

z/OS 3.2 IBM Education Assistant

Solution Name: z/OSMF WLM Policy Advisor enhancements

Solution Element(s): z/OSMF Workload Management

July 2025



Agenda

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- Interactions & Dependencies
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- Installation & Configuration
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Trademarks

- See url <http://www.ibm.com/legal/copytrade.shtml> for a list of trademarks.
- Additional Trademarks:
 - None

Objectives

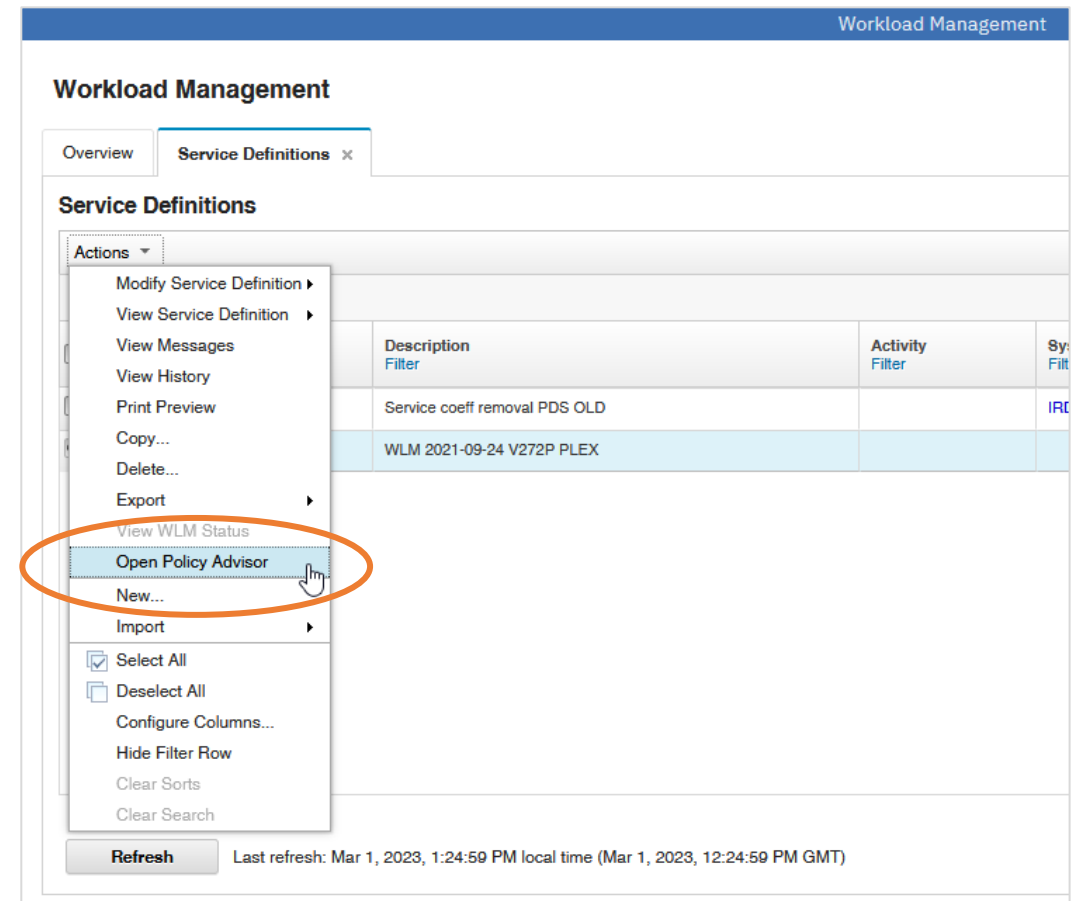
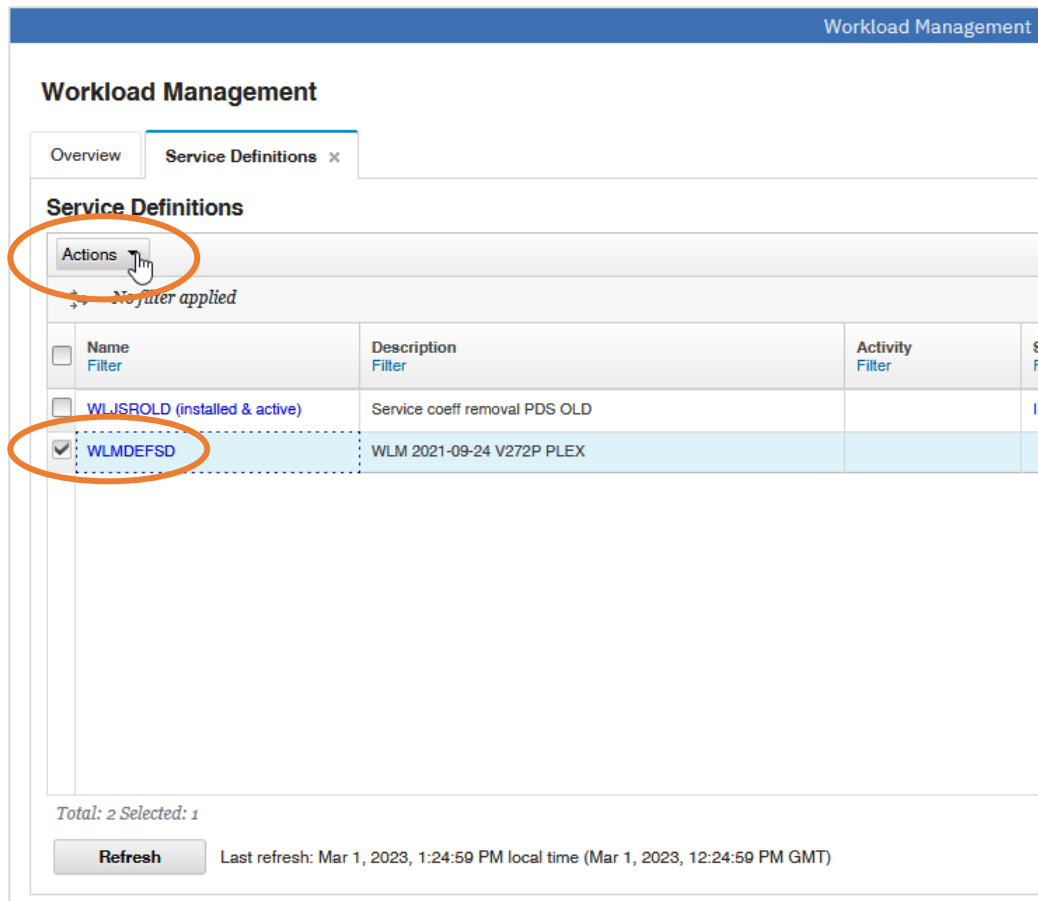
- The WLM Policy Advisor uses SMF type 72 subtype 3 performance data to analyze the quality of a WLM policy and visualize possible weaknesses.
- Enhancements to the existing z/OSMF WLM Policy Advisor:
 - Improved **workflow** to select and load SMF data.
 - **Overview page** with summary of all relevant findings. Drill down options are available for detailed analysis.
 - Better **user experience** with improved navigation and charts to help users understand the findings.
 - **Suggestions** are generated for the analyzed service definition to help improve system performance and resilience.

