# z/OSMF Security Setup Overview V2R4

JULIE BERGH

JBERGH@ROCKETSOFTWARE.COM

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# 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.

# 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.

# z/OSMF – From a Security Perspective

#### 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 SAFbased 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 Components – Classic Interface



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

LOG IN

Shopz

# z/OSMF Components – Classic Interface

- Welcome
- Notifications
- Workflow Editor
- Workflows
- Cloud Provisioning
- Configuration
- Consoles
- Jobs and Resources
- ▶ Links
- Performance
  - Capacity Provisioning
  - Resource Monitoring
  - system Status
  - Workload Management
- Problem Determination
  - Incident Log
- Software
  - Software Management
- Sysplex
  - Sysplex Management
- z/OS Classic Interfaces
  - ISPF ▶
- z/OSMF Administration
- 7/OSME Settings

Welcome ×

#### Welcome to IBM z/OS

IBM® z/OS® Management Facility help to simplify some areas of z/C

To learn more about z/OSMF, visit

To start managing your z/OS systematical systems and systems are systems.

#### Learn More:

What's New

z/OSMF tasks at a glance

Getting started with z/OSMF

▲ Not secure | 24.234.192.41:11443/zosmf/Navigation IBM z/OS Management Facility Welcome Notifications Workflow Editor Workflows **Cloud Provisioning** Configuration Consoles Jobs and Resources Links Performance **Problem Determination** Software Sysplex z/OS Classic Interfaces z/OSMF Administration Application Linking Manager Import Manager Links Security Configuration Assistan Usage Statistics z/OSMF Settings FTP Servers General Settings Notification Settings SDSF Settings

Systems

Refresh

z/OSMF Diagnostic Assistant z/OSMF Diagnostic Assistant Welcome ×

#### Welcome to IBM z/OS M

IBM® z/OS® Management Facility (z/0 help to simplify some areas of z/OS sy

To learn more about z/OSMF, visit the

To start managing your z/OS systems,

#### Learn More:

What's New

z/OSMF tasks at a glance

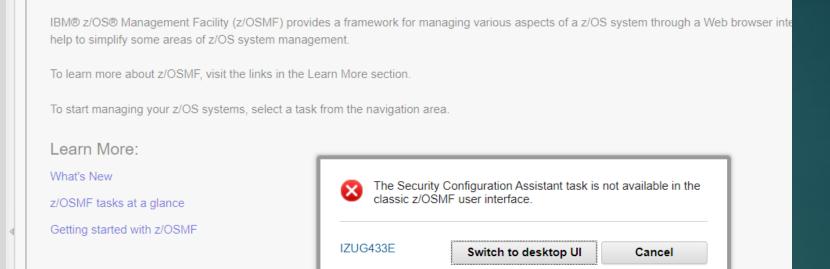
Getting started with z/OSMF

# z/OSMF Components – Classic Interface

Welcome to IBM z/OS Management Facility

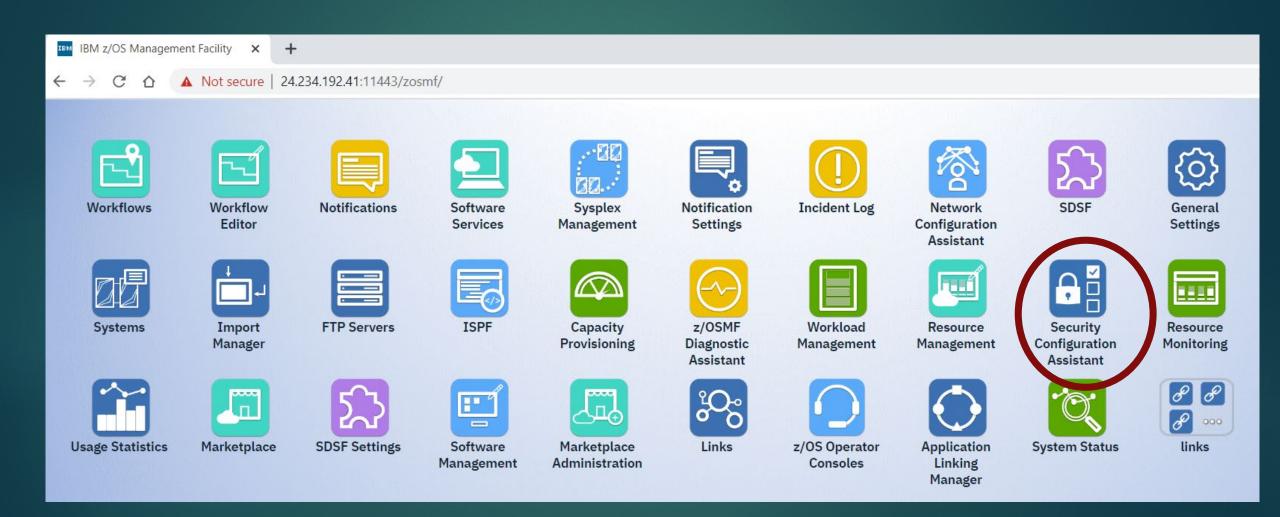
Workflows Cloud Provisioning Configuration Consoles Jobs and Resources Links Performance Problem Determination Software Sysplex z/OS Classic Interfaces z/OSMF Administration Application Linking Manager Import Manager Links Security Configuration Assist Usage Statistics z/OSMF Settings FTP Servers General Settings Notification Settings

SDSF Settings





# z/OSMF Components – Desktop Interface



# z/OSMF Terms Previous Release

- ► Tasks are functions that can be used to manage different aspects of the z/OS system. Some tasks are core functions, others must be configured separately from a base configuration of z/OSMF.
- ► 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.

# z/OSMF Terms Previous Release

- ▶ 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.
- ► 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.

# z/OSMF Terms

- Nucleus first time user and using IZUNUSEC minimal configuration
- Core Service workflow tasks, REST API
- ► Optional Service Plug-ins
- Advanced Configuration autostart, Links, ICSF

#### 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.

#### z/OSMF Lite configuration

What's "z/OSMF Lite configuration"

#### Previous z/OSMF configuration

z/OSMF Core		
Liberty Profile		
Core Navigation		
Online Help		
Notification		
Notification settings		
App linking		
Import Manager		
Links		
FTP Servers		
Usage Statistics		
Systems		
Workflow Editor		
API Discovery Swagger		
REST Job API		
REST File API		
REST TSO API		
Workflows		

z/OSMF Optional Services		
Capacity Provisioning		
Network Configuration Assistant		
Incident Log		
ISPF		
Resource Monitoring		
Software Management		
Sysplex Management		
Workload Management		
zERT		
Cloud Provisioning		
z/OS Operator Consoles		

#### z/OSMF Lite configuration

s	z/OSMF Core Services	
	Notification	
	Settings	
	Administration Tasks	
	Workflow Editor	
	Swagger support for REST APIs	
	REST Job API	
	REST File API	
	REST TSO API	
	Workflows	

z/OSMF Nucleus
Liberty Profile
Core Navigation
Online Help

z/OSMF Optional Services		
Capacity Provisioning		
Network Configuration Assistant		
Incident Log		
ISPF		
Resource Monitoring		
Software Management		
Sysplex Management		
Workload Management		
zERT		
Cloud Provisioning		
z/OS Operator Consoles		

