

# System Automation Update

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IBM

November 2018  
Session **O1**



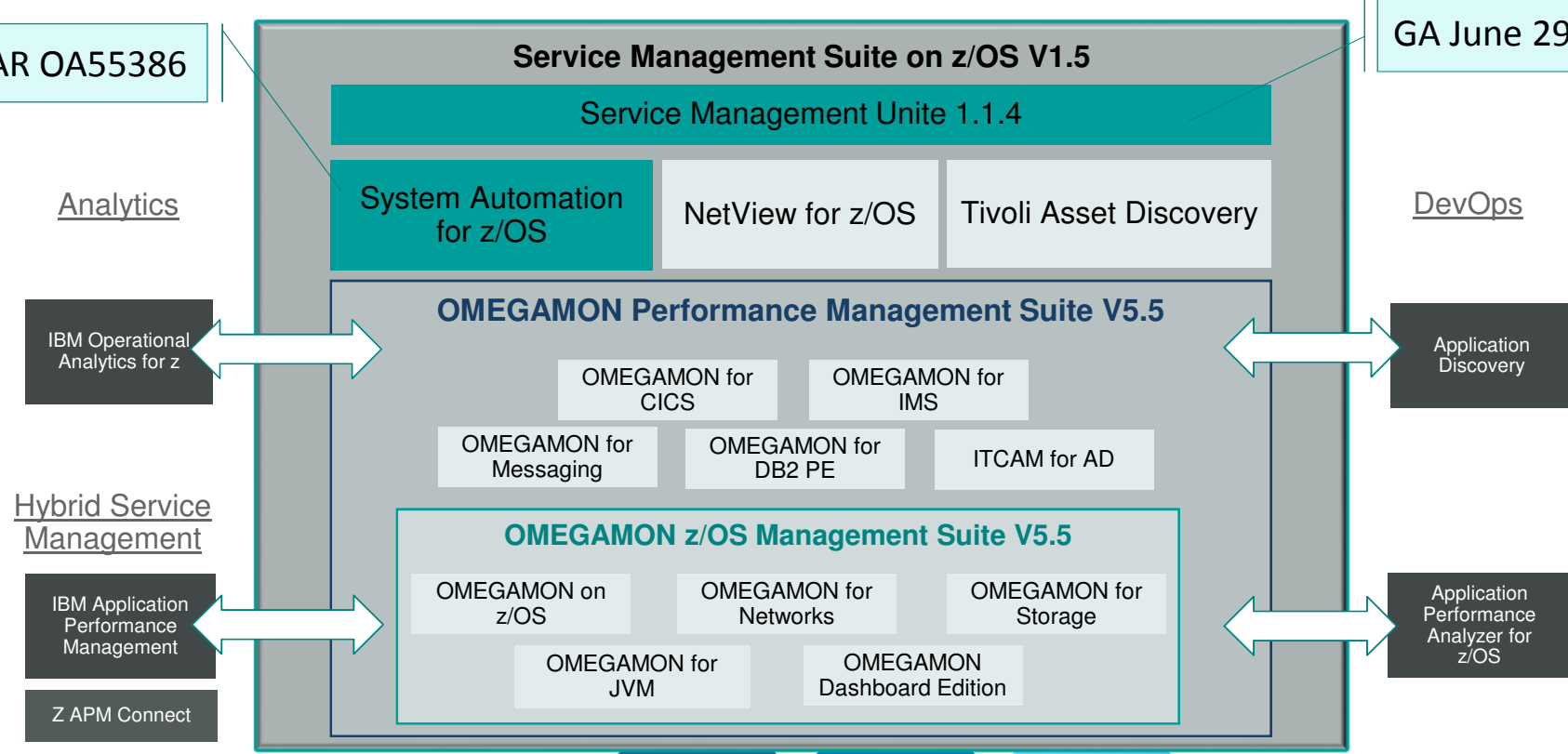
# Agenda

- Service Management Unite
  - Docker
  - High Availability
  - OMEGAMON Storage
  - RFEs
  
- System Automation for z/OS
  - INGPLEX IPL
  - Parallel SDF Focalpoint Update
  - Processor Operations – Dynamic Target System Names
  - Cross Platform Automation

Service Management Suite for z/OS  
"Faster for experts, simpler for beginners"

APAR OA55386

GA June 29, 2018

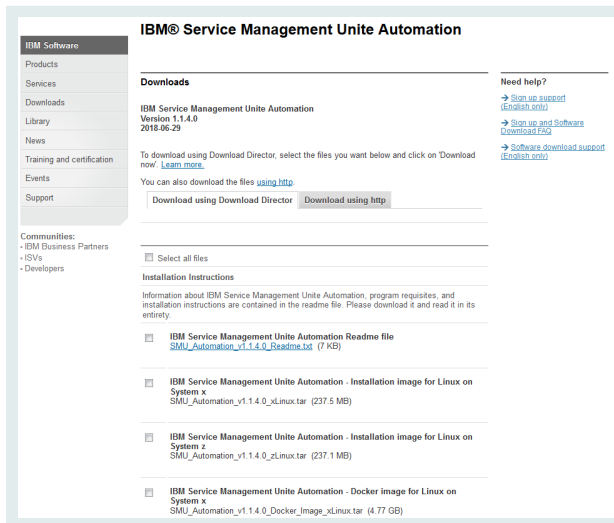


Analytics

DevOps

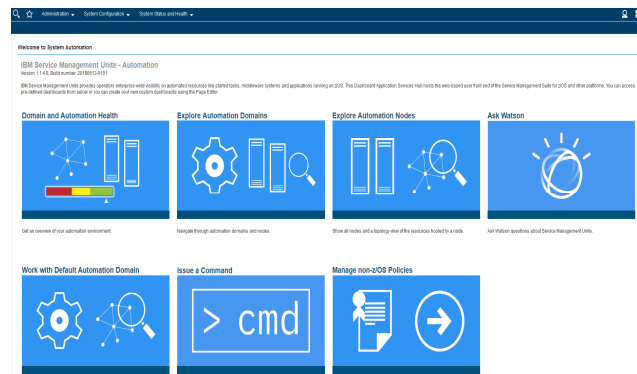
Hybrid Service Management





## Service Management Unite 1.1.4 available with

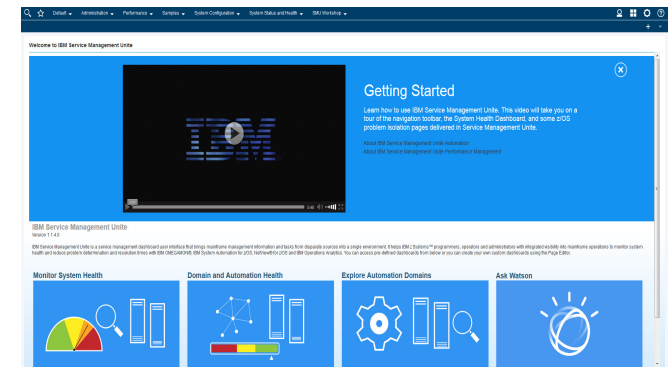
### System Automation for z/OS V4.1



#### SMU Automation

<https://www.ibm.com/marketing/iwm/iwm/web/pre>Login.do?source=swg-ibmsa>

### Service Management Suite for z/OS



#### SMU Service Management Suite for z/OS

<https://www.ibm.com/marketing/iwm/iwm/web/pre>Login.do?source=swg-ibmsms>

contains

- Readme
- SMU traditional installation file
- Docker image for SMU
- WebSphere Application Server
- Jazz for Service Management





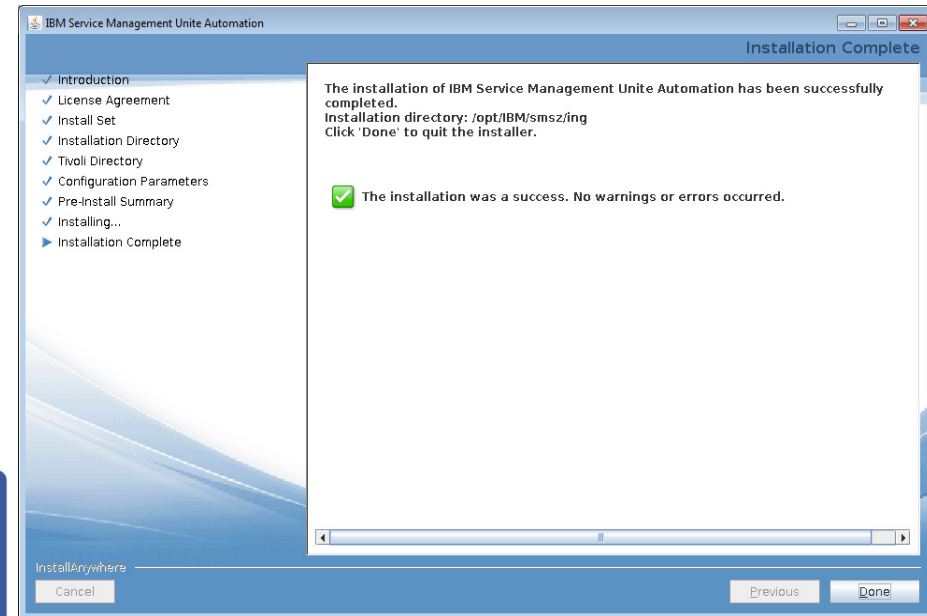
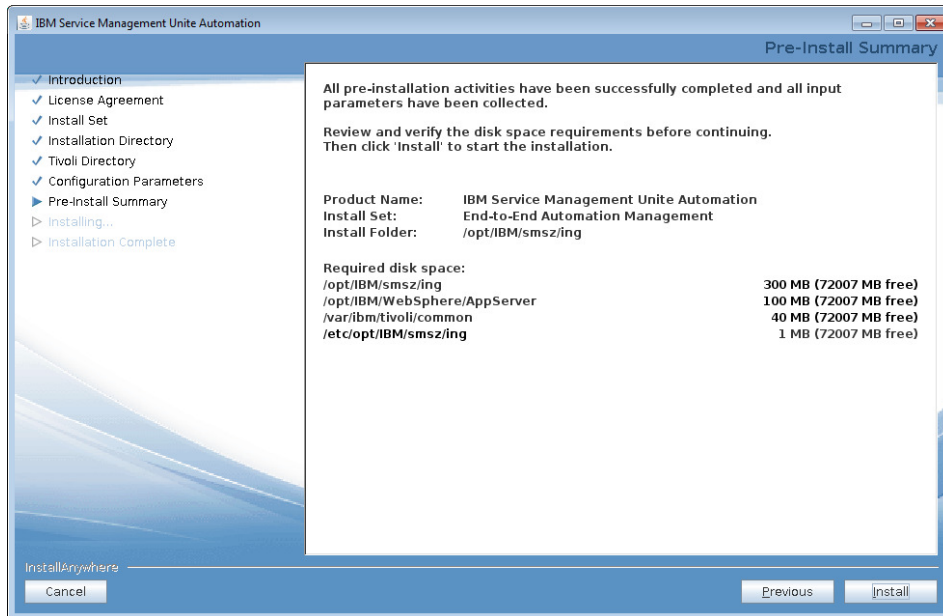
# Service Management Unite Installation - traditional

## Prerequisite installation

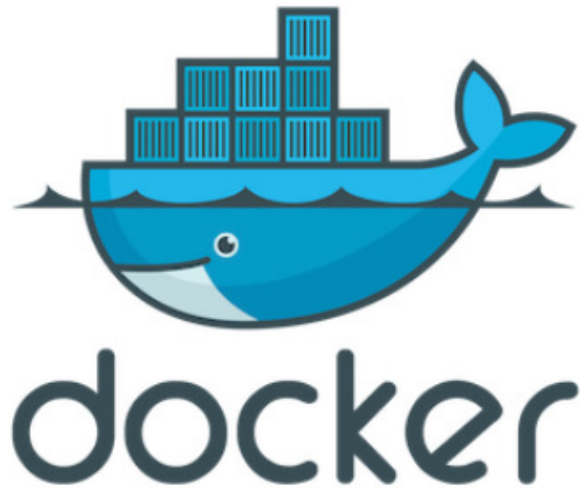
- WebSphere Application Server 8.5.5.9
- Jazz for Service Management 1.1.3
- *IBM Tivoli Directory Integrator 7.1.1*

```
tar -xf SMU_Automation_v1.1.4.0_xLinux.tar
```

```
SMUAUTO1140X/x86_64 # ./setup.bin
```



