



Advanced Technical Skills (ATS) North America

zPCR Capacity Sizing Lab – Part 2 Hands-on Lab

SHARE - Session 9667

August 11, 2011

John Burg
Brad Snyder

Materials created by John Fitch and Jim Shaw

IBM



zPCR Capacity Sizing Lab – Part 2 Hands On Lab Exercise

John Burg
Brad Snyder

Function Selection Window

The screenshot shows the 'Function Selection [untitled]' window for zPCR V7.2a. The window title bar includes 'File', 'Edit', 'CPcalculator', 'Registration', 'Documentation', and 'Help'. The main content area is titled 'zPCR Processor Capacity Reference for IBM System z'. A 'Study ID:' field is present. Two tabs are visible: 'Tab-1: Multi-Image Capacity' (selected) and 'Tab-2: Single-Image Capacity'. The 'Multi-Image Capacity' section includes 'LSPR Multi-Image Capacity Ratios' with buttons for 'z/OS-1.11 / General Purpose CPs' and 'Workloads'. A yellow box below states: 'Capacity results will be relative to a 2094-701 MI capacity is 0.9440, for a 5-partition configuration'. The 'LPAR Configuration Capacity Planning' section includes 'Project capacity for specific LPAR configurations' with hardware, CP types, and control programs listed. An 'Advanced-Mode' checkbox is unchecked. A button 'Define LPAR Host, Configure Partitions, Assess Capacity' is present. A yellow box below states: 'Capacity results will be relative to a 2094-701 SI capacity is 1.000, for a 1-partition configuration'. The 'Reference-CPU' section shows a 'REF' icon and '2094-701 @ 1.000 {ITR Ratio}'. An image of an IBM zEnterprise 196 server rack is shown on the right. A 'QuickStart Guide' button is at the bottom left. A footer note says: 'Click on **Single-Image Capacity** tab for **LSPR Single-Image Capacity** tables'.

Objective

You will use **zPCR** (in Advanced Mode) to define a customer's current LPAR configuration and then project the capacity expectation for an upgrade to newer technology. The capacity results will then be used to determine if the upgrade model is adequate to support all of the work, and to determine if the amount of CP resource available to each partition is adequate to support that partition's workload with the anticipated growth applied.

Problem

XYZ Corporation currently has a **z10 2097-707** (7-way processor) installed, which they view as having **5,100 MIPS** of usable capacity, (so we will need to calibrate zPCR to this view). The 2097-707 is currently averaging **92% busy** during peak processing periods. The workload environment includes multiple logical partitions, all running on General Purpose CPs, as shown in the table below.

Partition	LP-mode	LCPs	Busy	Weight	Capped	Workload Category
1 Batch	Share	3	15%	150	No	z/OS-1.11 Average
2 CICS-1	Share	7	35%	350	No	z/OS-1.11 Avg-High
3 CICS-2	Share	3	10%	100	No	z/OS-1.11 Avg-High
4 CICS-3	Share	2	10%	100	No	z/OS-1.11 Avg-High
5 IMS	Share	4	20%	200	No	z/OS-1.11 Avg-High
6 Test	Share	2	2%	20	Yes	Linux Average/L

A plan is being developed to **replace the z10 2097-707 with a newer technology zEnterprise 196 processor**. The specific model chosen must provide **20%+ additional capacity**, or at least **6,150 MIPS**. The current partitions are to be moved to the new processor with the partitions and their workloads as being run today. You already have a zPCR study file containing the configuration from the last time you did an upgrade.

Tasks

Here are the 6 tasks that comprise this zPCR familiarization exercise, addressing the problem described above.

- **Task 1** - Load a model of the current LPAR Configuration
- **Task 2** - Calibrate the model to XYZ Company's capacity designation
- **Task 3** - Save the current study in Advanced-Mode (e.g. task2.zpcr)
- **Task 4** - Find an appropriate Enterprise 196 (z196) replacement processor
- **Task 5** - Model the intended z196 LPAR host
- **Task 6** - Review the Capacity results and save the Study (use a different file name than Task 3, e.g. task6.zpcr)
- **Additional**
 - Model 1 IFL in the proposed configuration
 - Model 1 zAAP in the proposed configuration



Note: When instructed to **Return** the  icon should be used

Task 1: Load a model of the current LPAR configuration

In this task you will load the current LPAR configuration into zPCR from the file supplied.

Note: **zPCR**'s default Reference-CPU setting is the 2094-701 rated at 1.00. When this study was saved, the Reference-CPU was set to a 2094-701 rated at 593 MIPS, so we need to restore the **zPCR** Reference-CPU to that setting.

Analysis Steps

1. Start **zPCR**. After the Logo window stages, you will be viewing the **Function Selection** window, on the **Multi-Image Capacity** tab.
2. Select the **Advanced-Mode** check box if it is not already checked
3. Click the **Enter Advanced-Mode** button
4. On the **Advanced-Mode Control Panel** window, double click on the **Reference-CPU** icon  , currently tagged with "**2094-701 @ 1.00 {ITR Ratio}**". The **Reference-CPU** window will appear.
 - a) Click **Typical** to set the Reference-CPU to the 2094-701 rated at 593 MIPS.
 - b) Click **Return**
5. Open Windows Explorer (by clicking on "Start", "All Programs", "Accessories", "Windows Explorer"). Then using Windows Explorer (under My Computer/Local Disk (C:)) select to the CPSTOOLS/zpcr7.4 directory, where the **Task 1.zpcr** file is located and visible. You'll probably want to size the Windows Explorer window down, so that it can be visible with zPCR active.
6. Drag the "**Task 1.zpcr**" study file from the "**zPCR**" subdirectory underneath or on top of the "**Current**" icon .

zPCR Capacity Sizing Lab Exercise

Advanced-Mode Control Panel Window



Task 1.zpcr

Advanced-Mode Control Panel [D:\...\Task 1.zpcr]
zPCR V7.2a

File CPcalculator Documentation Help

NEW Save Print Run Help

Advanced-Mode Capacity Planning Control Panel

Study ID:

Double click on a tree branch below to access the relevant windows

- Reference-CPU
 - REF 2094-701 @ 593.00 MIPS
- LSPR Processor Table
 - LSPR z/OS Multi-Image Capacity Ratios
- LPAR Configurations
 - #1 Current

Manage

Compare


QuickStart Guide

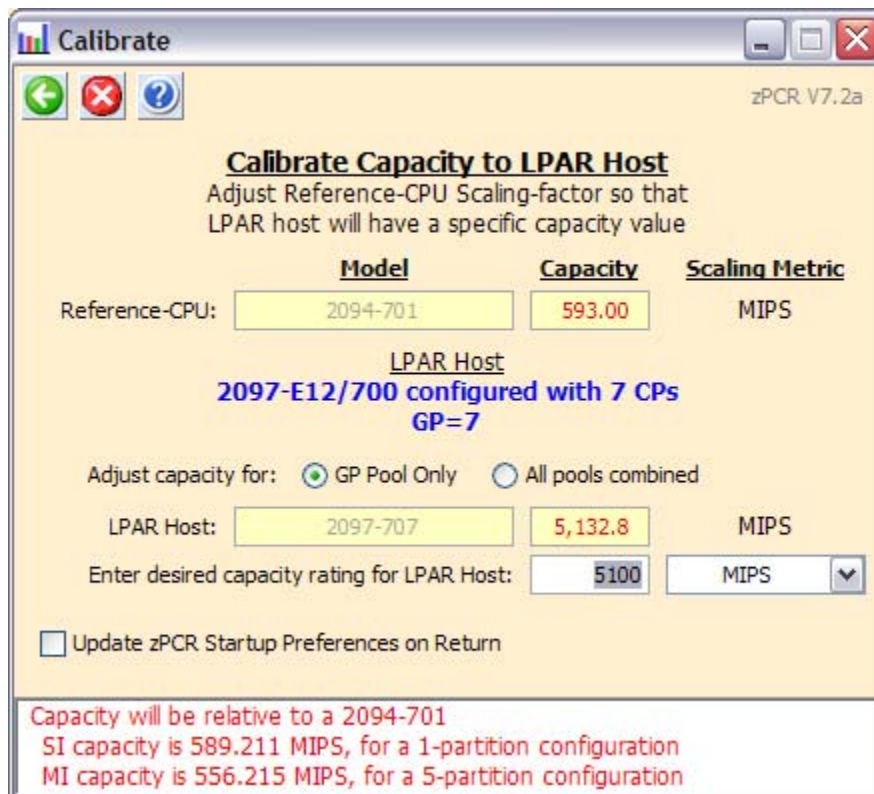
#1	Current Loaded from Basic Mode Study D:\...\Task 1.zpcr z10-EC LPAR Host: 2097-E12/700					
Pool CP Type	#1 GP	#2 zAAP	#3 zIIP	#4 IFL	#5 ICF	CEC Total
RCPs	7	0	0	0	0	7
Partitions	6	0	0	0	0	6
LCPs	21	0	0	0	0	21
Capacity	5,132.8					5,132.8
Capacity basis: 2094-701 @ 593.00 MIPS for a single partition configuration						

Task 2: Calibrate the model to XYZ Company's capacity designation

Review the capacity assessment and alter the **Reference-CPU** scaling-factor such that that the company's capacity designation is provided in the results.

