

z/OSMF Security Setup Overview V2R3 / V2R4

Session 26893

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Abstract

The setup and security configuration for z/OSMF has greatly improved and been simplified over time. Fine out what improvements have been made to get z/OSMF set up and running securely under z/OS V2R3 and V2R4 so that one can take advantage of this powerful modernization tool.

User experiences will be discussed in managing setup and configuration, highlighting success and problem areas.

Other z/OSMF sessions at Share.

Introduction

Background

What is z/OSMF

- IBM z/OS Management Facility (z/OSMF) provides system management functions in a task-oriented, web browser-based user interface with integrated user assistance, so that you can more easily manage the day-to-day operations and administration of your mainframe z/OS systems. By streamlining some traditional tasks and automating others, z/OSMF can help to simplify some areas of z/OS system management.
- z/OSMF allows you to communicate with the z/OS system through a web browser, so you can access and manage your z/OS system from anywhere. Multiple users can log into z/OSMF using different computers, different browsers, or multiple instances of the same browser.

Securing z/OSMF

<https://www.newera-info.com/eBooks.html>

AE3 - Securing z/OSMF - The security set-up of z/OSMF is an integral part of its overall installation and configuration. To secure it properly can only be accomplished by Systems Programmers working in close conjunction with Security Administrators on a z/OS system that is already secured by Systems Administrations Best Practices. This book is a distillation of the essential security portions of the z/OSMF configuration and programming documentation available from IBM, which cannot, and should not, be ignored.

[AE3 - Securing z/OSMF](#)

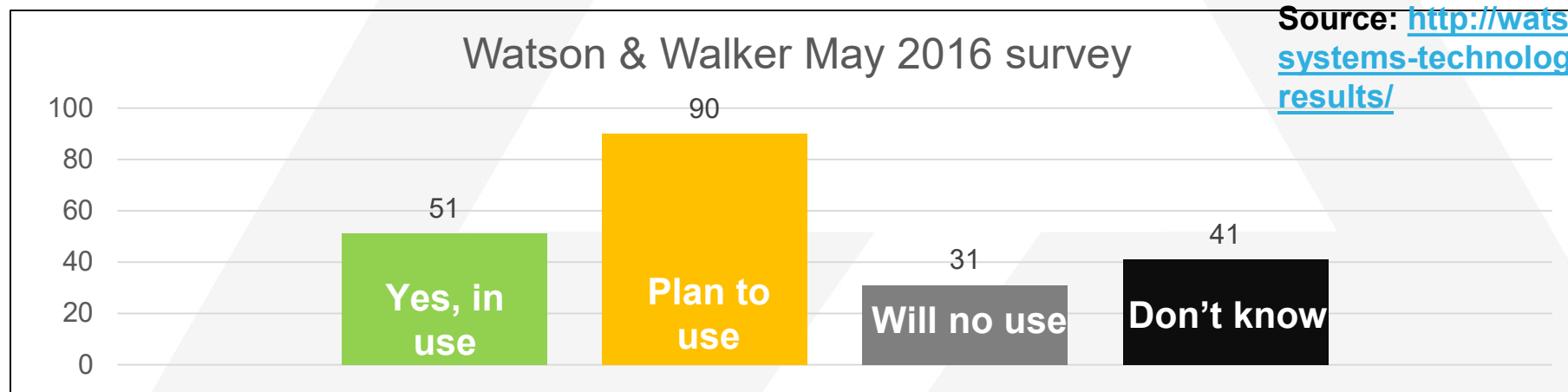
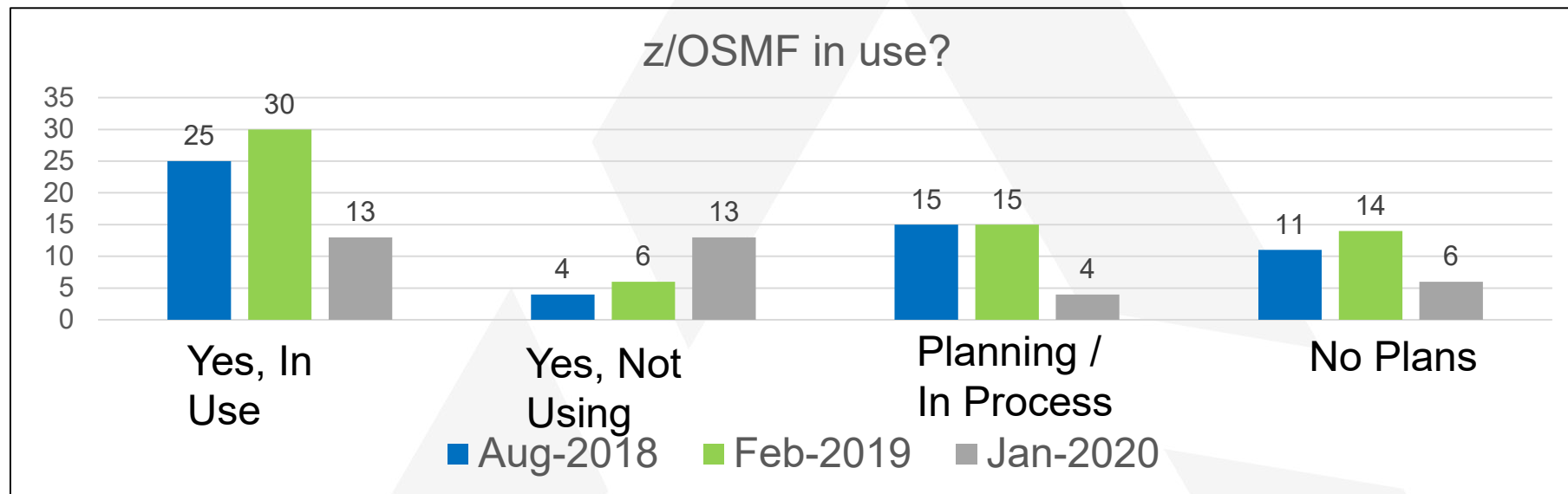
What is z/OSMF

- z/OSMF provides a framework for managing various aspects of a z/OS system through a web browser interface.
- z/OSMF provides you with a single point of control for:
 - Viewing, defining, and updating policies that affect system behavior
 - Monitoring the performance of the systems in your enterprise
 - Managing software that runs on z/OS
 - Performing problem data management tasks
 - Consolidating your z/OS management tools.

What is z/OSMF

- z/OSMF includes the following software:
 - z/OSMF server.
 - WebSphere® Liberty profile, which provides an application server runtime environment for z/OSMF.
 - Set of optional, system management functions or *plug-ins*, which you can enable when you configure z/ OSMF.
 - Technologies for serving the web browser interface, such as JavaScript, Dojo, and Angular.

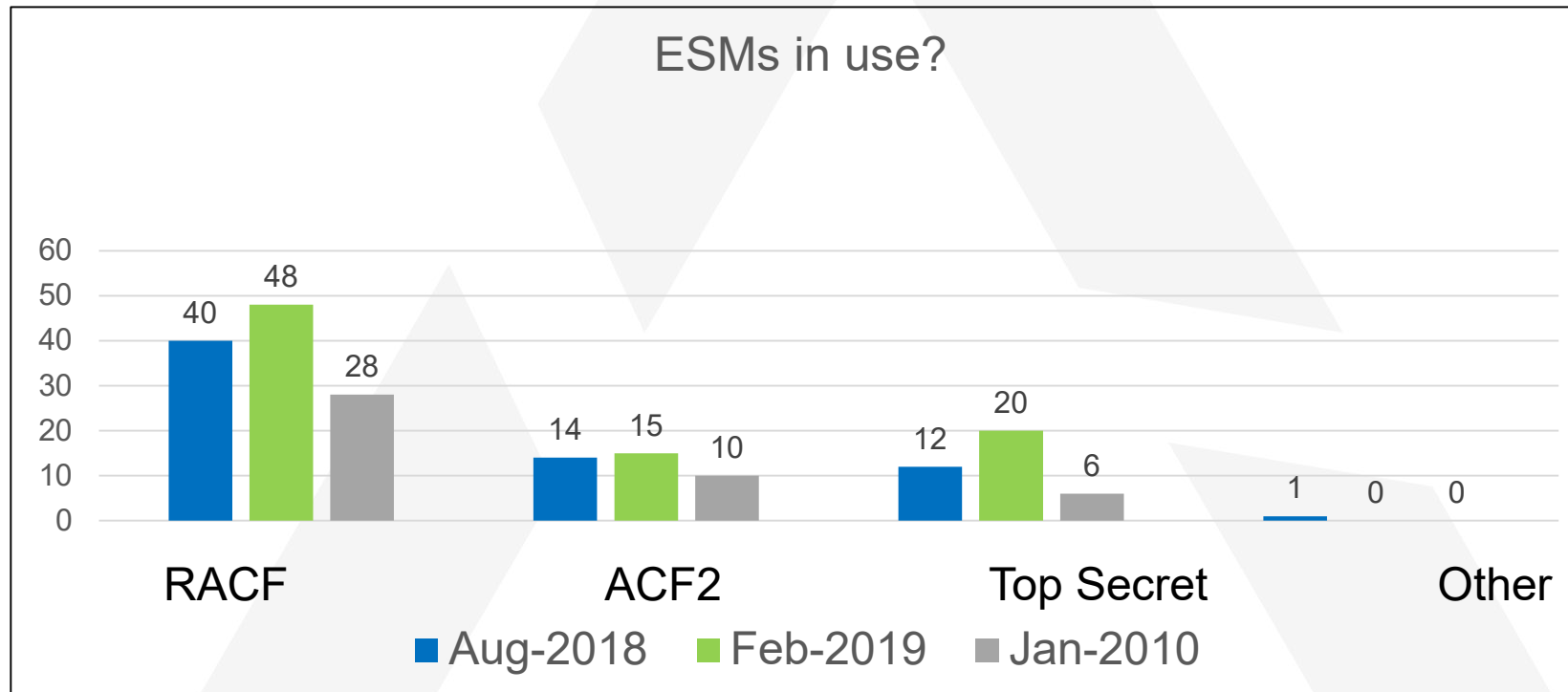
Has z/OSMF been implemented in your shop and is it in use?



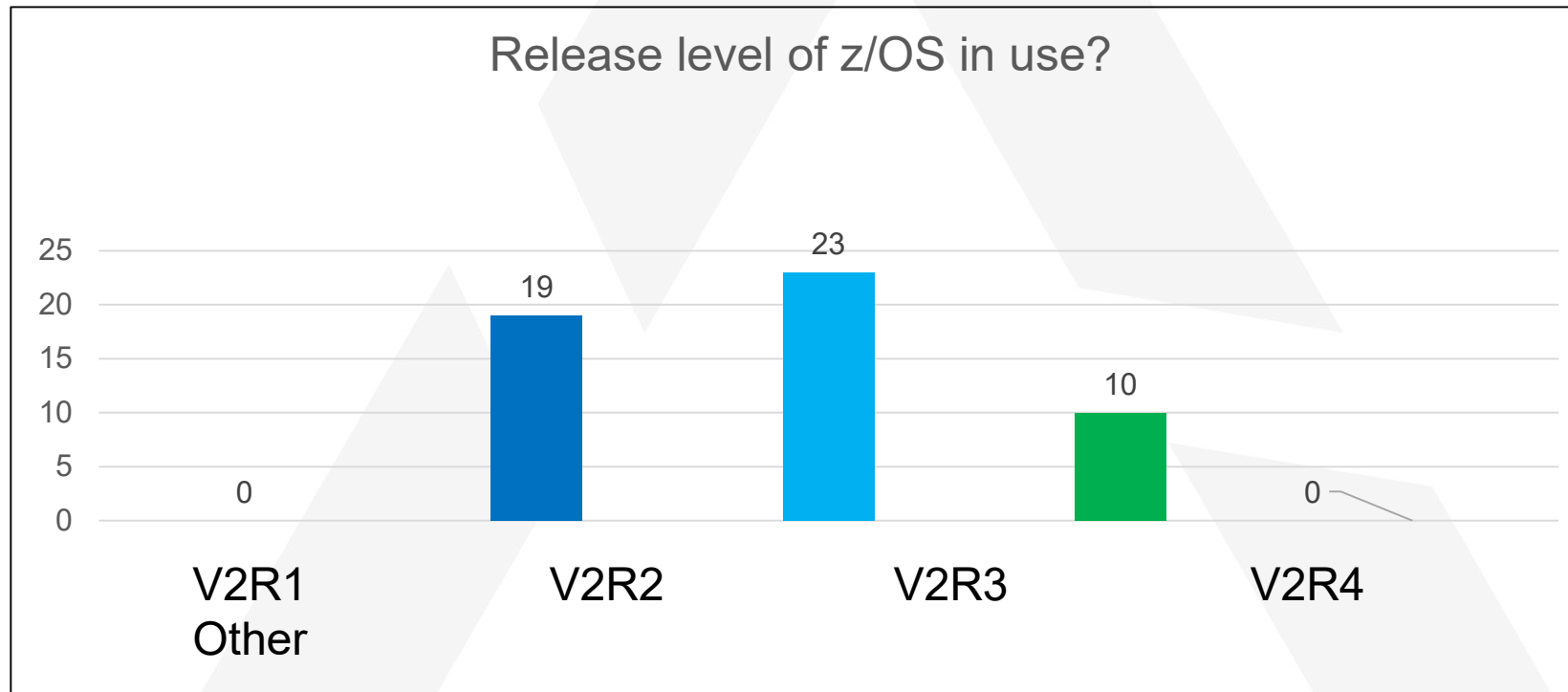
Source: <http://watsonwalker.com/z-systems-technology-exploitation-survey-results/>



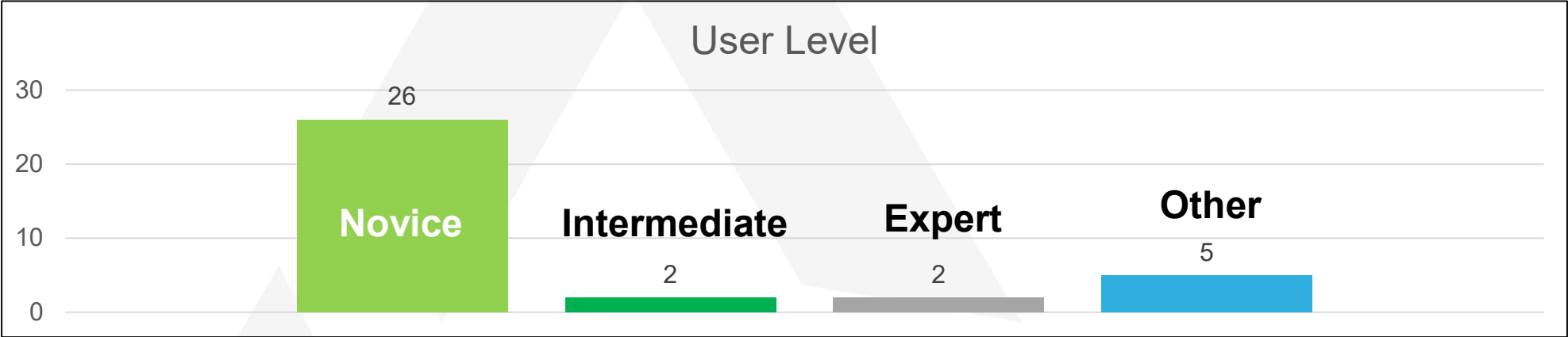
Which ESMs are in use in your environment?