# z/OSMF

- ► IZUNUSEC -represents the authorizations that are needed to set up z/OSMF in a minimal configuration called the *nucleus*.
- ► IZUSEC represents the authorizations that are needed to set up z/OSMF in a full configuration: Nucleus, plus the core services.
- ► IZUxxSEC jobs is associated with a particular z/OSMF service or an advanced configuration setup.
- ► To create user authorizations for the services, your security administrator can use the IZUAUTH job in SYS1.SAMPLIB

# z/OSMF

- ► ADDGROUP IZUADMIN OMVS (AUTOGID) Security group to be used for the z/OSMF administrator role. The user IDs that are connected to this group are considered to be z/OSMF administrators
- ► ADDGROUP IZUUSER OMVS(AUTOGID) Security group to be used for the z/OSMF user role. The user IDs that are connected to this group are considered to be z/OSMF users.
- ADDGROUP IZUUNGRP OMVS (AUTOGID) undefined users
- ► ADDGROUP IZUSECAD OMVS (AUTOGID) Group name to be used for the z/OS Security Administrator role. This group is permitted to the Workflows task. Job IZUAUTH. Basically CONNECT commands to connect to other groups.

```
ADDGROUP IZUADMIN OMVS (AUTOGID)
ADDGROUP IZUUSER OMVS(AUTOGID)
ADDGROUP IZUUNGRP OMVS(AUTOGID)
ADDGROUP IZUSECAD OMVS(AUTOGID)
ADDUSER IZUSVR DFLTGRP(IZUADMIN) NOPASSWORD OMVS(AUTOUID
 HOME(/global/zosmf/data/home/izusvr) +
 PROGRAM(/bin/sh)) NAME('zOSMF Started Task USERID')
ALTUSER IZUSVR OMVS(FILEPROC(10000))
CONNECT IZUSVR GROUP(IZUSECAD)
ADDUSER IZUGUEST RESTRICTED DFLTGRP(IZUUNGRP) OMVS(AUTOUID)
 NAME ('zOSMF Unauthenticated USERID') NOPASSWORD
```

```
RDEFINE SERVER BBG.ANGEL.IZUANGI UACC(NONE)
PERMIT BBG.ANGEL.IZUANG1 CLASS(SERVER) ACCESS(READ) ID(IZUSVR)
RDEFINE SERVER BBG.AUTHMOD.BBGZSAFM UACC(NONE)
PERMIT BBG.AUTHMOD.BBGZSAFM CLASS(SERVER) ACCESS(READ) ID(IZUSVR)
RDEFINE SERVER BBG.AUTHMOD.BBGZSAFM.SAFCRED UACC(NONE)
PERMIT BBG.AUTHMOD.BBGZSAFM.SAFCRED CLASS(SERVER) ACCESS(READ) +
 ID (IZUSVR)
RDEFINE SERVER BBG.AUTHMOD.BBGZSAFM.ZOSWLM UACC(NONE)
PERMIT BBG.AUTHMOD.BBGZSAFM.ZOSWLM CLASS(SERVER) ACCESS(READ) ID(IZUSVR)
RDEFINE SERVER BBG.AUTHMOD.BBGZSAFM.TXRRS UACC(NONE)
PERMIT
       BBG.AUTHMOD.BBGZSAFM.TXRRS CLASS(SERVER) ACCESS(READ) ID(IZUSVR)
RDEFINE SERVER BBG.AUTHMOD.BBGZSAFM.ZOSDUMP UACC(NONE)
PERMIT BBG.AUTHMOD.BBGZSAFM.ZOSDUMP CLASS(SERVER) ACCESS(READ) +
 ID (IZUSVR)
RDEFINE SERVER BBG.SECPFX.IZUDFLT UACC(NONE)
       BBG.SECPFX.IZUDFLT CLASS(SERVER) ACCESS(READ) ID(IZUSVR)
PERMIT
RDEFINE SERVER BBG.SECCLASS.ZMFAPLA UACC(NONE)
PERMIT
       BIG.SECCLASS.ZMFAPLA CLASS(SERVER) ID(IZUSVR) ACCESS(READ)
SETROPTS RACLIST (SERVER) REFRESH
```

```
RDEFINE FACILITY BBG.SYNC.IZUDFLT UACC(NONE)
PERMIT BBG.SYNC.IZUDFLT CLASS(FACILITY) ID(IZUSVR) ACCESS(CONTROL)
  /* RDEFINE FACILITY BPX.WLMSERVER UACC(NONE)
PERMIT BPX.WLMSERVER CLASS(FACILITY) ID(IZUSVR) ACCESS(READ)
  /* RDEFINE FACILITY BPX.CONSOLE UACC(NONE)
PERMIT BPX.CONSOLE CLASS(FACILITY) ID(IZUSVR) ACCESS(READ)
SETROPTS RACLIST (FACILITY) REFRESH
RDEFINE APPL IZUDFLT UACC(NONE)
PERMIT
        IZUDFLT CLASS(APPL) ACCESS(READ) ID(IZUADMIN IZUUSER IZUGUEST)
SETROPTS RACLIST (APPL) REFRESH
RDEFINE EJBROLE IZUDFLT.*.izuUsers UACC(NONE)
PERMIT IZUDFLT.*.izuUsers CLASS(EJBROLE) ACCESS(READ) +
 ID (IZUADMIN IZUUSER)
SETROPTS RACLIST(EJBROLE) REFRESH
/* By default, no users are allowed to perform z/OSMF tasks. Users
/* will only have access to z/OSMF tasks if it's specified explicitly.*/
RDEFINE ZMFAPLA IZUDFLT. ** UACC(NONE)
RDEFINE ZMFAPLA IZUDFLT.ZOSMF UACC(NONE)
PERMIT IZUDFLT.ZOSMF CLASS(ZMFAPLA) ACCESS(READ) ID(IZUADMIN IZUUSER)
SETROPTS RACLIST(ZMFAPLA) REFRESH
  /* RDEFINE SERVAUTH CEA.SIGNAL.ENF83 UACC(NONE) */
PERMIT CEA.SIGNAL.ENF83 CLASS(SERVAUTH) ID(IZUSVR) ACCESS(READ)
SETROPTS RACLIST (SERVAUTH ) REFRESH
```

```
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))
SETROPTS RACLIST(STARTED) REFRESH
@@
```

### RC = 0

READY

```
----TIMINGS (MINS.)-----
-STEPNAME PROCSTEP RC
                       EXCP CONN TCB
                                                SRB CLOCK
                      791 0
-BASIC01
                   00
                                       .01
                                                .00
                                                       . 0
ICH408I USER (ADCDMST ) GROUP (SYS1 ) NAME (ADCD MASTER
 IZUSVR1.* CL(STARTED )
 DEFINE - RESOURCE ALREADY DEFINED
ICH408I USER (ADCDMST ) GROUP (SYS1 ) NAME (ADCD MASTER
 IZUANG1.* CL(STARTED )
 DEFINE - RESOURCE ALREADY DEFINED
                   00
                        113 0 .00 .00 .0
-STCPROFS
IEF404I ADCDMST1 - ENDED - TIME=09.04.02
                               TOTAL TCB CPU TIME=
-ADCDMST1 ENDED. NAME-
$HASP395 ADCDMST1 ENDED - RC=0000
TISTICS ----
XECUTION DATE
```

```
IKJ56702I INVALID GROUP, IZUSECAD
READY
READY
ADDUSER IZUSVR DFLTGRP(IZUADMIN) NOPASSWORD OMVS(AUTOUID HOME(/global/zosmf/d d Task USERID')
IKJ56702I INVALID USERID, IZUSVR
IKJ56701I MISSING HOME DIRECTORY+
IKJ56701I MISSING OMVS USER'S INITIAL WORKING DIRECTORY
```