Analysis Steps

1. Refer to the "Rename a Configuration" at the end of this document to rename the configurations as shown in the lab
2. Using the directions above to relabel "Current" to "Current z10 2097-707"
3. Double-click on the **Current z10 2097-707** LPAR configuration icon #1  to open the **LPAR Host and Partition Configuration** window for the **Current z10 2097-707** LPAR configuration.
4. Click **Partition Detail** in the **Capacity Reports Groupbox** to open the **Partition Detail Report** window. This window will reveal the total GP capacity available as **5,132.8 MIPS**. The XYZ Company believes that the total GP capacity of this machine for their environment is **5,100 MIPS**. We will adjust the Reference-CPU scaling factor so that the GP capacity result will be **5,100 MIPS**.
5. Click **Calibrate Capacity** to open the **Calibrate** window.
6. Key in **5100** in the **Enter desired capacity rating for LPAR Host** entry field and press **Enter**.



7. Click **Return**

zPCR Capacity Sizing Lab Exercise

Partition Detail Report
zPCR V7.2a

Graph CPcalculator Documentation

Partition Detail Report

Based on LSPR Data for IBM System z Processors
Study ID: Not specified

#1 ▲ Current z10 2097-707
Description: Loaded from Basic Mode Study D:\...Task 1.zpcr

z10-EC Host = 2097-E12/700 with 7 CPs: GP=7
6 Active Partitions: GP=6

Capacity basis: 2094-701 @ 589.211 MIPS for a single partition configuration
z196 and z10 processor capacity for z/OS is represented with HiperDispatch turned ON

Include	Partition Identification					Partition Configuration					Partition Capacity	
	No.	Type	Name	SCP	Workload	Mode	LCPs	Weight	Weight %	Capping	Minimum	Maximum
<input checked="" type="checkbox"/>	1	GP	Batch	z/OS-1.11	Average	SHR	3	150	16.30%	<input type="checkbox"/>	885.2	2,326.7
<input checked="" type="checkbox"/>	2	GP	CICS-1	z/OS-1.11	Avg-High	SHR	7	350	38.04%	<input type="checkbox"/>	1,882.4	4,948.0
<input checked="" type="checkbox"/>	3	GP	CICS-2	z/OS-1.11	Avg-High	SHR	3	100	10.87%	<input type="checkbox"/>	552.7	2,179.3
<input checked="" type="checkbox"/>	4	GP	CICS-3	z/OS-1.11	Avg-High	SHR	2	100	10.87%	<input type="checkbox"/>	552.5	1,452.2
<input checked="" type="checkbox"/>	5	GP	IMS	z/OS-1.11	Avg-High	SHR	4	200	21.74%	<input type="checkbox"/>	1,106.0	2,907.2
<input checked="" type="checkbox"/>	6	GP	Test	Linux	Average/L	SHR	2	20	2.17%	<input checked="" type="checkbox"/>	121.3	121.3

Table View

Display Pools

All Partitions GP IFL

Includes Only zAAP ICF

zIIP

Capacity Summary by Pool

CP Pool	RCPs	Partitions	LCPs	Capacity
GP	7	6	21	5,100.0
zAAP	0	0	0	0.0
zIIP	0	0	0	0.0
IFL	0	0	0	0.0
ICF	0	0	0	0.0
Totals	7	6	21	5,100.0

Host Summary
Modify SCP/Workload
Calibrate Reference-CPU

For significant configuration changes, capacity comparisons should be considered to have a +/-5% margin-of-error.
 Upgrading the processor family is considered a significant configuration change.
 IBM does not guarantee the results from this tool. This information is provided "as is", without warranty,
 expressed or implied. You are responsible for the results obtained from your use of this tool.

Input fields have white background; Single-click a "selection field" for drop-down list; Double click a "key-in field" to open.

Task 3: **Save the study**

Analysis Steps


1. Click **Return** twice to close the LPAR configuration windows.
2. From the menu-bar on the ***Advanced-Mode Control Panel*** window, click **File**→**Save as**, to save your LPAR definitions for the current LPAR host processor.
(e.g. task2.zpcr)

Note: the former basic-mode study file has now been converted to an “**Advanced Mode**” study file.

Task 4: Find an appropriate replacement processor

Browsing the **z/OS-1.11 Multi-Image LSPR Capacity Ratios** table, find the IBM z196 processor that can provide the required capacity increment using the z/OS Average workload

Analysis Steps

1. From the Advanced-Mode window, double click on **z/OS Multi-Image Capacity Ratios**  to open the **LSPR Multi-Image Processor Capacity Ratios** table.
2. Find an IBM zEnterprise 196 processor that can provide the required **6,150 MIPS**. (tip right click for a list of the Families, then select zEnterprise 196/700)

For the purposes of this exercise, choose the **2817-706**, which appears to have just a bit more capacity than we require, (e.g. **6,251** for Average etc) **Remember that capacity values in the multi-image table represent typical (or average) partition configurations, and are therefore can only generalize capacity.**

3. Click **Return** to go back to the **Advanced-Mode Control Panel** window.

zPCR Capacity Sizing Lab Exercise

LSPR Capacity Ratios
zPCR V7.2a

Workload Graph Help

z/OS-1.11 LSPR (07/22/2010)

LSPR Multi-Image Capacity Ratios (z/OS-1.11)

General Purpose CPs

Capacity basis: 2094-701 @ 556.215 MIPS for a typical multi-partition configuration

z196 and z10 processor capacity for z/OS is represented with HiperDispatch turned ON

Processor	Features	Flag	MSU	z/OS Low	z/OS Average	z/OS High
2817-615	15W	=	1,084	9,742	8,891	8,169
<u>zEnterprise 196/700</u>						
2817-701	1W	=	150	1,195	1,202	1,151
2817-702	2W	=	281	2,325	2,272	2,117
2817-703	3W	=	408	3,431	3,311	3,055
2817-704	4W	=	531	4,513	4,320	3,964
2817-705	5W	=	650	5,575	5,300	4,847
2817-706	6W	=	766	6,617	6,251	5,704
2817-707	7W	=	879	7,639	7,175	6,537
2817-708	8W	=	988	8,641	8,072	7,345
2817-709	9W	=	1,091	9,625	8,943	8,130
2817-710	10W	=	1,191	10,590	9,788	8,892
2817-711	11W	=	1,286	11,536	10,609	9,632
2817-712	12W	=	1,381	12,465	11,407	10,351
2817-713	13W	=	1,473	13,376	12,181	11,049
2817-714	14W	=	1,562	14,269	12,932	11,726
2817-715	15W	=	1,648	15,146	13,662	12,384
2817-716	16W	=	1,731	16,006	14,371	13,023
2817-717	17W	=	1,816	16,861	15,076	13,659
2817-718	18W	=	1,899	17,710	15,778	14,293
2817-719	19W	=	1,983	18,555	16,476	14,924
2817-720	20W	=	2,064	19,395	17,171	15,553

Processors

In entire table: 617

In this view: 506

Currently selected: 1

Table View

Families & Models	z196 Power
<input checked="" type="radio"/> Subset <input type="radio"/> All	<input checked="" type="radio"/> Full
<input type="radio"/> Show Selected	<input type="radio"/> Saving

Provisional Reference-CPU

Processor Families

Workloads




IBM does not guarantee the results from this tool.
 This information is provided "as is", without warranty, expressed or implied.
 You are responsible for the results obtained from your use of this tool.

Global Reference-CPU is active; double click any processor row to set it as a Provisional Reference-CPU
 Select multiple processors with **Ctrl+LeftClick** or **Shift+LeftClick**; For flag explanation, position mouse on indicator

Task 5: **Model the intended LPAR host**

Using the current LPAR configuration as a starting point, we will transfer it to the new IBM zEnterprise 196 processor, making any necessary adjustments to the partition definitions.

Analysis Steps

1. Single-click the **Current z10 2097-707** icon on the **Advanced-Mode Control Panel** window to select it.
2. Click the **Clone**  toolbar button. A second LPAR configuration is created as an exact copy of the first. It is icon , Rename it to **Proposed 2817-M15**
3. Double-click the **Proposed 2817-M15** icon  to open the **LPAR Host and Partition Configuration** window for the **Proposed 2817-M15** LPAR configuration.
4. Click **Specify Host** to open the **LPAR Host** window.
 - a) Set the **Family** to be **z196/700**.
 - b) Set the **Model** to **2817-M15/700** (this model has a maximum total of 15 configurable CPs).
 - c) Leave z196 Power checked to Full
 - d) Set **General Purpose CPs** to 6 (seen as a 2817-706). There are no other CP types planned at this time.
 - e) Click **Return**.

zPCR Capacity Sizing Lab Exercise

LPAR Host Processor

Study ID: Not specified

#2 Proposed 2817-M15

Description: Cloned from Current z10 2097-707

Family: z196/700

Model: 2817-M15/700

z196 Power

Full Saving

Configure Real CP Types

GP	zAAP	zIIP	IFL	ICF
6	0	0	0	0

Enable "zAAP on zIIP" capability

5. Click **Partition Detail** in the **Capacity Reports** group box.

zPCR Capacity Sizing Lab Exercise

Partition Detail Report
zPCR V7.2a

Partition Detail Report

Based on LSPR Data for IBM System z Processors
Study ID: Not specified

#2 Proposed 2817-M15
Description: Cloned from Current z10 2097-707

z196 Host = 2817-M15/700 with 6 CPs: GP=6
5 Active Partitions: GP=5

Capacity basis: 2094-701 @ 589.211 MIPS for a single partition configuration
z196 and z10 processor capacity for z/OS is represented with HiperDispatch turned ON