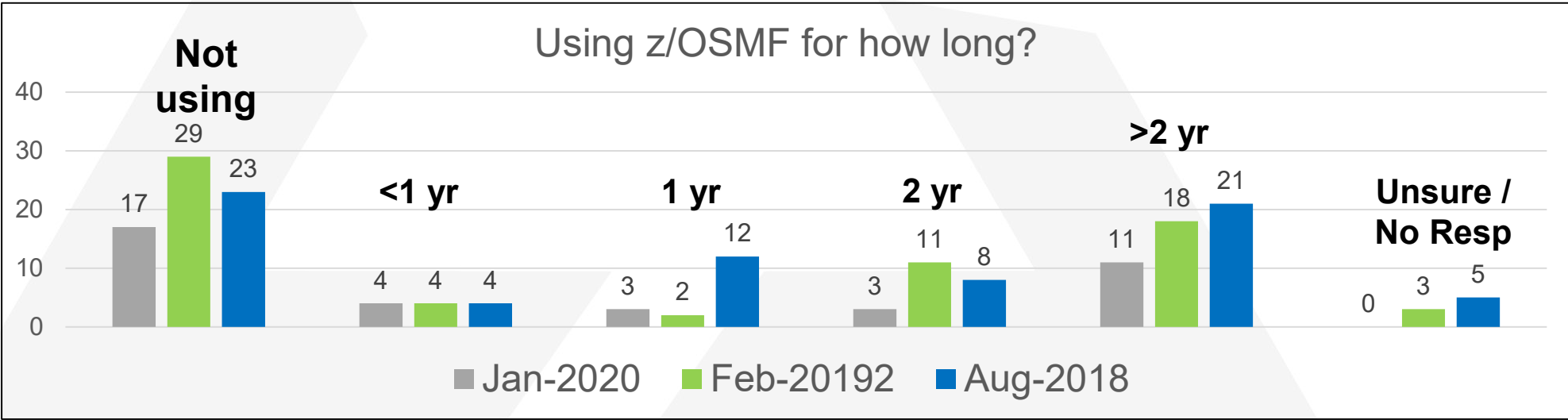
What release of z/OS is running in your shop?



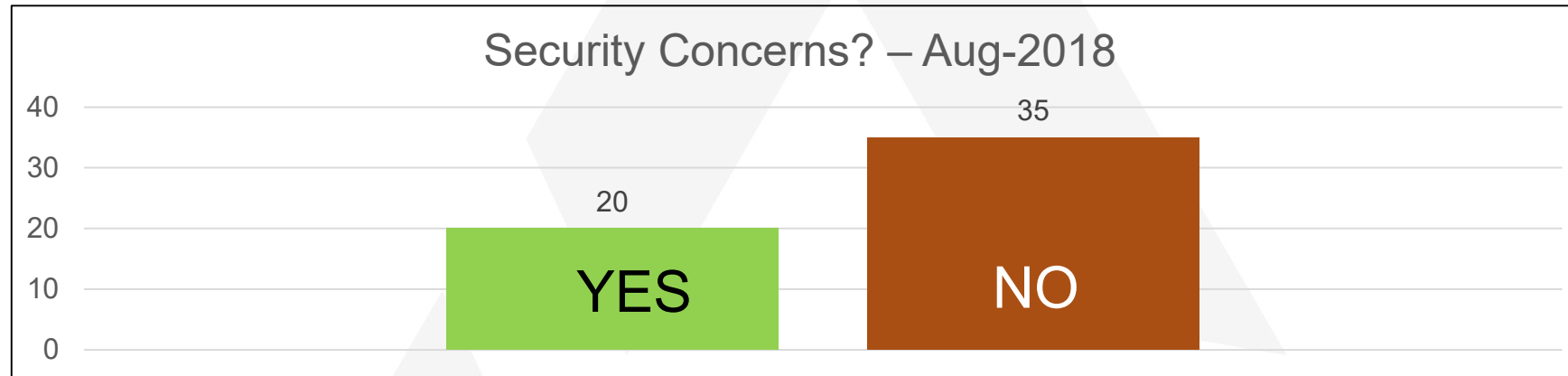
What level of z/OSMF user would you consider yourself?



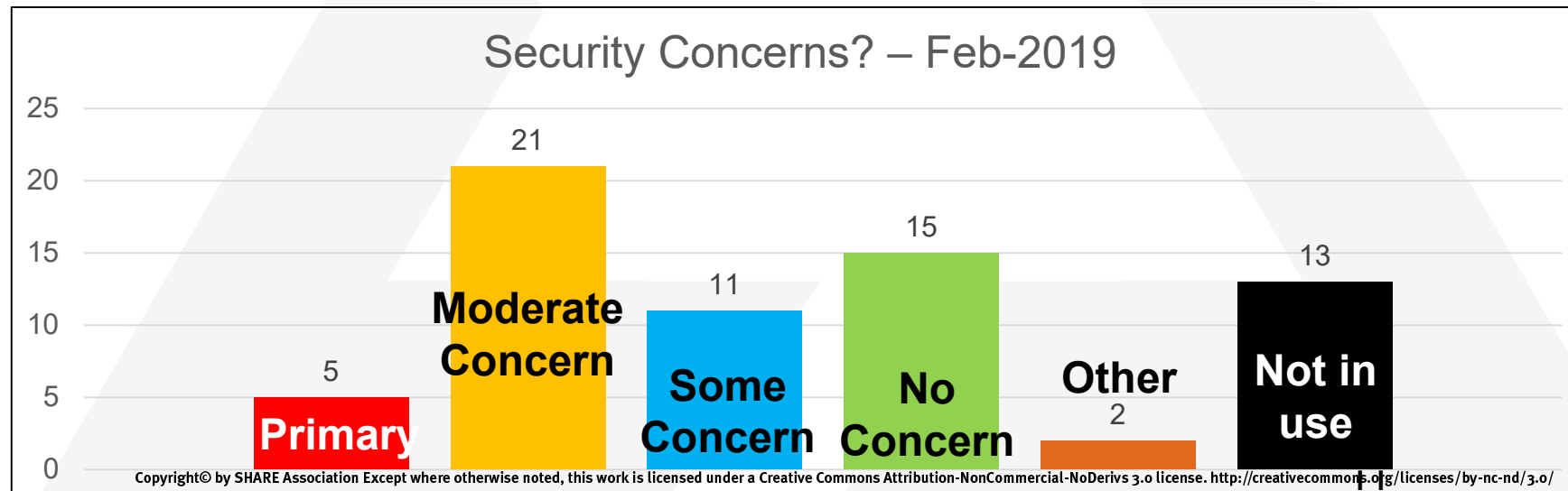
If you are using z/OSMF, when was it implemented?



Are you concerned about security issues surrounding z/OSMF?

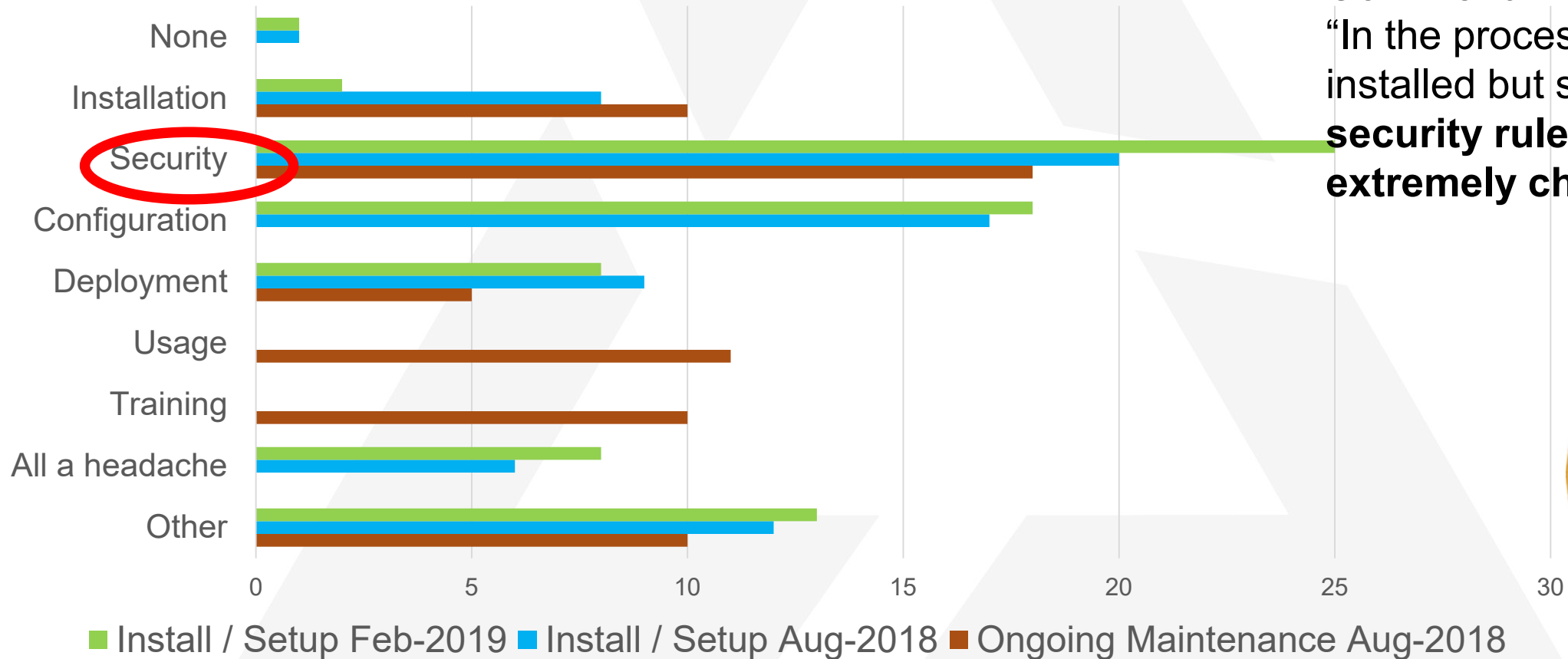


How concerned are you about security issues surrounding z/OSMF?



What were the biggest challenges or concerns with its installation, setup, configuration and ongoing maintenance?

Challenges / concerns – Setup / maintenance

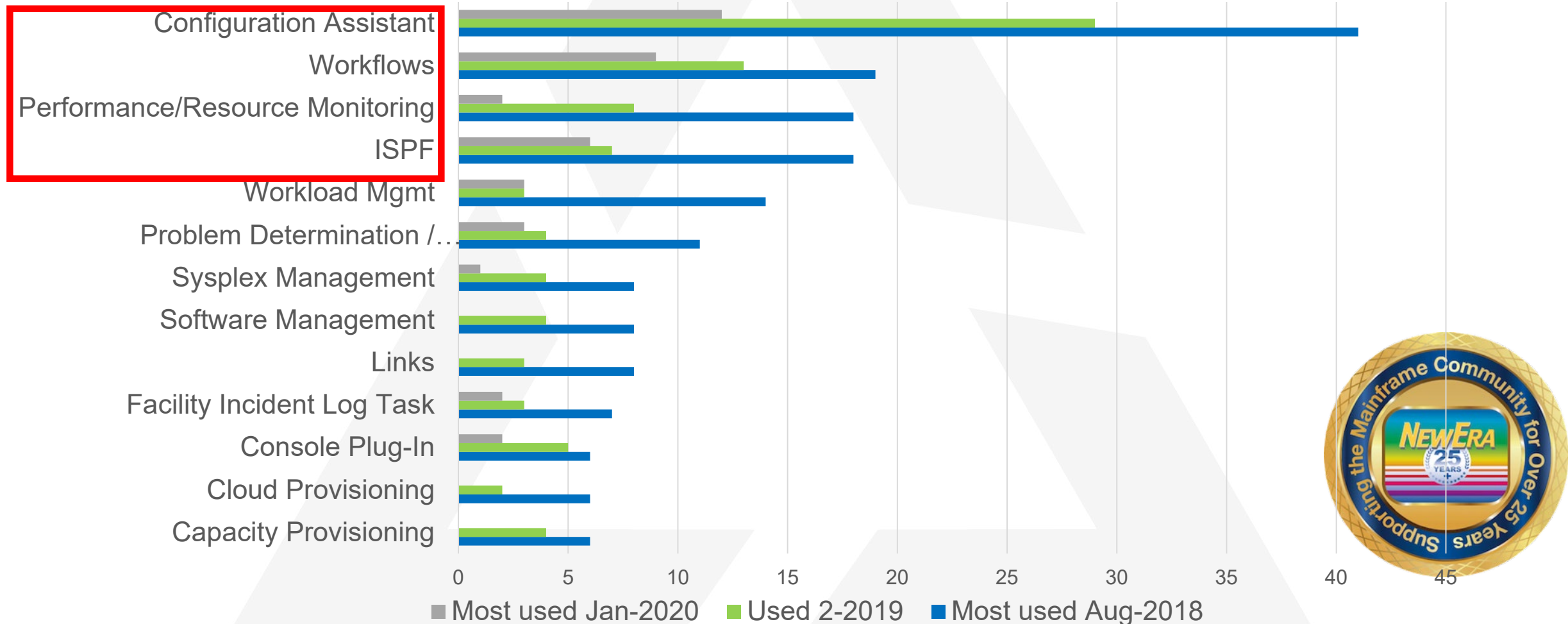


Comment:

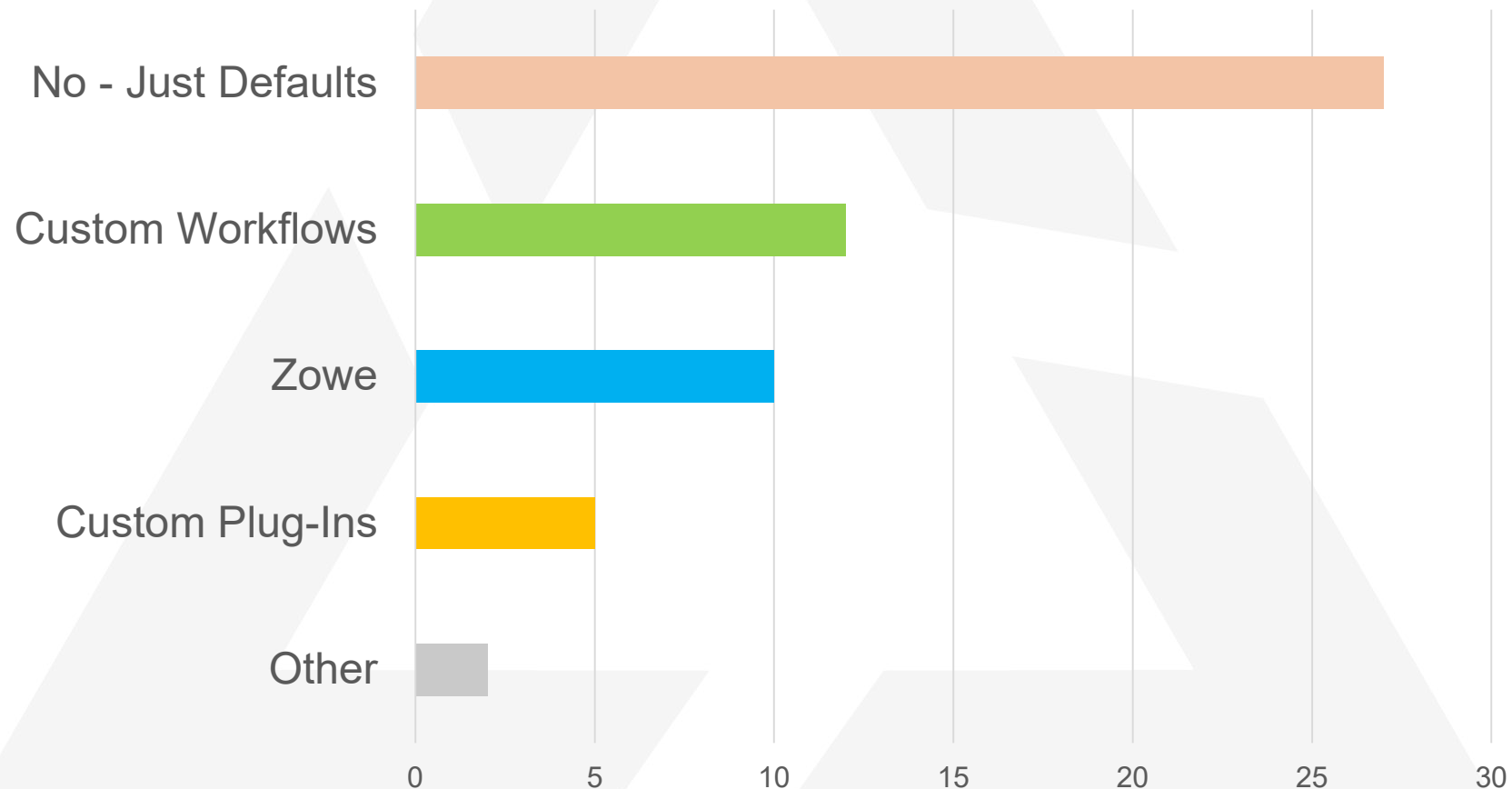
“In the process of getting it installed but setting up the **security rules** has been **extremely challenging.**”