Overview

- Who (Audience)
 - z/OS system programmers looking to simplify the definition of their WLM policy and adapt it to challenging performance situations.
- What (Solution)
 - User interface, workflow and analysis capabilities enhancements.
- Wow (Benefit / Value, Need Addressed)
 - The z/OSMF WLM Policy Advisor assists with proactive problem determination and prevention and therefore supports the simplification of the WLM policy definition task.
 - The enhancements in this release focus on pointing the user to the deficiencies of their WLM service definition.

Usage & Invocation: Invocation (1 of 2)

- Invoke a new Policy Advisor view from the z/OSMF Workload Management task:
Under “Service Definitions” select the WLM service definition you want to examine and select the action “Open Policy Advisor”.



Usage & Invocation: Invocation (2 of 2)

- Invoke a new Policy Advisor view from the z/OSMF Workload Management task: Under “Service Definitions” right click on the WLM service definition you want to examine and select the action “Open Policy Advisor”.

The screenshot displays the 'Workload Management' interface in z/OSMF. The 'Service Definitions' tab is active, showing a table of service definitions. A right-click context menu is open over the 'WLMDEFS' service definition, which is selected with a checkmark. The menu options include 'Modify Service Definition', 'View Service Definition', 'View Messages', 'View History', 'Print Preview', 'Copy...', 'Delete...', 'Export', 'View WLM Status', and 'Open Policy Advisor'. The 'Open Policy Advisor' option is highlighted in blue and circled in orange. Below the table, it shows 'Total: 2 Selected: 1' and a 'Refresh' button. The last refresh time is 'Mar 1, 2023, 1:24:59 PM local time (Mar 1, 2023, 12:24:59 PM GMT)'.

Name Filter	Description Filter	Activity Filter	Sys Filter
<input type="checkbox"/> WLJSROLD (installed & active)	Service coeff removal PDS OLD		IRC
<input checked="" type="checkbox"/> WLMDEFS	WLM 2021-09-24 V272P PLEX		

Usage & Invocation: SMF data loading (1 of 4)

- The new SMF data loading workflow consists of 5 steps:
 1. Search and select datasets
 2. Select a service policy
 3. Select systems
 4. Select dates
 5. Verify your selected parameters

The screenshot displays the IBM WLM Policy Advisor interface. At the top, a blue header bar contains the text 'Policy Advisor - DEMO'. Below this, a dark blue bar reads 'IBM WLM Policy Advisor'. The main content area is divided into two sections. On the left, a vertical sidebar lists five steps: 'Search and select datasets' (highlighted with a blue dot and an orange border), 'Select a service policy', 'Select systems', 'Select dates', and 'Verify selected record parameters'. The right section is titled 'Search and select datasets' and contains a search bar with the placeholder text 'Search for dataset names. Qualifiers are accepted' and a 'Search' button. Below the search bar, a message states: 'To use Policy Advisor, you must load SMF 72.3 performance data that was gathered while the selected WLM service definition was active on your s'. A table with the header 'Name' is shown, but it is empty, displaying a 'No datasets to show' message. At the bottom, there is a pagination bar with 'Items per page: 10', '0-0 of 0 item', and '1 of 1 page'. On the far right, a 'Selected data' section shows a 'No selecte' message and a 'Use the search performance d' message.

Usage & Invocation: SMF data loading (2 of 4)

- On the "Search and select datasets" step, search for your datasets containing SMF type 72 subtype 3 performance data. From the list of datasets, you can select any number of datasets.

The screenshot shows the 'IBM WLM Policy Advisor' interface. At the top, there's a header with 'Policy Advisor - DEMO' and a search icon. Below the header, there's a table with columns: 'Service definition', 'Description', 'Last modified', and 'Last modified by'. The first row shows 'DEMO', 'Demo SD (copy of CAPPROV)', 'Tue Jan 28 09:46:04 GMT 2025', and 'flaig'.

The main content area is titled 'Search and select datasets'. It includes a search bar with the text 'wlm.wlmpa.pet*' and a 'Search' button. Below the search bar, there's a table of search results:

Name
<input checked="" type="checkbox"/> WLM.WLMPA.PET.DT230309.SMF723
<input checked="" type="checkbox"/> WLM.WLMPA.PET.D2303AB.SMF723
<input type="checkbox"/> WLM.WLMPA.PET.D2303ALL.SMF723

At the bottom of the search results table, there's a pagination bar showing 'Items per page: 10', '1-3 of 3 items', and '1 of 1 page'.

On the right side of the interface, there's a 'Selected datasets' section with two entries:

- WLM.WLMPA.PET.DT230309.SMF723
- WLM.WLMPA.PET.D2303AB.SMF723

At the bottom right, there's a blue button labeled 'Scan SMF data'.

Search bar, can contain wildcards

List of search result

Overview of your current selected datasets

Usage & Invocation: SMF data loading (3 of 4)

- In the next steps, select a service policy, systems and dates for which you want to load SMF data from your selected datasets.

Select a service policy

One service policy was found in the scanned SMF datasets. This has been selected by default. Click "Next" to continue.

WLMPOL01

Select systems

Select all

J80	J90	JA0	JB0	JC0	JD0	JE0	JF0
JG0	JH0	JI0	JJ0	JK0	TPN	Z0	

Select dates

☐ Select all dates ☐ Select individual dates ☒ Select from a range

Select all dates Select all dates

2023-03-09 2023-03-11

Usage & Invocation: SMF data loading (4 of 4)

- The last step shows a summary of your selection.
- During the whole process you may go back to a previous step and change the selection made.
- After clicking “Load records”, SMF type 72 subtype 3 data will be loaded from the selected datasets based on your selection.