Include	Partition Identification					Partition Configuration					Partition Capacity	
	No.	Type	Name	SCP	Workload	Mode	LCPs	Weight	Weight %	Capping	Minimum	Maximum
<input checked="" type="checkbox"/>	1	GP	Batch	z/OS-1.11	Average	SHR	3	150	26.32%	<input type="checkbox"/>	1,720.7	3,269.3
<input type="checkbox"/>		GP	CICS-1	z/OS-1.11	Avg-High	SHR	7	350		<input type="checkbox"/>		
<input checked="" type="checkbox"/>	2	GP	CICS-2	z/OS-1.11	Avg-High	SHR	3	100	17.54%	<input type="checkbox"/>	1,095.4	3,121.9
<input checked="" type="checkbox"/>	3	GP	CICS-3	z/OS-1.11	Avg-High	SHR	2	100	17.54%	<input type="checkbox"/>	1,094.9	2,080.3
<input checked="" type="checkbox"/>	4	GP	IMS	z/OS-1.11	Avg-High	SHR	4	200	35.09%	<input type="checkbox"/>	2,191.8	4,164.4
<input checked="" type="checkbox"/>	5	GP	Test	Linux	Average/L	SHR	2	20	3.51%	<input checked="" type="checkbox"/>	234.3	234.3

Table View

Display: All Partitions Includes Only

Pools:

GP

IFL

zAAP

ICF

zIIP

Capacity Summary by Pool

CP Pool	RCPs	Partitions	LCPs	Capacity
GP	6	5	14	6,337.1
zAAP	0	0	0	0.0
zIIP	0	0	0	0.0
IFL	0	0	0	0.0
ICF	0	0	0	0.0
Totals	6	5	14	6,337.1

Host Summary
Modify SCP/Workload

For significant configuration changes, capacity comparisons should be considered to have a +/-5% margin-of-error.
Upgrading the processor family is considered a significant configuration change.
IBM does not guarantee the results from this tool. This information is provided "as is", without warranty, expressed or implied. You are responsible for the results obtained from your use of this tool.

Note: 1 defined partitions are excluded from consideration in the results

Input fields have white background; Single-click a "selection field" for drop-down list; Double click a "key-in field" to open.

zPCR Capacity Sizing Lab Exercise

8. Correct **CICS-1** partition in error
 - a. Set the **LCPs** to **6** (the maximum allowed on a 2817-706).
 - b. Check the **Include** box

Partition Detail Report
zPCR V7.2a

Graph CPcalculator Documentation

Partition Detail Report

Based on LSPR Data for IBM System z Processors
Study ID: Not specified

#2 Proposed 2817-M15
Description: Cloned from Current z10 2097-707

z196 Host = 2817-M15/700 with 6 CPs: GP=6
6 Active Partitions: GP=6

Capacity basis: 2094-701 @ 589.211 MIPS for a single partition configuration
z196 and z10 processor capacity for z/OS is represented with HiperDispatch turned ON

Include	Partition Identification					Partition Configuration					Partition Capacity	
	No.	Type	Name	SCP	Workload	Mode	LCPs	Weight	Weight %	Capping	Minimum	Maximum
<input checked="" type="checkbox"/>	1	GP	Batch	z/OS-1.11	Average	SHR	3	150	16.30%	<input type="checkbox"/>	1,046.9	3,210.6
<input checked="" type="checkbox"/>	2	GP	CICS-1	z/OS-1.11	Avg-High	SHR	6	350	38.04%	<input type="checkbox"/>	2,295.8	6,034.7
<input checked="" type="checkbox"/>	3	GP	CICS-2	z/OS-1.11	Avg-High	SHR	3	100	10.87%	<input type="checkbox"/>	665.9	3,063.0
<input checked="" type="checkbox"/>	4	GP	CICS-3	z/OS-1.11	Avg-High	SHR	2	100	10.87%	<input type="checkbox"/>	665.6	2,041.0
<input checked="" type="checkbox"/>	5	GP	IMS	z/OS-1.11	Avg-High	SHR	4	200	21.74%	<input type="checkbox"/>	1,332.4	4,085.9
<input checked="" type="checkbox"/>	6	GP	Test	Linux	Average/L	SHR	2	20	2.17%	<input checked="" type="checkbox"/>	142.6	142.6

Table View

Display

All Partitions

Includes Only

Pools

GP

zAAP

zIIP

IFL

ICF

Capacity Summary by Pool

CP Pool	RCPs	Partitions	LCPs	Capacity
GP	6	6	20	6,149.1
zAAP	0	0	0	0.0
zIIP	0	0	0	0.0
IFL	0	0	0	0.0
ICF	0	0	0	0.0
Totals	6	6	20	6,149.1

Host Summary
Modify SCP/Workload


For significant configuration changes, capacity comparisons should be considered to have a +/-5% margin-of-error.
Upgrading the processor family is considered a significant configuration change.
IBM does not guarantee the results from this tool. This information is provided "as is", without warranty, expressed or implied. You are responsible for the results obtained from your use of this tool.

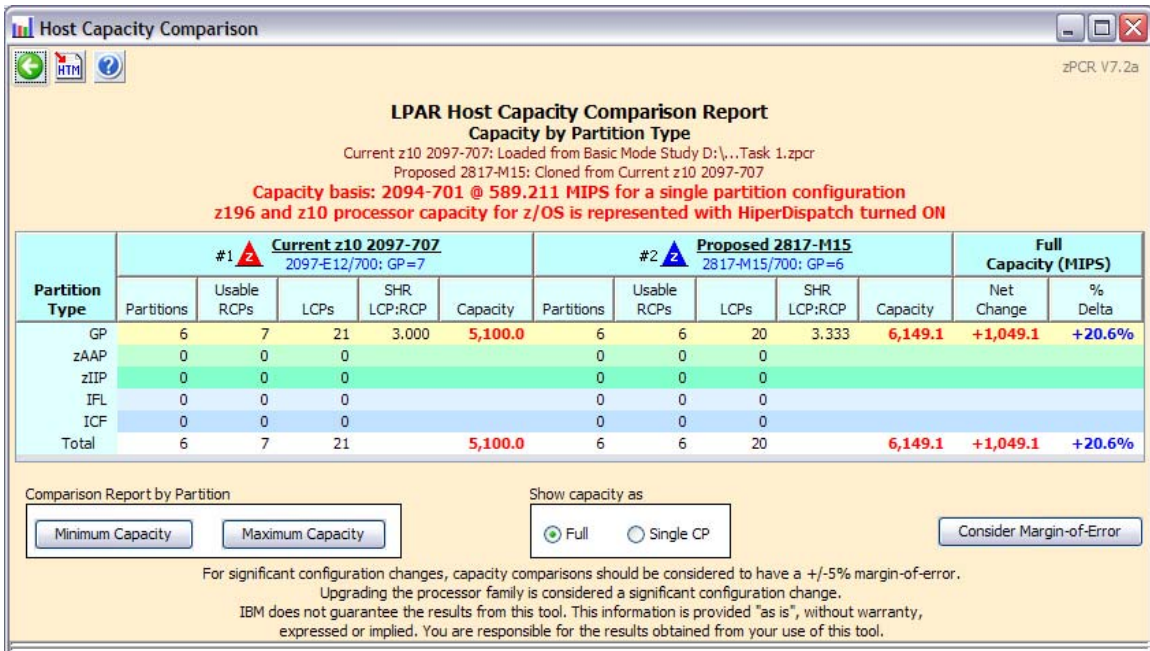
Input fields have white background; Single-click a "selection field" for drop-down list; Double click a "key-in field" to open.

Task 6: Review capacity results and save the study

Using the capacity results for this new LPAR host, determine if we realized the desired 20% capacity increase (6,150 MIPS), for the overall host and for each individual partition.



Analysis Steps

1. On the **Detail Report** window, the overall effective capacity for the 2817-706 is **6,149.1 MIPS** for this LPAR configuration. The effective capacity for the 2097-707 was **5,100 MIPS**. (see page 8)
2. Click two **Return** buttons to close the LPAR configuration windows.
3. On the **Advanced-Mode Control Panel** window, select the two configurations (hold the cntl key and click on both) and click the **Compare**  tool bar icon. The **Host Capacity Comparison** window presents a processor oriented summary of the two LPAR host configurations. The first LPAR configuration is shown on the left, and the second is shown on the right. The partition types are listed in separate rows; the metrics presented are their combined values representing the number of partitions, the number of RCPs, the number of LCPs and the resulting capacity.