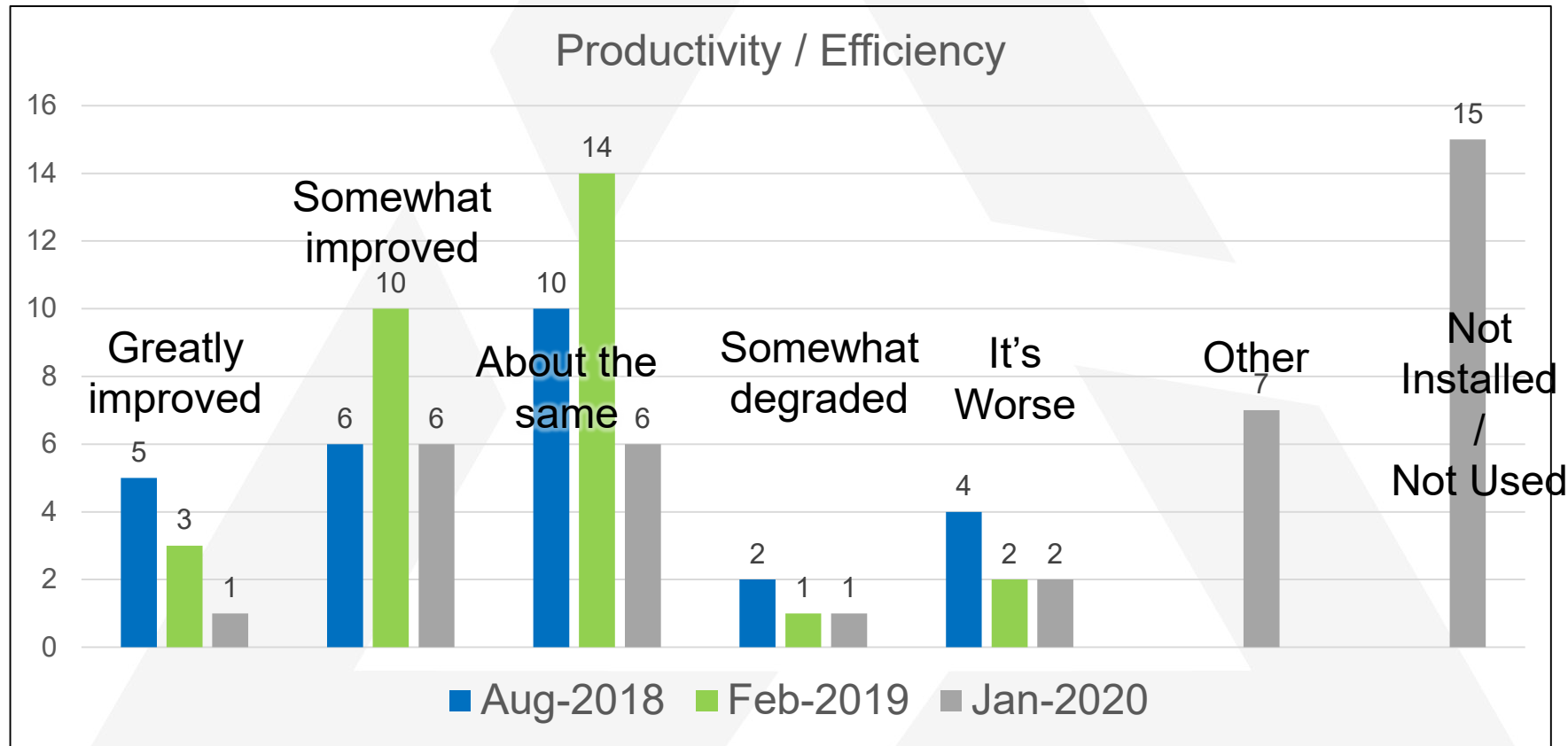
Which of these areas of z/OSMF do you use?



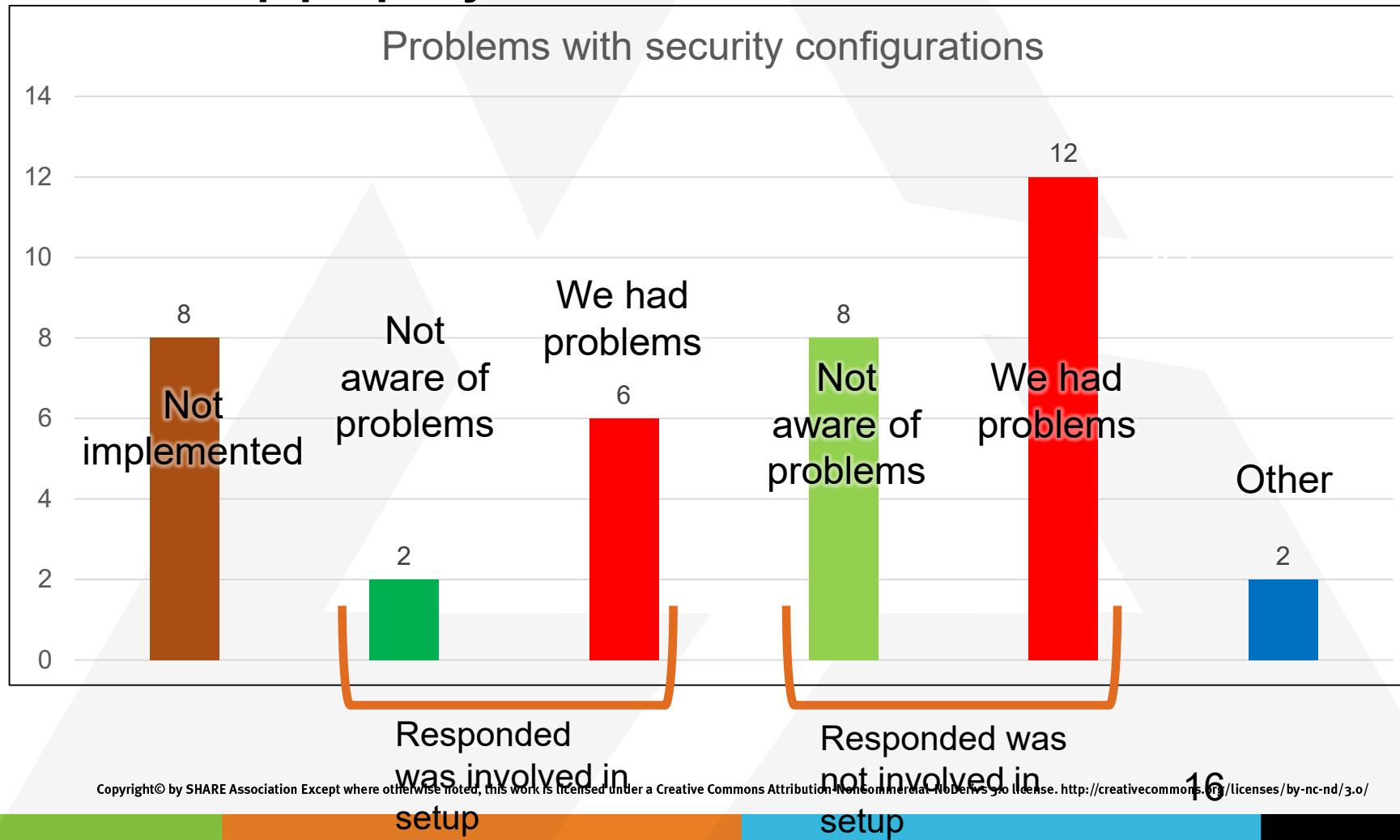
Is your organization using or planning to use customized functionality of z/OSMF to take advantage of its full scope of capabilities? (Feb-2019)



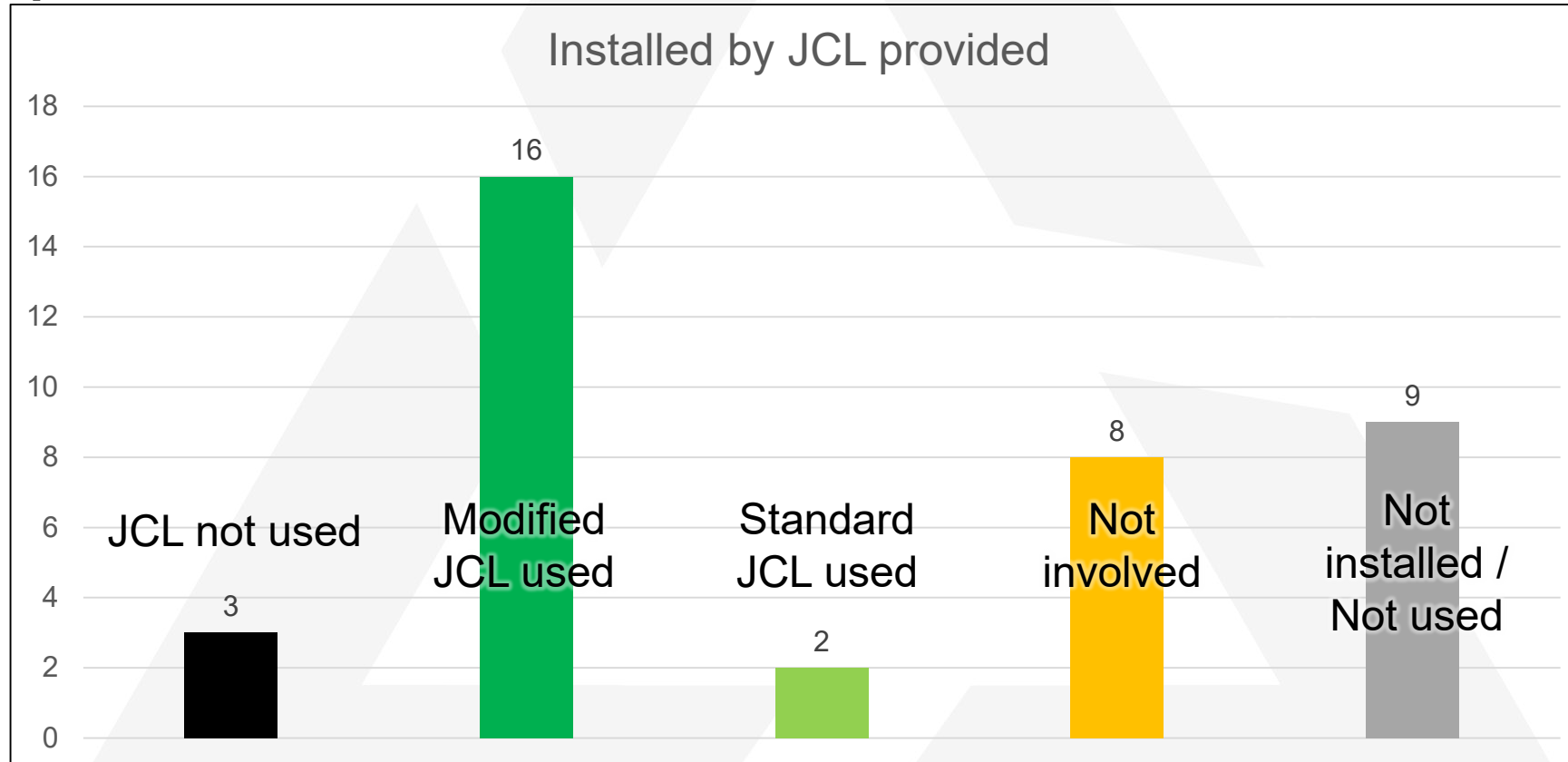
Using z/OSMF, has your productivity and efficiency improved compared to before you were using it?



If your shop has implemented z/OSMF (or tried to), please tell us whether or not you had problems with getting security configurations set up properly.



If you were involved in the security set-up process, did you use the standard JCL provided as-is, or did you make modifications to what was provided?



z/OSMF Components – Classic Interface z/OS 2.3



IBM z/OS Management Facility

[LEARN MORE](#) [NEED HELP?](#)

Welcome to z/OS

The highly secure, scalable and resilient enterprise operating system for the IBM z Systems mainframe.

z/OS USER ID

z/OS PASSWORD

☐ Use desktop interface [?](#)

LOG IN

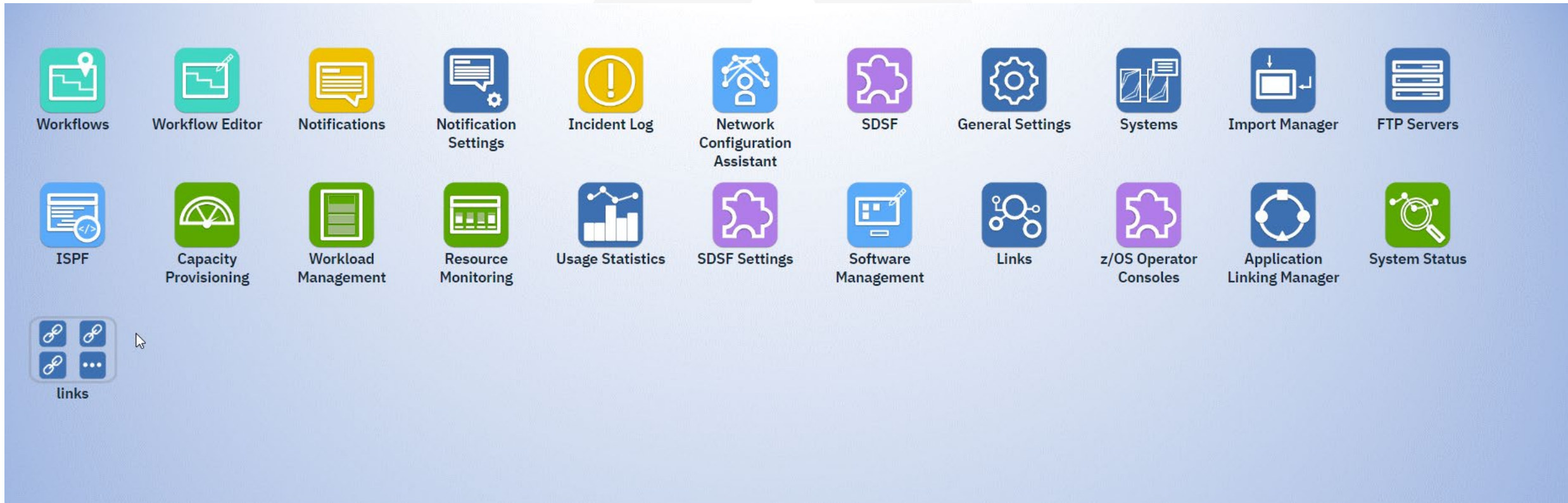
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[z/OSMF home Page](#)

[WCS Flashes and Techdocs](#)
[z/OS home Page](#)

[z/OS Knowledge Center](#)

z/OSMF Components – Desktop User Interface



z/OSMF Components



Welcome x

Welcome to IBM z/OS Management Facility

IBM® z/OS® Management Facility (z/OSMF) provides a framework for managing various aspects of a z/OS system through a Web browser interface. By streamlining some traditional tasks and automating others, z/OSMF can help to simplify some areas of z/OS system management.

