

# zPCR Capacity Sizing Lab – Part 2 Hands On Lab Exercise

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# **Function Selection Window**

Function Selection [untitled]	
File Edit CPcalculator Registration Documentation Help	
	zPCR V6.3
zPCR	
Processor Capacity Reference for	IBM System z
Study ID:	
Tab-1: Multi-Image Capacity Tab-2: Single-Image Cap	acity
LSPR Multi-Image Capacity Ratios	
z/OS-1.9 / General Purpose CPs Workloads	
Capacity results will be relative to a 2094-701	
MI capacity is 0.9440, for a 5-partition configuration	
LPAR Configuration Capacity Planning	
Project capacity for specific LPAR configurations	
Hardware: IBM System z processor models CP types: General Purpose, zAAP, zIIP, IFL, ICF	
Control programs: z/OS, z/VM, z/VSE, Linux, CFCC	
Advanced-Mode (multiple LPAR configuration support)	
Define LPAR Host, Configure Partitions, Assess Capacity	9 Z 8
Capacity results will be relative to a 2094-701	and the second
SI capacity is 1.0000, for a 1-partition configuration	
Reference-CPU (controls all zPCR function)	
REF         2094-701 @ 1.00 {ITR Ratio}	IBM System z10 Enterprise Class
QuickStart Guide	
Click on Single-Image Capacity tab for LSPR Single-Image Capacity ta	bles

# **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 **z9 2094-707** (7-way processor) installed, which they view as having **3,500 MIPS** of usable capacity, (so we need to calibrate zPCR to this view). The 2094-707 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 Association
1	Batch	Share	3	15%	150	No	z/OS-1.9 LoIO-Mix
2	CICS-1	Share	7	35%	350	No	z/OS-1.9 TM-Mix
3	CICS-2	Share	3	10%	100	No	z/OS-1.9 TM-Mix
4	CICS-3	Share	2	10%	100	No	z/OS-1.9 TD-Mix
5	IMS	Share	4	20%	200	No	z/OS-1.9 TI-Mix
6	Test	Share	2	2%	20	Yes	Linux WASDB/L

A plan is being developed to **replace the z9 2094-707 with a newer technology System z10 EC processor**. The specific model chosen must provide **20% additional capacity**, or at least **4,200 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 z10 replacement processor
- Task 5 Model the intended z10 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 **<u>Return</u>** the Sicon 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 602 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
- 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 602 MIPS.
  - b) Click Return
- 5. Open Windows Explorer (by clicking on "Start", "All Programs", "Accessories", "Windows Explorer"). Then using Windows Explorer select to the CPSTOOLS/zpcr6.3c 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.
  - a) Click <u>**OK**</u> to the message box which indicates that this file was created using zPCR v5.4. This was the last time the model had been updated.

# Advanced-Mode Control Panel Window

Task 1.zpcr												
h Adv	anced-Mod	e Control Pan	el [I:\Task :	L.zpcr]		10		x				
File C	Pcalculator	Documentatio	on Help									
	<u>k</u> (						zPCR \	/6.3				
	Ad	 lvanced-Mo	de Capac	city Planı	ning Cor	ntrol Pai	nel					
Study ID:												
Double did, on a tree branch below to access the selector twindows												
Double click on a tree branch below to access the relevant windows												
Reference-CPU												
REF 📓 2094-701 @ 602 MIPS												
🔋 🚺 LSP	R Processor	Table										
<sup>L</sup> Sp;	z/OS-1.	.9 Multi-Image C	apacity Ratio	)S								
📗 LPA	AR Configurat	ions										
#1	A Current	t										
Man	age	Compare										
			~h			Q	uickStart Guide	]				
	- X							,				
		Curr	ent: Loaded f	rom Basic N	/lode Study	l:Task 1.:	zper					
	#1		z9-EC	LPAR Host:	2094-508/	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	3,599.3					3,599.3					
	Capacity is b	based on a 2094	-701 assumed	d at 602.00 I	MIPS for a 1	1-partition c	onfiguration					
[												

## 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. Double-click on the **Current** LPAR configuration icon to open the **LPAR Host and Partition Configuration** window for the Current LPAR configuration.
- Click <u>Partition Detail</u> in the Capacity Reports Groupbox to open the Partition Detail Report window. This window will reveal the total GP capacity available as 3,599.39 MIPS. The XYZ Company believes that the total GP capacity of this machine for their environment is 3,500 MIPS. We will adjust the Reference-CPU scaling factor so that the GP capacity result will be 3,500 MIPS.
- 3. Click **Calibrate Reference-CPU** to open the **Calibrate** window.
- 4. Key in **3500** in the *Enter desired capacity rating for LPAR Host* entry field and press Enter.

L Calibrate	1 10	
3		zPCR V6.3
Calibr Adjust Re LPAR hos	ate Capacity to LP/ eference-CPU Scaling-fa st will have a specific ca	<b>AR Host</b> ctor so that pacity value
	Model	Capacity
Reference-CPU:	2094-701	602 MIPS
2094-S	LPAR Host 08/700 configured w GP=7	vith 7 CPs
Adjust capacity fo	r: 💿 GP Pool Only 📀	All pools combined
LPAR Host:	2094-707	3,599.3 MIPS
Enter desired c	apacity rating for LPAR Ho	st: 3500 MIPS
Capacity will be rel SI capacity is 585 MI capacity is 552	ative to a 2094-701 .39 MIPS, for a 1-partiti .60 MIPS, for a 5-partit	on configuration ion configuration

