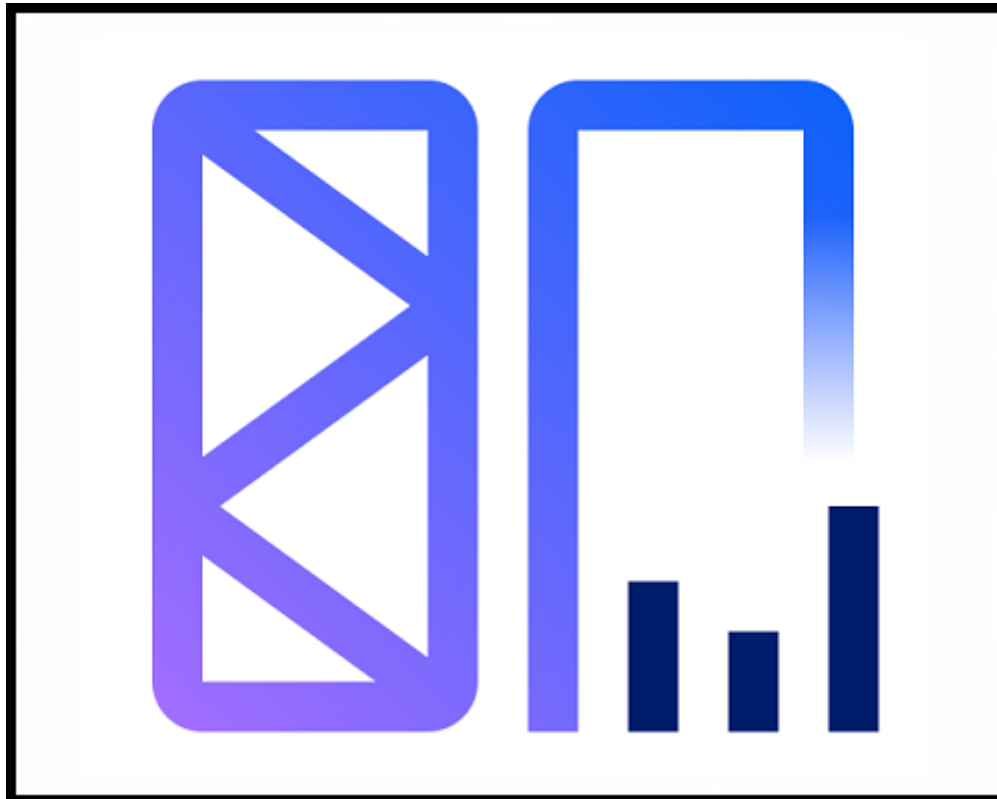


## Cracking the Code to Capacity Sizing for z17: BYOD Lab

Feb 24, 2026 - SHARE Orlando

Developed by: John Campbell, Thuy-Mi Le, Kiri Nicholson



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IBM zPCR Version 9.7.5

zPCR 975 Familiarization Exercise 2025e06.docx

February 18, 2026




## IBM PCR Capacity Sizing Exercise

### Introduction

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You just started a new job supporting the Z team at XYZ Corporation, congratulations! Before your predecessor retired, they developed a plan to replace the current z15 with a newer IBM z17 processor. They left a note for you explaining the plan and even the “**Secret to Capacity Sizing**”!! All is well, except that the former employee was a little *too* cybersecurity conscious and left the note for you **IN CODE!** It’s up to you to decipher what the best z17 model is for XYZ Corp and discover the Secret to Capacity Sizing. **Follow along with this lab to Crack the Code!**

When you see a  , pause and answer the corresponding question on your answer sheet.

XYZ Corporation currently has a **z15 (8561-707)** installed, which based on their last **zPCR** study, has **12,447 MIPS** of usable capacity. The 8561-707 is currently averaging **100% busy** during peak processing periods. The workload environment includes 8 logical partitions, all running z/OS on General Purpose CPs as shown in the table below.

Partition Name	LP mode	LCPs	Weight	Capped	SCP / Workload
1 CICSA	SHR	7	340	No	z/OS-2.4 Average
2 BATCHA	SHR	7	195	No	z/OS-2.4 Average
3 BATCHB	SHR	2	32	No	z/OS-2.4 Average
4 TESTB	SHR	2	12	No	z/OS-2.4 Average
5 TESTIMS	SHR	5	36	No	z/OS-2.4 Average
6 CICSB	SHR	7	297	No	z/OS-2.4 Average
7 IMSA	SHR	5	73	No	z/OS-2.4 Average
8 TESTCICS	SHR	2	15	No	z/OS-2.4 Average

The specific z17 model chosen must provide at least **34% additional capacity**, or **16,679 MIPS** (i.e., **12,447 MIPS x 1.34**). The current configuration is to be moved to the new processor with the partitions and their workloads continuing as today. The corporation has turned on **CPU MF** counters and has collected **SMF 113** data. They ran **CP3KEXTR** to create an EDF file for the CICSA partition containing data from 2020-02-03. The data spans from 8:00 AM through 12:00 PM using 15-minute intervals.





## Overview

---

Here are the 7 primary tasks that comprise this **zPCR** familiarization exercise, addressing the planned changes described above.


\*\*\* The actual Lab starts on the next page \*\*\*


**Note that zPCR version 9.7.5 or later is required for this exercise**


### **Configure z17 replacement for the current z15**

- Task-1: Initialize zPCR.
- Task-2: Create the current LPAR configuration from EDF.
- Task-3: Rename current LPAR configuration and review capacity.
- Task-4: Save the zPCR study.
- Task-5: Find an appropriate z17 replacement processor.
- Task-6: Model the intended z17 upgrade.
- Task-7: Review capacity results and save the study.

Notes concerning using zPCR:

When instructed to **Return**, the  icon should be used.

The **Double Return**  icon may be used to close multiple open windows, returning directly to the **Control Panel** window.

If you need help understanding acronyms used in zPCR, press  (the Help icon). Go down to the Definition of Terms chapter (next to last one), and browse through the terms.

This exercise has been validated with zPCR 9.7.5, made available 10/28/2025.

## Task-1: Initialize zPCR

---

In this task you will set up **zPCR** for this exercise.


Note: **zPCR**'s default **Reference-CPU** setting is the **2094-701 rated at 1.00**. In order to have capacity results represented with typical MIPS values, we need to set the **Reference-CPU** to the **2094-701 rated at 593 MIPS**.