To learn more about z/OSMF, visit the links in the Learn More section.

To start managing your z/OS systems, select a task from the navigation area.

Learn More:

[What's New](#)

[z/OSMF tasks at a glance](#)

[Getting started with z/OSMF](#)

- Welcome
- Notifications
- Workflow Editor
- Workflows
- ▶ Configuration
- ▶ Consoles
- ▶ Jobs and Resources
- ▶ Links
- ▶ Performance
- ▶ Problem Determination
- ▶ Software
- ▶ z/OS Classic Interfaces
- ▶ z/OSMF Administration
- ▶ z/OSMF Settings

Refresh

z/OSMF Components

Core Functions	Categories	Plug-ins	Menu / Sub-Menu <u>Items</u> (tasks)
•			Welcome
•			Notifications
•			Workflow Editor
•			Workflows
	•	•	Cloud Provisioning
			Marketplace
			Marketplace Administration
			Resource Management
			Software Services
	•		Configuration
		•	Network Configuration Assistant
	•		Consoles
			z/OS Operator Consoles
	•		Jobs & Resources
			SDSF

Core functions are those tasks which are always enabled when you initially configure the product. They are installed and can run without the need for the additional plug-ins. When the started tasks are brought up, a base configuration of z/OSMF contains only these functions. Some core functions are the Workflows task, the Resource Management task, and the Usage Statistics task.

Categories are collections of tasks and/or plug-ins with shared characteristics. An example of a category is the Performance category which contains the Capacity Provisioning, Resource Monitoring, and Workload Management plug-ins along with the System Status task.

Plug-ins are collections of one or more system management tasks that add significant functionality to z/OSMF and require additional steps to configure and deploy. Plug-ins require the creation of security profiles for the tasks that are associated with them. Examples of plug-ins are the Network Configuration Assistant, Cloud Provisioning, and the Incident Log.

z/OSMF Components

Core Functions	Categories	Plug-ins	Menu / Sub-Menu <u>Items</u> (tasks)
•	•		Links
		•	<u>Shopz</u>
		•	Support for z/OS
		•	WSC Flashes & Techdocs
		•	Z Systems
		•	z/OS Basic Information Center
		•	z/OS Home Page
		•	z/OS Internet Library
	•		Performance
		•	Capacity Provisioning
		•	Resource Monitoring
			System Status
	⇕	•	Workload Management
	•		Problem Determination
		•	Incident Log
	•		Software
		•	Software Management

z/OSMF Components

Core Functions	Categories	Plug-ins	Menu / Sub-Menu <u>Items</u> (tasks)
	•		<u>Sysplex</u>
		•	<u>Sysplex Management</u>
	•		z/OS Classic Interfaces
		•	ISPF
	•		z/OSMF Administration
•			Application Linking Manager
•			Import Manager
•			Links
•			Usage Statistics
	•		z/OSMF Settings
•			FTP Settings
•			General Settings
•			Notification Settings
			SDSF Settings
•			System

z/OSMF - Security:

- z/OSMF uses your **Enterprise Security Management** (e.g., RACF, CA ACF2, CA Top Secret) product for **user authentication and authorization**.
- The z/OSMF SAF-based authorization support brings tighter integration with z/OS SAF-based authorization with the introduction of the resource class ZMFAPLA for z/OSMF task-based resources.
- All z/OSMF tasks and links are associated with resource names and resource class profiles under this resource class, and SAF groups are used to represent Roles.
- SAF-based authorization also allows for custom roles via creation of SAF groups at your discretion.

z/OSMF Lite configuration

- What's "z/OSMF Lite configuration"
- "z/OSMF Lite configuration" provides a new approach of z/OSMF configuration which allows user to bring up a minimum z/OSMF as quick as possible and then configure only for z/OSMF services that user require.
- To achieve the goal, z/OSMF Configuration Guide and security sample jobs are both restructured
 - A minimum z/OSMF is defined and referred as z/OSMF nucleus.
 - IZUNUSEC sample job is provided for security configuration of z/OSMF nucleus.
 - Typically, the z/OSMF nucleus can be setup and bring up in 90 minutes*.
 - About 20 z/OSMF services are identified and can be added on top of z/OSMF nucleus per user's need.
 - Setup complexity of each z/OSMF service is provided to help you determine which service to setup first.
 - Dependency list is clearly documented in each z/OSMF service's chapter
 - Configuration required by z/OSMF REST services are also documented in the same structure with plugins in z/OSMF Configuration Guide.
 - Advanced configuration are consolidated in the later chapter so that user can focus on common configuration and bring z/OSMF up quickly.

Step 1: Run job IZUNUSEC to create the z/OSMF security authorizations

The security job IZUNUSEC contains a minimal set of RACF® commands for creating security profiles for the z/OSMF nucleus. The profiles are used to protect the resources that are used by the z/OSMF server, and to grant users access to the z/OSMF core functions. IZUNUSEC is a simplified version of the sample job IZUSEC, which is intended for a full installation of z/OSMF (the nucleus, plus core services).

About this step

It is strongly recommended that your security administrator review the contents of the job before running it, and make any changes that are needed to be consistent with your installation's security policies.

4. Connect your user ID to IZUADMIN group. For a system with RACF as the external security manager, you can use the following command:

```
CONNECT userid GROUP(IZUADMIN)
```

Where *userid* is your user ID.

Tip: Job IZUAUTH in SYS1.SAMPLIB includes sample RACF commands for connecting users to the various groups that you might use for z/OSMF: Capacity Provisioning groups (CPOCTRL and CPOQUERY), Workload Management group (WLMGRP), and the z/OSMF user group (IZUUSER) and administrator group (IZUADMIN). To use this job, make a copy of it, then uncomment the commands that you want to use and submit the job.

The security job IZUNUSEC also contains sample RACF commands for defining the z/OSMF started procedures to the STARTED class. [Figure 5 on page 24](#) shows the commands that are provided in the job.

```
/* Define the STARTED profiles for the z/OSMF server *  
RDEFINE STARTED IZUSVR1.* UACC(NONE) STDATA(USER(IZUSVR) +  
GROUP(IZUADMIN) PRIVILEGED(NO) TRUSTED(NO) TRACE(YES))  
RDEFINE STARTED IZUANG1.* UACC(NONE) STDATA(USER(IZUSVR) +  
GROUP(IZUADMIN) PRIVILEGED(NO) TRUSTED(NO) TRACE(YES))
```

Table 5. Common errors when you run job IZUNUSEC to create security

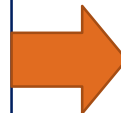
Symptom	Cause	Resolution
Message IKJ56702I: INVALID data is issued	The job is submitted more than once.	You can ignore this message.
Job fails with an authorization error.	Your user ID lacks superuser authority.	Contact your security admin to run IZUNUSEC. If you are using RACF®, select a user ID with SPECIAL attribute, which can issue all RACF® commands.
Job fails with an authorization error.	Your installation uses the RACF PROTECT-ALL option.	<p>If your installation uses PROTECT-ALL, you must define a CEA.* data set profile to RACF and permit CEA and the z/OSMF installer user ID. For example:</p> <pre> ADDSD 'CEA.*' UACC(NONE) PERMIT 'CEA.*' ID(CEA) ACCESS(ALTER) PERMIT 'CEA.*' ID(USER-ID) ACCESS(ALTER) </pre>
ADDGROUP and ADDUSER commands fail.	The automatic GID and UID assignment is required.	Define SHARED.IDS and BPX.NEXT.USER profiles to enable the use of AUTOUID and AUTOGID.

z/OSMF Lite configuration

- What's "z/OSMF Lite configuration"

Previous z/OSMF configuration

z/OSMF Core	z/OSMF Optional Services
Liberty Profile	Capacity Provisioning
Core Navigation	Network Configuration Assistant
Online Help	Incident Log
Notification	ISPF
Notification settings	Resource Monitoring
App linking	Software Management
Import Manager	Sysplex Management
Links	Workload Management
FTP Servers	zERT
Usage Statistics	Cloud Provisioning
Systems	z/OS Operator Consoles
Workflow Editor	
API Discovery Swagger	
REST Job API	
REST File API	
REST TSO API	
Workflows	



z/OSMF Lite configuration

z/OSMF Nucleus	z/OSMF Core Services	z/OSMF Optional Services
Liberty Profile	Notification	Capacity Provisioning
Core Navigation	Settings	Network Configuration Assistant
Online Help	Administration Tasks	Incident Log
	Workflow Editor	ISPF
	Swagger support for REST APIs	Resource Monitoring
	REST Job API	Software Management
	REST File API	Sysplex Management
	REST TSO API	Workload Management
	Workflows	zERT
		Cloud Provisioning
		z/OS Operator Consoles

z/OSMF Lite configuration

- Benefits of z/OSMF Lite configuration

	The old configuration	z/OSMF Lite configuration
# of security resources required for a minimum z/OSMF	57	19
# of services in the minimum z/OSMF	17	3
# of pages' guide for setup a minimum z/OSMF	36	22
Setup guide for z/OSMF REST services	Distributed and not clear	Clearly organized by each service
Summary of setup complexity by service	No	Yes
Summary of dependency list by service	No	Yes

NEW Security Configuration Assistant task

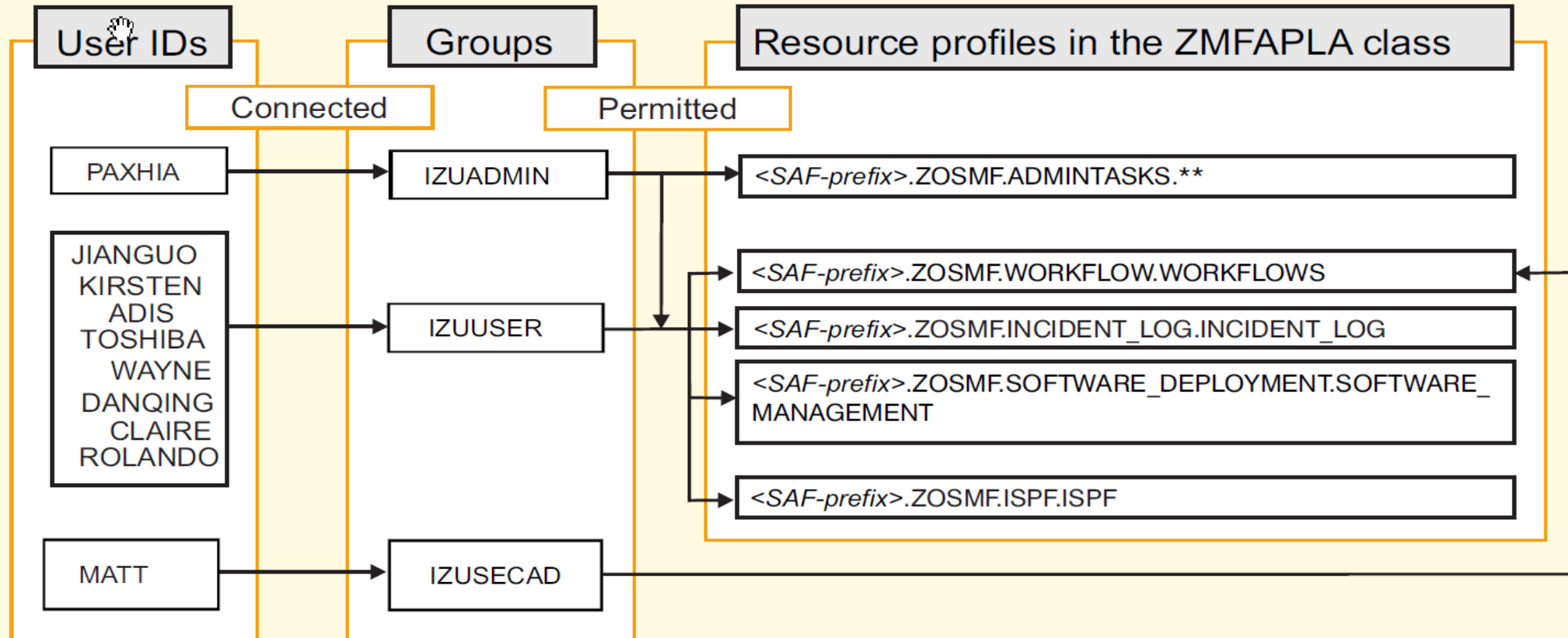
- What's Security Configuration Assistant

Security Configuration Assistant task is built for simplifying the user experience of security configuration and validation. It starts with help z/OSMF security configuration by providing

- Automatic validation of security configuration by user
 - Graphic views for validation result
 - Filter by validation result, service enablement status, etc.
 - Description for each security requirement
 - Support both RACF and non-RACF security products
- Security Configuration Assistant can be used in the following scenarios
 - Security planning for z/OSMF
 - Validation of z/OSMF security configuration
 - Trouble shooting for function failures

z/OSMF – From a Security Perspective

SAF authorizations in z/OSMF (group assignments)



z/OSMF Security IZUPRMxx – SYS1.PARMLIB

```
RESTAPI_FILE ACCT(IZUACCT) REGION(32768) PROC(IZUFPROC)
COMMON_TSO ACCT(IZUACCT) REGION(50000) PROC(IZUFPROC)
SAF_PREFIX('IZUDFLT')
CLOUD_SAF_PREFIX('IYU')
SEC_GROUPS USER(IZUUSER),ADMIN(IZUADMIN),SECADMIN(IZUSECAD)
SERVER_PROC('IZUSVR1')
ANGEL_PROC('IZUANG1')
AUTOSTART_GROUP('IZUDFLT')
UNAUTH_USER(IZUGUEST)
CLOUD_SEC_ADMIN(xxxxxxx)
```

z/OSMF Security IZUPRMxx – SYS1.PARMLIB

```
PLUGINS( CAPACITY_PROV,  
          COMMSERVER_CFG,  
          INCIDENT_LOG,  
          ISPF,  
          RESOURCE_MON,  
          SOFTWARE_MGMT,  
          SYSPLEX_MGMT,  
          WORKLOAD_MGMT,  
          ZERT_ANALYZER)
```

NEW Security Configuration Assistant task

- Security Configuration Assistant – Graphic view to display automatic validation result

Validation is done per user

Validation can be done against

- All z/OSMF security configuration
- Selected services
- One specific security requirement

Align with z/OSMF Lite configuration

Overview of validation result

Validation result by service

Validation result by specific requirement

Description is included for each security requirement

Security Configuration Assistant

Validate for user ID: debug1 Validate all

Security Configuration Assistant | Nucleus | Services 31 | Advanced Configuration 24

Filters Show enabled services only

Passed Failed Unknown

z/OSMF Sysplex Management | Passed 23 | Automated Checks Failed 3 | Unknown 0 | Manual Checks 9

z/OSMF Settings | Passed 7 | Automated Checks Failed 1 | Unknown 0 | Manual Checks 0

z/OSMF Notifications | Passed 3 | Automated Checks Failed 1 | Unknown 0 | Manual Checks 0

Resources for z/OSMF Notifications	Description	Class	Who needs the access	Required Access	Validated User ID	Validation Result	Action
IZUP03SF.ZOSMF.NOTIFICATION.SETTINGS	Allows the user to view the Notification Settings task.	ZMFAPLA	IZUUSER IZUADMIN	READ	debug1	Passed	
IZUP03SF.ZOSMF.NOTIFICATION.SETTINGS.ADMIN	Allows the user to modify the notification settings.	ZMFAPLA	IZUADMIN	READ	debug1	Passed	
IZUP03SF.ZOSMF.NOTIFICATION.MODIFY	Allows the user to send a notification.	ZMFAPLA	IZUUSER IZUADMIN	READ	debug1	Passed	
IRR.RUSERMAP	Allows notification settings task to get the user's email address configured to RACF.	FACILITY	IZUUSER IZUADMIN	READ	debug1	Failed	

NEW Security Configuration Assistant task

- Security Configuration Assistant – Manual checks

The screenshot displays the Security Configuration Assistant interface. At the top, there's a header bar with the title "Security Configuration Assistant" and user information "debug1". Below the header, there's a navigation bar with tabs: "Security Configuration Assistant", "Nucleus", "Services 31", and "Advanced Configuration 24". A "Filters" button is on the right. The main content area shows a list of services. The "TSO/E Address Space Services" service is expanded, showing a table of resources. The table has columns: "Resources for TSO/E Address Space Services", "Description", "Class", "Who needs the access", and "Required Access". The resources listed are "<account>", "<proc>", and "CEA.CEATSO.FLOW.<systemname>". The first two resources are circled in red. The table also shows automated check results: 2 passed, 0 failed, and 0 unknown. Manual checks show 3 items.