## Service Management Unite Installation - Docker

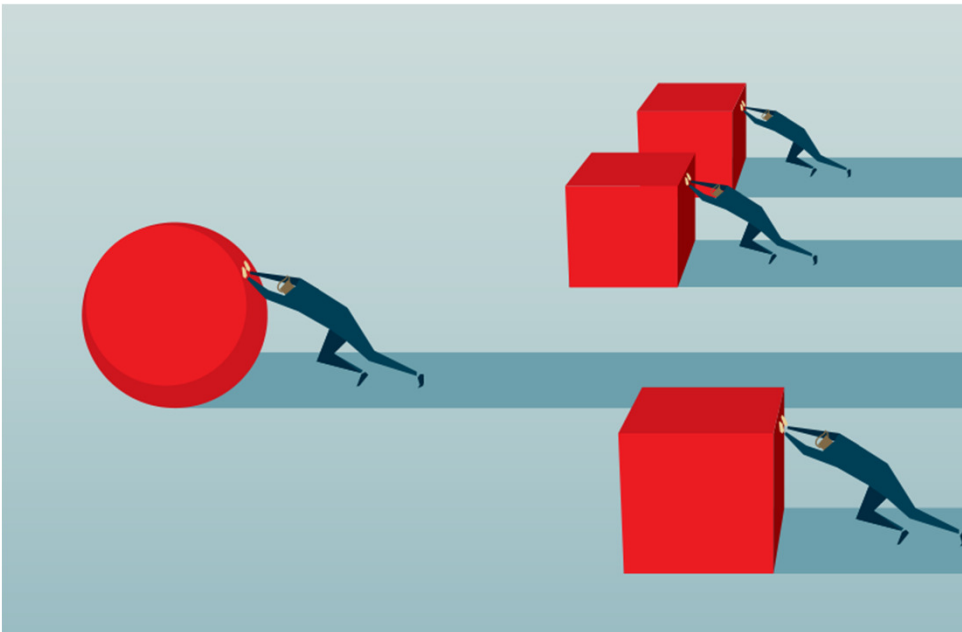


<https://youtu.be/oXhYBydZgC4>

- Standardized packaging for software and dependencies
- Isolate apps from each other
- Share the same OS kernel
- Works with all major Linux and Windows Server distributions
- A Docker image is a snapshot of a Docker container
- A Docker container is a running instance of an image
- Multiple containers can be started from the same image
- After stopping it, a container is normally thrown away/ deleted (and a new one can be started again from the image)



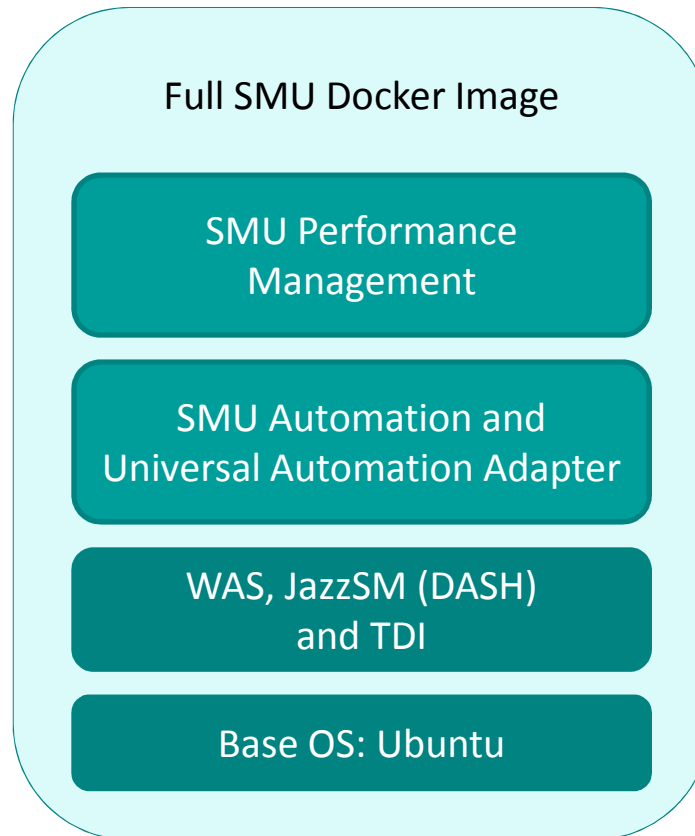
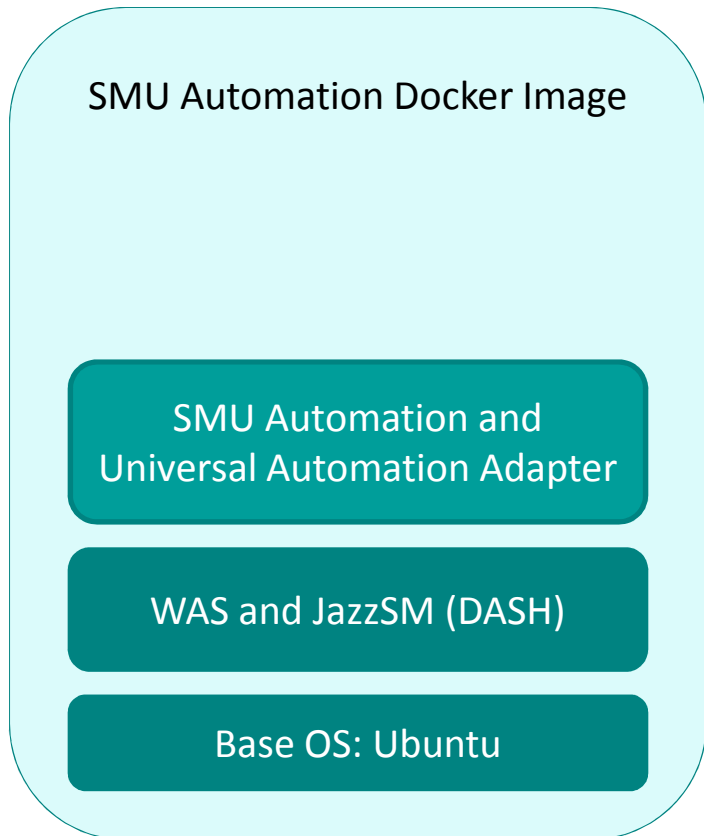
## Service Management Unite Installation - Docker



- Speed
  - No OS to boot = applications online in seconds
  - Effective resource management due to shared kernel
- Portability
  - Less dependencies between process layers= ability to move between infrastructure
- Efficiency/Workload Density
  - Less OS overhead
  - Improved VM density

<https://dam.ibm.com/media/?mediaId=8E572DAC-52B1-4AFA-9E2B0D9863547135>





- each image is available for x and z platform
- Docker EE or Docker CE has to be installed
- No special configuration needed



## SMU\_Automation\_v1.1.4.0\_Docker\_Image\_xLinux.tar

**readme\_smu.txt** Readme file with information about SMU and Docker

**eezdocker.sh** IBM provided shell script to handle the SMU Docker image/container. Wraps for example the necessary Docker commands and parameters to start a container etc.

**smu\_image.tar** The “real” Docker image, that needs to be loaded into the own Docker environment. Can be done with the eezdocker.sh script.

**util** Includes additional files like licenses and helper scripts for eezdocker.sh



## eezdocker.sh

help

Shows and explains all available options from eezdocker.sh

load

Loads the SMU Docker image into the user's Docker environment.

status

Shows if the SMU Docker image is loaded and if a SMU Docker container is running

start

Starts the SMU Docker container (image must be loaded).  
Uses Docker's "restart always" parameter to ensure the container will be kept running all the time (and that it will be started automatically after a reboot of the host system).

stop

Stops a running SMU Docker container (and deletes it). Note: Configuration data will be kept persistent in the used Docker volumes.



## eezdocker.sh

**cfgsmu**

Launches the SMU GUI configuration tool `cfgsmu`.

**restart**

Restarts a running Docker container, necessary for example if WAS has to be restarted.

**shell**

Opens a shell (bash) within a running SMU Docker container. Useful if there is the need to look inside a running container (check log files, do manual configuration etc.)

**collect\_logs**

Launches the SMU log collection tool `getsmudata` within the running SMU Docker container, collects all important logs and copies them to the host machine. Useful if a customer has opened a PMR and log files are required for further investigation.

**uninstall**

Removes stale SMU Docker containers and the SMU Docker image from the Docker environment. (`eezdocker.sh` and its util files need to be deleted manually.)



Volume name	Path in Docker container	Description
eez_eautodb	/opt/IBM/WebSphere/AppServer/derby/EAUTODB	The location of the database where SMU Automation domain connection information is stored
eez_restdb	/opt/IBM/JazzSM/ui/db/restdb	The location of the DASH internal database
eez_custdash	/opt/IBM/JazzSM/profile/config/cells/JazzSMNode01Cell	The location where WAS configuration including user registry, DASH customizations, and dashboard definitions are stored
eez_cfg	/etc/opt/IBM/smsz/ing	The location of SMU Automation configuration data and policy pool
eez_prefs	/opt/IBM/JazzSM/profile/Tivoli/EEZ	The location of SMU Automation operator preferences
eez_tdi	/opt/IBM/TDI/V7.1.1/DASH_ITMCollector	The location of the TDI preferences

