



Research Report

Building a Mainframe IT Service Management Plan to Deliver Operational Excellence

Introduction

Whether in private consultation or at public industry conferences, these three themes dominate executive-level mainframe operations discussions:

1. There is a need to manage the rapid growth of next generation technologies (such as mobile) by *ensuring that infrastructure is flexible, adaptive and efficient* – while at the same time *ensuring that infrastructure costs are kept under control* (through simplified pricing, licensing and deployment);
2. There is a need to reduce operational risks in the data center by *ensuring that the right monitoring and management solutions are in place to manage existing and new applications* – solutions that allow for proactive analytics to prevent outages as well as solutions that help resolve issues quickly should they occur;
3. There is a need to *ensure that IT (information technology) managers and administrators have the tools and utilities that they need to most efficiently manage mainframe service levels* (particularly new generation cognitive/analytics tools).

We believe that the way to conquer each of these challenges is not individually, but rather, as a whole. Infrastructure/Operations IT executives need to build a single plan that can solve all three of these problems in a blended, integrated manner. This plan needs to focus on: 1) ensuring that service levels are met; 2) containing/reducing cost; and, 3) maximizing productivity.

In other words, this plan should provide mainframe managers and administrators with intuitive, automated tools that can ensure that service levels are consistently met – while doing so at acceptable price points.

We see only one vendor that can provide a comprehensive mainframe operations management suite that can efficiently monitor and manage applications, databases and systems by using intuitive, cognitive and analytics driven software. And we note that this vendor, IBM, has taken a clear leadership position in using system intelligence and analytics to solve operational and performance issues. Further, over the past few years we've seen IBM restructure its operations management products into cost efficient easily consumable suites – and we've seen IBM offer selected management capabilities through cloud services. IBM has also simplified its pricing and license management practices – helping to make its operations management solutions more affordable. In this *Research Report*, *Clabby Analytics* takes a closer look at IBM's Operations Management portfolio, a portfolio that focuses on reducing risk, reducing cost and improving operational efficiency using cognitive and analytics solutions.

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Building an Operations Management Plan

To build a highly flexible, resilient infrastructure, IT operations managers need strong monitoring and management tools. These tools need to be functionally integrated with one another such that data collected from a monitoring activity can be used to both tune applications for better performance as well as identify potential problems that might impact performance.

With hundreds of mainframe management tools available in the marketplace, we have seen IT operations executives assemble several point products from various vendors into an ad hoc mainframe operations management software portfolio. By approaching mainframe operations management in this manner, these IT operations executives believe that they are lowering costs by “paying only for the software utilities that they need” – but we contend that these operations executives are often actually increasing costs by taking a disjointed approach to mainframe management. Here’s why:

1. There is expense and labor involved in integrating monitoring data collected by diverse software products into a useful form that can paint a cohesive picture of exactly what is taking place in a mainframe environment;
2. The use of point products may get the job done – but is it being done most efficiently? Are there other tools and utilities that can be used to simplify mainframe management that have not been purchased?
3. Can the point products being used easily and transparently communicate with new generation cognitive/analytics tools – helping systems more efficiently analyze themselves?

As we have stated in several Research Reports, we are strong believers in purchasing integrated products suites from a single vendor in order to capitalize on that vendor's cross product integration efforts. Vendors perform cross product integration work – and amortize the cost of that integration work across hundreds of accounts. Accordingly, using an integrated portfolio can be significantly less expensive than performing integration efforts at the enterprise level. Further, vendors package their integrated solutions into product suites in order to provide buyers with more functionality at lower costs. This is why we recommend that IT operations managers look closely at the integration and cost advantages of integrated product suites.

A Closer Look at IBM’s Service Management and z IT Operations Analytics Offerings

IBM IT Service Management solutions simplify data center operations through advanced automation; enhance performance and resource utilization with predictive analytics; use intuitive interfaces to simplify management – and are packaged in product suites, or are delivered as cloud services, to help reduce costs. IBM Service Management offerings include:

- An IT asset management and process management service desk portfolio;
- A suite of application performance management monitoring and performance optimization tools;
- Systems and workload automation tools that help optimize background execution of workflows that span from on-premise deployment through clouds;

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- An operations and network management environment; and,
- IT operational analytics offerings.