# z/OSMF

z/OSMF area to be configured	Description  Nucleus Core service Optional service Advanced configuration	Security job in SYS1.SAMPLIB
Nucleus	Nucleus	IZUNUSEC
Notifications task	Core service	IZUNFSEC
z/OS data set and file REST services	Core service	IZURFSEC
z/OS jobs REST services	Core service	IZURJSEC
Swagger service	Core service	IZUSWSEC
TSO/E address space services	Core service	IZUTSSEC
z/OSMF administrative tasks	Core service	IZUATSEC
z/OSMF settings service	Core service	IZUSTSEC
z/OSMF Workflows task	Core service	IZUWFSEC
All of the above	Nucleus, plus all core services	IZUSEC

# z/OSMF

▶ Some z/OSMF services require other z/OSMF services to be enabled. Therefore, you might need to configure more services than just the ones you plan to use.

To use this z/ OSMF service	Configure these required services	You might also need to configure these optional services, depending on your intended use.
Cloud Provisioning	<ul> <li>Console services (UI and API)</li> <li>Network Configuration Assistant</li> <li>Notifications</li> <li>Swagger (API Discovery)</li> <li>z/OSMF Settings</li> <li>z/OSMF Workflows</li> </ul>	<ul> <li>Common Information Model (CIM) server, which is used by Resource Monitoring and Workload Management.</li> <li>z/OS data set and file REST services because these services are used by z/OSMF Workflows.</li> <li>TSO/E address space services because these services are used by the console services.</li> <li>Resource Monitoring because it is used by Cloud Provisioning to obtain CPU and memory metering data.</li> <li>Workload Management because it is used by Cloud Provisioning to set CPU and memory capping.</li> </ul>
Console services	<ul><li>Common event adapter (CEA)</li><li>TSO/E address space services</li><li>z/OSMF Settings</li></ul>	• None.
Incident Log	<ul> <li>Common event adapter (CEA)</li> <li>z/OSMF Settings</li> <li>Common Information Model (CIM) server</li> </ul>	• None.

#### IZUPRMxx

```
HOSTNAME ('sowl.dal-ebis.ihost.com')
HTTP SSL PORT (10443)
INCIDENT LOG UNIT ('SYSALLDA')
JAVA HOME ('/usr/lpp/java/J8.0 64')
KEYRING NAME ('IZUKeyring.IZUDFLT')
LOGGING( ' *= warning: com.ibm.zoszmf. *= info: com.ibm.zoszmf.environment.ui=
finer')
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)
SESSION EXPIRE (495)
TEMP DIR('/tmp')
CSRF SWITCH (ON)
SERVER PROC ('IZUSVR1')
ANGEL PROC ('IZUANG1')
AUTOSTART ('LOCAL')
```

#### IZUPRMxx

```
Command ---
/* AUTOSTART GROUP('IZUDFLT') */
/* AUTOSTART GROUP ('NONE')
USER DIR('/var/zosmf')
UNAUTH USER (IZUGUEST)
/* WLM CLASSES DEFAULT (IZUGHTTP)
            LONG WORK (IZUGWORK) */
CSRF SWITCH (OFF)
 /* Uncomment the following statement and any plugins that
    are desired */
    PLUGINS ( INCIDENT LOG,
             COMMSERVER CFG,
             WORKLOAD MGMT
             RESOURCE MON,
             CAPACITY PROV,
             SOFTWARE MGMT,
             SYSPLEX MGMT,
             ISPF)
```

# F IZUSVR1, DISPLAY IZU

```
F IZUSVR1, DISPLAY IZU
+CWWKB0004I: z/OSMF PARMLIBS DISPLAY 397
  IZUG013I The home page of z/OSMF server in SYSTEM(SOW1)
  in AUTOSTART GROUP (IZUDFLT) can be accessed at :
  https://SOW1.DAL-EBIS.IHOST.COM:11443/zosmf
  IZUG014I The server started at 08/20/2020 12:30:36
   and has been running for 0004(hhhh):761(mm):02(ss)
  Current z/OSMF settings
                                                          Source
  HOSTNAME (SOW1.DAL-EBIS.IHOST.COM)
                                                          IZUPRMAS
+CWWKB0061I CONTINUATION 1 FOR MESSAGE IDENTIFIER 14397
                                                          398
  HTTP SSL PORT (11443)
                                                           IZUPRMAS
  LOGGING ('*=warning:com.ibm.zoszmf.*=info:com.ibm.zoszm
  f.environment.ui=finer')
                                                           IZUPRMAS
  UNAUTH USER (IZUGUEST)
                                                          IZUPRMAS
  SEC GROUPS
      (NIMOAUZI) NIMOA
                                                           IZUPRMAS
      USER (IZUUSER)
                                                           IZUPRMAS
      SECADMIN (IZUSECAD)
                                                           IZUPRMAS
  SAF PREFIX (IZUDFLT)
                                                          IZUPRMAS
+CWWKB0061I CONTINUATION 2 FOR MESSAGE IDENTIFIER 14397
                                                          399
  CLOUD SAF PREFIX(IYU)
                                                          IZUPRMAS
  KEYRING NAME (IZUKeyring.IZUDFLT)
                                                          IZUPRMAS
  SESSION EXPIRE (495)
                                                           IZUPRMAS
  WLM CLASSES
      LONG WORK (IZUGWORK)
                                                          DEFAULT
      DEFAULT (IZUGHTTP)
                                                          DEFAULT
  JAVA HOME (/usr/lpp/java/J8.0 64)
                                                          IZUPRMAS
  TEMP DIR (/tmp)
                                                          IZUPRMAS
  INCIDENT LOG UNIT (SYSALLDA)
                                                          IZUPRMAS
```