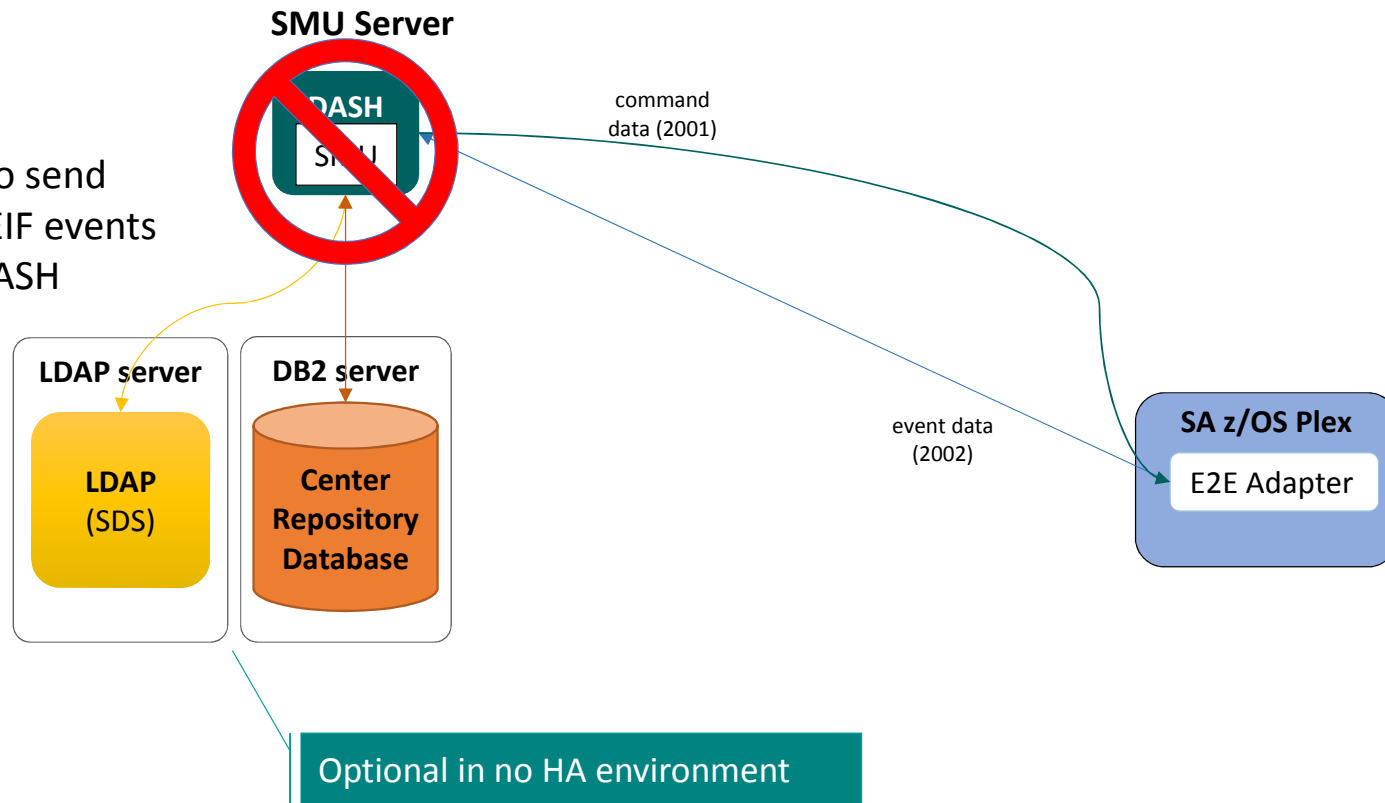




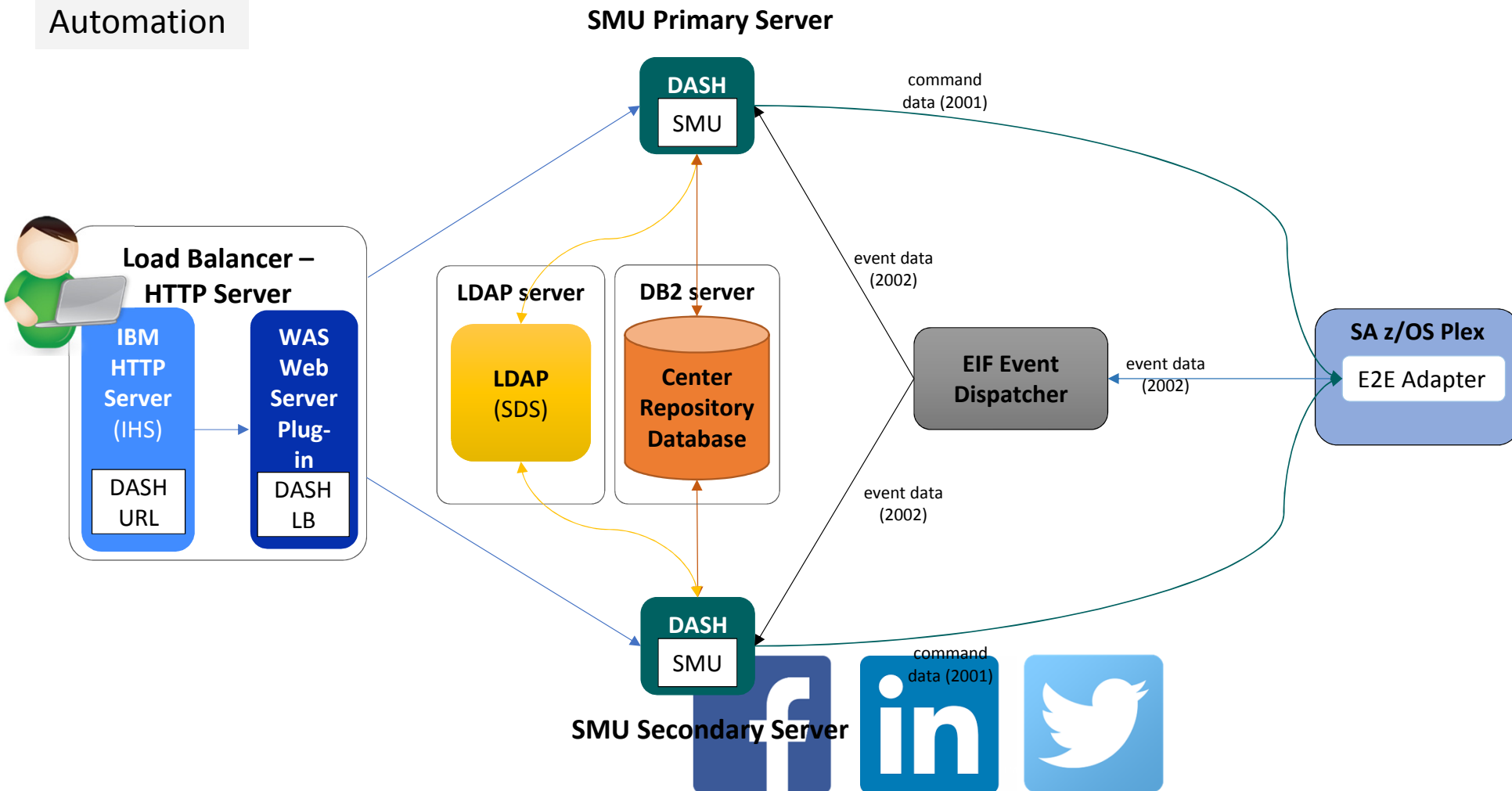
Automation

Components to consider

- Connections to SA plex to send commands and receive EIF events
- Credentials to login to DASH
- Automation Repository

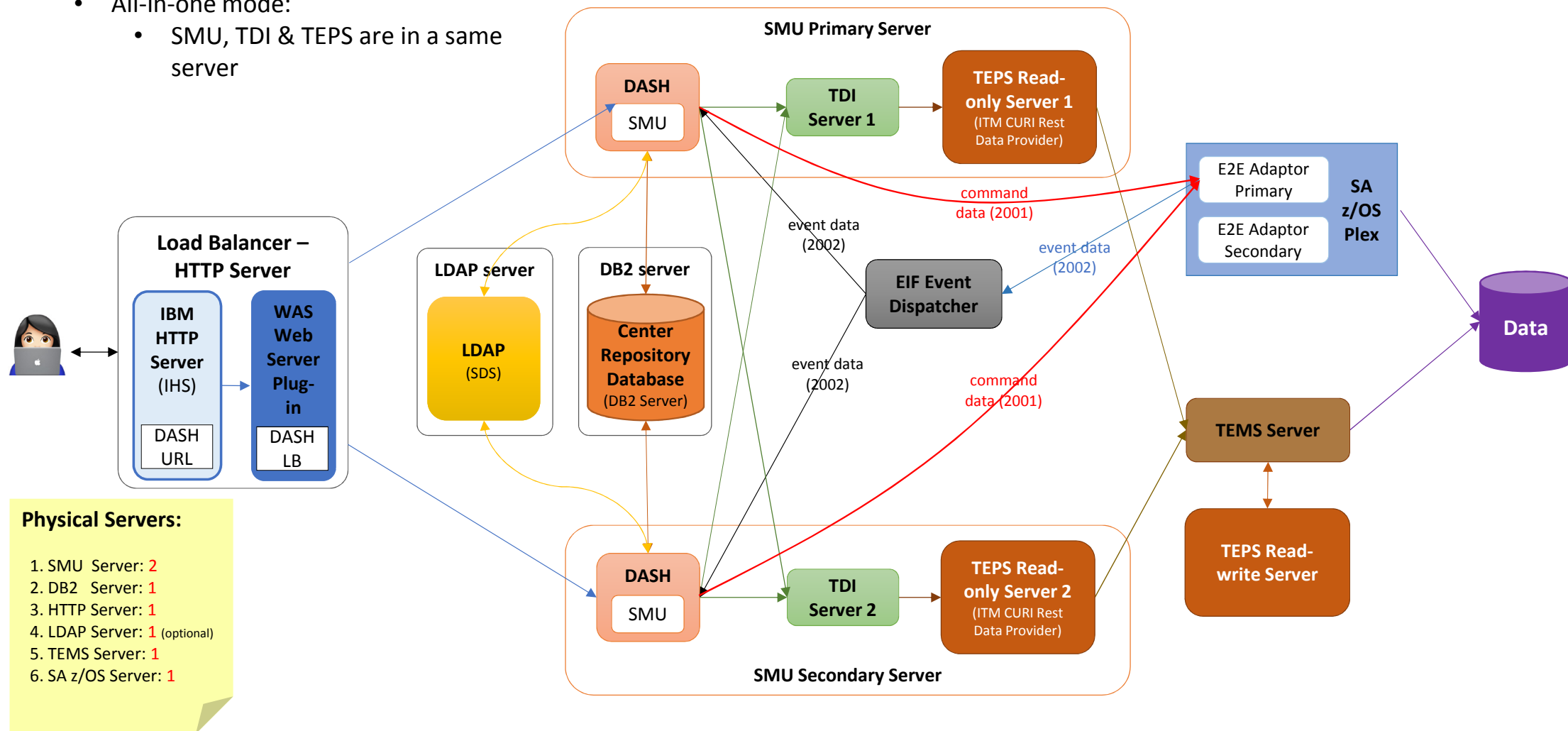


Automation



# Service Management Unit – High Availability

- All-in-one mode:
  - SMU, TDI & TEPS are in a same server

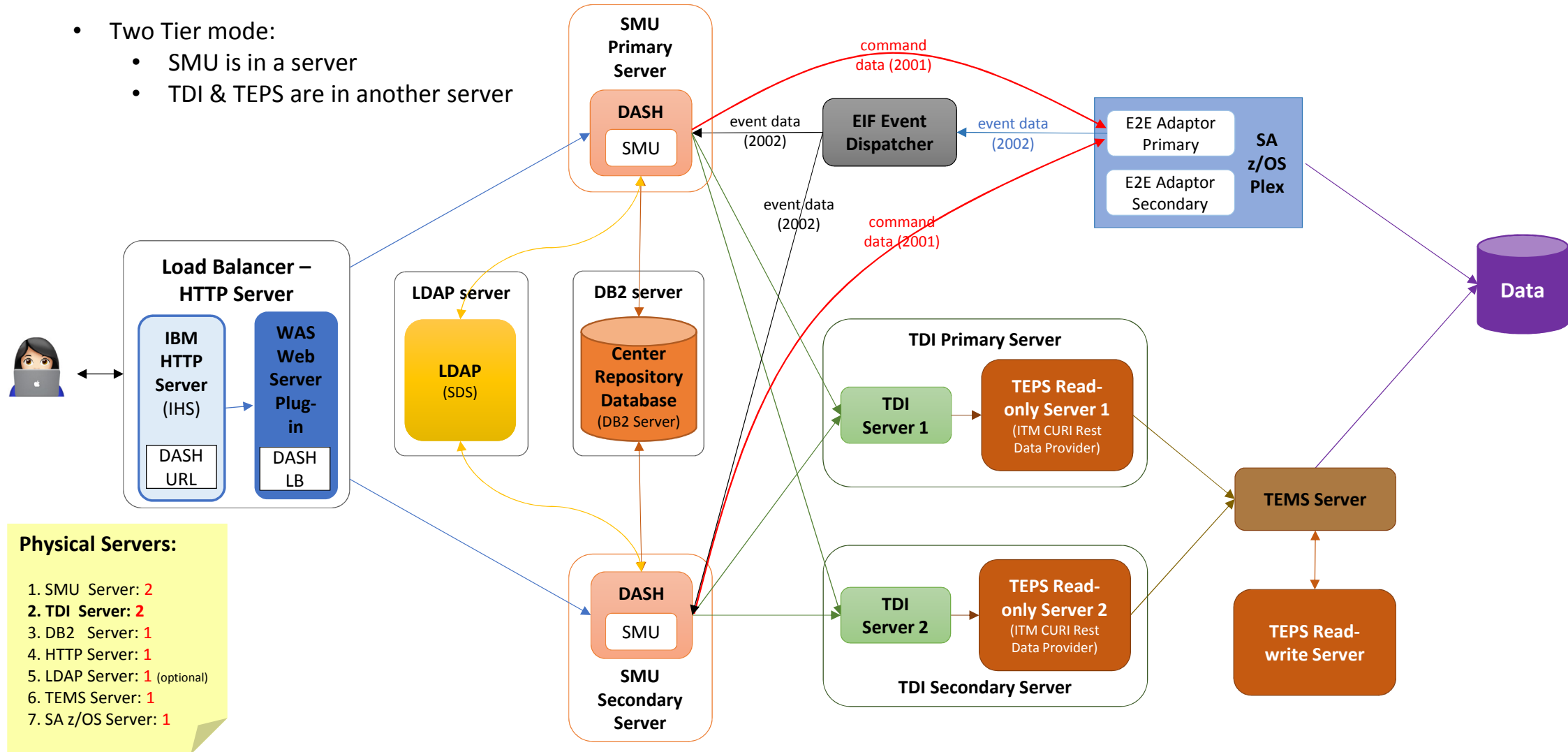


## Physical Servers:

1. SMU Server: 2
2. DB2 Server: 1
3. HTTP Server: 1
4. LDAP Server: 1 (optional)
5. TEMS Server: 1
6. SA z/OS Server: 1

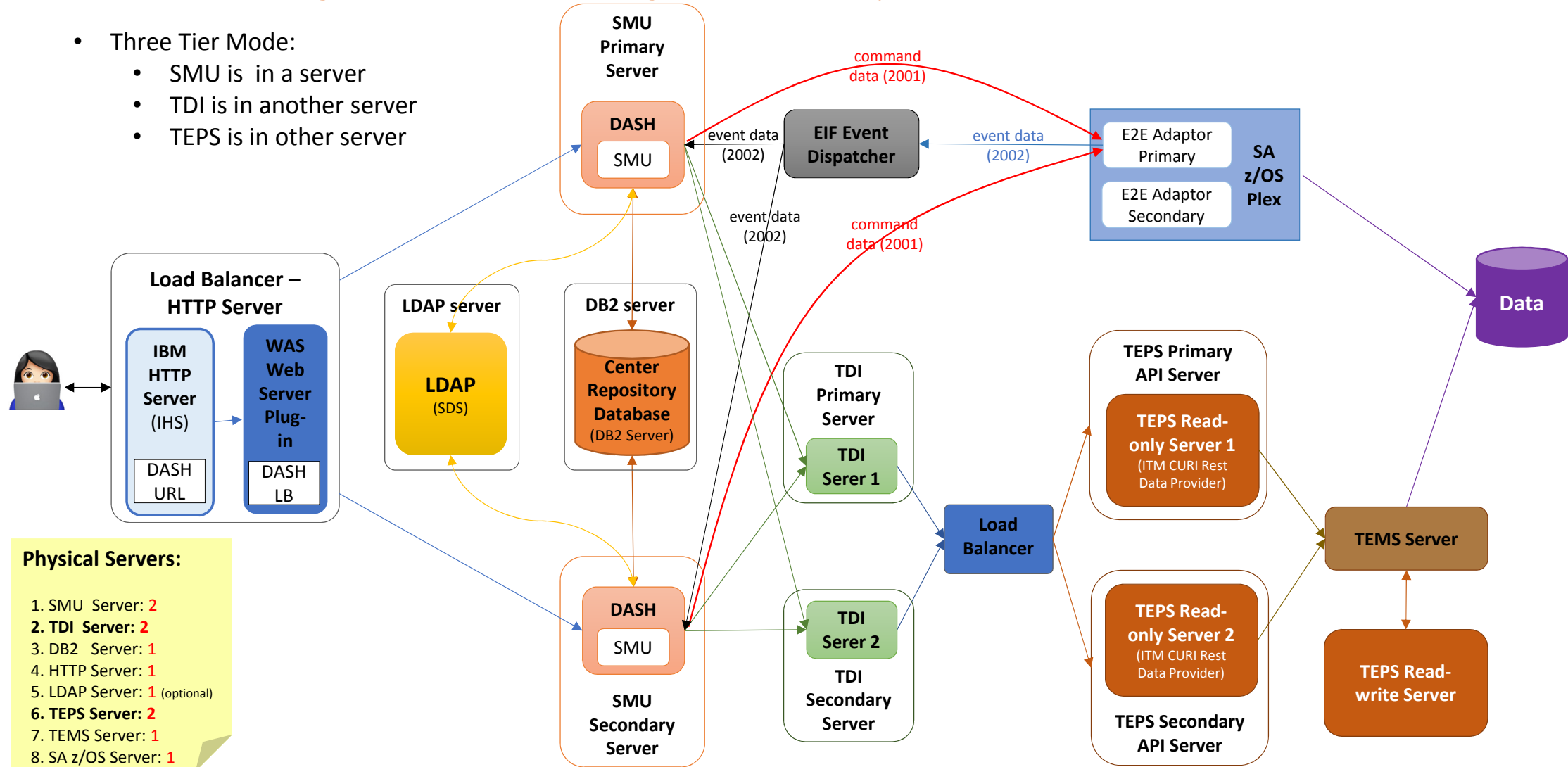
# Service Management Unit – High Availability

