zPCR Capacity Sizing Lab

SHARE Sessions 7774 and 7785

August 4, 2010

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Materials created by John Fitch and Jim Shaw

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System x*
System z
System z9*
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zPCR Capacity Sizing Labs

- **Part 1 - Intro and Overview**
  - zPCR Introduction with C V6.3c
  - Includes Advanced Mode Update
  - What's new in zPCR V7.1
- **Part 2 – Hands-on Lab**
  - 1 Exercise to demonstrate the use of Advanced Mode functions in zPCR
    - 6 Tasks
    - 2 optional specialty engine considerations
  - Use as a refresher

zPCR Capacity Sizing Lab – Part 1 Intro and Overview

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Agenda

- **Introducing zPCR**
- **LSPR Background**
- **MIPS Tables Vs. zPCR LPAR Configuration Capacity Planning**
- **zPCR Basic Mode**
- **zPCR Advanced Mode**
- **Update on zPCR C V7.1**
- **Where to get more Information**
- **Summary**

Introducing zPCR

- **Provides capacity relationships for System z processors, considering**
  - LPAR configuration
  - SCP/workload environment
  - Use of specialty CPs (zAAP, zIIP, IFL, and ICF)
- **Based on IBM Large Systems Performance Reference (LSPR)**
- **The IBM tool to properly size mainframe upgrades**
  - Expected accuracy of ±5%
- **A PC based tool written in Java for Windows XP/Vista/7**
  - Available to customers since 10/2005
  - "As Is", free tool available from the web
- **New Processor Announcements available in zPCR for:**
  - IBM Account Teams - at Announcement
  - Customers - generally within 30 days after Announcement
    - Planned for the week of August 16th for C V7.1 (zEnterprise 196)

Introduction to LSPR

- **A set of representative SCP/workload environments**
  - SCPs: z/OS, z/VM, and Linux on System z
  - Workloads: Batch ←→ Online
  - Current LSPR workloads: ODE-B, CB-L, WASDB, OLTP-T and OLTP-W
- **A methodology focused on processor capacity**
  - No significant external constraints
  - Equivalent (reasonably high, e.g. >= 90%) processor utilization
- **A metric to communicate the results**
  - ITR: Internal Throughput Rate
  - Transactions or Jobs per processor busy second
- **Information stored on the web**
  - http://www.ibm.com/servers/eserver/zseries/lspr/

LSPR Data

- LSPR data is built from a set of benchmarks running representative workloads
- Over time, LSPR benchmarks are changed to reflect changes in processor architecture, operating system capabilities, and new patterns for production workloads
- Cannot directly compare relative processor capacity across different versions of LSPR benchmarks

LSPR Tables

- Multi-image (MI) Processor Capacity Ratio table
  - Median complex LPAR configuration for each model based on customer profiles
  - Most representative for vast majority of customers
  - Same workload assumed in every partition
  - z/OS only
  - Used for “high level” sizing
  - Used to develop the MSU rating
- Single-image (SI) Processor Capacity Ratio table
  - One z/OS partition equal in size to N-way of model (limit to max CPs supported by SCP version)
  - Representative for truly single image z/OS cases
  - Used as the base for zPCR LPAR Configuration Capacity Planning

MIPS Tables Vs zPCR

- **MIPS Tables**
  - Adequate for Business Planning
    - High level sizing for hardware and software budget planning
    - Based on “averages”
  - Must be referenced to a specific set of LSPR benchmarks or invalid
- **zPCR Sizing - LPAR Configuration Capacity Planning**
  - Detailed Capacity Sizing based on:
    - Specific LPAR configuration (number, weights, and logical processors)
    - Specific SCP/workload mix
    - Specific use of specialty engines (zAAP, zIIP, IFL, and ICF)
  - Built around concept of a Reference CPU

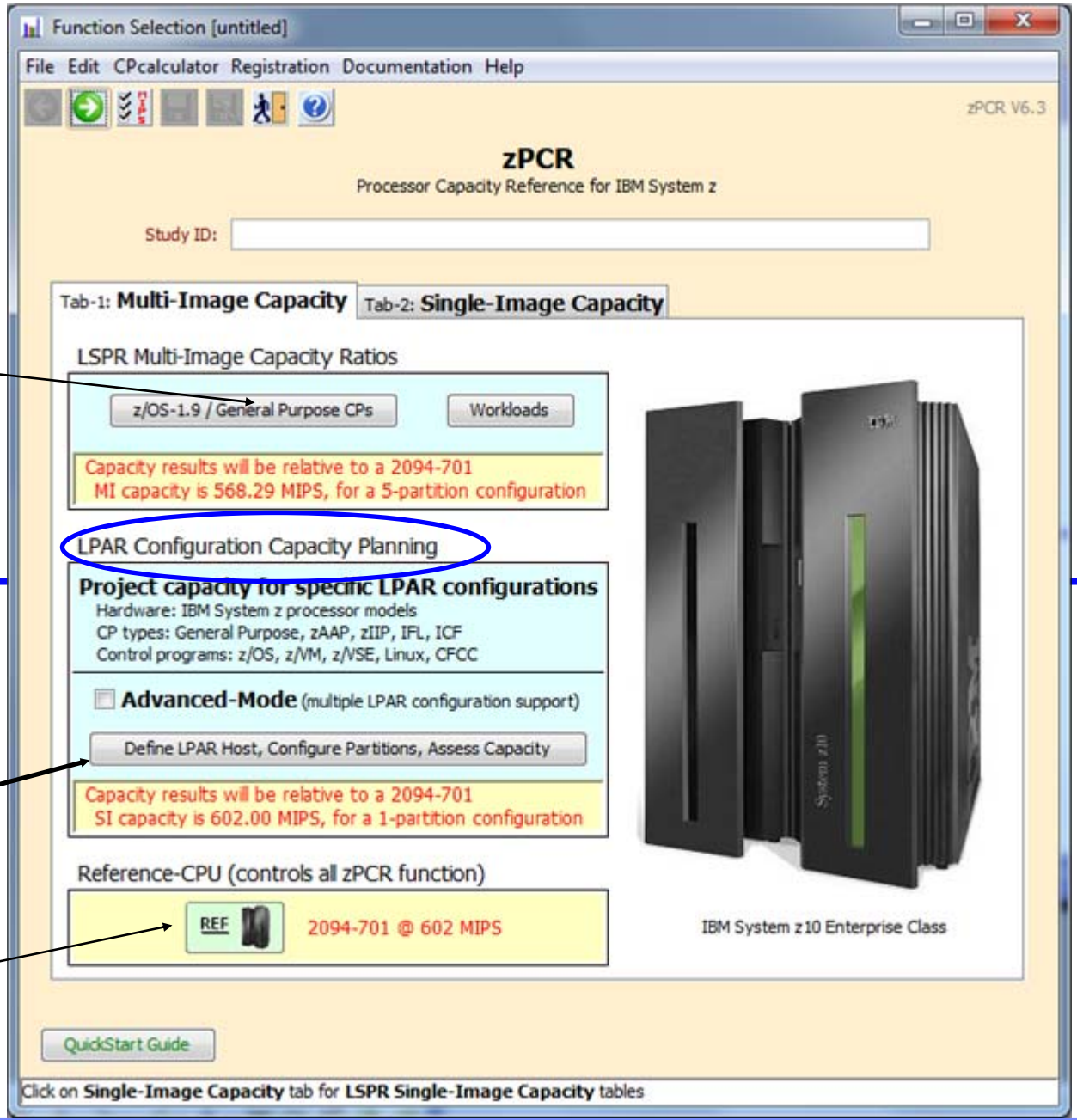
zPCR 6.3c "Basic Mode" Capacity Sizing Tool

MIPS Table

LSPR Multi-Image

zPCR LPAR Configuration Capacity Planning

Built on LSPR Single-Image MIPS Table

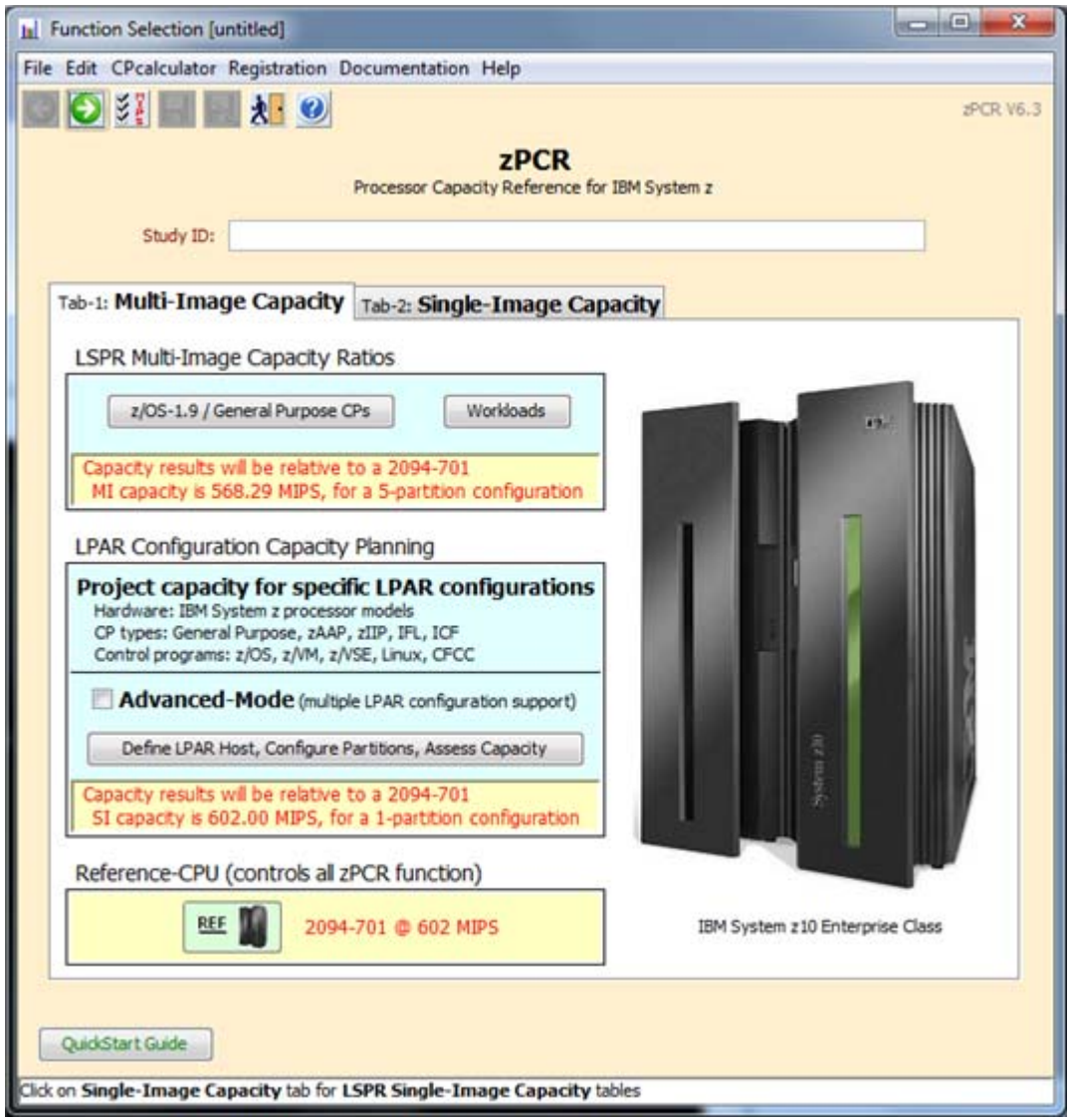


zPCR V6.3c Basic Mode …

- Operates on 1 LPAR configuration at a time.
- Operates the same as previous releases of zPCR
  - **v5.4 and before**
- All files created with zPCR 5.4 and before are “Basic Mode”.
- All files created with zPCR 6.x in “Basic Mode” are “Basic Mode”

Introducing zPCR C V6.3c – Advanced Mode

Available for Customers since May 19, 2010



zPCR Advanced Mode

- **Provides Capacity Comparisons between 2 LPAR configurations**
  - The "Current" Vs "Alternate" (Alt-1, Alt-2, Alt-3, Alt-4)
  - More efficient than running zPCR multiple times and manually comparing the results
  - Ability to drag & drop RMF partition reports and zPCR files onto "Current" & "Alternate"
- **Is recommended when comparing capacity changes that include:**
  - Changing the LPAR host processor family
  - Changing the LPAR host processor's CP configuration
  - Changing the way that one or more partitions are defined, (e.g. weights, LCPs, SEs)
  - Adding one or more new partitions
  - Deleting one or more current partitions.
- **For Capacity Comparisons to be useful, configurations being compared should both contain some or all of the same partitions**
  - (i.e., in terms of partition type, name, SCP, and workload).

Summary of Advanced Mode function

- **Multiple LPAR configurations (currently limited to five) can be defined**

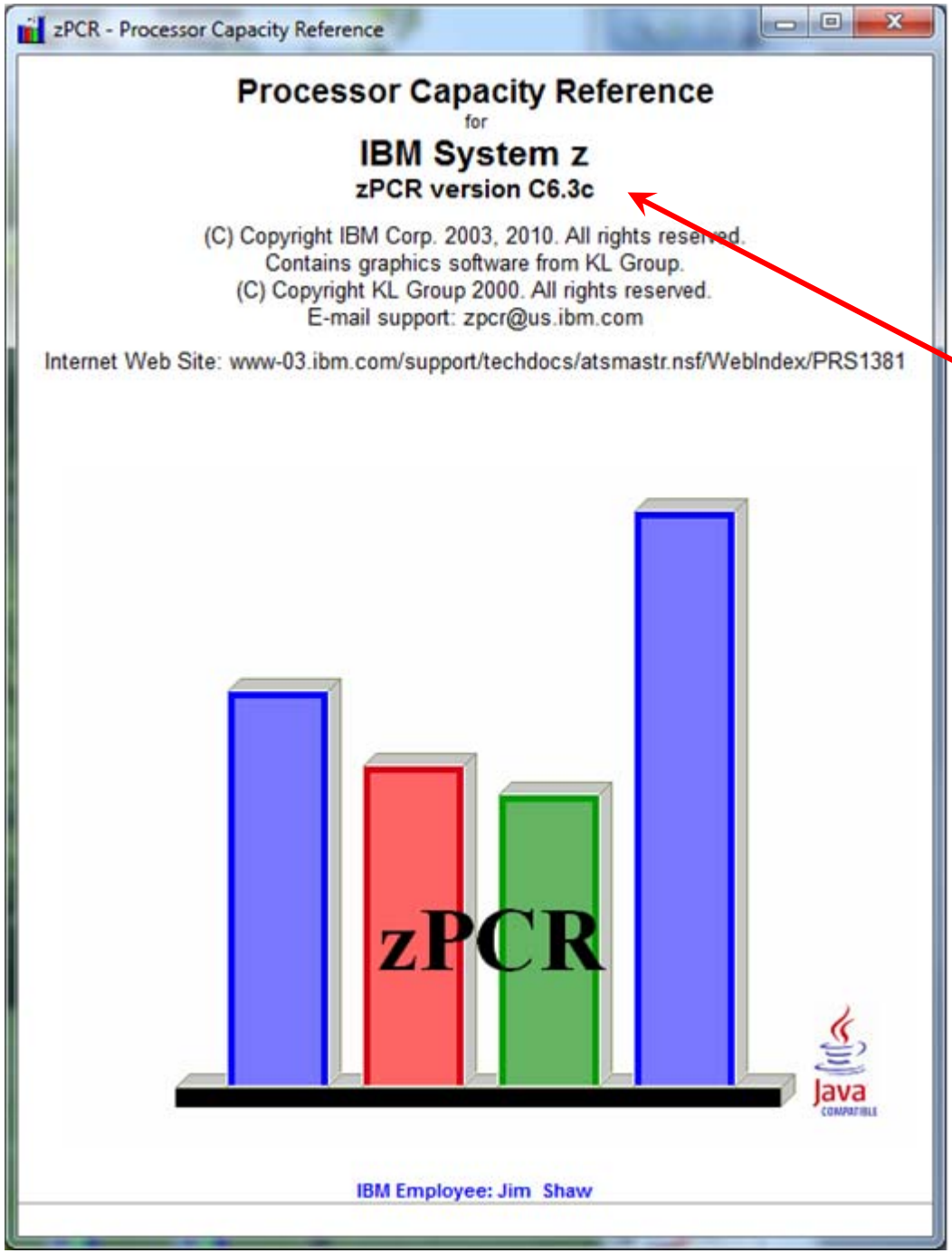
- **Several additional windows and functions are available**
  - *LPAR Host / Partition Comparison Reports*- To compare capacity results between LPAR configurations
  - *Margin of Error Consideration* - To show the effect on capacity when ±5% margin-of-error is applied
  - *Optimize SHR LCPs* – To optimize LCPs
  - *LPAR Host Capacity Summary* – To show summary of MIPS by pool type for Current and all Alternates

