



Introduction

Workload Manager (WLM) is a key component of the z/OS operating system. WLM provides dynamic workload management within a single z/OS system or across multiple images within a Parallel Sysplex environment. Since the introduction of a goal-oriented workload management you are able to define, view, install, and active WLM service policies using the ISPF-based WLM Administrative Application (AA).

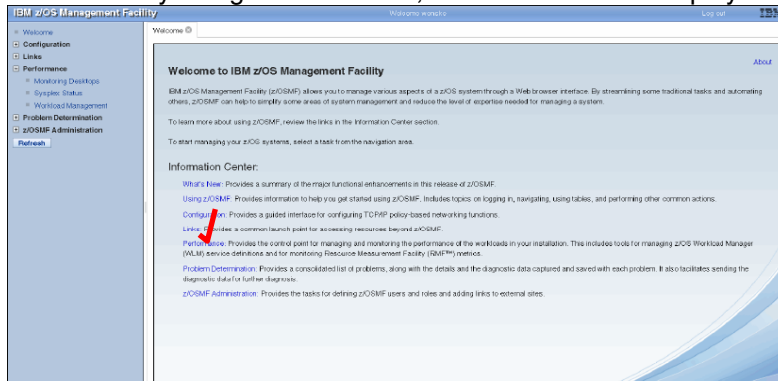
With the introduction of a Workload Management task in z/OS' Management Facility (z/OSMF) V1R12, you are able to use an additional interface to work with your WLM policies. z/OSMF WLM offers you WLM policy creation, editing, merging, and printing. You are also able to review and analyze WLM policies and activate them.

If you want to become more familiar with the concepts of Workload Management in z/OS, consider the *System Programmer's Guide to: Workload Manager, SG24-6472, REDBOOKS*.

- Additional reading:
- #31 zTidBits (z/OS' WLM 101)
 - #32 zTidBits (WAS for z/OS WLM Basics)
 - #53 zTidBits (z/OSMF-NewFace)
 - #76 zTidBits (Cooperative Management & z/OS' WLM)
 - #26 zNibbler (zOS' Workload Manager - closer look)

Entering the Workload Manager application in z/OSMF

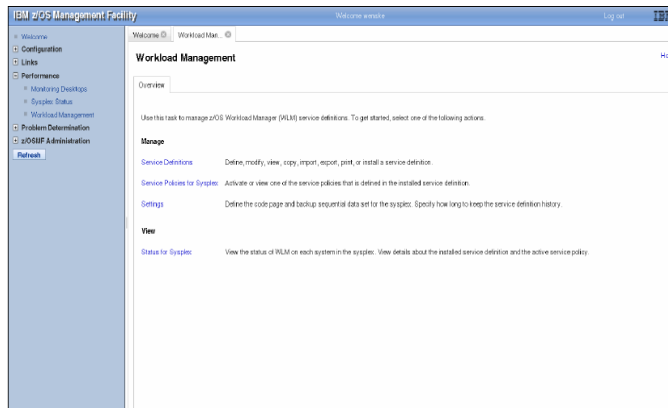
When you log on to z/OSMF, the window shown displays:



By expanding the **Performance** category in the navigation area, you will see the performance option **Workload Management**. Note: If your user ID is not authorized to access the WLM task, however, you will not see it displayed.

z/OSMF Welcome Window

Click the Workload Management task to open the WLM overview pane shown in figure below. The WLM overview pane is the starting point for your WLM related activities within z/OSMF.



WLM Overview Window

On the overview pane you can select one of these actions.

Under the **Manage** section:

- **Service Definitions:** Create, modify, import, export, print, install service definition.
- **Service Policies for Sysplex:** Activate or view the service policies in the service definition that is currently installed in the WLM couple data set.
- **Settings:** Specify history length, code page, user preferences.