The screenshot displays the 'IBM WLM Policy Advisor' application window. The title bar indicates 'Policy Advisor - DEMO'. The main content area is divided into a left sidebar and a main panel. The sidebar contains a list of steps: 'Search and select datasets', 'Select a service policy', 'Select systems', 'Select dates', and 'Verify selected record parameters' (which is currently selected and highlighted with a blue icon). The main panel is titled 'Verify selected record parameters' and contains the following information:

Service definition	Description	Last modified	Last modified by
DEMO	Demo SD (copy of CAPPROV)	Tue Jan 28 09:46:04 GMT 2025	flaig

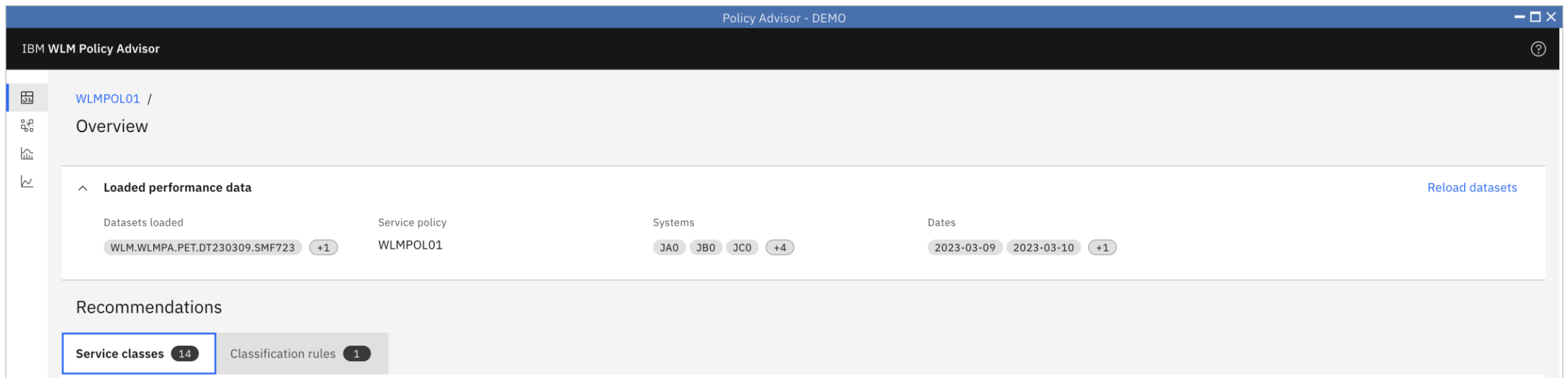
Below the table, the 'Verify selected record parameters' section is expanded, showing the following details:

- Datasets**: WLM.WLMPA.PET.DT230309.SMF723, WLM.WLMPA.PET.D2303AB.SMF723
- Service policy**: WLMPOLO1
- Systems**: JAO, JB0, JC0, JH0, JI0, JJ0, JL0
- Dates**: 2023.03.09 - 2023.03.11

At the bottom right of the interface, there are two buttons: 'Back' and 'Load records'.

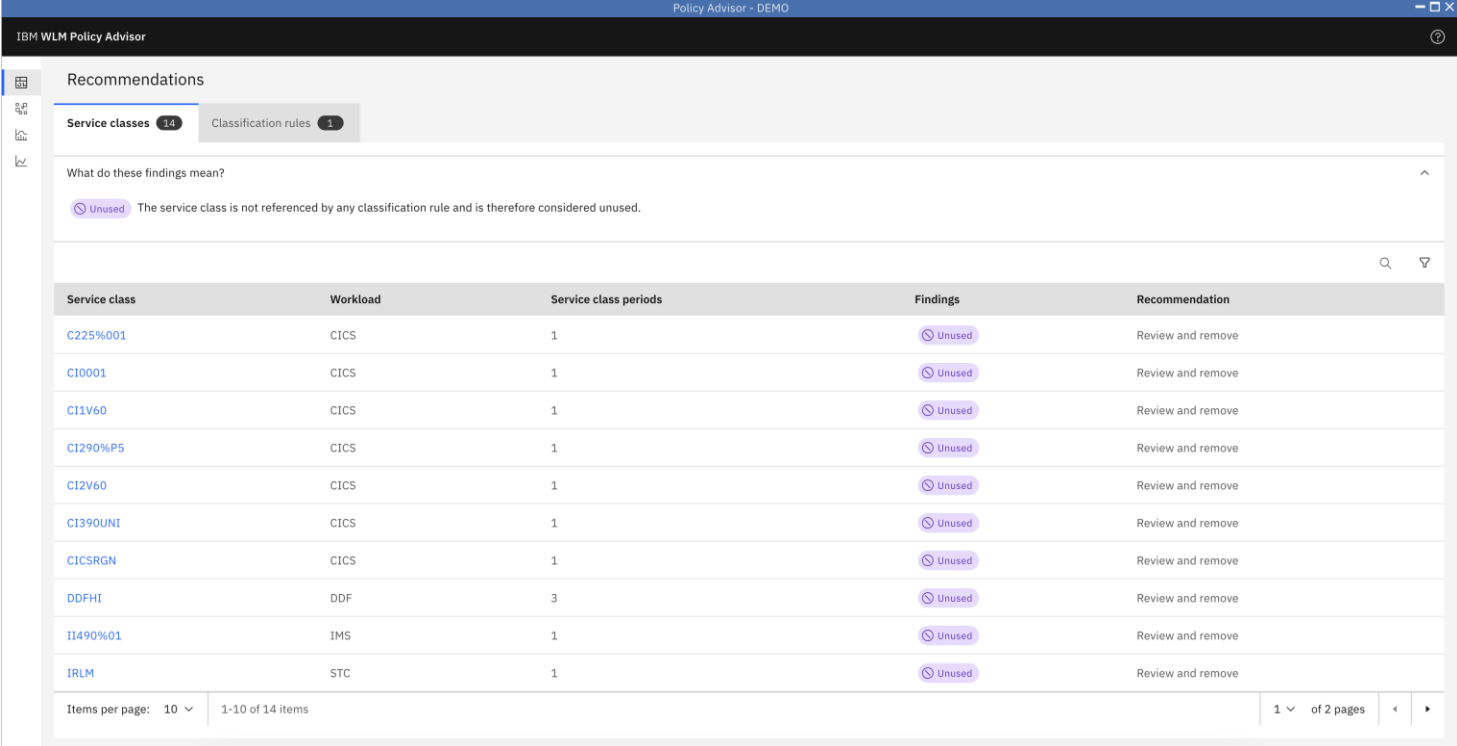
Usage & Invocation: Overview page (1 of 3)

- First page after loading SMF performance data.
- In the upper section it provides information about the loaded SMF performance data.
- The main part of the page shows recommendations for the WLM service definition, presented in various tabs.



Usage & Invocation: Overview page (2 of 3)

- On the “Service classes” tab a table lists all findings related to service classes.
- Service classes can have various findings:
 - **Unused** – No classification rule classifies work into those service classes.
 - **Duplicate** – One or more periods of this service class are very similar to those of another service class.
 - **Periods without activity** – Periods don’t have any service consumption on any system loaded.



IBM WLM Policy Advisor - DEMO

Recommendations

Service classes 14 Classification rules 1

What do these findings mean?

