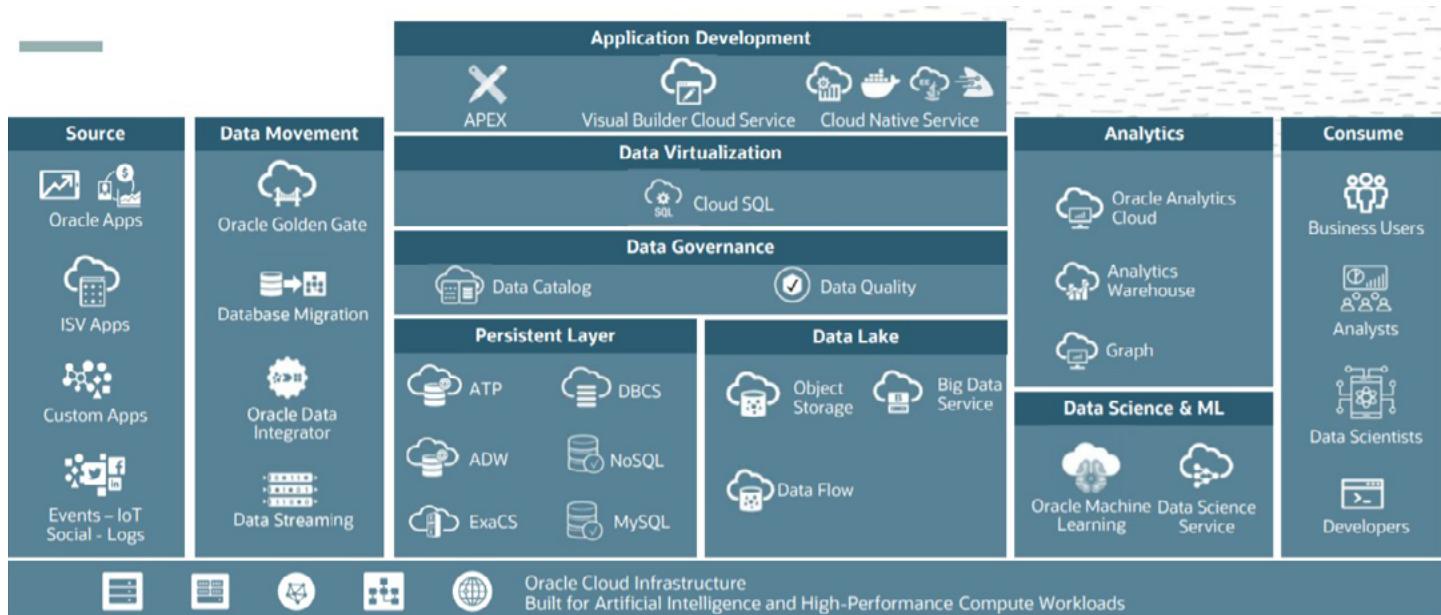
Oracle Analytics addresses cloud deployment requirements in three ways. As the name makes clear, Oracle Analytics Cloud is a SaaS offering run entirely by the vendor. It's a modern, self-service-

oriented cloud service emphasizing data visualization and offering extensive augmented analytics capabilities (as detailed in the “Augmented Analytics” section on p. 13). Prebuilt connectors support access to and blending of data from Oracle Cloud, third-party clouds and on-premises data sources. Naturally, that list includes nearly everything in the Oracle portfolio in terms of applications and data sources, but it also extends to leading third-party sources, including Salesforce, Google Analytics, Microsoft SQL Server, Teradata, Amazon Redshift and Snowflake.

OAC is built on Oracle’s Gen 2 Cloud and Oracle Cloud Infrastructure. As such, it benefits from Oracle Cloud’s global footprint, with 36 regions expected to be available by the end of 2020. It also benefits from a growing list of tight integrations (see “Near-Term Road Map” on p. 15) with important capabilities—such as data integration, data quality, data catalog, data governance and data science—in the Oracle Cloud family of services (see Figure 3).

Oracle Fusion Analytics is essentially OAC preintegrated with Oracle Fusion cloud applications. The combination makes it easier to analyze data from applications, at this writing including Oracle Fusion

Figure 3. Oracle Analytics Cloud Runs on Oracle Cloud and Benefits from a Growing List of Integrations with Related Services



Source: Oracle

ERP Analytics and Oracle Fusion HCM Analytics (introduced in the fourth quarter of 2019 and May 2020, respectively). Analysis can examine one application or, as integrations are added, can cut across applications, blending finance and HR analysis, for example. Integrations with other Oracle cloud applications and, eventually, third-party applications are expected to follow on a quarterly cadence. Oracle Fusion SCM, Fusion CX and Oracle NetSuite, in that order, are all on the road map.