Resources for TSO/E Address Space Services	Description	Class	Who needs the access	Required Access
<account>	Allows the user to use TSO account.	ACCTNUM	<User of the Service>	READ
<proc>	Allows the user to use TSO proc.	TSOPROC	<User of the Service>	READ
CEA.CEATSO.FLOW.<systemname>	Allows the user to use TSO/E address space services remote support.	SERVAUTH	<User of the Service>	READ

NEW Security Configuration Assistant task

- Security Configuration Assistant – Filter support

Security Configuration Assistant

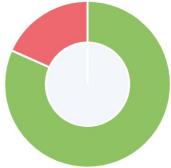
Validate for user ID: debug1 Validate all

Security Configuration Assistant Nucleus Services **31** Advanced Configuration **24**

debug1 help

Filters Show enabled services only

Passed Failed Unknown



☐ > z/OSMF Sysplex Management

Passed	Automated Checks	Unknown	Manual Checks	
23	Failed 3	0	9	

☐ > z/OSMF Settings

Passed	Automated Checks	Unknown	Manual Checks	
7	Failed 1	0	0	

☐ v z/OSMF Notifications

Automated

Resources for z/OSMF Notifications	Description	Class	Who needs the access	Required Access	Validated User ID	Validation Result	Action
IZUP03SF.ZOSMF.NOTIFICATION.SETTINGS	Allows the user to view the Notification Settings task.	ZMFAPLA	IZUUSER IZUADMIN	READ	debug1	Passed	
IZUP03SF.ZOSMF.NOTIFICATION.SETTINGS.ADMIN	Allows the user to modify the notification settings.	ZMFAPLA	IZUADMIN	READ	debug1	Passed	
IZUP03SF.ZOSMF.NOTIFICATION.MODIFY	Allows the user to send a notification.	ZMFAPLA	IZUUSER IZUADMIN	READ	debug1	Passed	
IRR.RUSERMAP	Allows notification settings task to get the user's email address configured to RACF.	FACILITY	IZUUSER IZUADMIN	READ	debug1	Failed	

Filters ▼

☐ Failed

☐ Unknown

☐ Manual

NEW Security Configuration Assistant task

- Security Configuration Assistant – Dependencies are included

The screenshot displays the Security Configuration Assistant interface. At the top, there's a header bar with the title "Security Configuration Assistant" and a "debug1" button. Below the header, there's a search bar with "debug1" entered and a "Validate all" button. The main content area shows a list of services with their validation status. The "z/OS Operator Consoles" service is expanded, showing a table of resources for z/OS Operator Consoles. The table has columns: Resources for z/OS Operator Consoles, Description, Class, Who needs the access, Required Access, Validated User ID, Validation Result, and Action. The resources listed are CONSOLE, IZUP03SF.ZOSMF.CONSOLES.ZOSOPER, IZUP03SF.IzuManagementFacilityRestConsoles.izuUsers, and SYSPLEX.OPERLOG. All resources show a "Passed" validation result. Below this, there's another table for "Resources for TSO/E Address Space Services" with resources IZUACCT, IZUFPROC, CEA.CEATSO.*, and CEA.CEATSO.FLOW.*. All these resources also show a "Passed" validation result. A red circle highlights the "Resources for TSO/E Address Space Services" table.

Resources for z/OS Operator Consoles	Description	Class	Who needs the access	Required Access	Validated User ID	Validation Result	Action
CONSOLE	Allows the user to create an EMCS console through TSO Console command.	TSOAUTH	<User of the Service>	READ	debug1	Passed	⌂
IZUP03SF.ZOSMF.CONSOLES.ZOSOPER	Allows the user to view and access the z/OS Operator Consoles task in the z/OSMF navigation tree.	ZMFAPLA	IZUUSER IZUADMIN	READ	debug1	Passed	⌂
IZUP03SF.IzuManagementFacilityRestConsoles.izuUsers	Allows the user to connect to the z/OS Operator Consoles task.	EJBROLE	<User of the Service>	READ	debug1	Passed	⌂
SYSPLEX.OPERLOG	Allows user to retrieve OPERLOG.	LOGSTRM	<User of the Service>	READ	debug1	Passed	⌂












Resources for TSO/E Address Space Services	Description	Class	Who needs the access	Required Access	Validated User ID	Validation Result	Action
IZUACCT	Allows the user to use TSO account.	ACCTNUM	IZUUSER IZUADMIN	READ	debug1	Passed	⌂
IZUFPROC	Allows the user to use TSO proc.	TSOPROC	IZUUSER IZUADMIN	READ	debug1	Passed	⌂
CEA.CEATSO.*	Allows the user to use CEA.	SERVAUTH	<User of the Service>	READ	debug1	Passed	⌂
CEA.CEATSO.FLOW.*	Allows the user to use TSO/E address space services remote support.	SERVAUTH	<User of the Service>	READ	debug1	Passed	⌂

RACF Classes Used in Various Definitions

- ACCTNUM
- APPL
- CSFSERV
- DATASET
- DIGTCERT
- DIGTRING
- EJBROLE
- FACILITY
- JESSPOOL
- LOGSTRM
- OPERCMDS
- PROGRAM

- PTKTDATA
- RDATA LIB – for certificates
- REALM
- SERVAUTH
- SERVER
- STARTED
- SURROGAT
- TSOAUTH
- TSOPROC
- ZMFAPLA
- ZMFCLOUD
- UNIXPRIV

z/OSMF Components - SDSF

▼ Jobs		
	Active Jobs	Work with active jobs
	All Jobs	Work with jobs in any phase of processing
	Input Queue	Work with jobs on the input queue
	Output Queue	Work with jobs on the output queue
	Held Output Queue	Work with jobs on the held output queue
	Address Space Memory	Work with address space memory utilization
	Unix Processes	Work with z/OS Unix processes
▼ Sysplex		
	z/OS Health Checks	Manage z/OS Health Checks
	Systems Information	Display systems in the Sysplex
	Spool Datasets	Work with JES spool volumes
	CF Structures	Work with CF structures

SDSF

The SDSF task of z/OSMF provides key summary information about your sysplex. It also allows you to work with objects, such as jobs and data sets, check for IBM z/OS Health Checker, and issue system commands

Notice Userid with PROC that starts with IZUTSOAP – this is from z/OSMF, the other one is my TSO logon session

```
TS6779 ROCKPROC S01TCP07 TSU01323 TS6779
TS6779 ROCKPROC IZUTSOAP TSU01322 TS6779
```

z/OSMF Components – Workload Management

Workload Management

Overview

Service Definitions ×

Service Definitions

▼ Messages ✖ 1 ! 0 i 0

[Close All](#)

✖ z/OSMF could not extract the installed service definition from the z/OS Workload Manager (WLM) couple data. User "ts6779" is not authorized to access the Common Information Model (CIM) server.

IZUW772E

Aug 27, 2019, 8:26:10 PM

×

Actions ▼

Search

↔ No filter applied

Name
[Filter](#)

Description
[Filter](#)

Activity
[Filter](#)

Sysplex
[Filter](#)

Messages
[Filter](#)

```
ICH408I USER(TS6779 ) GROUP(PDUSER ) NAME(JULIE BERGH ) 503
CIMSERV CL(WBEM )
INSUFFICIENT ACCESS AUTHORITY
ACCESS INTENT(READ ) ACCESS ALLOWED(NONE )
CFZ13007w: Request UserID TS6779 doesnt have READ permission to
profile CIMSERV CL(WBEM).
```

z/OSMF Components – Problem Determination



Problem Determination

Can be used to diagnose system problems

Incident Log

Diagnose system problems, and send diagnostic data to IBM or other vendors for further diagnostics

Welcome x Incident Log x

Incident Log

▼ Messages 1 0 0

The request could not be completed. The user "ts6779" is not authorized to access the Common Information Model (CIM) server. IZUP912E Aug 27, 2019, 8:28:38 PM x

Actions ▼

0 of 0 items shown. [Clear filter](#)

Incident Type Filter	Description Filter	Date and Time (GMT) past "3 days"	Sysplex Filter	System Filter	Case or Problem Number Filter	Tracking Filter
---	---------------------------------------	--------------------------------------	-----------------------------------	----------------------------------	---	------------------------------------

```
CFZ13007W: Request UserID TS6779 doesnt have READ permission to
profile CIMSERV CL(WBEM).
ICH408I USER(TS6779 ) GROUP(PDUSER ) NAME(JULIE BERGH ) 519
CIMSERV CL(WBEM )
INSUFFICIENT ACCESS AUTHORITY
ACCESS INTENT(READ ) ACCESS ALLOWED(NONE )
```

z/OSMF Components - ISPF

z/OS Classic Interface

When this plug-in is active, you are able to access traditional ISPF applications.

ISPF

Access traditional ISPF applications

z/OSMF ISPF User

Ctrl key as Enter key takes effect immediately after pressing the OK or Apply buttons. Other settings take effect when you start (or restart) ISPF. Color selections also take effect at the next z/OSMF ISPF page refresh.

☒ Show settings dialog with every logon.
☐ Enable Ctrl key as Enter key.

Logon procedure:

Region size (kilobytes):

Account number:

User group:

Profile sharing:

Refresh

```
TSU01325 00000281 $HASP100 TS6779 ON TSOINRDR
TSU01325 00000090 $HASP373 TS6779 STARTED
TSU01325 00000281 IEF125I TS6779 - LOGGED ON - TIME=21.32.19
TSU01325 00000290 +ISPWB000 Client requested ISPF session initialization
538 00000290 Userid: TS6779 ASIDX: 00B7
```

z/OSMF – From a Security Perspective

- Sample JCL is SYS1.SAMPLIB – IZUSEC is the primary one for setting up the base configuration
 - Note RACF commands provide do not always include fields like OWNER, SUPERIOGROUP
 - This is applicable for ADDGROUP, ADDUSER, RDEFINE, CONNECT
 - Did not provide all the instances, one should review the commands before executing
 - Activates (RACLISTs) classes APPL, EJBROLE, FACILITY, SERVER, SERVAUTH, ZMFAPLA, STARTED, ACCTNUM, TSOPROC, TSOAUTH, OPERCMDS
 - Adds groups IZUADMIN, IZUUSER, IZUUNGRP
 - This corresponds to what is defined in IZUPRMxx in SYS1.PARMLIB
 - Assumes AUTOGID

z/OSMF – From a Security Perspective

- Sample JCL is SYS1.SAMPLIB – IZUSEC is the primary one for setting up the base configuration
 - Adds user IZUSVR – this will be userid for the 2 started tasks
 - DEFAULTGROUP(IZUADMIN)
 - Assumes AUTOUID
 - Adds user IZUGUST – this is unauthenticated user
 - Makes user RESTRICTED
 - This corresponds to what is defined in IZUPRMxx in SYS1.PARMLIB
 - DEFAULTGROUP(IZUUNGRP)
 - Defines the 2 started task of IZUSVR1 and IZUANG1 using the userid IZUSVR
 - Define IZUDFLT in the APPL class
 - Define z/OSMF server in the SERVER class
 - Permit IZUGUEST to IZUDFLT in APPL class

z/OSMF – From a Security Perspective

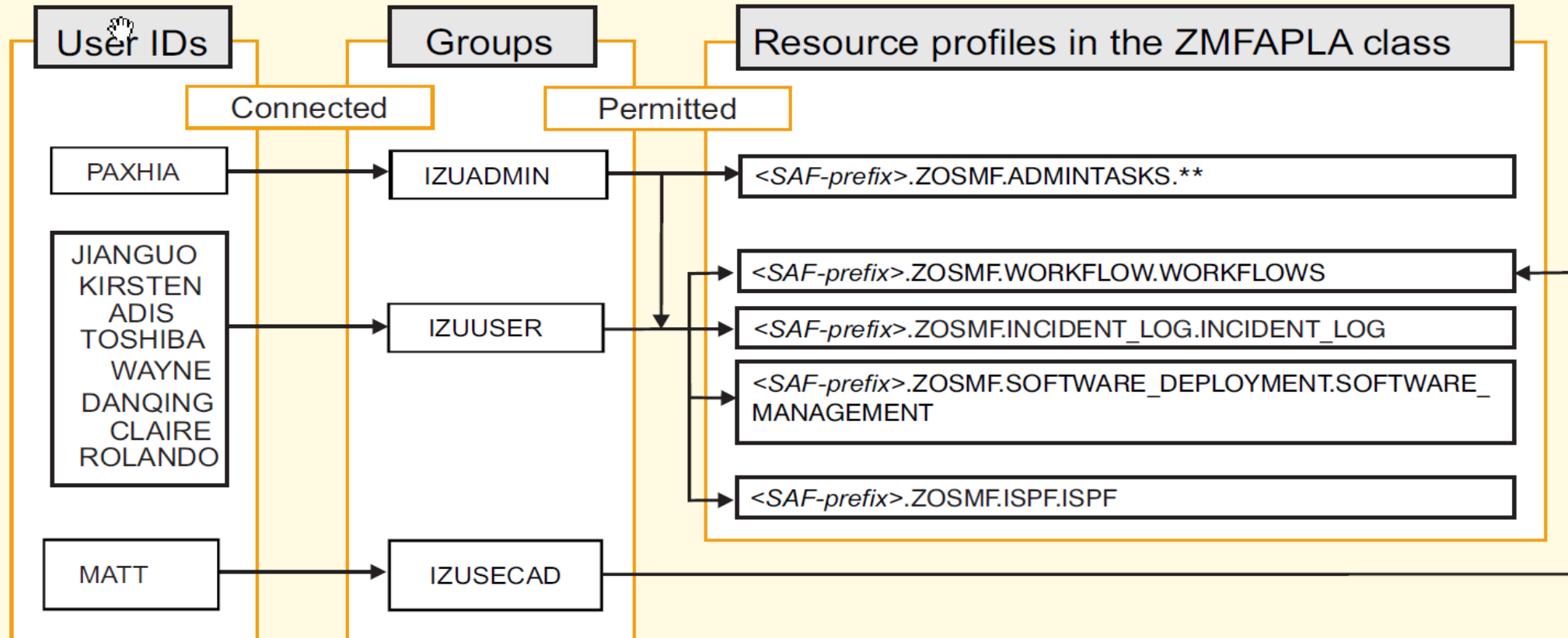
- Sample JCL is SYS1.SAMPLIB – IZUSEC is the primary one for setting up the base configuration
 - Permits IZUSVR (started task ID) to the SERVER class permissions
 - May want to review your standards and define as appropriate
 - Define various BPX, BBG, IRR profiles in the FACILITY class
 - Grant IZUSVR access to these profiles
 - Create certificates for the z/OSMF server
 - Keyring name needs to correspond to what is defined in IZUPRMxx in SYS1.PARMLIB
 - Define the CEA to the SERVAUTH class
 - Define ACCTNUM, TSOPROC
 - This corresponds to what is defined in IZUPRMxx in SYS1.PARMLIB
 - Define group IZUSECAD for Security Administrators
 - Define the ZMFAPLA profile <saf.profile>.ZOSMF
 - This corresponds to what is defined in IZUPRMxx in SYS1.PARMLIB

