Setting up IBM zAware Step by Step

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<table>
<thead>
<tr>
<th>DS8000</th>
<th>PR/SM</th>
<th>Z9*</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECKD</td>
<td>Redbooks*</td>
<td>z10</td>
</tr>
<tr>
<td>FICON*</td>
<td>System x*</td>
<td>z10 Business Class</td>
</tr>
<tr>
<td>GDPS*</td>
<td>System z*</td>
<td>z10 EC</td>
</tr>
<tr>
<td>GPFS</td>
<td>System z9*</td>
<td>z/OS*</td>
</tr>
<tr>
<td>HiperSockets</td>
<td>System z10*</td>
<td>z/VM*</td>
</tr>
<tr>
<td>IBM*</td>
<td>Tivoli</td>
<td>zEnterprise</td>
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<tr>
<td>IBM (logo)*</td>
<td>WebSphere*</td>
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<td>InfiniBand*</td>
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<tr>
<td>Parallel Sysplex*</td>
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Agenda

• Definition of the zAware partition
• zAware GUI Configuration
  – DASD Storage assignment
  – Security set up
  – Analytics configuration
• z/OS setup for monitored systems
• Priming the zAware partition with existing data
  – z/OS
  – zAware GUI
  – Training a model
• Ongoing operations
IBM zAware – IBM System z Advanced Workload Analysis Reporter

- Monitors z/OS OPERLOG including all messages written to z/OS console, including ISV and application generated messages
- Detects things typical monitoring systems miss due to:
  - Message suppression (message too common)
    Useful for long-term health issues
  - Uniqueness (message not common enough)
    Useful for real-time event diagnostics
- Color coded easy to use GUI via web browsers
- Output can be queued up to existing monitoring systems.
- Early detection and focused diagnosis can help improve time to recovery
Inside IBM zAware

zAware Partition
Shipped as firmware with EC12

z/OS pieces
Shipped with z/OS v1.13 +PTF
Operating Requirements – IBM zAware Server

- Logical partition on a zEC12 server
  - Runs on IFL or general purpose CP – may be dedicated or shared
  - Runs its own self-contained firmware stack
  - Recommended 2 partial engines

- Memory and DASD resources are dependent on the number of monitored clients, amount of message traffic, length of time data retained
  - Minimum Memory is 6 GB for the first 6 clients
    - For > 6 clients + 256 MB per client required
  - Estimated DASD storage is ~ 500 GB (ECKD)

- Network resources
  - HiperSockets or shareable OSA ports
  - IP address for partition

- Internet Explorer 9 or Firefox ESR 10 browser
zAware Partition Background & IOCDS Definition

- IBM zAware Partition, including I/O, is defined like any other partition. You can use Hardware Configuration Definition (HCD) / Hardware Configuration Management (HCM) or equivalent.
- Similar in many ways to Coupling Facility type partitions
- zAware application loaded from Support Element (SE)
- zAware application is firmware
  - Separate EC stream
  - Updated like all other firmware
    - Part of Support Element (SE) version 2.12.0
    - Hardware Management Console (HMC) support starting with HMC version 2.12.0
    - Concurrent Driver Upgrade (CDU)
    - EC Upgrade
    - MCFs/MCLs
- Prerequisites to defining a zAware partition: Purchase and install the zAware Feature Codes (FC)
Several ways to define the zAware Partition

- Web Services APIs
- User Interface (Customize/Delete Activation Profile):

  Traditional Image Profile Customization

  Image Profile Wizard
Defining the zAware Image Profile (Traditional) – Setting the partition mode

- Create or Modify an image profile for the defined partition.
- On the General tab, select “zAware” for the partition mode:

Notice no “Load” page; Again, zAware application loaded from SE’s HDD
Defining the zAware Image Profile (Traditional) – Setting the processors

- You can use central processors or IFL processors
- You can use dedicated or shared processors
- Assign 2 processors to support monitored clients with message traffic up to 1500 messages per second.
Defining the zAware Image Profile (Traditional) – Setting the Storage size

- Minimum storage for a zAware partition is 4096 MB (4 GB)
- 6144 MB (6 GB) is recommended for a small number of monitored clients (6 or less) with light message traffic (up to 500 messages/second)
- 11264 MB (11 GB) is recommended for message traffic up to 1500 messages/second.
- As with all performance recommendations, you may be able to reduce or have to increase the memory footprint for your specific situation.
Use new tab to specify zAware-specific image profile parameters