Under the **View** section:

- **Status for Sysplex:** Displays information about the service definition installed in the WLM couple data set and the service policy active in the sysplex.

continued



Service Definitions table

When you select **Service Definitions** under **Manage** on the WLM overview pane, (see previous illustration), the Service Definitions pane displays. The Service Definitions table on the Service Definitions pane displays WLM service definitions that have been created with z/OSMF WLM, that have been imported from files or data sets, or that are currently installed in the WLM couple data set. Therefore, you will see at least the Service Definition, which is currently installed for the Sysplex in which z/OSMF is running.

| Name | Description | Activity | Sysplex | Messages | Last Modified (GMT) | Modify |
|-----------------------------|---------------------------------|----------|---------|----------|-------------------------|--------|
| TESTR1 | Ready's Import Test from New OS | Active | | None | Feb 16, 2016 2:41:59 PM | edit |
| WLMDEF (Installed & Active) | Sample WLM Service Definition | Active | FLR006 | None | Feb 16, 2016 2:41:59 PM | edit |
| WLMVLT | Policy from Frank | Warning | | Warning | Mar 10, 2017 2:35:11 AM | edit |

This figure displays a **Service Definitions** table that contains the installed service definition and two other service definitions have been created with z/OSMF WLM.

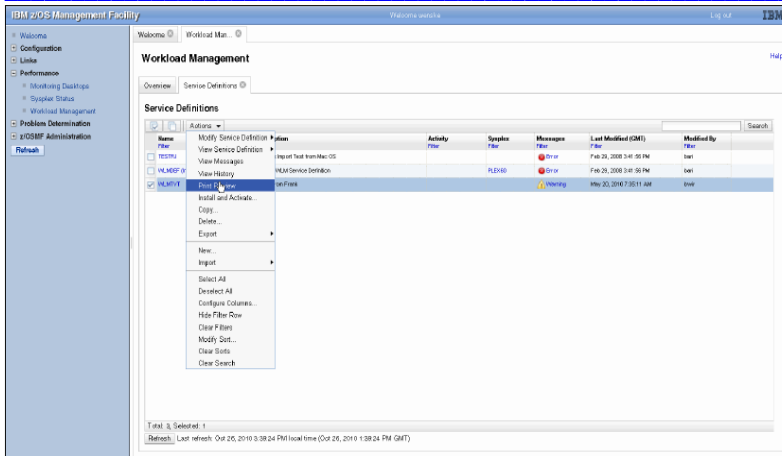
Service Definitions Table

WLM service definitions that are displayed in the Service Definitions table are stored in a repository integrated in the z/OSMF file system. The repository – synchronizes - automatically with the WLM couple data set. When the Service Definitions pane is launched or refreshed, z/OSMF checks if the service definition currently installed in the WLM couple data set is contained in the Service Definitions table. If it is not, z/OSMF extracts the service definition automatically, displays it in the Service Definitions table, and marks it with the label *Installed*. Furthermore, the service definition that contains the service policy currently used by z/OS WLM to manage the system/sysplex is marked with the label *Active*. If the installed service definition and the service definition used to manage the system/sysplex are identical, the corresponding service definition is marked with the label *Installed & Active*.

The service definitions table also shows if messages exist for a service definition, and if a service definition is being viewed or edited by users.

Service definitions can be imported from host data sets or workstation files in XML format into the Service Definitions table. Before you can import an existing service definition created with the WLM Administrative Application, you have to check if it is stored in a sequential data set in XML format. If it is not, such as if the service definition is stored in a partitioned data set as ISPF tables, you have to open the service definition with the WLM Administrative Application and save it in a sequential data set in XML format. That sequential data set can then be imported into the Service Definitions table. Service Definition files created with the WLM Service Definition Editor tool that are stored on the workstation can be directly imported into the Service Definitions table. You are also able to export service definitions to a host data set or a workstation file in XML or CSV format.

