

z/OS 3.1 IBM Education Assistant

Solution Name: RMF Grafana front end, threshold and alert

Solution Element(s): RMF

July 2023



Agenda

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- Usage & Invocation
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Trademarks

- See url <http://www.ibm.com/legal/copytrade.shtml> for a list of trademarks.
- Additional Trademarks:
 - None

Objectives

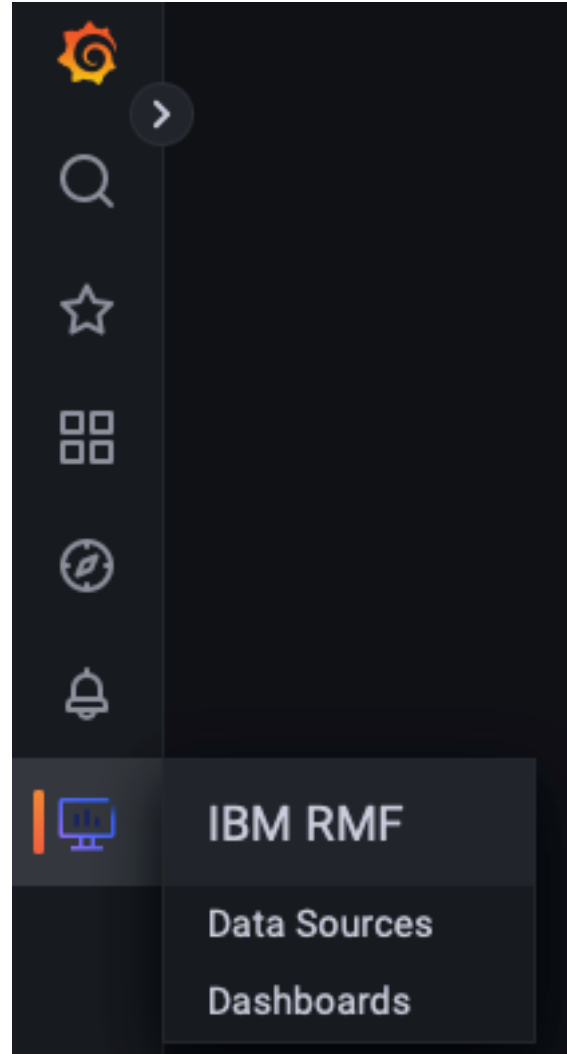
- Introduce the new Grafana RMF App plugin
- Introduce the new Distributed Data Server (GPMSEVE) started task
- Introduce additional RMF features

Overview

- Who (Audience)
 - z/OS System Administrators and Performance Analysts
- What (Solution)
 - Grafana-based performance metric analysis, threshold and alerting
 - New Distributed Data Server (GPMSEVE) 64-bit zIIP-enabled
- Wow (Benefit / Value, Need Addressed)
 - Improved performance monitoring and analysis

Usage & Invocation





- Grafana RMF App Plugin
 - Datasource
 - Dashboards
 - Visualizations



Usage & Invocation

- RMF Datasource Plugin
 - Connection to New DDS (GPMSEVERE)
 - Queries for dashboard variables
 - Alerting

The screenshot displays the IBM RMF Plugins Manager interface. At the top left, there is a logo for IBM RMF and the text "IBM RMF Plugins Manager". Below this, a "Home" link is visible. On the right side, there is a button labeled "+ Add RMF Data Source". The main area contains two data source entries:

Name	Address	Action
 SYSPLEX1 Not specified	lpar1:8803	 Settings
 SYSPLEX2 Not specified	lpar2:8803	 Settings

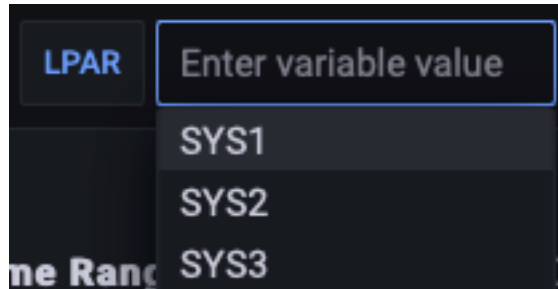
Usage & Invocation

- RMF Dashboards
 - Predefined examples to import and configure to local environment

RMF Chart Dashboards ▾		RMF Report Dashboards	
Search		Search	
Common Storage Activity	☆	CF System Report	☆
Coupling Facility Overview	☆	Delay Report	☆
Execution Velocity	☆	System Information Report	☆
General Activity (Time Series)	☆	System Summary Report	☆
Overall Image Activity	☆		
Performance Index	☆		
Response Time	☆		

Usage & Invocation

- Dashboard variables
 - Use in panel queries for dynamic dashboards



LPAR

General

Name	LPAR	Type	Query
Label	optional display name	Hide	
Description	descriptive text		

