

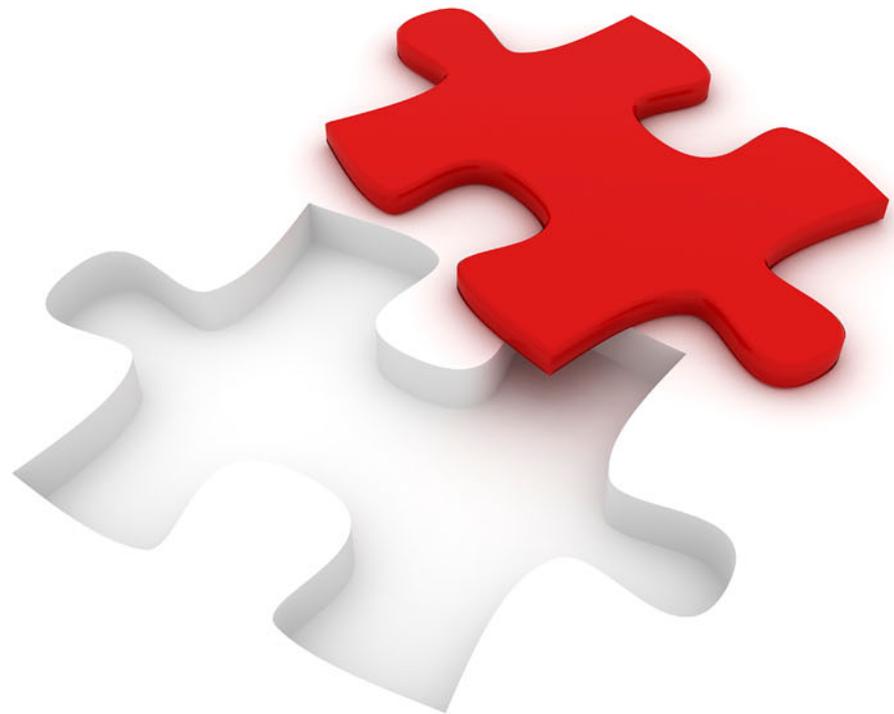
Save Time and Lower Costs with IBM Service Management Suite for z/OS

Lorin Ullmann

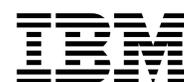
Michael Gouveia

Arthur McDonald

Wolfgang Schaeberle



Infrastructure Solutions



Optimize your IBM z/OS platform IT team with integrated service management

Highlights

Optimize your IT team skills by adopting an integrated service management approach to handling IBM z Systems™ problems. This approach helps ensure that you can lower operational risk quickly. Take advantage of this solution in the following ways:

- ▶ A smarter IT management system enables less experienced personnel to handle complex problems and restore service quickly, helping the organization reduce costs.
- ▶ Integrated tools help to isolate, analyze, and diagnose complex problems swiftly, lowering costs and encouraging effective collaboration across team boundaries.
- ▶ User interfaces (UIs) with a common look and feel (designed by end users) help to minimize the training and experience needed for users to be effective.
- ▶ Intuitive and consolidated UIs that provide access to information from multiple sources, and require fewer user interactions, save time by enabling users to make decisions and act quickly.
- ▶ High availability (HA) and operations can be automated, improving service levels and reducing system downtime and outages.
- ▶ Performance monitoring increases efficiency of resources, improves resource tracking, and reduces software usage costs.
- ▶ Tightly integrated management tooling for monitoring, automation, analytics, and network management enables a proactive way to identify and resolve issues swiftly.

Today, information technology (IT) managers and their teams must deal with a more complex environment due to the continuing growth of data, and of requests from mobile and sensory devices that need to interact with the enterprise. IT managers must make choices about how to best prepare for the future to meet these service-driven demands.

They must become proactive and agile, while getting the most out of their team's skills and experience. Changes are happening in record time, forcing IT managers to create strategies to anticipate and address key challenges. These needs include the following critical challenges:

- ▶ Personnel who are required to care for these systems must have the appropriate skill level and experience. Extensive training is costly and time-prohibitive.
- ▶ Adapting to technology changes quickly is vital.
- ▶ Cost of system availability for problem analysis is an inhibitor.
- ▶ Decreasing budgets and increases in penalties for outages affect the bottom line.