Fusion Analytics integrations combine Oracle Analytics Cloud with a bundled instance of the Oracle Autonomous Data Warehouse service as well as supporting data models and prebuilt reports, dashboards and KPIs. The data pipeline from Oracle Cloud apps to the Autonomous Data Warehouse is managed by Oracle, and Oracle's Integration Platform as a Service is available to move data from third-party apps.

Oracle Analytics Server, released in late 2019, is Oracle's on-premises-oriented product that consolidates governed, self-service and augmented capabilities and replaces myriad legacy server-based products that came before it, with OBIEE being the most recent generation. OAS is a software-based offering that can be deployed anywhere, so it is also Oracle's option for multicloud deployment. Oracle multicloud partner Microsoft gets favored treatment with a soon-to-be-released Windows-based version of OAS that can run on Microsoft SQL Server and the Azure SQL database service.

Augmented Analytics

Oracle Analytics offers extensive augmented capabilities across data-prep, discovery and analysis, NL interaction, and trending, forecasting and prediction. Augmented data-prep features include automated profiling and recommendations for splitting columns, extracting values, enriching geographic and time-based data, and masking or deleting sensitive values such as Social Security numbers. Data joins are recommended based on metadata similarities as well as learned join patterns across the organization.

For discovery and analysis, Oracle Analytics offers recommended, best-fit data visualizations and an "Explain" feature that surfaces key influencers, correlations and outliers tied to selected variables. Explain also supports auto-segmentation, and work is underway to surface notable insights (correlations, patterns, outliers) across entire datasets upon ingestion.

Oracle led the introduction of natural language capabilities more than three years ago when it introduced BI Ask NL query, and it's now available across Oracle Analytics Cloud, Oracle Fusion Analytics and Oracle Analytics Server. The feature supports exact and fuzzy matching to metadata and the ability to curate dictionaries for synonyms and company lingo and to use foreign-language metadata. The NL query engine understands query constructs (such as "show me, by, per" and "and") and chart types (such as "pie chart," "bar chart," "line chart," etc.).

BI Ask learns user-specific query patterns to generate personalized recommendations, and administrators can also prioritize and constrain sources, measures and content used for learning. The mobile Day by Day app adds explicit thumbs-up/thumbs-down training. Both OAC and Day by Day support text- and voice-based queries in 28 languages, with the Day by Day app using iOS- or Android-native voice-to-text translation. OAC makes extensive use of NL generation through a built-in, third-party natural language generation (NLG) engine, though that feature is not included with Oracle Analytics Server. Integrations extend the NL capabilities to the Oracle Digital Assistant and third-party products including Slack, Microsoft Teams, Skype, Amazon Alexa and Google Assistant.

To support data science, OAC offers a battery of right-click menu options for easy time-series forecasting, classification, clustering and sentiment analysis. The data-prep environment also makes it possible to develop statistical- and ML-based predictive models without coding and then embed those models within analytic flows. These models can be run on a predetermined schedule behind the scenes or triggered interactively by any users without requiring data science skills.

Embedded Capabilities

OAC offers open connectivity standards and open APIs that facilitate a range of embedding scenarios. iFrame-based embedding of data visualizations within web pages and custom portals is just a start. Oracle's strength in embedding is in support of SaaS-based COTS applications, specifically Oracle cloud applications. As noted in the "Cloud Deployment Options" section above, Oracle Fusion Analytics integrations at this writing include Oracle Fusion ERP Analytics and Oracle Fusion HCM Analytics. Integrations for Oracle Fusion SCM, Fusion CX and Oracle NetSuite are on the road map through 2021.

Importantly, the data models specific to each Fusion Analytics integration are part of a larger semantic data model for all Oracle Fusion applications. The ERP and HCM models, for example, work together, bringing ERP data contextually into the context of HCM analyses and vice versa. This cross-enterprise model will facilitate further cross-functional analyses as the list of Fusion Analytics integrations is extended to NetSuite, SCM, CX and so on. In addition, customers can extend these data models and add third-party cloud or on-premises data without breaking the schedulable, services-based integrations run by Oracle. Also customizable are the prebuilt reports, dashboards and KPIs that Oracle has developed to accelerate common analyses in support of ERP, HCM and future integrations.