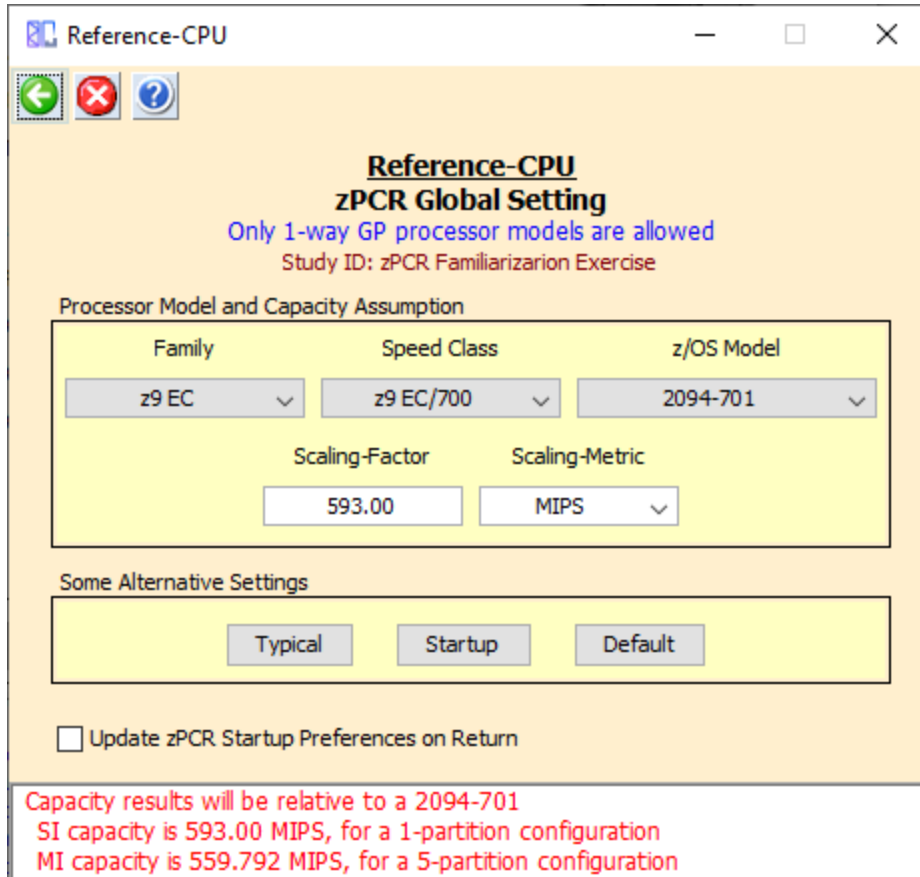
### Analysis Steps

1. Start **zPCR**. Once the **Logo** window stages, you will be viewing the **Control Panel** window.

### Control Panel Window



2. On the **Control Panel** window double click  **2094-701 @ 1.000 ITRR (SI)** to change the **Reference-CPU** scaling-factor and scaling-metric. The **Reference-CPU** window will appear.



The image shows a screenshot of the 'Reference-CPU' window. The title bar reads 'Reference-CPU'. Below the title bar are three icons: a green arrow, a red 'X', and a blue question mark. The main content area has a yellow background and contains the following text and controls:

**Reference-CPU**  
**zPCR Global Setting**  
Only 1-way GP processor models are allowed  
Study ID: zPCR Familiarization Exercise

Processor Model and Capacity Assumption

Family	Speed Class	z/OS Model
z9 EC	z9 EC/700	2094-701

Scaling-Factor: 593.00  
Scaling-Metric: MIPS

Some Alternative Settings

Typical Startup Default

Update zPCR Startup Preferences on Return

Capacity results will be relative to a 2094-701  
SI capacity is 593.00 MIPS, for a 1-partition configuration  
MI capacity is 559.792 MIPS, for a 5-partition configuration


- a) Click **Typical** to set the **Reference-CPU** to **2094-701 @ 593 MIPS**.  
Note: Any IBM Z 1-way processor may be selected with any reasonable scaling-factor/metric. **Typical** establishes the IBM recommended setting which is widely accepted in the industry.
- b) Check the box named **Update zPCR Startup Preferences on Return**
- c) Click **Return**.