- Two Tier mode:
  - SMU is in a server
  - TDI & TEPS are in another server



# Service Management Unite – High Availability

- Three Tier Mode:
  - SMU is in a server
  - TDI is in another server
  - TEPS is in other server



- Physical Servers:**
1. SMU Server: 2
  2. TDI Server: 2
  3. DB2 Server: 1
  4. HTTP Server: 1
  5. LDAP Server: 1 (optional)
  6. TEPS Server: 2
  7. TEMS Server: 1
  8. SA z/OS Server: 1

## Additional requirements

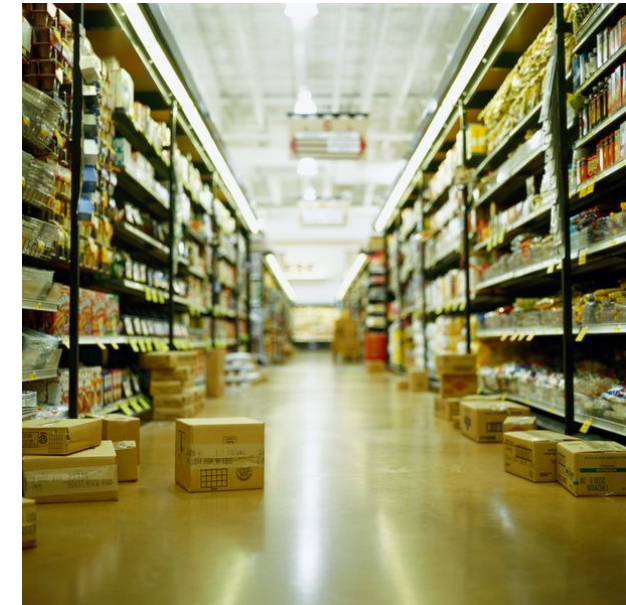
### ■ Hardware

- At least one more physical machine for SMU server
- One physical machine for HTTP server & IBM WAS web server plugin
- One physical machine for center repository database

### ■ Software

- IBM SDK, Java (TIM) Technology Edition, Version 8
- IBM WebSphere Application Server Supplements – IBM HTTP Server
- IBM WebSphere Application Server Supplements – Web Server Plugins
- IBM WebSphere Application Server Supplements – WebSphere Customization Toolkit
- IBM DB2 Enterprise Server Edition (Ignore it if you already have)
- EIF event dispatcher - eezeifeventdispatcher.tar.gz

(installed along with SMU Automation, usually in the folder /opt/IBM/smsz/ing/EIFEventDispatcher)



<https://dam.ibm.com/l/154c90b3325bb998/>

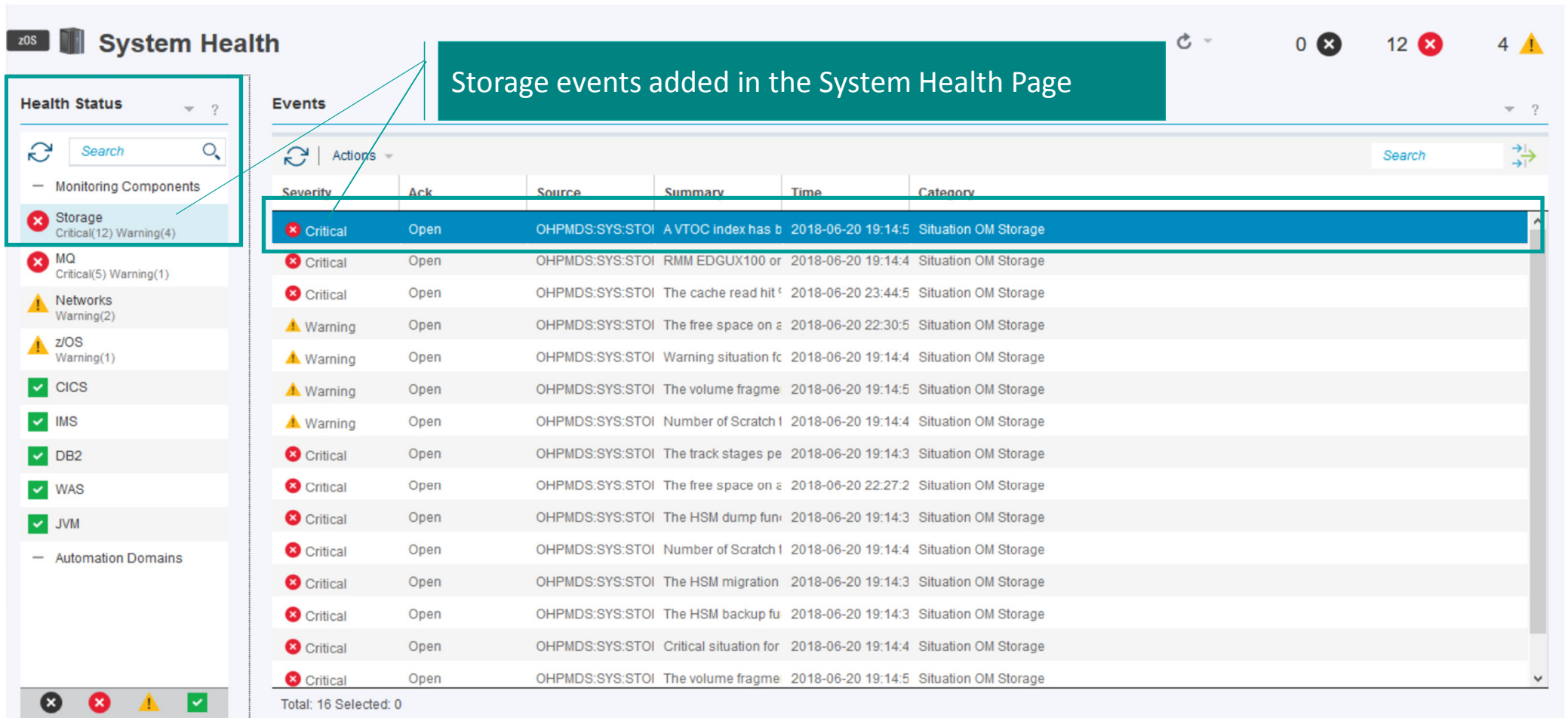


- Overview of Storage groups and status
- Highlight the records that exceed the threshold for problem diagnosing
- Details of a selected Storage group, including the lowest and highest Volume free space, volume highest response time
- Details of a selected Volume, including the status, the Space trend, the Free/Used ratio and data set information





## System Health Page



**System Health**

0 × 12 × 4 ⚠

**Health Status**

Monitoring Components

- Storage Critical(12) Warning(4)
- MQ Critical(5) Warning(1)
- Networks Warning(2)
- z/OS Warning(1)
- CICS
- IMS
- DB2
- WAS
- JVM

Automation Domains

**Events**

Severity	Ack	Source	Summary	Time	Category
Critical	Open	OHPMDS:SYS:STOI	A VTOC index has b	2018-06-20 19:14:5	Situation OM Storage
Critical	Open	OHPMDS:SYS:STOI	RMM EDGUX100 or	2018-06-20 19:14:4	Situation OM Storage
Critical	Open	OHPMDS:SYS:STOI	The cache read hit	2018-06-20 23:44:5	Situation OM Storage
Warning	Open	OHPMDS:SYS:STOI	The free space on	2018-06-20 22:30:5	Situation OM Storage
Warning	Open	OHPMDS:SYS:STOI	Warning situation fc	2018-06-20 19:14:4	Situation OM Storage
Warning	Open	OHPMDS:SYS:STOI	The volume fragme	2018-06-20 19:14:5	Situation OM Storage
Warning	Open	OHPMDS:SYS:STOI	Number of Scratch l	2018-06-20 19:14:4	Situation OM Storage
Critical	Open	OHPMDS:SYS:STOI	The track stages pe	2018-06-20 19:14:3	Situation OM Storage
Critical	Open	OHPMDS:SYS:STOI	The free space on	2018-06-20 22:27:2	Situation OM Storage
Critical	Open	OHPMDS:SYS:STOI	The HSM dump fun	2018-06-20 19:14:3	Situation OM Storage
Critical	Open	OHPMDS:SYS:STOI	Number of Scratch l	2018-06-20 19:14:4	Situation OM Storage
Critical	Open	OHPMDS:SYS:STOI	The HSM migration	2018-06-20 19:14:3	Situation OM Storage
Critical	Open	OHPMDS:SYS:STOI	The HSM backup fu	2018-06-20 19:14:3	Situation OM Storage
Critical	Open	OHPMDS:SYS:STOI	Critical situation for	2018-06-20 19:14:4	Situation OM Storage
Critical	Open	OHPMDS:SYS:STOI	The volume fragme	2018-06-20 19:14:5	Situation OM Storage

Total: 16 Selected: 0





## Event Details

The screenshot displays the 'Event Details' page in the IBM Performance Management console. The page is divided into several sections:

- Event Information:**
  - Name: KS3\_Vol\_Free\_Space\_Pct\_Warning
  - Severity: Warning
  - Time: 2018-08-24 21:53:46
  - Source: OHPMDS:SYS:STORAGE
  - Ack: Open
  - Category: Situation OM Storage
  - Summary: The free space on a volume is below the warning threshold.
  - Formula: ( Percent Free Space <= 10.0 AND Percent Free Space > 5.0 )
  - Definition: ( Percent Free Space <= 10.0 AND Percent Free Space > 5.0 )
- Initial Event Values:** (Volume: OMV005)
 

Label	Value
Percent Free Space	9.0
Volume	OMV005
Device Address	5B9A
Device Type	3390
Total Capacity Megabytes	2707
Free Space Megabytes	244
Fragmentation Index	24
Largest Free Extent MB	237
- Current Event Values:** (Volume: PRI101)
 