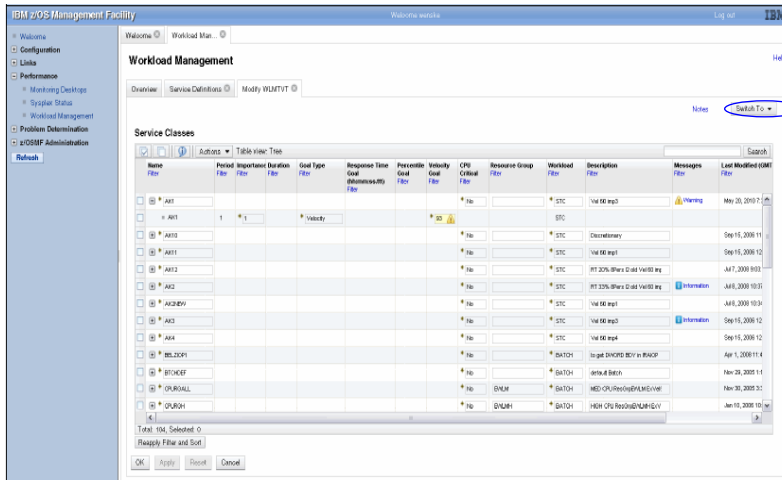
continued



This figure displays the **Actions** menu allowing you to export, import, view, edit, create, and copy a service definition. You can also install, activate, and print service definitions.

Actions for Service Definitions Table

Policy editing

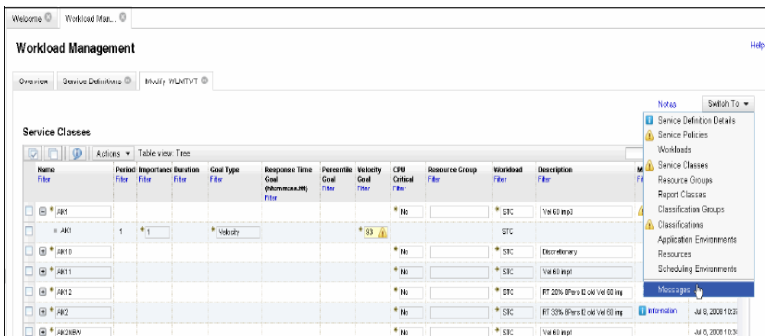


When you select the **Modify Service Definition** or **View Service Definition** action, a new tab will open with the selected service definition as shown here.

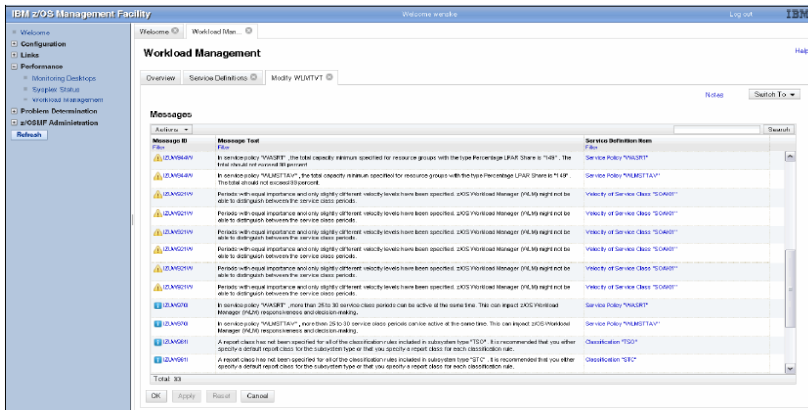
Service Classes Table

Service definition items or elements of the same type are displayed in one table. The user can switch to another section of the service definition using the **Switch to** menu (see upper right of pane).

If service definition items contain child items, the tables are tree tables where the parent items can be collapsed or expanded. For example, in the table with service classes, service class items can be expanded to make the periods visible. Tables and tree tables can be filtered and sorted. For tree tables the user can switch also to a flat table representation which provides additional sort capabilities. Policy elements can be directly edited within tables by double-clicking in the cells.



Recommendations are displayed automatically as you edit policy elements. Selecting **Messages** in the **Switch to** menu as shown on left opens the Messages table.