z/OSMF – From a Security Perspective

- Sample JCL is SYS1.SAMPLIB – IZUSEC is the primary one for setting up the base configuration
 - Various other definitions / permissions
 - Define CONSOLE in TSOAUTH
 - Permit IZUADMIN and IZUUSER access to CONSOLE in TSOAUTH
 - Various definitions in ZMFAPLA for the z/OSMF ADMINTASKS, WORKFLOWS, NOTIFICATIONS, z/SMF Settings
 - Other command for the various functions.
 - This brings up the base product,
 - This is not any definitions for the plug-ins.
 - THERE ARE APPROXIMATELY 200 COMMANDS in the IZUSEC member alone

z/OSMF – From a Security Perspective

SAF authorizations in z/OSMF (group assignments)



z/OSMF – From a Security Perspective

MENU ITEM	MENU - SUB-ITEM (TASK)	CORE FUNCTION	PLUG-IN	RACF Profiles – For the most part ZMFAPLA class
Welcome		YES		
Notifications	I ≡	YES		Saf-prefix ZOSMF NOTIFICATION Saf-prefix ZOSMF NOTIFICATION MODIFY Saf-prefix ZOSMF NOTIFICATION SETTINGS Saf-prefix ZOSMF NOTIFICATION SETTINGS ADMIN
Workflow Editor		YES		Saf-prefix ZOSMF WORKFLOW Saf-prefix ZOSMF WORKFLOW ADMIN Saf-prefix ZOSMF WORKFLOW EDITOR
Workflows		YES		Saf-prefix ZOSMF WORKFLOW WORKFLOWS
Cloud Provisioning			YES	Saf-prefix ZOSMF PROVISIONING RESOURCE MANAGEMENT Saf-prefix ZOSMF PROVISIONING RESOURCE MANAGEMENT Saf-prefix ZOSMF PROVISIONING RESOURCE POOL WLM Saf-prefix ZOSMF PROVISIONING RESOURCE POOL NETWORK Saf-prefix ZOSMF TEMPLATE APPROVERS Saf-prefix ZOSMF SECURITY ADMIN
	Marketplace			
	Marketplace Administration			
	Resource Management			Saf-prefix ZOSMF PROVISIONING RESOURCE MANAGEMENT
	Software Services			Saf-prefix ZOSMF PROVISIONING SOFTWARE SERVICES

z/OSMF – From a Security Perspective

MENU ITEM	MENU - SUB-ITEM (TASK)	CORE FUNCTION	PLUG-IN	RACF Profiles – For the most part ZMFAPLA class
Configuration				Saf-prefix.ZOSMF.CONFIGURATION_ASSISTANT
	Network Configuration Assistant		YES – plug-in name COMMSERVER_CFG	Saf-prefix.ZOSMF.CONFIGURATION_ASSISTANT.CONFIGURATION_ASSISTANT
Consoles				
	z/OS Operator Consoles			Saf-prefix.ZOSMF.CONSOLES.ZOSOPER
Jobs and Resources				
	SDSF			See SDSF section in administration tasks for details
Links		YES		Saf-prefix.ZOSMF.ADMINTASKS.LINK.linkname
	Shopz			Saf-prefix.ZOSMF.LINK.SHOPZSERIES
	Support for z/OS		+	Saf-prefix.ZOSMF.LINK.SUPPORT_FOR_Z_OS
	WSC Flashes & Techdocs			Saf-prefix.ZOSMF.LINK.WAS_FLASHES_TECHDOCS
	z Systems			Saf-prefix.ZOSMF.LINK.SYSTEM_Z_REDBOOKS
	z/OS Basics Information Center			Saf-prefix.ZOSMF.LINK.Z_OS_BASICS_INFORMATION_CENTER
	z/OS Home Page			Saf-prefix.ZOSMF.LINK.Z_OS_HOME_PAGE
	z/OS Internet Library			Saf-prefix.ZOSMF.LINK.Z_OS_INTERNET_LIBRARY

z/OSMF – From a Security Perspective

MENU ITEM	MENU - SUB-ITEM (TASK)	CORE FUNCTION	PLUG-IN	RACF Profiles – For the most part ZMFAPLA class
Performance				
	Capacity Provisioning		<u>YES</u> – plug-in name CAPACITY_PROV	<u>Saf-prefix ZOSMF CAPACITY_PROVISIONING</u> <u>Saf-prefix ZOSMF CAPACITY_PROVISIONING.CAPACITY_PROVISIONING.EDIT</u> <u>Saf-prefix ZOSMF CAPACITY_PROVISIONING.CAPACITY_PROVISIONING.EDIT.DOMAIN</u> <u>Saf-prefix ZOSMF CAPACITY_PROVISIONING.CAPACITY_PROVISIONING.EDIT.POLICY</u> <u>Saf-prefix ZOSMF CAPACITY_PROVISIONING.CAPACITY_PROVISIONING.VIEW</u>
	Resource Monitoring	I≡	YES – plug-in name RESOURCE_MON	<u>Saf-prefix ZOSMF RESOURCE_MONITORING</u> <u>Saf-prefix ZOSMF RESOURCE_MONITORING.OVERVIEW</u> <u>Saf-prefix ZOSMF RESOURCE_MONITORING.PERFDESKS</u>
	System Status			
	Workload Management		YES – plug-in name WORKLOAD_MGMT	<u>Saf-prefix ZOSMF WORKLOAD_MANAGEMENT</u> <u>Saf-prefix ZOSMF WORKLOAD_MANAGEMENT.WORKLOAD_MANAGEMENT.ENWRP</u> <u>Saf-prefix ZOSMF WORKLOAD_MANAGEMENT.WORKLOAD_MANAGEMENT.INSTALL</u> <u>Saf-prefix ZOSMF WORKLOAD_MANAGEMENT.WORKLOAD_MANAGEMENT.MODIFY</u> <u>Saf-prefix ZOSMF WORKLOAD_MANAGEMENT.WORKLOAD_MANAGEMENT.VIEW</u>

z/OSMF – From a Security Perspective

MENU ITEM	MENU - SUB-ITEM (TASK)	CORE FUNCTION	PLUG-IN	RACF Profiles – For the most part ZMFAPLA class
Problem Determination				
	Incident Log		YES – plug-in name INCIDENT_LOG	Saf-prefix.ZOSMF.INCIDENT_LOG Saf-prefix.ZOSMF.INCIDENT_LOG.INCIDENT_LOG
Software				Saf-prefix.ZOSMF.SOFTWARE_DEPLOYMENT
	Software Management		YES – plug-in name SOFTWARE_MGMT	Saf-prefix.ZOSMF.SOFTWARE_DEPLOYMENT.DATA Saf-prefix.ZOSMF.SOFTWARE_DEPLOYMENT.SOFTWARE_MAMAGEMENT Saf-prefix.ZOSMF.SOFTWARE_DEPLOYMENT.SOFTWARE_MANAGEMENT.CATEGORIES.MODIFY Saf-prefix.ZOSMF.SOFTWARE_DEPLOYMENT.SOFTWARE_MANAGEMENT.CATEGORIES.PRODUCT_INFO_FILERETRIEVE
Sysplex				Saf-prefix.ZOSMF.SYSPLEX Saf-prefix.ZOSMF.SYSPLEX.LOG Saf-prefix.ZOSMF.SYSPLEX.MODIFY
	Sysplex Management		YES – plug-in name SYSPLEX_MGMT	
z/OS Classic Interfaces				
	ISPF		YES – plug-in name ISPF	Saf-prefix.ZOSMF.ISPF.ISPF A valid account number that is defined in ACCTNUM_class A valid TSOPROC defined to your system. z/OSMF provide a default of IZUFPROC.

z/OSMF From a Security Perspective

MENU ITEM	MENU - SUB-ITEM (TASK)	CORE FUNCTION	PLUG-IN	RACF Profiles – For the most part ZMFAPLA class
z/OSMF Administration				Saf-prefix ZOSMF.ADMINTASKS Saf-prefix ZOSMF.ADMINTASKS.LOGGER Saf-prefix ZOSMF.ADMINTASKS.UI.LOG.MANAGEMENT
	Application Linking Manager	YES		Saf-prefix ZOSMF.ADMINTASKS.APPLINKING
	Import Manager	YES		Saf-prefix ZOSMF.ADMINTASKS.IMPORTMANAGER
I	Links	YES		Saf-prefix ZOSMF.ADMINTASKS.LINKTASK
	Usage Statistics	YES		Saf-prefix ZOSMF.ADMINTASKS.USAGESTATISTICS
z/OSMF Settings				Saf-prefix ZOSMF Saf-prefix ZOSMF.SETTINGS
	FTP Servers	YES		Saf-prefix ZOSMF.SETTINGS.FTP.SERVERS Saf-prefix ZOSMF.SETTINGS.FTP.SERVERS.MODIFY Saf-prefix ZOSMF.SETTINGS.FTP.SERVERS.VIEW
	General Settings	YES		Saf-prefix ZOSMF.SETTINGS.SYSTEMS Saf-prefix ZOSMF.SETTINGS.SYSTEMS.MODIFY Saf-prefix ZOSMF.SETTINGS.SYSTEMS.VIEW
	Notification Settings	YES		

z/OSMF – From a Security Perspective

Experiences:

- **Two started tasks IZUANG1 and IZUSVR1:**
 - IZUANG1 needs to start before IZUSVR1
 - the message CWWKB0056I INITIALIZATION COMPLETE FOR ANGEL will appear when IZUANG1 starts
 - IZUSVR1
 - CWWKF0011I: The server zosmfServer is ready to run a smarter planet will appear when the IZUSVR1 is active.
- **Get the basic task up and running before adding any of the other features**
- **Log on to make sure you can log on**
- **If you are activating the classes described above for the first time**, would recommend putting in a ‘**’ entry (back stop) is warning mode to catch the other errors. This is only temporary. There are other definitions that will need to be added.

z/OSMF – From a Security Perspective

Experiences:

TroubleShooting:

- Just because you get the message for the IZUSVR1 does not mean it will let you log on.
 - One possible error, the certificates are not defined correctly
 - Was the appropriate keyring put in the IZUPRMxx member in SYS1.PARMLIB?
 - IZUDFLT is the default in IZUPRMxx in SYS1.PARMLIB. This is the prefix that is prepended to the names of resource profiles.
 - In IZUPRMxx in SYS1.PARMLIB, you can define the security groups, administrators, and users for the product.
 - Key is there are parameters in IZUPRMxx in SYS1.PARMLIB that tie to RACF.

z/OSMF – From a Security Perspective

Experiences:

- The started tasks IZUANG1 and IZUSVR1 do not need UID(0), but if the USS configuration is not set up, there may be some bit settings that will need to change to make this happen.
 - Or the owner is not set up correctly for the directories and such
- SYS1.SAMPLIB has some examples
- Do NOT turn on UAUDT on IZUSVR1
- The install process creates a JCL library with a lot of the commands needed for basic set up.
- If you have ZIIP engines make sure they are enabled as z/OSMF does a ton of I/O
 - z Integrated Information Processor (zIIP) is a specialty offload engine that helps improve computing performance for a subset of mainframe workloads.

z/OSMF – From a Security Perspective

Experiences:

- Define the profiles before you activate any classes.
- If SERVAUTH is already active, may need to define more access for the ports that will be used with this product.
- As other feature / functions are used, it will require more profiles to be defined. Remember the slide about with the plug-ins and the resource definitions.
- Didn't get into all the system programmer related activities in this document.
- z/OSMF will work without the APPL class active.
- If shut off SERVER class it checks BPX.WLMSEVER in the FACILITY class and then has problems with the PROGRAM class
- If SERVER classes is active, the PROGRAM class does not need to be active.

Summary

The setup and security configuration for z/OSMF has greatly improved and been simplified over time. Fine out what improvements have been made to get z/OSMF set up and running securely under z/OS V2R3 and V2R4 so that one can take advantage of this powerful modernization tool.

User experiences will be discussed in managing setup and configuration, highlighting success and problem areas.

Contact Information

Insert contact information here.



Questions

Backup Slides

IBM z/OS Management Facility

Welcome | harjans | ?

Import Manager

Import | History | Imported Plug-ins

To add plug-ins, event types, handlers, and links in z/OSMF, specify the property file to import. [Learn more](#)

Messages: 0 (Error), 0 (Warning), 1 (Info)

Info: Plug-in "Cloud Portal" with tasks "Marketplace, Marketplace Administration" was added to z/OSMF. To control access, define SAF resource profiles in the "ZMFAPLA" class for the following SAF resources:
 "IZUDFLT.ZOSMF.IBM_CLOUDPORTAL.MARKETPLACE.CONSUMER",
 "IZUDFLT.ZOSMF.IBM_CLOUDPORTAL.MARKETPLACE.ADMIN".

Property file:

Contents of property file: /usr/lpp/zosmf/samples/cloudportal/cloudportal.properties

```
# Licensed Materials - Property of IBM
# 5610-A01, 5650-Z05
# Copyright IBM Corp. 2016
#
# Status = HSMZ20
#
# This property file is used to load the sample portal web application in z/OSMF.
#
# To load the plugin in z/OSMF, navigate to the "Import Manager"
# task under "z/OSMF Administration". Specify the path to this file and
# select "Import" to load this plugin.
#
#
#
importType=plugin

izu.externalapp.file.version=1.0
izu.externalapp.local.context.root=cloudportal
izu.externalapp.code.root=WebContent

pluginId=com.ibm.zosmf.cloudportal
pluginDefaultName=Cloud Portal
pluginDescription=The cloud portal is a sample application of how one might use the z/OSMF Cloud Provisioning
aboutPanelPath=cloudportalversion.properties
```

Cloud Provisioning

You can perform software provision for z/OS middleware. This work includes creating instances of CICS, Db2, IMS, MQ, and Websphere Application Server (WAS)

Marketplace

A sample of a software services marketplace for consumers. It can be used with Marketplace Administration as a model for developing your own consumer marketplace for software services

Marketplace Administration

A sample that offers administrative function for a software services marketplace.