5. Click Return

📊 Partitic	Partition Detail Report													
Graph CF	calcula	ator				_								
	<b>N</b>													
	CSV											zPCR V6.3		
				D	artition D	otail	Rond	t						
				Based or	LSPR Data for	IBM Sv	stem z l	rocesso	rs					
					Study ID: I	Not speci	fied		-					
			;	#1 🛕 Curren	t (Loaded from B	asic Mode	e Study I	:\Task	1.zpcr)					
			z	9-EC Host	= 2094-50	B/700	with 7	CPs: 0	GP=7					
6 Active Partitions: GP=6 Capacity is based on a 2004 701 assumed at 595 20 MIDE for a 1 partition configuration														
Capacity is based on a 2094-701 assumed at 585.39 MIPS for a 1-partition configuration														
Capacity is based off a 2094-701 assumed at 363.39 MIPS for a 1-partition Configuration           Partition Identification         Partition Configuration         Partition Capacity														
Include	No.	Туре	Name	SCP	Workload	Mode	LCPs	Weight	Weight %	Capping	Minimum	Maximum		
	1	GP	Batch	z/OS-1.9*	LoIO-Mix	SHR	3	150	16.30%		587.0	1,542.9		
	2	GP	CICS-1	z/OS-1.9*	TM-Mix	SHR	7	350	38.04%		1,307.8	3,437.5		
	3	GP	CICS-2	z/OS-1.9*	TM-Mix	SHR	3	100	10.87%		386.3	1,523.3		
	4	GP	CICS-3	z/OS-1.9*	TD-Mix	SHR	2	100	10.87%		387.3	1,018.0		
	V         5         GP         IMS         z/OS-1.9*         TI-Mix         SHR         4         200         21.74%         752.7         1,978.6           V         6         GP         Test         Linux         WASDBA         SHR         2         20         2.17%         V         79.0         79.0													
<b>T</b> -1-1-1							Capaci	ty Summ	ary by Pool					
Table	lew			_			CP Po	ol	RCPs Part	titions L	CPs Cap	acity		
Display		Pool	S				GP		7	6	21 3	,500.0		
IIA O	Partition	is 🔽	GP IFL				ZAAP		0	0	0	0.0		
🔘 Ind	ludes Or	nly 🗌	zAAP IC	F			TEL		0	0	0	0.0		
			zIIP				ICF		0	0	0	0.0		
								Totals	7	6	21 3	,500.0		
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, express or implied. You are responsible for the results obtained from your use of this tool.														
Input fields	have w	hite backg	round; Single-	click a "selectio	n field" for drop-	down list;	Double	click a "ke	y-in field" to	open.				

# Task 3: Save the study

#### Analysis Steps

- 1. Click <u>**Return**</u> twice to close the LPAR configuration windows.
- From the menu-bar on the Advanced-Mode Control Panel window, click <u>File</u>→<u>Save as</u>, 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-1.9 Multi-Image LSPR Capacity Ratios* table, find the IBM System z10 processor that can provide the required capacity increment.

### Analysis Steps

- 1. From the Advanced-Mode window, double click on z/OS-1.9 *Multi-Image Capacity* Ratios to open the *LSPR Multi-Image Processor Capacity Ratios* table.
- 2. Find an IBM System z10 EC processor that can provide the required **4,200 MIPS**. (tip right click for a list of the Families, then select z10 EC/600)

For the purposes of this exercise, choose the **2097-608**, which appears to have just a bit less capacity than we require for most all of the LSPR workloads. (e.g. 4,163 for LSPR Mix 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 <u>Return</u> to go back to the *Advanced-Mode Control Panel* window.

LSPR Capacity Ra	atios	1			1					S		
Workload Graph H	Help	_										
0 1 1 1 0	)								zPCR. V6	5.3		
				7/05-1.0	I SDR Data (10)	21/2008)						
				405-1.9	LOPK Data (10)	21/2008)						
		LSF	R Mu	lti-Image	Capacity	Ratios (z	(OS-1.9)					
				Gener	al Purnos	e CPs						
Canacity	ic bacad a		004-70	1 accumed a	± 552.61 MI	DE for a two	ical multi-na	tition config	uration			
S	vstem 710	nroce	ssor cz	nacity for z	OS is renres	ented with	HinerDisnato	h turned ON				
	y50011 210	proce		pucicy for 2/	oo b repres	circed with i	mperoopute	in curricu ori		_		
				z/0S-1.9	z/0S-1.9	z/0S-1.9	z/0S-1.9	z/0S-1.9	z/0S-1.9			
Processor	Features	Flag	MSU	LoIO-Mix	<u>CB-Mix</u>	<u>TM-Mix</u>	<u>TD-Mix</u>	<u>TI-Mix</u>	LSPR-Mix			
2097-508	8W	=	382	3,158	3,125	3,086	3,046	2,985	3,104	^		
2097-509	9W	=	422	3,501	3,461	3,415	3,368	3,296	3,436			
2097-510	10W	=	462	3,835	3,788	3,734	3,679	3,596	3,758			
2097-511	11W	=	500	4,160	4,106	4,044	3,981	3,887	4,072			
2097-512 Svetom a10 EC/600	1200	=	537	4,4/6	4,415	4,345	4,2/4	4,168	4,377			
System 210 EC/600	114/	_	70	620	620	620	620	6.20	670			
2097-001	200	=	140	1 212	1 207	1 202	1 107	1 100	1 204			
2097-602	200	-	215	1,212	1,207	1,202	1,137	1,100	1,204			
2097-604	4\/	_	213	2 284	2 268	2 249	2 229	2 198	2 257			
2097-605	5W	_	339	2,795	2,200	2,215	2,225	2,130	2,255			
2097-606	6W	=	398	3,290	3,259	3,223	3,186	3,130	3,239			
2097-607	7W	=	455	3,772	3,733	3,688	3,642	3,571	3,708			
2097-608	8W	=	511	4,241	4,193	4,138	4,083	3,998	4,163			
2097-609	9W	=	565	4,696	4,640	4,575	4,509	4,410	4,604	۰.		
2097-610	10W	=	617	5,139	5,073	4,998	4,922	4,808	5,032			
2097-611	11W	=	668	5,569	5,494	5,408	5,321	5,192	5,447			
2097-612	12W	=	717	5,988	5,903	5,805	5,707	5,563	5,849			
System z10 EC/700												
2097-701	1W	=	115	921	921	921	921	920	920			
2097-702	2W	=	215	1,742	1,735	1,727	1,719	1,705	1,729			
2097-703	3W	=	312	2,523	2,508	2,491	2,472	2,443	2,498			
2097-704	4W	=	401	3,267	3,242	3,214	3,185	3,138	3,227			
2097-705	5W	=	488	3,987	3,953	3,913	3,872	3,806	3,931			
2097-706	6W	=	571	4,685	4,640	4,587	4,533	4,448	4,610	-		
						Tabl	e View					
Processors Liste	d							line Dura	Mand-1-	٦		
In table = 492;	; In view = ·	492				P	TOCESSOF Famil	nes proc	essor models			
Selected = 001						0	All 💿 My Ch	ioices 💿 All	Selected			
Drawinianal Reference COLL Researce Families Worldarde												
Provisional Reference-CPU Processor Families Workloads												
Colort multiple processors with Ctyl+1 oftClick or Chft+1 oftClick: For the synthestics, position moves an indicator												
Global Reference-	CPU setting	is acti	ve: dou	ble click any p	rocessor row	to set it as a	Provisional Re	ference-CPU				
sister marchenice	or o security	, 15 act	. c, uou	one click any p			orisional Re	i crence or u		_		

