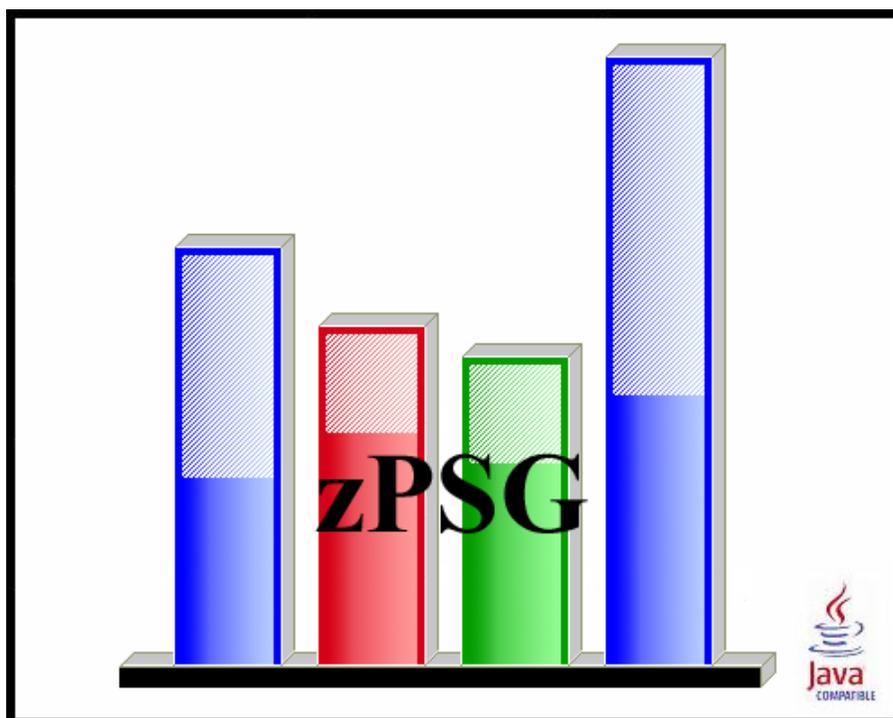


Processor Selection Guide
for
IBM System z

zPSG User's Guide
for
IBM ODM Decision Server



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ODM Decision Server

z/OS and Linux

This tool provides estimates of System z processor capacity for IBM Operational Decision Manager (ODM) Decision Server using business rules and events runtime components along with IBM Business Rules for z/OS.

See the [ODM Glossary of Terms](#) for a definition of terms used in describing ODM applications.

ODM, a combined business rules and events management platform, provides comprehensive automation and governance of operational decisions that control the actions of critical business applications. This offering provides multiple business rule execution choices for z/OS customers, including a new business rule deployment option for Enterprise COBOL batch applications which can run stand-alone or hosted within a CICS® 4.x region.

ODM and IBM Business Rules for z/OS enable organizations in virtually every industry to improve the quality of transaction and process-related decisions that are made repeatedly within mainframe applications, determining the appropriate course of action for each customer, partner, and internal interaction:

- Automate, govern, and improve operational decision-making across applications for better business outcomes
- Make more profitable decisions with real-time detection of opportunities and risks
- Easily, safely, and reliably implement changes in order to meet new market demands or policy requirements

The ability to effectively automate decision making within and across operational systems is imperative for maximizing organizational efficiency, increasing employee productivity, and improving the quality of actions that are made repeatedly in the course of the business day. In many cases, making the best decision at a given moment requires an understanding of a number of different factors, including:

- Business policies
- Internal and external requirements
- Organizational best practices
- Interactions taking place over time and across the enterprise

ODM addresses decision automation challenges by enabling organizations to build highly flexible, adaptable solutions that can detect and react to data patterns as they occur within a specified time period, and then provide the appropriate decision response to transactional and process-oriented applications. The offering is built on IBM's market-leading business rules management technology (WebSphere ILOG® Business Rule Management System), enhanced with IBM's capabilities for detecting time-based events in order to drive more responsive actions to business opportunities or risk conditions (WebSphere Business Events). ODM consists of two orderable products, which together form a comprehensive platform for the management and execution of business rules and business events:

- IBM Decision Center - Provides an integrated repository and management components for line-of-business subject matter experts to directly participate in the governance of business rule and business event-based decision logic. Through the capabilities of IBM Decision Center, business and IT functions can work collaboratively, aligning the entire organization in the implementation of automated decisions and accelerating the maintenance life cycle as they evolve based on new external and internal requirements.
- IBM Decision Server - Provides the runtime components to automate event and rule-based decision logic on mainframe systems, enabling the detection of actionable business situations and the response of precise decisions based on the specific context of an interaction. With IBM Decision Server, organizations can monitor a business network to discover and take action on event-based data patterns, and then process this information against hundreds or even thousands of business rules in order to determine how to respond within both front-end and back-end systems. IBM Decision Server provides specific runtimes designed to handle the unique aspects of business rule and business event execution. For business rule execution, three separate runtime options are provided, allowing development teams to choose a deployment strategy that best fits their mainframe applications and architecture.

IBM Decision Server provides specific runtimes designed to handle the unique aspects of business rule and business event execution. For business rule execution, three separate runtime options are provided, allowing development teams to choose a deployment strategy that best fits their mainframe applications and architecture.