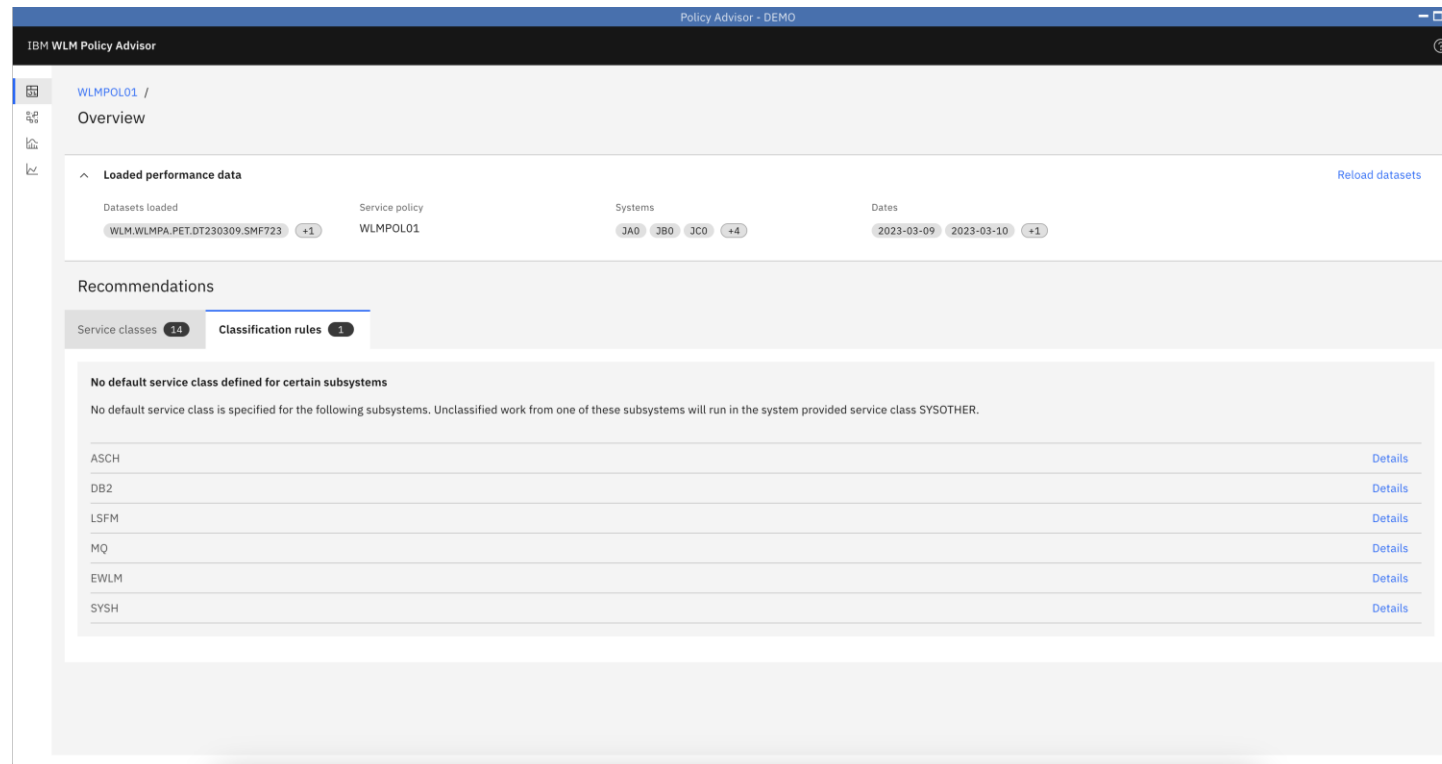
Unused The service class is not referenced by any classification rule and is therefore considered unused.

Service class	Workload	Service class periods	Findings	Recommendation
C225%001	CICS	1	Unused	Review and remove
CI0001	CICS	1	Unused	Review and remove
CI1V60	CICS	1	Unused	Review and remove
CI290%P5	CICS	1	Unused	Review and remove
CI2V60	CICS	1	Unused	Review and remove
CI390UNI	CICS	1	Unused	Review and remove
CICSRGN	CICS	1	Unused	Review and remove
DDFHI	DDF	3	Unused	Review and remove
II490%01	IMS	1	Unused	Review and remove
IRLM	STC	1	Unused	Review and remove

Items per page: 10 1-10 of 14 items 1 of 2 pages

Usage & Invocation: Overview page (3 of 3)

- On the “Classification rules” tab you can see various best practice checks:
 - No default service class defined for a subsystem
 - Workload running in default service class SYSOTHER



Usage & Invocation: Service class details (1 of 2)

- To get more details about a service class and its periods you can click on the service class name in the table on the services class tab.
- On the service class details page, you then find information about the defined attributes and classification rules of this service class.

The screenshot shows the IBM WLM Policy Advisor interface. The breadcrumb navigation is 'WLMPOL01 / Overview / DDFHI'. The 'Service class' tab is selected, showing 'Service class periods'. Below this, the 'Service class attributes' table is displayed with the following data:

Workload	Periods	CPU critical	IO priority group	Honor priority	Resource group	Description
DDF	3	No	Normal	Default	-	-

Below the attributes table, a 'Finding' is listed:

Finding	Recommendation
This service class has no classification rules and is considered unused.	Either remove the service class in the WLM service definition or edit the classification rules to reference this service class.

Below the finding, the 'Classification rules' section is shown, indicating 'No classification rules' and 'No classification rules defined for this service class.'

Shows findings and recommendations related to that service class

Usage & Invocation: Service class details (2 of 2)

- The “service class periods” tab lists all periods and their status on each system.
- Status is derived from the time a service class period has spent in a certain PI range.
- Statuses are:
 - Overachieved – PI less than 0.8
 - Goal met – PI between 0.8 and 1.2
 - Goal missed – PI more than 1.2
 - No activity – PI of zero and no usings

The screenshot displays the IBM WLM Policy Advisor interface. The top navigation bar shows "Policy Advisor - DEMO". The main header is "IBM WLM Policy Advisor". The breadcrumb trail is "WLMPOLO1 / Overview / DDFHI". The left sidebar contains icons for "Service class" and "Service class periods". The "Service class periods" tab is active, showing a list of service class periods: DDFHI.1, DDFHI.2, and DDFHI.3. Each period has a status indicator (a circle with a number) and a duration (15). A red box highlights the status indicators for DDFHI.1, DDFHI.2, and DDFHI.3. Below the list, the "Service class period attributes" section shows the following details:

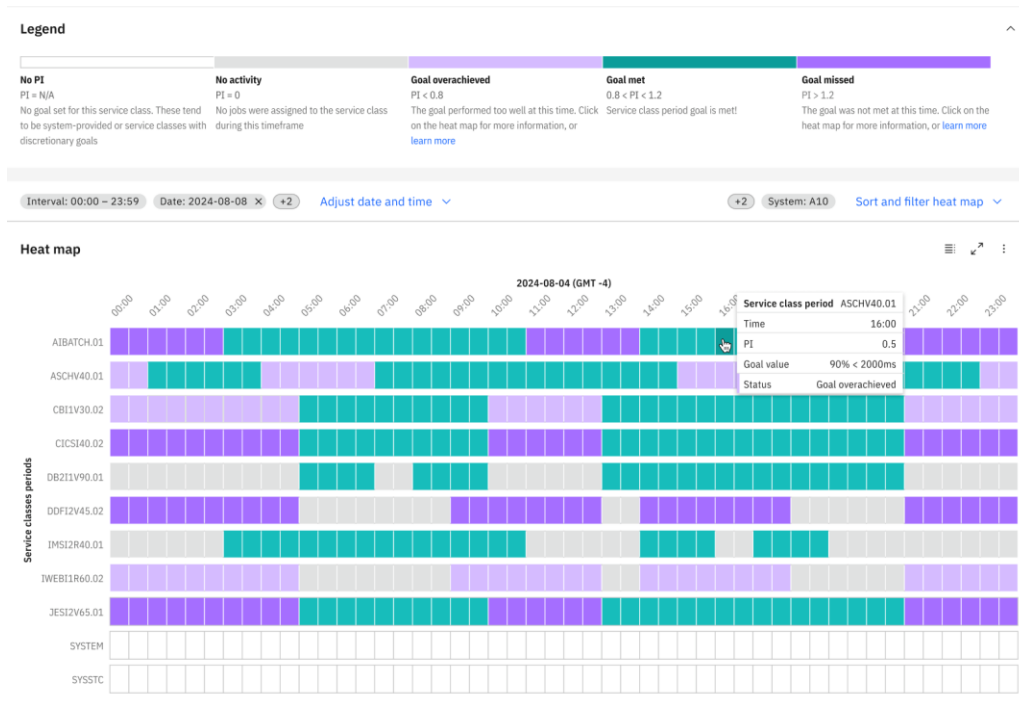
Importance level	Goal type	Goal value	Duration
2	PercRt	80% < 2000ms	2000

Below the attributes, a table shows the status of the service class period across various systems. The table has columns: System, Status, Goal overachieved, Goal met, Goal missed, and No activity. The status for all systems is "No activity".

System	Status	Goal overachieved	Goal met	Goal missed	No activity
JF0	No activity	0.0%	0.0%	0.0%	100.0%
JB0	No activity	0.0%	0.0%	0.0%	100.0%
JG0	No activity	0.0%	0.0%	0.0%	100.0%
J10	No activity	0.0%	0.0%	0.0%	100.0%
Z0	No activity	0.0%	0.0%	0.0%	100.0%
JC0	No activity	0.0%	0.0%	0.0%	100.0%
J10	No activity	0.0%	0.0%	0.0%	100.0%
J00	No activity	0.0%	0.0%	0.0%	100.0%
J90	No activity	0.0%	0.0%	0.0%	100.0%
J80	No activity	0.0%	0.0%	0.0%	100.0%
JA0	No activity	0.0%	0.0%	0.0%	100.0%
JE0	No activity	0.0%	0.0%	0.0%	100.0%
JH0	No activity	0.0%	0.0%	0.0%	100.0%
JJ0	No activity	0.0%	0.0%	0.0%	100.0%
TPN	No activity	0.0%	0.0%	0.0%	100.0%

Usage & Invocation: Performance Index (1 of 2)

- On the Performance Index panel of the Policy Advisor, examine how service class periods are performing over time. Filter by time, importance and systems to investigate the performance of your workload.
- You can select multiple systems, to compare them directly next to each other.
- Click on any colored tile within the heatmap to drill down ...



Sort and filter heat map

Systems

1 systems x ^

☒ A10

☐ B10

☐ C10

☐ D10

☐ E10

Sort service class period by

☒ Alphabetical

☐ Importance level

☐ Goals missed

☐ Goal overachieved

Show periods with no activity

☒ Show

Importance levels

☐ System

☐ 1

☐ 2

☐ 3

☐ 4

☐ 5

☐ Discretionary

Cancel Apply

Interval: 00:00 – 23:59 Date: 2024-08-08 +2 Adjust date and time

Heat map

Adjust date and time

Days shown

1 days x ^

Day interval

☒ All intervals ☐ Customize...