Customize Image Profiles: P92:ZAware1 : ZAware1 : Firmware

- Host name: zAware1
- Master user ID: admin
- Master password:
- Confirm master password:

Network Adapters

<table>
<thead>
<tr>
<th>Select</th>
<th>CHPID</th>
<th>VLAN</th>
<th>IP address</th>
<th>Mask/Prefix</th>
</tr>
</thead>
<tbody>
<tr>
<td>○</td>
<td>12</td>
<td></td>
<td>9.12.41.185</td>
<td>24</td>
</tr>
<tr>
<td>○</td>
<td>16</td>
<td></td>
<td>fec0:11:22:33:44:242</td>
<td>116</td>
</tr>
<tr>
<td>○</td>
<td>16</td>
<td></td>
<td>192.168.50.242</td>
<td>24</td>
</tr>
</tbody>
</table>

Default gateway: 9.12.41.1

DNS Servers

<table>
<thead>
<tr>
<th>Select</th>
<th>IP address</th>
</tr>
</thead>
<tbody>
<tr>
<td>○</td>
<td>9.12.16.2</td>
</tr>
</tbody>
</table>
Add new Network Adapter Entry

Add/Edit Network Adapters Entry - P89:ZAware1

Select an address type and modify or fill in the details for this CHPID.

**IP address type**
- DHCP
- Link Local
- Static IPv4 Address
- Static IPv6 Address

**Details**
- CHPID: 46
- VLAN: 1211
- IP address: 9.60.15.11
- Mask / Prefix: 32

[Buttons: OK, Cancel, Help]
Add new DNS Entry

![Add/Edit DNS Entry - P89:ZAware1](image)

IP address: 9.56.100.2

[OK] [Cancel] [Help]
Defining the zAware Image Profile (Wizard) – Setting the Operating System type (i.e. partition mode)

- Create a new image profile
- Set the Operating System type to zAware
Defining the zAware Image Profile (Wizard) – Setting the Processors partition mode

- You can use central processors or IFL processors
- You can use dedicated or shared processors
- Assign 2 processors to support monitored clients with message traffic up to 1500 messages per second.

![New Image Profile - Image profile: LP1 - PJOSH14M](image.png)

**Assign Processors**

- Indicate whether all processors will be dedicated or not dedicated to this image.
- Specify the allocation of the processors to be used by this image.

<table>
<thead>
<tr>
<th>Logical Processor Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image.png" alt="Dedicated processors" /></td>
</tr>
<tr>
<td><img src="image.png" alt="Not dedicated processors" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Processors</th>
<th>Description</th>
<th>Initial</th>
<th>Reserved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Processors</td>
<td>2</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
Defining the zAware Image Profile (Wizard) – Setting the Storage

- Minimum storage for a zAware partition is 4096 MB (4 GB)
- 6144 MB (6 GB) is recommended for a small number of monitored clients (6 or less) with light message traffic (up to 500 messages/second)
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- As with all performance recommendations, you may be able to reduce or have to increase the memory footprint for your specific situation.

![New Image Profile - Image profile: LP1 - PJOSH14M](image)

Allocate Storage

Central storage is allocated when this partition is initialized. This storage not shared with other active logical partitions.

Enter the amount of central storage to allocate to the logical partition upon activation.

Central storage range is from 256 MB to 352 GB.
The central storage amount must be a multiple of 256 MB.

Storage: 16 Gigabytes (GB)
Defining the zAware Image Profile (Wizard) – zAware specific parameters

Assign zAware Adapters

Specify the zAware parameters.

Host name: zAware1
Master userid: admin
Master password: ********
Confirm master password: ********

Network Adapters

Select CHPID VLAN IP address Mask/Prefix
- 12 9.12.41.185 24
- 16 192.168.50.242 24

Default gateway: 9.12.41.1

DNS Servers

Select IP address
- 9.12.16.2

< Back Next > Finish Cancel
Add new Network Adapter Entry (Wizard)
Add new DNS Entry (Wizard)
Image Profile Wizard Summary

Summary

The following data will be stored in the LP1 image profile:

**Identify Profile**
- Partition identifier: 1
- Profile description: zAware

**Specify Operating System**
- Operating system: zAware

**Assign Processors**
- Logical processor assignment: Dedicated

<table>
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<th>Reserved</th>
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</thead>
<tbody>
<tr>
<td>Central Processors</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