LPAR Host Capacity Comparison Report
Capacity by Partition Type

Current z10 2097-707: Loaded from Basic Mode Study D:\...Task 1.zpcr
Proposed 2817-M15: Cloned from Current z10 2097-707
Capacity basis: 2094-701 @ 589.211 MIPS for a single partition configuration
z196 and z10 processor capacity for z/OS is represented with HiperDispatch turned ON

Partition Type	#1  Current z10 2097-707 2097-E.12/700: GP=7					#2  Proposed 2817-M15 2817-M15/700: GP=6					Full Capacity (MIPS)	
	Partitions	Usable RCPs	LCPs	SHR LCP:RCP	Capacity	Partitions	Usable RCPs	LCPs	SHR LCP:RCP	Capacity	Net Change	% Delta
GP	6	7	21	3.000	5,100.0	6	6	20	3.333	6,149.1	+1,049.1	+20.6%
zAAP	0	0	0			0	0	0				
zIIP	0	0	0			0	0	0				
IFL	0	0	0			0	0	0				
ICF	0	0	0			0	0	0				
Total	6	7	21		5,100.0	6	6	20		6,149.1	+1,049.1	+20.6%

Comparison Report by Partition:

Show capacity as: Full Single CP

For significant configuration changes, capacity comparisons should be considered to have a +/-5% margin-of-error.
Upgrading the processor family is considered a significant configuration change.
IBM does not guarantee the results from this tool. This information is provided "as is", without warranty, expressed or implied. You are responsible for the results obtained from your use of this tool.

zPCR Capacity Sizing Lab Exercise

Click **Minimum Capacity** in the **Comparison Report by Partition** group box. Note that some of the partitions see an increase of approximately 20% or more, but there are 2 of them that do not, (Batch, and Test).

Partition Capacity Comparison Report
Based on Partition Minimum Capacity
Current z10 2097-702: Loaded from Basic Mode Study D:\...Task 1.zpcr
Proposed 2817-M15: Cloned from Current z10 2097-702
Capacity basis: 2094-701 @ 589.211 MIPS for a single partition configuration
z196 and z10 processor capacity for z/OS is represented with HiperDispatch turned ON

Partition Identification				#1 Current z10 2097-702					#2 Proposed 2817-M15					Full Capacity (MIPS)		
List of All Included Partitions With Unique ID Metrics				2097-E12/700: GP=7					2817-M15/700: GP=6							
Type	Name	SCP	Workload	Partition Definition					Partition Definition					Net Change	% Delta	
				LP#	Mode	LCPs	Weight%	Cap	LP#	Mode	LCPs	Weight%	Cap	Minimum Capacity		
GP	Batch	z/OS-1.11	Average	1	SHR	3	16.30%	885.2	1	SHR	3	150	16.30%	1,046.9	+161.7	+18.3%
GP	CICS-1	z/OS-1.11	Avg-High	2	SHR	7	38.04%	1,882.4	2	SHR	6	350	38.04%	2,295.8	+413.4	+22.0%
GP	CICS-2	z/OS-1.11	Avg-High	3	SHR	3	10.87%	552.7	3	SHR	3	100	10.87%	665.9	+113.2	+20.5%
GP	CICS-3	z/OS-1.11	Avg-High	4	SHR	2	10.87%	552.5	4	SHR	2	100	10.87%	665.6	+113.1	+20.5%
GP	IMS	z/OS-1.11	Avg-High	5	SHR	4	21.74%	1,106.0	5	SHR	4	200	21.74%	1,332.4	+226.4	+20.5%
GP	Test	Linux	Average/L	6	SHR	2	2.17%	121.3	6	SHR	2	20	2.17%	142.6	+21.3	+17.6%

Change Controls:

For significant configuration changes, capacity comparisons should be considered to have a +/-5% margin-of-error.
Upgrading the processor family is considered a significant configuration change.
IBM does not guarantee the results from this tool. This information is provided "as is", without warranty, expressed or implied. You are responsible for the results obtained from your use of this tool.

Input fields have white background; Single-click a "selection field" for drop-down list; Double click a "key-in field" to open.

- Click **Optimize SHR LCPs** for GPs in the **Change Controls** group box to see if you can improve the results by reducing the number of LCPs assign to each partition to that required to accommodate its weight.

Optimize LCPs

Optimize Shared Logical CP Configuration

Select Partition Types

GP zAAP zIIP IFL ICF

LCP Count Assignment

Conservative Minimal

zPCR Capacity Sizing Lab Exercise

- Click **Optimize** and use the default “Moderate” to see if you can improve the results by reducing the number of LCPs assign to each partition. Note The weight percent is used to determine the exact number of LCPs (rounded up to the nearest whole number) to be assigned. You can see that all the partitions improved, and that Batch and Test are now greater than 20%.

Partition Capacity Comparison Report
Based on Partition Minimum Capacity

Current z10 2097-707: Loaded from Basic Mode Study D:\...Task 1.zpcr
Proposed 2817-M15: Cloned from Current z10 2097-707

Capacity basis: 2094-701 @ 589,211 MIPS for a single partition configuration
z196 and z10 processor capacity for z/OS is represented with HiperDispatch turned ON

Partition Identification <small>List of All Included Partitions With Unique ID Metrics</small>				#1 ▲ Current z10 2097-707 <small>2097-E12/700: GP=7</small>						#2 ▲ Proposed 2817-M15 <small>2817-M15/700: GP=6</small>						Full Capacity (MIPS)		
				Partition Definition						Partition Definition								
Type	Name	SCP	Workload	LP#	Mode	LCPs	Weight%	Cap	Minimum Capacity	LP#	Mode	LCPs	Weight	Weight%	Cap	Minimum Capacity	Net Change	% Delta
GP	Batch	z/OS-1.11	Average	1	SHR	3	16.30%		885.2	1	SHR	1	150	16.30%	<input type="checkbox"/>	1,068.6	+183.4	+20.7%
GP	CICS-1	z/OS-1.11	Avg-High	2	SHR	7	38.04%		1,882.4	2	SHR	3	350	38.04%	<input type="checkbox"/>	2,385.0	+502.6	+26.7%
GP	CICS-2	z/OS-1.11	Avg-High	3	SHR	3	10.87%		552.7	3	SHR	1	100	10.87%	<input type="checkbox"/>	680.8	+128.1	+23.2%
GP	CICS-3	z/OS-1.11	Avg-High	4	SHR	2	10.87%		552.5	4	SHR	1	100	10.87%	<input type="checkbox"/>	680.8	+128.3	+23.2%
GP	IMS	z/OS-1.11	Avg-High	5	SHR	4	21.74%		1,106.0	5	SHR	2	200	21.74%	<input type="checkbox"/>	1,362.2	+256.2	+23.2%
GP	Test	Linux	Average/L	6	SHR	2	2.17%	<input checked="" type="checkbox"/>	121.3	6	SHR	1	20	2.17%	<input checked="" type="checkbox"/>	149.2	+27.9	+23.0%

Change Controls

For significant configuration changes, capacity comparisons should be considered to have a +/-5% margin-of-error.
Upgrading the processor family is considered a significant configuration change.
IBM does not guarantee the results from this tool. This information is provided "as is", without warranty, expressed or implied. You are responsible for the results obtained from your use of this tool.

Input fields have white background; Single-click a "selection field" for drop-down list; Double click a "key-in field" to open.

zPCR Capacity Sizing Lab Exercise

6. Click **Consider Margin-of-Error**

The capacity expectation derived from **zPCR** for a new machine should normally be considered to have up to a $\pm 5\%$ margin-of-error. The full $\pm 5\%$ margin of error should be considered whenever the LPAR host processor family is changed, or when very significant changes are made to either the LPAR host CP configuration or to the partition configuration itself. At this point only the CICS-1 partition has met the 20% capacity increase when factoring in the -5% margin of error.

Partition Margin-of-Error

Margin-of-Error Consideration
Partition Minimum Capacity
 Current z10 2097-707: Loaded from Basic Mode Study D:\...Task 1.zpcr
 Proposed 2817-M15: Cloned from Current z10 2097-707
Capacity basis: 2094-701 @ 589.211 MIPS for a single partition configuration
z196 and z10 processor capacity for z/OS is represented with HiperDispatch turned ON

Partition Identification				#1 Current z10 2097-707	#2 Proposed 2817-M15			
				Projected Capacity	Projected		Projected minus 5%	
Type	Name	SCP	Workload		Capacity	% Delta	Capacity	% Delta
GP	Batch	z/OS-1.11	Average	885.2	1,068.6	+20.7%	1,015.2	+14.7%
GP	CICS-1	z/OS-1.11	Avg-High	1,882.4	2,385.0	+26.7%	2,265.7	+20.4%
GP	CICS-2	z/OS-1.11	Avg-High	552.7	680.8	+23.2%	646.8	+17.0%
GP	CICS-3	z/OS-1.11	Avg-High	552.5	680.8	+23.2%	646.8	+17.1%
GP	IMS	z/OS-1.11	Avg-High	1,106.0	1,362.2	+23.2%	1,294.1	+17.0%
GP	Test	Linux	Average/L	121.3	149.2	+23.0%	141.7	+16.8%

For significant configuration changes, capacity comparisons should be considered to have a +/-5% margin-of-error.
 Upgrading the processor family is considered a significant configuration change.
 IBM does not guarantee the results from this tool. This information is provided "as is", without warranty, expressed or implied. You are responsible for the results obtained from your use of this tool.

zPCR Capacity Sizing Lab Exercise

7. First close the **Partition-Margin-of-Error** window. Then click **Commit** in the Change Controls group box to change the LPAR configuration to permanently include the modified metrics, (from the Optimize). Note that the **Host Capacity Comparison** window now shows we are delivering **6,326.6 MIPS**, which is more than the **6,150 MIPS** objective.