## Task 5: Model the intended LPAR host

Using the current LPAR configuration as a starting point, we will transfer it to the new IBM System z10 processor, making any necessary adjustments to the partition definitions.

#### **Analysis Steps**

- 1. Single-click the **Current** icon on the **Advanced-Mode Control Panel** window to select it.
- Click the <u>Clone</u> toolbar button. A second LPAR configuration is created as an exact copy of the first. Its icon is labeled Alt-1
- 3. Double-click the **Alt-1** icon to open the **LPAR Host and Partition Configuration** window for the **Alternate** LPAR configuration.
- 4. Click <u>Specify Host</u> to open the LPAR Host window.
  - a) Set the *Family* to be z10 EC/600.
  - b) Set the *Model* to **2097-E12/600** (this model has a maximum total of 12 configurable CPs).
  - c) Set *General Purpose CPs* to 8 (seen as a 2097-608). There are no other CP types planned at this time.
  - d) Click Return.



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

1	Partitio	on Deta	il Report	-									• X		
F	Graph CP	calcula	tor				_								
ſ		Nen I	<b>N</b>												
		CSV											ZPCR V6.3		
	Partition Detail Report														
	Based on LSPR Data for IBM System z Processors														
	Study ID: Not specified														
L	#2 Alt-1 (Cloned from Current)														
	z10-EC Host = 2097-E12/600 with 8 CPs: GP=8														
	6 Active Partitions: GP=6 Capacity is based on a 2004 701 accurate at 555 20 MIRE for a 1 partition configuration														
	Capacity is based on a 2094-701 assumed at 585.39 MIPS for a 1-partition configuration														
	System z10 processor capacity for z/OS is represented with HiperDispatch turned ON														
	Include No. Type Name SCP Workload Mode LCPs Weight Weight & Capping Minimum Maximum														
	Include         No.         Type         Name         SCP         Workload         Mode         LCPs         Weight         Weight         Capping         Minimum         Maximum           V         1         GP         Batch         z/OS-1.9*         LoIO-Mix         SHR         3         150         16.30%         706.3         1,624.6														
	I         GP         Batch         z/OS-1.9*         LoIO-Mix         SHR         3         150         16.30%         706.3         1,624.6           Image: 2         GP         CICS-1         z/OS-1.9*         TM-Mix         SHR         3         150         38,04%         1570         3,612.3														
	V         2         GP         CICS-1         Z/OS-1.9         TM-Mix         SHR         7         350         38.04%         1,570.6         3,612.3														
	V         2         Gr         ClC3-1         2/05-1.5"         IM-Mix         SHR         7         350         36.07%         1,570.6         3,912.5           V         3         GP         CICS-2         z/05-1.9*         TM-Mix         SHR         3         100         10.87%         460.5         1,588.9														
	V         3         Gr         CLCS-2         Z/OS-1.9*         IMHMIX         SHK         3         100         10.87%         460.5         1,588.9           V         4         GP         CICS-3         z/OS-1.9*         TD-Mix         SHR         2         100         10.87%         454.7         1,045.7														
	V         4         GP         CICS-3         z/OS-1.9*         TD-Mix         SHR         2         100         10.87%         454.7         1,045.7           V         5         GP         IMS         z/OS-1.9*         TI-Mix         SHR         4         200         21.74%         893.0         2,053.9														
	Image: Second state         Image: Second state														
								Capaci	ty Summ	ary by Pool					
	Table V	/iew						CP Po	bol	RCPs Part	titions L	CPs Cap	acity		
	Display		Pool	s				GP		8	6	21 4	.187.1		
		Partition	s 🔽	GP TE				ZAAP		0	0	0	0.0		
								zIIP		0	0	0	0.0		
	Incl	udes Or	nly	ZAAP IC	F			IFL		0	0	0	0.0		
				zIIP				ICF		0	0	0	0.0		
									Totals	8	6	21 4	,187.1		
	Host Summary Modify SCP/Workload														
F	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, express or implied. You are responsible for the results obtained from your use of this tool.														
I	nput fields	have w	hite back <u>o</u>	round; Single	click a "selectio	n field" for drop-	down list;	; Double	click a "ke	y-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 (**4,200 MIPS**), for the overall host and for each individual partition.