- **All capacity values are based on a single Reference-CPU setting**
  - The MI and SI tables will be viewed using Reference-CPU settings that are consistent between them
  - The MI Reference-CPU setting is based on the Reference-CPU setting as specified in the LSPR FAQ
  - 1-way processors only

- **The Reference-CPU can be calibrated for the first LPAR configuration only to produce a desired capacity result**

- **The Workloads window, used to customize the MI table view, must be accessed from either of the LSPR Processor Capacity Ratios tables,**
  - since the Function Selection window is no longer accessible

zPCR Logo Window



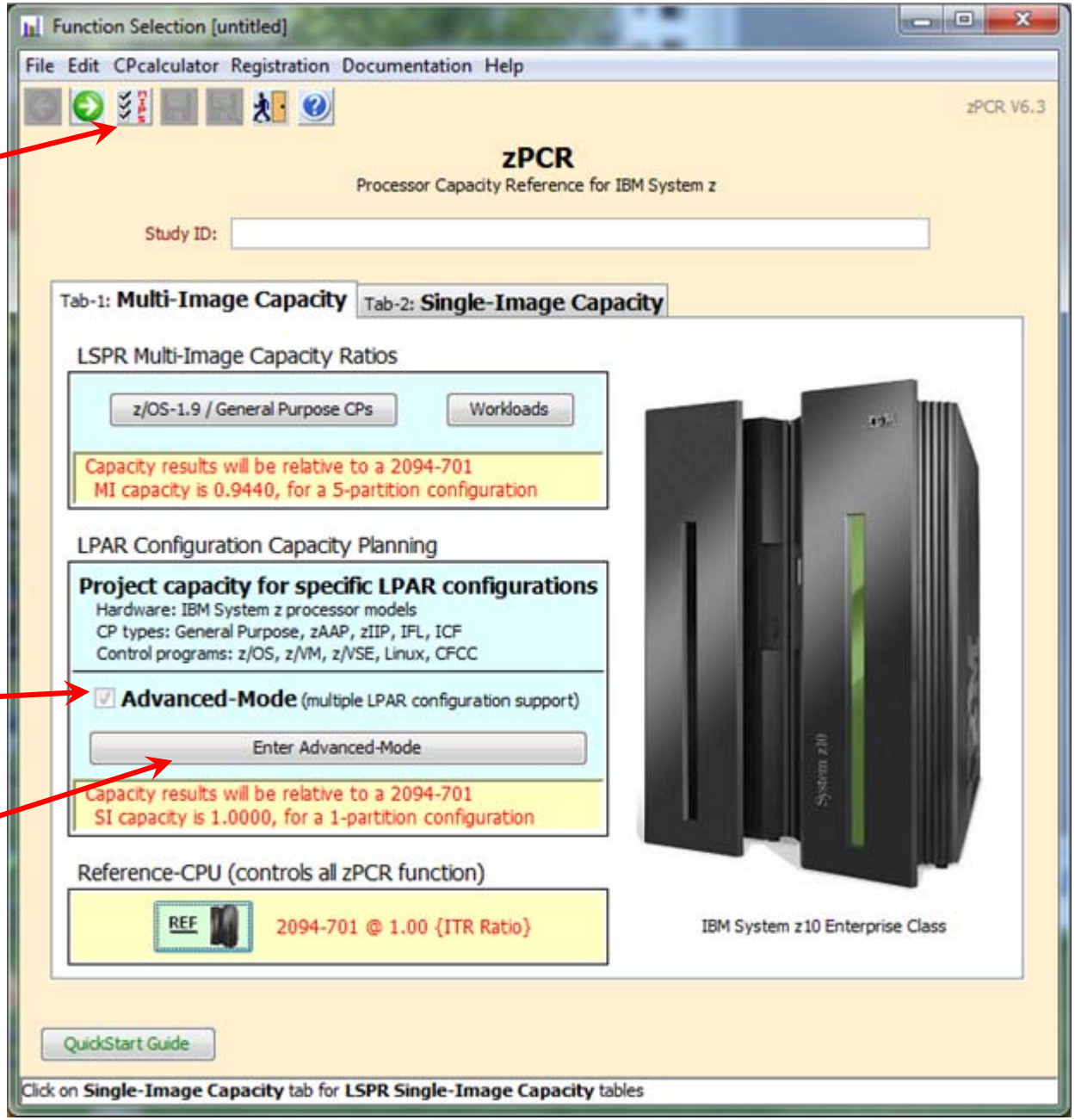
Version Identification

zPCR Function Selection Window

Set “Startup” preferences

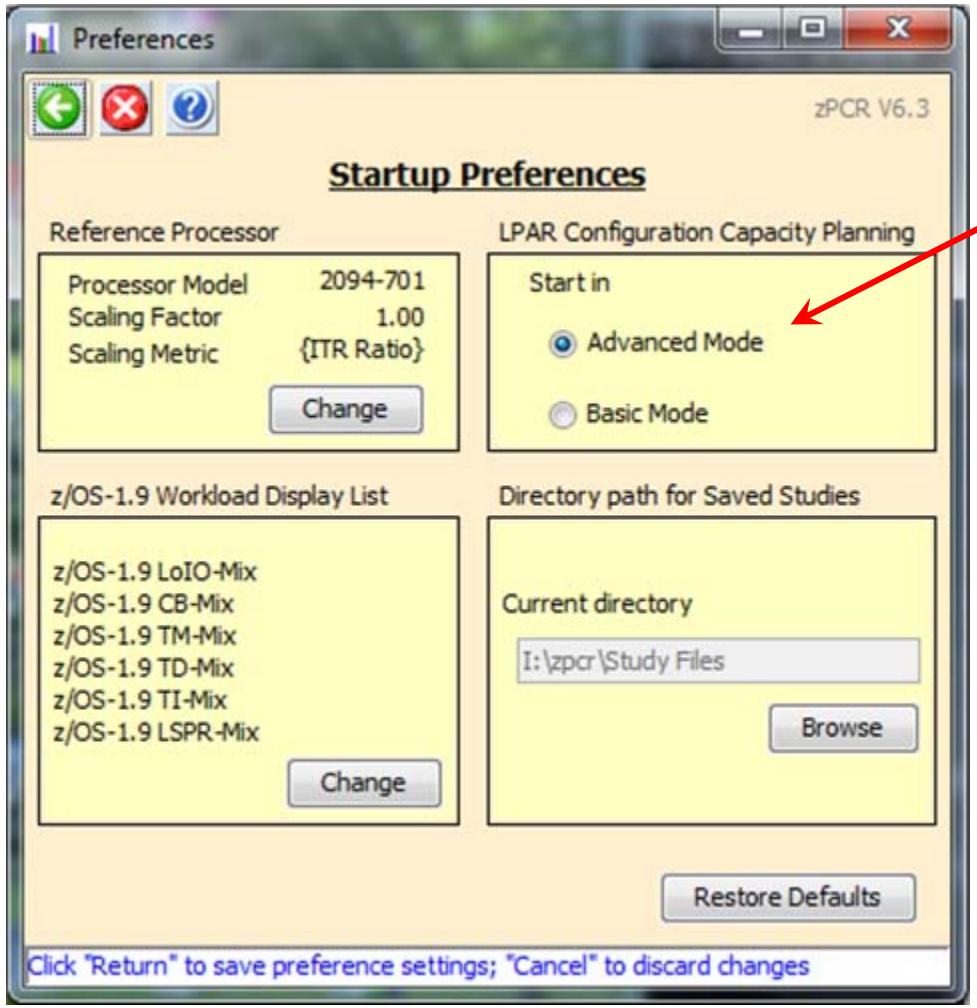
Select “Advanced-Mode” check box

Press **Enter Advanced-Mode**

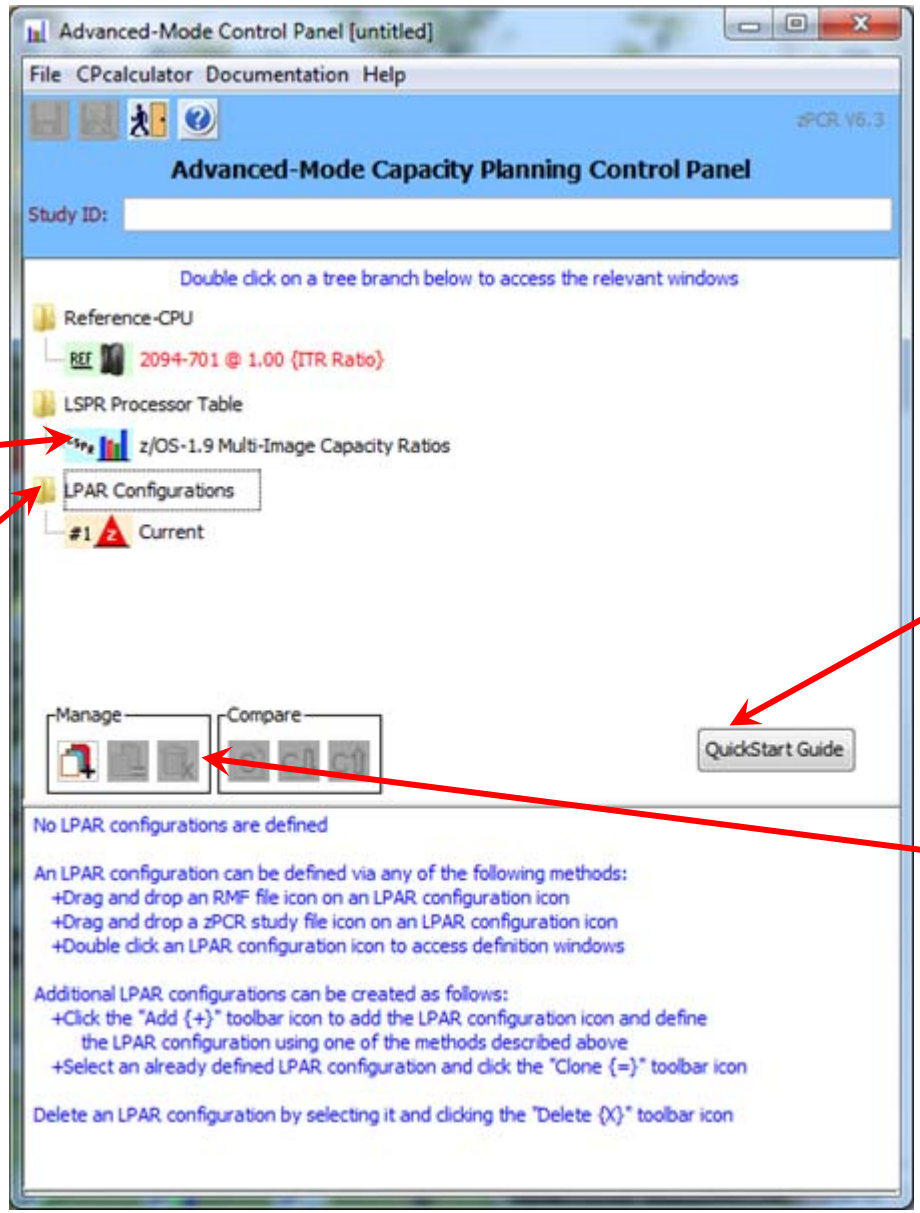


zPCR Startup Preferences

Set “Advanced Mode” as the default when starting zPCR



zPCR Advanced-Mode Capacity Planning Control Panel



View Muli-Image LSPR table

View "QuickStart" Guide

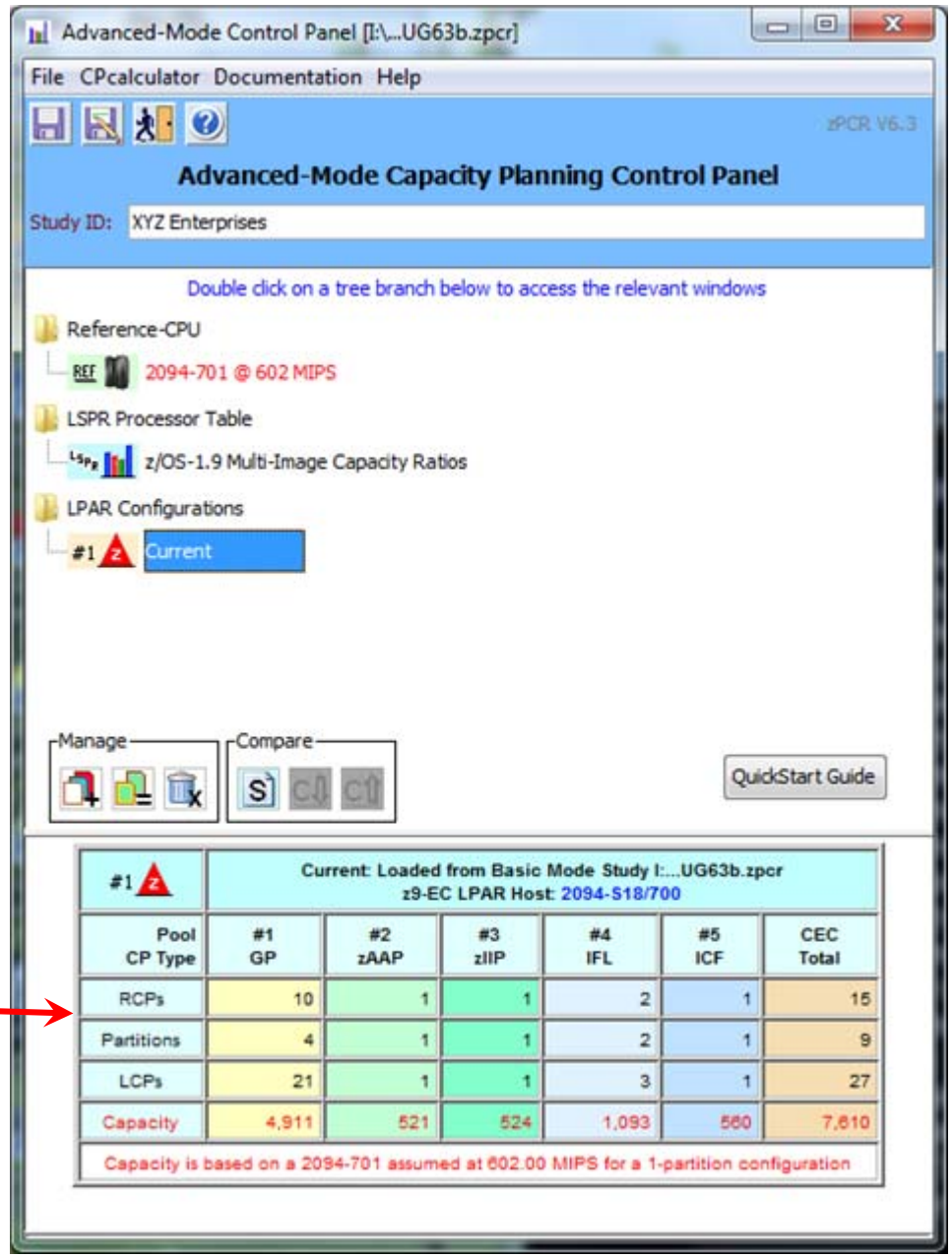
LPAR Configuration Planning

Manage Multiple Configurations

You may drag and drop zPCR study files or RMF reports onto the LPAR Configurations planning area or use the file drop down to load zPCR study files.