LPAR Host Capacity Comparison Report
Capacity by Partition Type

Current z10 2097-707: Loaded from Basic Mode Study D:\...Task 1.zpcr
Proposed 2817-M15: Cloned from Current z10 2097-707
Capacity basis: 2094-701 @ 589.211 MIPS for a single partition configuration
z196 and z10 processor capacity for z/OS is represented with HiperDispatch turned ON

Partition Type	#1 ▲ Current z10 2097-707 2097-E12/700: GP=7					#2 ▲ Proposed 2817-M15 2817-M15/700: GP=6					Full Capacity (MIPS)	
	Partitions	Usable RCPs	LCPs	SHR LCP:RCP	Capacity	Partitions	Usable RCPs	LCPs	SHR LCP:RCP	Capacity	Net Change	% Delta
GP	6	7	21	3.000	5,100.0	6	6	9	1.500	6,326.6	+1,226.6	+24.1%
zAAP	0	0	0			0	0	0				
zIIP	0	0	0			0	0	0				
IFL	0	0	0			0	0	0				
ICF	0	0	0			0	0	0				
Total	6	7	21		5,100.0	6	6	9		6,326.6	+1,226.6	+24.1%

Comparison Report by Partition:

Show capacity as: Full Single CP

For significant configuration changes, capacity comparisons should be considered to have a +/-5% margin-of-error.
Upgrading the processor family is considered a significant configuration change.
IBM does not guarantee the results from this tool. This information is provided "as is", without warranty, expressed or implied. You are responsible for the results obtained from your use of this tool.

8. Close all of the comparison windows by clicking the **Return** toolbar icon on the **Host Capacity Comparison** window.
9. From the menu bar on the **Advanced-Mode Control Panel** window click **File→Save as**, and save the complete study which will include both LPAR configurations. (Use a different file name than in Task 3, e.g. "Task6.zpcr".)





At this point we have met the 6,150 MIPS objective and 20% for each partition. If we want to meet the 20% with the -5% margin of error, there may be additional configuration options to handle this, so continue with the next 2 steps to determine if they can make an impact.

Additional analyses to try

Add an IFL to the Configuration for the Linux workload

How might the addition of an IFL change the capacity picture? Linux (partition #6) could actually be running on an IFL rather than a General Purpose CP. You might experiment.

Analysis Steps

1. Single-click the **Proposed 2817-M15** icon  on the **Advanced-Mode Control Panel** window to select it.
2. Click the **Clone**  toolbar button. A third LPAR configuration is created as an exact copy of the second. Its icon , Rename it to **2817-M15 with IFL**
3. Double-click the **2817-M15 with IFL**  icon to open the **LPAR Host and Partition Configuration** window for the **2817-M15 with IFL** LPAR configuration.
4. From the **LPAR Host and Partition Configuration** window, click **Specify Host**
5. From the **LPAR Host** window, change the host to include 1 IFL CP in addition to the current 6 General Purpose CPs and click **Return**.
6. From the **LPAR Host and Partition Configuration** window, click **IFL** in the **Define Partitions** group box
7. From the **LPAR Partition Definition** window, edit the partition name (from LP-07) by double-clicking the name field to open it and entering text to "Test2.
8. set the workload to **Average/L**
9. set the **Mode** to **DED** using the drop-down selection list provided
10. click **Return**.
11. From the **LPAR Host and Partition Configuration** window, click **Partition Detail** in the **Capacity Reports** group box to open the **Partition Detail Report** window, revealing the updated capacity picture.

zPCR Capacity Sizing Lab Exercise

- a) From the **Partiton Detail Report** window, uncheck the **Include** box for partition #6, as this partition's workload is now represented with the IFL.

In this case, we cannot simply replace a General Purpose CP with an IFL, because the Linux partition is consuming such a small portion of the available capacity. 6 General Purpose CPs are still required to provide the necessary capacity for the z/OS partitions. We have increased the GP MIPS from **6326 (page 20)** to **6346**, and all but the Batch partition have met the 20% growth when considering the -5% margin of error. You can see this on the next page, and when you compare #1 Vs #3 Minimum Capacity and Margin of Error.

Partition Detail Report

Graph CPcalculator Documentation

zPCR V7.2a

Partition Detail Report

Based on LSPR Data for IBM System z Processors
Study ID: Not specified

#3 2817-M15 with IFL
Description: Cloned from Proposed 2817-M15

z196 Host = 2817-M15/700 with 7 CPs: GP=6 IFL=1
6 Active Partitions: GP=5 IFL=1

Capacity basis: 2094-701 @ 589.211 MIPS for a single partition configuration
z196 and z10 processor capacity for z/OS is represented with HiperDispatch turned ON

Include	Partition Identification					Partition Configuration					Partition Capacity	
	No.	Type	Name	SCP	Workload	Mode	LCPs	Weight	Weight %	Capping	Minimum	Maximum
<input checked="" type="checkbox"/>	1	GP	Batch	z/OS-1.11	Average	SHR	1	150	16.67%	<input type="checkbox"/>	1,098	1,098
<input checked="" type="checkbox"/>	2	GP	CICS-1	z/OS-1.11	Avg-High	SHR	3	350	38.89%	<input type="checkbox"/>	2,450	3,150
<input checked="" type="checkbox"/>	3	GP	CICS-2	z/OS-1.11	Avg-High	SHR	1	100	11.11%	<input type="checkbox"/>	699	1,049
<input checked="" type="checkbox"/>	4	GP	CICS-3	z/OS-1.11	Avg-High	SHR	1	100	11.11%	<input type="checkbox"/>	699	1,049
<input checked="" type="checkbox"/>	5	GP	IMS	z/OS-1.11	Avg-High	SHR	2	200	22.22%	<input type="checkbox"/>	1,399	2,099
<input type="checkbox"/>		GP	Test	Linux	Average/L	SHR	1	20		<input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/>	6	IFL	Test2	Linux	Average/L	DED	1	n/a		<input type="checkbox"/>	1,249	1,249

Table View

Display

All Partitions

Includes Only

Pools

GP

zAAP

zIIP

IFL

ICF

Capacity Summary by Pool

CP Pool	RCPs	Partitions	LCPs	Capacity
GP	6	5	8	6,346
zAAP	0	0	0	0
zIIP	0	0	0	0
IFL	1	1	1	1,249
ICF	0	0	0	0
Totals	7	6	9	7,595


Host Summary
Modify SCP/Workload

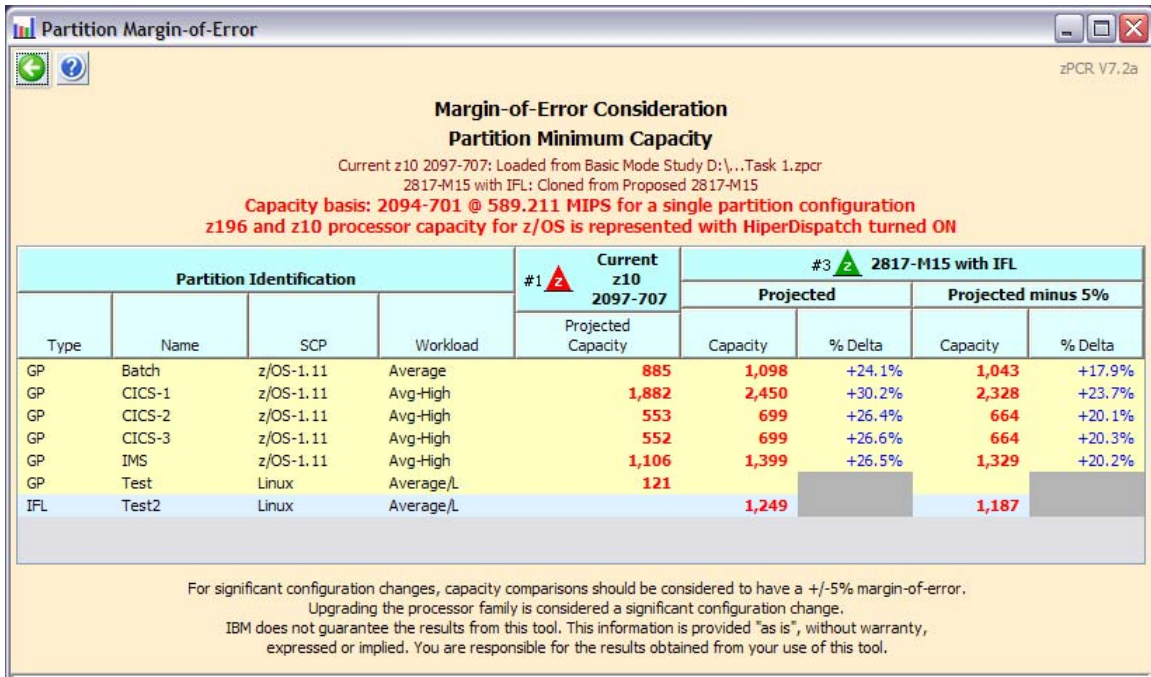
For significant configuration changes, capacity comparisons should be considered to have a +/-5% margin-of-error. Upgrading the processor family is considered a significant configuration change. IBM does not guarantee the results from this tool. This information is provided "as is", without warranty, expressed or implied. You are responsible for the results obtained from your use of this tool.