IBM's Service Management portfolio helps IT operations managers build a flexible IT infrastructure that can readily accommodate next generation technologies while addressing cost concerns with simplified pricing and license management.

Most notable in IBM's Service Management portfolio is the company's IT operation analytics offerings. No other mainframe management vendor has invested as heavily as IBM in the use of analytics for systems health, troubleshooting and tuning.

In recent years IBM has also invested heavily to deliver new IT Operations Analytics solutions to the market place, supplementing its core IT service management (ITSM) offerings. IBM Operations Analytics for z Systems provides predictive capabilities and problem diagnosis to help identify potential outages before they happen and make necessary corrective changes, achieved through the automated analysis of log data.

IBM's z Operational Insights is a new cloud-based service offering which became Generally Available in September 2016 and is designed to provide insights into z System operational performance without the need to install any on premise software. This offering represents a way to take advantage of IBM expertise to efficiently manage and tune a given enterprise's mainframe environment to lower cost, and also anonymously benchmark individual enterprise z Systems with z Systems peers to see how efficient you really are.

Other Tools That Should Be Included in a Mainframe Operations Management Plan

To add even more depth to a given mainframe operations management plan, IT executives may also want to consider IBM's JVM monitoring, OMEGAMON for APM, and z Storage Management solutions.

IBM's JVM monitoring solution provides monitoring and management tools designed to manage new Java application runtimes and JVM-based infrastructure. Using these tools, IT managers and administrators can reduce operational failure, improve service level performance and troubleshoot/resolve Java application performance problems quickly.

OMEGAMON for APM (Application Performance Management) is a new gateway offering that allows IT operations staff to connect existing data captured by OMEGAMON (a monitoring solution) to IBM's APM solution. Using this offering, operations managers can diagnose issues quickly and route workloads to the relevant team for more immediate problem resolution, leading to reduced downtime and fewer outages by enabling critical application workloads can be viewed from end-to-end.

z Storage Management helps manage data stored in z System storage subsystems using cloud-based archiving. Archiving in this manner helps reduce the risk of storage-related outages and improves resiliency by exploiting a cloud-based backup approach.

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IBM's Common Data Provider is a new offering designed to collect vast amounts of IBM z Systems data found in metrics and log files – and feed that data into “target templates” that provide deep insights into z System behavior. This places much of the analytics task on systems rather than individuals, helping IT operations managers identify problems before they occur.

Summary Observations

Mainframe infrastructure and operations executives should be aware that IBM offers a plethora of products designed to help tune, manage and secure z System infrastructure as well as help provide operational insights using analytics. These products include IBM Service Management Suite for z Systems, OMEGAMON, CICS and CICS tools, WebSphere Application Server (WAS), IMS and IMS tools, zSecure, Crypto, RACF and Operational Analytics for z Systems.

In the past we've closely covered several of these product offerings, especially IBM's efforts to streamline systems and applications management. For more information on these management product offerings, see this [report](#) on System Automation ,OMEGAMON, and Tivoli Workload Scheduler tools – and this [report](#) on IBM's efforts to simplify systems management and troubleshooting using predictive analytics.

In addition to building integrated product suites, IBM has spent the past several years automating many operational management functions and overlaying systems/storage/-application management with the use of operational analytics tools. We see the work that IBM has done in management analytics as a major differentiator in the field of mainframe management. It helps reduce management cost by lowering the skill level needed to find and fix problems, and it leads to faster problem resolution, thus improving service level performance.

There are numerous monitoring, applications/workload management, performance tuning and predictive analytics applications available today in the IT marketplace. The key differentiators between IBM's offerings and those of IBM's competitors can be found in the level of integration between its various management offerings – and its leadership in predictive analytics offerings. Better integration leads to more efficient infrastructure management by simplifying management task flow for IT managers and administrators. And predictive analytics places much of the analytics workloads on systems rather than people, helping lower IT operations management costs while improving service level delivery.

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