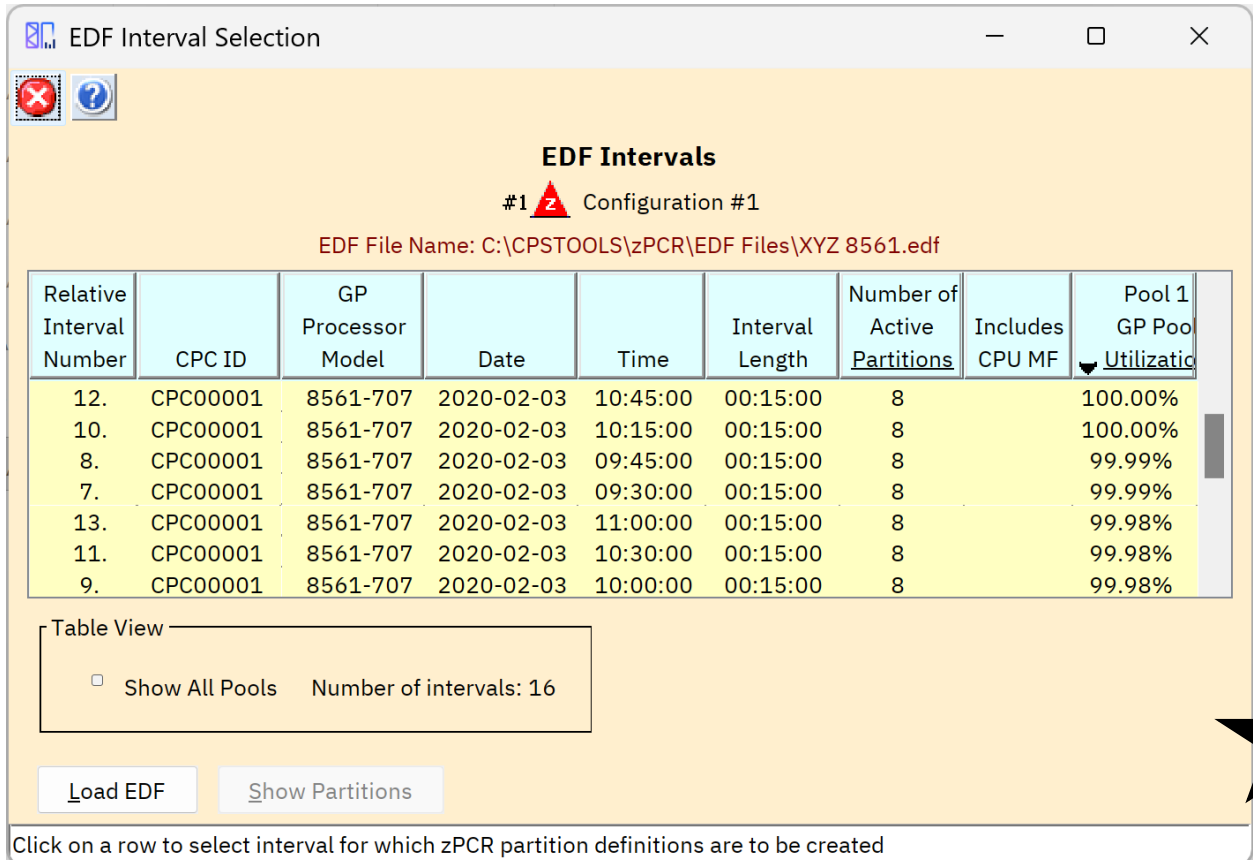


**Task-2: Create the current LPAR configuration from EDF**


Load the current z15 LPAR configuration into **zPCR** using the EDF supplied with the tool.

**Analysis Steps**

1. Sample EDF files are provided with zPCR. Using **This PC (Finder on Mac)**, open **Documents > zPCR Defaults > EDF Files**. Drag **XYZ 8561.edf** from the folder to  **Configuration #1**. This will open the **EDF Interval Selection** window.



**EDF Interval Selection**

**EDF Intervals**  
 #1  Configuration #1  
 EDF File Name: C:\CPSTOOLS\zPCR\EDF Files\XYZ 8561.edf

Relative Interval Number	CPC ID	GP Processor Model	Date	Time	Interval Length	Number of Active Partitions	Includes CPU MF	Pool 1 GP Pool Utilization
12.	CPC00001	8561-707	2020-02-03	10:45:00	00:15:00	8		100.00%
10.	CPC00001	8561-707	2020-02-03	10:15:00	00:15:00	8		100.00%
8.	CPC00001	8561-707	2020-02-03	09:45:00	00:15:00	8		99.99%
7.	CPC00001	8561-707	2020-02-03	09:30:00	00:15:00	8		99.99%
13.	CPC00001	8561-707	2020-02-03	11:00:00	00:15:00	8		99.98%
11.	CPC00001	8561-707	2020-02-03	10:30:00	00:15:00	8		99.98%
9.	CPC00001	8561-707	2020-02-03	10:00:00	00:15:00	8		99.98%

Table View  
 Show All Pools    Number of intervals: 16

Click on a row to select interval for which zPCR partition definitions are to be created



2. Sort the intervals on utilization by clicking the **Pool 1 GP Pool Utilization** column header.
3. Select Interval #12 and double click to open the **Create LPAR Configuration from EDF** window (close the notice concerning **Estimating Parked LCPs**).



Create LPAR Configuration from EDF

**LPAR Configuration from EDF**  
z/OS SMF Data Set Name: ZPCRLAB.CPUMFSMF  
Extract Version: CP3KEXTR07/30/20  
EDF File Name: C:\CPSTOOLS\zPCR\EDF Files\XYZ 8561.edf  
Interval #12: Date=2020-02-03 Time=10:45:00 Length=00:15:00  
**CPC ID: CPC00001; GP Processor Model = 8561-707**  
**z15 Host = 8561-T01(Max34)/700 with 7 CPs: GP=7**

**Create LPAR Configuration**  
#1 Configuration #1  
LPAR Host as specified above  
Partition Configuration as specified below

Copy LP	LP is Active	LP from EDF	Partition Identification				Assigned Workload	Partition Configuration				HiperDispatch		CPU MF Workload Assignment	Method Used		
			No.	Type	Name	SCP		Mode	Total LCPs	Weight	Weight %	Capping INIT ABS	SMT Benefit			Is Active	Parked LCPs
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1	GP	CICSA	z/OS-2.4*	Average	SHR	7.0	340	34.0%				<input checked="" type="checkbox"/>	4.0	Default
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2	GP	BATCHA	z/OS-2.4*	Average	SHR	7.0	195	19.5%						Default
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	3	GP	BATCHB	z/OS-2.4*	Average	SHR	2.0	32	3.2%						Default
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	4	GP	TESTB	z/OS-2.4*	Average	SHR	2.0	12	1.2%						Default
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	5	GP	TESTIMS	z/OS-2.4*	Average	SHR	5.0	36	3.6%						Default
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	6	GP	CICSB	z/OS-2.4*	Average	SHR	7.0	297	29.7%						Default
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	7	GP	IMSA	z/OS-2.4*	Average	SHR	5.0	73	7.3%						Default
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	8	GP	TESTCICS	z/OS-2.4*	Average	SHR	2.0	15	1.5%						Default

Default SCP for GP Partitions:  z/OS  z/VM IFL Partitions:  z/VM

Estimate parked LCPs where unknown for:  GP partitions  IFL partitions

Select All Select Active Remove All Choose Another EDF Interval

Create LPAR Configuration  Remove Parked LCPs from the LCP Count when copying partitions into zPCR

Note: One or more partitions have "Parked" LCPs. The LCP count for HiperDispatch partitions should be reduced by the number of "Parked" LCPs

Click on "Copy LP" checkbox to select partitions to be copied to the LPAR configuration

4. Check the "Remove Parked LCPs ..." check box at the bottom of the window,
5. Click the **Create LPAR Configuration** button to transfer the LPAR host processor and its 8 GP partitions to the active **zPCR** study.
6. Click **OK** to dismiss the **zPCR EDF Copy Partitions** transfer dialog.

Note: Partition **CICSA** has 7 LCPs defined, but 4 are parked (not active). Therefore, when the configuration is read into zPCR it will be defined with 3 LCPs. Since **CICSA** is the only one with an EDF available, it is the only partition where the LCP count will be adjusted.





