Integrated Cloud-Based Monitoring and Analytics Break Down IT Operations Silos

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Globally, the ways that businesses create value, engage with customers, and facilitate innovation are evolving rapidly. The digitization of almost every business process is fundamentally altering the means that businesses use to compete. Cloud computing and big data analytics are two critical enablers of these changes. This IDC Technology Spotlight examines how cloud-delivered IT management solutions are helping enterprises improve services levels and accelerate digital business transformations. The paper also considers the impact that Oracle Management Cloud is having on helping customers achieve their digital business goals.

Cloud-Based Management Solutions Help Accelerate Business Digitization

IDC expects that two-thirds of Global 2000 CEOs will make digital transformation the center of their corporate strategy by 2017. These organizations are aggressively adopting DevOps, cloud, big data, mobile computing, and the Internet of Things (IoT) technologies to create new online businesses and engage more deeply with customers. In many cases, these new initiatives rely on agile, continuous delivery of application updates and expansions. Rapid changes in customer online activities are often the result. These increases in traffic, inquiries, and interactions create unpredictable demands and stress on IT infrastructure. Hybrid cloud architectures that allow organizations to dynamically pool and share resources are becoming more widely used to support these unpredictable requirements.

IDC research has revealed there is broad support for IT operations analytics across IT and line-of-business (LOB) stakeholders. Interest levels are on the rise for every category of users including C-level executives, DevOps teams, business analysts, application developers, and IT executives (see Figure 1). LOB users are primarily motivated by concerns related to IT staff productivity, application performance, and business revenue, while IT decision makers place a slightly higher priority on infrastructure capacity utilization, IT staff productivity, infrastructure availability, and code quality.
IDC’s research also shows that 92% of enterprise IT organizations currently have one or more monitoring tools, yet 55% recognize that they need new solutions designed for the scale and complexity of the era of digital business, hybrid cloud and big data. These organizations expect to use modern IT operations analytics solutions to improve IT staff productivity, better optimize IT infrastructure utilization, improve service levels, increase revenue, and improve customer digital experiences.

Three-quarters (75%) of organizations that currently make heavy use of multiple cloud solutions (public cloud services and/or private clouds) have implemented service-level monitoring and reporting across the full mix of public, private, and hybrid cloud resources. These organizations recognize how critical it is to have a comprehensive and consistent view across all cloud resources and value the ability to analyze and correlate dependencies and root cause of service-impacting issues.

The impact of the digital business transformation on IT operations cannot be understated. It affects all areas of a company’s IT infrastructure, staffing, management tools, and operational processes. IT
teams must shift their focus from maintaining components to delivering reliable end-to-end services across dynamic hybrid architectures. Management information and process silos need to be broken down so teams can share information, isolate errors, understand dependencies, and anticipate rapid changes in demand.

Many organizations are looking to public cloud software-as-a-service (SaaS) solutions for application performance monitoring (APM) and IT operations analytics to provide rapid and affordable access to highly scalable, state-of-the-art management capabilities that can be deployed across complex, distributed application environments.

**Cloud-Based IT Management Can Break Down Silos**

Cloud-based management and IT operations analytics services can be deployed quickly across new and existing physical and virtual computing, storage, and database platforms, as well as public clouds, modern applications, and traditional client-server applications and middleware. IDC research shows that demand for cloud-delivered systems management tools is growing rapidly. The market is expected to more than double in size by 2019, from $1.7 billion in 2015 to more than $3.5 billion. This represents a compound annual growth rate (CAGR) of more than 20%.

IDC’s research finds customers are turning to cloud-based monitoring, analytics, and management due to the ease of initial deployment and ongoing updates, built-in scalability, ongoing access to the latest innovations, rapid time to value, and the ability to eliminate operational silos. Cloud-based management solutions help IT organizations to standardize and streamline operations by ensuring that all IT and LOB analysts have consistent, timely access to performance, root cause, and SLA data via user-friendly, on-demand interfaces. These services also allow IT organizations to better match IT spending to business activity by paying for services based on variable factors such as the number of users, the volume of transactions analyzed, or the number of nodes monitored.

This type of scalability and agility is critical to supporting many digital transformation projects. Often, the introduction of new online services or social and mobile promotions can drive unexpected traffic spikes. Big data IT operations analytics can detect anomalies and predictively avoid service problems more quickly than many traditional monitoring solutions that rely on technology-specific experts to review and react to problems manually as they develop.

Cloud-based solutions help to break down silos between technology and business teams by unifying and correlating vast amounts of operational data. By taking advantage of big data analytics, these services can provide in-depth operational insight about application performance and IT resource utilization. This in turn facilitates faster rollouts, fewer errors, and improved business agility. By promoting collaboration across the business, IT, and development, cloud-based monitoring and analytics speed new digital offerings to market and support greater levels of organizational creativity and collaboration.

