
Log Analytics Improvements across System z

SmartCloud Analytics – Log Analysis

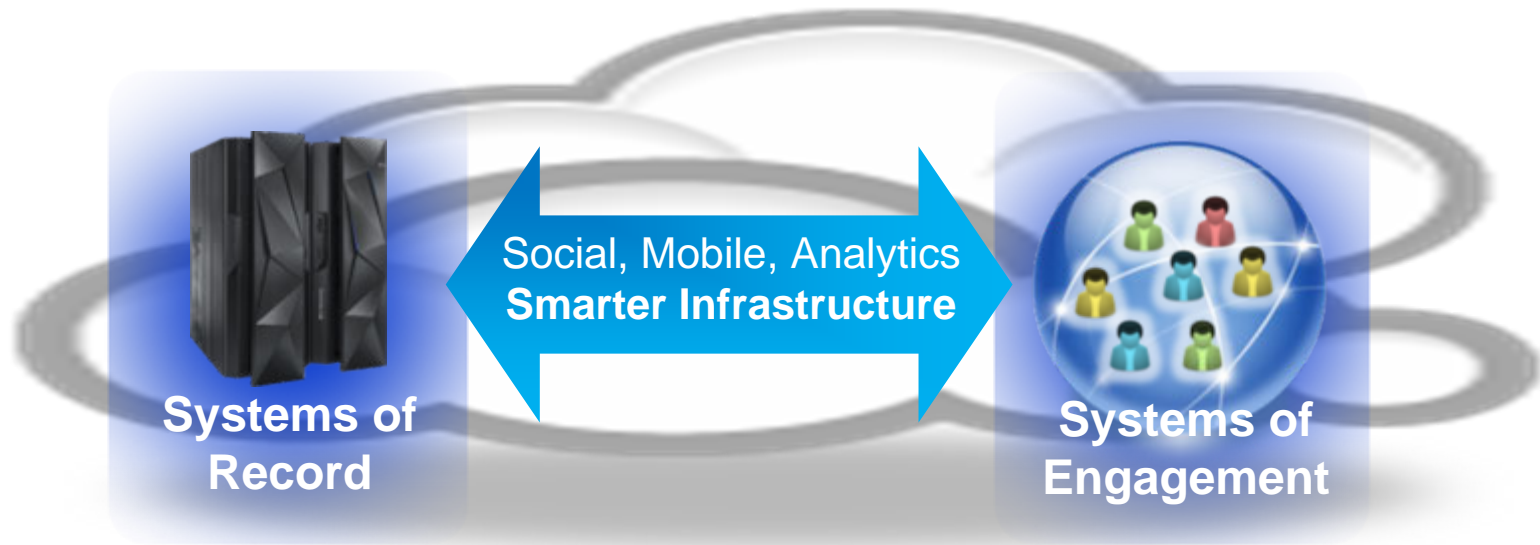


Agenda

- **Big Data – Challenges**
- **Predict, Search, Optimize**
- **Log Analysis – Reduce Mean Time to Repair (MTTR)**
- **Latest and Greatest Features – SmartCloud Analytics – Log Analysis z/OS Insight Packs**

Rapid growth of data from next generation technologies can be supported seamlessly on System z

System z scaling model and security to manage and optimize both



- Business Transactions
- Quality of Service
- Command & Control
- Facts and data “source of truth”
- System z

- Mobile and Social
- Dynamic
- Interactions and Collaboration
- Insight, trends, analytics

New Technologies like cloud and big data already challenging current Enterprise tools

- **Too long to isolate, diagnose problems in applications and infrastructure.**
 - Complex application workloads span multiple platforms
 - Increasing amounts of IT data:
 - Performance metrics, events, infrastructure logs, application logs, configuration files, traces
- **Existing IT tools inappropriate for management of Systems of Engagement**
 - 100x to 1000x explosion in data flooding existing tools.
 - New runtimes, programming languages needing complex instrumentation.
- **Reactive analytics misses critical information leading to outages**
 - Analyzing all information better for predicting problems.



Is managing IT today like sipping from a fire hose?

Analytics for System z addresses predict, search and optimize requirements on impact from new technology

- **Much greater amount of critical IT operational data** (SMF, log, journal) than distributed-only environments.
 - Focus on problem determination and time to resolution while placing premium on availability of services and applications.
- **By 2016, 40% of Global 2000 enterprises will have IT operations analytics** architecture in place, up from < 1% today, looking to integrate across their enterprise to reduce outages (Gartner).
- **90% of the Fortune 1000 companies are running z** and have 'Systems of Record' dependencies for transactional processing and data serving applications .