IBM® Service Management Suite for z/OS® offers a single point of control for systems management functions, such as visibility, control, and automation, for many system elements. It spans both the hardware and software enterprise resources in an IBM z/OS systems environment.

This IBM Redbooks® Point-of-View publication describes IBM Service Management Suite for z/OS, and identifies and provides information about its key components. This paper also describes the value that IBM Service Management Suite for z/OS and these key components provide within the IT environment.

IBM Service Management Suite for z/OS

Highly successful IT organizations are able to rapidly adapt to challenges in their working environment, such as staff turnover, fluctuations in IT service demands, and reductions in operating budgets. IBM Service Management Suite for z/OS helps clients effectively manage their growing IT environment complexity and increased data handling needs.

IBM Service Management Suite for z/OS ensures high availability, even during peak demand periods, by providing tightly integrated service management tools that empower z/OS platform operators to work at a higher skill level with less training. This solution also enables IT management to leverage more specialized teams or team members by providing vital management data at the time of need, eliminating bottlenecks that inhibit solving problems swiftly.

The IBM Service Management Suite for z/OS management tools run in the z/OS environment alongside the business-critical workload to ensure business results. These tools are composed of the following components (see Figure 1):

- ▶ Performance monitoring with IBM Tivoli® OMEGAMON® Performance Management Suite for z/OS products (referred to in this document as OMEGAMON)
- ▶ Automation with IBM Tivoli System Automation for z/OS and IBM Tivoli NetView® for z/OS
- ▶ Discovery with IBM Tivoli Asset Discovery for z/OS

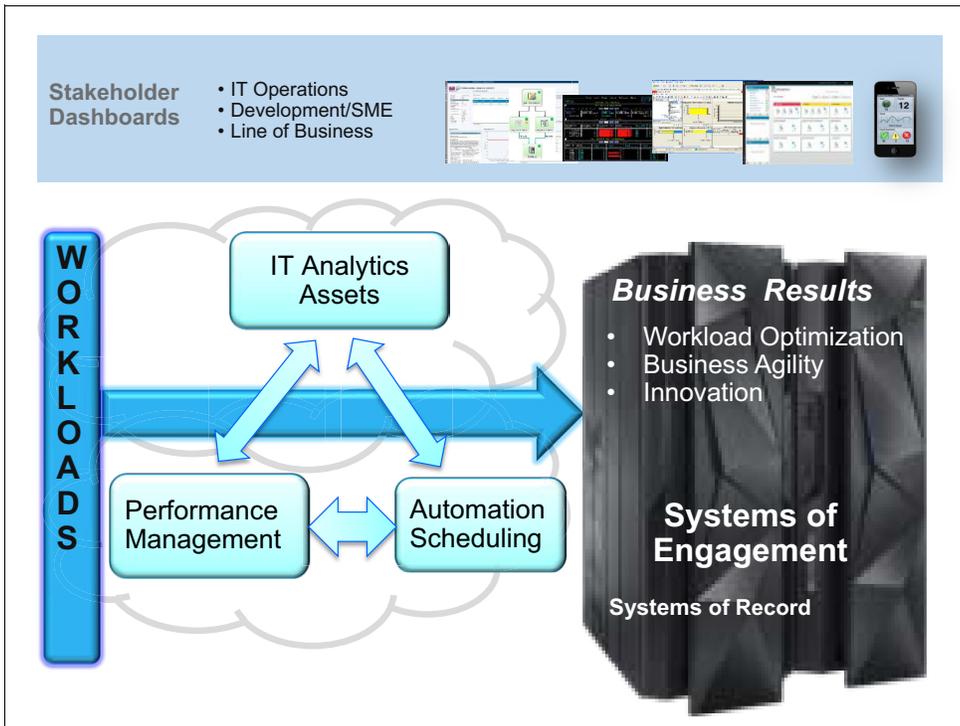


Figure 1 High-level strategic view of IBM Service Management Suite for z/OS integration

Successful IT organizations are able to rapidly adapt to changes in their environment:

- ▶ New personnel with lower skill levels
- ▶ Pressure to reduce current costs
- ▶ Predict budgets more closely

IBM provides a ready-to-use solution that addresses the challenges that are faced by IT managers who design UIs that are focused on the various roles and capabilities of IT personnel. Figure 2 shows the needs that individuals who work on z/OS platform problems might have.