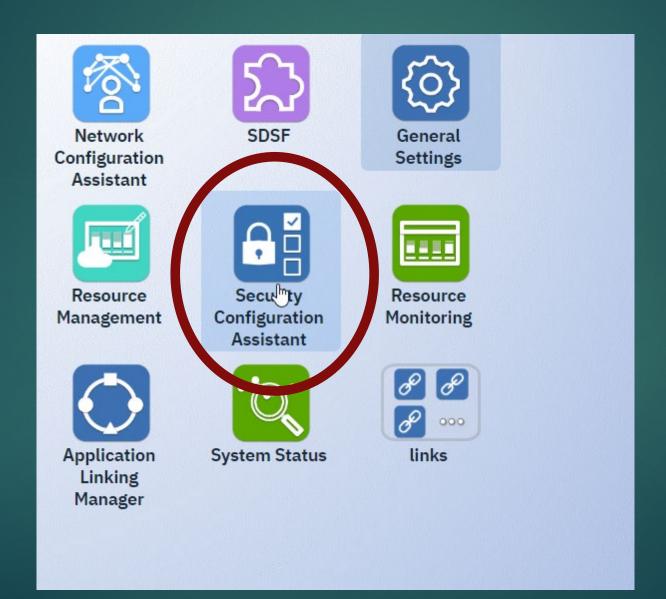
# F IZUSVR1, DISPLAY IZU

```
+CWWKB0061I CONTINUATION 3 FOR MESSAGE IDENTIFIER 14397
                                                            400
  RESTAPI FILE
      ACCT (IZUACCT)
                                                           IZUPRMAS
      PROC(IZUFPROC)
                                                           IZUPRMAS
      REGION (65536)
                                                           IZUPRMAS
  COMMON TSO
      ACCT (IZUACCT)
                                                           IZUPRMAS
      PROC(IZUFPROC)
                                                           IZUPRMAS
      REGION (65536)
                                                           IZUPRMAS
  AUTOSTART GROUP (IZUDFLT)
                                                           DEFAULT
+CWWKB0061I CONTINUATION 4 FOR MESSAGE IDENTIFIER 14397
                                                           401
  AUTOSTART (LOCAL)
                                                           IZUPRMAS
  SERVER PROC(IZUSVR1)
                                                           IZUPRMAS
  ANGEL PROC(IZUANG1)
                                                           IZUPRMAS
  USER DIR (/var/zosmf)
                                                           IZUPRMAS
 CSRF SWITCH (OFF)
                                                           IZUPRMAS
  Status of z/OSMF plugins
  Configuration Assistant (STARTED)
                                                           IZUPRMAS
+CWWKB0061I CONTINUATION 5 FOR MESSAGE IDENTIFIER 14397
                                                          402
  Capacity Provisioning (STARTED)
                                                           IZUPRMAS
  Workload Management (STARTED)
                                                           IZUPRMAS
  Resource Monitoring (STARTED)
                                                           IZUPRMAS
  Incident Log(STARTED)
                                                           IZUPRMAS
  Software Management (STARTED)
                                                           IZUPRMAS
  WebISPF (STARTED)
                                                           IZUPRMAS
  ZERT (UNSPECIFIED)
                                                           DEFAULT
  Sysplex Management (STARTED)
                                                           IZUPRMAS
+CWWKB0005I: COMMAND RESPONSES COMPLETED SUCCESSFULLY FROM display 403
 izu|d izu Command Handler.
+CWWKB0002I: MODIFY COMMAND DISPLAY IZU COMPLETED SUCCESSFULLY.
```

What's Security Configuration Assistant

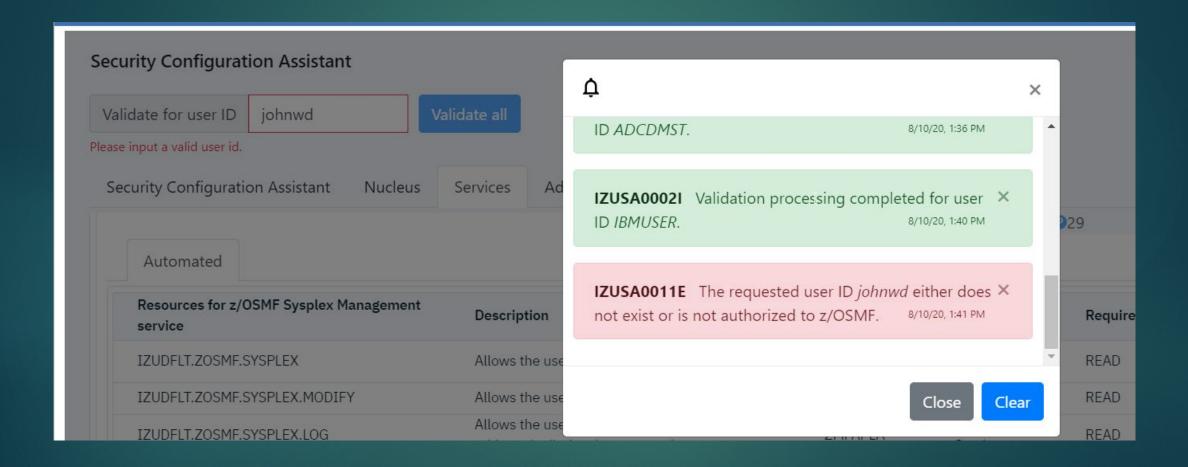
Security Configuration Assistant task is built for simplifying the user experience of security configuration and validation. It starts with help z/OSMF security configuration by providing

- 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



```
ADCDMST.SYSI.SAMPLIB (IZUSASEC)
                                                    COLUMNS UUUUL UUU/2
                                                       Scroll ===> CSR
     Profile Definitions for z/OSMF Security Configuration Assistant */
RDEFINE ZMFAPLA IZUDFLT.ZOSMF.CONFIGURATION.SECURITY ASSISTANT +
       UACC (NONE)
RDEFINE SERVER BBG.SECCLASS.SERVER UACC(NONE)
RDEFINE SERVER BBG.SECCLASS.APPL UACC (NONE)
RDEFINE SERVER BBG.SECCLASS.FACILITY UACC(NONE)
RDEFINE SERVER BBG.SECCLASS.EJBROLE UACC(NONE)
RDEFINE SERVER BBG.SECCLASS.SERVAUTH UACC(NONE)
RDEFINE SERVER BBG.SECCLASS.STARTED UACC(NONE)
RDEFINE SERVER BBG.SECCLASS.ZMFCLOUD UACC(NONE)
RDEFINE SERVER BBG.SECCLASS.ACCTNUM UACC(NONE)
RDEFINE SERVER BBG.SECCLASS.TSOPROC UACC(NONE)
RDEFINE SERVER BBG.SECCLASS.TSOAUTH UACC(NONE)
RDEFINE SERVER BBG.SECCLASS.OPERCMDS UACC(NONE)
RDEFINE SERVER BBG.SECCLASS.CSFSERV UACC(NONE)
RDEFINE SERVER BBG.SECCLASS.JESSPOOL UACC(NONE)
RDEFINE SERVER BBG.SECCLASS.LOGSTRM UACC(NONE)
RDEFINE SERVER BBG.SECCLASS.UNIXPRIV UACC(NONE)
RDEFINE SERVER BBG.SECCLASS.RDATALIB UACC(NONE)
```

```
*******************
    Permit the started task USERID access
PERMIT BBG.SECCLASS.SERVER CLASS(SERVER) ACCESS(READ)
PERMIT BBG.SECCLASS.APPL CLASS(SERVER) ACCESS(READ)
PERMIT BBG.SECCLASS.FACILITY CLASS(SERVER)
                                             ACCESS (READ)
                                                          ID(IZUSVR)
PERMIT BBG.SECCLASS.EJBROLE CLASS (SERVER)
                                            ACCESS (READ)
                                                         ID(IZUSVR)
                                                           ID (IZUSVR)
PERMIT BBG.SECCLASS.SERVAUTH CLASS(SERVER)
                                             ACCESS (READ)
PERMIT BBG.SECCLASS.STARTED CLASS (SERVER)
                                            ACCESS (READ)
                                                          ID (IZUSVR)
PERMIT BBG.SECCLASS.ZMFAPLA CLASS (SERVER)
                                            ACCESS (READ)
                                                          ID (IZUSVR)
                                                           ID (IZUSVR)
PERMIT BBG.SECCLASS.ZMFCLOUD CLASS(SERVER)
                                             ACCESS (READ)
PERMIT BBG.SECCLASS.ACCTNUM CLASS (SERVER)
                                            ACCESS (READ)
                                                          ID (IZUSVR)
PERMIT BBG.SECCLASS.TSOPROC CLASS (SERVER)
                                            ACCESS (READ)
                                                          ID (IZUSVR)
PERMIT BBG.SECCLASS.TSOAUTH CLASS (SERVER)
                                            ACCESS (READ)
                                                          ID (IZUSVR)
PERMIT BBG. SECCLASS. OPERCMDS CLASS (SERVER)
                                             ACCESS (READ)
                                                           ID(IZUSVR)
PERMIT BBG.SECCLASS.CSFSERV CLASS (SERVER)
                                            ACCESS (READ)
                                                          ID (IZUSVR)
PERMIT BBG.SECCLASS.JESSPOOL CLASS(SERVER)
                                             ACCESS (READ)
                                                           ID (IZUSVR)
PERMIT BBG.SECCLASS.LOGSTRM CLASS (SERVER)
                                            ACCESS (READ)
                                                          ID (IZUSVR)
PERMIT BBG.SECCLASS.UNIXPRIV CLASS(SERVER)
                                             ACCESS (READ)
                                                           ID (IZUSVR)
PERMIT BBG.SECCLASS.RDATALIB CLASS (SERVER)
                                             ACCESS (READ)
                                                           ID (IZUSVR)
```