#### Analysis Steps

- On the *Detail Report* window, the overall effective capacity for the 2097-608 is 4,187.1 MIPS for this LPAR configuration. The effective capacity for the 2094-707 was 3,500 MIPS. (see page 8)
- 2. Click two **<u>Return</u>** 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.

Host Capa	Host Capacity Comparison													
3												zPCR V6.3		
		Capacity i System	is based o z10 proc	LPAR Current In a 2094- essor capa	Host Cap Capacity : Loaded from Alt-1: 0 701 assum acity for z/0	acity Cor y by Partit Basic Mode S Cloned from ed at 585 DS is repres	nparison tion Type Study I:\T Current 39 MIPS esented w	Report Task 1.zpcr for a 1-pa rith Hiper	artition co Dispatch t	onfiguration urned ON	I			
#12         Current 2094-S08/700: GP=7         #22         Alt-1 2097-E12/600: GP=8         Full Capacity (MIPS)           Partition         Usable         SHR         Usable         SHR         Net         %														
Partition         Usable         LCPs         SHR         Capacity         Partitions         RCPs         LCPs         Capacity         Partitions         RCPs         LCPs         Capacity         Delta														
GP	6	7	21	3.000	3,500.0	6	8	21	2.625	4,187.1	+687.1	+19.6%		
ZAAP	0	0	0			0	0	0						
IFL	0	0	0			0	0	0						
ICF	0	0	0			0	0	0						
Total	6	7	21		3,500.0	6	8	21		4,187.1	+687.1	+19.6%		
Comparison Report by Partition       Show capacity as         Minimum Capacity       Maximum Capacity         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, express or implied. You are responsible for the results obtained from your use of this tool.														

Click <u>Minimum Capacity</u> 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 a 3 of them that do not, (CICS-2, CICS-3 and IMS).

In Part	Partition Capacity Comparison																	
0	M 🕐																	zPCR V6.3
	Partition Capacity Comparison Report Based on Partition Minimum Capacity Current Loaded from Basic Mode Study 11,Task 1por Alt-1: Concert from Current Capacity is based on a 2094-701 assumed at \$5830 MIPS for a 1-partition configuration System z10 processor capacity for z/OS is represented with HiperDispatch turned ON         Partition Identification       #1 A mc Current         Partition Identification       #2 A mc Current         Partition Identification       #1 A mc Current																	
	Partition Identification         #1 A 2094-508/700: GP=7         Alt-1         Full           List of All included Partitions         #2 A 2094-508/700: GP=8         Full         Capacity (HIPS)           With Unique ID Metrics         Partition Definition         and         Partition Definition         and																	
With Unique ID Metrics         Partition Definition         Minimum         Note: The Second																		
Type         Name         SCP         Workload         LP#         Mode         LCPs         Weight%         Cap         Capacity         Change         Delta           GP         Batch         z/OS-1.9*         LoIO-Mix         1         SHR         3         16.30%         S87.0         1         SHR         3         150         16.30%         706.3         +11.93         +20.3%																		
GP         Batch         z/OS-1.9*         LoIO-Mix         1         SHR         3         16.30%         587.0         1         SHR         3         150         16.30%         706.3         +119.3         +20.3%           GP         CICS-1         z/OS-1.9*         TM-Mix         2         SHR         7         350         38.04%         1,570.6         +262.8         +20.1%																		
GP	CICS-2	z/OS-1.9*	TM-Mix	3	SHR	3	10.87%		386.3	3	SHR	3	100	10.87%		460.5	+74.2	+19.2%
GP	CICS-3	z/OS-1.9*	TD-Mix	4	SHR	2	10.87%		387.3	4	SHR	2	100	10.87%		454.7	+67.4	+17.4%
GP	IMS	z/OS-1.9*	TI-Mix	5	SHR	4	21.74%		752.7	5	SHR	4	200	21.74%		893.0	+140.3	+18.6%
GP	Test	Linux	WASDB/L	6	SHR	2	2.17%	×	79.0	6	SHR	2	20	2.17%	<b>V</b>	102.0	+23.0	+29.1%
Chang	e Controls																	
	econtrois	,														_		
C	ommit	Undo	Optimize SHR	LCPs													Consider M	argin-of-Error
	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 form this tool. This information is provided "as is", without warranty, express or implied. You are responsible for the results obtained from your use of this tool.																	
Input fie	lds have white	background; S	ingle-click a "sele	ection field	d" for drop	-down list	; Double click	a "key-in	field" to ope	en.								

Click <u>Optimize SHR LCPs</u> 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.

	Deptimize LCPs													
	Optimize Shared LCP Configuration													
	Select Partition Types													
	GP ZAAP ZIIP IFL ICF													
	LCP Count Assignment													
i	Conservative													
i	Minimal													
	Optimize Cancel													

5. Click **Optimize** and use the default "minimal" 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. We can see that CICS-3 did not make the 20% increase.

