

Improve IT Agility and Efficiency: Analytics Deliver New Insights into Operational Big Data

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Executive Summary

IT Operations Management software has progressed in concert with the increasing demands of size, scope and speed in support of changing business requirements. IT Operations Analytics represent a significant step forward over simple alerting on failure and threshold crossing events. This was described in EMA's seminal work in this area in 2012, [EMA Radar™ for Advanced Performance Analytics \(APA\) Use Cases: Q4 2012](#). The research found impressive capabilities across an extensive variety of use cases, including performance, capacity optimization and business alignment, as well as a wide variety of heuristics, with big data in real-time or near-real-time playing an important role. IBM was a multiple use-case *Value Leader* in the 2012 EMA Radar for APA report and has advanced its capabilities with significant innovations in the area of operational intelligence for both real time and historical analytics.

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IT Operations Analytics solutions help customers predict outages before they occur and search across massive amounts of data to find and resolve problems faster. The knowledge gained through analytics will help optimize a company's IT and application infrastructure. With the availability of Netcool Operations Insight, IBM is extending its leadership operations event and alarm management console to provide customers with intelligence from events for both real time and historical analytics to drive efficiencies and more agile and leaner operations. With embedded search analytics, the solution can greatly improve operational efficiency by enabling IT operations staff with no programming or report writing skills to search large volumes of collected data through a simple, directed user interface. Netcool Operations Insight is designed to work with IBM's IT Operations Analytics portfolio with simple integrations and "add-on" extensibility.

Introduction

To understand the importance of the advancements that Netcool Operations Insight delivers one should consider the history of IT Operations management. Early operations management was fairly straightforward as applications were centralized, usually run as simple, self-contained jobs from start to finish, with minimal interaction with other applications, or data sources. Now fast-forward through subsequent shifts in IT and business requirements towards significantly more complex, business-critical, composite, real-time applications. This shift has implications impacting all aspects of the business. Even the technologies to access this new infrastructure have changed radically. Sometimes referred to as "the Internet of Things" the modern IT environment includes mobile devices and formerly non-communicating devices such as power meters, household appliances and other elements of a Smart Infrastructure. All of this relates to just the physical infrastructure, with the additional layer of complexity brought on by the introduction and widespread use of virtualization.

To give a sense of the scale of today's networks and their complexity, a common medium-sized network of 5000 servers generates, when including log files, about 250 megabytes of potentially relevant operational data generated from approximately 125,000 events every day. From this mass of information and events a number of trouble tickets are also generated that need to be evaluated and addressed.

Moreover, estimates are that more than 90% of the data in today's organizations is unstructured. This unstructured data contains a wide variety of data types, from records of transaction activity, system behavior, application performance, user actions and security activity. Most traditional tools using relational or multi-dimensional databases are ill-equipped to handle the complexity or scale of today's

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massive volumes of operational data. Nor do these tools allow the flexibility to query or get answers in real time. Trying to react to this scale and complexity of information without advanced tooling is a huge task.

Adding even greater complexity is the ever-increasing reliance on IT infrastructure to deliver significant business value through revenue-generating activities such as e-commerce, customer relationship management and enterprise-wide logistics/supply chain. Service disruptions, either by outages or degraded performance, are unacceptable and IT Operations organizations need to move past just rapid resolution of issues to outage avoidance and service performance.

Excellence in IT Operations Important in Every Business

As discussed in the previous section, IT Operations staff can no longer manage reactively on the basis of events. What is needed now is a focus on operations and efficiency, keeping services available and performing well. Effective IT Operations Management and Analytics is not exclusively a requirement for Telco's or IT Service Providers and mega-large enterprises. The IT infrastructure of almost all public and private organizations regardless of size is critical to their success; driving revenue, increasing profits, and maintaining reputation.