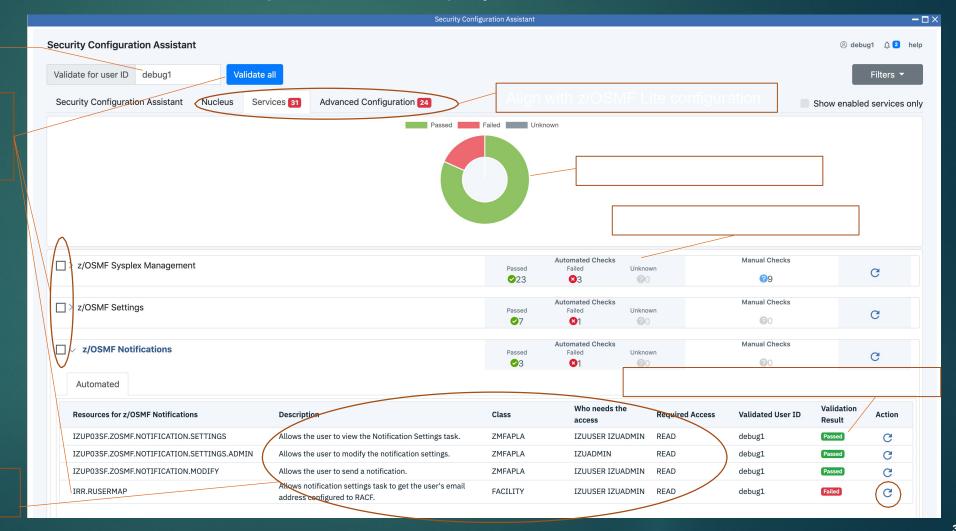
Security Configuration Assistant – Graphic view to display automatic validation result