Part	ition Capacity	Comparison																
0	M 🕜																	zPCR V6.3
	Partition Capacity Comparison Report Based on Partition Minimum Capacity Current: Loaded from Basc Mode Study 11:Task 1.zpor Alt-1: Cloned from Current Alt-1: Cloned from Current Capacity is based on a 2094-701 assumed at 595.39 MIPS for a 1-partition configuration System z10 processor capacity for z/OS is represented with HiperDispatch turned ON           Partition Identification																	
	Partition Identification         #1 A         Current         #2 A         Alt-1         Full           List of All Induded Partitions         #1 A         2094-508/700: GP=7         #2 A         2097-E12/600: GP=8         Gapacity (MIPS)																	
	Type         Name         SCP         Workload         LP#         Mode         LCPs         Weight%         Cap         Capacity         Capacity         LP#         Mode         LCPs         Weight%         Cap         Capacity         Capacity         LP#         Mode         LCPs         Weight%         Cap         Capacity         Cap         Capacity         Capacity																	
Type         Name         SCP         Workload         LP#         Mode         LCPs         Weight%         Cap         Capacity         LP#         LP#<																		
GP         Batch         z/OS-1.9*         LoIO-Mix         1         SHR         3         16.30%         587.0         1         SHR         2         150         16.30%         718.3         +131.3         +22.4%           GP         CICS-1         z/OS-1.9*         TM-Mix         2         SHR         7         38.04%         1.307.8         2         SHR         4         350         38.04%         1.641.3         +333.5         +25.5%																		
GP	GP CICS-1 z/O5-1.9* TM-Mix 2 SHR 7 38.04% 1,307.8 2 SHR 4 350 38.04% 1,641.3 +333.5 +25.5% (7 CICS-1 z/O5-1.9* TM-Mix 2 SHR 7 38.04% 1997.8 1,641.3 +333.5 +25.5% (7 CICS-1 z/O5-1.9* TM-Mix 2 SHR 7 1,97.8																	
GP	CICS-2	z/05-1.9*	TD-Mix	4	SHR	2	10.87%		387.3	4	SHR	1	100	10.87%		462.6	+75.3	+19.4%
GP GP	IMS	z/OS-1.9*	TI-Mix	5	SHR	4	21.74%		752.7	5	SHR	2	200	21.74%	[	908.4	+155.7	+20.7%
GP	Test	Linux	WASDB/L	6	SHR	2	2,17%	×	79.0	6	SHR	1	20	2,17%		105.5	+26.5	+33.5%
Chang	Change Controls Commit Undo Optimize SHR LCPs Consider Margin-of-Error																	
	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. IIM does not guarante the results from this tool. This information is provided as is ', without warranty,																	
Input fie	ds have white	background; S	ingle-click a "sele	ection field	expre for drop	ss or impli down list	; Double click	a "key-in	field" to ope	iits obtain n.	iea π'om y	our use o	r this tool.					

#### 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 Test partition has met the 20% capacity increase when factoring in the -5% margin of error.

Partition	Margin-of-Error		Correction of	and the last last	Sec. 1. Sec.	-									
3								zPCR V6.3							
			Margin-of	f-Error Conside	ration										
	Partition Minimum Capacity														
	Current: Loaded from Basic Mode Study I:\Task 1.zpcr Alt-1: Cloned from Current Capacity is based on a 2094-701 assumed at 585.39 MIPS for a 1-partition configuration System z10 processor capacity for z/OS is represented with HiperDispatch turned ON														
	Deutitien	T-1		#1 🛕 Current		#2 🛕	Alt-1								
	Partition	Identification	[	Projected	Proje	cted	Projected n	ninus 5%							
Туре	Name	SCP	Workload	Capacity	Capacity	% Delta	Capacity	% Delta							
GP	Batch	z/OS-1.9*	LoIO-Mix	587.0	718.3	+22.4%	682.3	+16.2%							
GP	CICS-1	z/OS-1.9*	TM-Mix	1,307.8	1,641.3	+25.5%	1,559.2	+19.2%							
GP	CICS-2	z/OS-1.9*	TM-Mix	386.3	468.3	+21.2%	444.9	+15.2%							
GP	CICS-3	z/OS-1.9*	TD-Mix	387.3	462.6	+19.4%	439.5	+13.5%							
GP	IMS	z/OS-1.9*	TI-Mix	752.7	908.4	+20.7%	863.0	+14.7%							
GP	Test	Linux	WASDB/L	79.0	105.5	+33.5%	100.2	+26.8%							
	For signific IBM c	ant configuration d Upgrading t loes not guarantee express or implie	hanges, capacity cor he processor family i the results from this d. You are responsib	mparisons should be co is considered a signific s tool. This information le for the results obta	nsidered to have ant configuration is provided "as is ined from your us	a +/-5% margin change. ", without warran e of this tool.	-of-error. nty,								

7. First close the *Partition-Margin-of- Error* window. Then click <u>Commit</u> 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 4304.3 MIPS, which is more than the 4200 MIPS objective.

Host Capa	city Compa	rison													
	)											zPCR V6.3			
	LPAR Host Capacity Comparison Report Capacity by Partition Type Current: Loaded from Basic Mode Study I:\Task 1.zpcr Alt-1: Cloned from Current Capacity is based on a 2094-701 assumed at 585.39 MIPS for a 1-partition configuration System 210 processor capacity for z/OS is represented with HiperDispatch turned ON														
		#1	<u>Curr</u> 2094-S08/3	<u>ent</u> 700: GP=7			#2 🛕	Alt 2097-E12/6	<u>-1</u> 500: GP=8		Fi Capacity	ll (MIPS)			
Partition Type	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	3,500.0	6	8	11	1.375	4,304.3	+804.3	+23.0%			
ZAAP	0	0	0			0	0	0							
ZIIP	0	0	0			0	0	0							
ICE	0	0	0			0	0	0							
Total	6	7	21		3,500.0	6	8	11		4,304.3	+804.3	+23.0%			
Total       6       7       21       3,500.0       6       8       11       4,304.3       +804.3       +23.0%         Comparison Report by Partition       Show capacity as       Image: Comparison Report by Partition       Image: Comparison Report by Partition       Show capacity as         Minimum Capacity       Maximum Capacity       Single CP       Consider Margin-of-Error         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, express 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.
- From the menu bar on the *Advanced-Mode Control Panel* window click <u>File</u>→<u>Save as</u>, 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 4200 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