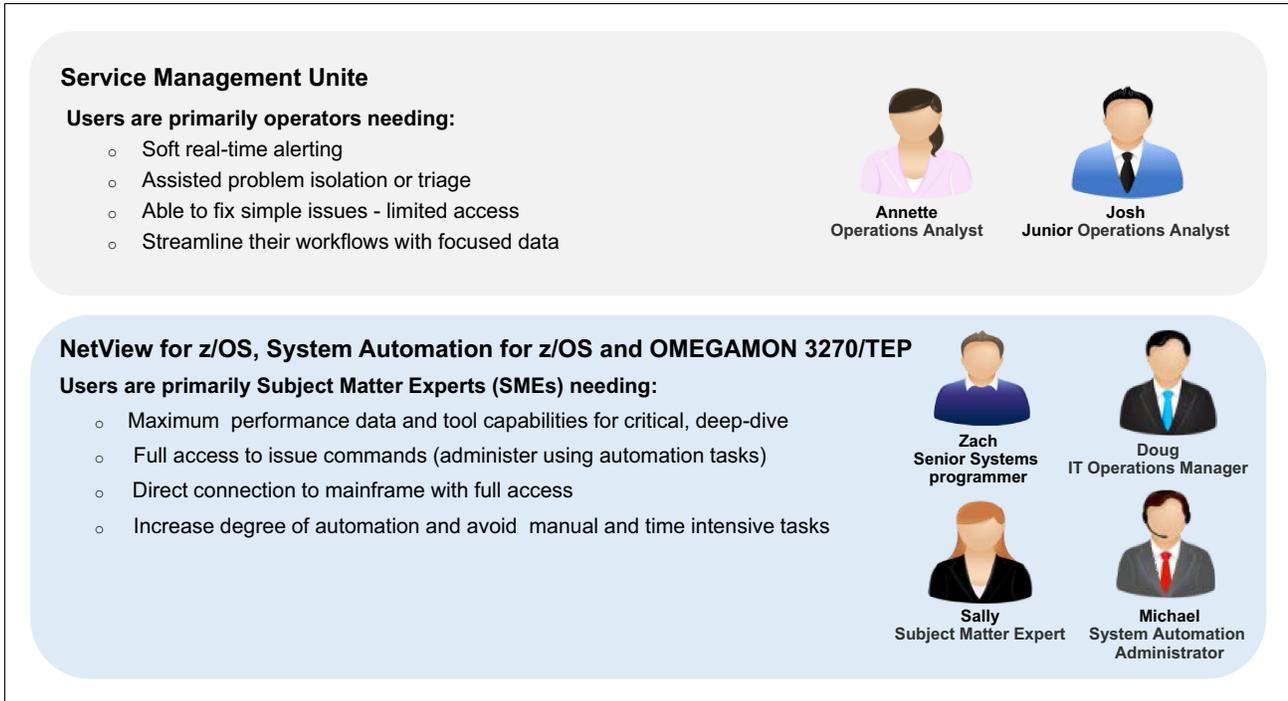


Figure 2 Personas/users of IBM Service Management Suite for z/OS

The subject matter experts (SMEs) shown in Figure 2 require all relevant data and full access to the z/OS platform to perform critical in-depth analysis. Operators are alert-driven, and want assistance on problem triage in order to identify when to ask for help or how to fix issues. SME tools can help the operators. However, operators with less experience need a more intuitive interface that allows them to work at a higher skill level, and to work quickly.