Near-Term Road Map

Other important functionality on the Oracle Analytics near-term road map includes:

- **Integration with the Oracle Cloud Infrastructure Data Catalog.** This integration will extend and improve upon OAC-native data and analytical asset discovery and governance capabilities for both technical and business users. Introduced in February 2020, OCI Data Catalog ingests metadata from both cloud and on-premises systems and sources as new data and assets are created. The catalog combines semantic search and ML to automatically crawl sources and better understand data relationships, track departmental and role-based usage, and recommend best-fit data sources and assets to promote efficiency, reuse and reliance on trusted and certified sources.

Integration will expose cataloged assets and recommendations within OAC interfaces such as data prep and NL query. OCI Data Catalog includes a business glossary, so the data sources, self-service datasets, ML models and other assets indexed and recommended will be understandable to less-technical users as well as to power users familiar with technical metadata.

- **An Enterprise Scale Semantic Modeler** on the near-term road map will bring a full-featured modeling tool to Oracle Analytics that's described as the next generation of the BI Admin environment familiar to OBIEE administrators. The modeler is geared

to team development and source control with Git integration. It's compatible with both OAS and OBIEE semantic models and supports lineage analysis. The enterprise modeler also will facilitate crowdsourced model building and model extensions generated through self-service analysis and dataset creation.

- **Oracle Analytics Mobile.** This all-new Android- and iOS-native app will take users beyond the view-only experience available on mobile web browsers. It will provide a way to view and interact with classic content including reports, dashboards and data visualizations with device-native rendering and drill-down, tap-to-detail and interactions with prompts.

PRICING

Oracle aimed to address all deployment scenarios with the Oracle Analytics makeover, but the pricing makes it abundantly clear that it is aggressively wooing both existing and new customers to move to the cloud. As evidence, OAC is just \$20 per user, per month for the workgroup- and departmental-oriented Professional Edition. Oracle Analytics Cloud Enterprise Edition is \$2,000 per Oracle Compute Processing Unit (OCPU) per month. Enterprise Edition supports unlimited users, but performance will vary depending on the complexity of the data and analyses and the number of concurrent users. To put the OCPU requirements in context, Constellation Research interviewed one Enterprise Edition customer with 1,000 users who provisioned 12 OCPUs while another customer with 600 users said his deployment is "overprovisioned" and has room for growth with just six OCPUs.

Creating a bundled, services-based data warehouse instance and supporting data integration services is not a trivial matter, so Oracle Fusion Analytics integrations understandably entail minimum commitments. For example, the minimum per-user, per-month licensing level for Oracle Fusion ERP Analytics is 20 users. At this entry level, the data warehouse instance includes two OCPUs and 1 terabyte of storage. Oracle says this is more than enough capacity for Oracle Cloud ERP deployments of that size, though Oracle would be only too happy to add more users, storage or compute capacity as required.

Oracle Analytics Server pricing combines perpetual processor and named-user administrator and publisher license fees plus annual software update and support license fees. Oracle regularly publishes the actual costs in a [public price list document](#).

ANALYSIS AND OBSERVATIONS

Constellation Research publishes two Constellation ShortLists™ focused on BI and analytics products, and in recognition of its strengths, Oracle Analytics is on both the [Cloud-Based BI and Analytics ShortList](#) and on the [Augmented BI and Analytics ShortList](#). These strengths are detailed below, followed by Constellation's analysis of product weaknesses that buyers should consider (see Figure 4, p. 19).

Strengths

- **Delivers comprehensive cloud functionality.** Oracle Analytics Cloud delivers comprehensive reporting, self-service BI and augmented analytics functionality all managed as a service on Oracle's global Gen 2 Cloud. This analytical functionality is complemented by Oracle's breadth of other Oracle Cloud services, including data management, data integration, data governance, data platform and other data and analytics capabilities on the same cloud.
- **Offers application-specific content and data warehouse services.** Oracle Fusion Analytics builds on OAC, adding application-specific analytic content, including prebuilt data models, reports and dashboards, and a service-based data warehouse instances with supporting data integration services.
- **Built on customer-extensible, prebuilt data models that support cross-organizational analysis.** The prebuilt data models for Oracle Fusion ERP Analytics and Oracle Fusion HCM Analytics work together. This modeling continuity will be extended to planned Oracle Fusion SCM Analytics, Oracle Fusion CX Analytics, and Oracle NetSuite integrations, and future OFA offerings. This modeling approach supports cross-enterprise analysis and can be extended by customers without breaking the services-based data warehouse instance and data integration workflows.