A separate product offering, IBM Business Rules for z/OS , provides the same business rule execution capabilities that are packaged within Decision Server for z/OS to improve automation and maintainability of rule-based decision logic. Business Rules for z/OS , V8.5.1 provides the business-rules-specific, run-time components of Decision Server, for applications that are focused on decision automation and do not require event-based data pattern detection. Three, different rule execution options are provided by allowing development teams to build business rule solutions that meet the specific needs of their mainframe applications and architecture.

ODM enables the creation of applications to intelligently automate a wide range of decisions. Some examples of these kinds of decision management applications include:

- Product and promotional offers
- Eligibility and pricing determinations
- Case and customer prioritizations
- Risk assessments and fraud determinations

ODM provides the ability to adapt quickly to changing conditions, align across business and IT, and act with precision and reliability.

How To Do a ODM Decision Server Sizing

When you select ODM Decision Server Rules or ODM Decision Server Events sizing support from the **Product Selection** window to begin a new sizing, the [ODM Decision Server Rules Application Definition](#) or the [ODM Decision Server Events Application Definition](#) input screen is presented.

The general approach to sizing ODM Decision Server Rules applications on System z is to define up to four transactions that best represent the customer's application. Provide the average rule invocations/sec transaction rate during a peak interval and select one of the following types for each transaction defined:

1. zRES Standalone
2. CICS with Imbedded zRES
3. CICS with Standalone zRES
4. Rules for Cobol (deprecated)
5. RES on WAS-WOLA
6. RES on WAS

Note: For Linux, only RES on WAS is supported.

In addition to the average transaction rate and transaction type, you also need to select the Rule Set Size from the drop down list that best represents the customers rule set. For transactions using RES on WAS, you will also need to specify the Execution Mode, XOM, and Trace options that best represent the customers application. For zRES Standalone, CICS with Imbedded zRES, and CICS with Standalone zRES you also need to specify the copybook size (KB). Default values are provided for each of these input fields.

The general approach to sizing ODM Decision Server Events applications on System z is to select one or more of the pre-defined transactions that best represent the customer's application. Refer to [Events Transaction Descriptions](#) for a description of the pre-defined transactions that can be included in a sizing. Provide the average events per second transaction rate during a peak interval for each transaction that will be included in the sizing. In addition to the average transaction rate, you will also need to select a value for Events per Action, Connector, and Durability value from the drop-down list. Default values are provided for each of these input fields.

The usual span of time for a peak interval is 15 minutes. You should specify the average transactions per second rate for that interval. Note that if you have statistics for the average transaction rate for prime shift or for a day or week, you might want to apply a peak-to-average multiplier factor to averages for long periods of time to arrive at an average rate for a 15 minute interval.

To see results, click on the **Summary Report**, **CPU Utilization** or **Transaction Rate** buttons in the [Reports and Capacity Projections](#) section of the window.

The application window images shown in this user guide have been provided as a representation of the windows the user will see when using **zPSG** but there may be minor differences from the current version of **zPSG**, such as version numbers and dates.

Events Transaction Descriptions

1 Simple Rule - This scenario checks if a value in the event message matches certain values. It does not use a context ID.

Complex Occurrence Of - A complex rule is always evaluated to check if the current event has occurred before. If it has, and if a certain value appears in the event XML, then an action is triggered.

Scenario 1 - This scenario identifies customers who repeatedly exceed their credit limit. The test uses javascript and database calls to augment events. 1 in eventsPerAction events are processed by simple event rules. 1 in eventsPerAction events generate a synthetic event, which is processed by a complex event rule which always generates an action. Use this Scenario if mainly simple event rules are used with a smaller proportion of complex rules

Scenario 2 - This scenario identifies customers who have repeatedly missed payments on their credit card, overdraft and loan (all separate events). All event rules are complex (i.e. have a dependency on previous events). The test uses multiple event types, javascript, database augmentation, and synthetic events. Use this scenario if mainly complex event rules are required.

Scenario 2 CSBO - This scenario identifies customers who have repeatedly missed payments on their credit card, overdraft and loan (all separate events). An additional check is made to see if the total of all missed payments exceeds a given threshold; this information is stored in CSBOs. The test uses multiple event types and a combination of complex rules, CSBOs, javascript, database augmentation and synthetic events. Use this scenario if mainly complex event rules, with CSBOs are required.

Scenario 3 (Rules) - This scenario identifies customers who are eligible for a discount as part of a new marketing campaign. The campaign targets customers who are requesting an insurance quote for a second time, having previously requested a quote without purchasing. Decision Server Events identifies customers who have requested an insurance quote and then calls Decision Server Rules to determine the level of discount that should be applied for this customer. If a discount is applicable and this is the second time the customer has requested a quote then Decision Server Events will send an action to notify the customer that they will receive a special discount if they purchase insurance within 24 hours. This Scenario should be used if integration with Decision Server Rules is required. Note the sizing only accounts for the Events portion of the workload - so this should be combined with a Web Services sizing for the Rules portion.

Large Event - The event processing for this scenario is identical to 1 Simple Rule. The only difference is that the event message has many fields (~150), and is about 10Kb in size. It does not use a context ID.