Note: 1 defined partitions are excluded from consideration in the results
Input fields have white background; Single-click a "selection field" for drop-down list; Double click a "key-in field" to open.



zPCR Capacity Sizing Lab Exercise

Consider the "Margin of Error"

1. Click two **Return** buttons to close the LPAR configuration windows.
2. On the **Advanced-Mode Control Panel** window, select the two configurations (#1 and #3 hold the cntl key and click on both) and click the **Compare**  tool bar icon.
3. Click on Minimum Capacity
4. Click on Consider Margin-of-Error



Margin-of-Error Consideration
Partition Minimum Capacity
 Current z10 2097-707: Loaded from Basic Mode Study D:\...Task 1.zpcr
 2817-M15 with IFL: Cloned from Proposed 2817-M15
Capacity basis: 2094-701 @ 589.211 MIPS for a single partition configuration
z196 and z10 processor capacity for z/OS is represented with HiperDispatch turned ON

Partition Identification				#1  Current z10 2097-707	#3  2817-M15 with IFL			
Type	Name	SCP	Workload	Projected Capacity	Projected Capacity	% Delta	Projected minus 5% Capacity	% Delta
GP	Batch	z/OS-1.11	Average	885	1,098	+24.1%	1,043	+17.9%
GP	CICS-1	z/OS-1.11	Avg-High	1,882	2,450	+30.2%	2,328	+23.7%
GP	CICS-2	z/OS-1.11	Avg-High	553	699	+26.4%	664	+20.1%
GP	CICS-3	z/OS-1.11	Avg-High	552	699	+26.6%	664	+20.3%
GP	IMS	z/OS-1.11	Avg-High	1,106	1,399	+26.5%	1,329	+20.2%
GP	Test	Linux	Average/L	121				
IFL	Test2	Linux	Average/L		1,249		1,187	

For significant configuration changes, capacity comparisons should be considered to have a +/-5% margin-of-error.
 Upgrading the processor family is considered a significant configuration change.
 IBM does not guarantee the results from this tool. This information is provided "as is", without warranty, expressed or implied. You are responsible for the results obtained from your use of this tool.





So try the next Step to see if adding a zAAP to the configuration can help increase the capacity and meet all of the objectives.

Click three **Return** buttons to close the LPAR configuration windows

Add a zAAP to the Configuration

How might the addition of a zAAP change the capacity picture? Assume partition #2 (CICS-1) is running a WebSphere application, and at least 50% of that workload could be run on zAAP LCPs. Alter the LPAR configuration to include and exploit the zAAP CPs.

Analysis Steps

1. Single-click the **Proposed 2817-M15** icon  on the **Advanced-Mode Control Panel** window to select it.
2. Click the **Clone**  toolbar button. A fourth LPAR configuration is created as an exact copy of the second. Its icon , Rename it **2817-M15 with zAAP**
3. Double-click the **2817-M15 with zAAP**  icon to open the **LPAR Host and Partition Configuration** window for the **2817-M15 with zAAP** LPAR configuration.
4. Click **Specify Host** and change the LPAR host to include 1 zAAP CPs in addition to the current 6 General Purpose CPs. **Click Return**
5. Click **GP / zAAP (Define Partitions** group box) and enable 1 zAAP LCPs for partition #2 (CICS-1). Close the zAAP and zIIP LCP notice. Then **Click Return**.

zPCR Capacity Sizing Lab Exercise

6. Click **Partition Detail** in the **Capacity Reports** group box, and review the capacity picture.

Partition Detail Report
zPCR V7.2a

Graph CPcalculator Documentation

Partition Detail Report

Based on LSPR Data for IBM System z Processors
Study ID: Not specified

#4 2817-M15 with zAAP
Description: Cloned from Proposed 2817-M15

z196 Host = 2817-M15/700 with 7 CPs: GP=6 zAAP=1
7 Active Partitions: GP=6 zAAP=1

Capacity basis: 2094-701 @ 589.211 MIPS for a single partition configuration
z196 and z10 processor capacity for z/OS is represented with HiperDispatch turned ON

Include	Partition Identification					Partition Configuration					Partition Capacity	
	No.	Type	Name	SCP	Workload	Mode	LCPs	Weight	Weight %	Capping	Minimum	Maximum
<input checked="" type="checkbox"/>	1	GP	Batch	z/OS-1.11	Average	SHR	1	150	16.30%	<input type="checkbox"/>	1,069	1,093
<input checked="" type="checkbox"/>	2	GP	CICS-1	z/OS-1.11	Avg-High	SHR	3	350	38.04%	<input type="checkbox"/>	2,312	3,039
<input checked="" type="checkbox"/>	3	GP	CICS-2	z/OS-1.11	Avg-High	SHR	1	100	10.87%	<input type="checkbox"/>	681	1,044
<input checked="" type="checkbox"/>	4	GP	CICS-3	z/OS-1.11	Avg-High	SHR	1	100	10.87%	<input type="checkbox"/>	681	1,044
<input checked="" type="checkbox"/>	5	GP	IMS	z/OS-1.11	Avg-High	SHR	2	200	21.74%	<input type="checkbox"/>	1,363	2,090
<input checked="" type="checkbox"/>	6	GP	Test	Linux	Average/L	SHR	1	20	2.17%	<input checked="" type="checkbox"/>	149	149
<input checked="" type="checkbox"/>	*2	zAAP	CICS-1	z/OS-1.11	Avg-High	SHR	1	350	100.00%	<input type="checkbox"/>	1,102	1,102

Table View

Display: All Partitions Includes Only

Pools: GP zAAP zIIP

IFL ICF

Capacity Summary by Pool




CP Pool	RCPs	Partitions	LCPs	Capacity
GP	6	6	9	6,255
zAAP	1	1	1	1,102
zIIP	0	0	0	0
IFL	0	0	0	0
ICF	0	0	0	0
Totals	7	7	10	7,358



Host Summary Modify SCP/Workload

For significant configuration changes, capacity comparisons should be considered to have a +/-5% margin-of-error.
Upgrading the processor family is considered a significant configuration change.
IBM does not guarantee the results from this tool. This information is provided "as is", without warranty, expressed or implied. You are responsible for the results obtained from your use of this tool.

Input fields have white background; Single-click a "selection field" for drop-down list; Double click a "key-in field" to open.

zPCR Capacity Sizing Lab Exercise

- a) With the additional zAAP CP configured, the total capacity available has increased above our **6,150 MIPS** requirement, (**7,358** Total with **6,255** in GP). In this case, we could reduce the number of General Purpose CPs.
- b) Click **Return**
- c) Click **Specify Host** to open the **LPAR Host** window. Change the LPAR host configuration from 6 to 5 General Purpose CPs. Click **Return**
- d) Click **Partition Detail**. Note that adequate Total capacity remains (6351 Vs 6150 requirement). Click **Return** 2 times to get back to **Advanced-Mode Control Panel**
- e) Select both **Current z10 2097-707 #1**  and the **2817-M15 with zAAP #4**  configurations and then click **Compare**  icon on the **Advanced-Mode Control Panel** window.
- f) Click **Minimum Capacity**. Note that now all partitions are not seeing the required 20% capacity increase over the old 2097-707 configuration. Because a large part of partition #2's capacity requirement can now be satisfied by the zAAP LCPs, its weight for the General Purpose pool should be reduced to achieve a new balance.
- g) Try reducing partition #2's weight from **350** to **177**. Now all partitions except #2 (CICS-1) see well over a 20% increase. Partition #2 originally needed **1,882 MIPS**, and with 20% growth, it would need **2,258 MIPS**. Since 50% of partition #2's workload can be offloaded to the zAAP LCPs, its General Purpose LCPs would only need **1,129 MIPS**. Does the modified LPAR configuration satisfy partition #2's capacity requirement? Yes, since Partition #2 is now at **1,210**.
- h) Notice that we have created a new problem Partition #1 (it's weight is now in red) is not receiving the new weight of 20.08. Previously it had been 16.30 before we made the last change.

Partition Capacity Comparison																		
Partition Capacity Comparison Report																		
Based on Partition Minimum Capacity																		
Current z10 2097-707: Loaded from Basic Mode Study D:\...Task 1.zpcr																		
2817-M15 with zAAP: Cloned from Proposed 2817-M15																		
Capacity basis: 2094-701 @ 589,211 MIPS for a single partition configuration																		
z196 and z10 processor capacity for z/OS is represented with HiperDispatch turned ON																		
Partition Identification				#1  Current z10 2097-707					#4  2817-M15 with zAAP					Full Capacity (MIPS)				
List of All Included Partitions With Unique ID Metrics				2097-E12/700: GP=7					2817-M15/700: GP=5 zAAP=1									
Type	Name	SCP	Workload	LP#	Mode	LCPs	Weight%	Cap	Minimum Capacity	LP#	Mode	LCPs	Weight	Weight%	Cap	Minimum Capacity	Net Change	% Delta
GP	Batch	z/OS-1.11	Average	1	SHR	3	16.30%		885	1	SHR	1	150	20.08%		1,100	+215	+24.3%
GP	CICS-1	z/OS-1.11	Avg-High	2	SHR	7	38.04%		1,882	2	SHR	3	177	23.69%		1,210	-672	-35.7%
GP	CICS-2	z/OS-1.11	Avg-High	3	SHR	3	10.87%		553	3	SHR	1	100	13.39%		705	+152	+27.5%
GP	CICS-3	z/OS-1.11	Avg-High	4	SHR	2	10.87%		552	4	SHR	1	100	13.39%		705	+153	+27.7%
GP	IMS	z/OS-1.11	Avg-High	5	SHR	4	21.74%		1,106	5	SHR	2	200	26.77%		1,410	+304	+27.5%
GP	Test	Linux	Average/L	6	SHR	2	2.17%	✓	121	6	SHR	1	20	2.68%	✓	154	+33	+27.3%
zAAP	CICS-1	z/OS-1.11	Avg-High							#2	SHR	1	177	100.00%		1,102		

Change Controls

For significant configuration changes, capacity comparisons should be considered to have a +/-5% margin-of-error.
 Upgrading the processor family is considered a significant configuration change.
 IBM does not guarantee the results from this tool. This information is provided "as is", without warranty, expressed or implied. You are responsible for the results obtained from your use of this tool.

