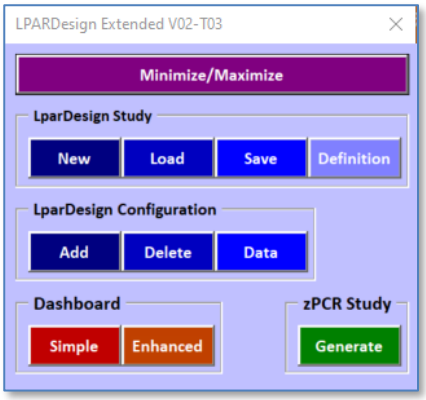
LPARDesign Extended

USER'S GUIDE

Version V02-T03



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Alain Maneville & Thierry Déléris

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1. Introduction to LPARDesign Extended Tool

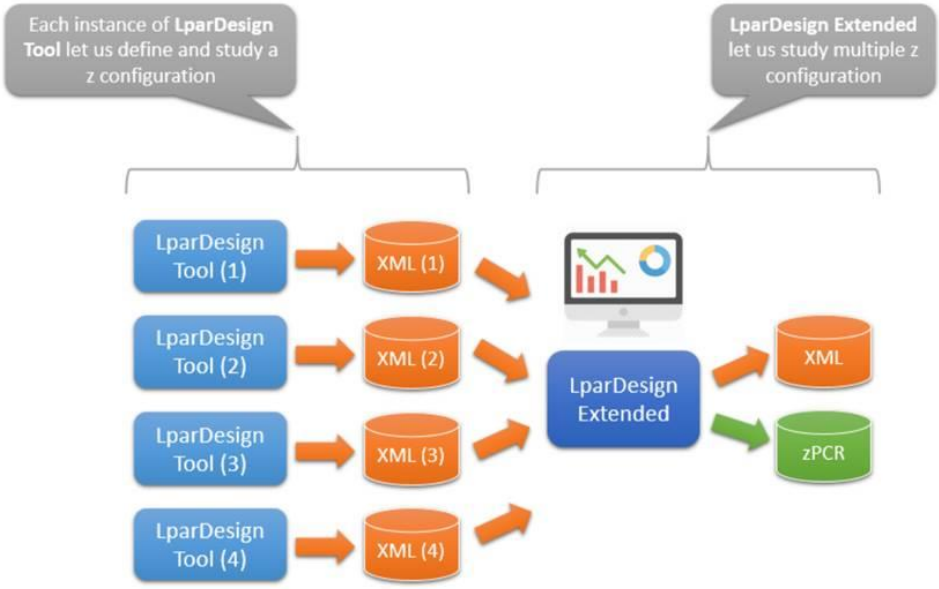
This document explains how to use the LPARDesign Extended Tool.
This tool helps in comparing various LPAR configurations that have been created by the LPARDesign Tool.
It provides visual comparisons and can create a zPCR study including these various LPAR configurations.

Here is a visual synthesis about the **LparDesign Tool** functions:

- ⇨ *It let us work on a single PR/SM configuration to analyze, optimize, and study it*

And here is a visual synthesis about **LparDesign Extended Tool** functions:

- ⇨ *LparDesign Extended Tool is an add-on to LparDesign Tool*
- ⇨ *It let us work with multiple PR/SM configurations produced thanks to the loading of the corresponding LparDesign Tool XML output files*
- ⇨ *And so we could build some comparison dashboards between two PR/SM configurations or simply investigate from one PR/SM configuration to another*



2. DISCLAIMER OF WARRANTIES

The following [enclosed] macro is sample code created by Thierry Deleris (BPCE-IT) and Alain Maneville.

This sample macro is provided to you solely for assisting you in the PR/SM LPAR ® and HiperDispatch® Configuration.