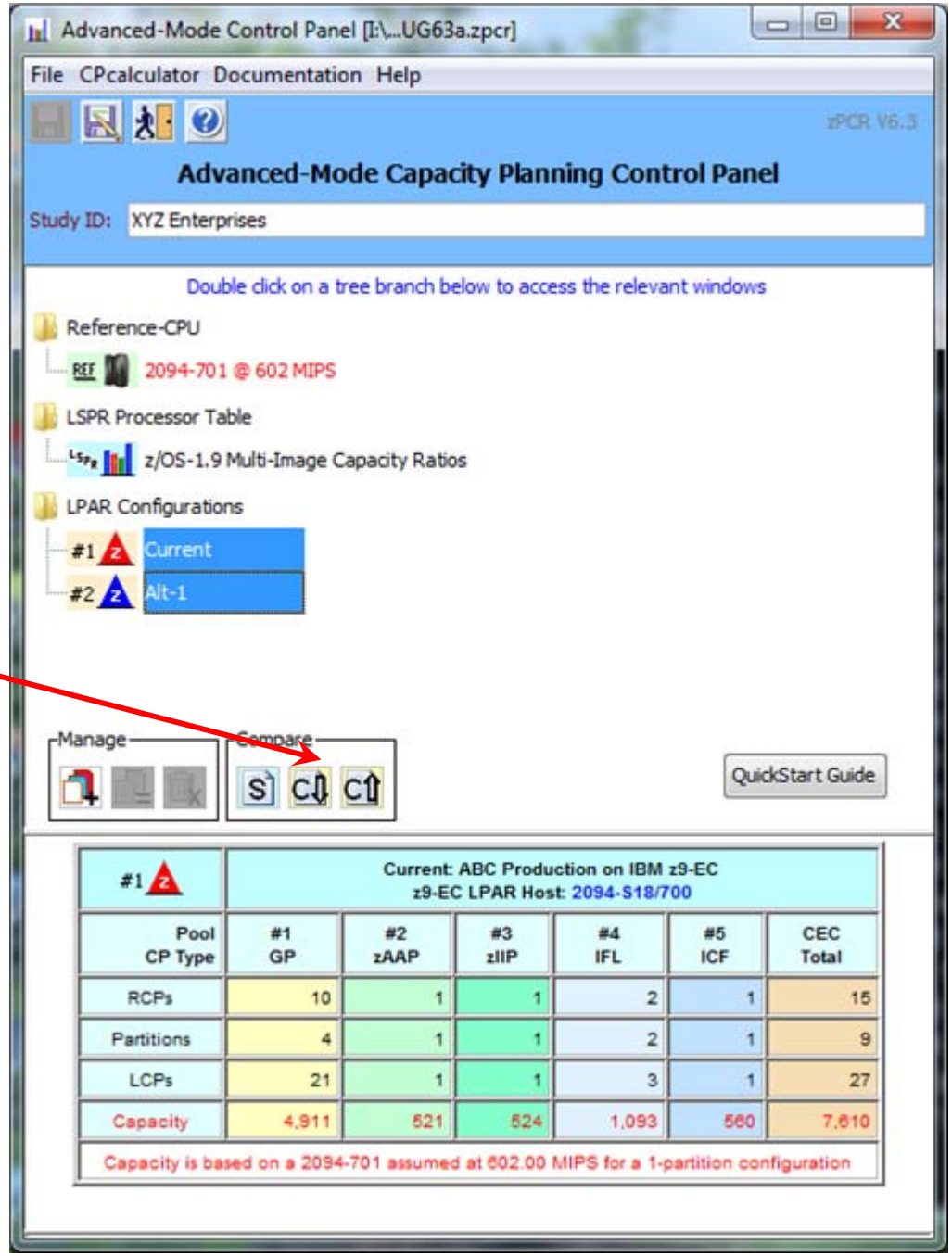
zPCR Advanced-Mode Capacity Planning Control Panel

Configuration Summary

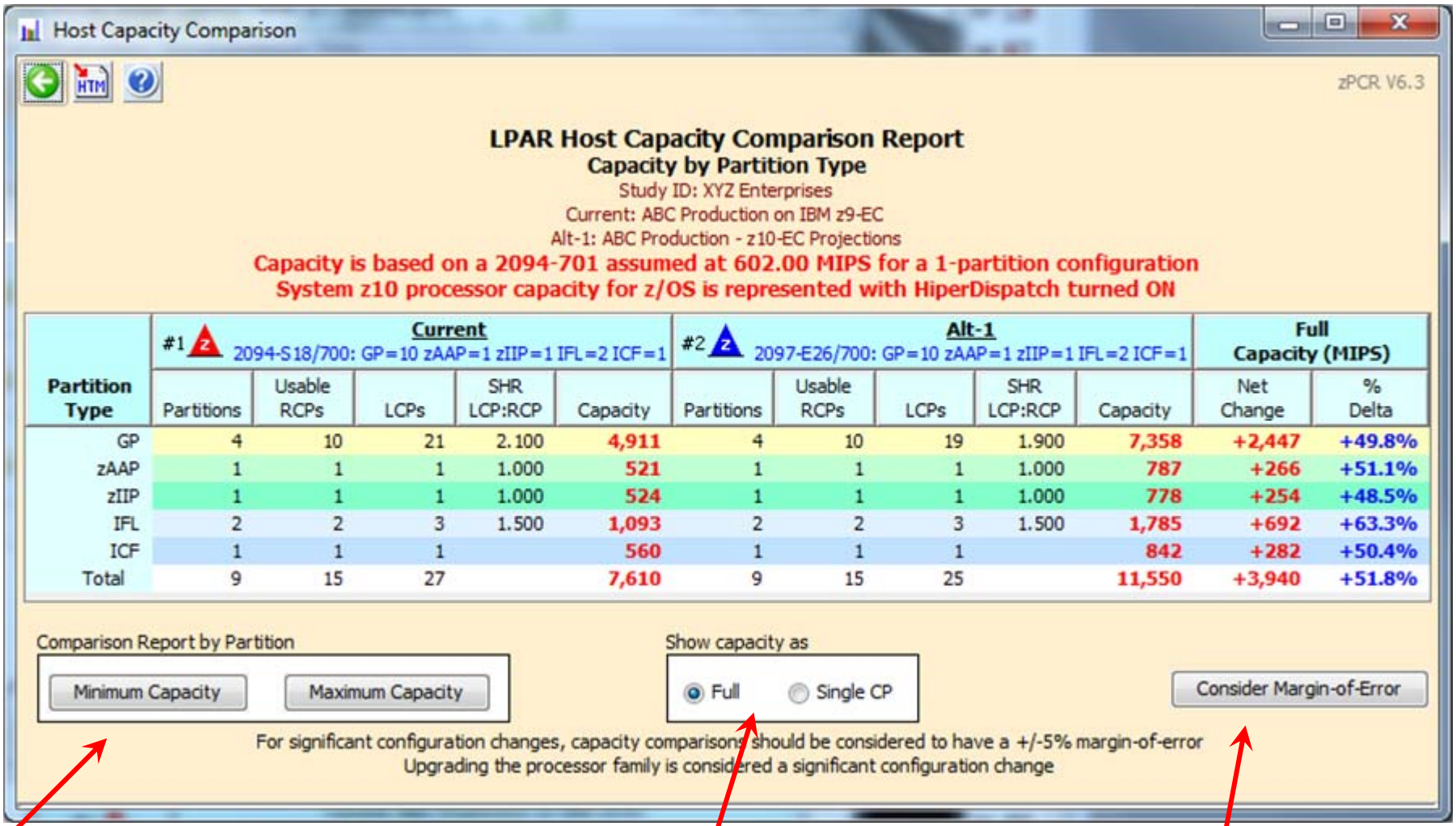


zPCR Advanced-Mode Capacity Planning Control Panel

Comparison Report



Host Capacity Comparison Report



Host Capacity Comparison

zPCR V6.3

LPAR Host Capacity Comparison Report
Capacity by Partition Type
Study ID: XYZ Enterprises
Current: ABC Production on IBM z9-EC
Alt-1: ABC Production - z10-EC Projections
Capacity is based on a 2094-701 assumed at 602.00 MIPS for a 1-partition configuration
System z10 processor capacity for z/OS is represented with HiperDispatch turned ON

Partition Type	#1 Current 2094-S18/700: GP=10 zAAP=1 zIIP=1 IFL=2 ICF=1					#2 Alt-1 2097-E26/700: GP=10 zAAP=1 zIIP=1 IFL=2 ICF=1					Full Capacity (MIPS)	
	Partitions	Usable RCPs	LCPs	SHR LCP:RCP	Capacity	Partitions	Usable RCPs	LCPs	SHR LCP:RCP	Capacity	Net Change	% Delta
GP	4	10	21	2.100	4,911	4	10	19	1.900	7,358	+2,447	+49.8%
zAAP	1	1	1	1.000	521	1	1	1	1.000	787	+266	+51.1%
zIIP	1	1	1	1.000	524	1	1	1	1.000	778	+254	+48.5%
IFL	2	2	3	1.500	1,093	2	2	3	1.500	1,785	+692	+63.3%
ICF	1	1	1		560	1	1	1		842	+282	+50.4%
Total	9	15	27		7,610	9	15	25		11,550	+3,940	+51.8%

Comparison Report by Partition: Minimum Capacity | Maximum Capacity

Show capacity as: Full | Single CP

Consider Margin-of-Error

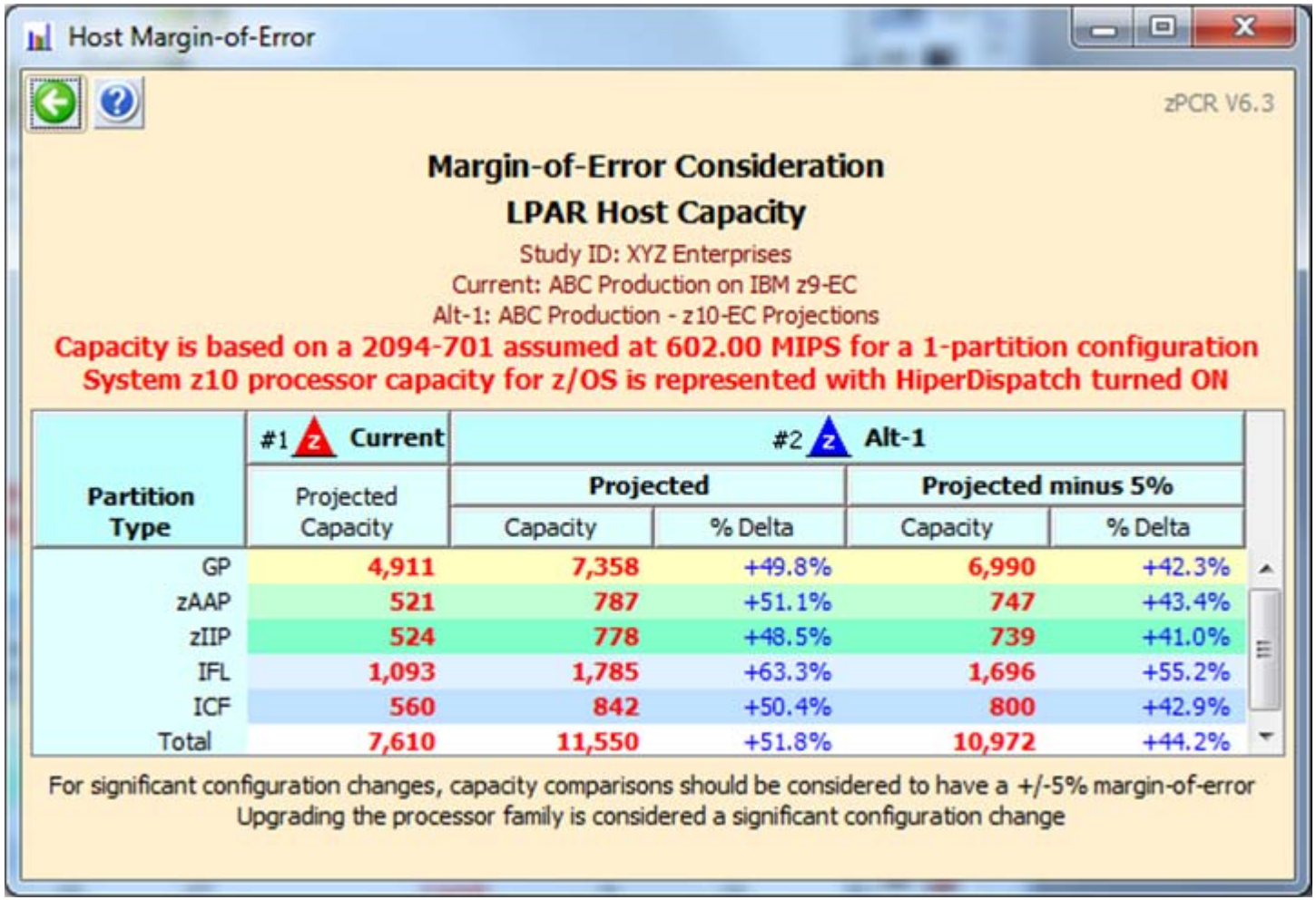
For significant configuration changes, capacity comparisons should be considered to have a +/-5% margin-of-error
Upgrading the processor family is considered a significant configuration change