### Control Panel Window

Control Panel [untitled]


File Edit CPcalculator Registration Documentation Help

**Capacity Planning Control Panel**

Study ID: zPCR Familiarization Exercise

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

- Reference-CPU
  - REF 2094-701 @ 593.00 MIPS (SI); 559.792 MIPS (MI)
- LSPR Multi-Image Processor Table
  - LSPR IBM Z General Purpose CPs
  - LSPR IBM Z IFL CPs
  - LSPR IBM LinuxONE CPs
- LPAR Configurations
  - #1 Configuration #1  
z15-T01(Max34) 8561-707



IBM z17

Manage Compare Copy & Move Partitions QuickStart Guide


Configuration #1						
Created from EDF XYZ 8561.edf for CPC00001 interval #12: Date=2020-02-03 Time=10:45:00 Length=00:15:00 z15/700 LPAR Host: 8561-T01(Max34)/700						
Pool CP Type	#1 GP	#2 zAAP	#3 zIIP	#4 IFL	#5 ICF	CPC Total
RCPs	7	0	0	0	0	7
Partitions	8	0	0	0	0	8
LCPs	33	0	0	0	0	33
Capacity	12,447	n/a	n/a	n/a	n/a	12,447

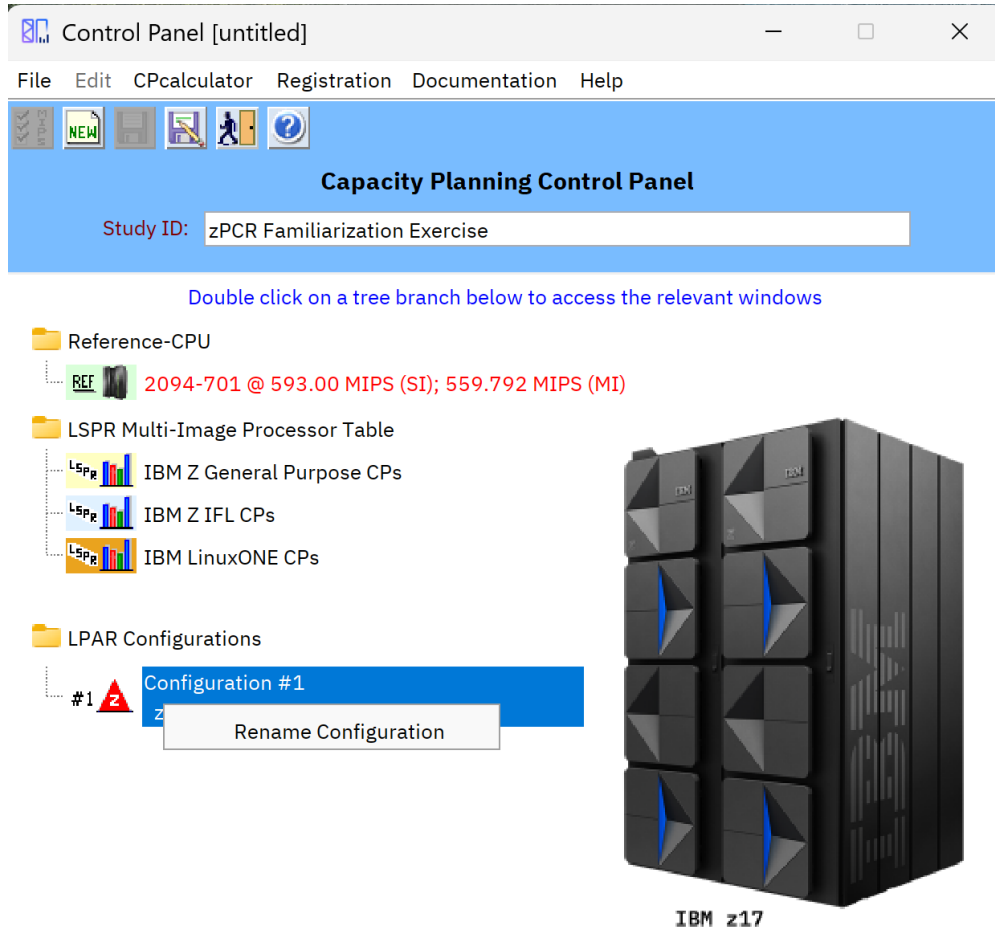
### Task-3: **Rename current LPAR configuration and review capacity**

---

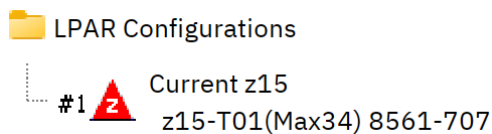
Rename the LPAR configuration and review the capacity assessment.

#### Analysis Steps

1. Rename "**Configuration #1**" to "**Current z15**". On the **Control Panel** window, Single-click  to select it.
2. Right click on the selected area to reveal the **Rename Configuration** popup button.



3. Click the **Rename Configuration** button, key in the LPAR configuration name that you wish to use, and press **Enter**.



Note: This rename operation will also be used in subsequent steps.



- Double-click **#1 Current z15** to open the **LPAR Host and Partition Configuration** window for the LPAR configuration.
- Click **Partition Detail** in the **Capacity Reports** group box to open the **Partition Detail Report** window. This window will reveal the total GP capacity available as **12,447 MIPS**.

Partition Detail Report
Edit Graph Documentation

**Partition Detail Report**  
 Based on LSPR Data for IBM Z Processors  
 Study ID: zPCR Familiarization Exercise

#1 Current z15  
 Description: Created from EDF XYZ 8561.edf for CPC00001 interval #12: Date=2020-02-03 Time=10:45:00 Length=00:15:00  
**z15 Host = 8561-T01(Max34)/700 with 7 CPs: GP=7**  
**8 Active Partitions: GP=8**  
 Capacity basis: 2094-701 @ 593.00 MIPS for a shared single-partition configuration  
 Capacity for z/OS on z10 and later processors is represented with HiperDispatch turned ON

Include ✓	Partition Identification					Partition Configuration									
	No.	Type	Name	SCP	Assigned Workload	Mode	Logical CPs	Weight	Weight Percent	Capping		SMT		Capacity	
										INIT	ABS	✓	Benefit	Minimum	Maximum
<input checked="" type="checkbox"/>	1	GP	CICSA	z/OS-2.4*	Average	SHR	3	340	34.00%	<input type="checkbox"/>				4,284	5,400
<input checked="" type="checkbox"/>	2	GP	BATCHA	z/OS-2.4*	Average	SHR	7	195	19.50%	<input type="checkbox"/>				2,401	12,310
<input checked="" type="checkbox"/>	3	GP	BATCHB	z/OS-2.4*	Average	SHR	2	32	3.20%	<input type="checkbox"/>				403	3,600
<input checked="" type="checkbox"/>	4	GP	TESTB	z/OS-2.4*	Average	SHR	2	12	1.20%	<input type="checkbox"/>				151	3,600
<input checked="" type="checkbox"/>	5	GP	TESTIMS	z/OS-2.4*	Average	SHR	5	36	3.60%	<input type="checkbox"/>				450	8,929
<input checked="" type="checkbox"/>	6	GP	CICSB	z/OS-2.4*	Average	SHR	7	297	29.70%	<input type="checkbox"/>				3,656	12,310
<input checked="" type="checkbox"/>	7	GP	IMSA	z/OS-2.4*	Average	SHR	5	73	7.30%	<input type="checkbox"/>				913	8,929
<input checked="" type="checkbox"/>	8	GP	TESTCICS	z/OS-2.4*	Average	SHR	2	15	1.50%	<input type="checkbox"/>				189	3,600