The code is provided "AS IS", without warranty of any kind. Thierry Deleris and Alain Maneville shall not be liable for any damages arising out of your use of such sample code, even if you have been advised of the possibility of such damage

Support: Support will be provided on a "best effort" basis. Send the spreadsheet for an analysis to thierry.deleris@bpce-it.fr, and/or to a.maneville@gmail.com

3. HOW TO GET THE PRODUCT – IMPORTANT NOTICE:

3.1 Important Information

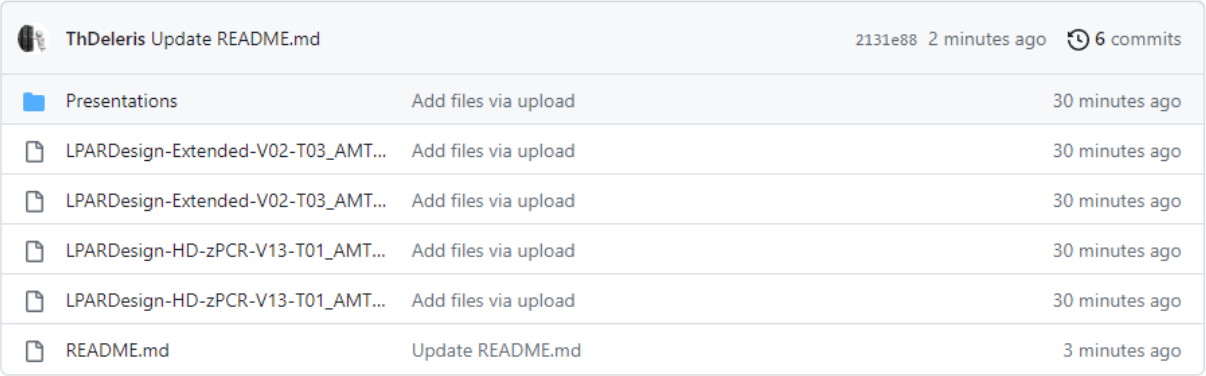
The tool will only be available from GitHub.

3.2 From Github

The product is available on the GitHub Web Site at the URL:

https://github.com/ThDeleris/z-OS-LPARDesign

You will get this page :



Then, Click on the LPAR Design Hyperlink for the spreadsheet **AND** the User's Guide to download them.

4. CHANGES IN THIS RELEASE.

4.1 What's new in V02-T03

4.1.1 Support for the IBM z16 A02 & AGZ and zPCR 9.6

4.2 What's new in V02-T02

4.2.1 Support for the IBM z16 A01 and zPCR 9.5

4.3 What's new in V01-T02

Minor bug correction when building the zPCR Study

4.3.1 Support for zPCR 9.4a

zPCR 9.4a is supported in this release

4.4 What's new in V01-T01

The V01-T01 is the first version of the product.

4.4.1 Support for LPARDesign V11-T01

The configuration .xml files created by LPARDesign V11-T01 are supported in this tool.