Linux under z/VM

Define z/VM Environment

Define z/VM environment or user defined z/VM cost factor.
If both are entered, only the user defined z/VM cost factor will be used.

z/VM Environment

Number of Linux guests being sized

Average number of virtual CPs per guest

User Defined z/VM Cost Factor

Cost Factor %

Define z/VM environment.

This window is displayed when the **Linux deployed as a guest under z/VM** button is clicked on the primary definition window for the application being sized.

When Linux is deployed as guest under z/VM the CPU capacity requirement for the workload increases based on a number of factors including the workload characteristics, number of Linux guests being sized, and the average number of virtual CPs assigned to each guest.

The user can define the z/VM environment and let the tool estimate the z/VM cost factor or they can specify the user defined z/VM cost factor. When both are entered, the user defined z/VM cost factor will be used to calculate the capacity requirement with z/VM.

z/VM Environment

Number of Linux guests being sized

This field is automatically assigned based on the number of guests being sized. When sizing a single application the value will always be 1. This number varies in an aggregation sizing based on the number of applications assigned to the concurrency set being sized. This field is display only and can't be changed by the user.

Average number of virtual CPs per guest

Average number of virtual CPs assigned to guest(s) being sized. Default value is 1.

User Defined z/VM Cost Factor

Cost Factor

User defined z/VM cost factor specified as a percentage. Default value is 0.0%

Note: When Linux is deployed as a single guest under z/VM and the number of virtual CPs is equal to the number of real CPs, you should increase the CPU capacity requirement by 9%.

Push Buttons

Click the **Return** button to return to the calling window.

Click the **Default All** button to set all the values on this window to the default setting.

Click the **Cancel** button to return to the calling window without saving any changes.

When Linux is deployed under z/VM with multiple guests involved, a detailed z/VM sizing should be done using the **zVM-Planner** tool, described on the next page. The capacity requirement for each Linux guest, determined from **zPSG**, will be needed as an input metric. For sizing Linux guests with workload environments that are not yet supported in **zPSG**, contact Techline for sizing assistance.

zPSG application sizings are generally done for peak period activity. When many Linux guests are active under a single z/VM image, it is likely that the individual guest peaks do not occur at the same time. Therefore an opportunity exists for complementary peaks, thus lessening the overall z/VM capacity requirement. The **zVM-Planner** tool can help with this assessment.

You can also request sizing assistance for z/VM from Techline, using the appropriate URL:

For IBMers:

http://w3.ibm.com/support/techline/tskms/kms_content/PRS2881_migrated.html

For BPs: <http://www.ibm.com/partnerworld/techline>

z/VM Planner for Linux Guests on IBM System z Processors

zVM-Planner is a PC-based productivity tool under Windows XP or Vista, designed to provide capacity planning insight for IBM System z processors running various Linux applications as guests under z/VM. Capacity results are based on analysis of a variety of benchmarks, both Linux native and Linux under z/VM. The tool is generic concerning software release levels, generally applying to z/VM v5.1 and later.

zVM-Planner input consists primarily of VM guest definitions and capacity requirements for each intended Linux application (a variety of Linux applications are supported). The expected capacity requirement for each Linux guest (a required input) can usually be obtained using the companion **zPSG** sizing tool or Techline assistance. The combined guest capacity requirement is then determined for optimally complementary peaks and for totally concurrent peaks. The degree of peak concurrency is user-selectable between these values. The resulting capacity requirement is combined with that of VM to support the entire complement of guests. Another companion tool, **zPCR**, can then be used to identify a processor and partition that can accommodate the VM image. All capacity values must be relative to a Reference-CPU setting that is common for all tools involved.

For scenarios where new Linux guests are to be added to an existing VM image, a **zVM-Planner** model of the existing VM guest configuration should first be built. The new Linux guests can then be added to determine the overall VM capacity requirement.

For scenarios where a VM image is to be added to an existing host processor, a **zPCR** model of the existing LPAR configuration should first be built. A partition that can deliver the capacity required by the VM image can then be added. **zPCR** can help assess any processor upgrade that may be necessary to accommodate the VM image.

Several guest metrics are available to help balance how the overall capacity will be distributed, including the number of VCPs (virtual CPUs), and Share and Capping assignments.

Results are presented in tables and graphs that can be captured for documentation purposes. **zVM-Planner** studies can be saved for future reference. Both a User's Guide and integrated context sensitive help are included.

IBM employees can obtain **zVM-Planner** and other CPS tools via the Intranet

w3.ibm.com/support/americas/wsc/cpsproducts.html

IBM Business-Partners can obtain **zVM-Planner** and other CPS tools via the Internet

https://www.ibm.com/partnerworld/wps/servlet/mem/ContentHandler/tech_PRS1762

For questions concerning CPS tools, contact Capacity Planning Support:

- Lotus Notes: [CPS PC Tools/Gaithersburg/IBM@IBMUS](mailto:CPS_PC_Tools/Gaithersburg/IBM@IBMUS)
- E-mail: cpstools@us.ibm.com

ODM Decision Server Rules Application Definition

The screenshot shows a window titled "zPSG - ODM Application Definition [untitled]". The main content area is titled "IBM System z Processor Sizing" and "ODM Decision Server Rules 8.5.1 on z/OS". There are input fields for "Customer:" and "Application name:". Below this is a section for "Transaction Descriptions" with a table titled "RES on WAS only".