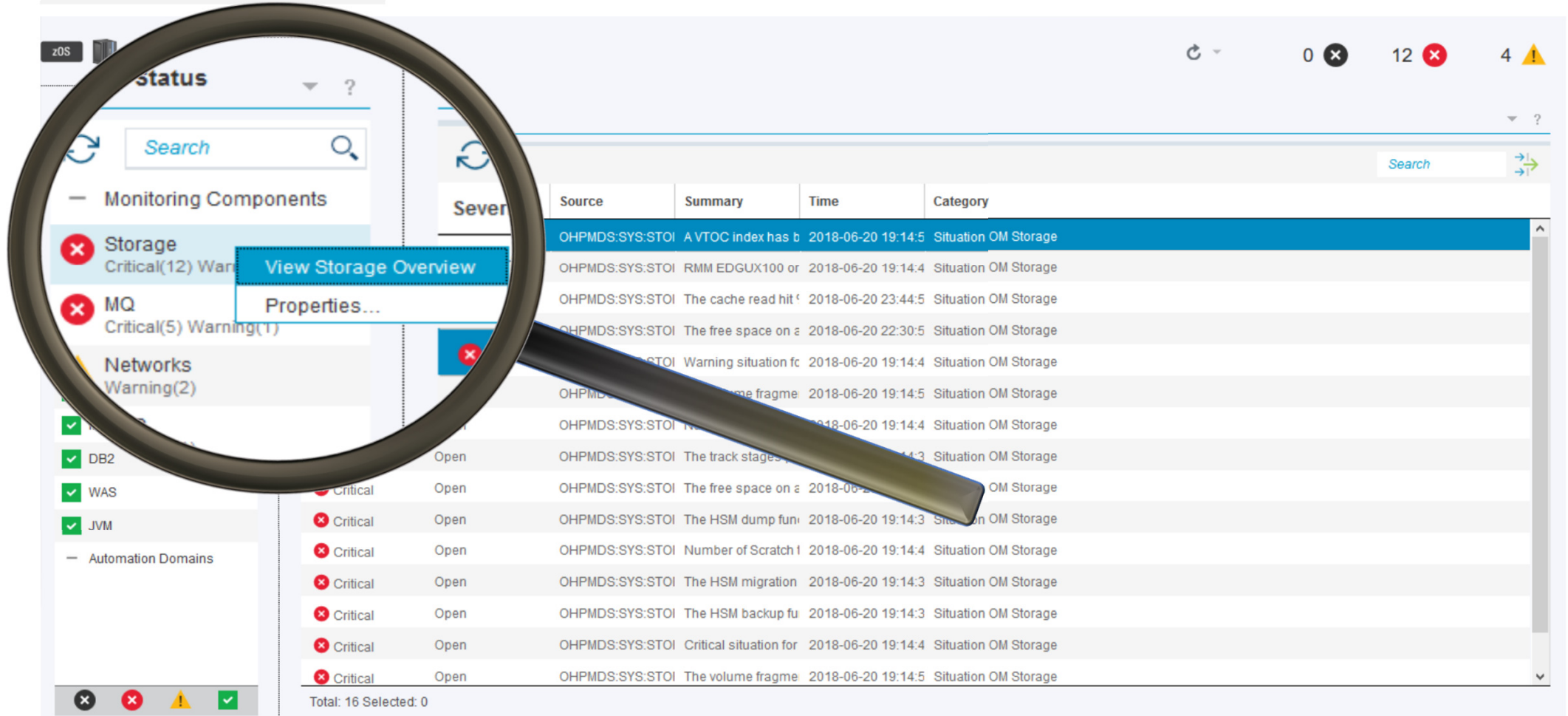
Label	Value
Percent Free Space	9.5
Volume	PRI101
Device Address	5BEC
Device Type	3390
Total Capacity Megabytes	8120
Free Space Megabytes	779
Fragmentation Index	193
Largest Free Extent MB	310
- Expert Advice:**
  - Situation Description: The free space on a volume is below the warning threshold.
  - Suggested Actions: The percentage of free space on a volume is below the warning threshold.
- Events from the Same Source:**

Severity	Ack	Name	Summary
Warning	Open	KS3_Storage_Gr_P	Warning situat...
Critical	Open	KS3_Vol_Disabled_ A	VTOC index h...
Warning	Open	KS3_Vol_Cache_R	The cache read...
Warning	Open	KS3_Vol_Fragment	The volume frag...
- Events with the Same Situation Name:**

Severity	Ack	Source	Summary
Warning	Open	OHPMDS:SYS:STO	The free space on i...



## System Health Page



The screenshot shows a 'System Health Page' for a zOS environment. A magnifying glass highlights the 'Storage' monitoring component, which is in a 'Critical' state with 12 warnings. A context menu is open over the Storage component, showing options for 'View Storage Overview' and 'Properties...'. Below the magnifying glass, a table lists various storage-related alerts.

Source	Summary	Time	Category
OHPMDS:SYS:STOI	A VTOC index has b	2018-06-20 19:14:5	Situation OM Storage
OHPMDS:SYS:STOI	RMM EDGUX100 or	2018-06-20 19:14:4	Situation OM Storage
OHPMDS:SYS:STOI	The cache read hit	2018-06-20 23:44:5	Situation OM Storage
OHPMDS:SYS:STOI	The free space on a	2018-06-20 22:30:5	Situation OM Storage
OHPMDS:SYS:STOI	Warning situation fc	2018-06-20 19:14:4	Situation OM Storage
OHPMDS:SYS:STOI	Warning situation fr	2018-06-20 19:14:5	Situation OM Storage
OHPMDS:SYS:STOI	Warning situation fr	2018-06-20 19:14:4	Situation OM Storage
OHPMDS:SYS:STOI	Warning situation fr	2018-06-20 19:14:3	Situation OM Storage
OHPMDS:SYS:STOI	The track stages	2018-06-20 19:14:3	Situation OM Storage
OHPMDS:SYS:STOI	The free space on a	2018-06-20 19:14:3	Situation OM Storage
OHPMDS:SYS:STOI	The HSM dump fun	2018-06-20 19:14:3	Situation OM Storage
OHPMDS:SYS:STOI	Number of Scratch	2018-06-20 19:14:4	Situation OM Storage
OHPMDS:SYS:STOI	The HSM migration	2018-06-20 19:14:3	Situation OM Storage
OHPMDS:SYS:STOI	The HSM backup fu	2018-06-20 19:14:3	Situation OM Storage
OHPMDS:SYS:STOI	Critical situation for	2018-06-20 19:14:4	Situation OM Storage
OHPMDS:SYS:STOI	The volume fragme	2018-06-20 19:14:5	Situation OM Storage

Total: 16 Selected: 0



System Health Page

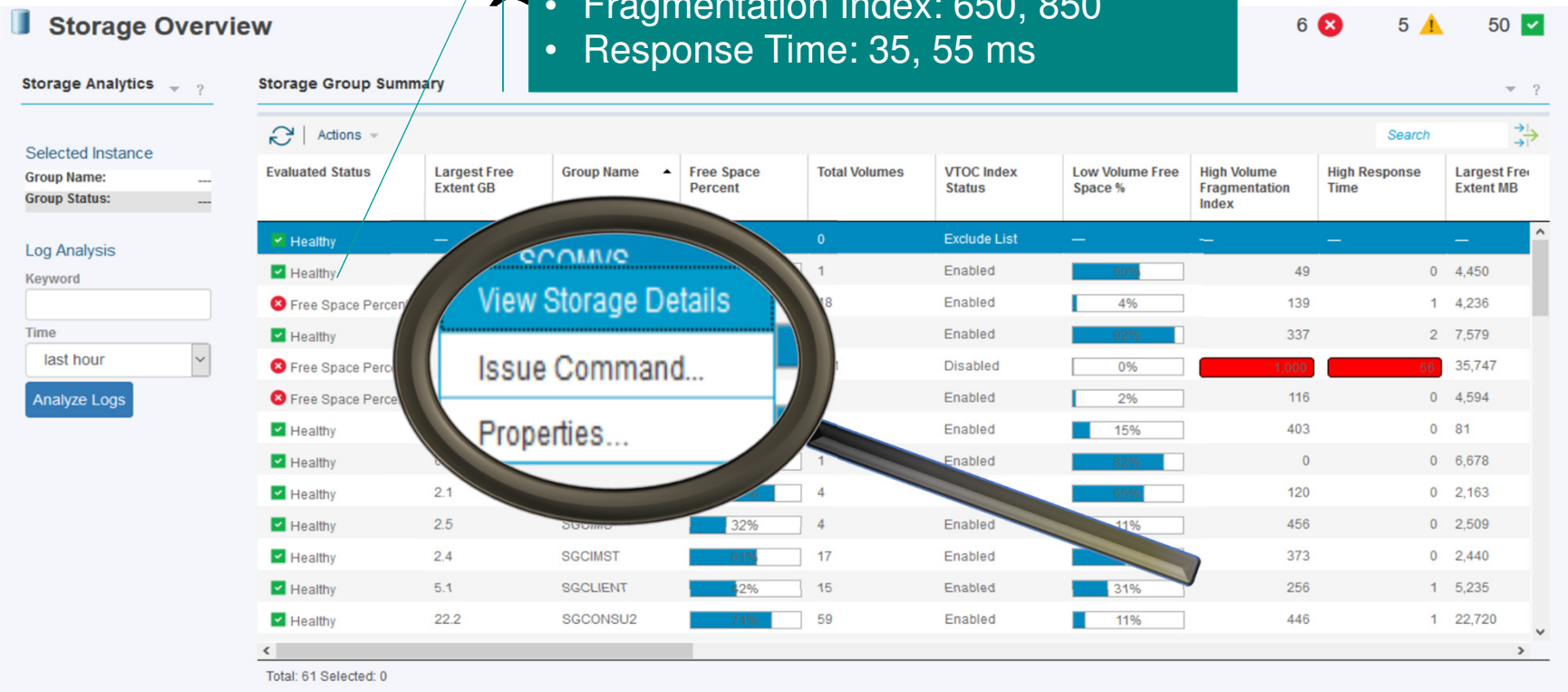
The screenshot displays the z/OS System Health interface. On the left, the 'Health Status' sidebar shows monitoring components: Storage (Critical(12) Warning(4)), MQ (Critical(5) Warning(1)), Networks (Warning(2)), z/OS (Warning(1)), CICS, IMS, DB2, WAS, and JVM. The main 'Events' table lists various critical and warning events, with a magnifying glass highlighting the context menu for a selected event. The context menu includes 'View Event Details', 'View Storage Overview', and 'Properties...'. An inset window shows the 'Event Details' page with a 'Performance' dropdown menu listing various system overview options.

Severity	Time	Category
Critical	2018-06-20 19:14:5	Situation OM Storage
Critical	2018-06-20 19:14:4	Situation OM Storage
Critical	2018-06-20 23:44:5	Situation OM Storage
Warning	2018-06-20 22:30:5	Situation OM Storage
Warning	2018-06-20 19:14:4	Situation OM Storage
Warning	2018-06-20 19:14:5	Situation OM Storage
Warning	2018-06-20 19:14:4	Situation OM Storage
Critical	2018-06-20 19:14:3	Situation OM Storage
Critical	2018-06-20 19:14:3	Situation OM Storage
Critical	2018-06-20 19:14:4	Situation OM Storage
Critical	2018-06-20 19:14:3	Situation OM Storage
Critical	2018-06-20 19:14:3	Situation OM Storage
Critical	2018-06-20 19:14:4	Situation OM Storage
Critical	2018-06-20 19:14:5	Situation OM Storage



## Storage Overview Page

Evaluated Status criteria  
 • Lowest Volume Free Space: 10%, 5%  
 • Fragmentation Index: 650, 850  
 • Response Time: 35, 55 ms



The screenshot shows the 'Storage Overview' dashboard. On the left, there are sections for 'Storage Analytics', 'Selected Instance' (with fields for Group Name and Group Status), and 'Log Analysis' (with a keyword field and a 'last hour' time filter). The main area is titled 'Storage Group Summary' and contains a table of storage groups. A magnifying glass is positioned over the table, highlighting a row with a 'Free Space Percent' of 0% and a 'High Volume Fragmentation Index' of 1,000. The table columns include: Evaluated Status, Largest Free Extent GB, Group Name, Free Space Percent, Total Volumes, VTOC Index Status, Low Volume Free Space %, High Volume Fragmentation Index, High Response Time, and Largest Free Extent MB. At the top right of the dashboard, there are summary statistics: 6 (with a red X), 5 (with a yellow warning triangle), and 50 (with a green checkmark).

Evaluated Status	Largest Free Extent GB	Group Name	Free Space Percent	Total Volumes	VTOC Index Status	Low Volume Free Space %	High Volume Fragmentation Index	High Response Time	Largest Free Extent MB
Healthy	0	SGCMVS	100%	1	Enabled	0%	49	0	4,450
Free Space Percent	18	SGCMVS	4%	18	Enabled	4%	139	1	4,236
Healthy	2	SGCMVS	92%	337	Enabled	92%	337	2	7,579
Free Space Percent	35,747	SGCMVS	0%	1,000	Disabled	0%	1,000	60	35,747
Free Space Percent	4,594	SGCMVS	2%	116	Enabled	2%	116	0	4,594
Healthy	81	SGCMVS	15%	403	Enabled	15%	403	0	81
Healthy	6,678	SGCMVS	82%	0	Enabled	82%	0	0	6,678
Healthy	2,163	SGCMVS	85%	120	Enabled	85%	120	0	2,163
Healthy	2,509	SGCMVS	32%	4	Enabled	32%	456	0	2,509
Healthy	2,440	SGCIMST	6%	17	Enabled	6%	373	0	2,440
Healthy	5,235	SGCLIENT	2%	15	Enabled	2%	256	1	5,235
Healthy	22,720	SGCONSU2	74%	59	Enabled	74%	446	1	22,720





**Storage Group Details**

**Selected Storage**  
current monitoring key identifier values

**Top 5 Volumes with Largest Free Space(MB)**

**Top 5 Volumes with Least Free Space(%)**

**Storage SMS Group Details for SGPRIM**

**Selected Storage**

- Group Name: SGPRIM
- High Busy Percent: 0.5 %
- Device MPL: 6
- High DFV Retry Percent: 0.0 %
- Free Space Percent: 10.8 %
- Group Type: SMSGROUP
- High Response Time: 1.2
- Non-SMS Volumes: 0
- Low Read Hit Percent: 88.9 %
- Storage Group Status: Enabled
- SMS Volumes: 133
- Storage Group Type: Pool
- Total Volumes: 133
- High Volume Fragmentation Index: 640
- Low Volume Free Space %: 7.4 %
- VTOC Index Status: Enabled
- Low Write Hit Percent: 100.0 %

**Top 5 Volumes with Largest Free Space(MB)**

Volume	Free Space MB
PRI228	~1250
PRI226	~1150
PRI220	~1100
PRI212	~1050
PRI231	~1000