Comparison Report by Partition

Show **Full** or **Single-CP** capacity

Margin-of-Error

Margin-of-Error Report



Host Margin-of-Error

zPCR V6.3

Margin-of-Error Consideration

LPAR Host Capacity

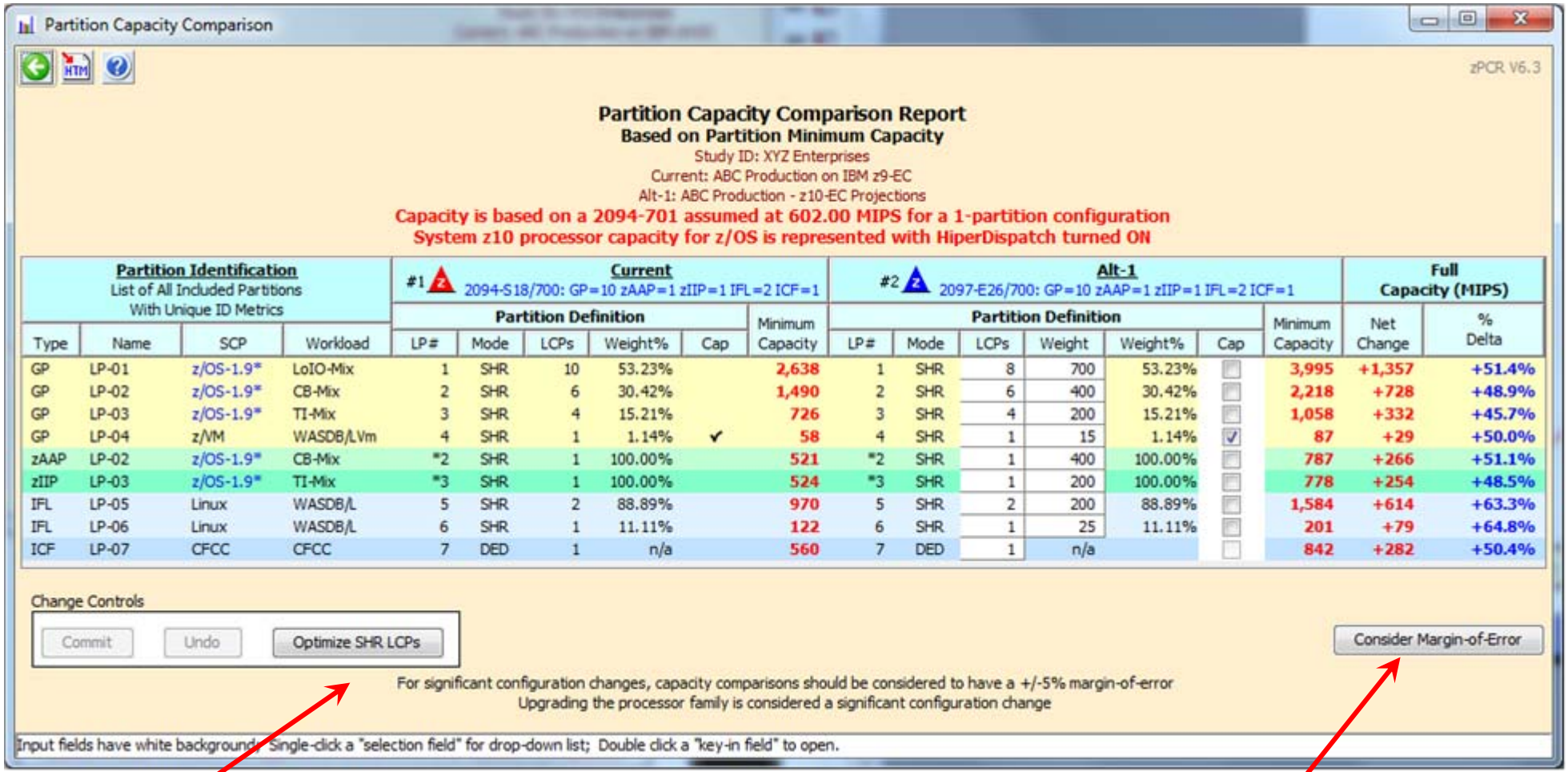
Study ID: XYZ Enterprises
Current: ABC Production on IBM z9-EC
Alt-1: ABC Production - z10-EC Projections

Capacity is based on a 2094-701 assumed at 602.00 MIPS for a 1-partition configuration
System z10 processor capacity for z/OS is represented with HiperDispatch turned ON

Partition Type	#1 Current	#2 Alt-1			
	Projected Capacity	Projected		Projected minus 5%	
		Capacity	% Delta	Capacity	% Delta
GP	4,911	7,358	+49.8%	6,990	+42.3%
zAAP	521	787	+51.1%	747	+43.4%
zIIP	524	778	+48.5%	739	+41.0%
IFL	1,093	1,785	+63.3%	1,696	+55.2%
ICF	560	842	+50.4%	800	+42.9%
Total	7,610	11,550	+51.8%	10,972	+44.2%

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

Partition Capacity Comparison Report



Partition Capacity Comparison

zPCR V6.3

Partition Capacity Comparison Report
Based on Partition Minimum Capacity
Study ID: XYZ Enterprises
Current: ABC Production on IBM z9-EC
Alt-1: ABC Production - z10-EC Projections
Capacity is based on a 2094-701 assumed at 602.00 MIPS for a 1-partition configuration
System z10 processor capacity for z/OS is represented with HiperDispatch turned ON

Partition Identification (List of All Included Partitions With Unique ID Metrics)				#1 Current: 2094-S18/700: GP=10 zAAP=1 zIIP=1 IFL=2 ICF=1						#2 Alt-1: 2097-E26/700: GP=10 zAAP=1 zIIP=1 IFL=2 ICF=1						Full Capacity (MIPS)	
				Partition Definition					Minimum	Partition Definition						Minimum	Net	%
Type	Name	SCP	Workload	LP#	Mode	LCPs	Weight%	Cap	Capacity	LP#	Mode	LCPs	Weight	Weight%	Cap	Capacity	Change	Delta
GP	LP-01	z/OS-1.9*	LoIO-Mix	1	SHR	10	53.23%		2,638	1	SHR	8	700	53.23%	☐	3,995	+1,357	+51.4%
GP	LP-02	z/OS-1.9*	CB-Mix	2	SHR	6	30.42%		1,490	2	SHR	6	400	30.42%	☐	2,218	+728	+48.9%
GP	LP-03	z/OS-1.9*	TI-Mix	3	SHR	4	15.21%		726	3	SHR	4	200	15.21%	☐	1,058	+332	+45.7%
GP	LP-04	z/VM	WASDB/LVm	4	SHR	1	1.14%	✔	58	4	SHR	1	15	1.14%	☑	87	+29	+50.0%
zAAP	LP-02	z/OS-1.9*	CB-Mix	*2	SHR	1	100.00%		521	*2	SHR	1	400	100.00%	☐	787	+266	+51.1%
zIIP	LP-03	z/OS-1.9*	TI-Mix	*3	SHR	1	100.00%		524	*3	SHR	1	200	100.00%	☐	778	+254	+48.5%
IFL	LP-05	Linux	WASDB/L	5	SHR	2	88.89%		970	5	SHR	2	200	88.89%	☐	1,584	+614	+63.3%
IFL	LP-06	Linux	WASDB/L	6	SHR	1	11.11%		122	6	SHR	1	25	11.11%	☐	201	+79	+64.8%
ICF	LP-07	CFCC	CFCC	7	DED	1	n/a		560	7	DED	1	n/a		☐	842	+282	+50.4%

Change Controls

Commit | Undo | Optimize SHR LCPs

Consider Margin-of-Error

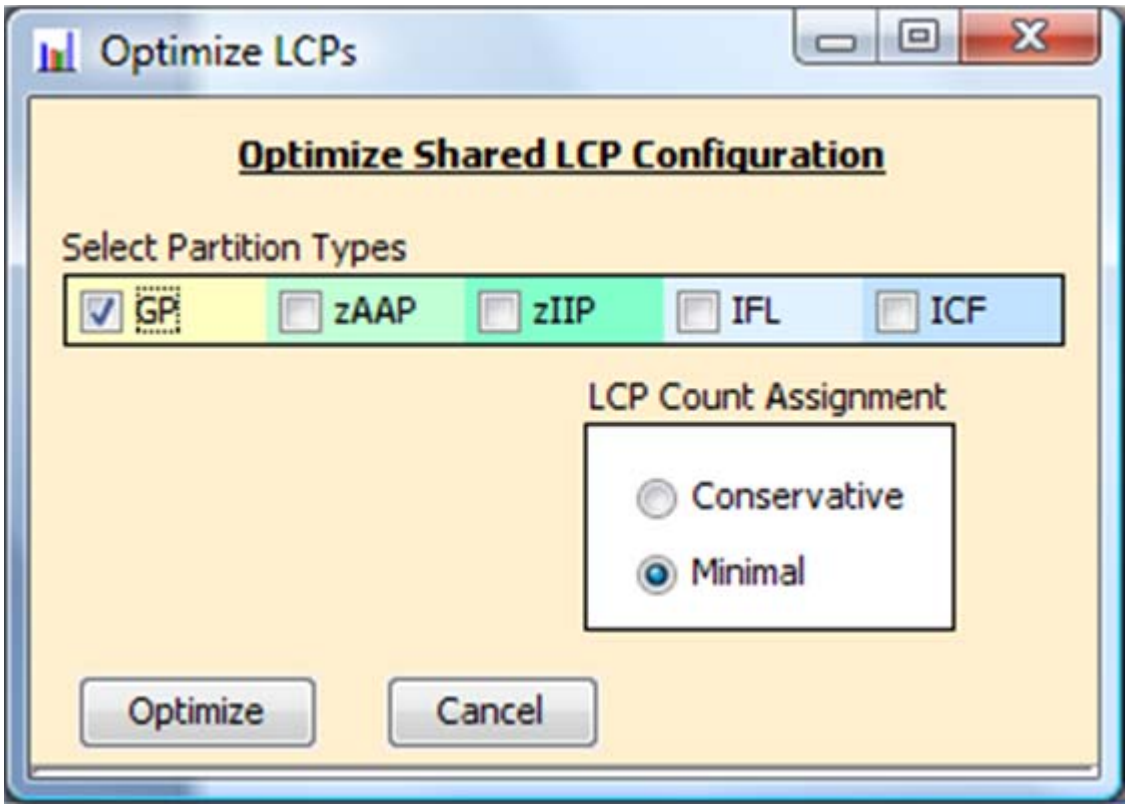
For significant configuration changes, capacity comparisons should be considered to have a +/-5% margin-of-error
Upgrading the processor family is considered a significant configuration change

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

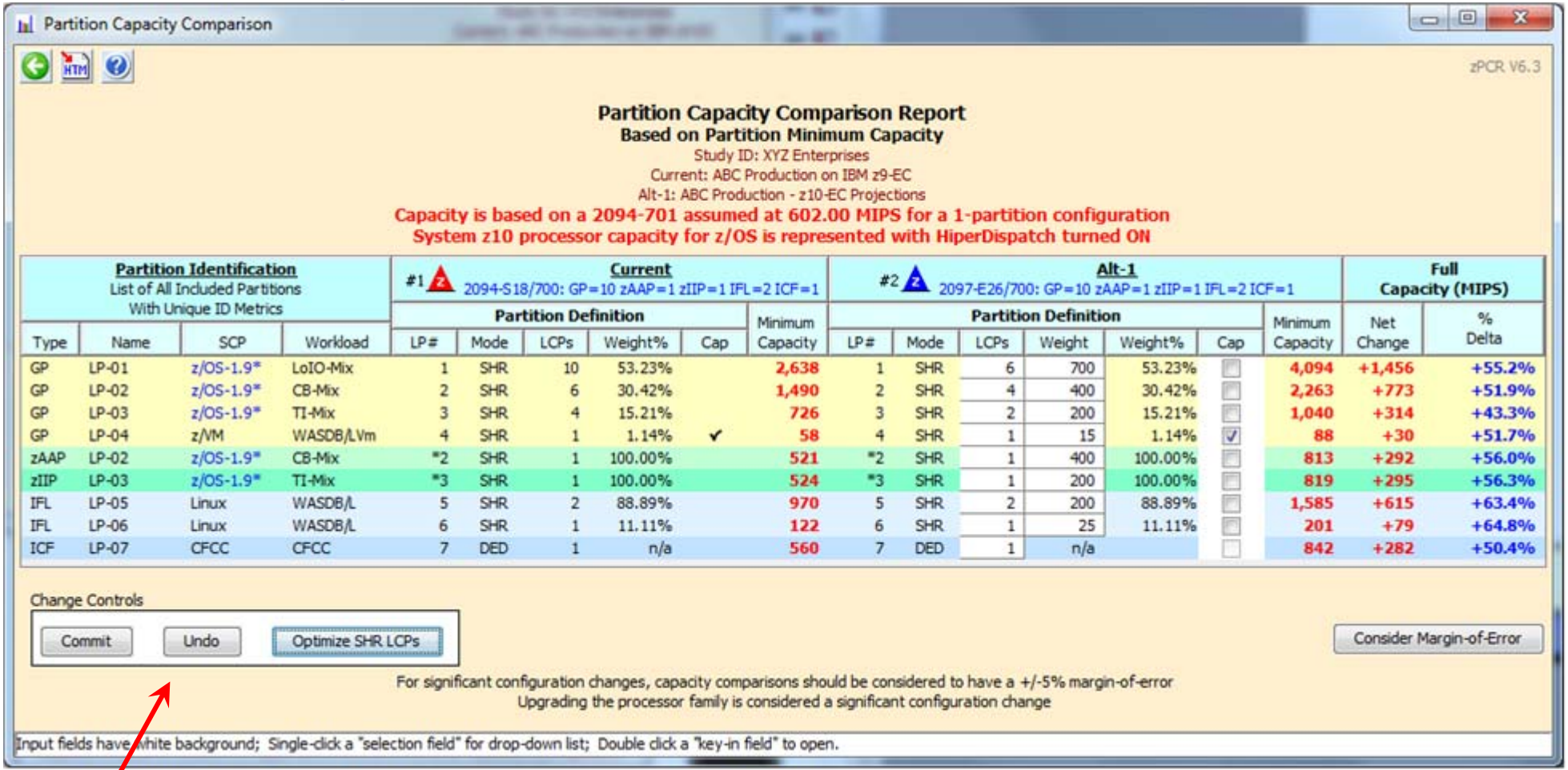
"Optimize" SHR LCPs

Margin-of-Error

Optimize Share LCP Configuration



Commit the Changes



Partition Capacity Comparison

zPCR V6.3

Partition Capacity Comparison Report
Based on Partition Minimum Capacity
Study ID: XYZ Enterprises
Current: ABC Production on IBM z9-EC
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Partition Identification (List of All Included Partitions With Unique ID Metrics)				#1 Current 2094-S18/700: GP=10 zAAP=1 zIIP=1 IFL=2 ICF=1						#2 Alt-1 2097-E26/700: GP=10 zAAP=1 zIIP=1 IFL=2 ICF=1						Full Capacity (MIPS)	
				Partition Definition					Minimum	Partition Definition						Minimum	Net	%
Type	Name	SCP	Workload	LP#	Mode	LCPs	Weight%	Cap	Capacity	LP#	Mode	LCPs	Weight	Weight%	Cap	Capacity	Change	Delta
GP	LP-01	z/OS-1.9*	LoIO-Mix	1	SHR	10	53.23%		2,638	1	SHR	6	700	53.23%		4,094	+1,456	+55.2%
GP	LP-02	z/OS-1.9*	CB-Mix	2	SHR	6	30.42%		1,490	2	SHR	4	400	30.42%		2,263	+773	+51.9%
GP	LP-03	z/OS-1.9*	TI-Mix	3	SHR	4	15.21%		726	3	SHR	2	200	15.21%		1,040	+314	+43.3%
GP	LP-04	z/VM	WASDB/LVm	4	SHR	1	1.14%	✔	58	4	SHR	1	15	1.14%	☑	88	+30	+51.7%
zAAP	LP-02	z/OS-1.9*	CB-Mix	*2	SHR	1	100.00%		521	*2	SHR	1	400	100.00%		813	+292	+56.0%
zIIP	LP-03	z/OS-1.9*	TI-Mix	*3	SHR	1	100.00%		524	*3	SHR	1	200	100.00%		819	+295	+56.3%
IFL	LP-05	Linux	WASDB/L	5	SHR	2	88.89%		970	5	SHR	2	200	88.89%		1,585	+615	+63.4%
IFL	LP-06	Linux	WASDB/L	6	SHR	1	11.11%		122	6	SHR	1	25	11.11%		201	+79	+64.8%
ICF	LP-07	CFCC	CFCC	7	DED	1	n/a		560	7	DED	1	n/a			842	+282	+50.4%