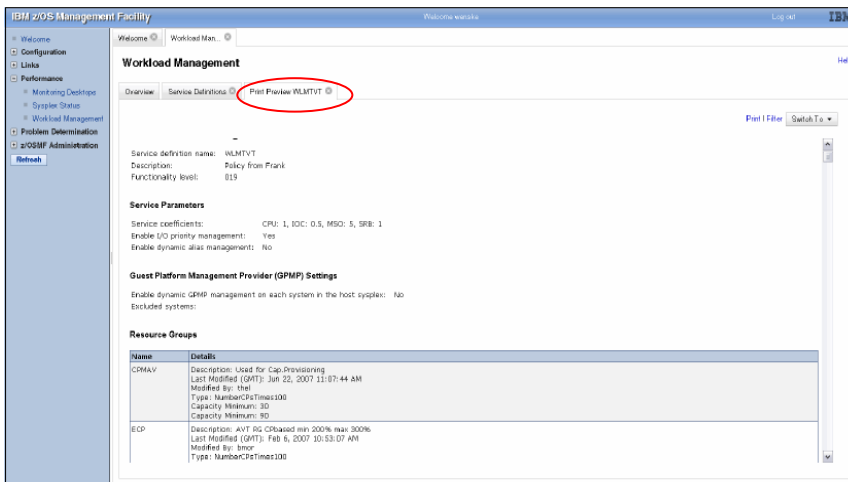
All recommendations and errors for a service definition are gathered in this **Messages Table** as shown here.

Messages Table

Note: Several service definitions can be opened simultaneously and cut and paste actions can be used to copy or move policy elements from one service definition to another.

Service definition printing

z/OSMF WLM allows you to print a service definition from within the z/OSMF. Select a service definition and click **Actions Print Preview** to open a Print Preview pane that displays the service definition as a HTML document as shown.



Before printing, the **Print Preview** function enables you to filter service definition elements or to apply service policies.

Print Preview

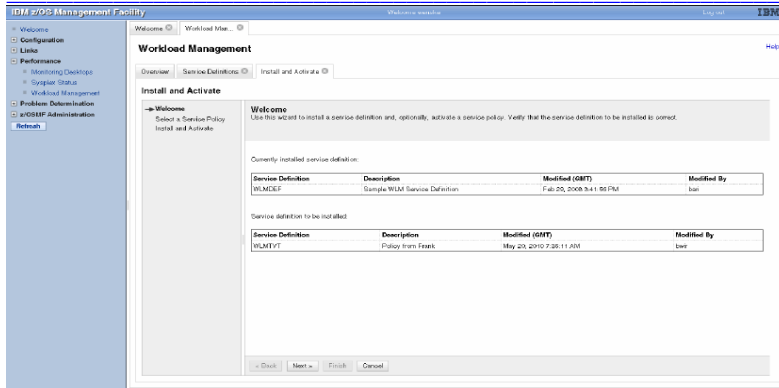
The messages table with all recommendations for the selected service definition is also contained in the print preview and can be printed for further study.

Besides printing, the Print Preview pane is well suited to get a general idea of a service definition.

Installing service definitions

By selecting a service definition and clicking **Actions Install and Activate**, you launch a wizard that guides you through the install and activate process for the service definition as shown on next panel.

continued



The wizard contains three steps:

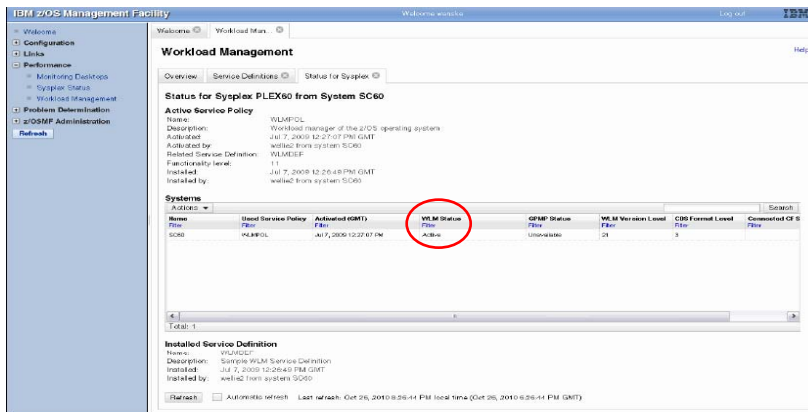
- The **first step** enables you to review the properties of the currently installed service definition, and the one that is going to be installed.
- The **second step** allows you to select the service policy to be activated.
- In the **last step** you can review the summary of the install and activate action that will be done, and you can trigger the installation of the service definition and the activation of the service policy.