**Allocate Storage**
- Initial central storage: 18 Gigabytes (GB)

**Assign zAware Adapters**
- Host name: zAware1
- Master user id: admin
- Master password: ********

<table>
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<th>IP address</th>
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<td>fec0:11:2233:44:242</td>
<td>116</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td></td>
<td>192.168.50.242</td>
<td>24</td>
</tr>
<tr>
<td>24</td>
<td>1211</td>
<td>9.80.15.11</td>
<td>32</td>
</tr>
</tbody>
</table>

Default gateway: 9.12.41.1

**IP address**
- 9.12.16.2
- 9.56.100.2

Click **Finish** to create the LP1 image profile.
Activate the Partition / Dynamic Changes to the zAware configuration

- Activate the partition using the Activate task, just like all other partitions.
- Dynamic changes to the zAware partition can be made by using a new tab on the image details:

  - Running system always updated
  - Can also update the image profile or not (“Save to Profile” checkbox)
  - If you just want to change just the image profile, you must use the Customize Activation Profiles Task or equivalent (such as WebServices APIs).
APIs

- API Support
  - WebServices APIs updated to fully support IBM zAware
  - SNMP API only updated to handle new zAware mode
  - CIMOM API only updated to handle new zAware mode
Security Log Updated for new IBM zAware image profile parameters

Profile name: 11KZAWAR
Profile type: Image
Profile description: This is the default Image profile.
Host name: zAwareHost
Master userid: zAware.User-Id
Master password: *********
Network Adapters: CHPID 0x44 VLAN 1944 DHCP
Network Adapters: CHPID 0x44 VLAN 1171 Link Local
Network Adapters (New): CHPID 0xA1 IP Address 9.60.15.111/28
Network Adapters: CHPID 0xA2 VLAN 8001 IP Address e111:d123:c98a:4::0/128
Network Adapters: CHPID 0x44 VLAN 1877 Link Local
Network Adapters (Old): CHPID 0xA1 IP Address 9.60.15.111/30
Default gateway: 9.60.15.255
DNS: 9.0.0.0
DNS: e111:d123::ffff
Load Parameter: 
Load Address: 000000
Load Type: Clear
IBM zAware Dump

- Like a CF Dump, new zAware Dump support
- LPAR Dump Task
  - Concurrent
  - Disruptive

You selected to dump CPC firmware embedded framework control area information to the hard disk.
Attention: This procedure will cancel all operations currently in progress in the partition, and will cause a reload of the CPC firmware embedded framework.
IBM zAware Dump

- Use the **Delete LPAR Dump Data** task to delete a zAware Dump
Transmit Service Data to IBM

- New Transmit Service Data to IBM (TSD) Task option to collect zAware Dump.

Use the **CPC Firmware Embedded Framework Dump Data** option.
zAware Initial GUI login

- URL is https://addr/zAware
  - where addr is IP address from the image profile or hostname from the DNS entry
- If browser warns of the default SSL certificate, add a security exception

This Connection is Untrusted
You have asked Firefox to connect securely to 9.56.198.226, but we can't confirm that your connection is secure.

- Use default master userID and password

IBM zAware
The IBM System z Advanced Workload Analysis Reporter (IBM zAware) provides a smart solution for detecting and diagnosing compared to models of normal system behavior, provides nearly real-time detection of anomalies. Through this graphical user interface, you can pinpoint and diagnose the cause of past or current anomalies.

Analysis
The Analysis page displays analytical data that provides a clear visual indication of systems that are experiencing unusual behavior. By using the Interval view, you can pinpoint and diagnose the cause of this behavior.

Notifications
View informational and error notifications pertaining to zAware's processing.

System Status
View information about the z/OS systems that are connected to IBM zAware.

Administration
Through the Administration menu, you can use these functions to manage IBM zAware operations:

- Training Sets: View information about the generation of system behavior models.
- Configuration: Manage storage devices, manage communications, manage topology, and other system control.
Storage assignment

- ECKD DASD is required
- Add storage devices defined in the I/O configuration
- Devices must be exclusively for use by IBM zAware
Storage assignment – add devices

Selected storage devices must be configured exclusively for use by the IBM zAware server. Any existing data on added devices is overwritten when the server formats the device for use.
Storage assignment – adding devices

Configure Settings

- Analytics
- Data Storage
- Security
- Sysplex Topology
- Priming Data

Storage has not been configured.