**Table View Controls**

Display zAAP/zIIP/IFL/ICF Associated Partitions

With Parent GP    Separate by Pool

---

Show

All Partitions    GP Pool    zAAP    zIIP

Includes Only    IFL    ICF

**Capacity Summary by Pool**

CP Pool	Real CPs	LPs	DED LCPs	SHR		Sum of Weights	SMT Benefit	Capacity Totals
				LCPs	LCP:RCP			
GP	7	8		33	4.714	1,000		12,447
zIIP								
IFL								
ICF								
<b>Totals</b>	<b>7</b>	<b>8</b>	<b>0</b>	<b>33</b>				<b>12,447</b>

Host Summary   SMT Benefit   LCP Alternatives   zAAP/zIIP Loading   HiperDispatch

For significant configuration changes, such as upgrading the processor family, all capacity comparisons are subject to a +/-5% margin-of-error  
 For configurations estimating SMT benefits (10-25%), the margin-of-error is +/-10% for the LPAR workloads using SMT. For higher estimates, the margin-of-error would be greater

Note: This partition's LCP count exceeds the recommended number of LCPs based on the weights defined for the shared partitions within the pool.

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

IBM zPCR Familiarization Exercise

Page 10 of 18



#### Task-4: Save the zPCR study

---

Save the **zPCR** study for future reference.

##### Analysis Steps

1. Click **Double Return** to close the **LPAR Configuration** windows and return to the **Control Panel** window.
2. From the menu-bar on the **Control Panel** window, click **File**→**Save as**, to save your LPAR definitions for the current LPAR host processor (e.g., **Lab Task-4.zpcr**).

Note: A saved study may be reloaded into a subsequent zPCR invocation. All settings for the Reference-CPU, the LPAR host, and its defined partitions will be restored. The study can serve for future reference or provide an opportunity to consider changes.


#### Task-5: Find an appropriate z17 replacement processor

---

Browse the **LSPR Multi-Image LSPR Capacity Ratios** table to find an **IBM z17** processor that can provide the required capacity increment using the **Average** workload category.

##### Analysis Steps

From the window

1. Double click  **IBM Z General Purpose CPs** to open the **LSPR Multi-Image Processor Capacity Ratios** table.
2. Find the smallest **IBM z17** processor that can provide the required **16,679 MIPS** (tip: right click the table for a list of the **Families**, select **Scroll to IBM**, select **z17 (9175)**, and then select **z17/700**).

For the purposes of this exercise, choose the **9175-708**, which appears to have just a bit more capacity than we require, (e.g., **17,151 MIPS** for **Average**). **Remember that capacity values in the multi-image table represent typical (or average) partition configurations, and therefore are only generalizations of capacity.**

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

### LSPR Multi-Image Capacity Ratio Table

Workload Graph Help

z/OS-3.1 LSPR Data (04/08/2025)

#### LSPR Multi-Image Capacity Ratios

##### IBM Z General Purpose CPs

Values are applicable for z/OS; representative of z/VM, KVM, and Linux

Capacity basis: 2094-701 @ 559.792 MIPS for a typical multi-partition configuration

Capacity for z/OS on z10 and later processors is represented with HiperDispatch turned ON

IBM Z Processor	Features	Flag	MSU	LSPR Workload Category				
				Low	Low-Avg	Average	Avg-High	High
<u>z17/700</u>								
9175-701	1W	=	306	2,448	2,462	2,477	2,439	2,403
9175-702	2W	=	582	4,806	4,768	4,731	4,623	4,520
9175-703	3W	=	852	7,099	7,021	6,944	6,748	6,564
9175-704	4W	=	1,112	9,331	9,223	9,116	8,817	8,537
9175-705	5W	=	1,360	11,526	11,368	11,213	10,811	10,436
9175-706	6W	=	1,600	13,690	13,467	13,250	12,747	12,281
9175-707	7W	=	1,836	15,822	15,520	15,229	14,628	14,073
9175-708	8W	=	2,060	17,924	17,529	17,151	16,456	15,815
9175-709	9W	=	2,281	19,999	19,497	19,020	18,233	17,509
9175-710	10W	=	2,497	22,044	21,424	20,837	19,961	19,156
9175-711	11W	=	2,702	24,061	23,309	22,602	21,640	20,757
9175-712	12W	=	2,894	26,050	25,154	24,317	23,272	22,312
9175-713	13W	=	3,079	28,011	26,959	25,984	24,857	23,824
9175-714	14W	=	3,256	29,944	28,726	27,604	26,398	25,294
9175-715	15W	=	3,429	31,850	30,455	29,178	27,896	26,723
9175-716	16W	=	3,603	33,730	32,147	30,707	29,352	28,111
9175-717	17W	=	3,775	35,575	33,802	32,198	30,765	29,455
9175-718	18W	=	3,949	37,411	35,451	33,687	32,177	30,796
9175-719	19W	=	4,124	39,238	37,095	35,174	33,585	32,134
9175-720	20W	=	4,298	41,055	38,733	36,659	34,991	33,469
9175-721	21W	=	4,471	42,864	40,365	38,141	36,395	34,801
9175-722	22W	=	4,645	44,664	41,992	39,621	37,795	36,131
9175-723	23W	=	4,818	46,456	43,613	41,099	39,194	37,458
9175-724	24W	=	4,991	48,238	45,230	42,575	40,590	38,782

Processor models in table = 3,134; In this view = 1,258; Currently selected = 1

Provisional Reference-CPU

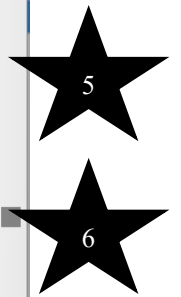
Workload Categories

Copy Selected to Favorites

Table Controls

**Normal Reference-CPU is active;** double click any processor row to set it as a Provisional Reference-CPU





Select multiple processors with **Ctrl+LeftClick** or **Shft+LeftClick**; For flag explanation, position mouse on indicator



## Task-6: Model the intended z17 upgrade

Using the current z15 LPAR configuration as a starting point, we will transfer it to the new **IBM z17** processor, making any necessary adjustments to the partition definitions.