IBM Service Management Suite for z/OS and IBM Service Management Unite team up

The IBM Service Management Suite for z/OS now has a new user interface, IBM Service Management Unite. The IBM Service Management Suite for z/OS architecture is extremely flexible, and can support multiple user interfaces in a single data collection point on the z/OS platform. When the data is collected, it is used to provide critical visibility and control for SMEs, developers, and operations staff.

The IBM approach more tightly integrates existing service management tools to help z/OS platform operators work at a higher level, require less training, leverage more teams by providing more management data, and eliminate bottlenecks that inhibit quick problem resolution. Consolidated, single views do not require users to search through many screens or connect to multiple systems. These consolidated views are relevant to more users, because the views are for both monitoring and automation. The single views enable increased collaboration, making it possible for teams to work together regardless of their physical location or expertise.

The IBM architecture strategy is to deliver a service management solution that is composed of the following major technology components (Figure 3):

- ▶ IBM Service Management Suite for z/OS (backend data sources)
- ▶ IBM Service Management Unite UI, which uses the IBM Jazz™ Dashboard and Integration framework

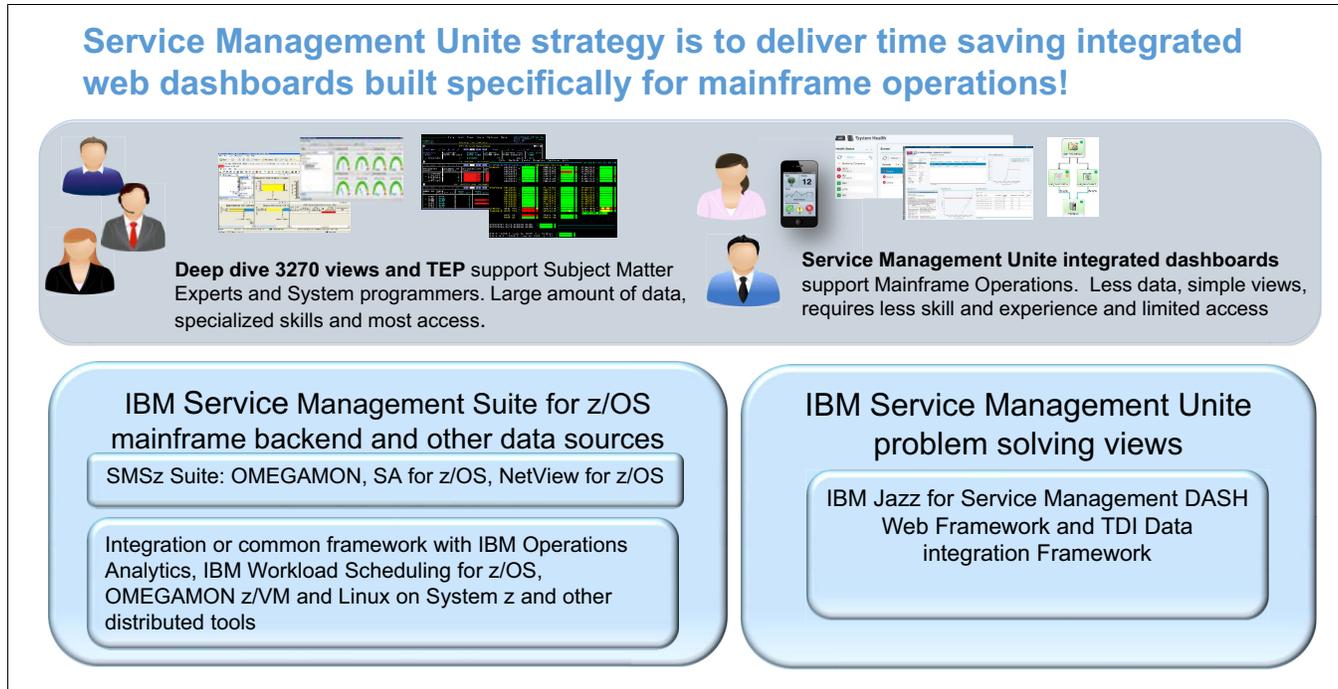


Figure 3 IBM Service Management Unite provides the data and capabilities that SMEs use for IBM z Systems operations