**Top 5 Volumes with Least Free Space(%)**

Volume	Percent Free Space
PRI200	~7.5
PRI230	~7.0
PRI122	~6.5
PRI189	~6.0
PRI208	~5.5

**Top 5 Volumes with Largest Response Time(ms)**

Volume	Response Time (ms)
PRI204	~4.0
PRI171	~1.5
PRI196	~1.0
PRI219	~0.5
PRI134	~0.5

**Cross System Performance Report**

Volume	Device Model	Control Unit Model	True % Busy	Cumu Rate
PRI196	3390-3	2107	0	0.2
PRI176	3390-3	2107	0	0
PRI175	3390-3	2107	0	0

Total: 133 Selected: 0

**Top 5 Volumes with Largest Response Time(ms)**

**Cross System Performance Report**  
all sharing systems information of the selected storage group



Volume Details Page

**Selected Volume**  
current monitoring key identifier values

**Volume Space Trend**

**Space Allocation**

STORAGE OVERVIEW x STORAGE GROUP DETAILS(2) x VOLUME DETAILS x

### Volume Details for PRI228

**Selected Volume**

- Volume: PRI228
- Device: 383F
- Address: 3390
- Device Type: 3390
- Total Capacity Megabytes: 8120
- Free Space Megabytes: 1235
- Percent Free Space: 15.2 %
- Fragmentation Index: 319
- Largest Free Extent MB: 414
- SMS Conversion Status: Converted
- SMS Status: Enabled
- Allocated Space MegaBytes: 6885
- Device Model: 3390-9
- Total Free Cylinders: 1486
- Free DSCBs: 4321
- Free Extents: 87
- Total Free Tracks: 558
- Free VTOC Index: 293
- Records:

**Volume Space Trend**

**Space Allocation**

**Data Sets on the Volume**

Dataset Name	Dataset Type	Number of Extents	Tracks Allocated	Track
TDOMPT.DS630FP	Partitioned	3	3	3
FFAKO.USER.CLIS	PDS Extended	1	15	1
TDZOST.UNI530.SF	Physical Sequential	1	5,205	4,816
CRMBMC1.C2POLI	PDS Extended	1	15	3

Total: 174 Selected: 0

**Volume Status**

System ID	MVS Status	SMS Status
SYSG	Online	Enable
SYSL	Online	Enable
SP12	Online	Enable
SP13	Online	Enable
SP11	Online	Enable

Total: 9 Selected: 0

**Data Sets on the Volume**

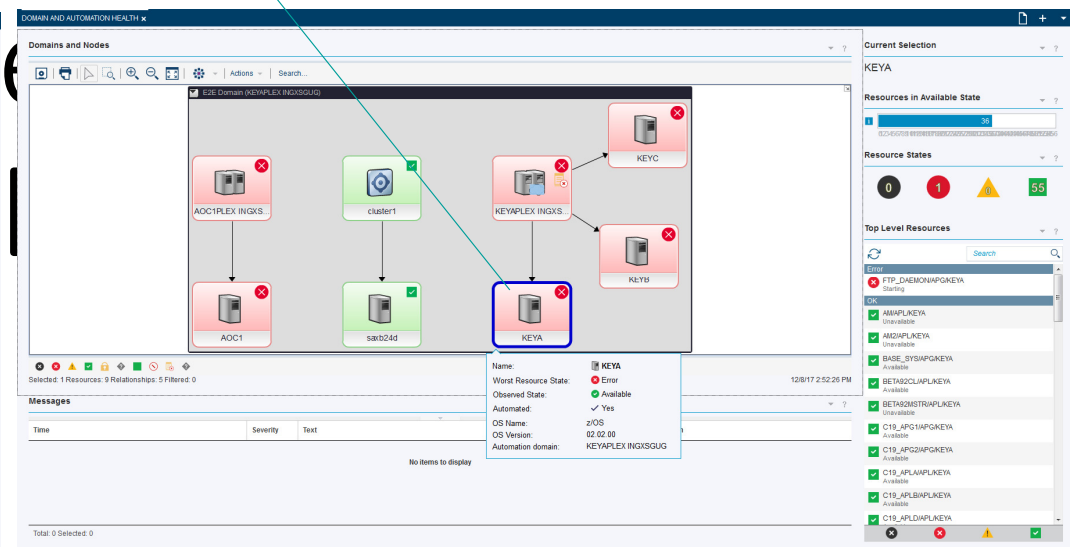
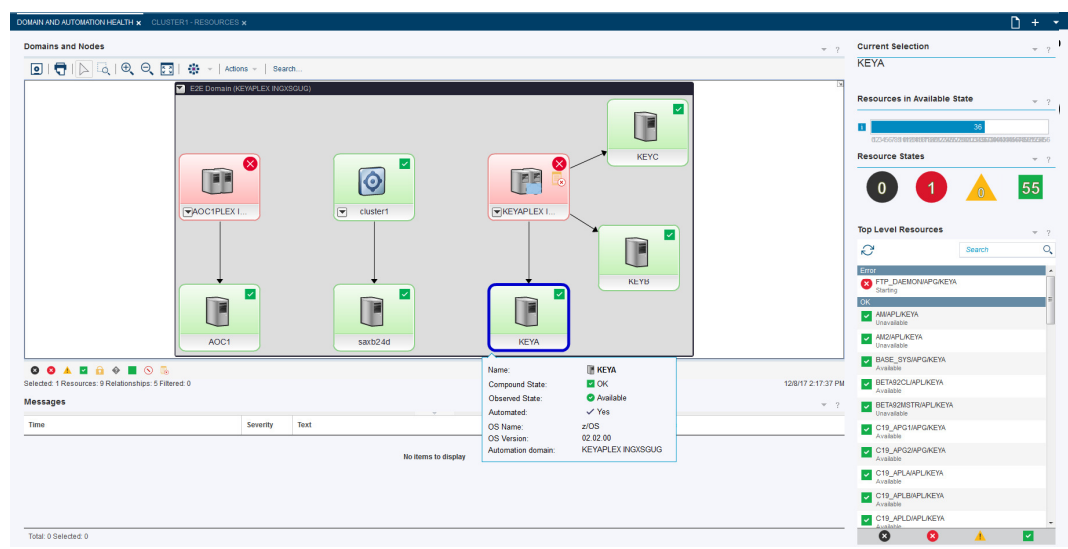
**Volume Status**



RFE 112705 – Node-Status in Widget System Automation Topology

SMU 1.1.4  
Show „Worst Resource State“ like in SDF

Old SMU 1.1.3 behavior of SA domain topology view



Customization possibilities added:

- should the nodes be displayed at all?
- automatic expansion to show nodes



# Service Management Unit – RFEs

Other Examples of Node Views with new “Worst Resource State” display

„Worst Resource State“ column added

DOMAIN AND AUTOMATION HEALTH x EXPLORE AUTOMATION NODES x

### Explore Automation Nodes

Nodes

Actions

Name	Automation Domain	Observed State	Worst Resource State	Automated
SAMC	SAMCPLEX INGXSGXC	Available	Warning	Yes
SAMD	SAMCPLEX INGXSGXC	Available	Fatal Error	Yes

DOMAIN AND AUTOMATION HEALTH x EXPLORE AUTOMATION DOMAINS x

### Explore Automation Domains

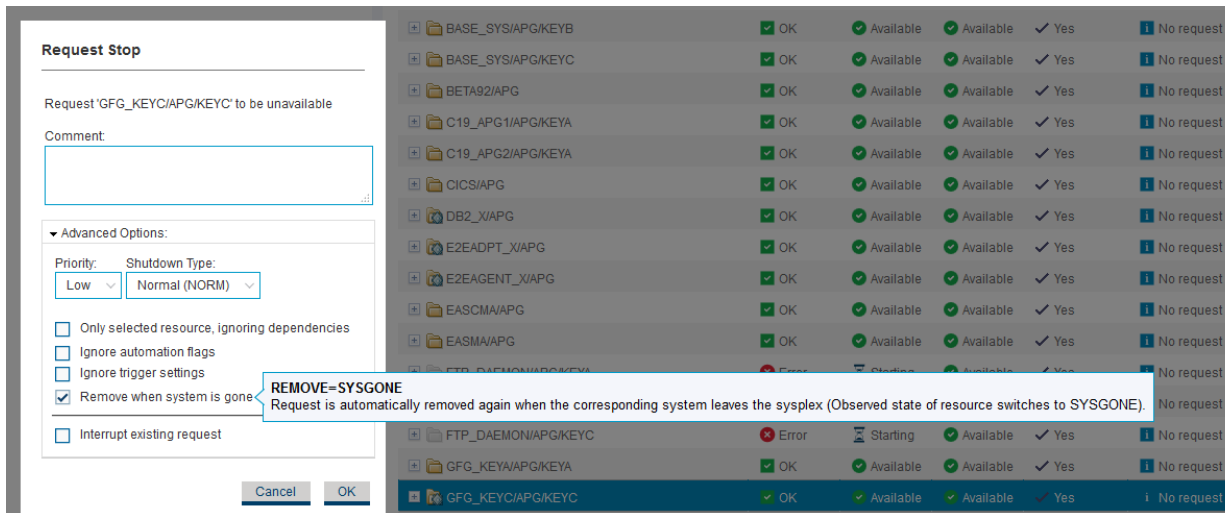
Domains

Actions Search

Name	Worst Resource State	Communication State	Log Status	OS Name
E2E Domain (KEYAPLEX INGXSGUG)	Error	All communi	Log requir	z/OS
AOC1PLEX INGXSGUG	Error	All communi	OK	z/OS
AOC1	Error			z/OS
cluster1	OK	All communi	OK	Linux
saxb24d	OK			RedHat Linux
KEYAPLEX INGXSGUG	Error	All communi	Log requir	z/OS
KEYA	Error			z/OS
KEYB	Error			z/OS
KEYC	Error			z/OS



## RFE 107933 – Add REMOVE=SYSGONE option to requests

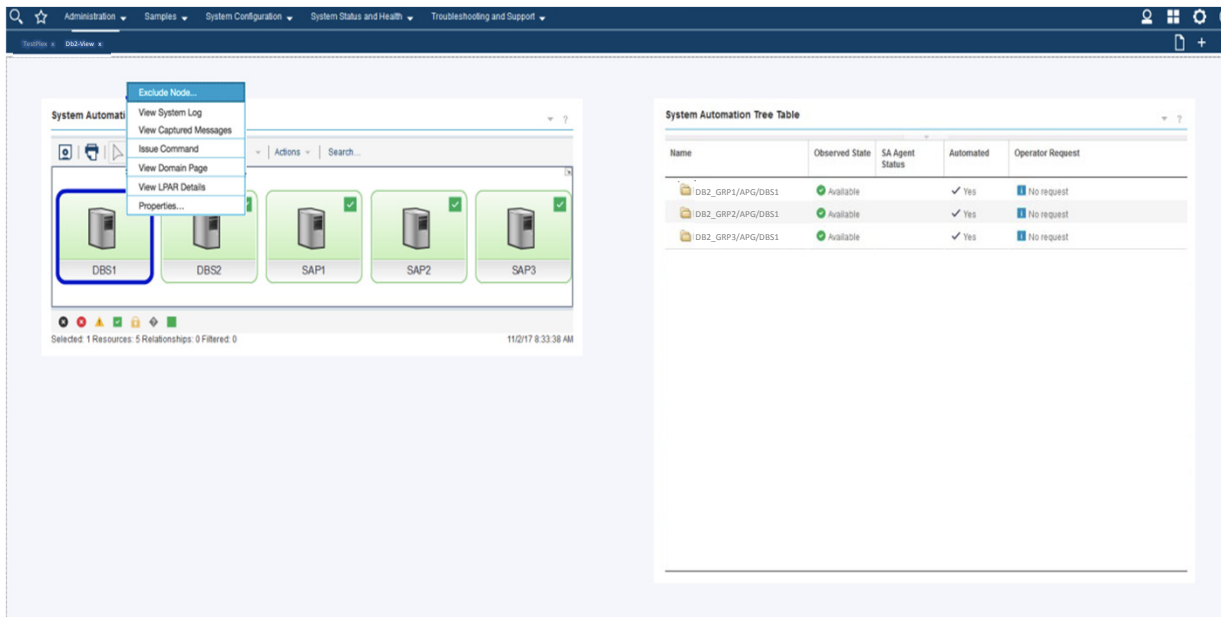


Resource	Status	Health	Ready	OK	Request
BASE_SYSI/APG/KEYB	OK	Available	Available	✓ Yes	No request
BASE_SYSI/APG/KEYC	OK	Available	Available	✓ Yes	No request
BETA92/APG	OK	Available	Available	✓ Yes	No request
C19_APG1/APG/KEYA	OK	Available	Available	✓ Yes	No request
C19_APG2/APG/KEYA	OK	Available	Available	✓ Yes	No request
CICS/APG	OK	Available	Available	✓ Yes	No request
DB2_XIAPG	OK	Available	Available	✓ Yes	No request
E2EADPT_XIAPG	OK	Available	Available	✓ Yes	No request
E2EAGENT_XIAPG	OK	Available	Available	✓ Yes	No request
EASCM/APG	OK	Available	Available	✓ Yes	No request
EASMA/APG	OK	Available	Available	✓ Yes	No request
FTP_DAEMON/APG/KEYC	Error	Starting	Available	✓ Yes	No request
GFG_KEYA/APG/KEYA	OK	Available	Available	✓ Yes	No request
GFG_KEYC/APG/KEYC	OK	Available	Available	✓ Yes	No request

- New option added to Advanced Options for...
  - ... Stop requests
  - ... Start requests
  - ... Suspend requests
- Only available for resources linked to a system (not for sysplex groups)



## RFE 112706 – Allow to hide operational tasks for systems



### Use Case:

- Customer has created a specific dashboard for the Db2 application owner.
  - Dashboard shows all systems on which Db2's are installed
  - Selecting a system shows Db2 instances on this system
  - User can start/stop/suspend, etc. these Db2 instances
  - User should NOT be able to stop the whole system or launch a different command on the system
- Added option to hide operational tasks



## RFE 112706 – Allow to hide operational tasks for systems ...

### Configure Optional Dataset Parameters:

**Automation domain**

*Name of the automation domain.*

**Calculate statistics**

*Choose if statistics should be calculated or not.*

**Disable tooltips**

*Select this option if you want to disable the tooltips for this widget.*

**Hide operational tasks**

*Hide operational tasks*

Dataset Parameter „Hide operational tasks“, can be configured when editing widget settings.