Change Controls

Commit | Undo | Optimize SHR LCPs

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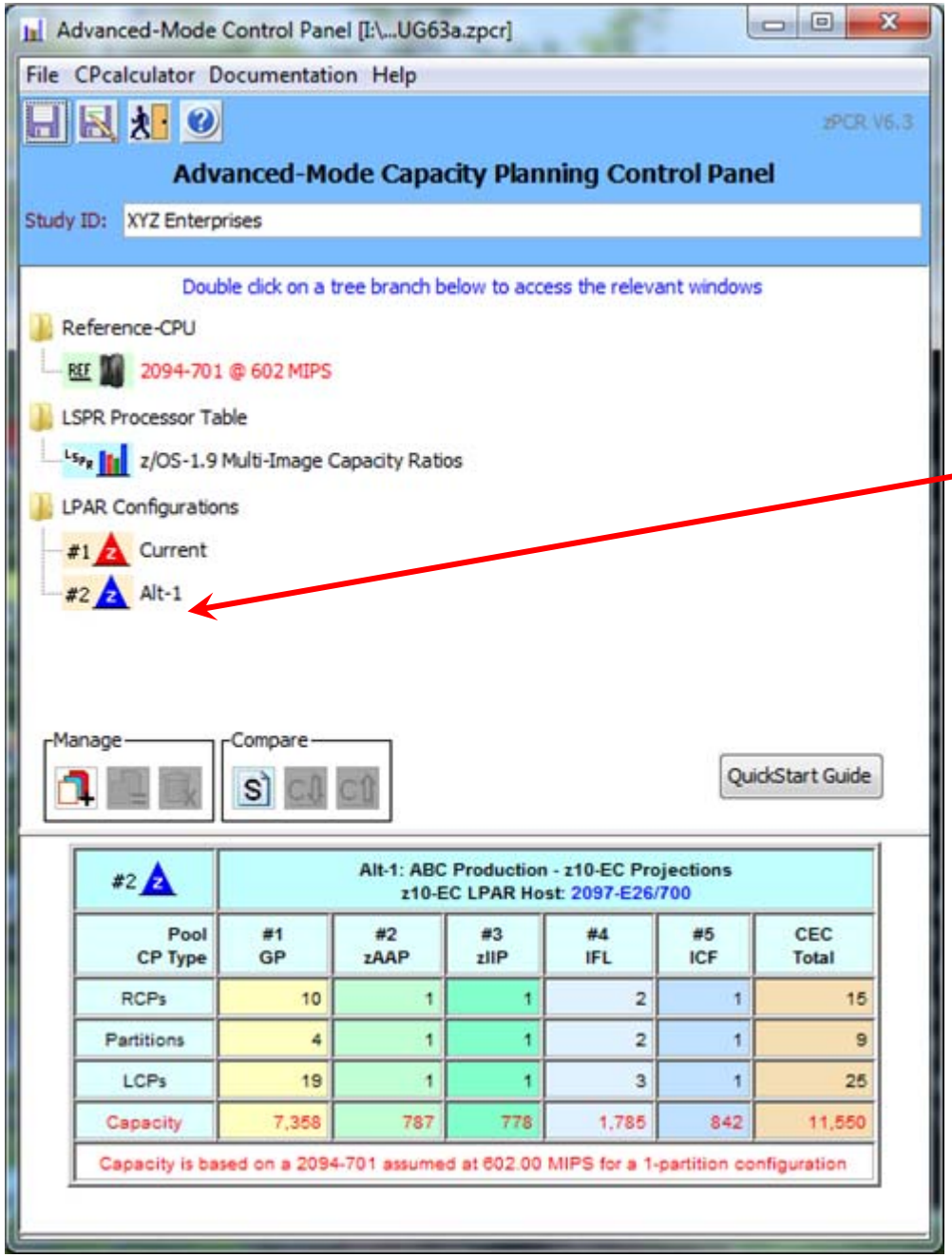
Input fields have white background; Single-click a "selection field" for drop-down list; Double click a "key-in field" to open.

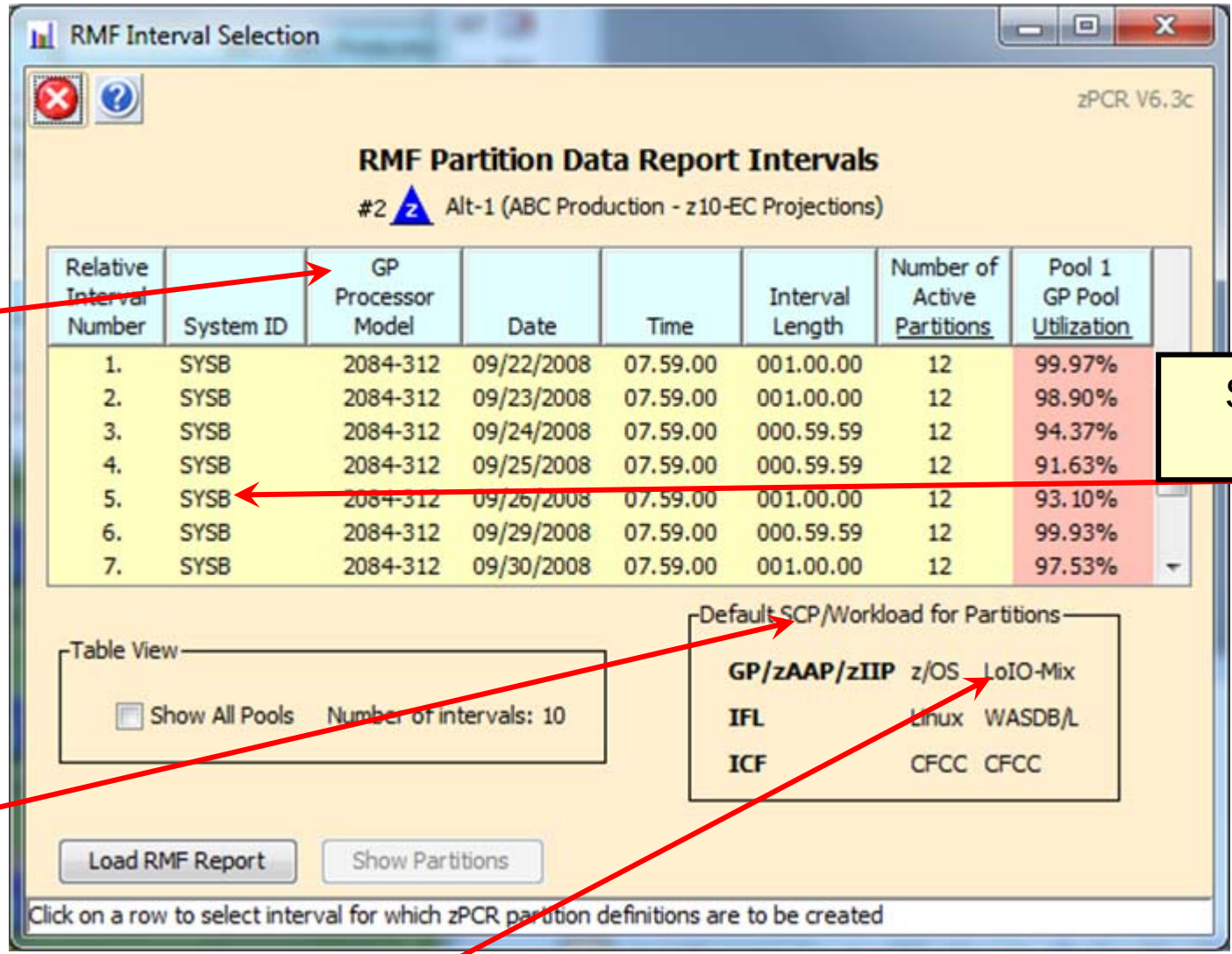
Commit or Undo Changes

Add additional partitions from RMF



Select “RMF” report and drag it onto the “Alt-1” configuration

RMF Interval Selection



"Alt-1" configuration

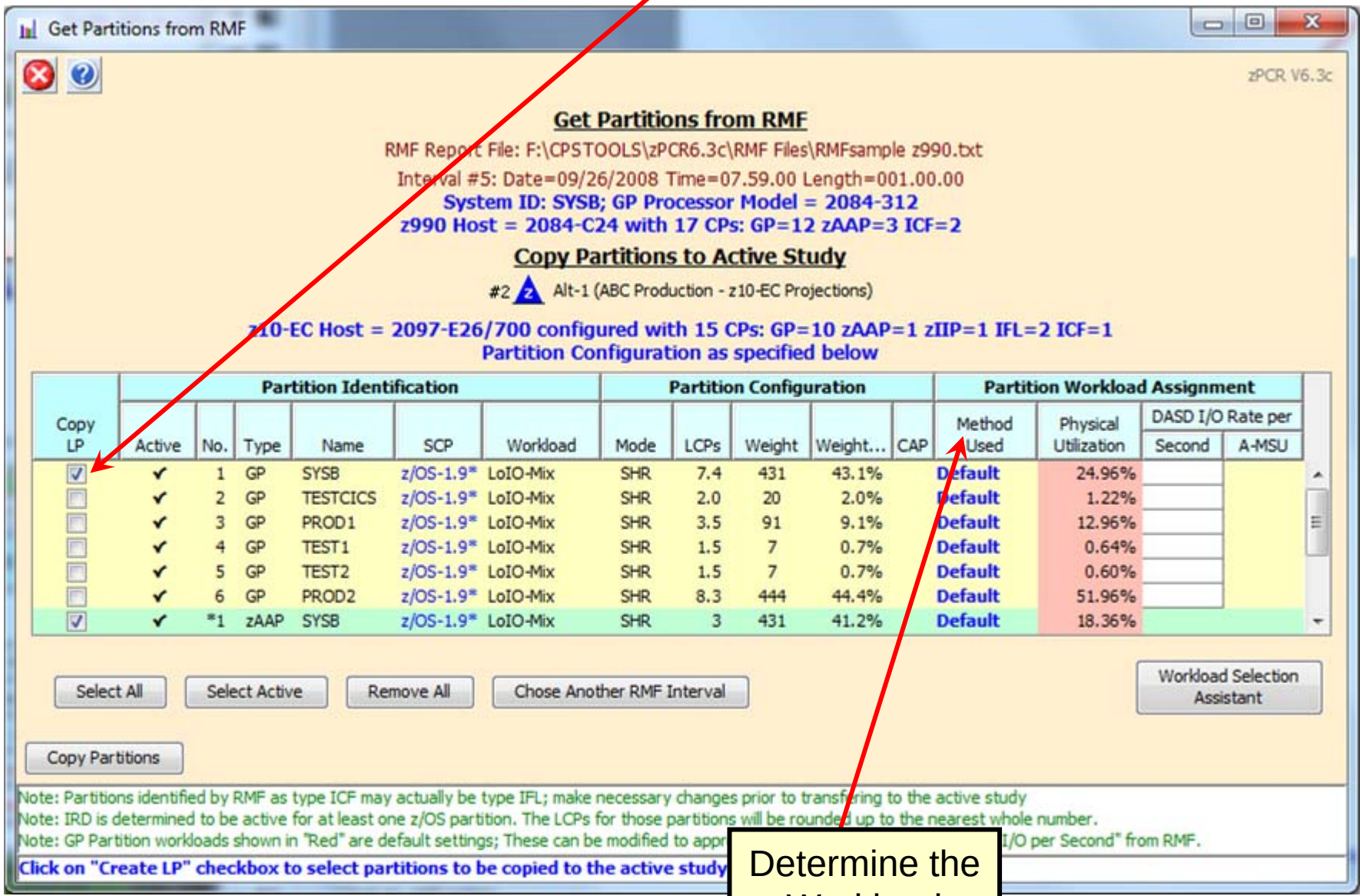
Select an interval

Default SCPs for Partitions

Default z/OS workload is LoIO-Mix

Get specific partitions from RMF

Select the partitions to be added. Note zAAP/zIIP partitions will always follow the GP partition.

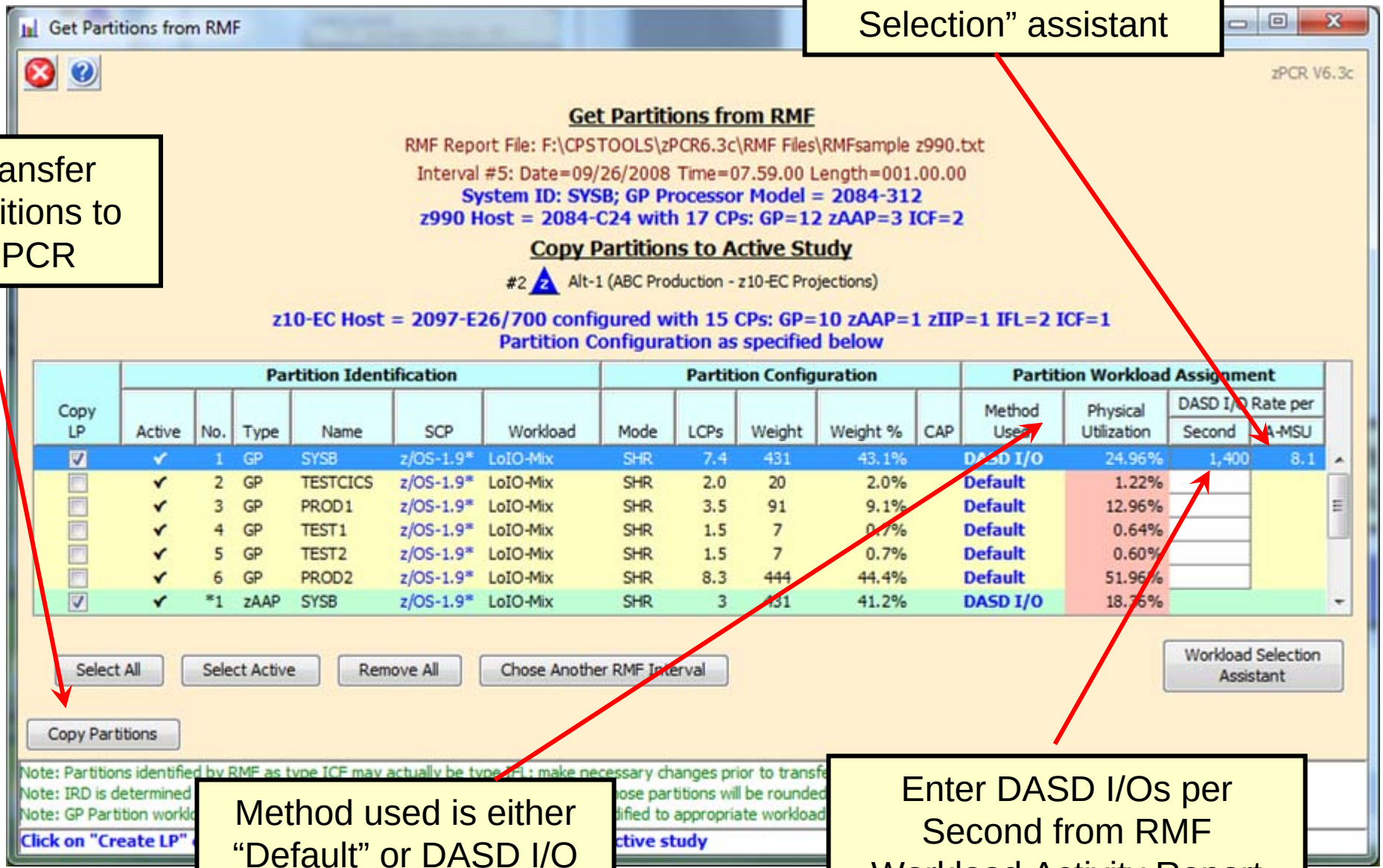


Determine the Workload

Determine the appropriate SCP/workloads

DASD I/Os per MSU automatically calculated via the "Workload Selection" assistant