SMEs use in-depth *root causes* analysis and problem determination tools, including the following products:

- ▶ OMEGAMON enhanced 3270 user interface
- ▶ Tivoli Enterprise Portal
- ▶ IBM Tivoli NetView for z/OS
- ▶ IBM Tivoli System Automation for z/OS
- ▶ IBM z/OS System Display and Search Facility

IBM Service Management Unite consolidates data from these performance monitoring tools to empower the operations staff to analyze and resolve problems more quickly. Operations staff can use IBM Service Management Unite dashboards that are built specifically for operator tasks and perspectives. The IBM Service Management Unite integrated dashboards better support z/OS platform operations with simplified, consolidated views. These views require less time to find and understand the most relevant data, making it possible for less-skilled and less-experienced personnel to be more effective.

IBM Service Management Unite

The IBM Service Management Unite user interface connects into an existing environment and provides problem-solving logic that helps the z/OS operations team identify, isolate, and resolve problems quickly. This interface allows operators to work at a higher level by leveraging data from performance monitoring, automation, network, and analytics management tools for various management domains, including consolidated views to work problems quickly.

IBM Service Management Unite supports two types of views:

- ▶ Problem-solving consolidated views
- ▶ Management domain views

Problem-solving consolidated views

The problem-solving consolidated views provide the following capabilities:

- ▶ Overall health pages

Overall health pages consolidate and identify events or alarms for your z/OS environment that enable managing by exception. Unexpected automation states pinpoint only the resources that require operator action. Although all resources are monitored, the only situations that are displayed are where a performance threshold has been exceeded for monitored resources.

- ▶ Launch from events

Operators can launch from an event into a view with more details about what triggered the alarm. Problem isolation pages consolidate data that is needed for analysis of a particular issue. For example, a problem isolation page for an IBM MQ alert (with a high queue depth) would provide monitoring results about the sending queue, receiving queue, IBM MQ messages, rate that queue is filling up, and suggested actions on a single page.

IBM Service Management Unite leverages an existing IBM Operations Analytics - Log Analysis in your environment by integrating views with OMEGAMON monitoring data with analytics. Logs can be searched using IBM Operations Analytics - Log Analysis for error messages about a particular resource and time period. From OMEGAMON pages, the operator can launch directly into the IBM Tivoli System Automation for z/OS automation domain page.

- ▶ Problem resolution

Problem resolution or restoration of service by building commands for the operator to reduce typing errors and save time. To build commands, the operator only needs to right-click a row within a table or a node in a topology graphical view.

When IBM Service Management Unite detects that a resource (address space) is under system automation control, it gives the user the option to perform commands through IBM Tivoli System Automation for z/OS. Likewise, IBM Service Management Unite enables users to issue commands using OMEGAMON, included in the IBM Service Management Suite for z/OS package.

The results of each command issued are provided in a consolidated window for the user to view. All actions and commands against back-end z/OS resources are secured by IBM Tivoli NetView for z/OS and System Authorization Facility (SAF) or IBM Resource Access Control Facility (IBM RACF®).

Management domain views

IBM Service Management Unite also provides management domain pages for features and capabilities for each of the management products in the IBM Service Management Suite for z/OS backend:

- ▶ The OMEGAMON performance monitoring agents provide data that is displayed in the IBM Service Management Unite overview and detail pages, for environments that are integrated with IBM Operations Analytics - Log Analysis for search and log analysis. Various environments are integrated, including z/OS, networks, IBM DB2®, IBM CICS®, IBM IMS™, and IBM WebSphere® Application Server.
- ▶ Tivoli System Automation for z/OS provides data for IBM Service Management Unite pages. This data enables users to explore automation domains, issue automation requests, define schedules, and review resource status.
- ▶ IBM Tivoli NetView for z/OS views securely display system logs and issue z/OS and NetView for z/OS commands.