IBM focused on managing end-to-end analytics for improved performance and workload management

Predict:

- Pro-Active Outage Avoidance
- Predict problems before they occur

Search:

- Quickly search large volumes of log data from a single search bar
- Perform log analysis while searching
- Correlate messages from multiple logs for end-to-end problem diagnosis

Optimize:

- Improve performance across IT Infrastructure

IBM Analytics solutions for System z

Proactive Outage Avoidance

Predict

- IBM SmartCloud Analytics - Predictive Insights
- OMEGAMON & NetView w/ IBM zAware

Faster Problem Resolution

Search

IBM SmartCloud Analytics - Log Analysis

Optimized Performance

Optimize

IBM Capacity Management Analytics (CMA)

Analytics is the next step in IBM value add for zEnterprise performance and availability management

- This journey started with NetView/SA
 - Too many messages
 - Need to filter, automate, generate events
- Next focus was on performance monitoring
 - Slow and under-capacity system are just as bad as Unavailable systems
- Next step – Enable to data to work for YOU
 - Analyze existing data, surface anomalies, predict outages, decrease mean time to recovery (MTTR)

NetView/SA

System/Network management and automation

OMEGAMON

System and sub-system performance monitoring

IT Analytics
Complete your toolbox!

Analyze metric and log data
 Predict outages
 Forecast capacity, CPU, etc
 Surface anomalies
 Improve search techniques
 Reduce MTTR
 Provide expert advice
 Plug into existing service management tooling

* Log Analytics does not require NetView or OMEGAMON

Analysis – The Problem

Find the right needle in the haystack – QUICKLY!

404 ERROR

It's SLOW!!



*Centralized,
Distributed, Cloud,
Resilient
Architectures
Increase Data
Volume*



Where do I start??

Everything is "green"

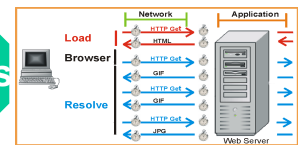
Logs, Traces,...

```
[10/9/12 5:51:38:295
GMT+ 05:30] 0000006a
servlet E
com.ibm.ws.webcontainer.ser
vlet.ServletWrapper service
SRVE0068E:
```

Events

Node	Alert Group
omega	Unk Event List
snmp:/10.20.5.99:1	EventAction(netcool)
snmp:/10.20.5.99:1	EventAction(netcool)
snmp:/10.20.5.99:1	EventAction(netcool)
snmp:/10.20.5.99:1	EventAction(netcool)
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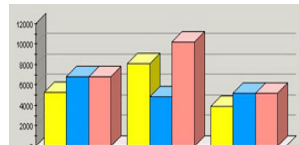
Transactions



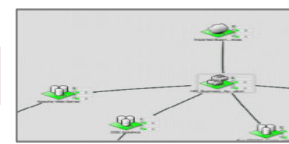
Core files

```
010001100011100001110
0110001111110000110001
111111000110011100011
```

Metrics



Config



Search for and rapidly analyze unstructured data to assist in and accelerate problem identification, isolation and repair

SmartCloud Analytics – Log Analysis



Differentiating Capabilities

Locate **component error messages** from system, configuration, or software logs **via rapid indexed search**

Isolate issues across various domains including customer session, performance and system faults

Link support documentation and operations notes dynamically to log/warning messages or events to resolve problems quickly

Visualize search results with analytic tools to rapidly **perform root cause analysis**

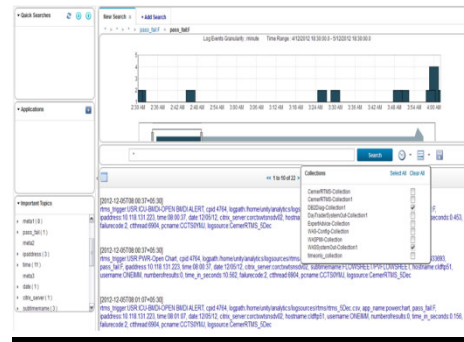
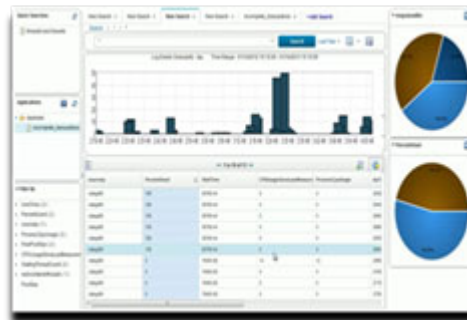