### Analysis Steps

1. Single-click  **Current z15** on the **Control Panel** window to select it.
2. Click the **Clone**  toolbar button.  LPAR configuration is created as an exact copy of the 1st. Rename it to **New z17** ([see Task 3 if you need be reminded how to rename](#)).
3. Double-click  **New z17** to open the **LPAR Host and Partition Configuration** window for that LPAR configuration.
4. Click **Specify Host** to open the **LPAR Host** window.
  - a) In the **Select Brand** group box, choose **IBM Z**.
  - b) Set the **Family** to **z17 (9175)**
  - c) Set the **Speed Class** to **z17/700**
  - d) Set the **Model** to **9175-ME1(Max43)/700** (this model has a maximum of 43 CPs).
  - e) Set **General Purpose CPs** to **8** (recognized as a **9175-708**). There are no other CP types planned at this time.

LPAR Host Processor

Study ID: zPCR Familiarization Exercise

#2 z17 New z17

Description: Cloned from Current z15

Select Brand

IBM Z  LinuxONE

Family: z17 (9175) Speed Class: z17/700 Model: 9175-ME1(Max43)/700

Configure Real CP Types

GP	zIIP	IFL	ICF
8	0	0	0

Of 43 available CPs, 8 have been configured

[To define a z17 \(9175\) configuration without GP CPs, the z17/400 Speed Class must be selected](#)

- f) Click **Return**.



- Click **Partition Detail** in the **Capacity Reports** group box to view the **Partition Detail Report** window for the new z17 LPAR host.

Partition Detail Report
Edit Graph Documentation

### Partition Detail Report

Based on LSPR Data for IBM Z Processors  
 Study ID: zPCR Familiarization Exercise  
 #2 New z17  
 Description: Cloned from Current z15  
**z17 Host = 9175-ME1(Max43)/700 with 8 CPs: GP=8**  
**8 Active Partitions: GP=8**  
 Capacity basis: 2094-701 @ 593.00 MIPS for a shared single-partition configuration  
 Capacity for z/OS on z10 and later processors is represented with HiperDispatch turned ON

Include ✓	Partition Identification					Partition Configuration									
	No.	Type	Name	SCP	Assigned Workload	Mode	Logical CPs	Weight	Weight Percent	Capping		SMT		Capacity	
										INIT	ABS	✓	Benefit	Minimum	Maximum
<input checked="" type="checkbox"/>	1	GP	CICSA	z/OS-2.4*	Average	SHR	3	340	34.00%	<input type="checkbox"/>				5,977	6,593
<input checked="" type="checkbox"/>	2	GP	BATCHA	z/OS-2.4*	Average	SHR	7	195	19.50%	<input type="checkbox"/>				3,361	15,081
<input checked="" type="checkbox"/>	3	GP	BATCHB	z/OS-2.4*	Average	SHR	2	32	3.20%	<input type="checkbox"/>				563	4,395
<input checked="" type="checkbox"/>	4	GP	TESTB	z/OS-2.4*	Average	SHR	2	12	1.20%	<input type="checkbox"/>				211	4,395
<input checked="" type="checkbox"/>	5	GP	TESTIMS	z/OS-2.4*	Average	SHR	5	36	3.60%	<input type="checkbox"/>				629	10,919
<input checked="" type="checkbox"/>	6	GP	CICSB	z/OS-2.4*	Average	SHR	7	297	29.70%	<input type="checkbox"/>				5,119	15,081
<input checked="" type="checkbox"/>	7	GP	IMSA	z/OS-2.4*	Average	SHR	5	73	7.30%	<input type="checkbox"/>				1,275	10,919
<input checked="" type="checkbox"/>	8	GP	TESTCICS	z/OS-2.4*	Average	SHR	2	15	1.50%	<input type="checkbox"/>				264	4,395

#### Table View Controls

Display zAAP/zIIP/IFL/ICF Associated Partitions

With Parent GP    Separate by Pool

---

Show

All Partitions    GP Pool    Specialty Pools

Includes Only    zAAP    zIIP    IFL    ICF

#### Capacity Summary by Pool

CP Pool	Real CPs	LPs	DED LCPs	SHR		Sum of Weights	SMT Benefit	Capacity Totals
				LCPs	LCP:RCP			
GP	8	8		33	4.125	1,000		17,398
zIIP								
IFL								
ICF								
<b>Totals</b>	<b>8</b>	<b>8</b>	<b>0</b>	<b>33</b>				<b>17,398</b>

Host Summary   SMT Benefit   LCP Alternatives   zAAP/zIIP Loading   HiperDispatch

For significant configuration changes, such as upgrading the processor family, all capacity comparisons are subject to a +/-5% margin-of-error  
 For configurations estimating SMT benefits (10-25%), the margin-of-error is +/-10% for the LPAR workloads using SMT. For higher estimates, the margin-of-error would be greater

**Note:** This partition's LCP count exceeds the recommended number of LCPs based on the weights defined for the shared partitions within the pool.

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

IBM zPCR Familiarization Exercise


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## Task-7: Review capacity results and save the study

Using the capacity results for this new LPAR host, determine if we realized the desired 34% capacity increase (**16,679 MIPS**), for the overall host and for each individual partition.

### Analysis Steps

1. On the **Partition Detail Report** window, the overall effective capacity for the **z17 9175-708** is **17,398 MIPS** for this LPAR configuration. The effective capacity for the **z15 8561-707** is **12,447 MIPS** (see [Current 8561-707](#)).
2. Click **Double Return** to close the **LPAR Configuration** windows and return to the **Control Panel** window.
3. On the **Control Panel** window, select the two configurations. Click on one, press the **Ctrl** key (**CMD** on Mac) and click on the other. Then click the **Compare**  tool bar icon. The **Host Capacity Comparison** window presents a CPC oriented summary of the two LPAR host configurations. The first LPAR host is shown on the left, and the second is shown on the right. The partition types (CP pools) 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.