Validation is done per user

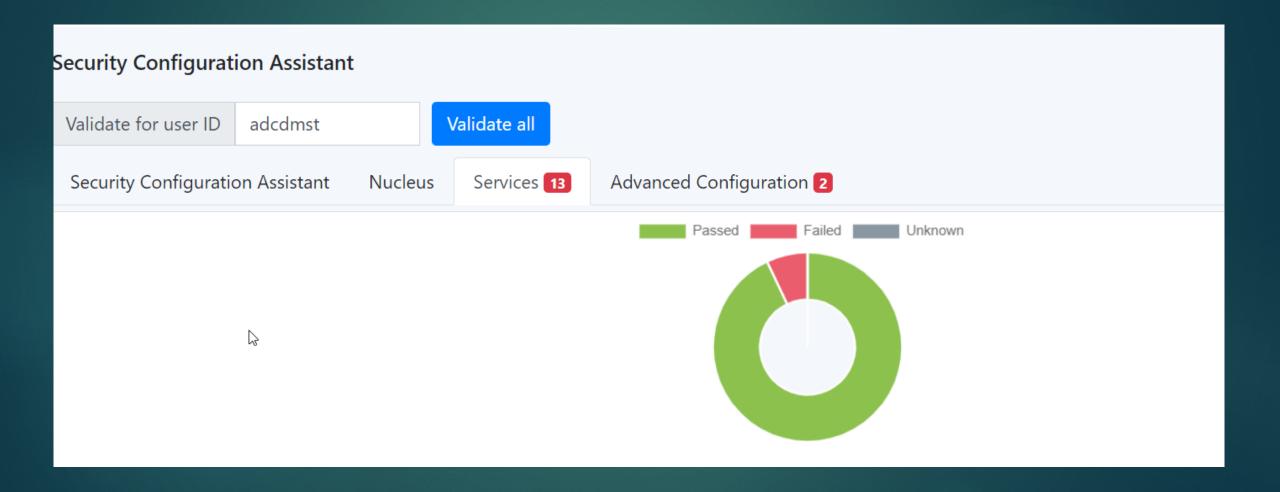
Validation can be done against

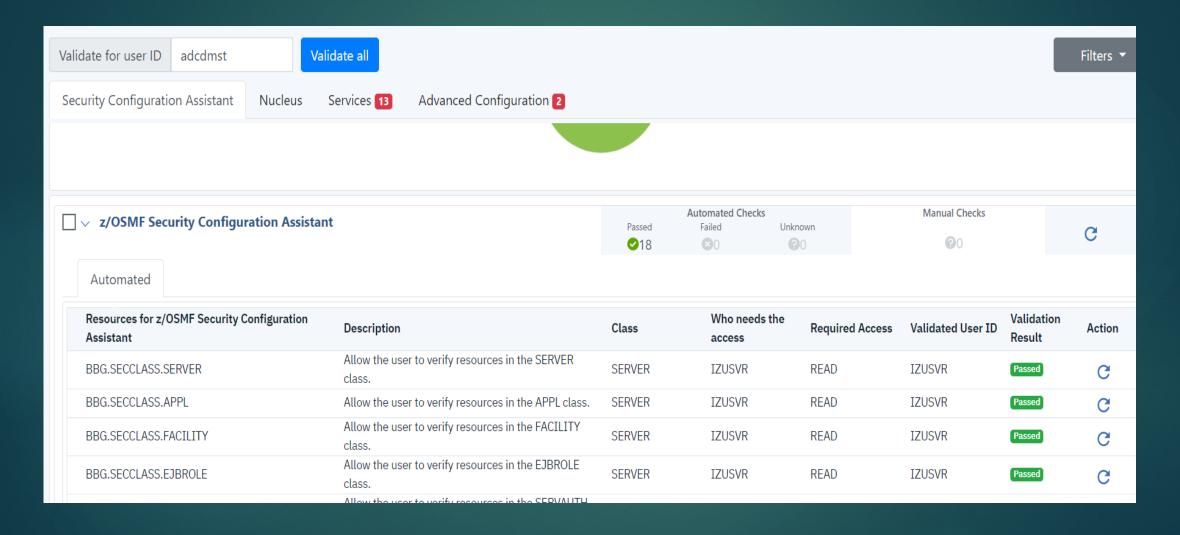
All z/OSMF security configuration

- Selected services
- One specific security requirement



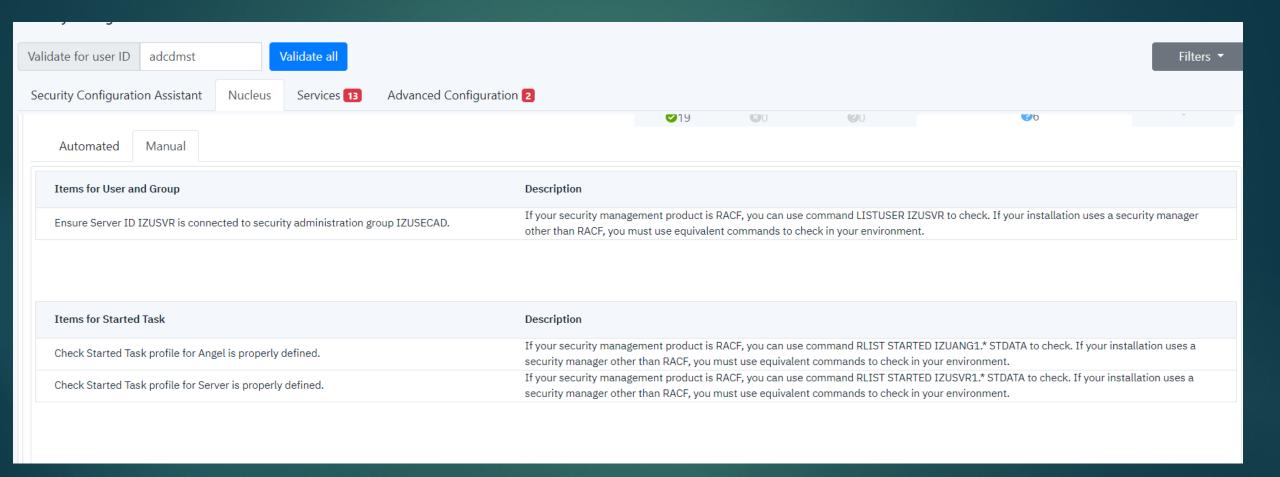
Description is included for each security requirement

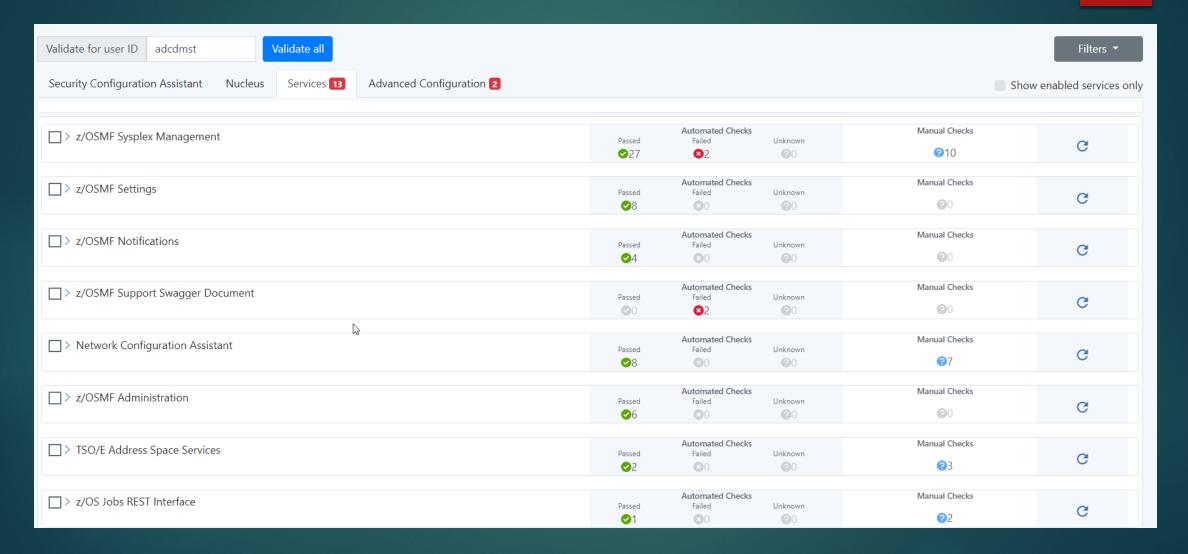




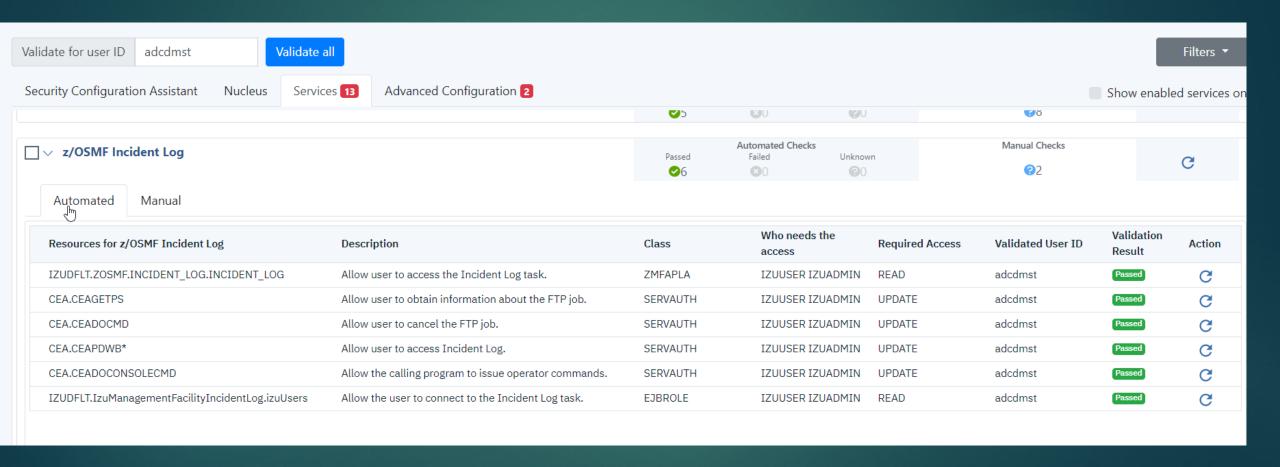
Validate for user ID adcdmst Validate all						Filters ▼			
Se	Security Configuration Assistant Nucleus Services 13 Advanced Configuration 2								
	Resources for z/OSMF Liberty Server	Description	Class	Who needs the access	Required Access	Validated User ID	Validation Result	Action	
	BBG.ANGEL.IZUANG1	Allow the z/OSMF server to access the angel process.	SERVER	IZUSVR	READ	IZUSVR	Passed	C	
	BBG.AUTHMOD.BBGZSAFM	Enable z/OSMF server to use the z/OS Authorized services.	SERVER	IZUSVR	READ	IZUSVR	Passed	G	
	BBG.AUTHMOD.BBGZSAFM.SAFCRED	To enable the SAF authorized user registry services and SAF authorization services(SAFCRED).	SERVER	IZUSVR	READ	IZUSVR	Passed	C	
	BBG.AUTHMOD.BBGZSAFM.ZOSWLM	To enable the WLM services(ZOSWLM).	SERVER	IZUSVR	READ	IZUSVR	Passed	G	
	BBG.AUTHMOD.BBGZSAFM.TXRRS	To enable the RRS transaction services(TXRRS).	SERVER	IZUSVR	READ	IZUSVR	Passed	C	
	BBG.AUTHMOD.BBGZSAFM.ZOSDUMP	To enable the SVCDUMP services(ZOSDUMP).	SERVER	IZUSVR	READ	IZUSVR	Passed	C	
	BBG.SECPFX.IZUDFLT	Allow the z/OSMF server to make authentication calls against the APPL-ID.	SERVER	IZUSVR	READ	IZUSVR	Passed	G	
	BBG.SECCLASS.ZMFAPLA	Allow the z/OSMF server to authorize checks for the ZMFAPLA class.	SERVER	IZUSVR	READ	IZUSVR	Passed	G	
	BBG.SYNC.IZUDFLT	Allow the z/OSMF server to authorize checks for the ZMFCLOUD class.	FACILITY	IZUSVR	CONTROL	IZUSVR	Passed	G	
	BPX.WLMSERVER	Allows the z/OSMF server to use WLM functions to create and manage work requests.	FACILITY	IZUSVR	READ	IZUSVR	Passed	G	
	BPX.CONSOLE	Allow the user to filter z/OS UNIX messages.  Specifically, this setting suppresses the BPXM023I message prefix from any write-to-operator (WTO) messages that z/OSMF writes to the console.	FACILITY	IZUSVR	READ	IZUSVR	Passed	G	