Organizations that continue to struggle to make do with existing, fragmented management solutions find that they can't keep up with the demands of the digital business era. Businesses are expected to provide consistent consumer experiences across mobile and Web interfaces. The ability to optimize service levels across multiple generations of software and infrastructure requires management tools that detect problems quickly before service disruptions occur.

Cloud-based management solutions support broad-based monitoring and analytics and allow organizations to ingest large volumes of data once and then use it to drive reporting and analysis across a number of use cases and personae. These services typically rely on a common shared database and big data platform to support many different management functions. By dropping barriers to data normalization and correlation, cloud-based platforms allow DevOps organizations to
dig deeper into the data and isolate issues and dependencies that might otherwise have been overlooked.

For many organizations, cloud-delivered analytics solutions can offer greater computing scalability and better access to newer analytics technologies than they would have been able to affordably deploy and support in-house. By gaining access to large-scale analytics, these organizations can more rapidly detect anomalies and conduct better capacity planning and performance analysis than had been possible previously.

**Considering Oracle Management Cloud**

Oracle Management Cloud is a SaaS-based IT operations management suite that is architected to break down IT management data silos and facilitate streamlined, application performance monitoring, log analytics, and IT operations analytics across Oracle and non-Oracle technology and heterogeneous cloud services. Oracle Management Cloud is offered exclusively as a public cloud subscription service through Oracle Cloud and is designed to support heterogeneous, mixed-hybrid cloud infrastructure and middleware as well as applications written in Java, .NET, Node.js, Python, Ruby, and other popular languages.

The first three Oracle Management Cloud services introduced net-new functionality to Oracle’s systems management software portfolio. Specifically:

- **Oracle Application Performance Monitoring Cloud Service** monitors and optimizes the end-user experience and performance of mobile and Web applications.
- **Oracle Log Analytics Cloud Service** monitors, aggregates, indexes, and analyzes log data from on-premises and public cloud applications, middleware, and infrastructure.
- **Oracle IT Analytics Cloud Service** provides infrastructure and application performance, availability, and capacity analysis and forecasting across hybrid cloud resources and workloads.

Oracle Management Cloud runs on the Oracle Cloud infrastructure, which already supports Oracle’s broad public cloud service portfolio. Oracle Management Cloud services are built on a common horizontally scalable and unified data platform that supports both log data and metric data. Oracle Management Cloud's data management and analytics architecture is designed to ingest and correlate a wide range of structured and unstructured machine data and log files. Additional services are expected to be announced in 2016, but all services offered under the Oracle Management Cloud brand will rely on the same platform, analytics engine, and browser-based user interface (see Figure 2).
By using a common data management and analytics platform to support all Oracle Management Cloud services, Oracle is able to link log and IT analytics to application performance monitoring service definitions and streamline the process of identifying root cause and cross-tier dependencies. User-friendly dashboards and query tools have been designed with the needs of DevOps and business analysts in mind. Oracle Management Cloud generates standard dashboards within 15 minutes of activating the services but also allows for drag-and-drop widget-based customization of application performance monitoring reports and point-and-click customization of analytics queries.

The solution auto-discovers application topologies and automatically distributes agents across on-premise and public cloud resources. This enables users to review real-time performance of an application from a top level and then click into component level views as needed to identify the source of application performance problems. This view provides the information in context and allows the administrator to click into the specific log files associated with that component at a given point in time.

Oracle Management Cloud provides real-time access to deep insight about events and performance across complex multicloud environments. It is designed for heterogeneous multistack, cross-cloud environments but also provides integrations with Oracle Enterprise Manager and the Oracle Cloud for detailed monitoring of Oracle assets. A REST API is available for customers or service providers that want to create customized integrations with third-party management tools. Oracle expects most customers will start by instrumenting a limited set of applications and infrastructure and expand use of Oracle Management Cloud over time.

**Challenges**

To date, enterprise IT operations management teams have preferred to purchase SaaS solutions as standalone point solutions or have resisted SaaS solutions due to concerns about security and information control. Few organizations have fully grasped the power and value of using a unified,
highly scalable, pay-as-you-go approach to comprehensive IT monitoring and analytics. To ensure the success of Oracle Management Cloud, Oracle will need to demonstrate the business agility and IT operations productivity benefits of its highly integrated data management and analysis platform while offering customers compelling price points to help justify making the transition.

**Conclusion**

Digital transformation strategies are driving businesses to rapidly restructure the ways that they develop software, engage with customers, and purchase infrastructure resources and software. Management cloud services that allow IT teams to break down operational silos while streamlining workflows and reducing the cost of operations will be important enablers of these emerging digital enterprises. IT decision makers need to carefully consider the value of integrated monitoring and analytics platforms versus specialized standalone management solutions as they look to extend their monitoring and analytics capabilities.

Cloud-based management solutions are expected to take on an ever-increasing importance in enterprise IT management environments. IT decision makers need to purchase solutions that can scale and grow with the organization as its digital business strategy evolves over time.