Delivering Business Results

Reduce mean time to repair by identifying and isolating service impacting issues quickly

Resolve problems more efficiently with faster access to all pertinent information

Improve service availability by leveraging expert knowledge of applications and infrastructure



Built on IBM's leading Big Data platform

IBM expertise built-in

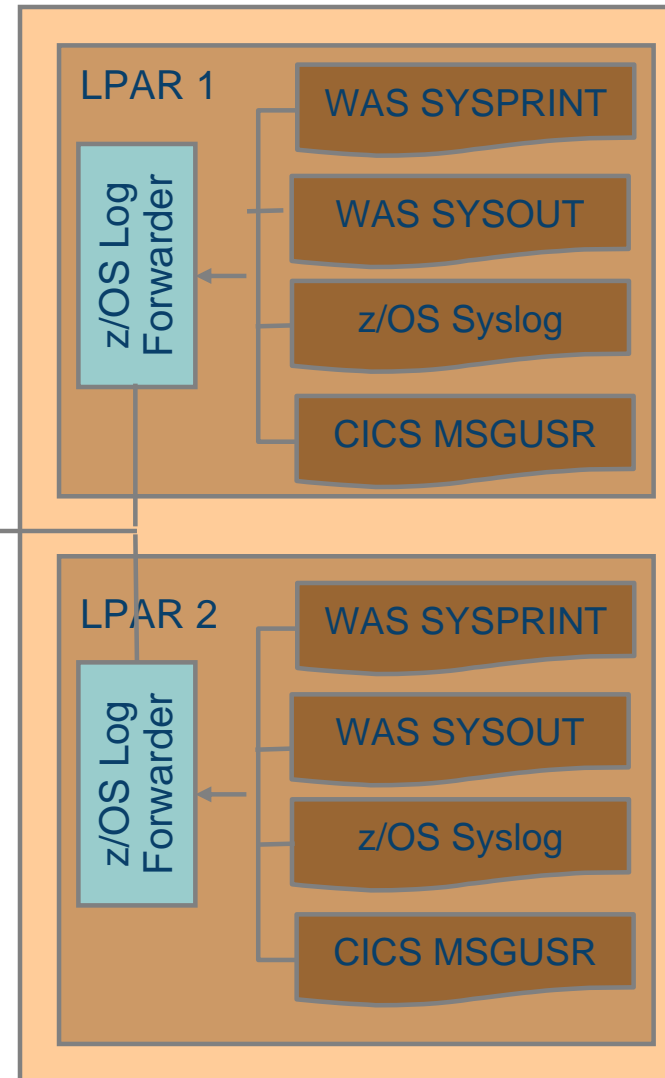
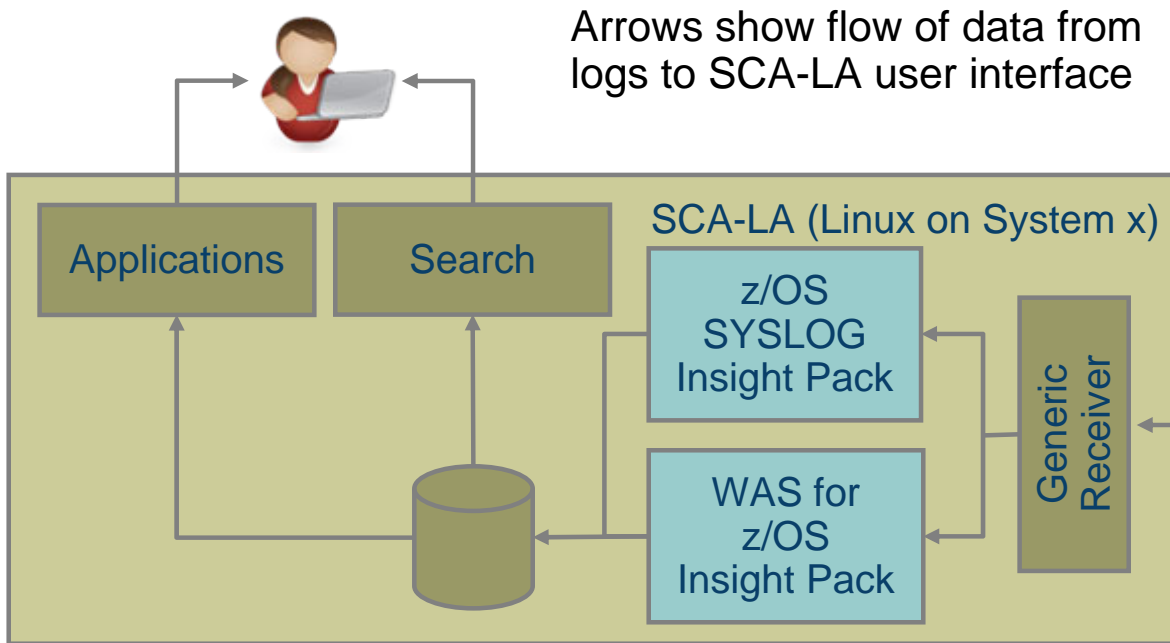
Download and install in minutes for quick time-to-value