Query Options

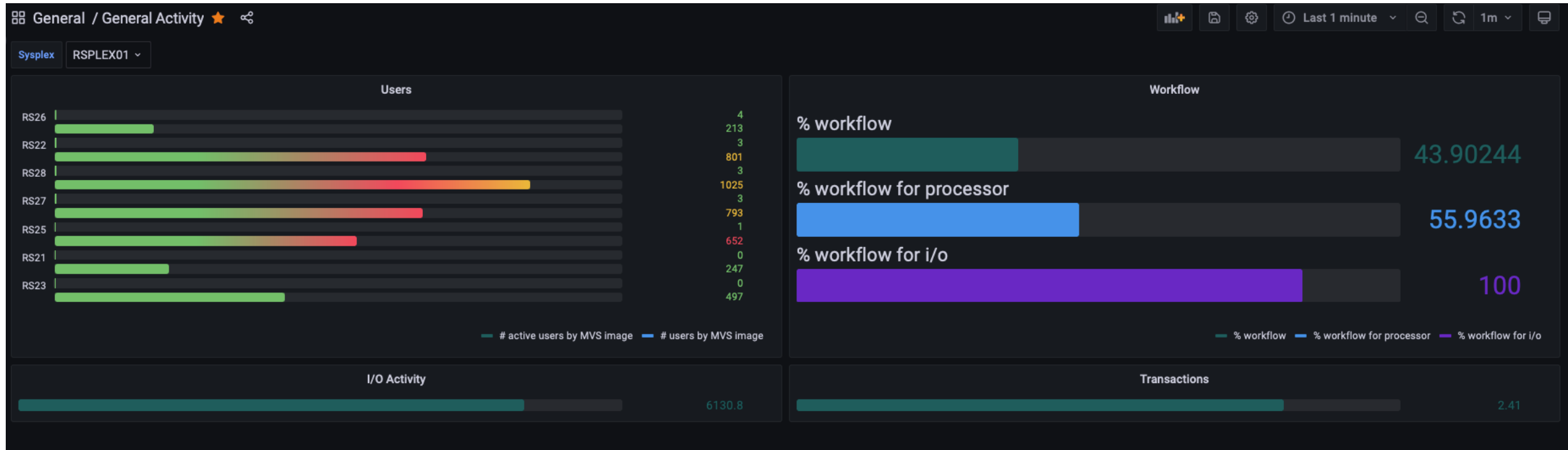
Data source	\${sysplex} v	Refresh	On dashboard load
Query	SELECT LABEL FROM RESOURCE WHERE NAME = "\${sysplex}" AND TYPE = "SYSPLEX"		
Regex	/.*(-(<text>.*)-(<value>.*)-.*/		
Sort	Disabled		