Common look and feel framework

The IBM System Management Unite management solution integrates with other purchased and installed tools in your IT environment. This approach establishes a common look and feel framework, sharing a common server or integrated pages:

- ▶ Analytics-integrated pages with IBM Tivoli OMEGAMON Performance Management Suite for z/OS agents using IBM Operations Analytics for z Systems™
- ▶ Scheduling integration using IBM Workload Scheduler for z/OS, IBM Tivoli OMEGAMON for z/VM® and Linux on IBM System z®, Network Operational Insights/OMNIBus, and IBM Tivoli System Automation Application Manager with System Automaton for Multi-platforms (distributed resources)

IBM Jazz for Service Management and IBM Tivoli Directory Integrator

The IBM Service Management Unite web UI design leads to a more approachable UI that can be used by more people than traditional user interfaces. Users are already familiar with navigating with a mouse or keyboards using menus, buttons, or links. The users can type data into entry areas on a web UI, or see data that displays in a pop-up window.

Web interfaces that use a common look and feel help users learn navigation, find data, and perform tasks. You can navigate in context by moving from one view that is focused on a particular resource to another view that is focused on the same resource, which is critical to decrease the number of required interactions.

IBM Dashboard Application Services Hub (DASH) provides visualization and dashboard services based on Jazz for Service Management (JazzSM). DASH has a single console for administering IBM products and related applications. DASH is highly customizable, supporting proportional dashboard creation that allows users with appropriate permissions to create dashboards by using a self-service palette. Multiple widgets can be arranged on the dashboard in a flexible and proportional manner. DASH employs a series of intuitive icons to access non-core customization, administration, and user management tasks, providing more area for displaying user content.

IBM Tivoli Directory Integrator implements even the most complex integration by decomposing problems into data sources and data flows, allowing logic to be added to transform, create, or combine data. A Tivoli Directory Integrator DASH connector is provided. The connector converts the many data sources that Tivoli Directory Integrator understands into formats that are needed by DASH widgets. Tivoli Directory Integrator data can be displayed by IBM Service Management Unite in DASH dashboards, getting data from many sources, and running logic that is needed to tightly integrate monitoring, automation, and analytics.

IBM Service Management Suite for z/OS backend

The IBM Service Management Suite for z/OS backend is composed of backend management agents and servers that SMEs and system programmers use to automate and monitor their environment. This solution provides application programming interfaces (APIs) that are used by UIs to read and write management data, perform management functions, and use a secure task execution framework into the backend products.

IBM Service Management Suite for z/OS (see Figure 4 on page 7 for details) provides the following capabilities:

- ▶ Automation, network, and systems management tools to improve business agility.
- ▶ Automation capabilities, application control, and other features to improve availability and reduce costs.
- ▶ Performance and network management capabilities to enhance the productivity of z Systems.
- ▶ IBM Service Management Unite (a service management dashboard) brings platform management information and tasks from disparate sources into a single interface.