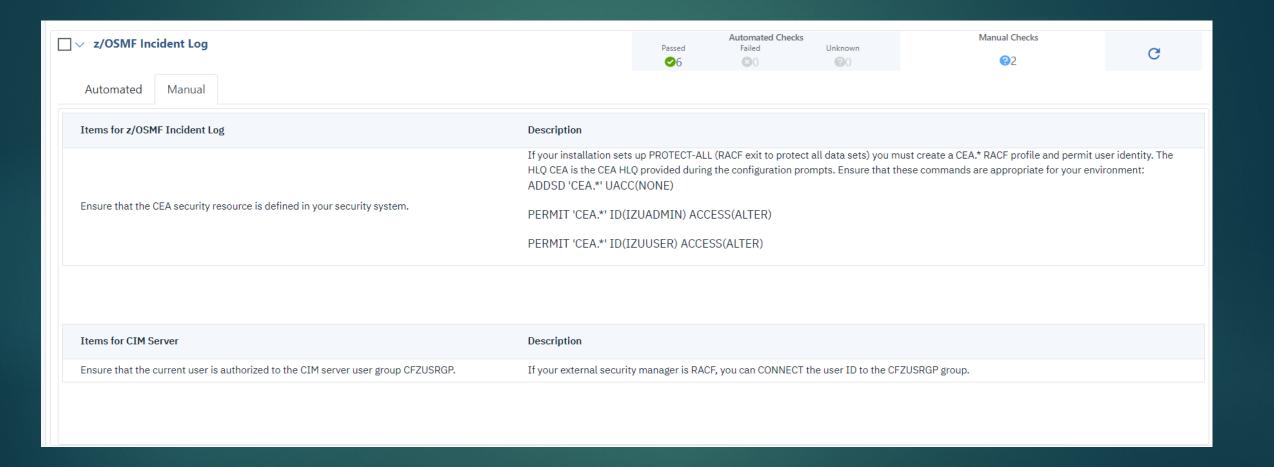
Val	idate for user ID	adcdmst	Vali	idate all							Filters ▼
Se	curity Configuratio	on Assistant	Nucleus :	Services 13	Advanced Configuration 2						
	BPX.CONSOLE				ite-to-operator (WTO) messages that z/OSMF writes console.	FACILITY	IZUSVR	READ	IZUSVR	Passed	G
	IZUDFLT			no ma	access to the z/OSMF application domain. If there is tching profile in the APPL class, RACF allows the user ess the application.	APPL	IZUGUEST	READ	IZUGUEST	Passed	C
	Resources for Key	ring and Certific	cate	Descri	ption	Class	Who needs the access	Required Access	Validated User ID	Validation Result	Action
	IRR.DIGTCERT.LIS	STRING		Allow t keyring	the started task user ID to list and get the certificate g.	FACILITY	IZUSVR	READ	IZUSVR	Passed	G
	Resources for z/0	SMF Nucleus fu	nctions	Descri	ption	Class	Who needs the access	Required Access	Validated User ID	Validation Result	Action
	IZUDFLT			Allow	access to the z/OSMF application domain.	APPL	IZUUSER IZUADMIN	READ	adcdmst	Passed	G
	IZUDFLT.IzuManag	gementFacility.iz	uUsers	Allow page.	the user to log on to z/OSMF and view the Welcome	EJBROLE	IZUUSER IZUADMIN	READ	adcdmst	Passed	C
	IZUDFLT.IzuManag	gementFacilityHe	elpApp.izuUsers	Allow	the user to connect to the z/OSMF online help system.	EJBROLE	IZUUSER IZUADMIN	READ	adcdmst	Passed	G
	IZUDFLT.IzuManag	gementFacilityIn	nportUtility.izuUs	eers	the user to use the Import Manager task to import es, event types, event handlers, and links into z/OSMF.	EJBROLE	IZUUSER IZUADMIN	READ	adcdmst	Passed	G
	IZUDFLT.ZOSMF			a user Welco	uthorization is the minimum requirement for allowing to do more than log in to z/OSMF and view the me page. Without this authorization, the logged-in user ted as an authenticated guest.	ZMFAPLA	IZUUSER IZUADMIN	READ	adcdmst	[Passed]	C