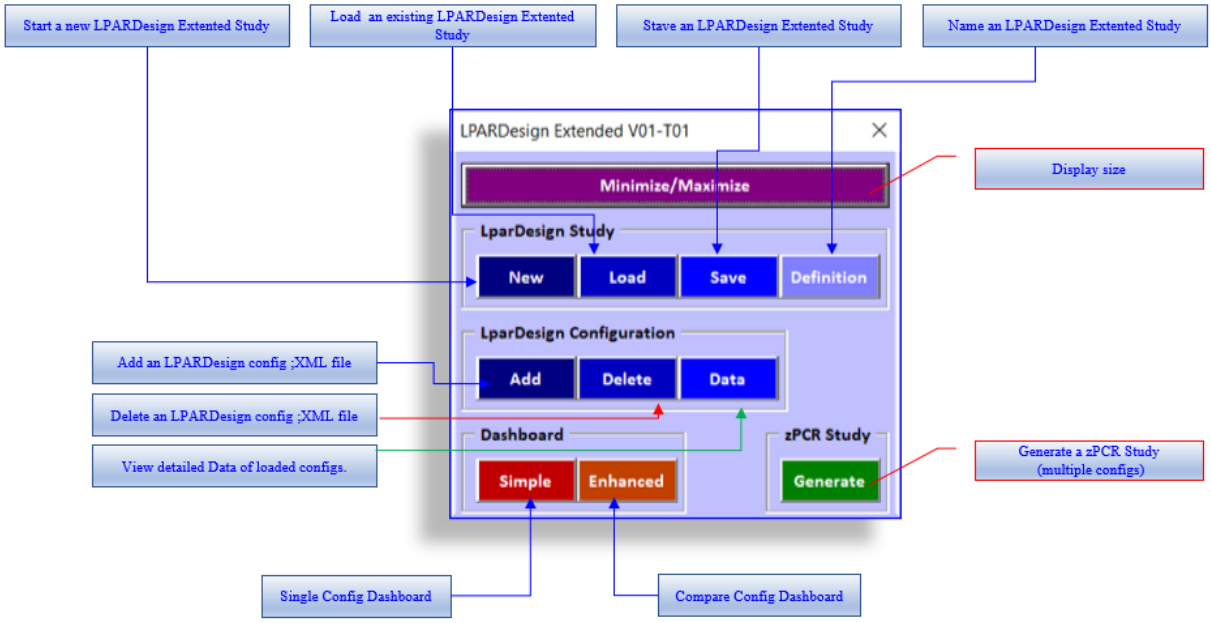
4.4.2 Support for zPCR 9.4

zPCR 9.4 is supported in this release

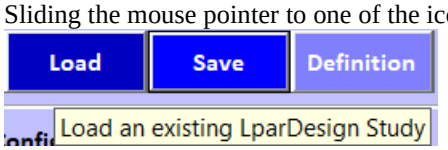
5. THE NAVIGATION AND ACTION BAR.

To make things simpler and easier, a navigation and action BAR is provided.
It is available when you open the spreadsheet and stays until you close it.
You can move it anywhere in the worksheets (you will do that when first opening the product).

5.1 BAR Functions.

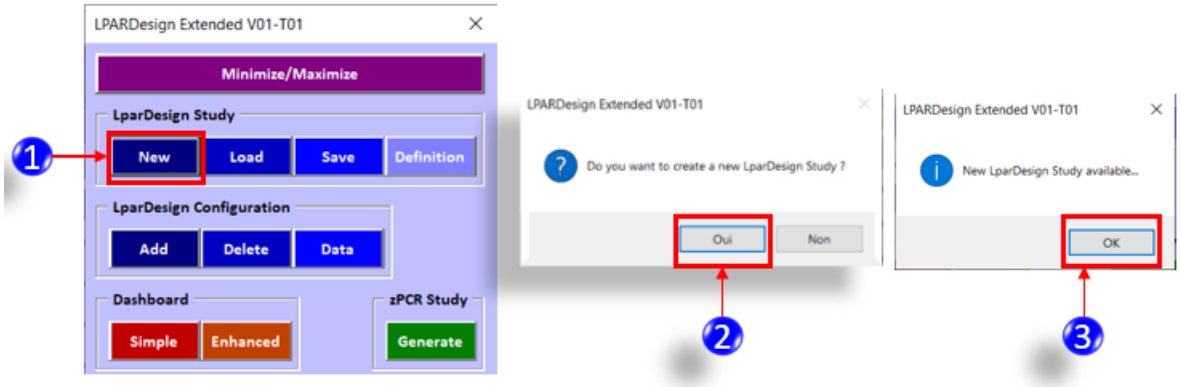


Sliding the mouse pointer to one of the icons shows its function:



6. LPARDesign Extended Workflow – Creating a Study and loading files.

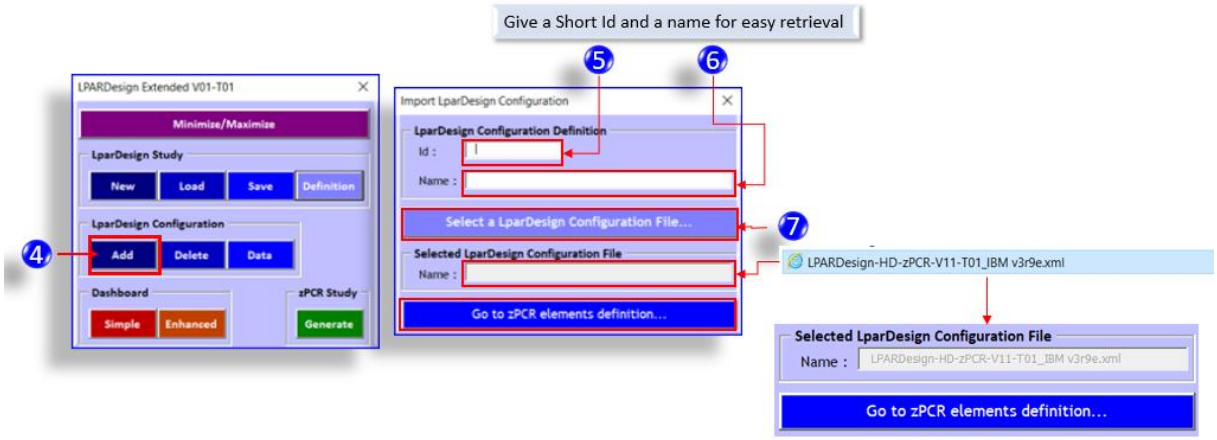
6.1 STEP-1: Create a New Study (initial usage)