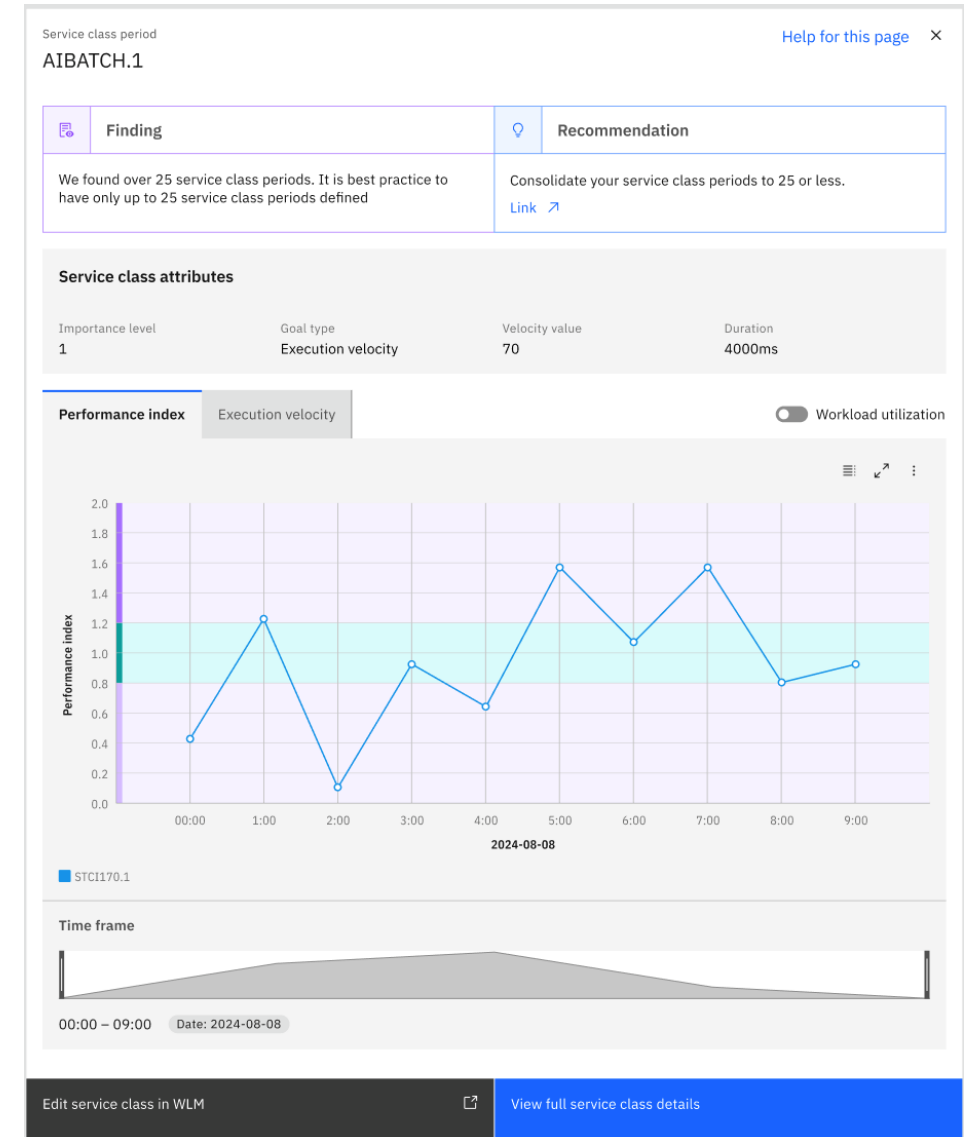
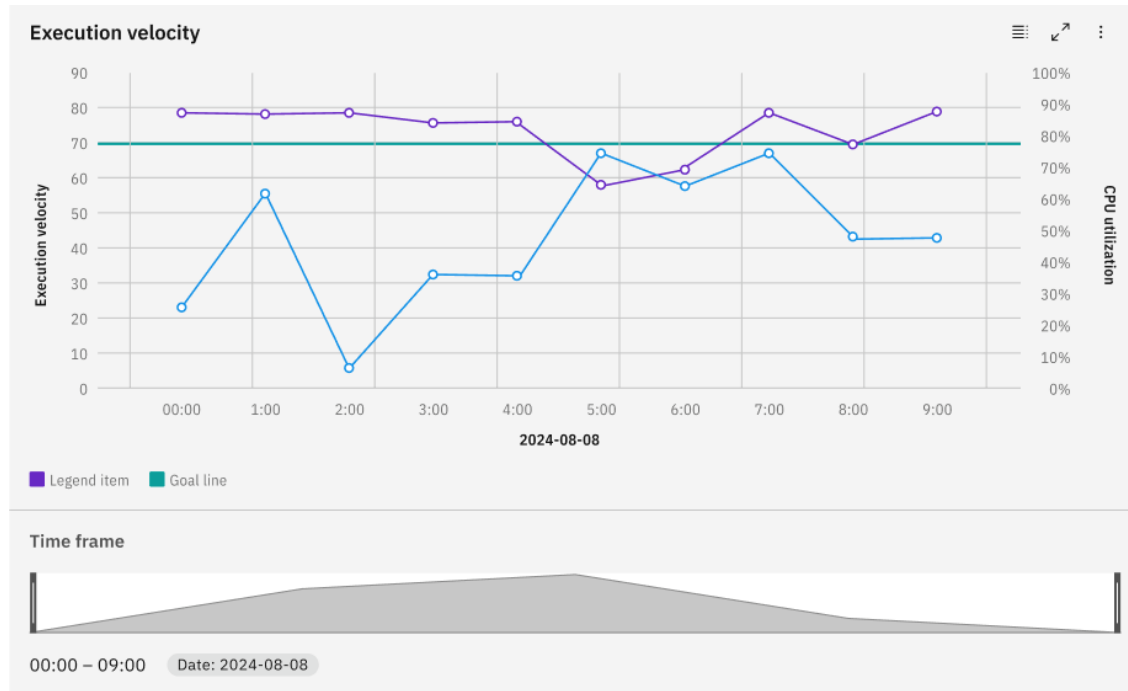
Start time End time

00:00 23:59

Cancel Apply

Usage & Invocation: Performance Index (2 of 2)

- ... and get further information about performance index and goal fulfillment. Click on “Edit service class in WLM task” to jump back to the z/OSMF WLM task, in case you want to modify this service class.



Usage & Invocation: Importance (1 of 2)

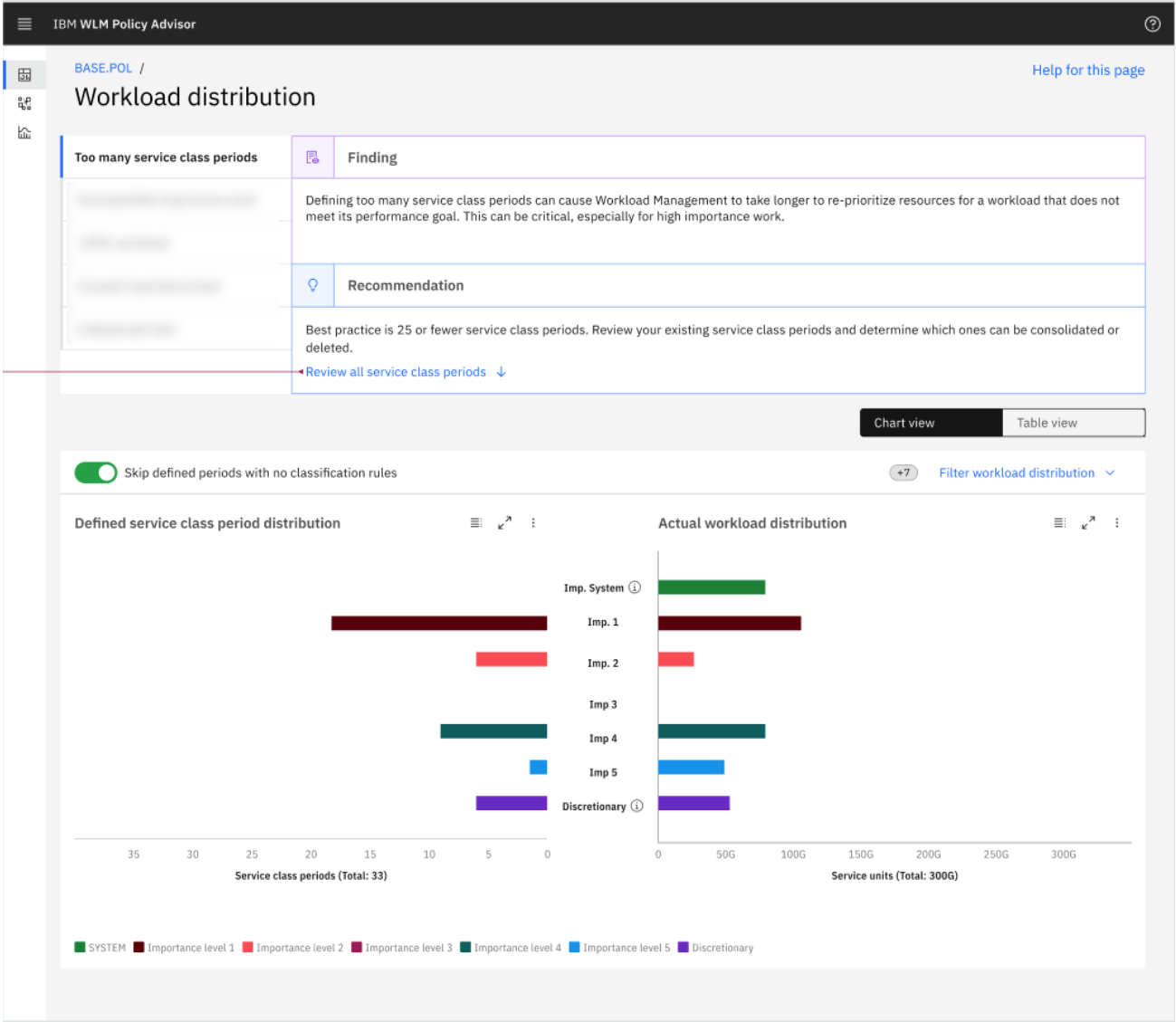
- On the Importance panel of the Policy Advisor, examine the distribution of service class periods and workload across importance levels displayed as chart or table.