WLM Status for Sysplex

If a backup data set has been specified in the **Settings** pane, a copy of the installed service definition is stored in that data set.

Monitoring of the WLM status in a sysplex

You can open the Sysplex Status pane from the Overview pane to view the WLM status in the sysplex. The Sysplex Status pane displays information similar to the output produced by the MVS console command **D WLM,SYSTEMS**. You can see which service policy is Active in the sysplex and on each system in the sysplex, as shown here.

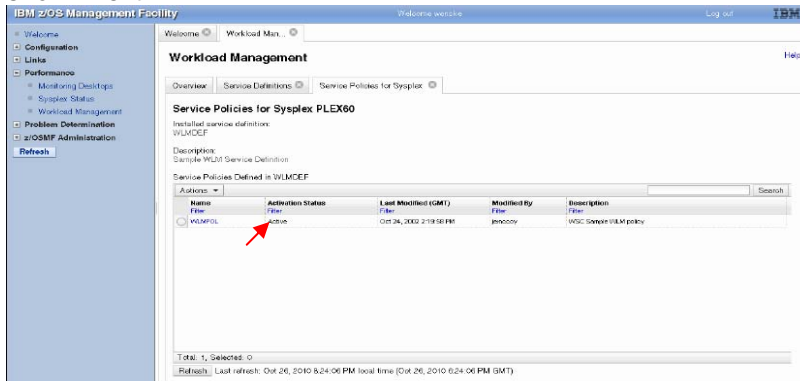


In addition, the Sysplex Status pane displays the service definition that is currently installed in the WLM couple data set and provides the option to automatically refresh the pane content every 30 seconds.

WLM Status for Sysplex

Manage service policies

You can open the Manage Service Policies pane from the Overview pane to manage the service policies of the installed service definition. The Manage Service Policies pane displays the state of the service policies contained in the service definition that is installed in the WLM couple data set as shown next.



This pane indicates which service policy is currently active. The pane allows you to activate another service policy, and to view and print a service policy of the installed service definition.

Manage Service Policies

continued



Service definition history

By selecting a service definition and clicking **Actions View History**, you are able to display the history pane for this service definition as shown here. A history is provided for each service definition listing the activities performed on the service definition. The history contains edit, install, activate, import, and export activities.

The screenshot shows the IBM z/OS Management Facility interface. The main content area is titled "Workload Management" and has tabs for "Overview", "Service Definitions", "Status for Sysplex", and "History WLMTVT". The "History WLMTVT" tab is selected and circled in red. Below the tabs, there is a table titled "History for WLMTVT" showing a list of activities. The table has columns for "System", "Action", "File", "Date and Time (GMT)", and "User ID". The activities listed are:

| System | Action | File | Date and Time (GMT) | User ID |
|---------|--------------------------------|----------|-------------------------|---------|
| P/E/R/0 | Activate service definition | WLMTVT.V | Oct 20, 2010 7:30:03 PM | wesiko |
| P/E/R/0 | Install z/OSMF couple data set | | Oct 20, 2010 7:30:04 PM | wesiko |
| | Modify | | Oct 20, 2010 7:35:15 PM | wesiko |
| | Import from local workstation | | Oct 20, 2010 9:12:38 PM | wesiko |

At the bottom of the table, it says "Total: 4" and "Refresh: Last refresh: Oct 20, 2010 9:06:46 PM local time (Oct 20, 2010 7:06:46 PM GMT)".

For each activity, the history entries display the time stamp and the user who performed the activity. You can customize on the **Settings pane** how long the history entries are kept.

Service Definition History