Trans	Rate/sec	Type	Rule Set Size	Execution Mode	XOM	Trace	Copybook Size(k)
1:	0.00	zRES Standalone	Very small (300 rules)	POJO	Java	None	1
2:	0.00	CICS with Imbedded zRES	Very small (300 rules)	POJO	Java	None	1
3:	0.00	CICS with Standalone zRES	Very small (300 rules)	POJO	Java	None	1
4:	0.00	RES on WAS	Very small (300 rules)	POJO	Java	None	1

Below the table is a section for "Reports and Capacity Projections" with three buttons: "Summary Report" (characterizing the average transaction), "CPU Utilization" (to support peak transaction rate), and "Transaction Rate" (support within SDP of 90.0 %). At the bottom are buttons for "Return", "Reference-CPU", and "Add to Aggregation". A link "Enter transaction information." is at the very bottom.

This window is displayed when the **PSG** button is clicked on the **Product Selection** window when **ODM Decision Server Rules** has been selected for z/OS or Linux (the example used here is for z/OS).

Note: A transaction rate greater than zero must be specified for at least one transaction to get a sizing estimate.

Description of Input Fields

Menu bar

File

New	Start a new study. Sets all fields to initialization values.
Load	Load a previously saved study
Save	Save the current study
Save as	Save the current study as a new file
Exit (Ctrl-E)	Exit window and return to the Product Selection window
Exit zPSG	Terminate zPSG execution (Ctrl-Q). Exit zPSG can also be invoked from the Exit zPSG button on the tool bar.

Help

Context Help (F1)	Help for this window
About zPSG	Product information

Toolbar

- ? button** Click this button to go to Help for this window.
- Exit zPSG button** Click this button to terminate **zPSG** execution.

Customer =

Input field, for documentation purposes, not required. If you want to save a copy of the sizing estimate, you can use this field to document which sizing it is.

Application name =

Input field, for documentation purposes, not required. If you want to save a copy of the sizing estimate, you can use this field to document which sizing it is.

Rules Input Fields and Buttons

Transaction Rate/sec

Specify a transaction rate per second value for each of the transactions that should be included in the sizing. Specify a value of zero if the transaction should not be included in the sizing. The default value for each of the transactions is zero.

Type

Specify one of the six Decision Server implementation types. Click on the drop-down icon at the right of the Type Option selection to choose one of the following options:

1. zRES Standalone
2. CICS with Imbedded zRES
3. CICS with Standalone zRES
4. Rules for Cobol
5. RES on WAS-WOLA
6. RES on WAS

Note: For Linux, only RES on WAS is supported

Rule Set Size

Click on the drop-down icon to choose one of the following options:

1. Very small (300 rules)
2. Small (500 rules)
3. Small X2 (1000 rules)
4. Medium (2912 rules)
5. Medium X2 (5824 rules)
6. Large (8736 rules)
7. Very Large (11648 rules)
8. Extra Large (14560 rules)

Note: The next 4 input fields are applicable based on type selection.

Execution Mode

Click on the drop-down icon to choose one of the following options:

1. POJO
2. Web Services

The default value is POJO.

XOM

This option is applicable only when “POJO” Execution Mode is selected.

Click on the drop-down icon to choose one of the following options:

1. Java
2. XML

The default value is Java.

Trace

This option is applicable only when “POJO” Execution Mode is selected.

Click on the drop-down icon to choose one of the following options:

1. Full
2. None

The default value is None.

Copybook size(k)

This option is applicable only when one of the following Types is selected.

1. zRES Standalone
2. CICS with Imbedded zRES
3. CICS with Standalone zRES

Click on the drop-down icon to select a Copybook size which has ranges from 1 to 100(K). Default value is 1(K).

Rules Reports and Capacity Projections

This section provides buttons to view output windows with summary reports and capacity projections.

Summary Report button

Click this button to view a summary of the input assumptions for the sizing and a breakdown of the CPU/transaction among the transaction types included in the sizing.

CPU Utilization button

Click this button to see an output window with estimates of processor utilization for all System z processors supported in zPSG.

Transaction Rate button

Click this button to see an output window with estimates of transaction rates that can be supported on all System z processors supported in zPSG. You can also see the transaction rates that can be supported within a Saturation Design Point (SDP) specified for the processors.

SDP %

Description

Input field, numeric, valid range is 1 to 100.

SDP stands for Saturation Design Point. This is a classic capacity planning concept which allows you to examine the amount of workload than can be supported in less than the full capacity of the processor model. It applies to the Transaction Rate output window and enables you to determine how much work can fit into a processor that is already being used for other applications.

Default

The default is 90%.

Return button

Click this button to return to the ***Product Selection*** window.

Reference-CPU button

Click this button to go to a window to change the System z processor used as a basis for capacity ratings. See the Reference-CPU section in the zPSG User's Guide for information about this setting.