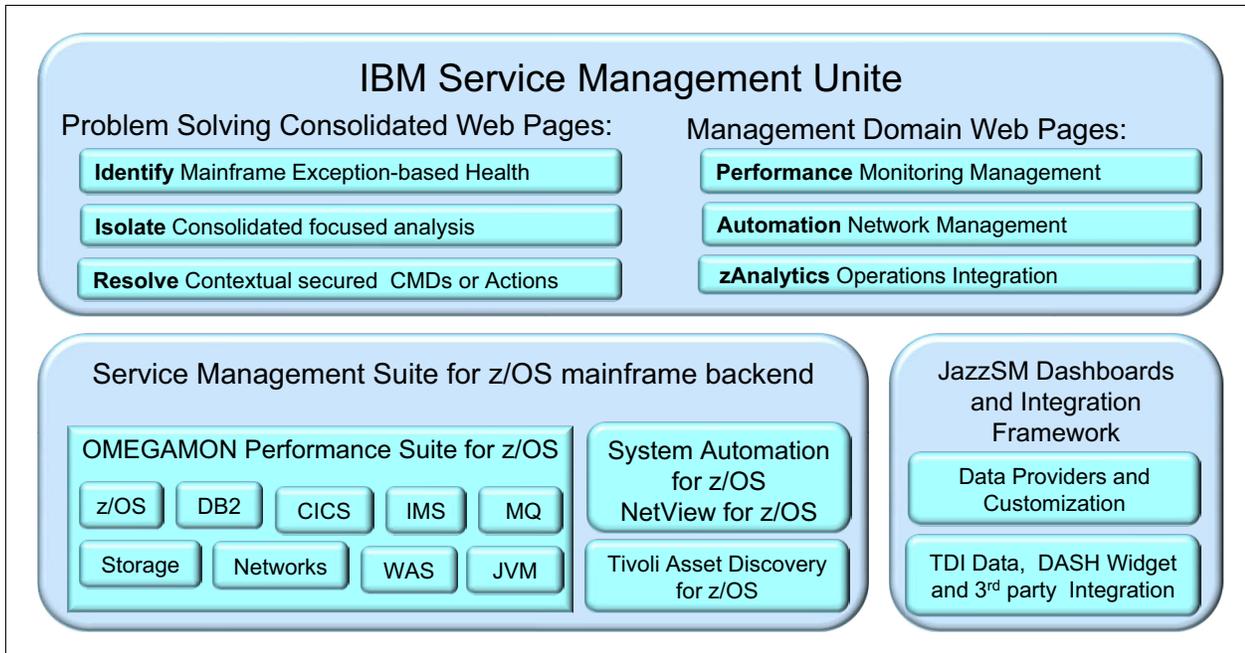


Figure 4 IBM Service Management Suite for z/OS components and interaction with other products

As shown in Figure 4, IBM Service Management Suite for z/OS backend includes these products:

► IBM Tivoli OMEGAMON Performance Management Suite for z/OS

OMEGAMON (included in the Service Management Suite for z/OS package) helps manage performance and availability of IBM z Systems. The suite provides composite alerts from multiple areas to quickly identify root problems, suggests actions to address problems, and fosters greater communication among IT groups for a more efficient way of managing the z/OS platform. This highly integrated solution provides advantages in sharing information between the different management groups within your organization to help increase effectiveness, meet Service Level Agreements (SLAs), and help reduce costs.

► IBM Tivoli System Automation for z/OS

Tivoli System Automation for z/OS is a policy-based, self-healing, high availability solution. It maximizes efficiency and availability of critical systems and applications, and reduces administrative and operational tasks. Flexible, cluster-wide, policy-based, self-healing high availability is delivered that minimizes the implementation, coding, and support time for automation of IBM z/OS systems and IBM Parallel Sysplex® clusters.

► IBM Tivoli NetView for z/OS

NetView for z/OS provides automation and network and systems management to address the requirement for business agility. It manages heterogeneous networks and supports changing network and system requirements. It provides problem diagnostics with network and system log browsing, consolidated message logging capability, and packet tracking analysis.

► IBM Tivoli Asset Discovery for z/OS

Tivoli Asset Discovery for z/OS provides discovery, monitoring and reporting to understand z/OS product and application usage. It automatically discovers and identifies IBM and third-party software that is running on the z/OS platform. It provides high-speed scanning and in-house application tagging to ensure that you have a complete inventory of products on your system, without much resource use. It monitors software usage and related growth to proactively plan for future capacity needs. It lowers costs by removing unused and obsolete software.

► IBM Operations Analytics - Log Analysis integration

IBM Service Management Unite integrates with an existing IBM Operations Analytics - Log Analysis server in your environment. Although full access to IBM Operations Analytics - Log Analysis to manage your enterprise is not included in Service Management Suite for z/OS, a limited use license is provided for you. With this license, you can start to understand how you can use IBM Operations Analytics - Log Analysis to analyze the full breadth of operational data types to help identify, isolate, and resolve problems. The software integrates data from multiple sources, such as logs, events, metrics, support documents, and trouble tickets.

What's next: How IBM can help

IBM wants to help z Systems clients be as effective and efficient at operating their IT environments as possible. IT faces continuing pressure to provide an environment that can quickly respond to any issue. The IBM Service Management Suite for z/OS provides the tools and services necessary to aid the IT management and IT support team in ensuring that the operating environment is available and functioning at peak capacity.