This will create a fresh LPARDesign Extended Study.

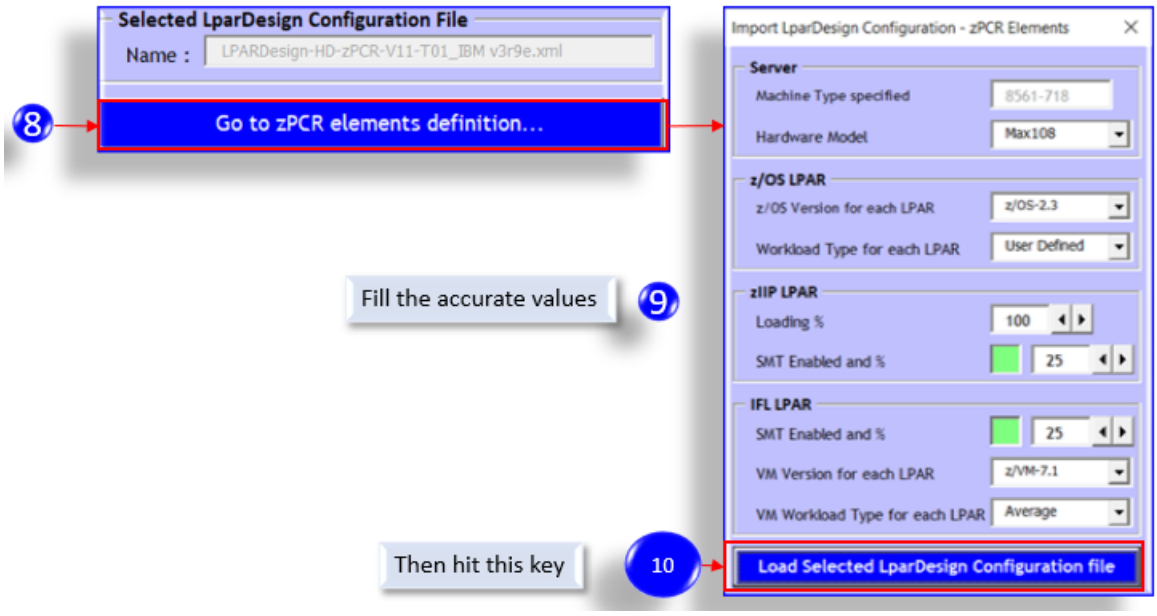
Now you must LOAD LPARDesign configuration files (.xml Files) to further compare them.

6.2 STEP-2: LOAD LPARDesign Configuration Files

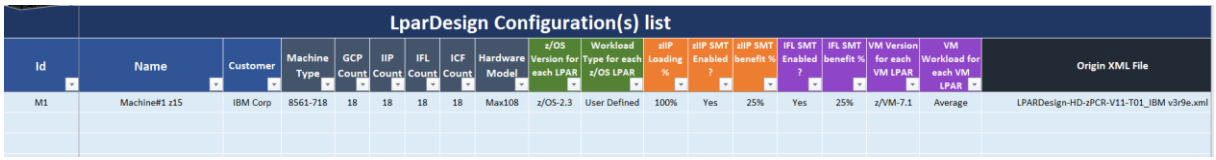


6.3 STEP-3: Refine LPARDesign Configuration Files with further information for zPCR.

For example, you might need to specify what is the **Max**nnn value for this z15-T01 machine. **This is for zPCR configuration to be accurate**.