Selection options

Multi-value	<input type="checkbox"/>
Include All option	<input type="checkbox"/>

Usage & Invocation

- RMF Dashboards
 - Predefined dashboards
 - Thresholds



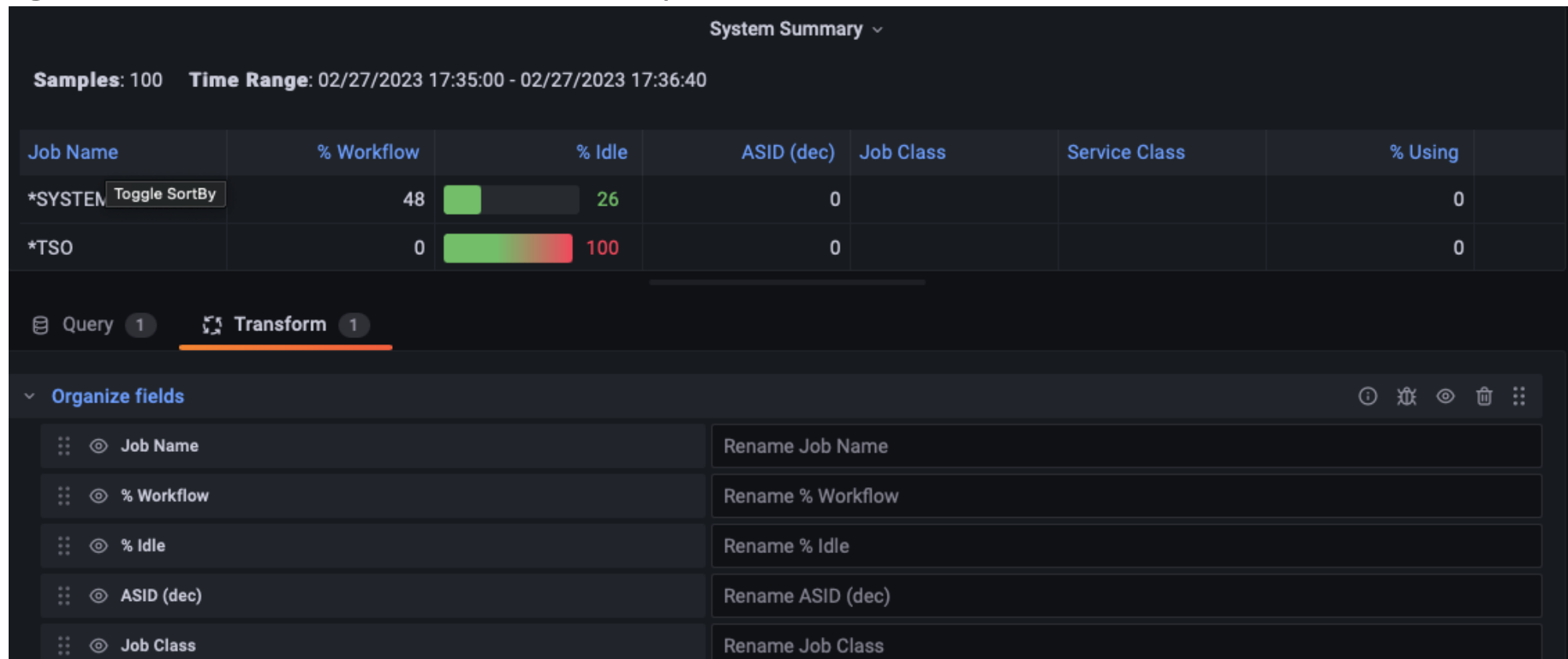
Usage & Invocation

- Timeline Visualization



Usage & Invocation

- RMF Reporting Plugin
 - Show/Hide, Reorder and Sort columns
 - Change visualization and thresholds per column



Usage & Invocation

- Alerting
 - Alert on available Monitor III metrics
 - Send alerts to any Grafana Contact Point

The screenshot shows the Grafana alerting configuration interface. At the top, there is a 'Resource' dropdown menu with the selected resource being 'SYSPLEX.% CSA utilization by MVS image'. Below this, there is a 'Time Series data format' toggle switch which is turned on, and a 'Selected Resource' field containing the URL 'id=8D2410&resource=„SYSPLEX'. The main configuration area is titled 'B (Expression)' and contains a table for defining alerting conditions. The table has columns for 'Operation', 'Conditions', and 'Value'. The first row shows 'Classic condition' as the operation, 'WHEN max()' as the condition, 'OF A' as the resource, 'IS ABOVE' as the comparison, and '25' as the value. There is a trash icon to the right of the value. Below the table, there is a plus icon to add more conditions. At the bottom, there are three buttons: '+ Add query', '+ Add expression', and 'Run queries'.

Operation	Conditions	Value
Classic condition	WHEN max()	OF A IS ABOVE 25

Usage & Invocation

- DDS (GPMSEVE) 64-bit zIIP-enabled
 - Reduce 31-bit memory usage
 - Reduce main CP usage
- Additional Enhancements
 - Shared customization of Monitor III options and reports in ISPF
 - Ability to change default MINTIME for all users.
 - Increase LPAR usage precision in CPC report
 - Add XCFOVW, XCFPATH, XCFCGROUP and XCFSYS reports to Monitor III ISPF menu.
 - Improved performance of XCF charting in the Spreadsheet Reporter.
 - New Enclave Transaction metric reporting
 - RMF Data Gatherer APAR OA62502 required
 - System Recovery Middleware Boost reporting
 - Monitor III PROCU and Monitor II ARD & ASD

Interactions & Dependencies

- Software Dependencies
 - Grafana 9.0 and above
 - Docker image available in IBM Z Container Registry
 - Deploy on zCX or zLinux. May also deploy outside of z/OS.
- Hardware Dependencies
 - None
- Exploiters
 - None

Upgrade & Coexistence Considerations

- To exploit this solution, all systems in the Plex must be at the new z/OS level: No
- List anything that doesn't work the same anymore.
 - URI requests to the DDS must follow the [RFC 3986](#) standard.

Installation & Configuration

- This support is included in the GA shipment of the z/OS V3.1 RMF (HRM77E0) deliverable.
 - The Grafana RMF plugin requires the new DDS started task
 - The Grafana RMF plugin is available at Github site <https://ibm.github.io/IBM/RMF>

Summary

- Introduce new RMF Grafana App plugin
- Introduce new Distributed Data Server (GPMSEERVE)

Appendix

- RMF Grafana - <https://ibm.github.io/RMF/>
 - Contains information on the Grafana RMF App plugin installation, configuration, and use.
- RMF - <https://github.com/IBM/IBM-Z-zOS/tree/master/zOS-RMF>
 - Contains Product information, presentations, etc.
- Documentation and news
 - RMF Report Analysis, SC34-2665
 - RMF User's Guide, SC34-2664
 - RMF Programmer's Guide, SC34-2667
 - Latest version of PDF files can be downloaded from:
<http://www.ibm.com/systems/z/os/zos/bkserv/>