Total capacity (GB): __________
Total storage used (GB): __________
Total storage used (%): __________

Data Storage Devices (Changing storage configuration; click the Refresh button to update progress)

<table>
<thead>
<tr>
<th>Device</th>
<th>Status</th>
<th>Device Type</th>
<th>Capacity (GB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4860</td>
<td>Being Added</td>
<td>3390/0c</td>
<td>7.39</td>
</tr>
<tr>
<td>4861</td>
<td>Being Added</td>
<td>3390/0c</td>
<td>—</td>
</tr>
<tr>
<td>4f20</td>
<td>Available</td>
<td>3390/0c</td>
<td>—</td>
</tr>
</tbody>
</table>
Storage assignment – complete

IBM zAware

Configure Settings

<table>
<thead>
<tr>
<th>Analytics</th>
<th>Data Storage</th>
<th>Security</th>
<th>Sysplex Topology</th>
<th>Priming Data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total capacity (GB):** 14.76
**Total storage used (GB):** 1.14
**Total storage used (%):** 7.72

Data Storage Devices

<table>
<thead>
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<th>Device</th>
<th>Status</th>
<th>Device Type</th>
<th>Capacity (GB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4860</td>
<td>In Use</td>
<td>3390/0c</td>
<td>7.38</td>
</tr>
<tr>
<td>4861</td>
<td>In Use</td>
<td>3390/0c</td>
<td>7.38</td>
</tr>
<tr>
<td>4f20</td>
<td>Available</td>
<td>3390/0c</td>
<td>—</td>
</tr>
<tr>
<td>4f21</td>
<td>Available</td>
<td>3390/0c</td>
<td>—</td>
</tr>
</tbody>
</table>
Security set up – SSL part 1

- To secure browser communication, request an SSL cert from a CA, and import it
- Generate Certificate Signing Request
- Copy CSR and send to the CA
Security set up – SSL part 2

- Fill in the Common name with host name or IP addr of the zAware partition
- Use the **host name** or **IP address** from the image profile Firmware page
After the CA replies with a certificate, import it with Receive ...

- Paste the reply (include the entire chain) and click Receive
Security set up – LDAP

- User authentication via existing LDAP repository
  - Alternatively, use a local file-based repository
- General LDAP settings (from LDAP Admin)
- Group LDAP settings (from LDAP Admin)
- Apply
Security set up – LDAP

- Apply, then confirm zAware server restart
- The GUI will be unavailable while restarting
Security set up – Role Mapping

- Search
- Add users or groups to Admin or User role
- Apply
- Confirm zAware server restart
Analytics configuration

- Defaults should be good for most
- Retention times will affect DASD usage
  - Check the Data Storage capacity and usage periodically
Operating Requirements - z/OS Monitored Clients

- System z servers supported as IBM zAware monitored clients
  - zEC12
  - IBM zEnterprise™ 196 (z196) or z114,
  - IBM System z10™ EC or BC
  - Prior generations that meet the OS and configuration requirements

- Running z/OS 1.13 + PTFs
  - APAR OA38747
  - APAR OA38613
  - APAR OA39256

- System needs to be configured as a monoplex, system in a multisystem sysplex, or a member of a parallel sysplex
- Using operations log (OPERLOG) as the hardcopy medium
- Sysplex name + system name must uniquely identify system
- Requires an OSA or HiperSocket for IP network connection
z/OS monitored system set up

- Configure network connection to zAware
  - TCP/IP profile, DNS, Resolver, firewall settings
- **D XCF** to confirm MONOPLEX or MULTISYSTEM
- **D CONSOLES** to confirm OPERLOG hardcopy
  - set in CONSOLxx

- Configure z/OS logger to send data to zAware
  - Give IXGLOGR a z/OS UNIX segment for TCP/IP connectivity
    - ADDUSER IXGLOGR OMVS(UID(xxxx) HOME('/'))
    - From a user with SAF update access to IXGZAware_CLIENT resource in the FACILITY class
      - Create **IXGCNFxx** parmlib member for logger
      - Add **IXGCNF=xx** to IEASYSxx parmlib member
z/OS monitored system - logger config

- **IXGCNFxx** parmlib member contains system logger values

  The **ZAI** statement contains parameters for IBM zAware
  
  - **SERVER**(*host_name*|*IP_address*)
    - Specifies the host name or IP address of IBM zAware server
  