Input fields have white background; Single-click a "selection field" for drop-down list; Double click a "key-in field" to open.

zPCR Capacity Sizing Lab Exercise

- i) Click **Optimize SHR LCPs** (“Moderate”) since we have changed the weight assigned to Partition # 2. Does the over all capacity increase? Yes from **6351** to **6391**. Partition #2 CICS-1, went from **1,210 MIPS** to 1193 but it is still greater than **1,129 MIPS** requirement. We have now met all objectives

Partition Capacity Comparison

Partition Capacity Comparison Report
 Based on Partition Minimum Capacity
 Current z10 2097-707: Loaded from Basic Mode Study D:\...Task 1.zpcr
 2817-M15 with zAAP: Cloned from Proposed 2817-M15
Capacity basis: 2094-701 @ 589.211 MIPS for a single partition configuration
z196 and z10 processor capacity for z/OS is represented with HiperDispatch turned ON

Partition Identification				#1 ▲ Current z10 2097-707						#4 ▲ 2817-M15 with zAAP						Full		
List of All Included Partitions				2097-E12/700: GP=7						2817-M15/700: GP=5 zAAP=1						Capacity (MIPS)		
With Unique ID Metrics				Partition Definition						Partition Definition						Net		
Type	Name	SCP	Workload	LP#	Mode	LCPs	Weight%	Cap	Minimum Capacity	LP#	Mode	LCPs	Weight	Weight%	Cap	Minimum Capacity	Change	% Delta
GP	Batch	z/OS-1.11	Average	1	SHR	3	16.30%		885	1	SHR	2	150	20.08%	<input type="checkbox"/>	1,105	+220	+24.9%
GP	CICS-1	z/OS-1.11	Avg-High	2	SHR	7	38.04%		1,882	2	SHR	2	177	23.69%	<input type="checkbox"/>	1,193	-689	-36.6%
GP	CICS-2	z/OS-1.11	Avg-High	3	SHR	3	10.87%		553	3	SHR	1	100	13.39%	<input type="checkbox"/>	704	+151	+27.3%
GP	CICS-3	z/OS-1.11	Avg-High	4	SHR	2	10.87%		552	4	SHR	1	100	13.39%	<input type="checkbox"/>	704	+152	+27.5%
GP	IMS	z/OS-1.11	Avg-High	5	SHR	4	21.74%		1,106	5	SHR	2	200	26.77%	<input type="checkbox"/>	1,408	+302	+27.3%
GP	Test	Linux	Average/L	6	SHR	2	2.17%	✓	121	6	SHR	1	20	2.68%	<input checked="" type="checkbox"/>	154	+33	+27.3%
zAAP	CICS-1	z/OS-1.11	Avg-High							*2	SHR	1	177	100.00%	<input type="checkbox"/>	1,122		

Change Controls

For significant configuration changes, capacity comparisons should be considered to have a +/-5% margin-of-error.
 Upgrading the processor family is considered a significant configuration change.
 IBM does not guarantee the results from this tool. This information is provided "as is", without warranty,
 expressed or implied. You are responsible for the results obtained from your use of this tool.
 Input fields have white background; Single-click a "selection field" for drop-down list; Double click a "key-in field" to open.

zPCR Capacity Sizing Lab Exercise

- j) Click **Consider Margin-of-Error**. We also want to validate that all of the partitions have enough capacity to ensure they cover the -5% Margin-of-Error. We can see that all partitions are >20% delta on the projected minus 5% except Partition #1 which is below the 20% threshold at 18.6%. Partition #2, CICS-2, margin-of-Error is at **1,133 MIPS**, still above the needed **1,129 MIPS** requirement.

Partition Margin-of-Error (zPCR V7.2a)

Margin-of-Error Consideration
Partition Minimum Capacity

Current z10 2097-707: Loaded from Basic Mode Study D:\...Task 1.zpcr
 2817-M15 with zAAP: Cloned from Proposed 2817-M15

Capacity basis: 2094-701 @ 589.211 MIPS for a single partition configuration
z196 and z10 processor capacity for z/OS is represented with HiperDispatch turned ON

Partition Identification				#1 Current z10 2097-707	#4 2817-M15 with zAAP			
					Projected		Projected minus 5%	
Type	Name	SCP	Workload	Projected Capacity	Capacity	% Delta	Capacity	% Delta
GP	Batch	z/OS-1.11	Average	885	1,105	+24.9%	1,050	+18.6%
GP	CICS-1	z/OS-1.11	Avg-High	1,882	1,193	-36.6%	1,133	-39.8%
GP	CICS-2	z/OS-1.11	Avg-High	553	704	+27.3%	669	+21.0%
GP	CICS-3	z/OS-1.11	Avg-High	552	704	+27.5%	669	+21.2%
GP	IMS	z/OS-1.11	Avg-High	1,106	1,408	+27.3%	1,338	+21.0%
GP	Test	Linux	Average/L	121	154	+27.3%	146	+20.7%
zAAP	CICS-1	z/OS-1.11	Avg-High		1,122		1,066	

For significant configuration changes, capacity comparisons should be considered to have a +/-5% margin-of-error.
 Upgrading the processor family is considered a significant configuration change.
 IBM does not guarantee the results from this tool. This information is provided "as is", without warranty, expressed or implied. You are responsible for the results obtained from your use of this tool.

- k) Click **Return**

zPCR Capacity Sizing Lab Exercise

l) Try increasing partition #1's weight from 150 to 153.

Partition Capacity Comparison
zPCR V7.2a

Partition Capacity Comparison Report
Based on Partition Minimum Capacity
Current z10 2097-707: Loaded from Basic Mode Study D:\...Task 1.zpcr
 2817-M15 with zAAP: Cloned from Proposed 2817-M15

Capacity basis: 2094-701 @ 589.211 MIPS for a single partition configuration
z196 and z10 processor capacity for z/OS is represented with HiperDispatch turned ON

Partition Identification				#1 ▲ Current z10 2097-707					#4 ▲ 2817-M15 with zAAP					Full Capacity (MIPS)				
List of All Included Partitions With Unique ID Metrics				2097-E12/700: GP=7					2817-M15/700: GP=5 zAAP=1					Net Change	% Delta			
Type	Name	SCP	Workload	Partition Definition					Partition Definition					Minimum Capacity	Minimum Capacity			
				LP#	Mode	LCPs	Weight%	Cap	Minimum Capacity	LP#	Mode	LCPs	Weight	Weight%	Cap	Minimum Capacity	Net Change	% Delta
GP	Batch	z/OS-1.11	Average	1	SHR	3	16.30%		885	1	SHR	2	153	20.40%	<input type="checkbox"/>	1,123	+238	+26.9%
GP	CICS-1	z/OS-1.11	Avg-High	2	SHR	7	38.04%		1,882	2	SHR	2	177	23.60%	<input type="checkbox"/>	1,188	-694	-36.9%
GP	CICS-2	z/OS-1.11	Avg-High	3	SHR	3	10.87%		553	3	SHR	1	100	13.33%	<input type="checkbox"/>	701	+148	+26.8%
GP	CICS-3	z/OS-1.11	Avg-High	4	SHR	2	10.87%		552	4	SHR	1	100	13.33%	<input type="checkbox"/>	701	+149	+27.0%
GP	IMS	z/OS-1.11	Avg-High	5	SHR	4	21.74%		1,106	5	SHR	2	200	26.67%	<input type="checkbox"/>	1,403	+297	+26.9%
GP	Test	Linux	Average/L	6	SHR	2	2.17%	✓	121	6	SHR	1	20	2.67%	<input checked="" type="checkbox"/>	154	+33	+27.3%
zAAP	CICS-1	z/OS-1.11	Avg-High							*2	SHR	1	177	100.00%	<input type="checkbox"/>	1,122		

Change Controls

For significant configuration changes, capacity comparisons should be considered to have a +/-5% margin-of-error.
 Upgrading the processor family is considered a significant configuration change.
 IBM does not guarantee the results from this tool. This information is provided "as is", without warranty, expressed or implied. You are responsible for the results obtained from your use of this tool.

Input fields have white background; Single-click a "selection field" for drop-down list; Double click a "key-in field" to open.

zPCR Capacity Sizing Lab Exercise

- m) Click **Consider Margin-of-Error**. We also want to validate that all of the partitions have enough capacity to ensure they cover the -5% Margin-of-Error. We can see that all partitions are >20% delta on the projected minus 5%. Partition #2, CICS-2, margin-of-Error is at **1,129 MIPS**, meeting the needed **1,129 MIPS** requirement.