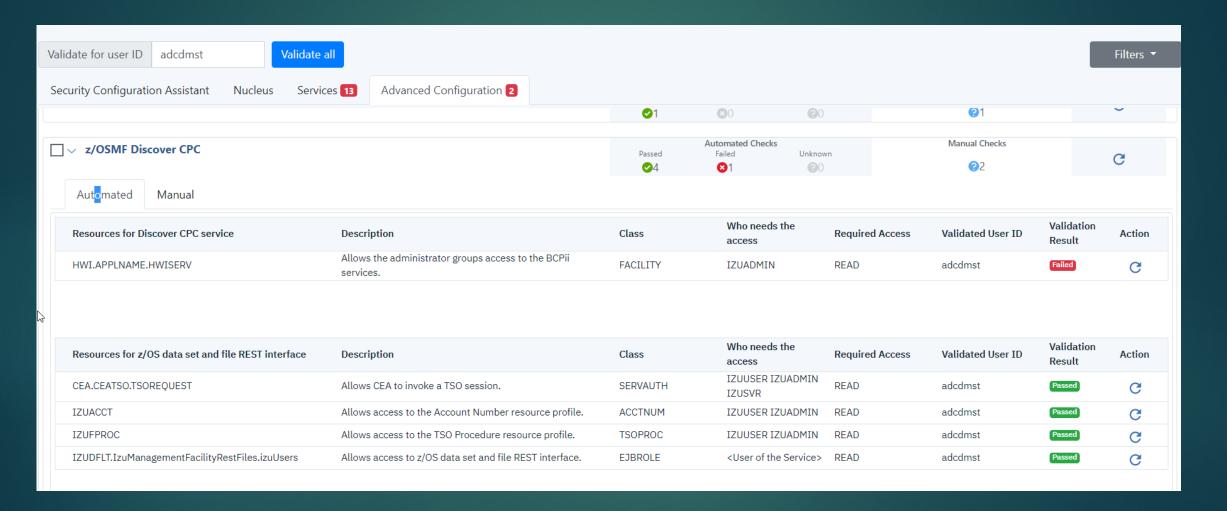


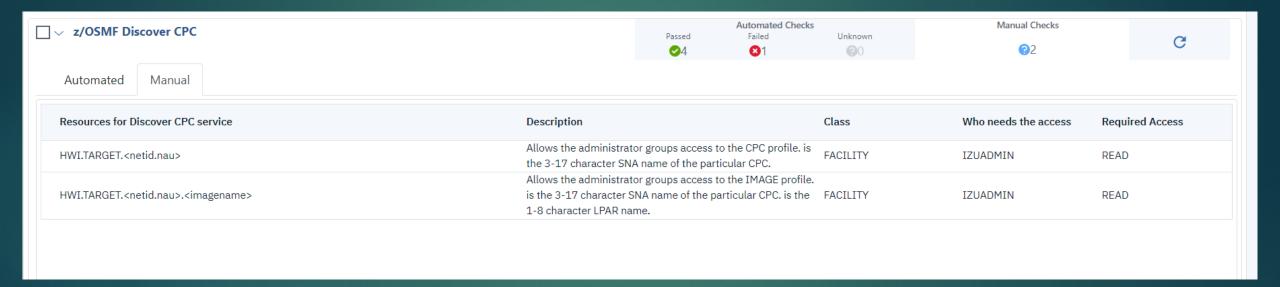


Security Configuration Assistant Nucleus Services	s 13 Advanced Configuration 2						
		<b>⊘</b> 0	<b>3</b> 0 <b>6</b>	<b>3</b> 0	<b>⊌</b> 1		_
		Passed	Automated Checks Failed Unk	nown	Manual Checks		~
_		<b>⊘</b> 21		<b>9</b> 0	<b>?</b> 0		G
Automated							
Resources for z/OSMF requirement to the ICSF callable services	Description	Class	Who needs the access	Required Access	Validated User ID	Validation Result	Action
CSFIQF	ICSF query facility callable service.	CSFSERV	IZUSVR	READ	IZUSVR	Passed	G
CSFENC	Encipher callable service.	CSFSERV	IZUSVR	READ	IZUSVR	Passed	G
CSFCVE	Cryptographic variable encipher callable service.	CSFSERV	IZUSVR	READ	IZUSVR	Passed	G
CSFDEC	Decipher callable service.	CSFSERV	IZUSVR	READ	IZUSVR	Passed	C
CSFSAE	Symmetric algorithm encipher callable service.	CSFSERV	IZUSVR	READ	IZUSVR	Passed	G
CSFSAD	Symmetric algorithm decipher callable service.	CSFSERV	IZUSVR	READ	IZUSVR	Passed	G
CSFOWH	One-way hash generate callable service.	CSFSERV	IZUSVR	READ	IZUSVR	Passed	G
CSFRNG	Random number generate callable service.	CSFSERV	IZUSVR	READ	IZUSVR	Passed	G
CSFRNGL	Random number generate long callable service.	CSFSERV	IZUSVR	READ	IZUSVR	Passed	C









# RACF Classes Used in Various Definitions

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

- PTKTDATA
- RDATALIB for certificates
- ▶ REALM
- SERVAUTH
- SERVER
- STARTED
- SURROGAT
- ▶ TSOAUTH
- ▶ TSOPROC
- ZMFAPLA
- ZMFCLOUD
- UNIXPRIV

## Security Configuration Security Setup - Some Statistics - New Jobs

- ▶ In z/OS 2.3 there were approximately 336 RACF commands in the IZUxx members in SYS1.SAMPLIB
- ▶ In z/OS 2.4 there are approximately 642 RACF commands in the IZUxx members in SYS1.SAMPLIB
- ► The primary member in SYS1.SAMPLIB is IZUSEC. In z/OS 2.3 it contained 658 lines. In z/OS 2.4 this member has 751 lines.

## Security Configuration Security Setup - Some Statistics - New Jobs

JOBNAME	DESCRIPTION
IZUASSEC	Security Setup for z/OSMF AUTOSTART function
IZUATSEC	Security setup for z/OSMF Administrator tasks and web site links
IZUDCSEC	This sample JCL intends to help with security setup required per user of Discover CPC function
IZUICSEC	Setup hardware crypto(ICSF) for z/OSMF server
IZUNFSEC	Security setup for z/OSMF Notifications
IZUNUSEC	Security setup for z/OSMF Nucleus basic
IZURFSEC	Security Setup for z/OS data set and file REST interface
IZURJSEC	Security Setup for z/OS Jobs REST interface
IZUSASEC	Security Setup for z/OSMF Security Configuration Assistant
IZUSKSEC	Setup shared key ring and certificate for the z/OSMF server
IZUSTSEC	This sample JCL intends to help with security setup required per user of z/OSMF settings
IZUSWSEC	This sample JCL intends to help with security setup required for z/OSMF Support Swagger Document Profile for Liberty API Discovery support
IZUTLSEC	Setup AT-TLS security for z/OSMF server
IZUTSSEC	This sample JCL intends to help with security setup required per user of z/OSMF TSO/E address space service
IZUWFSEC	z/OSMF work flows

# Security Configuration Security Setup – Summary

► Major improvements in RACF commands

Security Assistant great improvement and contains lots of detail

# Security Configuration Security Setup – Summary

- Some RACF profiles have changed and some have been removed.
  - 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 classes sometimes before profiles are created
  - ► 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 IZUGUEST this is unauthenticated user
    - ▶ Makes user RESTRICTED
    - ▶ This corresponds to what is defined in IZUPRMxx in SYS1.PARMLIB
    - ► DEFAULTGROUP(IZUUNGRP)

### z/OSMF – From a Security Perspective

- RACF commands are fully qualified generics
- Review commands as they may undercut what is already defined in your system.
- Review commands as an example of CSFSERV as this will define more profiles that may cause other areas to stop working.
- Recommend put in 'back stop' entries to protect other areas
- Recommend putting in generic profiles versus fully qualified generics
- As the JCL states, review the JCL for you company standards and completeness.
- Still need to RACF CONNECT people to the appropriate groups
- The initial product needs to be up and running before you can configure / use the security assistant

### QUESTIONS

## z/OSMF Security Setup Overview V2R4

JULIE BERGH