SmartCloud Analytics – Log Analysis
z/OS Insight Packs V1.1.0.1
Available TODAY

New in SCA-LA z/OS Insight Packs v1.1.0.1

- **Additional Insights for CICS included with the z/OS Syslog Insight pack**
 - Search and analyze CICS MSGUSR log
- **Added support for WebSphere HPEL to the WebSphere Insight Pack**
- **Log Configuration Assistant**
 - Save even more time and effort – Configure log feeds in a snap
- **Remove SDSF requirement (Log Forwarder)**

IBM SmartCloud Analytics – Log Analysis z/OS Insight Packs & SCA-LA Server



- z/OS Log Forwarder is installed on each z/OS LPAR to enable Log Search
- The SCA-LA server is installed on System x running Linux
- z/OS Insight Packs for WebSphere and SYSLOG are installed on the SCA-LA server

z/OS Log Forwarder Installation

- **Supported software platforms:**
 - IBM z/OS 1.13 or later
 - The z/OS Log Forwarder must run with JES2
- **Required software components:**
 - IBM SDSF requirement removed with v1.1.0.1
 - IBM Java™ Runtime Environment (JRE) V6 or later
- **Installation (SMPE) takes less than half a day (including RACF statements)**
 - New log configuration tool included with v1.1.0.1

SCA-LA 1.2 installation

- **SCA-LA reference hardware specification (for ingesting 100GB/day per Data Explorer node):**
 - 16 core Intel processor
 - 96 GB of RAM
 - 1.2 TB RAID 1+0 disk space

Note that a smaller system can be used for evaluation purposes or if you plan to ingest and retain less data.

Solution can scale by adding more nodes.

- **Supported software platforms:**
 - Red Hat Enterprise Linux Server Edition Version 5.x (64 bit)
 - Red Hat Enterprise Linux Server Edition Version 6.x (64 bit)
 - SUSE Linux Enterprise Server 11.x (64 bit)
- **Installation takes 20 minutes**

Too Much Data – Not Enough Time

In Summary ...

- Do you find yourself spending too much time and effort collecting, searching and analyzing logs?
- Do you have complex applications, comprised of many components that span multiple systems?
- Are you frustrated signing onto multiple systems, browsing multiple logs and trying to manually correlate messages?
- Would you like assistance in resolving problems?
- Is the time and effort associated with problem determination and problem resolution affecting application and system availability?

If you answered 'yes' to any of the above, check out SmartCloud Analytics – Log Analysis with z/OS Insight Packs!



Additional Reference Material

- Analytics Overview Video
 - <https://www.youtube.com/watch?v=OQJapWiQECs>
- SCA-LA z/OS Insight Packs videos:
 - http://www.youtube.com/watch?v=2oDgX_Ydr18
 - There are several YouTube videos – search for ‘SmartCloud Analytics – Log Analysis’)

Contact your IBM sales specialists to get a product demo or attend a hands-on workshop near you

- SCA-LA z/OS Insight Pack Documentation
 - Knowledge Centers
 - SYSLOG: <http://www.ibm.com/support/knowledgecenter/SS9M7K>
 - IBM WAS: <http://www.ibm.com/support/knowledgecenter/SS9MBD>
- SCA-LA Product Documentation
 - Service Management Connect
 - <http://www.ibm.com/developerworks/servicemanagement/ioa/log/index.html>
 - Knowledge Center
 - <http://www.ibm.com/support/knowledgecenter/SSPFMY>

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Questions?