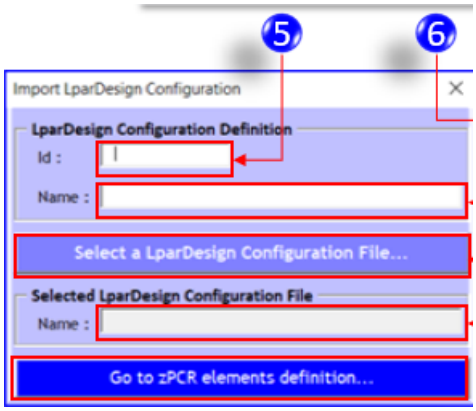
At that time you have Loaded this LPARDesign xml file, you will receive a confirmation PopUp and you can see you loaded configuration in the main worksheet:



LparDesign Configuration(s) list

Id	Name	Customer	Machine Type	GCP Count	IIP Count	IFL Count	ICF Count	Hardware Model	z/OS Version for each LPAR	Workload Type for each z/OS LPAR	zIIP Loading %	zIIP SMT Enabled ?	zIIP SMT benefit %	IFL SMT Enabled ?	IFL SMT benefit %	VM Version for each VM LPAR	VM Workload for each VM LPAR	Origin XML File
M1	Machine#1 z15	IBM Corp	8561-718	18	18	18	18	Max108	z/OS-2.3	User Defined	100%	Yes	25%	Yes	25%	z/VM-7.1	Average	LPARDesign-HD-zPCR-V11-T01_IBM v3r9e.xml

The Id and the Name are those that you have set in :



You will do that for every LPARDesign configuration .xml file that you want to further compare

6.4 Setting the LPARDesign Extend Study Id

At any time, you can set or change the "name" of the study:

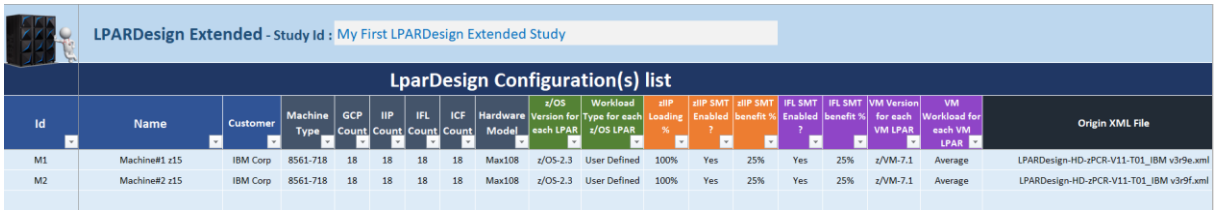
7. LPARDesign Extended Workflow – Comparing Configurations.

This is the main objective of the Tool.
In this situation, you have loaded various LPARDesign configuration .xml files and you want to compare these configurations.

7.1 Important Notes on the comparison process:

You will be able to compare **By LPAR Name** – which is the key of the comparison process.
For example, if you compare two machines where all the LPAR Names are not present, the LPARDesign Extended Tool will search only the LPAR Names that are present in both machines.

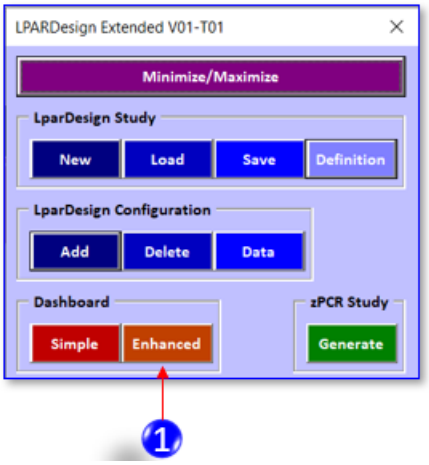
7.2 STEP-1: Reviewing the loaded configurations