ODM Decision Server Events Application Definition

zPSG - WODMEvents Application Definition [untitled]

File Help

IBM System z Processor Sizing
WODM Decision Server Events 8.0 on z/OS

Customer : Application name :

Transaction Descriptions

	Events per/sec	Events per/action	Connector	Durability
1. 1 Simple Rule	<input type="text" value="0.00"/>	<input type="text" value="1"/>	<input type="text" value="None"/>	<input type="text" value="Non-Durable"/>
2. Complex Occurrence of	<input type="text" value="0.00"/>	<input type="text" value="1"/>	<input type="text" value="None"/>	<input type="text" value="Non-Durable"/>
3. Scenario 1	<input type="text" value="0.00"/>	<input type="text" value="1"/>	<input type="text" value="None"/>	<input type="text" value="Non-Durable"/>
4. Scenario 2	<input type="text" value="0.00"/>	<input type="text" value="1"/>	<input type="text" value="None"/>	<input type="text" value="Non-Durable"/>
5. Scenario 2 CSBO	<input type="text" value="0.00"/>	<input type="text" value="1"/>	<input type="text" value="None"/>	<input type="text" value="Non-Durable"/>
6. Scenario 3 (Rules)	<input type="text" value="0.00"/>	<input type="text" value="1"/>	<input type="text" value="None"/>	<input type="text" value="Non-Durable"/>
7. Large Event	<input type="text" value="0.00"/>	<input type="text" value="1"/>	<input type="text" value="None"/>	<input type="text" value="Non-Durable"/>

Reports and Capacity Projections

characterizing the average transaction

to support peak transaction rate

support within SDP of %

[Enter transaction information.](#)

This window is displayed when the **PSG** button is clicked on the **Product Selection** window when **ODM Decision Server Events** has been selected for z/OS or Linux (the example used here is for z/OS).

Note: An events rate greater than zero must be specified for at least one transaction to get a sizing estimate.

Description of Input Fields

Menu bar

File

New	Start a new study. Sets all fields to initialization values.
Load	Load a previously saved study
Save	Save the current study
Save as	Save the current study as a new file
Exit (Ctrl-E)	Exit window and return to the Product Selection window
Exit zPSG	Terminate zPSG execution (Ctrl-Q). Exit zPSG can also be invoked from the Exit zPSG button on the tool bar.

Help

Context Help (F1)	Help for this window
About zPSG	Product information

Toolbar

- ? button** Click this button to go to Help for this window.
- Exit zPSG button** Click this button to terminate **zPSG** execution.

Customer =

Input field, for documentation purposes, not required. If you want to save a copy of the sizing estimate, you can use this field to document which sizing it is.

Application name =

Input field, for documentation purposes, not required. If you want to save a copy of the sizing estimate, you can use this field to document which sizing it is.

Events Input Fields and Buttons

Events Rate/sec

Specify an events rate per second value for each of the transactions that should be included in the sizing. Specify a value of zero if the transaction should not be included in the sizing. The default value for each of the transactions is zero.

Events per/action

Specify one of the three events per/action options. Click on the drop-down icon at the right of the Type Option selection to choose one of the following options:

1. 1
2. 10
3. 100

The default is 1.

Connector

Click on the drop-down icon to choose one of the following options:

1. None
2. Queue (Message Queue)

The default is None.

Durability

Click on the drop-down icon to choose one of the following options:

1. Non-Durable
2. Durable

The default is Non-Durable.

Events Reports and Capacity Projections

This section provides buttons to view output windows with summary reports and capacity projections.

Summary Report button

Click this button to view a summary of the input assumptions for the sizing and a breakdown of the CPU/transaction among the transaction types included in the sizing.

CPU Utilization button

Click this button to see an output window with estimates of processor utilization for all System z processors supported in zPSG.

Transaction Rate button

Click this button to see an output window with estimates of transaction rates that can be supported on all System z processors supported in zPSG. You can also see the transaction rates that can be supported within a Saturation Design Point (SDP) specified for the processors.

SDP %

Description

Input field, numeric, valid range is 1 to 100.

SDP stands for Saturation Design Point. This is a classic capacity planning concept which allows you to examine the amount of workload than can be supported in less than the full capacity of the processor model. It applies to the Transaction Rate output window and enables you to determine how much work can fit into a processor that is already being used for other applications.

Default

The default is 90%.