- **Includes state-of-the-art augmented analytics capabilities.** AI- and ML-powered augmented analytics functionality is extensive, including recommended data-prep steps, Explain insights, multilanguage and voice-capable NL query through BI Ask and Day by Day, and always-on NL generation that requires no separate license. Myriad right-click menu options support time-series forecasting, classification, clustering and sentiment analysis.
- **Aggressively priced.** At \$20 per user, per month, OAC costs less than many competitive offerings. Oracle Fusion Analytics offerings, which include Oracle-managed data warehouse and data integration services, further reduce the total cost of ownership.

Weaknesses

- **Progress is needed on integration with other Oracle Cloud Services.** Compatibility and ease of integration between OAC and other Oracle Cloud services is promising, given that everything is built on the same platform. But several key integrations are on the road map at this writing. A start on Oracle Cloud Infrastructure (OCI) Data Catalog integration, for example, is expected in 2020, but it will take time to realize the envisioned seamless access from OAC to catalog discovery and governance capabilities. In another example, ties between Oracle Fusion Analytics offerings and Adaptive Intelligent Apps AI features within Fusion apps would seem to be a natural fit, but such integrations have yet to be put on the development road map.
- **Could use more proactive recommendations and guided workflows.** The many right-click menu options for time-series forecasting, classification, clustering and sentiment analysis are best understood by power users. Novice users would benefit from more proactive, computer-generated suggestions and guided workflows to support trending, forecasting and prediction.
- **Multicloud deployment support is limited.** OAS addresses on-premises, hybrid- and multicloud deployment, but in all cases, it has to be configured and managed

by customers (including on Oracle's lone public cloud partner, Microsoft Azure). In contrast, many independent BI and analytics vendors offer SaaS options as well as preconfigured deployment options on multiple public clouds. A few BI and analytics vendors now support container-based deployment portability from on-premises to multiple public clouds.

- **Low-code and no-code analytic app development strategy has yet to be articulated.**

Low-code and no-code development is emerging as important option for developing analytical applications, but Oracle Analytics has yet to articulate its strategy on this front. A natural fit would be Oracle APEX, but that's tied to Oracle Database, and integrations have yet to show up on the Oracle Analytics road map.

Figure 4. Oracle Analytics' Strengths and Weaknesses

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none">• Oracle Analytics Cloud delivers comprehensive BI and analytics services and is complemented by comprehensive data-related services on Oracle's global cloud.• Oracle Fusion Analytics adds application-specific analytic content and a services-based data warehouse instance with supporting data integration services.• Prebuilt Oracle Fusion Analytics data models support cross-enterprise analysis and can be extended by customers without breaking the services-based warehouse or data integrations.• State-of-the-art augmented analytics capabilities include recommended data-prep steps, automated insight discovery, multilanguage NL features.• OAC pricing is aggressive at \$20 per user, per month, and OFA data warehouse and integration services reduce the total cost of ownership.	<ul style="list-style-type: none">• Integrations with the Oracle Cloud services are a work in progress, with deliverables such OCI Data Catalog integration still on the road map.• Novice users would benefit from more augmented recommendations and guided workflows for prediction and data science.• Multicloud deployment support is limited. Oracle Analytics Server addresses hybrid and multicloud deployment, but it must be configured and managed by the customer (including on Microsoft Azure).• Oracle's low-code/no-code analytic app development strategy has yet to be articulated.

Source: Constellation Research

RECOMMENDATIONS

Any customer that relies on Oracle applications and/or Oracle database and data management capabilities should naturally consider Oracle Analytics. The core appeals include OAC's comprehensive, services-based BI and analytics functionality, Fusion Analytics integrations with Oracle applications, extensive augmented analytics capabilities and aggressive pricing. Oracle Analytics Server provides an option for organizations that are not ready to move entirely (or even partially) to public clouds.

Should your application choices determine your analytics strategy, or are these choices best made independently? In Constellation's view, it all depends on the recency of your investments in analytical tools and platforms and the diversity of your applications and data management infrastructure.

Oracle has a long history in data management and BI, and with Oracle Analytics Cloud and Oracle Fusion Analytics, the company is clearly looking to work with the many customers that are now keen on moving to SaaS-based applications.