Available for the following datasets:

- Automation node list
- Automation domain topology
- Resource relationships
- Resource topology



## Quick access to “Domain page” and “Issue Command” + Ask Watson

The screenshot shows the Administration console with a navigation menu on the left. The menu items are: Administration, Explore Automation Domains, Explore Automation Nodes, View Default Automation Domain, and Issue Command. The main dashboard features several tiles:

- Domain and Automation Health**: Get an overview of your automation environment.
- Explore Automation Domains**: Navigate through automation domains and nodes.
- Explore Automation Nodes**: Show all nodes and a topology view of the resources hosted by a node.
- Ask Watson**: Ask Watson questions about Service Management Unite. (This tile is highlighted with a green border in the original image.)
- Work with Default Automation Domain**: Work with System Automation resources in your default automation domain.
- Issue a Command**: Issue an MVS or NetView command on a system. (This tile is highlighted with a green border in the original image.)
- Manage non-z/OS Policies**: View, edit, and activate Universal Automation Adapter domain configurations.

The screenshot shows the configuration page for the E2E Domain (SAMCPLEX INGXSGXC). It displays a hierarchy of nodes: SAMCPLEX INGX... (parent) and SAMC (child). A context menu is open over the SAMC node, showing options: Exclude Node..., View System Log, View Captured Messages, Issue Command, View Domain Page, and Properties... (highlighted).

Below the node view is a table of Domains:

Name	Worst Resource State	Communicatio State
AOC4PLEX INGX...	Unknown	The automati
E2E Domain (SAM)	Error	All communic
SAMCPLEX IN	Error	All communic
SAMC		
SAMD		

A context menu is also open over the SAMC row in the table, showing the same options as the node view, with 'View Domain Page' highlighted.



# SA z/OS new Functions

## APAR OA55386

RFE 112938

## INGPLEX IPL

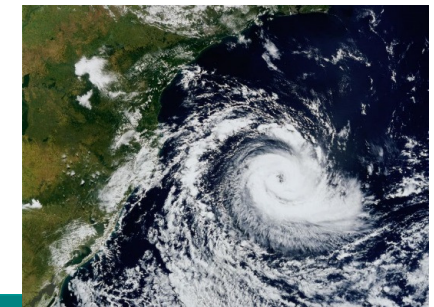
- Shows PARMLIB members used by an IPL of a specified system at a specified timestamp
- Compares PARMLIB members used by different IPLs of a specified system

```

CNMKWIND OUTPUT FROM AOC.TEMP.IPUFJ.B0MU.INGPIPL          LINE 934 OF 1695
D - LPARNAME DWP1
D - SYSPARM (00,22,S0,01,L)
D - IEASYM (ZF,DP,N0,00,S0,01,L)
D - SYSPLEX DWP1PLEX
D - SYSCAT DWPLIB12 SYS1.CATALOG.VDWPLIB
INITSQA 0128K 0128K
*****
LPARNAME HCD4
    
```

```

INGPLEX IPL - - - - -
| --DEL-- | IPLRECD | - - - - - | '-DSN=dsn-'
| -SHOW-- | IPLRECD | - - - - - |
| -DISP-- | IPLREC  | - - - - - |
| -COMP-- | IPLREC  | -WITH-- | IPLREC  |-
| -LIST=sysname - - - - -
    
```



<https://dam.ibm.com/l/4023a5f777426c24/>

- Default: dname assigned to HSAIPL
- Display / compare IPL records from **another** system in case of a disaster recovery situation



RFE 95352

```

AOFPINE2                               SDF Focal Point Definition
Command ==> _____

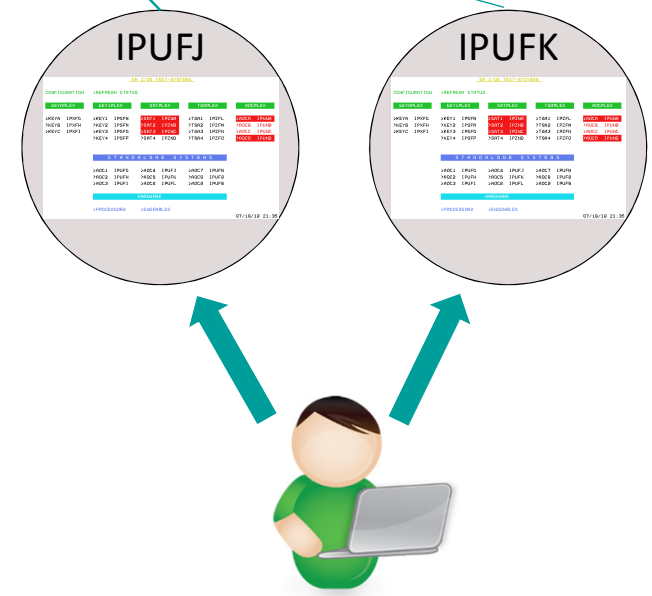
Entry Type : Network                    PolicyDB Name   : E2E_V410
Entry Name  : GATEWAY                   Enterprise Name : E2E_V410

Enter the Netview domains for notification forwarding to the Status Display
Facility (SDF).

Primary Domain. . . IPUFJ             Domain ID of the primary focal point
Backup Domain . . . IPUFK             Domain ID of the backup focal point

Parallel Update . . . YES             (YES NO, Default NO)
    
```

User data support via  
AOF\_AAO\_SDFFP\_ROOT.\*  
AOF\_AAO\_SDFBFP\_ROOT.\*



- Increased Reliability:  
Avoids the dependency on the availability of the single connection between a target system and the primary focal point
- Sustained SDF view during maintenance:  
When primary focal point is stopped for maintenance backup focal point has already the data

Turn parallel update on and off via refreshing the configuration



RFE 101712

LPAR Definitions			Policy
Entry Type : Processor		PolicyDB Name : PROCOPS_410	
Entry Name : HEL2		Enterprise Name : ISQ_LTD	
Action	LPAR Name	Target Mode	Target System Name
	KEY1	ESA	KEY1
	LNXSA01	LINUX	LNXT0
	SAT4	ESA	SAT4
	SAV1	ESA	SAV1
	SYSC	ESA	
	SYSD	ESA	
	TSA4	ESA	TSA4
	VM9	ESA	BOEVM9

Prior to APAR **OA55386**:  
Target System Name required  
→ SYSC and SYSD would not be considered for Processor Operations other than INTERNAL

- 'Target System Name' must be unique.
- 'Target System Name' must match one of the defined systems in PDB

'Backup' LPAR for High Availability





Examples:

LPAR Name <b>SYSC</b> Processor Name <b>HEL2</b>	
AOF_AAO_ISQ_DYNTGT	Dynamic Target System Name
L8	SYSC
L7#	SYSC#
L4C3@	SYSCHEL@

New AAO variable AOF\_AAO\_ISQ\_DYNTGT to define dynamic name pattern.

AOF\_AAO\_ISQ\_DYNTGT 3 building blocks:

1. Lx: take LPAR Name from 1 to x
2. Cy: take Processor Name from 1 to y
3. Special characters #, \$ and @ (only one)

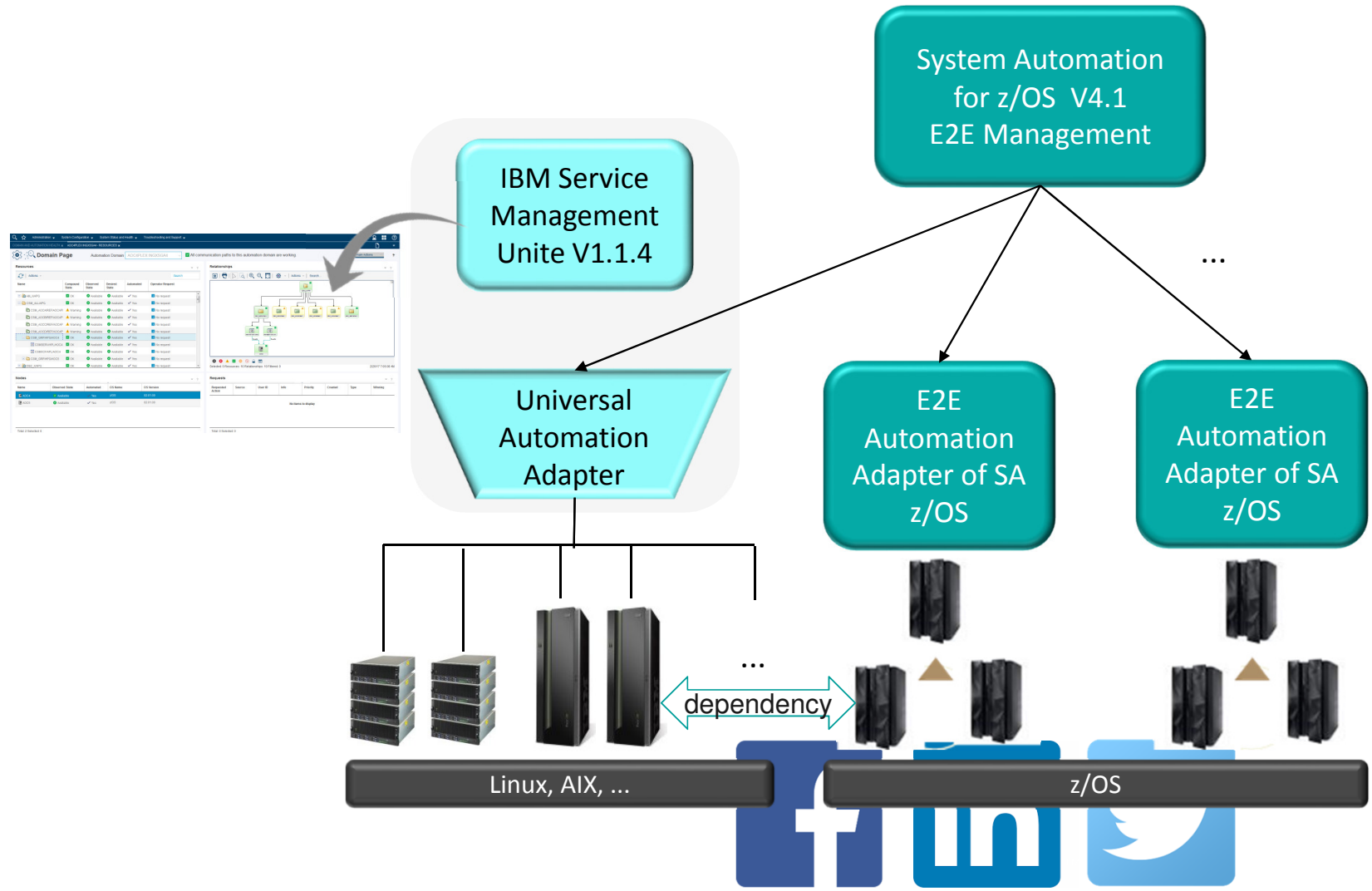
maximum  
Target System Name length  
is 8 characters

Assumed settings:

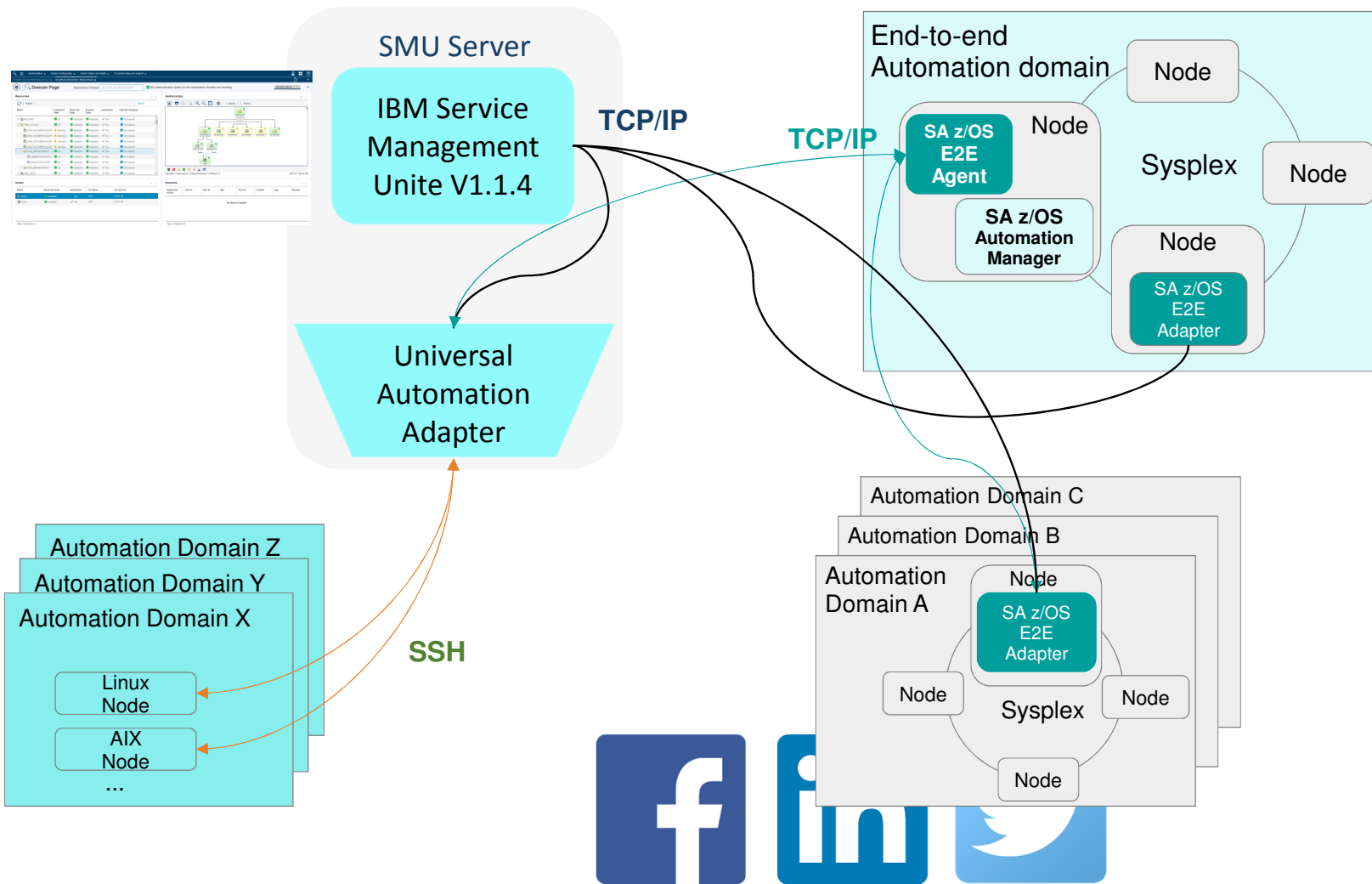
Operating System Type = MVS  
Initialize target system = BYPASS  
Default Response to IEA213A/IEA214A = YES  
Target time zone = 0 (same as host)

ISQ144: Dynamic target system setup skipped due to invalid pattern &1.  
ISQ145: Dynamic target system &1 skipped - duplicate entry.





- Control applications running on z/OS sysplexes and on distributed servers
- Manage cross platform automation environment regarding dependencies between them



Customization Dialog Definitions

Entry Type Selection

Option ==> \_\_\_\_\_

More: +

Enter number or entry type or use "BR <entry type>" for browse

1	ENT	Enterprise	30	TMR	Timers
2	GRP	Groups	32	TPA	Tape Attendance
3	SBG	SubGroups	33	MVC	MVS Components
4	SYS	Systems	34	MDF	MVSCOMP Defaults
5	APG	ApplicationGroups	35	SDF	System Defaults
6	APL	Applications	36	ADF	Application Defaults
7	EVT	Events	37	AOP	Automation Operators
8	SVP	Service Periods	38	NFY	Notify Operators
9	TRG	Triggers	39	NTW	Networks
10	PRO	Processors	40	XDF	Sysplex Defaults
11	MTR	Monitor Resources	41	RES	Resident CLISTS
12	ENS	zEnterprise Ensembles	42	SCR	Status Display
13	PAC	Pacing Gates	50	DMN	Remote Domains
			51	REF	Resource References
20	PRD	Product Automation			

References to remote resources and their automation domains



Customization Dialog Definitions – remote Domains

Domain Name as  
to be seen in  
INGLIST

Entry Name Selection Row 1 to 8 of 8  
Scroll ==> PAGE

Command ==> \_\_\_\_\_

Entry Type : Remote Domain      PolicyDB Name : E2E\_V410  
Enterprise Name : E2E\_V410

Action	Entry Name	Short Description
_____	AOCAPLEX	remote Domain for AOCAPLEX
_____	AOC4PLEX	Test of remote SAPlex
_____	LINUXENV	distributed environment managed via UAA

Domain Information

Command ==> \_\_\_\_\_

Entry Type : Remote Domain      PolicyDB Name : E2E\_V410  
Entry Name : LINUXENV      Enterprise Name : E2E\_V410

Domain Name . . . . .  
MyLinuxEnvironment

Actual Remote Domain Name

Add credentials in ~/adapter/config/inge2eagt.credentials.properties



Customization Dialog Definitions – Remote Resource Reference

Reference to remote Resource as to be seen in INGLIST

Entry Name Selection Row 6 to 8 of 8

Command ==> \_\_\_\_\_ Scroll ==> PAGE

Entry Type : Resource Reference      PolicyDB Name : 0A55386  
Enterprise Name : E2E\_V410

Action	Entry Name	Short Description
_____	SMU	SMU server
_____	VNC	VNC server
_____	WEB_SRV	WebServer running on lnxe2e4x



Customization Dialog Definitions – Remote Resource

Remote Resource

Command ==> \_\_\_\_\_

Entry Type : Resource Reference      PolicyDB Name : E2E\_V410  
Entry Name : SMU                      Enterprise Name : E2E\_V410

Inform List . . . . . \_\_\_\_\_ (E2E)  
Owner . . . . . Ulrike Münch  
Info Link . . . . . \_\_\_\_\_

Specify the remote resource:  
Name. . . . . SMU

Type. . . . . IBM.RemoteApplication (APG APL MTR REF  
IBM.RemoteApplication)

System/Node . . . . . lnxe2e4x

To match UAA definitions

Universal Automation Adapter Policy:

General

Name:\*

Owner:

Info link:

Description:

Remote System Access

Host name:\*





Customization Dialog Definitions – Remote Resource dependency and linkage

Definition of Relationships

Policy Selection Row 1 to 6 of 6  
Scroll ==> PAGE

Command ==> \_\_\_\_\_

Entry Type : Resource Reference      PolicyDB Name : E2E\_V410  
Entry Name : SMU                      Enterprise Name : E2E\_V410

Action	Policy Name	Policy Description
_____	DESCRIPTION	Enter description
_____	REMOTE RESOURCE	Define remote resource
_____	RELATIONSHIPS	Define relationships
-----		
_____	WHERE USED	List domain linked to this entry
_____	COPY	Copy data from an existing entry

Linkage to remote Domain

Where Used Row 1 to 8 of 8  
SCROLL==> PAGE

Command ==> \_\_\_\_\_

Entry Type : Resource Reference      PolicyDB Name : E2E\_V410  
Entry Name : SMU                      Enterprise Name : E2E\_V410

Action	Status	Name	Type
_____		AOCAPLEX	DMN
_____		AOC4PLEX	DMN
_____	SELECTED	LINUXENV	DMN

Runtime – INGLIST

```

INGKYST0          SA z/OS - Command Dialogs          Line 1 of 4
Domain Id . : IPUFJ          ----- INGLIST ----- Date . . : 07/25/18
Operator Id : PUMU          Sysplex = AOC4PLEX          Time . . : 09:44:45
  A Update      B          Stop      D INGRELS      E INGVOTE      F INGINFO      G Members
  H DISPTRG     I          INGGROUP  K INGCICS      L INGIMS       M DISPMTR     P INGPAC
  R Resume      S Suspend  T INGTWS  U User         X INGWHY       / scroll
CMD Name      Type System  Sus Compound  Desired      Observed      Nature
-----
--- LINUXENV   DMN          SATISFACTORY AVAILABLE     AVAILABLE
--- SMU         REF  LINUXENV  SATISFACTORY AVAILABLE     AVAILABLE
--- VNC         REF  LINUXENV  SATISFACTORY AVAILABLE     AVAILABLE
--- WEB_SRV    REF  LINUXENV  PROBLEM      AVAILABLE     HARDDOWN
  
```

domain name

reference resource name

domain name where REF resource belongs to



Runtime – INGINFO for Domain

```

INGKYIN0                               SA z/OS - Command Dialogs           Line 1      of 213
Domain Id . : IPUFJ  ----- INGINFO ----- Date . . : 07/25/18
Operator Id : BUMU      Sysplex = AOC4PLEX           Time . . : 09:46:00

Resource => LINUXENV/DMN                format: name/type/system
Target  => _____ System name, domain ID or sysplex name

Resource : LINUXENV/DMN
Description : distributed environment managed via UAA

Status...
Observed      : AVAILABLE
Desired       : AVAILABLE
Automation    : IDLE
Startability  : YES
Compound      : SATISFACTORY      Last changed : 2018-07-25 09:30:14
Health Status : N/A

E2E Agent...
Runs on      : AOC4

Remote Domain...
Name         : MyLinuxEnvironment
Operational Info : OK - The connection to the domain was successfully
              established.
Adapter OS    : Linux
Adapter Hostname : lnxe2e4x
Adapter Port  : 2005
Adapter SSL   : false
Adapter Security : false
    
```

actual remote domain name

information about the status

actual remote node



Runtime – INGDMN

```

INGKE2E1          SA z/OS - Command Dialogs          Line 1 of 4
Domain Id . : IPUFJ          ----- INGDMN ----- Date . . : 07/25/18
Operator Id : BUMU          System = AOC4           Time . . : 09:53:57
                                     Group ID= INGXSGA4
Resource         : LINUXENV/DMN
Automation Domain : MyLinuxEnvironment

Additional Domain Properties

plugin-policy-pool      /etc/opt/IBM/smsz/ing/UAadapterPolicyPool
E2EManagementHost     lnxe2e4x:2002
Policy Activation Time Wed Jul 25 08:29:46 GMT+01:00 2018
Policy Filename        /etc/opt/IBM/smsz/ing/UAadapterPolicyPool/UA
    
```

location of the UAA policies

SMU IP address and port

policy activation time

policy filename



Runtime – INGINFO for Reference Resource

```

INGKYIN0                               SA z/OS - Command Dialogs           Line 1      of 229
Domain Id . : IPUFJ                      ----- INGINFO -----          Date . . . : 07/25/18
Operator Id : BUMU                       Sysplex = AOC4PLEX                 Time . . . : 09:56:23

Resource => SMU/REF/LINUXENV           format: name/type/system
Target   => _____ System name, domain ID or sysplex name

Resource : SMU/REF/LINUXENV
Description : SMU server
Owner      : Ulrike Münch

Status...
Observed   : AVAILABLE
Desired    : AVAILABLE
Automation : IDLE
Startability : YES
Compound   : SATISFACTORY           Last changed : 2018-07-25 09:30:23
Health Status : N/A

E2E Agent...
Runs on System : AOC4

Remote Domain...
Domain Name    : MyLinuxEnvironment
Remote Resource : SMU/IBM.RemoteApplication/lnxe2e4x
Operational Info : E2EVNT_ONLINE_OK - Resource is up and ready for use.
    
```

actual remote domain name

actual remote resource name

operational information



Runtime – INGINFO for Reference Resource

```

INGKYIN0                SA z/OS - Command Dialogs                Line 1      of 135
Domain Id . : IPUFJ      ----- INGINFO -----                Date . . . : 07/25/18
Operator Id : BUMU      Sysplex = A0C4PLEX                      Time . . . : 09:57:53

Resource   => WEB_SRV/REF/LINUXENV                format: name/type/system
Target     => _____                System name, domain ID or sysplex name

Resource   : WEB_SRV/REF/LINUXENV
Description: WebServer running on lnxe2e4x
Owner      : Ulrike Münch

Status...
Observed   : HARDDOWN
Desired    : AVAILABLE
Automation : PROBLEM
Startability : NO
Compound   : PROBLEM
Health Status : N/A

E2E Agent...
Runs on System : A0C4

Remote Domain...
Domain Name   : MyLinuxEnvironment
Remote Resource : WEBSrv1/IBM/lnxe2e4x
Operational Info : E2EREQ_FAILED_RESOURCE_UNKNOWN - Resource is not
                  defined on the remote domain.
    
```

Last changed : 2018-07-25 09:43:53

operational information giving explanation about the bad status



Thank  
You





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Previously known as ITSM on IBM Z newsletter



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