Note: Reload your 2097-608 saved study (end of task 6) before starting this analysis. Either drag it onto the **Alt-1** icon or you'll need to exit zPCR, then invoke zPCR, Select FILE, then Select LOAD, and select the file saved at the end of Task 6. This will take you to the **Advanced-Mode-Control-Panel**.

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.

- a) From the Advanced-Mode Control Panel window, double-click the Alt-1 icon.
- b) From the LPAR Host and Partition Configuration window, click Specify Host.
- c) From the *LPAR Host* window, change the host to include 1 IFL CP in addition to the current 8 General Purpose CPs and click <u>Return</u>.
- d) From the *LPAR Host and Partition Configuration* window, click <u>IFL</u> in the *Define Partitions* group box.
- e) 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"
- f) Set the SCP and Workload using the drop-down selection lists provided to "Linux" and "WASDB/L"
- g) Set the *Mode* to **DED** using the drop-down selection list provided.
- h) Set the LCPs using the drop-down selection list provided to "1".
- i) Click <u>Return</u>.
- j) From the LPAR Host and Partition Configuration window, click <u>Partition Detail</u> in the Capacity Reports group box to open the Partition Detail Report window, revealing the updated capacity picture.

k) From the *LPAR Detailed 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. 8 General Purpose CPs are still required to provide the necessary capacity for the z/OS partitions. We have increased the GP MIPS from 4304 to 4311, but only CICS-1 has met the 20% growth when considering the -5% margin of error.

Partitic	on Deta	il Report							5	1.1		• X	
Graph CP	calcula	ator											
	<b>1</b>	$\mathbf{O}$										zPCR V6.3	
	Partition Detail Report Based on LSPR Data for IBM System z Processors Study ID: Not specified #2 Alt-1 (Cloned from Current) z10-EC Host = 2097-E12/600 with 9 CPs: GP=8 IFL=1 6 Active Partitions: GP=5 IFL=1 Capacity is based on a 2094-701 assumed at 585.39 MIPS for a 1-partition configuration System z10 processor capacity for z (OS is represented with HiperDispetch turned ON												
System z10 processor capacity for z/OS is represented with HiperDispatch turned ON													
		_	Partition Id	entification			Parti	ition Con	figuration		Partition	Capacity	
Include	No.	Туре	Name	SCP	Workload	Mode	LCPs	Weight	Weight %	Capping	Minimum	Maximum	
	1	GP	Batch CICS-1	z/OS-1.9*	LOIO-MIX	SHR	2	250	10.0/%		1 695 5	1,106.3	
	3	GP	CICS-2	2/05-1.9	TM-Mix	SHR	1	100	11 11%		480.9	541.0	
	4	GP	CICS-3	z/05-1.9*	TD-Mix	SHR	1	100	11.11%		475.1	534.4	
	5	GP	IMS	z/OS-1.9*	TI-Mix	SHR	2	200	22.22%		932.9	1.049.6	
	_	GP	Test	Linux	WASDB/L	SHR	1	20					
	6	IFL	Test2	Linux	WASDB/L	DED	1	n/a			947.3	947.3	
							Capaci	ty Summ	ary by Pool				
Table \	/iew			_			CP Po	loc	RCPs Part	titions L	CPs Cap	acity	
Display		Pool	s				GP		8	5	10 4	,311.9	
All F	Partition	is 🔽	GP 📝 IFI	-			ZAAP		0	0	0	0.0	
ind Inc	ludes Or	nlv 🗖		F			ZIIP		0	0	0	0.0	
		., .					IFL		1	1	1	947.3	
			ZIIP				ICF	Tatala	0	0	0	0.0	
								Iotais	9	0	11 5	,259.2	
Host S	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, express or implied. You are responsible for the results obtained from your use of this tool.												
Note: 1 d	efined p	artitions	are excluded fr	om consideratio	on in the results								
Input fields	have w	hite back <u>o</u>	ground; Single-	dick a "selectio	n field" for drop-	down list;	Double	click a "ke	y-in field" to	open.			

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.

# Add a zAAP to the Configuration

Note: Reload your 2097-608 saved study (end of task 6) before starting this analysis. Either drag it onto the **Alternate** icon or Select FILE, then Select LOAD, and select the file saved at the end of Task 6.

**How might the addition of a zAAP change the capacity picture?** Assume partition #2 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.

- a) From the *Advanced-Mode Control Panel* window, double-click the Alternate icon.
- b) Click <u>Specify Host</u> and change the LPAR host to include 1 zAAP CPs in addition to the current 8 General Purpose CPs. <u>Click Return</u>
- c) Click <u>GP / zAAP</u> (*Define Partitions* group box) and enable 1 zAAP LCPs for partition #2 (CICS-1). (Note that zAAP LCPs can only be activated for partitions running z/OS-1.6 or higher). Close the zAAP and zIIP LCP notice. Then <u>Click</u> <u>Return</u>.

d) Click <u>Partition Detail</u> in the Capacity *Reports* group box, and review the capacity picture.