Transfer partitions to zPCR

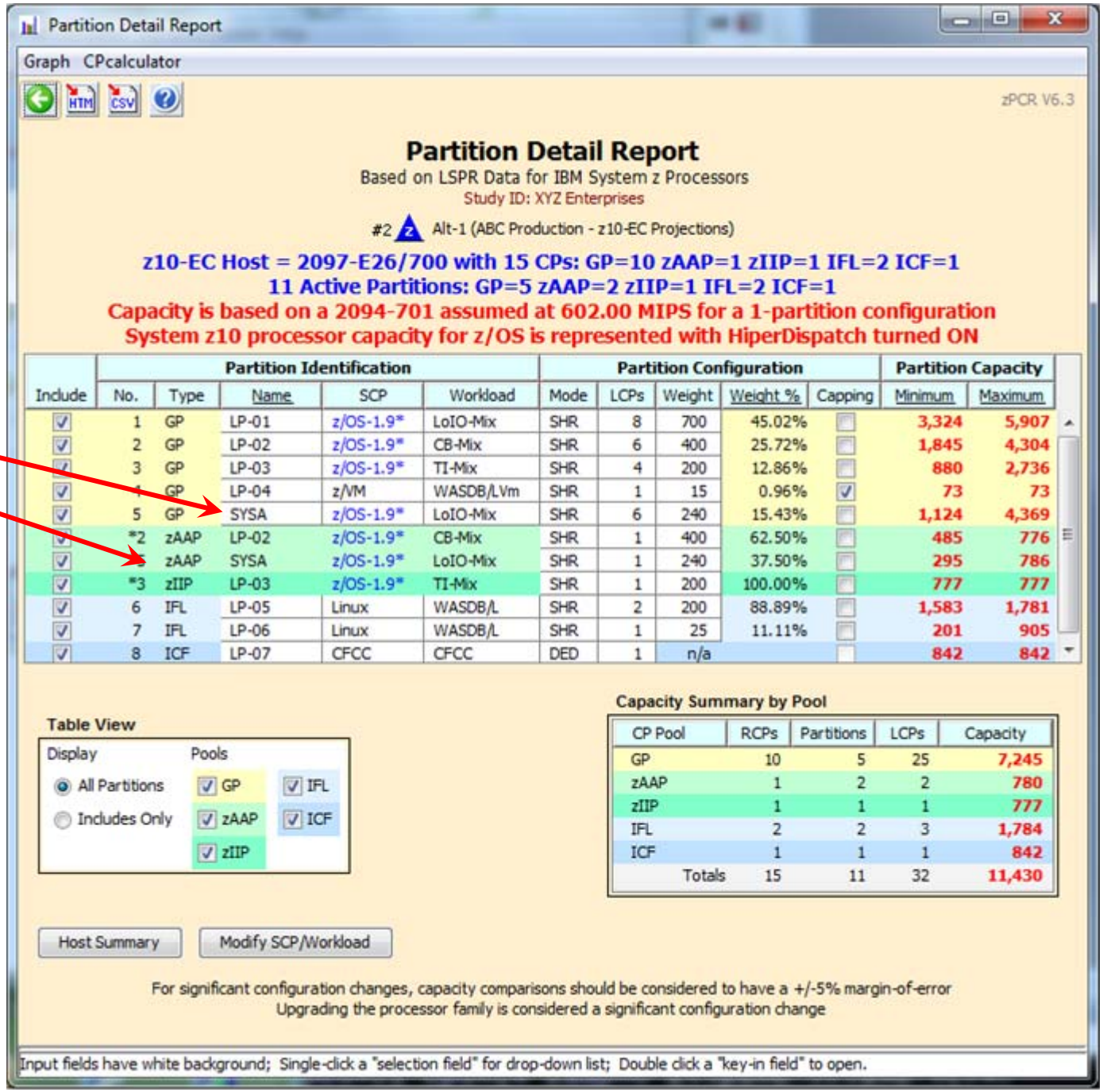


Method used is either "Default" or DASD I/O

Enter DASD I/Os per Second from RMF Workload Activity Report

Detail report with additional partitions added

Added partitions from RMF



Partition Detail Report

Graph CPcalculator

zPCR V6.3

Partition Detail Report

Based on LSPR Data for IBM System z Processors

Study ID: XYZ Enterprises

#2 Alt-1 (ABC Production - z10-EC Projections)

z10-EC Host = 2097-E26/700 with 15 CPs: GP=10 zAAP=1 zIIP=1 IFL=2 ICF=1

11 Active Partitions: GP=5 zAAP=2 zIIP=1 IFL=2 ICF=1

Capacity is based on a 2094-701 assumed at 602.00 MIPS for a 1-partition configuration

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

	Partition Identification					Partition Configuration					Partition Capacity	
Include	No.	Type	Name	SCP	Workload	Mode	LCPs	Weight	Weight %	Capping	Minimum	Maximum
☑	1	GP	LP-01	z/OS-1.9*	LoIO-Mix	SHR	8	700	45.02%	☐	3,324	5,907
☑	2	GP	LP-02	z/OS-1.9*	CB-Mix	SHR	6	400	25.72%	☐	1,845	4,304
☑	3	GP	LP-03	z/OS-1.9*	TI-Mix	SHR	4	200	12.86%	☐	880	2,736
☑	4	GP	LP-04	z/VM	WASDB/LVm	SHR	1	15	0.96%	☑	73	73
☑	5	GP	SYSA	z/OS-1.9*	LoIO-Mix	SHR	6	240	15.43%	☐	1,124	4,369
☑	*2	zAAP	LP-02	z/OS-1.9*	CB-Mix	SHR	1	400	62.50%	☐	485	776
☑	[illegible]	zAAP	SYSA	z/OS-1.9*	LoIO-Mix	SHR	1	240	37.50%	☐	295	786
☑	*3	zIIP	LP-03	z/OS-1.9*	TI-Mix	SHR	1	200	100.00%	☐	777	777
☑	6	IFL	LP-05	Linux	WASDB/L	SHR	2	200	88.89%	☐	1,583	1,781
☑	7	IFL	LP-06	Linux	WASDB/L	SHR	1	25	11.11%	☐	201	905
☑	8	ICF	LP-07	CFCC	CFCC	DED	1	n/a		☐	842	842

Table View

Display: All Partitions / Includes Only

Pools: ☑ GP ☑ zAAP ☑ zIIP ☑ IFL ☑ ICF

Capacity Summary by Pool

CP Pool	RCPs	Partitions	LCPs	Capacity
GP	10	5	25	7,245
zAAP	1	2	2	780
zIIP	1	1	1	777
IFL	2	2	3	1,784
ICF	1	1	1	842
Totals	15	11	32	11,430

Host Summary | Modify SCP/Workload

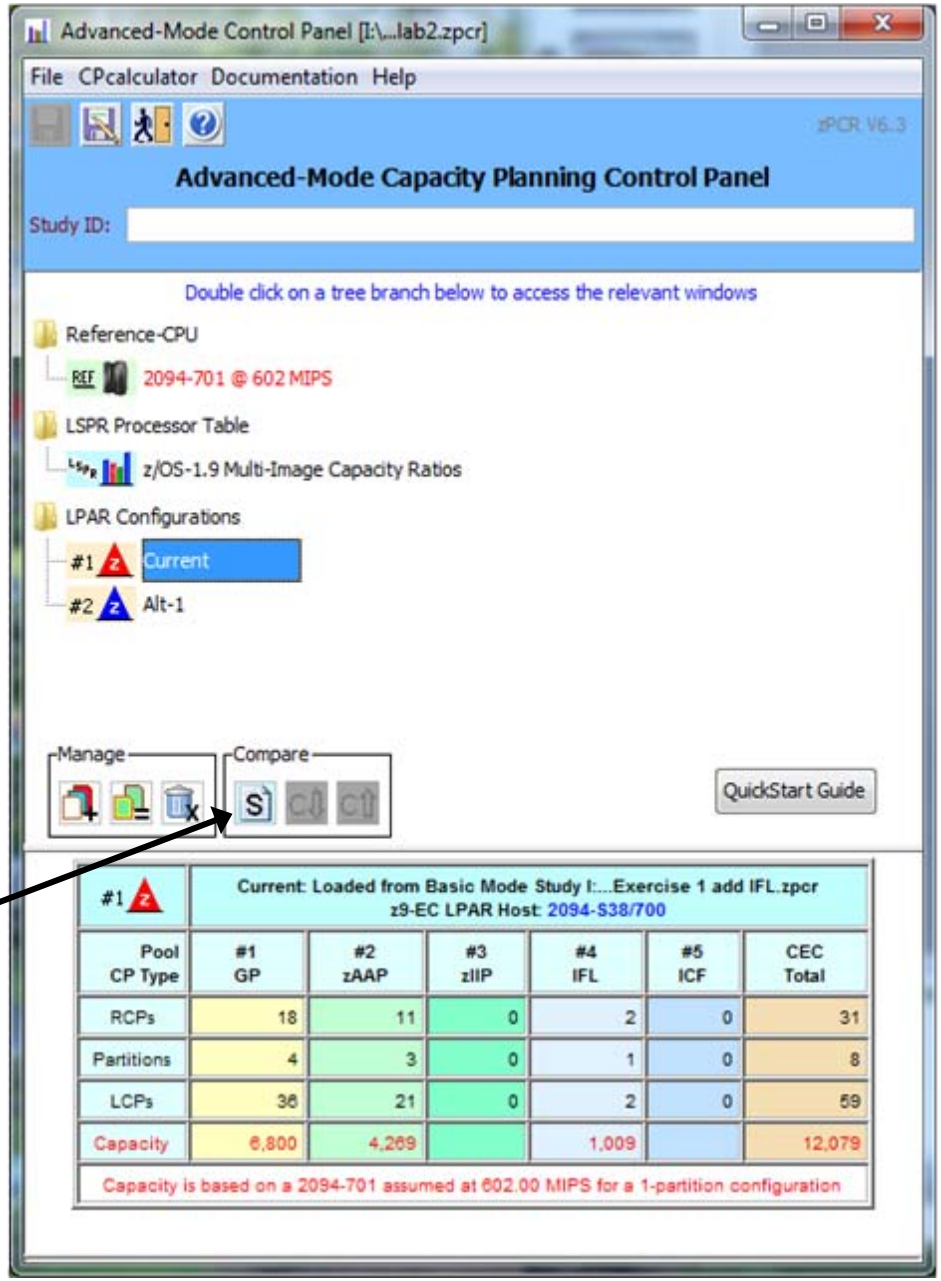
For significant configuration changes, capacity comparisons should be considered to have a +/-5% margin-of-error

Upgrading the processor family is considered a significant configuration change

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

Show Host Capacity Summary

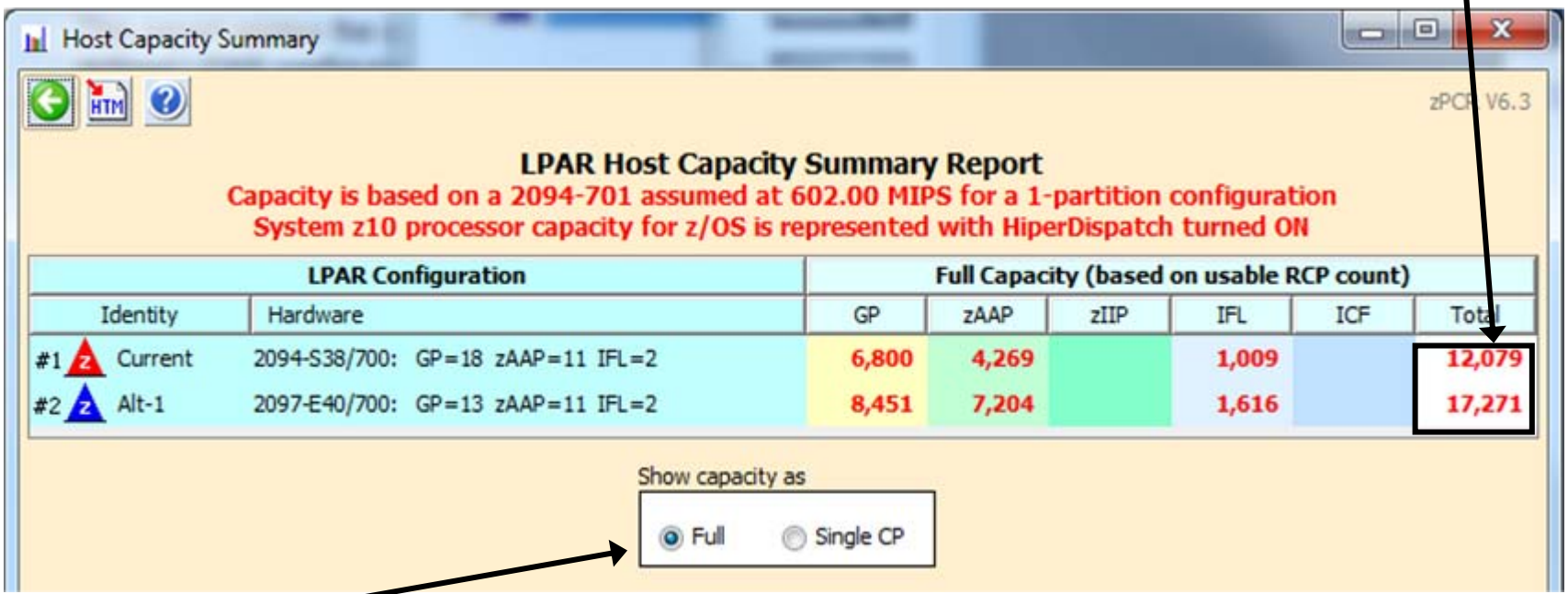
- Click on the ***Host Capacity Summary*** icon  to view the report.

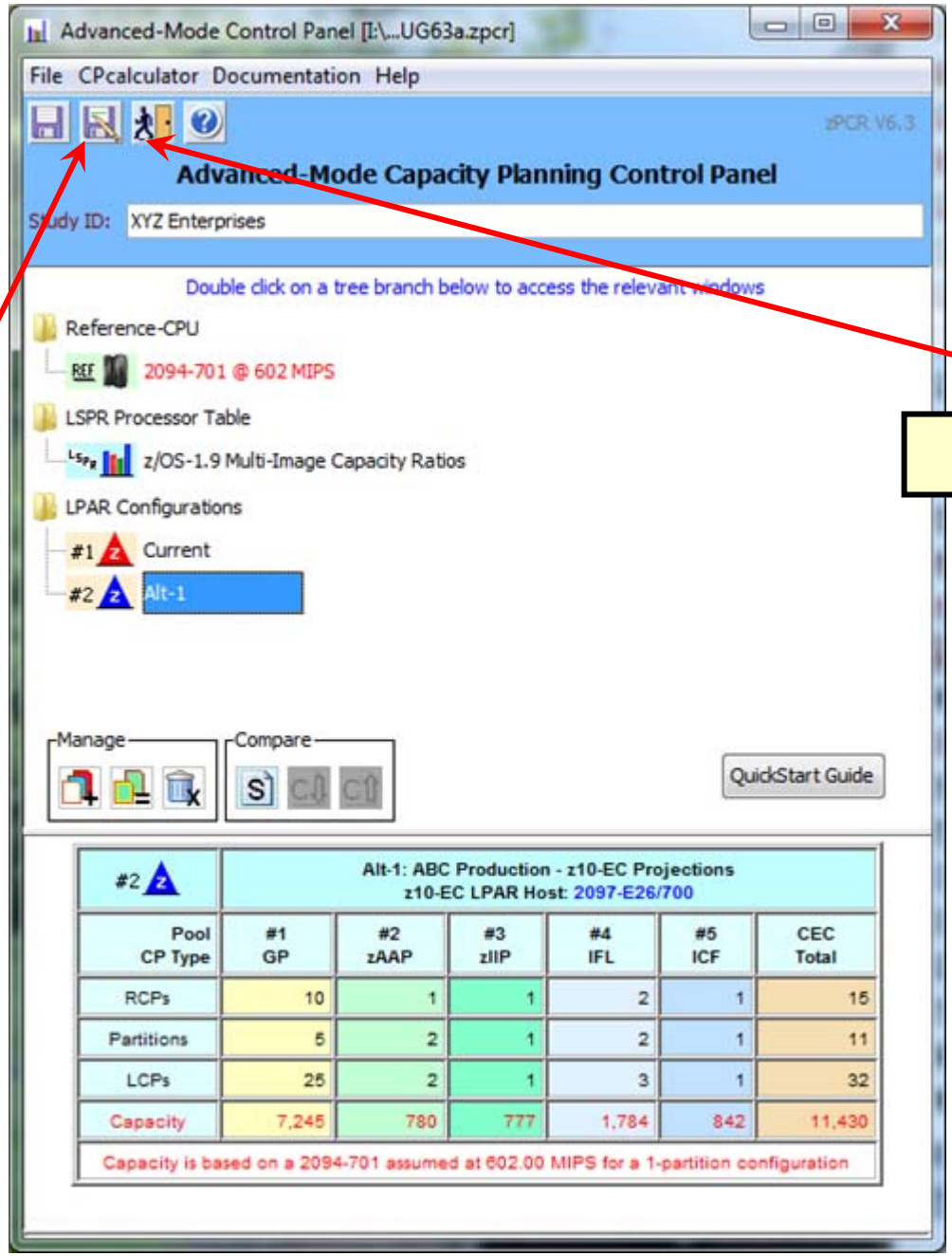


Click Host Capacity Summary

Host Capacity Summary

- For each defined LPAR configuration, its icon and name are provided, along with the processor model information and number of real CPs configured to each pool.
- To display the description field of any LPAR configuration, place the mouse pointer anywhere on that row.
- Capacity projections may be cycled between **Full** capacity and **Single-CP** capacity using the radio buttons. This is useful for revealing relative engine speed when comparing LPAR configurations where the host family is changed.
- Click on the **Return** to take you back at the **Advanced-Mode Control Panel**.