  - **PORT**(*number*)
    - Port number IBM zAware server is using. Port must be 2001
  
  - **LOGBUFMAX**(*value*)
    - Maximum amount of storage buffers (GB) to be used by system logger to manage data that is being sent to the IBM zAware server
  
  - **LOGBUFWARN**(*nn*)
    - Percent of used buffer space to trigger warning message
  
  - **LOGBUFFULL**(*MSG*|*QUIESCE*)
    - Action system logger is to take when the log stream buffers are full

  Sample in **SYS1.SAMPLIB(IXGCNFXX)**

- Update the OPERLOG log stream to add:
  
  - **ZAI(YES)**
  
  - **ZAIDATA('OPERLOG')**
z/OS monitored system - logger config

- SET IXGCNF=xx to dynamically pick up the logger settings
- DISPLAY LOGGER,STATUS,ZAI,VERIFY to verify the config

  ZAI LOGSTREAM CLIENTS: AVAILABLE
  BUFFERS IN USE: 00 GB 0000 MB
  ZAI VERIFY INITIATED, CHECK FOR MESSAGES IXG37X, IXG38X

  ...

  IXG380I ZAI LOGSTREAM CLIENT ESTABLISHED
  FOR DISPLAY ZAI,VERIFY

- Start sending to zAware
  Also, defines the *plex.system* to zAware

  SETLOGR FORCE,ZAICONNECT,LSNAME=SYSPLEX.OPERLOG

  IXG651I SETLOGR FORCE ZAICONNECT COMMAND ACCEPTED FOR
  LOGSTREAM=SYSPLEX.OPERLOG

  IXG386I ZAI LOGSTREAM CLIENT CONNECT ATTEMPT IN PROGRESS FOR LOGSTREAM
  SYSPLEX.OPERLOG
  STATUS: ATTEMPTING SOCKET CREATE

  ...

  IXG380I ZAI LOGSTREAM CLIENT ESTABLISHED FOR LOGSTREAM SYSPLEX.OPERLOG
Priming zAware – Bulk Load from z/OS

- Prior SYSLOG data may be sent to IBM zAware
- Reduces the time to build a model, and begin analysis
- Data sets should not exceed 90 days earlier than today
- Bulk load may be run from any z/OS system configured for IBM zAware
- Copy SYS1.SAMPLIB(AIZBLK) JCL to your JCL and modify
  - See instructions in the file
- Copy SYS1.SAMPLIB(AIZBLKE) REXX to your SYSEXEC
- Run bulk load for a small set of data to verify config
- Run bulk load for one plex at time
Priming zAware – zAware GUI – part 1

- Recommended bulk load all logs before assigning
  - Connections are terminated during assignment
Priming zAware – zAware GUI – part 2

- Assign, then confirm disconnect of all systems
- Usually logger reconnects automatically
Training a model

- Actions > Request Training
  - processed asynchronously

Training Sets

The Monitored Systems table provides training statuses and results for IBM zAware monitored systems. The Actions menu provides functions for managing model dates, requesting or canceling training, and managing ignored messages. Training details for a given system can be accessed by clicking on links in the Training Progress and Last Training Result columns.

Monitored Systems

<table>
<thead>
<tr>
<th>System</th>
<th>Sysplex</th>
<th>Training Progress</th>
<th>Last Training Result</th>
<th>Last Training Result Time</th>
<th>Current Model Built</th>
</tr>
</thead>
<tbody>
<tr>
<td>C88E</td>
<td>UTCPLXCB</td>
<td>—</td>
<td>■ Not Trained</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

Request Training

The model for UTCPLXCB.C88E will be queued for rebuild and its next training period dates will be updated.

[OK] [Cancel]
Training complete

- After more systems have connected and trained

Failed training is typically due to too few unique messages. Check the Notifications.
Analysis results

- Once a model is built, a connected system will generate results

**Analysis**

The System Anomaly Scores graph shows message analysis data for each system in ten minute intervals. For each interval, the bar height indicates the number of unique messages. The height of the bar reflects the commonality of the messages occurring during that interval. Click on an interval bar to access detailed message information. To view messaging analyses from a different system, select a system from the selector. To customize which systems are shown in the graph, click the **Change Source** button.