Resource Management

Define resources such as the domain of the systems and the classes of users (tenants) that will participate in Cloud on z/OS

Software Services

Provision z/OS software and manage the provisioned software, including deprovisioning.

z/OSMF Components – Configuration Assistant

- Welcome
- Notifications
- Workflow Editor
- Workflows
- ▼ **Configuration**
 - **Network Configuration Assistant**
- ▶ Consoles
- ▶ Jobs and Resources
- ▶ Links
- ▶ Performance
- ▶ Problem Determination
- ▶ Software
- ▶ **z/OS Classic Interfaces**
- ▶ z/OSMF Administration
- ▶ z/OSMF Settings

Refresh

Welcome x Network Configu... x

Welcome to V2R3 Configuration Assistant for z/OS Communications Server

Use this task to create and manage configuration for z/OS Commu

☐ Manage z/OS Cloud configuration

☒ Manage TCP/IP profile and policy-based networking functions

☐ Create or transfer a new backing store

☒ Open an existing backing store

saveData

2 * Minutes to allow

Proceed

Configuration Assistant

This plug-in provides the simplified configuration and setup of TCP/IP policy-based networking functions. Important changes were made to the user experience in z/OSMF V2R3 with workflows to perform some of the tasks.

Learn more about Network Configuration Assistant:

What's New	See what is new in this release.
Getting Started	First time users can learn about Network Configuration Assistant.
Migrating to z/OSMF	Migrate backing stores from Windows to z/OSMF.
Application Setup Tasks	Workflows to guide the setup of required applications.
Tutorials	Link to tutorials.
FAQs	Link to Frequently Asked Questions.
Collect Problem Determination Data	Get assistance with gathering problem determination data.

z/OSMF Components – Operator Consoles

z/OS Operator Consoles task overview

The z/OS Operator Consoles task provides function to work with z/OS consoles. You can view system messages and enter system commands.

- Welcome
- Notifications
- Workflow Editor
- Workflows
- Configuration
- ▼ Consoles
 - **z/OS Operator Consoles**
- Jobs and Resources
- Links
- Performance
- Problem Determination
- Software
- z/OS Classic Interfaces
- z/OSMF Administration
- z/OSMF Settings

Refresh




Welcome x z/OS Operator C... x

z/OS Operator Consoles

Overview

Actions ▾

↔ No filter applied

<input type="checkbox"/>	Sysplex or System Filter	Console Name Filter	Status Filter	Console summary view
<input type="checkbox"/>	RS01	ABTS6779	 Setup Complete	
<input type="checkbox"/>	RS02	6779RS02	 Setup Required	
<input type="checkbox"/>	RSPLEXRS (Local Plex)	6779PLEX	 Setup Required	

z/OSMF Components – SDSF Desktop View

The screenshot displays the SDSF (RSPLEXRS) desktop view. The interface includes a top navigation bar with 'TSO Messages' and a 'Common Filters' section. The main content area is titled 'SDSF (RSPLEXRS)' and features an 'Overview' tab. Below the tab, there is a message count: 'Messages 0 0 1 | Help'. The 'System Activity Summary: RS01 (Local)' section shows a dropdown for 'System: RS01 (Local)' and a 'View text' link. It contains two charts: 'System Activity Percent Busy' and 'z/OS Health Checks by Exception'. The 'System Activity Percent Busy' chart shows zIIP at 0%, LPAR at 17%, and MVS/SRM at 9%. The 'z/OS Health Checks by Exception' chart shows 0 None, 4 Medium, and 0 High. Below these charts, it displays 'Spool utilization: 13%' and 'Active checks: 0 Eligible checks: 132'. A 'Refresh' button and 'Last refresh: More than 55 seconds ago' are present. The 'Jobs' section lists various job types with icons and descriptions: Active Jobs, All Jobs, Input Queue, Output Queue, and Held Output Queue. To the right of the main window, there are icons for 'Software Management' and 'SF Settings'.

System Activity Summary: RS01 (Local)

System: RS01 (Local) [View text](#)

System Activity Percent Busy	
zIIP	0%
LPAR	17%
MVS/SRM	9%

z/OS Health Checks by Exception	
None	0
Low	
Medium	4
High	0

Spool utilization: 13% Active checks: 0 Eligible checks: 132

[Refresh](#) Last refresh: More than 55 seconds ago [View icons](#)

Jobs

	Active Jobs	Work with active jobs
	All Jobs	Work with jobs in any phase of processing
	Input Queue	Work with jobs on the input queue
	Output Queue	Work with jobs on the output queue
	Held Output Queue	Work with jobs on the held output queue

z/OSMF Components - Performance

The screenshot displays the z/OSMF Performance page. On the left is a navigation menu with items: Welcome, Notifications, Workflow Editor, Workflows, Configuration, Consoles, Jobs and Resources, Links, Performance (expanded), Capacity Provisioning (selected), Resource Monitoring, System Status, Workload Management, Problem Determination, Software, z/OS Classic Interfaces, z/OSMF Administration, and z/OSMF Settings. The main content area has tabs for 'Welcome' and 'Capacity Provis...'. The 'Capacity Provisioning' tab is active, showing an 'Overview' section. The overview text states: 'z/OS Capacity Provisioning helps you manage a... organizes the allocation of On/Off Capacity on D... capacity allocation in a policy.' Below this, it says: 'Use this task to work with Capacity Provisioning. To get started, select one of the following actions.' A list of actions follows: 'View Status and Define Connections' with a link to 'Provisioning Manager' (description: 'View the status of your Provisioning Manager. Use this link to define connections to your Provisioning Manager.'), 'Manage' with links to 'Domain Configurations' (description: 'Define, modify, view, import, export, or install and activate a domain configuration.') and 'Policies' (description: 'Define, modify, view, import, export, or install and activate a provisioning policy.'), and 'Settings' with a link to 'Settings' (description: 'Set preferences for the time zone settings before you start working.').

Performance

When the appropriate plug-ins are installed, one can use this to query the status of the capacity and monitor performance of the systems in the enterprise.

Capacity Provisioning

Manage domain configurations and provisioning policies and request reports of the status of the Capacity Provisioning Manager

z/OSMF Components - Performance

- Welcome
- Notifications
- Workflow Editor
- Workflows
- ▶ Configuration
- ▶ Consoles
- ▶ Jobs and Resources
- ▶ Links
- ▼ Performance
 - Capacity Provisioning
 - **Resource Monitoring**
 - System Status
 - Workload Management
- ▶ Problem Determination
- ▶ Software
- ▶ z/OS Classic Interfaces
- ▶ z/OSMF Administration
- ▶ z/OSMF Settings

Refresh

Welcome x

Resource Monito... x

Resource Monitoring

Dashboards

Dashboards

Actions ▾

↔ No filter applied

- | <input type="checkbox"/> | Name
Filter |
|--------------------------|----------------------------|
| <input type="checkbox"/> | Common Storage Activity |
| <input type="checkbox"/> | Coupling Facility Overview |
| <input type="checkbox"/> | Execution Velocity |
| <input type="checkbox"/> | General Activity |
| <input type="checkbox"/> | Overall Image Activity |
| <input type="checkbox"/> | Performance Index |

Resource Monitoring

Monitor the performance of the z/OS, AIX, Linux and Windows systems in your enterprise

z/OSMF Components - Performance

System Status

Quickly assess the workload performance on the systems in your enterprise and define the systems to be monitored.

- Welcome
- Notifications
- Workflow Editor
- Workflows
- Configuration
- Consoles
- Jobs and Resources
- Links
- Performance
 - Capacity Provisioning
 - Resource Monitoring
 - System Status**
 - Workload Management
- Problem Determination
- Software

Welcome x

System Status x

Help

System Status

Use this page to quickly assess the performance of the workloads running on the sysplexes in your installation. You can also use this page to define the target systems for the sysplexes and AIX, Linux or Windows system complexes that you want to monitor in the Resource Monitoring task.

Resources

Actions ▾

No filter applied

	Resource Filter	System Type Filter	Connectivity Filter	Performance Index Status Filter	Related Service Definition Filter	Active WLM Policy Filter	Activ Filter
<input type="checkbox"/>	LOCALPLEX	z/OS	Error				

z/OSMF Components - Performance

- Welcome
- Notifications
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- Workflows
- Configuration
- Consoles
- Jobs and Resources
- Links
- ▼ Performance
 - Capacity Provisioning
 - Resource Monitoring
 - System Status
 - **Workload Management**
- Problem Determination
- Software
- z/OS Classic Interfaces
- z/OSMF Administration
- z/OSMF Settings

Refresh

Welcome x

Workload Manage... x

Workload Management

Overview

Use this task to manage z/OS Workload Manager (WLM) service definitions. To get started, select one of the following actions. [Learn more...](#)

Manage

[Service Definitions](#)

Define, modify, view, copy, import, export, print, or install a service definition.

[Service Policies for Sysplex](#)

Activate or view one of the service policies that is defined in the installed service definition.

[WLM Resource Pools](#)

Manage WLM Resource Pools.

[Settings](#)

Set preferences for messages, service definition history, couple data set, and sysplex. Verify the code page and time zone settings before start working.

View

[WLM Status](#)

View the status of WLM on each system in the sysplex. View details about the installed service definition and the active service policy.

Workload Management

Administer and operate WLM and manage WLM services definitions and policies.

z/OSMF Components – z/OSMF Administration

z/OSMF Administration

A z/OSMF installation has one or more users that are authorized to access z/OSMF as administrators. This administrator can perform administration tasks as needed.

Application Linking Manager

Manage the event types that allow you to link or connect z/OSMF tasks and external applications

Application Linking Manager

Manage the event types that allow you to link or connect z/OSMF tasks and external applications

Event Types

ID	Display Name	Description	Registered by	Default Handler
IBM.ZOSMF.VIEW_SYSPLEX_PERF_INDEX	View Performance Index	View the performance index of a sysplex	IBM	
IBM.ZOSMF.VIEW_ACTIVE_WLM_SERVICE	View Active Service Definition	View the active service definition	IBM	
IBM.ZOSMF.RESMGMT.OPEN_TENANT	Open Tenants Page	Open the Tenants page if the checkbox is selected in add template	IBM	
IBM.ZOSMF.VIEW_ACTIVE_WLM_SERVICE	View Service Class of Active Service Definition	View Service Class of the active service definition	IBM	
IBM.ZOSMF.WORKFLOWS.CREATE_WORKFLOW	Create a Workflow	Creates a workflow if context is provided and the workflow doesn't already exist, otherwise if context is provided and the workflow already exists this event will launch to the	Workflow	

z/OSMF Components – z/OSMF Administration

Import Manager

Import plug-ins, event types, event handlers, and links into z/OSMF

Welcome x ISPF x Import Manager x

H

Import Manager

Import History Imported Plug-ins

Import History

Actions						
No filter applied						
<input type="checkbox"/>	Property File Name Filter	Type Filter	Import Result Filter	Messages Filter	Import Path Filter	Date Filter
<input type="checkbox"/>	sdsf.properties	Plug-in	1 of 1 added	IZUG509I IZUG509I: Plug-in "IBM SDSF" with t "SDSF, SDSF Settings" was added to To control access, define SAF resour in the "ZMFAPLA" class for the follow resources: "IZUDFLT.ZOSMF.IBMSDSF.SDSF.J "IZUDFLT.ZOSMF.IBMSDSF.SDSF.S	/usr/lpp/sdsf/zosmf/sdsf.properties	Sep

z/OSMF Components – z/OSMF Administration

Links

Add links to external resources that might be useful for managing your z/OS systems.

[Help](#)

Links

You can customize z/OSMF with links to other sites for system management tools and information. Use this page to manage your links and make them accessible to z/OSMF users and guests.

Actions ▾						
<input type="text"/> Search						
↔ No filter applied						
<input type="checkbox"/>	Name Filter	URL Filter	SAF Resource Name Filter	Category Filter	Open Link in Filter	Authorizations Filter
<input type="checkbox"/>	Shopz	http://www.ibm.com/software/shopz	IZUDFLT.ZOSMF.LINK.SHOPZ	Links	Browser Window/Tab	z/OSMF Authenticated Guest,z/OSMF Guest,SAF Authorized User
<input type="checkbox"/>	Support for z/OS	https://www.ibm.com/support/entry/	IZUDFLT.ZOSMF.LINK.SUPPORT_FOR_Z	Links	Browser Window/Tab	z/OSMF Authenticated Guest,z/OSMF Guest,SAF Authorized User
<input type="checkbox"/>	WSC Flashes & Techdocs	http://www.ibm.com/support/techdocs	IZUDFLT.ZOSMF.LINK.WSC_FLASHES_	Links	Browser Window/Tab	z/OSMF Authenticated Guest,z/OSMF Guest,SAF Authorized User
<input type="checkbox"/>	z Systems	http://www.redbooks.ibm.com/portals	IZUDFLT.ZOSMF.LINK.Z_SYSTEMS	Links	Browser Window/Tab	z/OSMF Authenticated Guest,z/OSMF Guest,SAF Authorized User
<input type="checkbox"/>	z/OS Basics Information Center	http://publib.boulder.ibm.com/infoc	IZUDFLT.ZOSMF.LINK.Z_OS_BASICS_IN	Links	Browser Window/Tab	z/OSMF Authenticated Guest,z/OSMF Guest,SAF Authorized User

z/OSMF Components – z/OSMF Administration

Usage Statistics

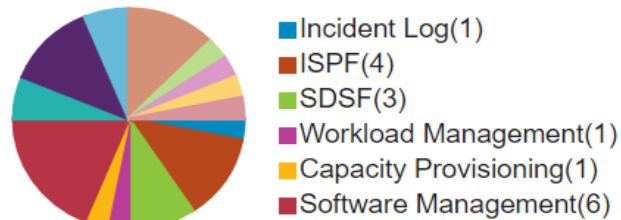
A z/OSMF administrator can use this task to see which users are logged in to z/OSMF, perhaps as a precautionary check before making a critical update to z/OSMF

Welcome x ISPF x Usage Statistics x

Usage Statistics

View usage for: Tasks

Summary of the task usage by requests:



Total 32

Start of Data Collection (GMT):

Aug 25, 2019 18:22:15 PM

Current Active Users (1 of 3):

33%

Actions Table view: Tree Search

No filter applied

	User ID Filter	Login Status Filter	Authentication Type Filter	LTPA2 Token Expiration (GMT) Filter	Last Access (GMT) Filter	Number of Requests Filter	% of Total Requests Filter	
<input type="checkbox"/>	ts6779	Active	LTPA2 token	Aug 28, 2019 05:01:40 AM	Aug 28, 2019 01:37:05 AM	45	14.71%	

z/OSMF Components - Software



Software

This can be used to manage z/OS software inventory, deploy SMPE/E packaged and installed software.