The more committed the organization is to Oracle data management services and Oracle Fusion applications, the more open it will be to OAC and Oracle Fusion Analytics. OFA includes a prebuilt data warehouse instance and data integration services, speeding deployment and time to value. In addition, OFA appeals to line-of-business leaders because it includes prebuilt, application-specific schema, key metrics, reports and dashboards.

Before 2019 (and the introduction of the current generation of Oracle Analytics products), the push to cloud and more modern BI and analytics options led many Oracle Business Intelligence Enterprise Edition customers to adopt third-party self-service BI and analytics alternatives. These organizations are less likely to change course yet again and start fresh on a new platform or split investments unless they have or plan to deploy Oracle Fusion applications, in which case Oracle Fusion Analytics offerings would be considered for their prebuilt integrations and content. Organizations using third-party enterprise applications and deploying on third-party public clouds are less likely to benefit from the consistencies and integrations designed into an all-Oracle combination of services.

In short, Oracle Analytics is a best fit for companies that are heavily invested in Oracle data management capabilities and Oracle applications and that are moving to Oracle Cloud. Oracle designs for and counts on a snowball-effect accumulation of benefits for customers that do more with the company. The benefits and efficiencies will accrue most immediately to companies using Oracle Fusion ERP Analytics and Oracle Fusion HCM Analytics. But the opportunities for rapid deployment; comprehensive, application-specific insight; and powerful cross-organizational analysis will only grow as the planned integrations for Oracle Fusion SCM, Oracle Fusion CX and Oracle NetSuite are introduced.

RELATED RESEARCH

Constellation ShortList™ Cloud-Based Business Intelligence and Analytics Platforms. <https://www.constellationr.com/research/constellation-shortlist-cloud-based-business-intelligence-and-analytics-platforms-3>

Constellation ShortList Smart, Augmented BI and Analytics. <https://www.constellationr.com/research/constellation-shortlist-smart-augmented-bi-and-analytics-1>

Doug Henschen, "Augmented Analytics: How Smart Features Are Changing Business Intelligence," Constellation Research, November 27, 2019. <https://www.constellationr.com/research/augmented-analytics-how-smart-features-are-changing-business-intelligence-0>

Doug Henschen

Vice President and Principal Analyst

Doug Henschen is Vice President and Principal Analyst at Constellation Research, Inc., focusing on data-driven decision making. His Data-to-Decisions research examines how organizations employ data analysis to reimagine their business models and gain a deeper understanding of their customers. Data insights also figure into tech optimization and innovation in human-to-machine and machine-to-machine business processes in manufacturing, retailing and services industries.

Henschen's research acknowledges the fact that innovative applications of data analysis require a multi-disciplinary approach, starting with information and orchestration technologies, continuing through business intelligence, data visualization, and analytics, and moving into NoSQL and big data analysis, third-party data enrichment, and decision management technologies. Insight-driven business models and innovations are of interest to the entire C-suite.

Previously, Henschen led analytics, big data, business intelligence, optimization, and smart applications research and news coverage at *InformationWeek*. His experiences include leadership in analytics, business intelligence, database, data warehousing, and decision-support research and analysis for *Intelligent Enterprise*. Further, Henschen led business process management and enterprise content management research and analysis at *Transform* magazine. At *DM News*, he led the coverage of database marketing and digital marketing trends and news.

 [@DHenschen](https://twitter.com/DHenschen)  constellationr.com/users/doug-henschen  linkedin.com/in/doughenschen

ABOUT CONSTELLATION RESEARCH

Constellation Research is an award-winning, Silicon Valley-based research and advisory firm that helps organizations navigate the challenges of digital disruption through business models transformation and the judicious application of disruptive technologies. Unlike the legacy analyst firms, Constellation Research is disrupting how research is accessed, what topics are covered and how clients can partner with a research firm to achieve success. Over 350 clients have joined from an ecosystem of buyers, partners, solution providers, C-suite, boards of directors and vendor clients. Our mission is to identify, validate and share insights with our clients.

Organizational Highlights

- Named Institute of Industry Analyst Relations (IIAR) New Analyst Firm of the Year in 2011 and #1 Independent Analyst Firm for 2014 and 2015.
- Experienced research team with an average of 25 years of practitioner, management and industry experience.
- Organizers of the Constellation Connected Enterprise—an innovation summit and best practices knowledge-sharing retreat for business leaders.
- Founders of Constellation Executive Network, a membership organization for digital leaders seeking to learn from market leaders and fast followers.

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