Exit zPCR

Save Study

What is new in zPCR C V7.1

- **Support for zEnterprise 196 processors**
- **Reference-CPU defaults have changed**
  - Typical scaling factor is now 593 MIPS.
  - Supports the changes in LSPR workloads
- **z/OS LSPR Single-Image and Multi-Image Tables now based on z/OS 1.11**
- **LSPR z/VM data is now measured up to 32-way**
  - Previously z/VM was measured up to 16-way
- **Support for SMF 113s**
  - Collects CPU MF counter data
- **New input via EDF (Enterprise Data File)**
  - Provides SMF 113 metrics
  - Provides more details including HiperDispatch
  - SMF 74 DASD I/Os
  - One file per partition
- **CP3KEXTR**
  - Load and Go will read RMF/SMF data and generate an EDF File
  - Support for processing SMF 113
- **zPCR External File format enhanced**
  - Support for processing SMF 113
- **Up to six LPAR configurations may defined in Advanced-Mode**
- **Previous study files will have their workloads automatically converted to the new LSPR workloads**

New LSPR Workload Categories

- Various combinations of prior workload primitives are measured on which the new workload categories are based
  - **Applications include CICS, DB2, IMS, OSAM, VSAM, WebSphere, COBOL, utilities**

- Low (relative nest intensity)
  - **Workload curve representing light use of the memory hierarchy**
  - **Similar to past high scaling workload primitives**

- Average (relative nest intensity)
  - **Workload curve expected to represent the majority of customer workloads**
  - **Similar to the past LoIO-mix curve**

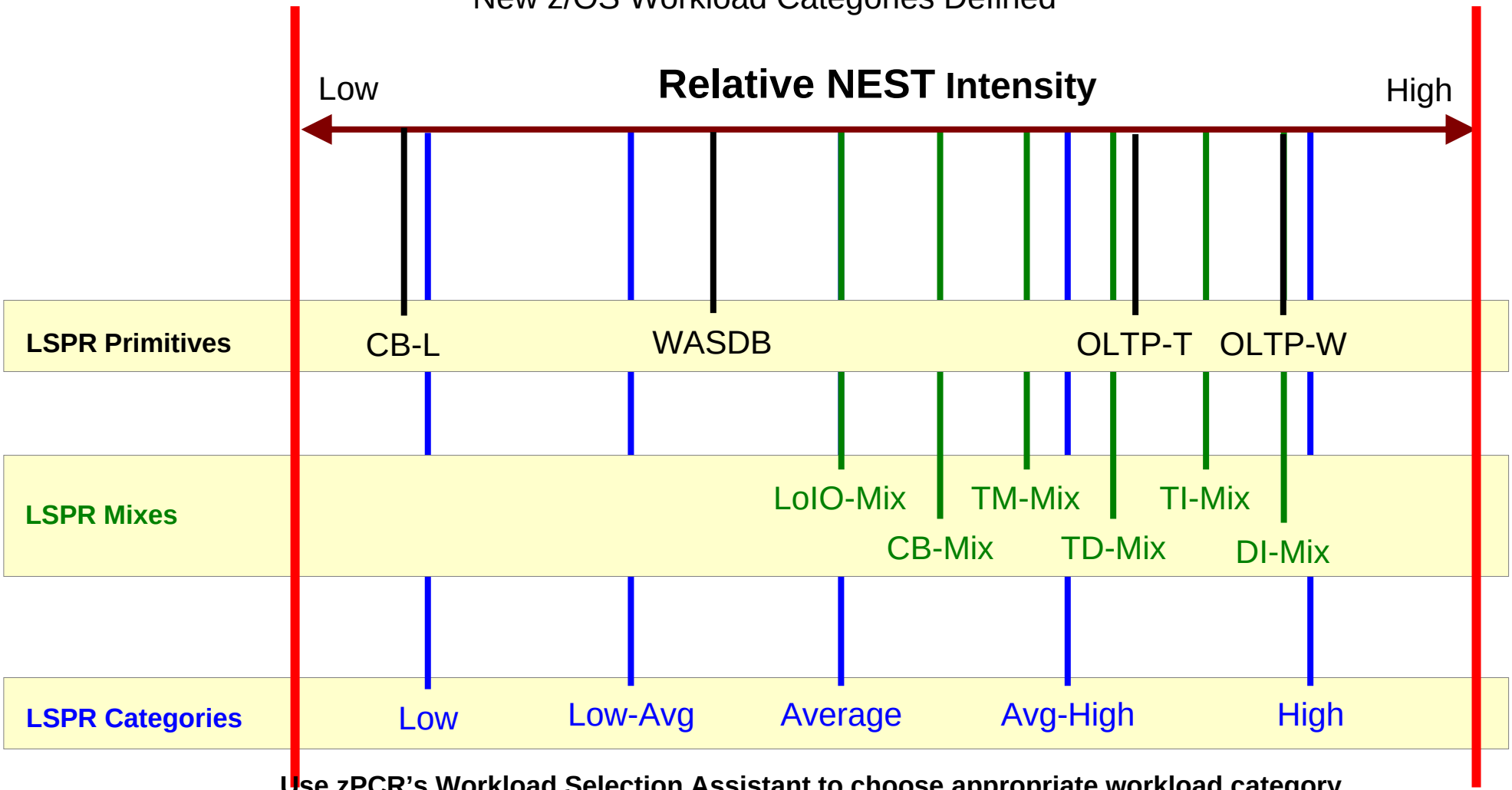
- High (relative nest intensity)
  - **Workload curve representing heavy use of the memory hierarchy**
  - **Similar to the past DI-mix curve**

- zPCR extends published categories
  - **Low-Avg**
    - **50% Low and 50% Average**
  - **Avg-High**
    - **50% Average and 50% High**

zPCR Workload Characterization for z/OS

"Scope of Work" Definition Change

New z/OS Workload Categories Defined

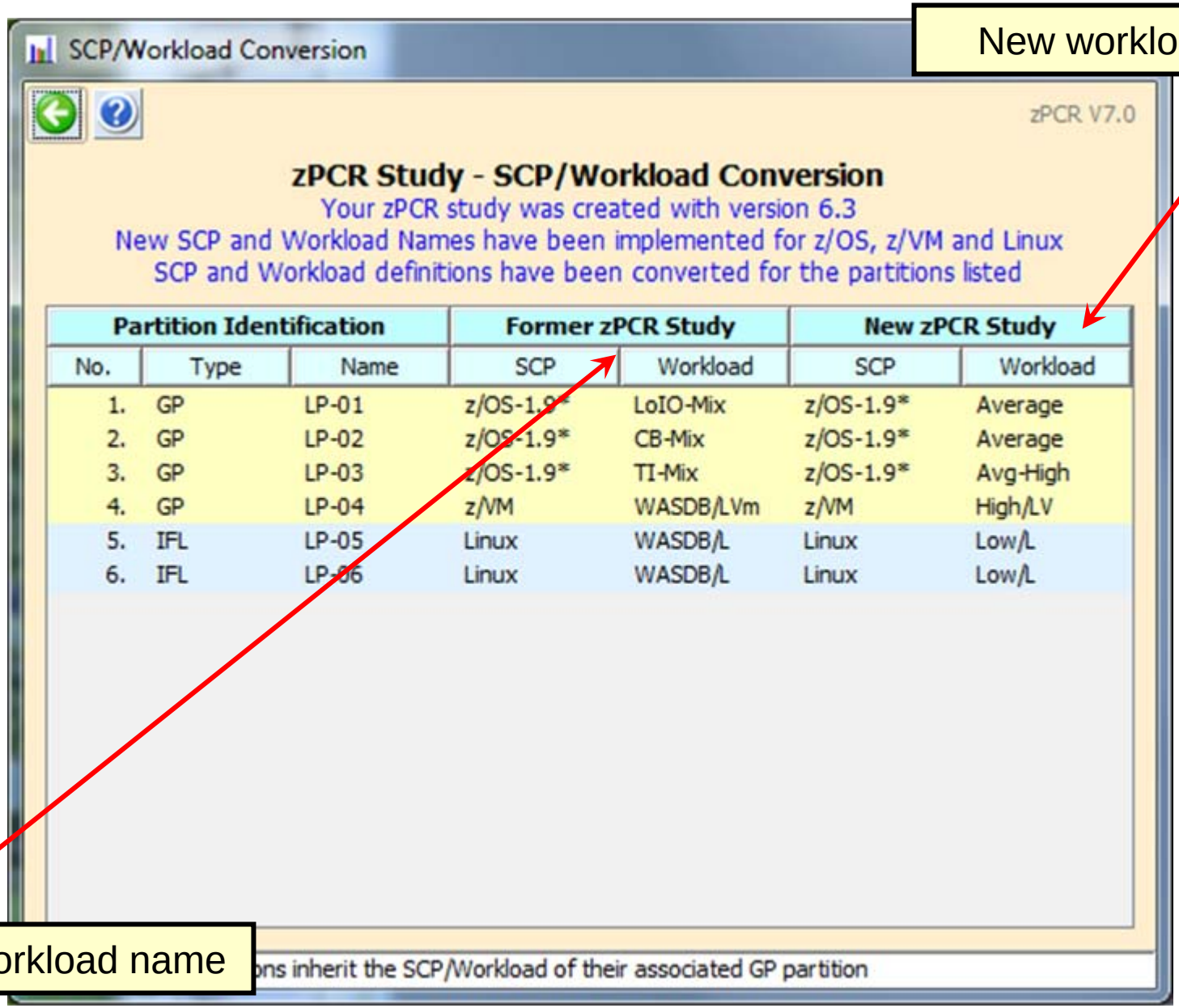


Use zPCR's Workload Selection Assistant to choose appropriate workload category

Automated with EDF input into zPCR

Note: Workload selection is automated in zCP3000

Automated SCP/Workload conversion for previous zPCR study file…



New workload name

Previous workload name

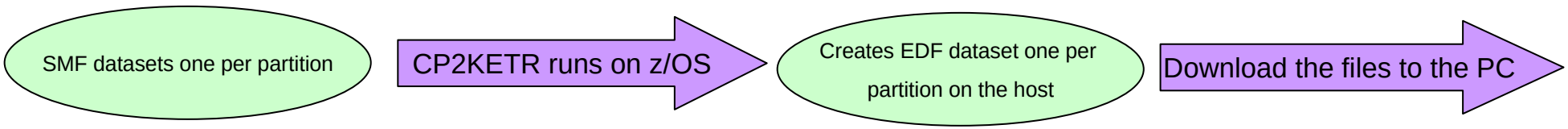
EDF Input for zPCR

z/OS on System z

- Turn on CPU MF to start SMF 113 recording (primary partitions)
- Post process SMF data with CP3KEXTR to produce EDF

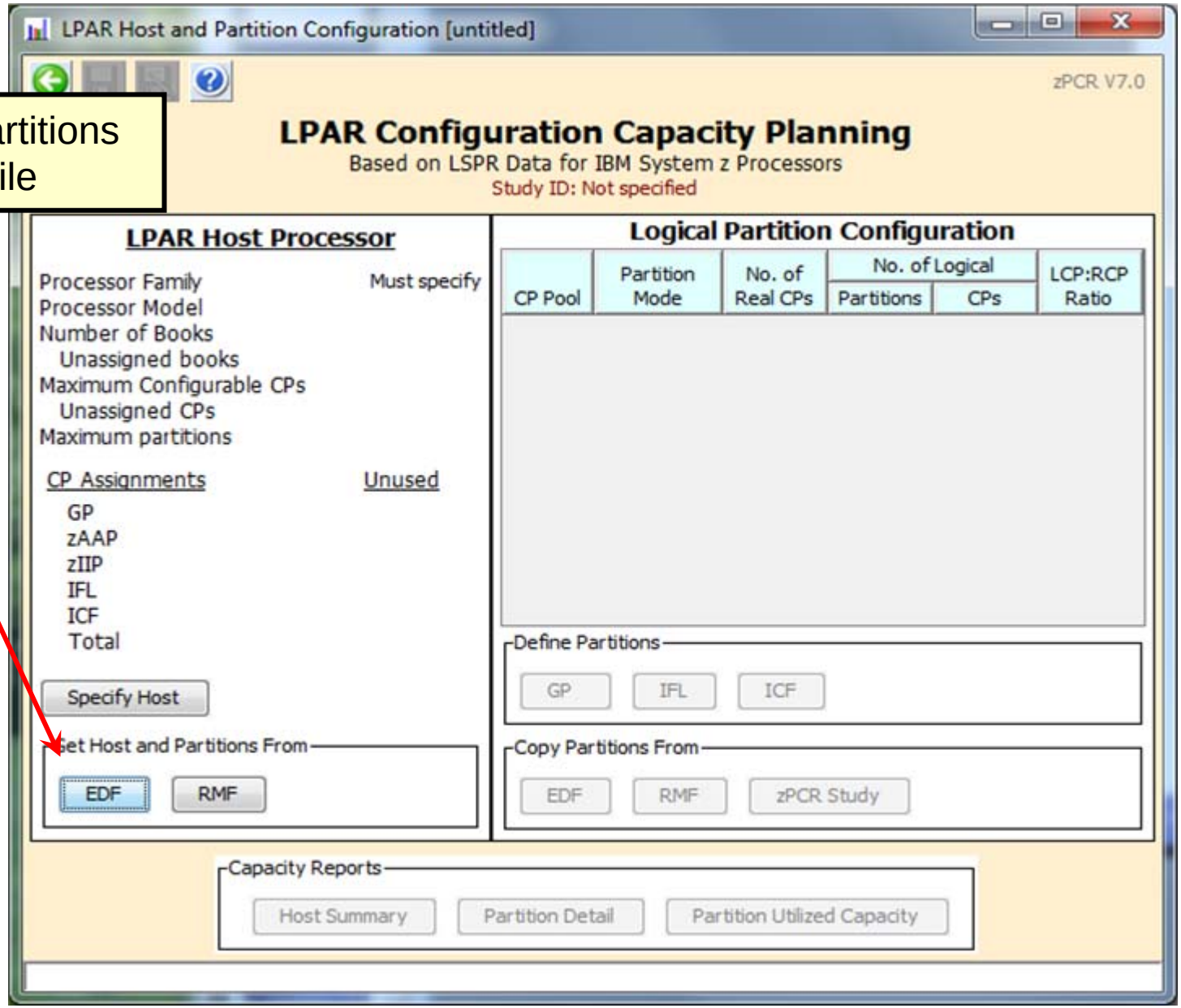
Windows PC with zPCR installed

- Download EDF (1 per partition) to PC
- In zPCR, Get Host and Partitions from EDF
- Load EDF(s)
- Select a representative interval
- Show LPAR Host and its partition configuration
- Create LPAR Configuration
- •Partition workloads assigned based on DASD I/O or default
- •Partitions with SMF 113 data will show “113 Hint” workload