Host Capacity Comparison
— □ ×



### LPAR Host Capacity Comparison Report

**Capacity by Partition Type**



Study ID: zPCR Familiarization Exercise

Current z15: Created from EDF XYZ 8561.edf for CPC00001 interval #12: Date=2020-02-03 Time=10:45:00 Length=00:15:00

New z17: Cloned from Current z15

Capacity basis: 2094-701 @ 593.00 MIPS for a shared single-partition configuration

Capacity for z/OS on z10 and later processors is represented with HiperDispatch turned ON

Partition Type	#1  <b>Current z15</b> 8561-T01(Max34)/700: GP=7					#2  <b>New z17</b> 9175-ME1(Max43)/700: GP=8					Capacity Net Change	
	# of LPs	Usable RCPs	Logical CPs	SHR LCP:RCP	Full Capacity	# of LPs	Usable RCPs	Logical CPs	SHR LCP:RCP	Full Capacity	MIPS	% Delta
GP	8	7	33	4.714	12,447	8	8	33	4.125	17,398	+4,951	+39.8%
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				
<b>Total</b>	8	7	33		12,447	8	8	33		17,398	+4,951	+39.8%

Comparison Report by Partition

Minimum Capacity
Maximum Capacity

Full CPC
 Single-CP

Consider Margin-of-Error

For significant configuration changes, such as upgrading the processor family, all capacity comparisons are subject to a +/-5% margin-of-error

- Click **Minimum Capacity** in the **Comparison Report by Partition** group box. Note that all of the partitions see an increase of 34% or more.

**Partition Capacity Comparison Report**  
Based on Partition Minimum Capacity  
Study ID: zPCR Familiarization Exercise

Current z15: Created from EDF XYZ 8561.edf for CPC00001 interval #12: Date=2020-02-03 Time=10:45:00 Length=00:15:00  
New z17: Cloned from Current z15  
Capacity basis: 2094-701 @ 593.00 MIPS for a shared single-partition configuration  
Capacity for z/OS on z10 and later processors is represented with HiperDispatch turned ON

Partition Identification				Current z15					New z17					Capacity Net Change		
List of All Included Partitions With Unique ID Metrics				#1 ▲ 8561-T01(Max34)/700: GP=7					#2 ▲ 9175-ME1(Max43)/700: GP=8					MIPS	% Delta	
Type	Name	SCP	Workload	Partition Definition			Minimum Capacity	Partition Definition			Minimum Capacity					
				LP#	Mode	LCPs	Weight%	CAP	LP#	Mode	LCPs	Weight%	CAP			
GP	CICSA	z/OS-2.4*	Average	1	SHR	3	34.00%		1	SHR	3	34.00%		5,977	+1,693	+39.5%
GP	BATCHA	z/OS-2.4*	Average	2	SHR	7	19.50%		2	SHR	7	19.50%		3,361	+960	+40.0%
GP	BATCHB	z/OS-2.4*	Average	3	SHR	2	3.20%		3	SHR	2	3.20%		563	+160	+39.7%
GP	TESTB	z/OS-2.4*	Average	4	SHR	2	1.20%		4	SHR	2	1.20%		211	+60	+39.7%
GP	TESTIMS	z/OS-2.4*	Average	5	SHR	5	3.60%		5	SHR	5	3.60%		629	+179	+39.8%
GP	CICSB	z/OS-2.4*	Average	6	SHR	7	29.70%		6	SHR	7	29.70%		5,119	+1,463	+40.0%
GP	IMSA	z/OS-2.4*	Average	7	SHR	5	7.30%		7	SHR	5	7.30%		1,275	+362	+39.6%
GP	TESTCICS	z/OS-2.4*	Average	8	SHR	2	1.50%		8	SHR	2	1.50%		264	+75	+39.7%

Change Controls

For significant configuration changes, such as upgrading the processor family, all capacity comparisons are subject to a +/-5% margin-of-error

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** in the **Change Controls** group box to see if you can improve the results by reducing the number of LCPs assigned 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

Optimal

N-way partitions will optimize to no less than 2 logical CPs

Using the default setting, **Optimal**, click **Optimize** to reduce the number of logical CPs assigned to each partition. Reducing the number of logical CPs can improve capacity. The partition's weight percent is used to determine the exact number of LCPs (rounded up to the nearest whole number). Click **Cancel** to close the Optimize LCPs window.

Note: An alternate method to apply these optimization levels is available on the **Partition Detail Report** window by using the **LCP Alternatives** button.

For availability purposes, no less than 2 logical CPs will be assigned to N-way partitions.



Partition Capacity Comparison

### Partition Capacity Comparison Report

Based on Partition Minimum Capacity  
Study ID: zPCR Familiarization Exercise  
Current z15: Created from EDF XYZ 8561.edf for CPC00001 interval #12: Date=2020-02-03 Time=10:45:00 Length=00:15:00  
New z17: Cloned from Current z15  
Capacity basis: 2094-701 @ 593.00 MIPS for a shared single-partition configuration  
Capacity for z/OS on z10 and later processors is represented with HiperDispatch turned ON

Partition Identification List of All Included Partitions With Unique ID Metrics				#1  Current z15 8561-T01(Max34)/700: GP=7					#2  New z17 9175-ME1(Max43)/700: GP=8					Capacity Net Change			
Type	Name	SCP	Workload	Partition Definition				Minimum Capacity	Partition Definition				Minimum Capacity	MIPS	% Delta		
LP#	Mode	LCPs	Weight%	CAP	LP#	Mode	LCPs	Weight%	CAP	LP#	Mode	LCPs	Weight%	CAP	MIPS	% Delta	
GP	CICSA	z/OS-2.4*	Average	1	SHR	3	34.00%		4,284	1	SHR	4	34.00%		6,126	+1,842	+43.0%
GP	BATCHA	z/OS-2.4*	Average	2	SHR	7	19.50%		2,401	2	SHR	2	19.50%		3,513	+1,112	+46.3%
GP	BATCHB	z/OS-2.4*	Average	3	SHR	2	3.20%		403	3	SHR	2	3.20%		577	+174	+43.2%
GP	TESTB	z/OS-2.4*	Average	4	SHR	2	1.20%		151	4	SHR	2	1.20%		216	+65	+43.0%
GP	TESTIMS	z/OS-2.4*	Average	5	SHR	5	3.60%		450	5	SHR	2	3.60%		649	+199	+44.2%
GP	CICSB	z/OS-2.4*	Average	6	SHR	7	29.70%		3,656	6	SHR	3	29.70%		5,351	+1,695	+46.4%
GP	IMSA	z/OS-2.4*	Average	7	SHR	5	7.30%		913	7	SHR	2	7.30%		1,315	+402	+44.0%
GP	TESTCICS	z/OS-2.4*	Average	8	SHR	2	1.50%		189	8	SHR	2	1.50%		270	+81	+42.9%

Change Controls

Commit Changes Undo Changes Optimize SHR LCPs Consider Margin-of-Error

For significant configuration changes, such as upgrading the processor family, all capacity comparisons are subject to a +/-5% margin-of-error

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

## 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  $\pm 5\%$  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 all the partitions realize the intended 34% capacity increase when considering the  $\pm 5\%$  Margin-of-Error.