Partition Margin-of-Error (zPCR V7.2a)

Margin-of-Error Consideration
Partition Minimum Capacity
 Current z10 2097-707: Loaded from Basic Mode Study D:\...Task 1.zpcr
 2817-M15 with zAAP: Cloned from Proposed 2817-M15
Capacity basis: 2094-701 @ 589.211 MIPS for a single partition configuration
z196 and z10 processor capacity for z/OS is represented with HiperDispatch turned ON

Partition Identification				#1 Current z10 2097-707	#4 2817-M15 with zAAP			
				Projected Capacity	Projected		Projected minus 5%	
Type	Name	SCP	Workload		Capacity	% Delta	Capacity	% Delta
GP	Batch	z/OS-1.11	Average	885	1,123	+26.9%	1,066	+20.5%
GP	CICS-1	z/OS-1.11	Avg+High	1,882	1,188	-36.9%	1,129	-40.0%
GP	CICS-2	z/OS-1.11	Avg+High	553	701	+26.8%	666	+20.4%
GP	CICS-3	z/OS-1.11	Avg+High	552	701	+27.0%	666	+20.7%
GP	IMS	z/OS-1.11	Avg+High	1,106	1,403	+26.9%	1,333	+20.5%
GP	Test	Linux	Average/L	121	154	+27.3%	146	+20.7%
zAAP	CICS-1	z/OS-1.11	Avg+High		1,122		1,066	


For significant configuration changes, capacity comparisons should be considered to have a +/-5% margin-of-error.
 Upgrading the processor family is considered a significant configuration change.
 IBM does not guarantee the results from this tool. This information is provided "as is", without warranty, expressed or implied. You are responsible for the results obtained from your use of this tool.

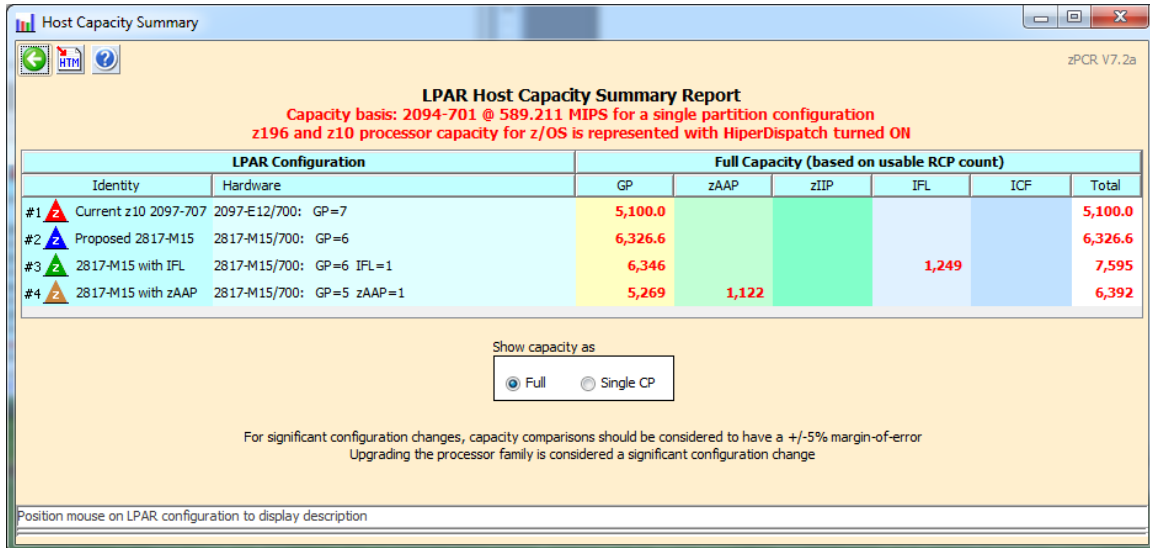
Click one **Return** buttons to close the Partition Margin of Error

Click Commit





Click two **Return** buttons to close the windows

zPCR Capacity Sizing Lab Exercise

- n) From the Advanced-Mode Control Panel, click LPAR Host Capacity Summary Report . This report relates the capacity projections by partition type (CP pool) for each LPAR configuration that is defined. The sum of the individual pool capacity values is shown as a total for the entire CEC on the right.



LPAR Host Capacity Summary Report
Capacity basis: 2094-701 @ 589.211 MIPS for a single partition configuration
z196 and z10 processor capacity for z/OS is represented with HiperDispatch turned ON

Identity	LPAR Configuration	Full Capacity (based on usable RCP count)					Total
		GP	zAAP	zIIP	IFL	ICF	
#1 	Current z10 2097-707 2097-E12/700: GP=7	5,100.0					5,100.0
#2 	Proposed 2817-M15 2817-M15/700: GP=6	6,326.6					6,326.6
#3 	2817-M15 with IFL 2817-M15/700: GP=6 IFL=1	6,346			1,249		7,595
#4 	2817-M15 with zAAP 2817-M15/700: GP=5 zAAP=1	5,269	1,122				6,392

Show capacity as
 Full Single CP

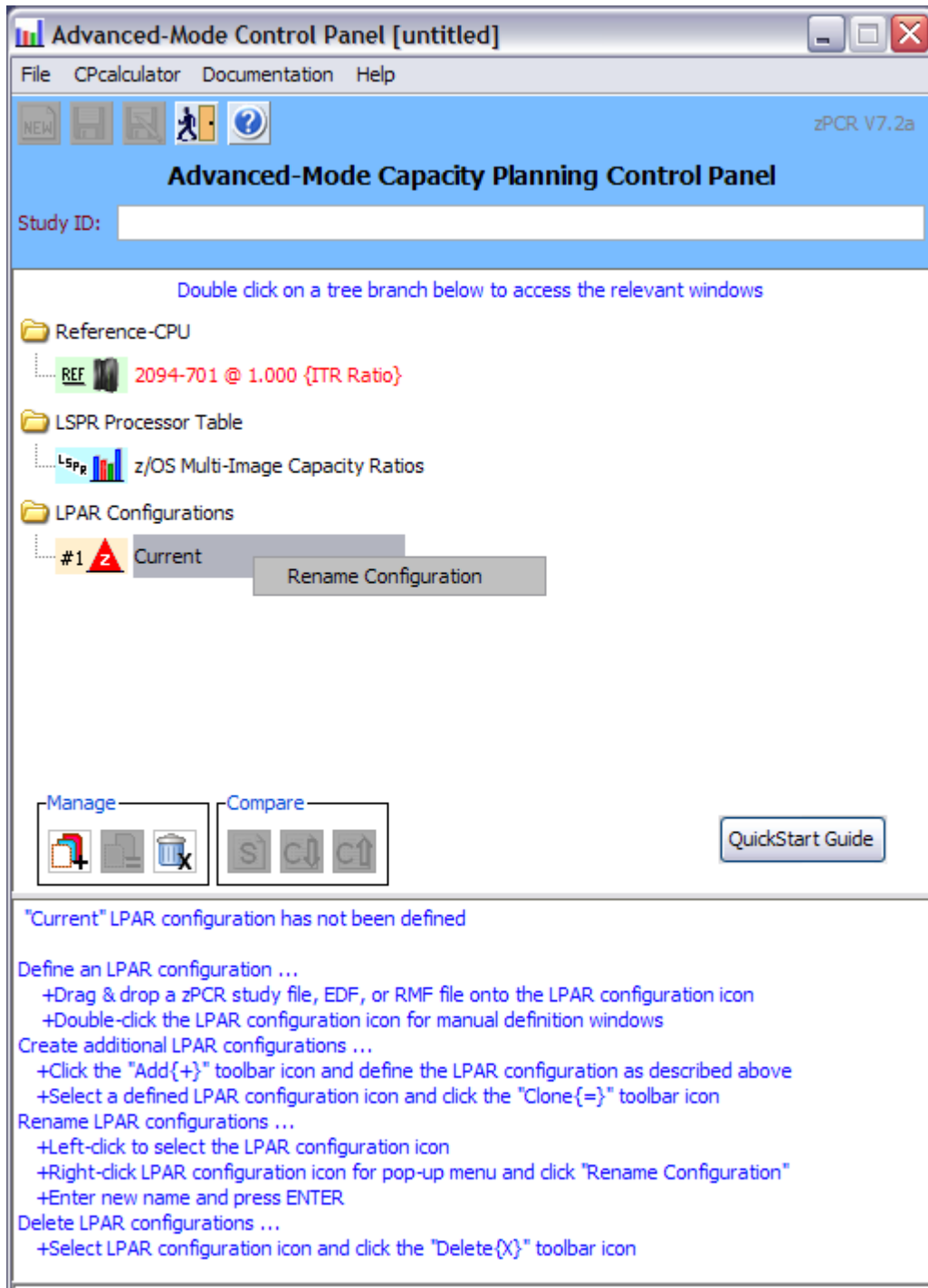
For significant configuration changes, capacity comparisons should be considered to have a +/-5% margin-of-error
Upgrading the processor family is considered a significant configuration change

Position mouse on LPAR configuration to display description

Rename a Configuration

Procedure

1. Single-click the **Current** icon on the **Advanced-Mode Control Panel** window to select it.
2. Right click on the text field



zPCR Capacity Sizing Lab Exercise

3. Key in the name that you wish to use and hit enter