With Netcool Operations Insight and the available IT Operations Analytics solutions, IBM is attacking a wide range of IT Operations challenges:

1. Provide exceptional event management and correlation capabilities with OMNIbus, the industry-leading gold standard in event management. This is a critical first step to operational efficiency by sorting through the overwhelming stream of information and focusing on the real issues.
2. Improve Operational Agility by adding Analytics capabilities to these powerful existing consolidation and correlation capabilities. Leveraging flexible searches on live event data enables operations to explore event context in new ways, leading to more rapid and accurate problem identification, delegation and repair.
3. Improve Operational Efficiency with flexible, simple tools for examining historical information to quickly identify opportunities to streamline operations. The Event Search capabilities of Netcool Operations Insight make it easy to see patterns in event traffic, whether they are excessive unprocessed alarms that don't signify urgent problems, or identification of "chatty" devices. In this way, Operations can focus on addressing the biggest problems. One example of this capability is finding prior unknown relationships between different IT infrastructure elements. This can provide early warning of potential issues impacting service availability and performance and allow time for them to be addressed.
4. Enrichment of events with information from other sources such as inventory and ownership files can take advantage of available facts about IT infrastructure from other sources to improve efficiency in solving issues.

Preventing outages has huge value to a business. Netcool Operations Insight allows for greater insight and earlier warning about potential problems before they create outages and/or severely degrade performance.

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- Consolidated Communications, a Midwest U.S.-based telephone and data services company had similar results, detecting all the major incidents that occurred while eliminating the need for setting manual thresholds resulting in \$300,000 cost avoidance annually.
- A leading pharmaceutical company moved to a virtualized server environment and did not have a structured analysis for resource capacity, resulting in imbalances between required and available resources. With IT Operations Analytics the company put this resource analysis in place and realized \$150,000 annual cost savings while reducing the risk of over committing resources and delaying critical work.

EMA Perspective

Portions of the \$17+ billion investment that IBM has made in analytics, through acquisitions and ongoing development over the last nine years, are incorporated in the solution. By incorporating these acquired components, IBM is taking advantage of years of experience in analytics and data science. With the introduction of the Netcool Operations Insight and IT Operations Analytics, in simple straightforward packaging, IBM is bringing the power of analytics into IT, without the need for complex programming on the part of the customer or user. Increasing the integration of the various components in Netcool Operations Insight is a necessary area for future focus.

The solution provides:

1. Event correlation and event management via EAL 4+ certified OMNIBus, industry leading and gold standard in these disciplines.
2. Event Search Analytics for rich contextual search of historical event data to improve Operational efficiency, while also enabling real-time evaluation in context, which speeds problem resolution and improves Operational agility.
3. Enrichment of events with additional information from other information sources, such as inventory and ownership records, or change management systems, to provide additional context for improving problem diagnosis and resolution time.
4. Ability to work with other IT Operations analytics capabilities, extending real-time and historical uses empowered by key advancements in predictive analytics and advanced intelligence about a company's IT infrastructure.

Netcool Operations Insight greatly improves operational efficiency by enabling staff members with no programming or report writing skills to process available data through a simple, directed user interface. Such new capabilities greatly increase the effectiveness of operations subject matter experts to discover and create significant information out of the multitude of raw data records that have been collected.

IBM is delivering leadership in analytics today and advancing the state of the art towards a complete implementation of Advanced Operational Analytics (AOA) which EMA defines as:

1. Optimized for real-time, historical and even predictive requirements in optimizing the performance of IT business services.

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2. Differs from classic data warehousing in its inclusion of real-time, or near-real-time structured and unstructured data, discovery and data collection, service modeling and distinctive use of trusted sources.
3. Leverages a wide range of advanced heuristics.
4. Contains an authentically “big data” capability associated with AOA, as some of these solutions can harvest and analyze multiple tens of millions of events, metrics and other data sources within minutes.

EMA is very much aligned with the directions that IBM is taking in its IT operations analytics strategy and product portfolio. While there is room for improvement, EMA remains optimistic that Netcool Operations Insight is the next step in a continuing set of leadership moves by the company.

About Enterprise Management Associates, Inc.

Founded in 1996, Enterprise Management Associates (EMA) is a leading industry analyst firm that provides deep insight across the full spectrum of IT and data management technologies. EMA analysts leverage a unique combination of practical experience, insight into industry best practices, and in-depth knowledge of current and planned vendor solutions to help its clients achieve their goals. Learn more about EMA research, analysis, and consulting services for enterprise line of business users, IT professionals and IT vendors at www.enterprisemanagement.com or blogs.enterprisemanagement.com. You can also follow EMA on [Twitter](#), [Facebook](#) or [LinkedIn](#).

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