Chart view | **Table view**

All service class periods

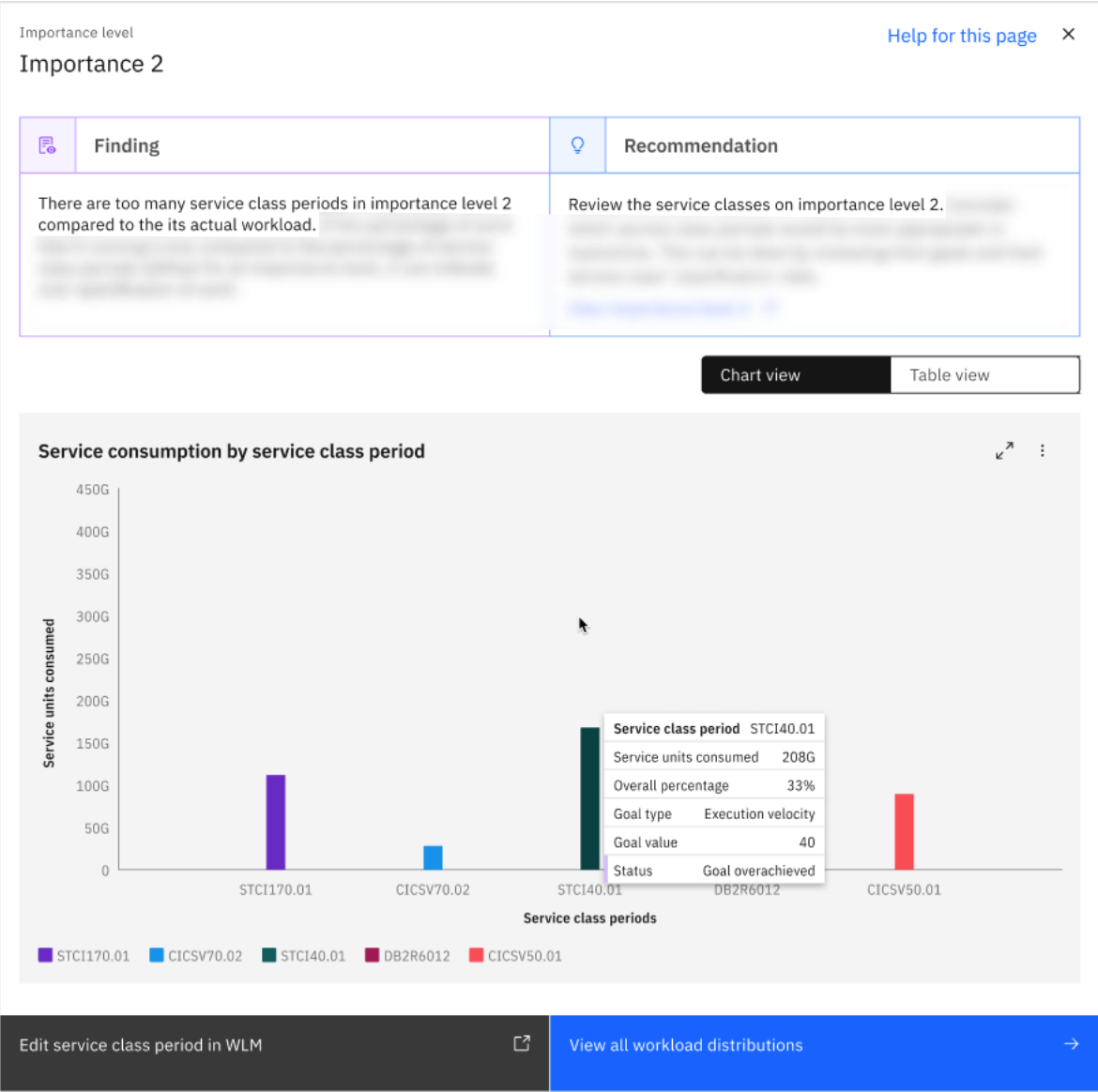
Service class period	Importance level	Service units	Filter
SYSSTC	System	23G	<div>Importance level</div> <div><input type="checkbox"/> Imp System</div> <div><input type="checkbox"/> Imp 1</div> <div><input type="checkbox"/> Imp 2</div> <div><input type="checkbox"/> Imp 3</div> <div><input type="checkbox"/> Imp 4</div> <div><input type="checkbox"/> Imp 5</div> <div><input type="checkbox"/> Discretionary</div> <div>Cancel Apply</div>
CICS8016.1	1	12G	
AIBATCH.1	1	23G	
DB2I190.1	1	8G	
CICSR16.2	2	1G	
STCI170.1	2	2G	
PERIOD80.1	2	4G	
PERIOD80.2	2	6G	
PERIOD80.3	2	8G	
PERIOD80.4	2	7G	