If you are interested in joining the IBM early program, you can go to the IBM Service Management Suite for z/OS Community (requires an IBM developerWorks ID) for more details:

http://ibm.biz/smsz_eap

Contact your local IBM representative to learn more about the IBM Quickstart program offering. This program provides IBM support to help you install and customize IBM Service Management Unite quickly, jump starting your ability to try it out in your environment.

Resources for more information

For more information about the concepts that are highlighted in this paper, see the following resources:

- Integrated Service Management for the Mainframe and Beyond - Using IBM Service Management Suite for z/OS:

<http://ibm.biz/smszpov>

- IBM Service Management Suite for z/OS product page:

<http://www.ibm.com/software/products/en/ibm-service-management-suite-for-zos>

- The IBM Knowledge Center for IBM Service Management Suite for z/OS:

<http://www.ibm.com/support/knowledgecenter/SSANTA>

- IBM Service Management Unite product page:

<http://www.ibm.com/software/products/en/ibm-service-management-unite>

- IBM Operations Analytics - Log Analysis product page:

<http://www.ibm.com/software/products/en/ibm-operations-analytics---log-analysis>

- Jazz for Service Management (JazzSM) - IBM developerWorks® blog:

<https://www.ibm.com/developerworks/community/blogs/69ec672c-dd6b-443d-add8-bb9a9a490eba?lang=en>

- IBM Tivoli OMEGAMON Performance Management Suite for z/OS product page:

<http://www.ibm.com/software/products/en/tivoli-omegamon-performance-management-suite-for-zos>

- IBM Tivoli System Automation for z/OS product page:

<http://www.ibm.com/software/products/en/tivosystautoforzos>

- IBM Tivoli NetView for z/OS product page:

<http://www.ibm.com/software/products/en/tivoli-netview-zos>

- ▶ IBM developerWorks wiki community for IBM Service Management Suite for z/OS:
<https://www.ibm.com/developerworks/community/groups/service/html/communitystart?communityUuid=91f16cce-c251-4278-931f-315f40d1e148>
- ▶ IBM Service Management Suite for z/OS V1.3 Overview & Service Management Unite videos:
<https://www.youtube.com/watch?v=HBxBISq05hM>

Notices

This information was developed for products and services offered in the US. This material might be available from IBM in other languages. However, you may be required to own a copy of the product or product version in that language in order to access it.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing, IBM Corporation, North Castle Drive, MD-NC119, Armonk, NY 10504-1785, US

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM websites are provided for convenience only and do not in any manner serve as an endorsement of those websites. The materials at those websites are not part of the materials for this IBM product and use of those websites is at your own risk.

IBM may use or distribute any of the information you provide in any way it believes appropriate without incurring any obligation to you.

The performance data and client examples cited are presented for illustrative purposes only. Actual performance results may vary depending on specific configurations and operating conditions.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

Statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to actual people or business enterprises is entirely coincidental.

COPYRIGHT LICENSE:

This information contains sample application programs in source language, which illustrate programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs. The sample programs are provided "AS IS", without warranty of any kind. IBM shall not be liable for any damages arising out of your use of the sample programs.

Trademarks

IBM, the IBM logo, and [ibm.com](http://www.ibm.com) are trademarks or registered trademarks of International Business Machines Corporation, registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the web at “Copyright and trademark information” at <http://www.ibm.com/legal/copytrade.shtml>

The following terms are trademarks or registered trademarks of International Business Machines Corporation, and might also be trademarks or registered trademarks in other countries.

CICS®	Jazz™	System z®
DB2®	NetView®	Tivoli®
developerWorks®	OMEGAMON®	WebSphere®
IBM®	Parallel Sysplex®	z Systems™
IBM z™	RACF®	z/OS®
IBM z Systems™	Redbooks®	z/VM®
IMS™	Redbooks (logo)  ®	

The following terms are trademarks of other companies:

Linux is a trademark of Linus Torvalds in the United States, other countries, or both.

Other company, product, or service names may be trademarks or service marks of others.



REDP-5393-00

ISBN 0738455563

Printed in U.S.A.

Get connected