**Current bar is updated every 2 minutes**

**Model built**

Interval anomaly score key:

- 0: No Difference
- 99.5 - 100: Significantly Different
- 101: Significantly Different

**Interval anomaly score key:**

0: No Difference
99.5 - 100: Significantly Different
101: Significantly Different

**Analysis Source:**

- Change Source

**Date:**

- August 4, 2012

**System:**

- HOXCF01
- HOXCF01.AOHO (UTC) -5
- HOXCF01.AQS3

**Anomaly Scores**

- Score data is not available for this date

**Timeline (UTC):**

- 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14

**Zoom level:**

- 1 hr, 4 hrs, 8 hrs, 12 hrs, 15 hrs, 20 hrs, 24 hrs

Complete your sessions evaluation online at SHARE.org/SanFranciscoEval
Notifications

- zAware messages for asynchronous events
  - Storage, Training, Bulk load, ...
- Viewable by all users
- Persistent, until removed by an admin
- New ones indicated by lightning bolt in header
Connection status

- System status of monitored systems
  - Bulk load in progress

  **System Status**

  System Status displays the IBM zAware analytics engine status, as well as monitored systems information for z/OS systems connected to IBM zAware. Click the start button to start it.

  **Analytics engine status:** Running

  **IBM zAware Monitored System Data Suppliers:**

<table>
<thead>
<tr>
<th>System</th>
<th>Sysplex</th>
<th>Status</th>
<th>Instrumentation Data Type</th>
<th>Connect Start Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>CB8E</td>
<td>UTCPLXCBB</td>
<td>Active</td>
<td>SYSLOG</td>
<td>January 15, 2013 3:11:23 PM EST</td>
</tr>
</tbody>
</table>

- Normal operation

  **IBM zAware Monitored System Data Suppliers:**

<table>
<thead>
<tr>
<th>System</th>
<th>Sysplex</th>
<th>Status</th>
<th>Instrumentation Data Type</th>
<th>Connect Start Time</th>
</tr>
</thead>
<tbody>
<tr>
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<td>UTCPLXCBB</td>
<td>Active</td>
<td>OPERLOG</td>
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<tr>
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<td>Active</td>
<td>OPERLOG</td>
<td>January 15, 2013 4:19:40 PM EST</td>
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<td>CB8E</td>
<td>UTCPLXCBB</td>
<td>Inactive</td>
<td>OPERLOG</td>
<td>July 23, 2012 6:19:39 PM EDT</td>
</tr>
<tr>
<td>TAO</td>
<td>SVPLEXA</td>
<td>Active</td>
<td>OPERLOG</td>
<td>January 15, 2013 4:06:19 PM EST</td>
</tr>
</tbody>
</table>
You should now understand the steps to set up IBM zAware.

Questions?
Primary References

- IBM System z Advanced Workload Analysis Reporter (IBM zAware) Guide
  - SC27-2623-00
    or
  - IBMResourceLink Library → zEC12 → Publications

- Redbook: Extending z/OS System Management Functions with IBM zAware
  - SF24-8070-00

- z/OS 1.13 MVS Setting Up a Sysplex   SA22-7625-22
Additional References

- Available from “Books” group of Classic Style UI and the Welcome page of the Tree Style UI (& IBM Resource Link: Library->zEC12->Publications)
  - IBM SB10-7030: Application Programming Interfaces
  - IBM SC28-2605: Capacity on Demand User’s Guide
  - IBM SB10-7154: Common Information Model (CIM) Management Interfaces
  - IBM SB10-7156: PR/SM Planning Guide
  - IBM SA22-1088: System Overview

- Available from IBM Resource Link: Library->zEC12->Technical Notes
  - System z Hardware Management Console Security
  - System z Hardware Management Console Broadband Remote Support Facility
  - System z Activation Profile Update and Processor Rules
Registering for IBM Resource Link Access

To view the documents on the Resource Link Web site, you need to register your IBM Registration ID (IBM ID) and password with Resource Link.

To register:
- Open the Resource Link sign-in page:
  http://www.ibm.com/servers/resourcelink/
- You need an IBM ID to get access to Resource Link.
  - If you do not have an IBM ID and password, select the "Register for an IBM ID" link in the "Your IBM Registration" menu. Return to the Resource Link sign-in page after you get your IBM ID and password.
  - Note: If you’re an IBM employee, your IBM intranet ID is not an IBM ID.
- Sign in with your IBM ID and password.
- Follow the instructions on the subsequent page.
Setting up IBM zAware - Step by Step

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Feb 6, 2013 - Session 13066

Please fill out the online session evaluation at either:
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