Partition Margin-of-Error

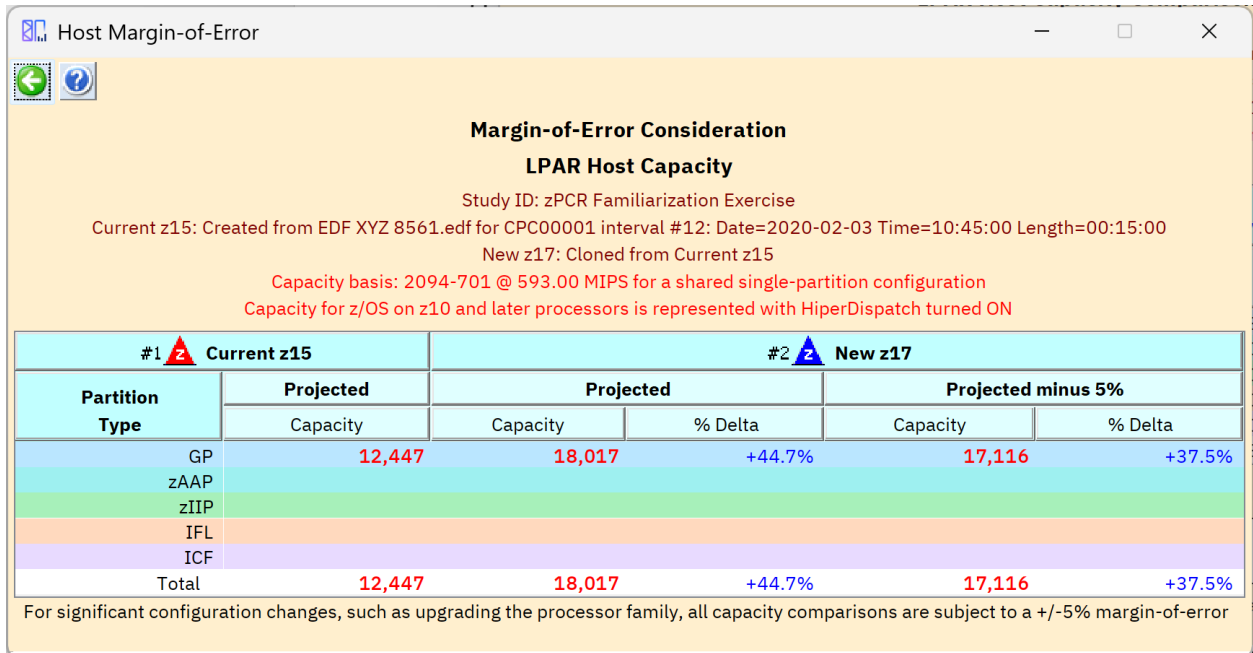
### Margin-of-Error Consideration

Partition Minimum Capacity  
Study ID: zPCR Familiarization Exercise  
Current z15: Created from EDF XYZ 8561.edf for CPC00001 interval #12: Date=2020-02-03 Time=10:45:00 Length=00:15:00  
New z17: Cloned from Current z15  
Capacity basis: 2094-701 @ 593.00 MIPS for a shared single-partition configuration  
Capacity for z/OS on z10 and later processors is represented with HiperDispatch turned ON

#1  Current z15				#2  New z17				
Partition Identification				Projected	Projected		Projected minus 5%	
Type	Name	SCP	Workload	Capacity	Capacity	% Delta	Capacity	% Delta
GP	CICSA	z/OS-2.4*	Average	4,284	6,126	+43.0%	5,819	+35.8%
GP	BATCHA	z/OS-2.4*	Average	2,401	3,513	+46.3%	3,338	+39.0%
GP	BATCHB	z/OS-2.4*	Average	403	577	+43.2%	548	+36.0%
GP	TESTB	z/OS-2.4*	Average	151	216	+43.0%	205	+35.8%
GP	TESTIMS	z/OS-2.4*	Average	450	649	+44.2%	616	+36.9%
GP	CICSB	z/OS-2.4*	Average	3,656	5,351	+46.4%	5,083	+39.0%
GP	IMSA	z/OS-2.4*	Average	913	1,315	+44.0%	1,249	+36.8%
GP	TESTCICS	z/OS-2.4*	Average	189	270	+42.9%	257	+36.0%



For significant configuration changes, such as upgrading the processor family, all capacity comparisons are subject to a +/-5% margin-of-error

7. Close the **Partition-Margin-of- Error** window. Then click **Commit Changes** in the **Change Controls** group box to change the LPAR configuration to permanently include the modified metrics (from the **Optimize**).
8. Click **Return** on the **Partition Capacity Comparison** window. Then, on the **Host Capacity Comparison** window, click **Consider Margin-of-Error**. Note that the **Host Margin-of-Error** window now shows we are delivering **18,017 MIPS** (**17,116 MIPS** when considering the  $\pm 5\%$  Margin-of-Error), both of which are greater than the **16,679 MIPS** objective.



**Margin-of-Error Consideration**  
**LPAR Host Capacity**

Study ID: zPCR Familiarization Exercise  
Current z15: Created from EDF XYZ 8561.edf for CPC00001 interval #12: Date=2020-02-03 Time=10:45:00 Length=00:15:00  
New z17: Cloned from Current z15  
Capacity basis: 2094-701 @ 593.00 MIPS for a shared single-partition configuration  
Capacity for z/OS on z10 and later processors is represented with HiperDispatch turned ON

#1  Current z15		#2  New z17			
Partition Type	Projected	Projected		Projected minus 5%	
	Capacity	Capacity	% Delta	Capacity	% Delta
GP	12,447	18,017	+44.7%	17,116	+37.5%
zAAP					
zIIP					
IFL					
ICF					
Total	12,447	18,017	+44.7%	17,116	+37.5%

For significant configuration changes, such as upgrading the processor family, all capacity comparisons are subject to a +/-5% margin-of-error

9. Close all of the comparison windows by clicking the **Return** toolbar icon on the **Host Capacity Comparison** window.
10. From the menu bar on the **Control Panel** window click **File**→**Save as**, and save the complete study which will include both LPAR configurations (e.g., **Lab Task-7.zpcr**).

At this point we have met the **16,679 MIPS** overall objective with at least 34% improvement for each partition.