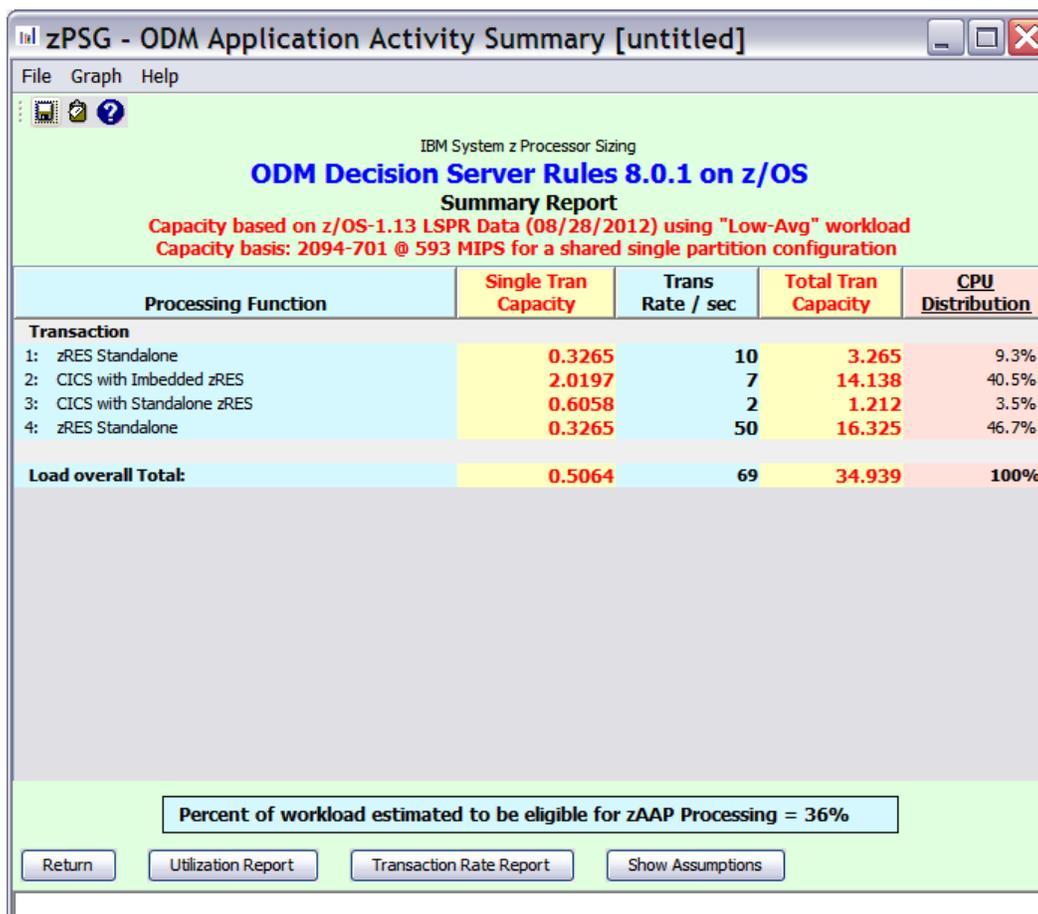
Return button

Click this button to return to the ***Product Selection*** window.

Reference-CPU button

Click this button to go to a window to change the System z processor used as a basis for capacity ratings. See the Reference-CPU section in the zPSG User's Guide for information about this setting.

ODM Application Activity Summary



This window is displayed when the **Summary Report** button is clicked on the primary **ODM Decision Server Rules or Events Application Definition** window. It shows a breakdown of the CPU per transaction for the various transactions included in the sizing.

Menu bar

File

Output Write contents to a flat (PRN) file.

Copy Write contents to Window's clipboard

Graph Generates a pie chart showing the distribution of application activity

Help

Context Help (F1) Help for this window

About zPSG Product information

Toolbar

1st button

Click this button to send sizing information to a PRN file for processing outside of zPSG.

2nd button

Click this button to send sizing information to the clipboard, so that you can copy it into a note or other document.

? button

Click this button to go to Help for this window.

Processing Function column

Lists the pre-defined transactions available on the primary ***ODM Application Definition*** window.

Single Tran Capacity column

Reflects the amount of CPU (as represented by the Capacity Rating) for each transaction, and at the bottom for all transactions.

Trans Rate / sec column

Reflects the number of transactions completed per second for each of the pre-defined transactions as specified on the ***ODM Application Definition*** window.

Total Tran Capacity column

Reflects the amount of CPU (as represented by the Capacity Rating) for each transaction multiplied by the transaction rate specified in the ***Trans Rate / sec*** column, and at the bottom for all transactions.

CPU Distribution column

Shows the percentage of the CPU/transaction used by each transaction.

Percent of workload estimated to be eligible for zAAP Processing = (z/OS only)

Shows the estimated percentage of Java content for the pre-defined transactions included in the sizing. Percentages of Java content were computed in all the performance lab measurements done to support the pre-defined transactions supported in this tool. Depending on what pre-defined transactions you included, the percentage per transaction will vary. These percentages reflect the amount of CPU that we estimate you can offload to zAAP, assuming sufficient zAAP capacity to handle the load. You can generate an estimate of zAAP capacity requirements using the zAAP Capacity Estimator available from the CP Calculator menu on the ***Product Selection*** window.

Push Buttons

Click the **Return** button to return to the primary ***ODM Application Definition*** input window.

Click the **Utilization Report** button to go to the ***ODM Processor Capacity Projections - Processor Utilization*** output window.

Click the **Transaction Rate Report** button to go to the ***ODM Processor Capacity Projections - Transaction Rate Supported*** output window.

Click the **Show Assumptions** button to see a list of the assumptions for the sizing in the ***ODM Application Transaction Assumptions*** window.

ODM Transaction Assumptions

Transaction	Rate/sec	Type	Rule Set Size	Execution Mode	XOM	Trace	Copybook Size(k)
1:	10.00	zRES Standalone	Very small (300 rules)	N/A	N/A	N/A	1
2:	7.00	CICS with Imbedded zRES	Medium X2 (5824 rules)	N/A	N/A	None	1
3:	2.00	CICS with Standalone zRES	Very small (300 rules)	N/A	N/A	N/A	1
4:	50.00	zRES Standalone	Very small (300 rules)	N/A	N/A	N/A	1

Return

This window is displayed when the **Show Assumptions** button is clicked on the **ODM Application Activity Summary** window.

All assumptions as listed will be included when generating output for the **Summary** window.