Partitio	on Deta	il Report						_	_					
Graph CF	Pcalcula	ator								-				
												-0.00 1/6 0		
	CSV											ZPCR V6.3		
	Partition Detail Report													
Based on LSPR Data for IBM System z Processors														
Study ID: Not specified														
#2 Alt-1 (Cloned from Current)														
z10-EC Host = 2097-E12/600 with 9 CPs: GP=8 zAAP=1														
7 Active Partitions: GP=6 zAAP=1														
Capacity is based on a 2094-701 assumed at 585.39 MIPS for a 1-partition configuration														
	Sys	stem z.	to process	or capacity	for z/US is	repres	senteo	I WITH F	iperusp	atch tui	med ON	-		
		-	Partition Id	entification	[		Part	ition Con	figuration		Partition	Capacity		
Include	No.	Туре	Name_	SCP	Workload	Mode	LCPs	Weight	Weight %	Capping	Minimum	Maximum		
	1	GP	Batch CICS-1	z/05-1.9*	LOIO-MIX TM-Mix	SHR	2	350	16.30%		/18.6	1,101.9		
	3	GP	CICS-1 CICS-2	z/05-1.9*	TM-Mix	SHR	1	100	10.87%		468.5	538.8		
	4	GP GP	CICS-3	z/OS-1.9*	TD-Mix	SHR	1	100	10.87%		462.8	532.3		
	5	GP	IMS	z/OS-1.9*	TI-Mix	SHR	2	200	21.74%		908.9	1,045.2		
	6	GP	Test	Linux	WASDB/L	SHR	1	20	2.17%	V	105.5	105.5		
	*2	zAAP	CICS-1	z/OS-1.9*	TM-Mix	SHR	1	350	100.00%		814.3	814.3		
							Canaci	tv Summ	ary by Pool					
Table \	View					1	CDD		DCDo Dor	titions L	CPa Car	acity 1		
Display		Pool	s				CPPC		g RCPS			1258 7		
	Partition						ZAAP		1	1	1	814.3		
				-			zIIP		0	0	0	0.0		
Inc 🔘	ludes O	nly 🔽	ZAAP	F			IFL		0	0	0	0.0		
			zIIP				ICF		0	0	0	0.0		
								Totals	9	7	12 5	,073.0		
Host S	Summary	y	Modify SCP/We	orkload										
	F	For signific	ant configurat	ion changes, ca	apacity compariso	ns should	be cons	idered to	have a +/-5° ation chance	% margin-o	of-error.			
		IBM	does not guara	intee the result	s from this tool. T	This inform	nation is	provided	"as is", witho	ut warrant	у,			
			express or i	mplied. You are	responsible for t	he result	s obtaine	d from yo	ur use of this	tool.				
Input fields	have w	hite backg	ground; Single	-click a "selectio	on field" for drop-	down list;	Double	click a "ke	y-in field" to	open.				

- e) With the additional zAAP CP configured, the total capacity available has increased well above our **4,200 MIPS** requirement, (5,073 Total with 4258.7 in GP). In this case, we could reduce the number of General Purpose CPs.
- f) Click <u>Return</u>
- g) Change the LPAR host configuration from 8 to 7 General Purpose CPs. Click <u>Return</u>
- h) Click <u>Partition Detail</u>. Note that more than adequate Total capacity remains. Click <u>Return</u> 2 times to get back to <u>Advanced-Mode Control Panel</u>
- i) Select both configurations and then click <u>Compare</u> icon on the *Advanced-Mode\_Control Panel* window.
- j) Click <u>Minimum Capacity</u>. Note that now most partitions are not seeing the required 20% capacity increase over the old 2094-707 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.
- k) Try reducing partition #2's weight from 350 to 170. Now all partitions except #2 see well over a 20% increase. Partition #2 originally needed 1,307 MIPS, and with 20% growth, it would need 1,568 MIPS. Since 50% of partition #2's workload can be offloaded to the zAAP LCPs, its General Purpose LCPs would only need 784 MIPS. Does the modified LPAR configuration satisfy partition #2's capacity requirement? Yes, since Partition #2 is now at 848.8.

📊 Part	ition Capacit	ty Comparison	B* 844 ***		-	August Mag	and Second	-		-	-	-						
G	C 🔜 🥑																	
	Partition Capacity Comparison Report Based on Partition Minimum Capacity Current: Loaded from Baset Mode Study I:\Task 1.zpcr Alt-1: Cloned from Current Capacity is based on a 2094-701 assumed at 585.39 MIPS for a 1-partition configuration System z10 processor capacity for z/OS is represented with HiperDispatch turned ON																	
	Partition Identification List of Al Included Partitions         #1 A 2094-508/700: GP=7         #2 A 2097-E12/600: GP=7 zAAP=1         Full Capacity (MIPS)																	
	With U	Jnique ID Metric	s		Par	tition De	finition		Minimum			Partiti	on Definitio	n		Minimum	Net	%
Туре	Name	SCP	Workload	LP#	Mode	LCPs	Weight%	Сар	Capacity	LP#	Mode	LCPs	Weight	Weight%	Сар	Capacity	Change	Delta
GP	Batch	z/OS-1.9*	LoIO-Mix	1	SHR	3	16.30%		587.0	1	SHR	2	150	20.27%		786.8	+199.8	+34.0%
GP	CICS-1	z/OS-1.9*	TM-Mix	2	SHR	7	38.04%		1,307.8	2	SHR	4	170	22.97%		848.8	-459.0	-35.1%
GP	CICS-2	2/05-1.9*	TD Mix	3	CLID	2	10.07%		287.2	2	CLID	1	100	12 51%		513.5	+12/.2	+32.9%
GP	TMS	2/05-1.9*	TLMix	5	SHD	4	21 74%		752.7	5	SHD	2	200	27.03%		997.5	+244.8	+32.5%
GP	Test	Linux	WASDB/	6	SHR	2	2.17%	~	79.0	6	SHR	1	200	2,70%		115.4	+36.4	+46.1%
ZAAP	CICS-1	z/05-1.9*	TM-Mix	Ŭ	Unit	-	2.2770	•	15.0	*2	SHR	1	170	100.00%		814.4	150.4	140.270
	Change Controls           Commit         Undo         Optimize SHR LCPs         Consider Margin-of-Error																	
				For signi IBN	ficant con l 1 does not expre	figuration Jpgrading guarante ss or impli	changes, capa the processor e the results f ed. You are re	family is form this sponsible	parisons sho considered a tool. This info for the resu	uld be co significa ormation Ilts obtair	nsidered t nt configu is provide ned from y	o have a + ration cha d "as is", w vour use of	-/-5% margi nge. ithout warra this tool.	n-of-error. anty,				
Input fie	ds have white	e background; S	Single-click a "sele	ection field	d" for drop	o-down list	; Double click	a "key-in	field" to ope	n.								