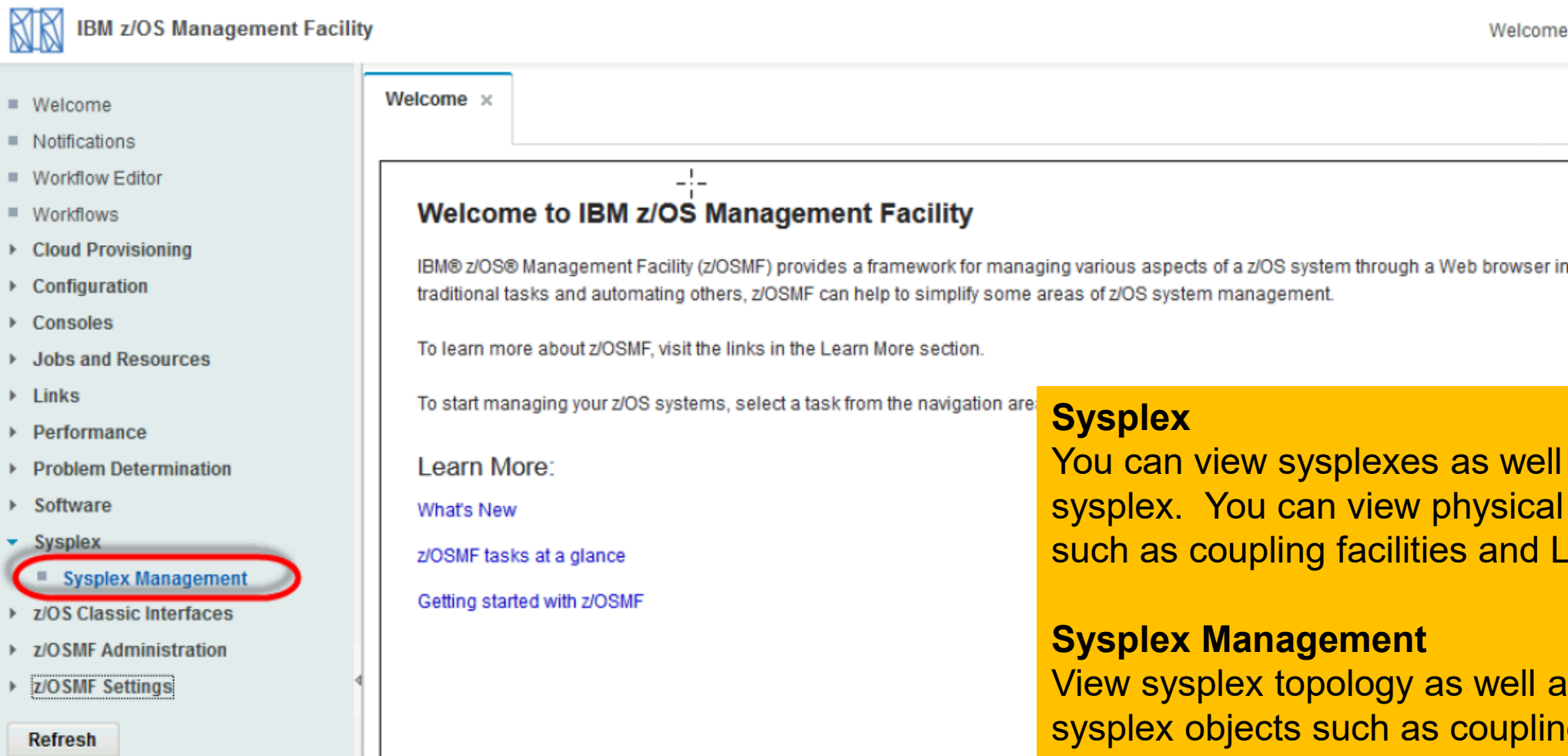
Software Management

Manage z/OS software inventory, deploy SMP/E packaged and installed software, and generate reports about your software.

The screenshot shows the z/OSMF user interface. On the left is a navigation pane with a tree structure. The main content area has a tabbed interface with 'Welcome' and 'Software Manage...' tabs. Below the tabs, the 'Software Management' section is active, displaying a table of tasks.

Software Management	
Use this task to view details about your software inventory, including related products, features, FMIDs, data sets, deployments, and SYSMODs. Learn more...	
Software Instances	Define your software to z/OSMF; deploy software; generate reports about your software.
Portable Software Instances	Define your portable software instances to z/OSMF.
Products	View a consolidated list of the products included in each software instance.
Deployments	Deploy a software instance, and manage existing deployments.
Categories	Create new categories for your software instances and deployments, and manage existing categories.
Settings	Select the time zone in which to display date and time data. Indicate whether to display or suppress information messages.

z/OSMF Components - Sysplex



IBM z/OS Management Facility

Welcome

- Welcome
- Notifications
- Workflow Editor
- Workflows
- Cloud Provisioning
- Configuration
- Consoles
- Jobs and Resources
- Links
- Performance
- Problem Determination
- Software
- ▾ Sysplex
 - **Sysplex Management**
- z/OS Classic Interfaces
- z/OSMF Administration
- z/OSMF Settings

Refresh

Welcome x

Welcome to IBM z/OS Management Facility

IBM® z/OS® Management Facility (z/OSMF) provides a framework for managing various aspects of a z/OS system through a Web browser in traditional tasks and automating others, z/OSMF can help to simplify some areas of z/OS system management.

To learn more about z/OSMF, visit the links in the Learn More section.

To start managing your z/OS systems, select a task from the navigation area.

Learn More:

- [What's New](#)
- [z/OSMF tasks at a glance](#)
- [Getting started with z/OSMF](#)

Sysplex

You can view sysplexes as well as systems in a sysplex. You can view physical configurations, such as coupling facilities and LPARs.

Sysplex Management

View sysplex topology as well as details for sysplex objects such as coupling facilities, coupling facility structures, and couple data sets

z/OSMF – From a Security Perspective

RACF Classes that z/OSMF requires:

Class	Purpose	RACF commands for activating
APPL	<p>Controls access to the z/OSMF application domain. This access is required by:</p> <ul style="list-style-type: none">• Security group for z/OSMF administrators (IZUADMIN, by default)• Security group for z/OSMF unauthenticated guest users (IZUGUEST, by default)• Security group for the z/OSMF users (IZUUSER, by default)• Security group for the z/OS security administrator (IZUSECAD, by default) <p>If there is no matching profile in the APPL class, RACF allows the user to access the application.</p>	<pre>SETROPTS CLASSACT (APPL) SETROPTS RACLIST (APPL) GENERIC (APPL)</pre>
EJBROLE	<p>Controls the user's ability to connect to the z/OSMF core functions and tasks. z/OSMF defines a resource name for each core function and task.</p>	<pre>SETROPTS CLASSACT (EJBROLE) SETROPTS RACLIST (EJBROLE) GENERIC (EJBROLE)</pre>
FACILITY	<p>Controls the user's access to profiles when the user performs an action. This access is required by the z/OSMF started task user ID (IZUSVR, by default) Examples include the profiles that are used to control privileges in the z/OS UNIX environment.</p>	<pre>SETROPTS CLASSACT (FACILITY) SETROPTS RACLIST (FACILITY) GENERIC (FACILITY)</pre>

z/OSMF – From a Security Perspective

RACF Classes that z/OSMF requires:

Class	Purpose	RACF commands for activating
JESSPOOL	Allows the user to retrieve messages from the system log (SYSLOG).	SETROPTS CLASSACT (JESSPOOL) SETROPTS RACLIST (JESSPOOL)
LOGSTRM	Allows the user to retrieve messages from the operations log (OPERLOG).	SETROPTS CLASSACT (LOGSTRM) SETROPTS RACLIST (LOGSTRM)
OPERCMD5	Allows the user to create an EMCS console by using the z/OS Operator Consoles task.	SETROPTS CLASSACT (OPERCMD5) SETROPTS RACLIST (OPERCMD5)
SERVAUTH	Controls the user's ability to use CEA TSO/E address space services. In z/OSMF, this access is required by: <ul style="list-style-type: none">• z/OSMF started task user ID (IZUSVR, by default)• Callers of the z/OS data set and file REST interface services.• Users of the ISPF task.	SETROPTS CLASSACT (SERVAUTH) SETROPTS RACLIST (SERVAUTH) GENERIC (SERVAUTH)
SERVER	Allows the z/OSMF started task user ID to request services from z/OS system components, such as the system authorization facility (SAF), workload management (WLM), and SVCDUMP services.	SETROPTS CLASSACT (SERVER) SETROPTS RACLIST (SERVER) GENERIC (SERVER)

z/OSMF – From a Security Perspective

RACF Classes that z/OSMF requires:

Class	Purpose	RACF commands for activating
STARTED	Assigns an identity to the z/OSMF started task during the processing of an MVS START command. By default, the started task runs under the IZUSVR user ID.	SETROPTS CLASSACT (STARTED) SETROPTS RACLIST (STARTED) GENERIC (STARTED)
TSOAUTH	Allows the user to create an EMCS console by using the z/OS Operator Consoles task.	SETROPTS CLASSACT (TSOAUTH) SETROPTS RACLIST (TSOAUTH)
TSOPROC	Controls access to the procedure for the z/OSMF REST interfaces	SETROPTS CLASSACT (TSOPROC)

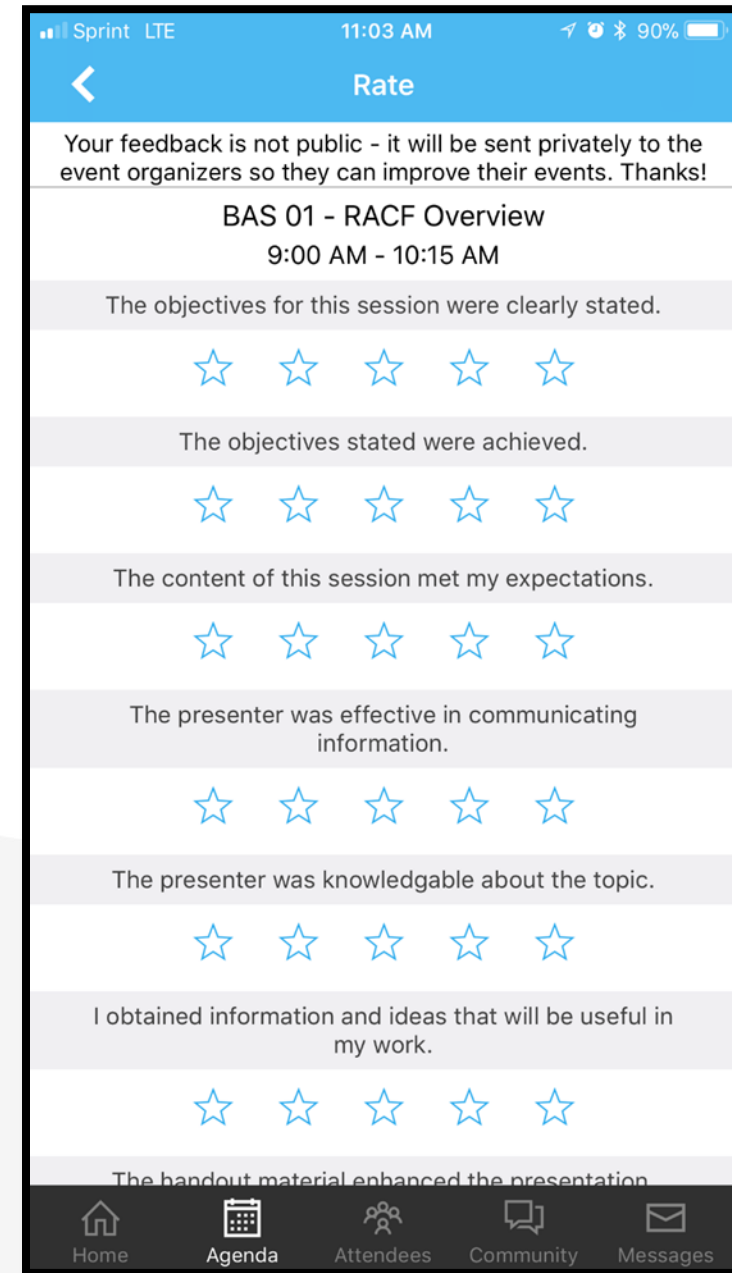
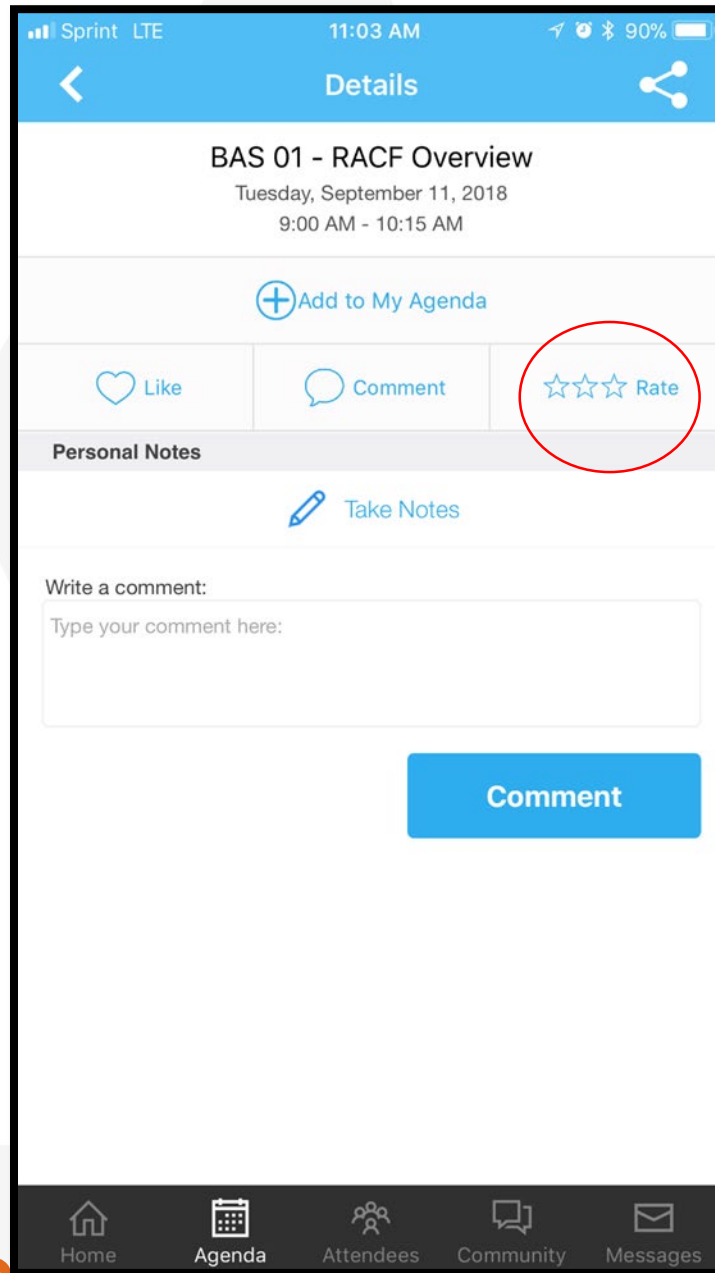
z/OSMF – From a Security Perspective

RACF Classes that z/OSMF requires:

Class	Purpose	RACF commands for activating
ZMFAPLA	<p>Controls the user's ability to use the z/OSMF core functions and tasks. z/OSMF defines a resource name for each core function and task.</p> <p>Notes:</p> <ul style="list-style-type: none">• Profile names in this class are case-sensitive.• The ZMFAPLA class requires the RACLIST option.	<pre>SETROPTS CLASSACT (ZMFAPLA) SETROPTS RACLIST (ZMFAPLA) GENERIC (ZMFAPLA)</pre>
ZMFCLOUD	<p>Allows the user to use the z/OSMF core functions and tasks that are related to IBM Cloud Provisioning. z/OSMF defines a resource name for each core function and task for IBM Cloud Provisioning.</p> <p>The ZMFCLOUD class requires the RACLIST option.</p>	<pre>SETROPTS CLASSACT (ZMFCLOUD) GENERIC (ZMFCLOUD) RACLIST (ZMFCLOUD)</pre>

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Please let us know your thoughts.



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