ODM Processor Utilization

ODM Processor Capacity Projections

The screenshot shows a window titled "zPSG - ODM Processor Capacity Projections [untitled]". The window contains the following information:

IBM System z Processor Sizing
ODM Decision Server Rules 8.0.1 on z/OS
Processor Utilization to Support 69 Transactions per Second
General Purpose CPs
 Capacity based on z/OS-1.13 LSPR Data (08/28/2012) using "Low-Avg" workload
 Capacity basis: 2094-701 @ 593 MIPS for a shared single partition configuration

Processor	Feature	Flag	MSU	Capacity Rating	Projected Utilization	# Servers Required
zEnterprise EC12/700						
2827-701	1W	=	188	1,635	2%	
2827-702	2W	=	352	3,138	1%	
2827-703	3W	=	511	4,609	<1%	
2827-704	4W	=	664	6,050	<1%	
2827-705	5W	=	813	7,456	<1%	
2827-706	6W	=	957	8,828	<1%	
2827-707	7W	=	1092	10,167	<1%	
2827-708	8W	=	1224	11,473	<1%	
2827-709	9W	=	1350	12,747	<1%	
2827-710	10W	=	1473	13,990	<1%	
2827-711	11W	=	1593	15,203	<1%	
2827-712	12W	=	1709	16,387	<1%	
2827-713	13W	=	1822	17,548	<1%	
2827-714	14W	=	1934	18,686	<1%	
2827-715	15W	=	2043	19,803	<1%	
2827-716	16W	=	2149	20,898	<1%	
2827-717	17W	=	2254	21,972	<1%	
2827-718	18W	=	2359	23,025	<1%	
2827-719	19W	=	2462	24,058	<1%	
2827-720	20W	=	2564	25,070	<1%	
2827-721	21W	=	2661	26,073	<1%	
2827-722	22W	=	2755	27,065	<1%	
2827-723	23W	=	2848	28,047	<1%	

Reference-CPU set to the IBM 2094-701 rated at 593
 Processors in view = 99; In listbox = 99; Selected = 000

Table View
 General Purpose CPs IFL CPs
 Family zEC12/700
 All Within SDP Selected

Return

To view FLAG information, place pointer on a processor flag indicator

This window is displayed when the **Utilization** button is clicked on the **ODM Application Definition** window or the **Utilization Report** button is clicked on the **ODM Application Activity Summary** window.

Menu bar**File**

- Output** Write report contents to a flat (PRN) file.
- Copy** Write report contents to Window's clipboard

Graph (for processors currently selected in table)

- Capacity** Generate bar graph depicting capacity values
- Utilization** Generate bar graph showing utilization on selected processors

Help

- Context Help (F1)** Help for this window
- About zPSG** Product information

Toolbar**1st button**

Click this button to send sizing information to a PRN file, for processing outside of zPSG.

2nd button

Click this button to send sizing information to the clipboard, so that you can copy it into a note or other document.

? button

Click this button to go to Help for this window.

Table***Processor column***

A list of all processor models supported in zPSG

Feature column**For z/OS & Linux**

Using the General Purpose CPs option under Table View, a designation of how many general purpose processing engines (CPs) for this entry. For example, 4W ("W" is short for "way") indicates 4 CPs or engines. Also see ***Flag*** column below.

Feature column**For Linux only**

Using the IFL CPs option under Table View, a designation of how many IFL engines for this entry. For example, 4W IFL ("W" is short for "way") indicates 4 IFL engines. Also see ***Flag*** column below.

Flag column

If you place your cursor on a row in this column, an explanatory message about the System z model designation and the number of CP or IFL engines for the entry.

MSU column

Only for the General Purpose CPs Table View (does not apply to IFLs). Shows the MSU rating assigned to the number of CP engines for this entry.

Capacity Rating column

The capacity ratings reflect the relative capacity of each processor table entry to the reference-CPU and its capacity rating assigned on the Reference-CPU window. When **zPSG** is started the reference-CPU will be set to a 2094-701 (a z9 EC/700 processor with 1 general purpose CP) with a capacity rating of 602 MIPS.

Projected Utilization column

Shows the estimated CPU% for each processor entry in the table, based on the transaction rate(s) and implementation options specified for the pre-defined transactions. This is the primary output for a sizing.

Servers Required column

If the estimated CPU% is greater than 100% (and therefore cannot fit on the processor), this column reflects the number of these models that would be needed to accommodate the load.

Table View Options Box

Click a radio button in each section to customize the processor entries shown in the table:

- **General Purpose CPs** shows entries with some number of general CP engines
- **IFL CPs** shows entries with some number of IFL engines (for Linux only)
- **Family** shows all processor models for the family selected (Default)
- **All** shows all processor models supported in zPSG
- **Within SDP** shows all models that can accommodate the load within the Saturation Design Point
- **Selected** shows only selected models. Models are selected by clicking on the entry while holding down the Ctrl key on your keyboard.

Return button

Click this button to return to the primary ***ODM Application Definition*** window.