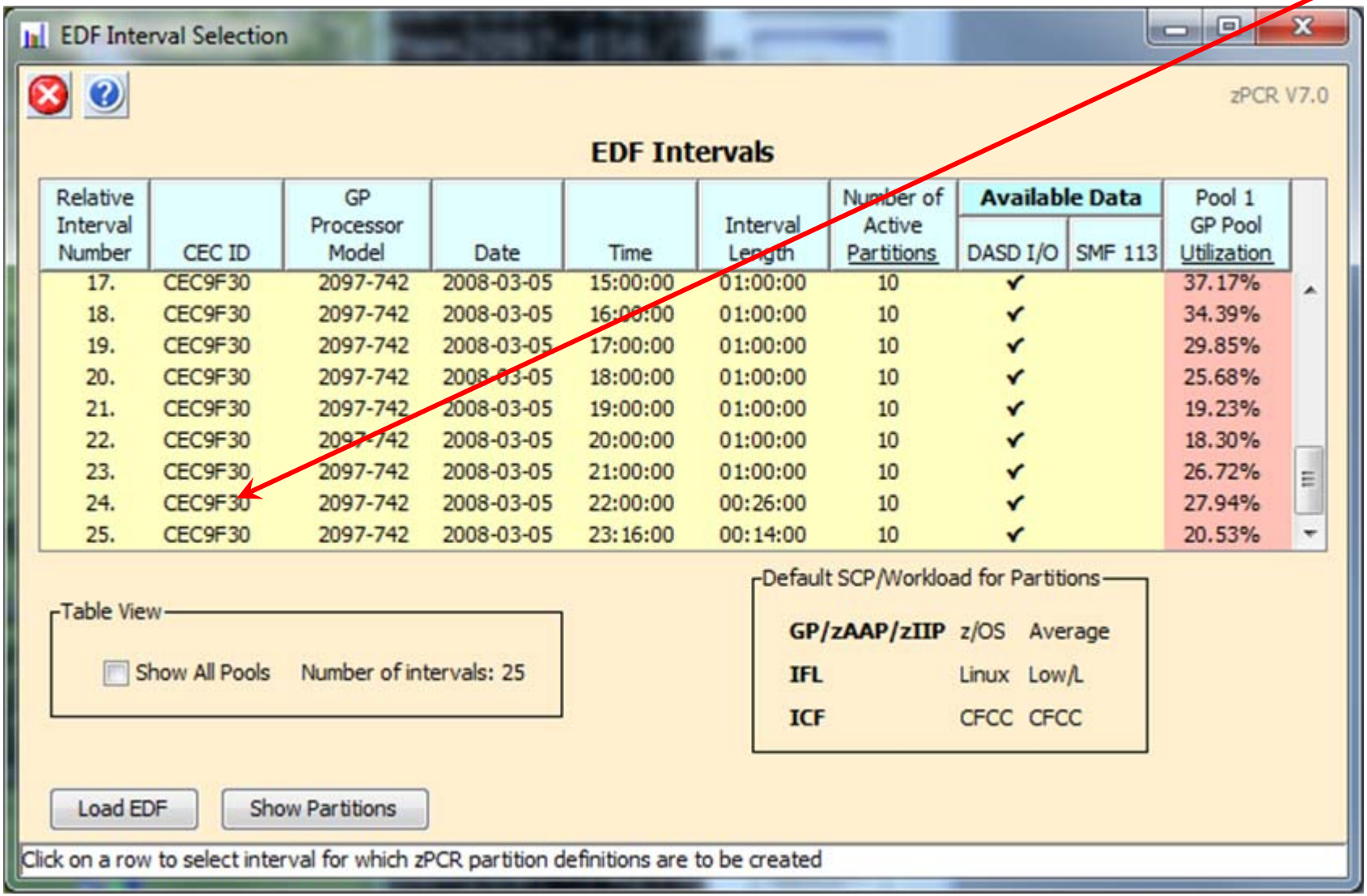
Load the EDF files into zPCR

Get host and partitions from EDF file

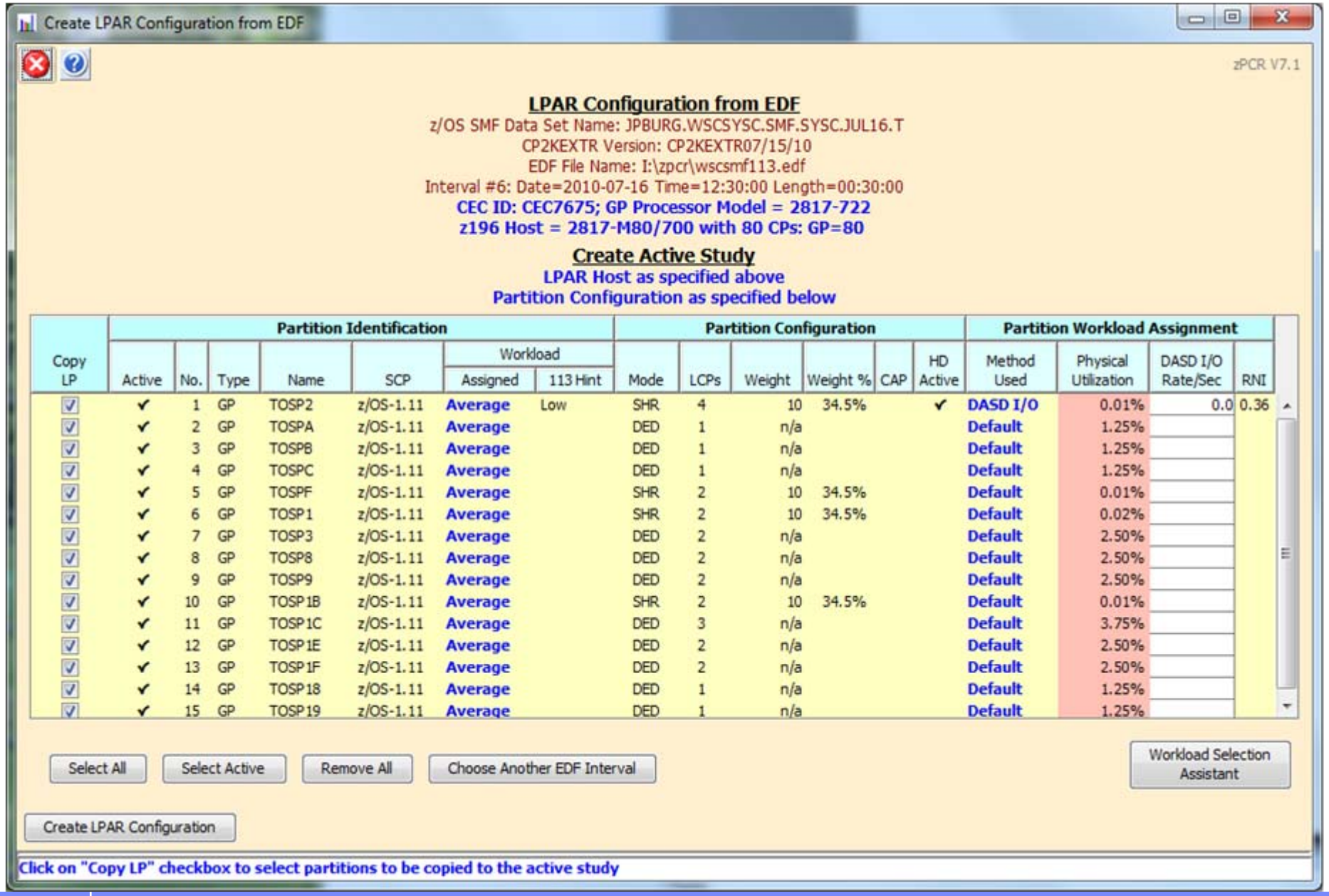


Load the EDF files into zPCR

Select an interval



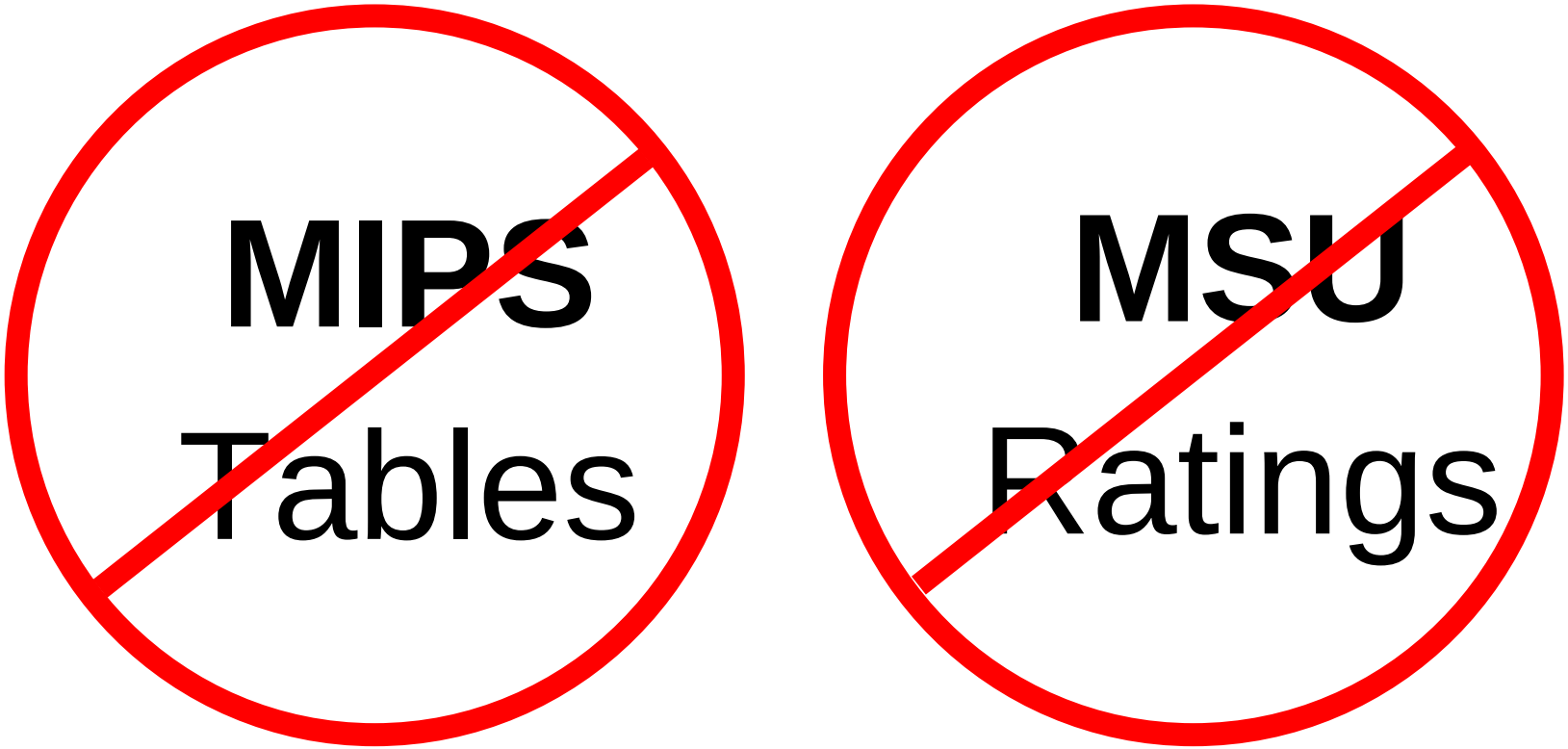
Important Considerations when getting LPAR configuration metrics



Single Spot on the Web to Get More Information

- zPCR Getting Started Page
  http://www.ibm.com/support/techdocs/atsmastr.nsf/WebIndex/PRS1381
  - Contains:
    - Downloadable Code
    - zPCR Users Guide
    - External File Layout documentation
  - Technical Support Information
    - Training materials in .avi format (voice over foils)
    - Education Exercises
      - 1 new Advanced Mode Exercise planned for 3Q 2010 – z10 to z196
    - Registration Information
    - Special Notices and FAQs
- **Q&A and defect support are available through email: zpcr@us.ibm.com**

IBM System z Capacity Planning in a nutshell

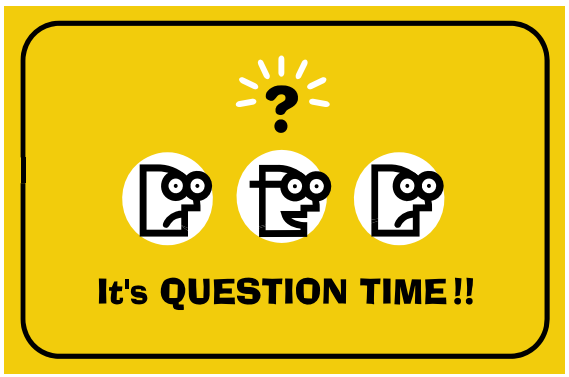


Don’t use “single-number tables” for capacity comparisons!

Use zPCR to model before and after configurations

Summary

- **zPCR models <u>your unique</u> Processor configuration**
  - Based on LPARS, weights, # of logical processors, workload mix and Specialty Engines
- **Built upon LSPR benchmarks**
- **Using zPCR is Easy**
- **Use zPCR to correctly size your processor**



Acknowledgements

- **Many people contributed to this presentation including:**

John Fitch

Gary King

Jim Shaw

Kathy Walsh

Thank You

for attending!

In Advanced-Mode, some zPCR functions are not available

- **You cannot return to the Function Selection window**
- **Basic-mode study files cannot be created**
  - Studies will be saved in Advanced-Mode format
- **The MI Reference-CPU cannot be set independently of the Reference-CPU**
  - While viewing the Multi-image table you may set a “temporary” Reference-CPU.
- **Older LSPR Processor Capacity Ratios tables cannot be viewed**,
  - Including z/OS-1.8, z/OS-1.6, z/OS-1.4
  - To access these tables, start a second zPCR invocation in “Basic Mode”
    - Be sure the Reference-CPU settings are as desired

What has changed since zPCR C6.1c

- **Up to five LPAR configurations may defined in Advanced-Mode**
- **Reference-CPU controls have been restructured**
  - A single (global) Reference-CPU window replaces the independent SI Reference-CPU and MI Reference-CPU windows.
    - LPAR Configuration Capacity Planning results are now appropriately related to those in the LSPR Multi-Image Processor Capacity Ratios table
- **z/OS 1.8 LSPR Multi-Image Processor Capacity Ratios table has been removed;**
  - Only the table for the latest LSPR data will be provided (currently z/OS-1.9).
- **Can specify any z/OS release (>= z/OS 1.4) in the detailed capacity plan**
  - Not every z/OS release is measured in LSPR
  - zPCR will select the most representative one from the published LSPR data
- **All output has been converted to HTML**
- **Added CSV format for Partition Detail Report/Utilized Capacity Report windows**
- **zPCR v6.3c only supports System z processors**
- **User Defined Mixes are no longer supported**

zPCR Capacity Sizing Lab – Part 2 Hands-on Lab

SHARE Session 7785

August 4, 2010

John Burg
Brad Snyder

Materials created by John Fitch and Jim Shaw

IBM

Agenda

- Lab Exercise Introduction
- Lab Exercise

Overview of Lab Exercise

- **XYZ Corporation Background**
  - Currently has System z9
    - 2094-707 (7 way GCPs)
    - Customer views it as having 3500 MIPS
    - Machine averages 92% busy during peak

- **Plan being developed to replace with z10 EC**
  - Must have at least 20% additional capacity
    - at least 4200 MIPS

  Replace with sub capacity engines (6xx)

Lab Exercise – Tasks to Complete

- Task 1 - Create 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
- Task 4 - Find an appropriate z10 replacement processor
- Task 5 - Model the intended LPAR host using Advanced Mode
- Task 6 - Review the Capacity results and save the Study
- Additional
  - Model 1 IFL in the proposed configuration
  - Model 1 zAAP in the proposed configuration