Items per page: 10 | 1-10 of 33 items | 1 of 4 pages



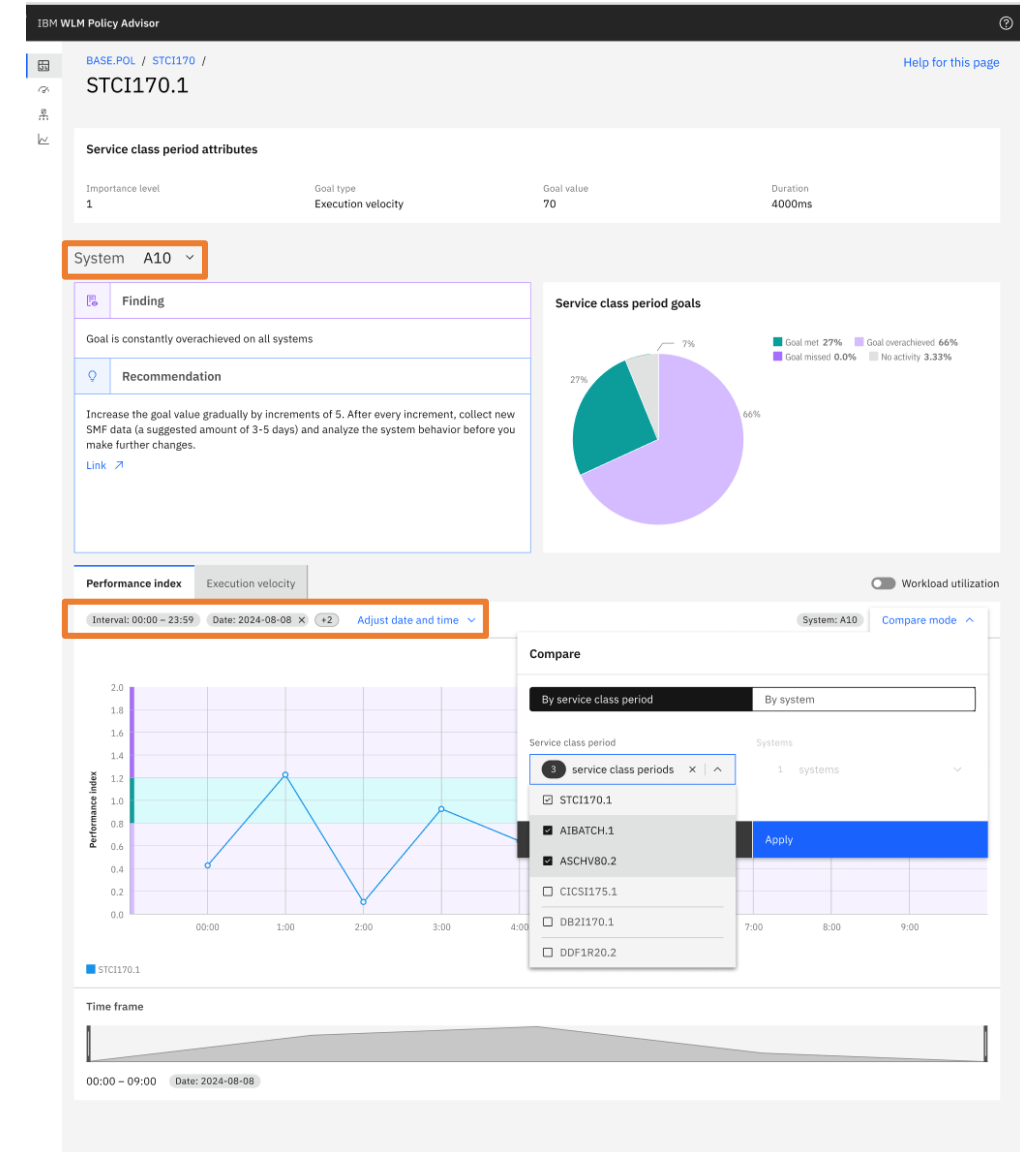
Usage & Invocation: Importance (2 of 2)

- Select an importance level to show the workload distribution across service class periods on that level.



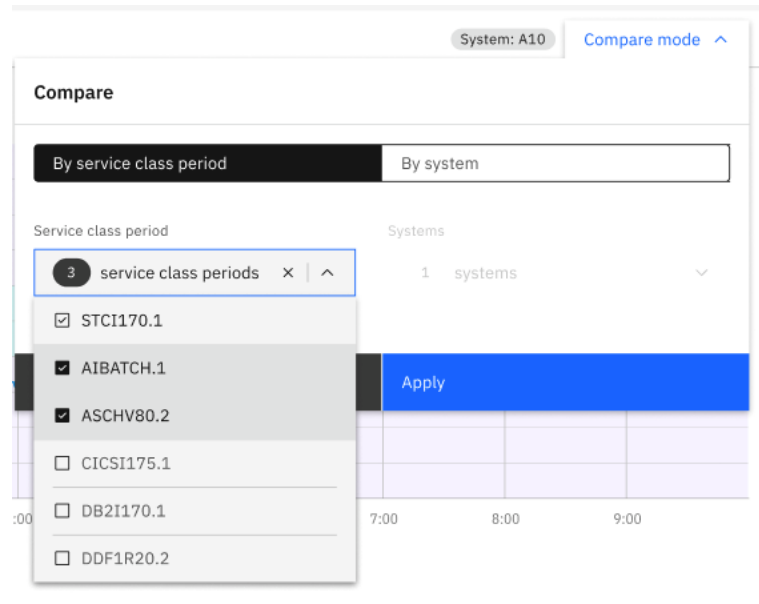
Usage & Invocation: Service class period details (1 of 2)

- On the service class period details panel, examine individual service class periods and their performance.
- Filter by systems or days to get detailed insights into goal fulfillment for different goal types on interval level.





Usage & Invocation: Service class period details (2 of 2)

- Compare how your service class period performs:
 - on other systems
 - against other service class periods on the same system





Usage & Invocation: Findings and Recommendations (1 of 2)

- Shows finding and recommendation next to each other.
- Recommendations can contain simple best practices or a step-by-step guide of what else need to be checked before concluding.

	Finding
Defining too many service class periods can cause Workload Management to take longer to re-prioritize resources for a workload that does not meet its performance goal. This can be critical, especially for high importance work.	
	Recommendation
Best practice is 25 or fewer service class periods. Review your existing service class periods and determine which ones can be consolidated or deleted.	
Review all service class periods ↓	

Usage & Invocation: Findings and Recommendations (2 of 2)

- Multiple findings are divided into tabs.

Too many service class periods		Finding
Overlapping high importance work		Defining too many service class periods can cause Workload Management to take longer to re-prioritize resources for a workload that does not meet its performance goal. This can be critical, especially for high importance work.
High workload		
Overlapping importance work		Recommendation
Unbalanced work		Best practice is 25 or fewer service class periods. Review your existing service class periods and determine which ones can be consolidated or deleted.
		Review all service class periods ↓

Interactions & Dependencies

- Software Dependencies
 - None
- Hardware Dependencies
 - None
- Exploiters
 - None

Upgrade & Coexistence Considerations

- To exploit this solution, all systems in the Plex must be at the new z/OS level: No

Installation & Configuration

- None

Summary

- “z/OSMF WLM Policy Advisor enhancements” has been introduced.
- It showcases the new workflow for loading SMF performance data and the new overview page as a place for all the findings and recommendations.
- Adds new best practices and findings.
- Several improvements made to the UI and user experience for an easier understanding and interaction.
- This functionality can be invoked from the z/OSMF Workload Management task and examines the selected WLM service definition.
- It helps a z/OS system programmer to analyze the quality of a WLM policy based on key SMF 72 performance data.

Appendix

- Book updates
 - IBM z/OS Management Facility Online Help