ODM Transaction Rate Supported ODM Processor Capacity Projections

IBM System z Processor Sizing

ODM Decision Server Rules 8.0.1 on z/OS
Processor Utilization to Support 69 Transactions per Second
General Purpose CPs
 Capacity based on z/OS-1.13 LSPR Data (08/28/2012) using "Low-Avg" workload
 Capacity basis: 2094-701 @ 593 MIPS for a shared single partition configuration

Processor	Feature	Flag	MSU	Capacity Rating	Projected Utilization	# Servers Required
<u>zEnterprise EC12/700</u>						
2827-701	1W	=	188	1,635	2%	
2827-702	2W	=	352	3,138	1%	
2827-703	3W	=	511	4,609	<1%	
2827-704	4W	=	664	6,050	<1%	
2827-705	5W	=	813	7,456	<1%	
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2827-710	10W	=	1473	13,990	<1%	
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2827-721	21W	=	2661	26,073	<1%	
2827-722	22W	=	2755	27,065	<1%	
2827-723	23W	=	2848	28,047	<1%	

Reference-CPU set to the IBM 2094-701 rated at 593
 Processors in view = 99; In listbox = 99; Selected = 000

Table View
 General Purpose CPs IFL CPs
 Family: zEC12/700
 All Within SDP Selected

Return

To view FLAG information, place pointer on a processor flag indicator

This window is displayed when the **Transaction Rate** button is clicked on the **ODM Application Definition** window or the **Transaction Rate Report** button is clicked on the **ODM Application Activity Summary** window.

Menu bar**File****Output** Write report contents to a flat (PRN) file.**Copy** Write report contents to Window's clipboard**Graph** (for processors currently selected in table)**Capacity** Generate a bar graph depicting capacity values**ETR** Generate bar graph showing transaction rate supported at SDP**ITR** Generate bar graph showing maximum transaction rate supported**Help****Context Help (F1)** Help for this window**About zPSG** Product information**Toolbar****1st button**

Click this button to send sizing information to a PRN file, for processing outside of zPSG.

2nd button

Click this button to send sizing information to the clipboard, so that you can copy it into a note or other document.

? button

Click this button to go to Help for this window.

Table***Processor column***

A list of all processor models supported in zPSG

Feature column**For z/OS & Linux**Using the General Purpose CPs option under Table View, a designation of how many general purpose processing engines (CPs) for this entry. For example, 4W ("W" is short for "way") indicates 4 CPs or engines. Also see **Flag** column below.***Feature column*****For Linux only**Using the IFL CPs option under Table View, a designation of how many IFL engines for this entry. For example, 4W IFL ("W" is short for "way") indicates 4 IFL engines. Also see **Flag** column below.***Flag column***

If you place your cursor on a row in this column, an explanatory message about the System z model designation and the number of CP or IFL engines for the entry.

MSU column

Only for the General Purpose CPs Table View (does not apply to IFLs). Shows the MSU rating assigned to the number of CP engines for this entry.

Capacity Rating column

The capacity ratings reflect the relative capacity of each processor table entry to the reference-CPU and its capacity rating assigned on the Reference-CPU window. When **zPSG** is started the reference-CPU will be set to a 2094-701 (a z9 EC/700 processor with 1 general purpose CP) with a capacity rating of 602 MIPS.

SDP= xx % -- ETR column

Shows the transaction rate for the application that can be supported within the Saturation Design Point specified on the primary **ODM Application Definition** window (the default SPD is 90%). ETR stands for External Throughput Rate, which is a standard System z term for transaction rate.

SDP=100% -- ITR column

Shows the transaction rate for the application that can be supported at 100% CPU. ITR stands for Internal Throughput Rate, which is a standard System z term indicating the throughput that can be achieved at 100% CPU. ITR is computed by dividing the ETR by the CPU% (expressed as a decimal). This is the way to correctly rate the processor capacity of each entry in the processor table for this workload (as opposed to MIPS ratings, which are generally erroneous).

Table View Options Box

Click a radio button in each section to customize the processor entries shown in the table:

- **General Purpose CPs** shows entries with some number of general CP engines
- **IFL CP's** shows entries with some number of IFL engines (for Linux only)
- **Family** shows all processor models for the family selected (Default)
- **All** shows all processor models supported in zPSG
- **Within SDP** shows all models that can accommodate the load within the Saturation Design Point
- **Selected** shows only selected models. Models are selected by clicking on the entry while holding down the Ctrl key on your keyboard.

Return button

Click this button to return to the primary **ODM Application Definition** window.

ODM Sizing Assistance

Here are instructions for accessing the System z questionnaire from Techline. Note that on the Techline websites there are sizing questionnaires for distributed platforms in addition to System z. Be sure to use System z questionnaires for System z sizings. The questions and sizing methodologies are different from distributed platforms.

For IBMers:

1. Obtain the latest copy of the WebSphere Decision Server sizing questionnaire from the following website:
 - <http://w3-03.ibm.com/support/techline/global/swsz.html>
2. Submit a sizing request to Techline using the instructions found in the sizing questionnaire.

For Business Partners:

1. Obtain the latest copy of the WebSphere Decision Server sizing questionnaire via:
 - Phone: Call PartnerLine at 1-800-426-9990 (US and Canada)
 - Email: pwcs@us.ibm.com
 - Online: <http://www.ibm.com/partnerworld/techline>
2. Submit a sizing request to Techline using the instructions found in the sizing questionnaire.

ODM Glossary of Terms

Web Services (HTDS)

Web Services is the name given to communication that employs the SOAP standard for messaging. SOAP messages are XML documents containing certain required elements. They enable potential users of applications to find and invoke applications without the need to understand their implementation and underlying structure. Web services use SAX parsing.

XML

Extended Markup Language

XOM

Execution Object Model

POJO

Plain ordinary java object

RES

Rule Execution Server