 Click <u>Consider Margin-of-Error.</u> We also want to validate that all of the partition 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 806.3 MIPS, still above the needed 784 MIPS requirement.

Partition	Margin-of-Error		(internet)			Tak Law								
0								zPCR V6.3						
	Margin-of-Error Consideration													
	Partition Minimum Capacity													
	Current: Loaded from Basic Mode Study I:\Task 1.zpcr													
Alt-1: Cloned from Current														
	Capacity is based on a 2094-701 assumed at 585.39 MIPS for a 1-partition configuration System 210 processor capacity for 2/OS is represented with HinerDispatch turned ON													
	3930	an 210 process		os is represente	u with hipert									
	Partition	Identification		#1 <u>2</u> Current		#2 🔼	Alt-1							
	1			Projected	Projected		Projected n	ninus 5%						
Туре	Name	SCP	Workload	Capacity	Capacity	% Delta	Capacity	% Delta						
GP	Batch	z/OS-1.9*	LoIO-Mix	587.0	786.8	+34.0%	747.5	+27.3%						
GP	CICS-1	z/OS-1.9*	TM-Mix	1,307.8	848.8	-35.1%	806.3	-38.3%						
GP	CICS-2	z/OS-1.9*	TM-Mix	386.3	513.5	+32.9%	487.8	+26.3%						
GP	CICS-3	z/OS-1.9*	TD-Mix	387.3	507.6	+31.1%	482.2	+24.5%						
GP	IMS	z/OS-1.9*	TI-Mix	752.7	997.5	+32.5%	947.6	+25.9%						
GP	Test	Linux	WASDB/L	79.0	115.4	+46.1%	109.6	+38.7%						
ZAAP	CICS-1	z/OS-1.9*	TM-Mix		814.4		773.7							
	For signific	ant configuration o	hanges, capacity con	nparisons should be co	nsidered to have	a +/-5% margin	-of-error.							
		Upgrading	the processor family i	s considered a significa	ant configuration	change.								
	IBM o	does not guarante	e the results from this	tool. This information	is provided "as is	", without warra	nty,							
		express or implie	ea, rou are responsib	ie for the results obtai	nea from your us	e of this tool.								

m) Finally, go back and <u>Optimize SHR LCPs</u> since we have changed the weight assigned to Partition # 2. Does the over all capacity increase? Yes from 4354.7 to 4391. All partitions increase, except for CICS-1, at from 806.3 MIPS to 794.7 but it is still greater than 784 MIPS requirement. We have now met all objectives.

Partition	Margin-of-Error			Corner on										
3								zPCR V6.3						
	Margin-of-Error Consideration													
	Partition Minimum Capacity													
	Current: Loaded from Basic Mode Study 11Task 1.zpcr													
	Alt-1: Cloned from Current													
	Capacity is based on a 2094-701 assumed at 585.39 MIPS for a 1-partition configuration													
	Syste	em z10 processo	or capacity for z	/OS is represente	d with HiperD	ispatch turne	ed ON							
	Partition	Identification		#1 🛕 Current		#2 🔁	Alt-1							
	Farcicon			Projected	Proje	cted	Projected r	ninus 5%						
Туре	Name	SCP	Workload	Capacity	Capacity	% Delta	Capacity	% Delta						
GP	Batch	z/OS-1.9*	LoIO-Mix	587.0	789.7	+34.5%	750.2	+27.8%						
GP	CICS-1	z/OS-1.9*	TM-Mix	1,307.8	836.5	-36.0%	794.7	-39.2%						
GP	CICS-2	z/OS-1.9*	TM-Mix	386.3	515.4	+33.4%	489.6	+26.7%						
GP	CICS-3	z/OS-1.9*	TD-Mix	387.3	509.5	+31.6%	484.0	+25.0%						
GP	IMS	z/OS-1.9*	TI-Mix	752.7	1,001.3	+33.0%	951.2	+26.4%						
GP	Test	Linux	WASDB/L	79.0	115.8	+46.6%	110.0	+39.2%						
ZAAP	CICS-1	z/OS-1.9*	TM-Mix		854.0		811.3							
	For signific	ant configuration d	hanges, capacity cor	mparisons should be co	nsidered to have	a +/-5% margin	-of-error.							
		Upgrading t	he processor family i	s considered a significa	ant configuration	change.								
	IBM	does not guarantee	the results from this	s tool. This information	is provided "as is	", without warra	nty,							
		express or implie	d. You are responsib	ie for the results obtai	nea from your us	e of this tool.								