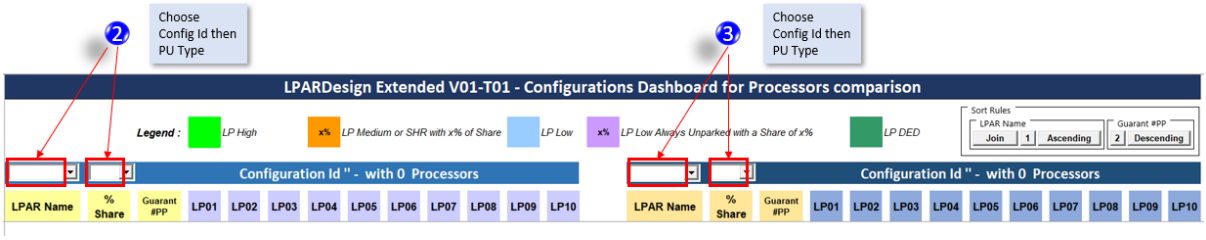
Id	Name	Customer	Machine Type	GCP Count	IIP Count	IFL Count	ICF Count	Hardware Model	z/OS Version for each LPAR	Workload Type for each z/OS LPAR	zIIP Loading %	zIIP SMT Enabled ?	zIIP SMT benefit %	IFL SMT Enabled ?	IFL SMT benefit %	VM Version for each VM LPAR	VM Workload for each VM LPAR	Origin XML File
M1	Machine#1 z15	IBM Corp	8561-718	18	18	18	18	Max108	z/OS-2.3	User Defined	100%	Yes	25%	Yes	25%	z/VM-7.1	Average	LPARDesign-HD-zPCR-V11-T01_IBM v3r9e.xml
M2	Machine#2 z15	IBM Corp	8561-718	18	18	18	18	Max108	z/OS-2.3	User Defined	100%	Yes	25%	Yes	25%	z/VM-7.1	Average	LPARDesign-HD-zPCR-V11-T01_IBM v3r9f.xml

In the main worksheet you have all the previously loaded configurations
So, you need to choose which of them you want to compare.

7.3 STEP-2: Comparing Configurations – Enhanced Dashboard

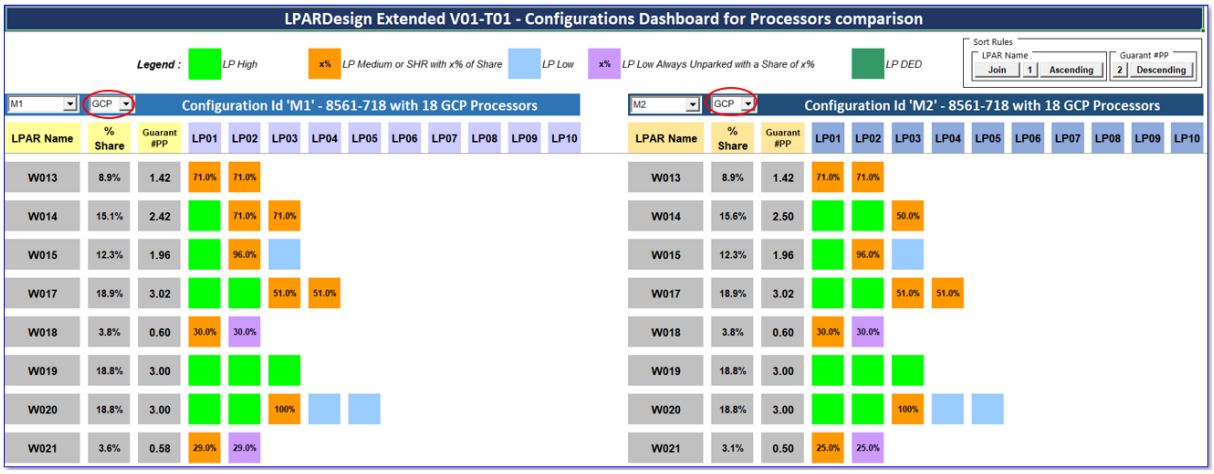


After pressing the Enhanced Dashboard button, you will get the main worksheet panel where you can choose the configurations (Id and PU Type) to compare:

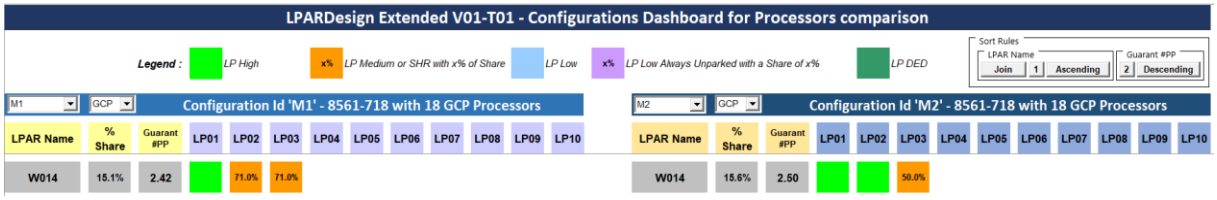


7.4 STEP-3 – Compare the configurations by LPAR Names and PU Types (GCP, zIIP, IFL, ICF)

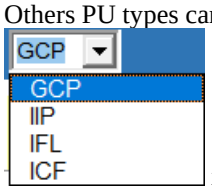
In this example, we compare the Dashboards from the M1 and M2 configurations for the GCP PU.



We can easily determine that the W014 LPAR has one more VH in configuration M2:



Others PU types can be compared too – Just scroll the PU Type button list:

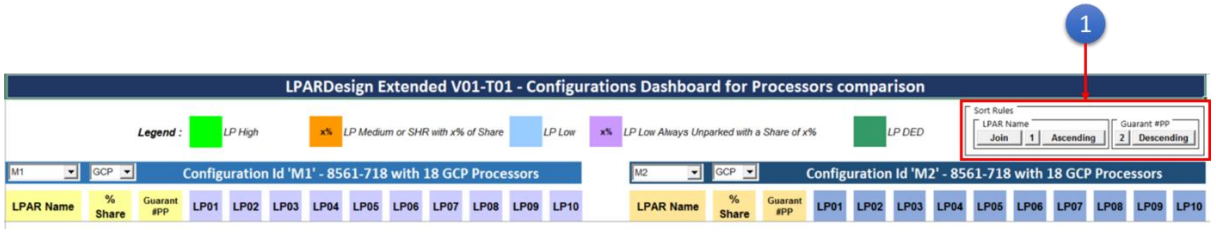


in each configurations.

Note: To better analyze the configurations, scroll to have the LPAR name you want to check just below the column titles.

7.5 STEP-4 – The Sort Rules.

In the **Enhanced Dashboard** you could use the **Sort Rules Box** for your study:

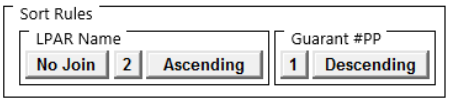


In details here is the box :

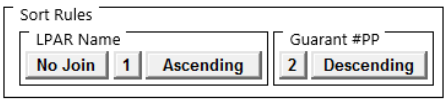
The sort rules are divided between **LPAR Name** and **Guaranteed number of Physical Processor** (« Guarant #PP ») keys.

- In the **LPAR Name** part of the Box, the first button is the **Join/No Join** button
  - When **Join** is selected this lets you build a Dashboard where the lines of the two configurations are joined on the LPAR Name.

    - In this case the **LPAR Name** will necessary be the first order Key and the **Guarant #PP** the second Key
  - When **No Join** is selected there is no join on the **LPAR Name** between the lines of the two configurations selected in the Dashboard.

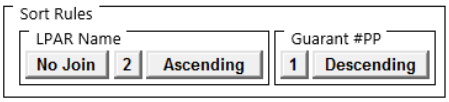
    

    - In this case you could select the Key order of your choice.
- For each of these keys you could build the sort order by selecting the first and the second key by clicking on the corresponding button to switch
  - <u>Example</u> :

    In this case the sort order is first (« **1** ») **LPAR Name** and second (« **2** ») **Guarant #PP** without any join on the LPAR Name.
  - <u>Example</u> :
    From the previous box clicking on the the « **1** » button in the **LPAR Name** key part will switch it to « **2** » and so the **Gurant #PP** key will switch to « **1** ».

    In this case the sort order is first (« **1** ») **Guarant #PP** and second (« **2** ») **LPAR Name**
- For each of these keys you could too select the sort order between **Ascending** and **Descending** thanks to the corresponding button.
  - In the last example :

    You could see that the **LPAR Name** will be sorted in **Ascending** order and the **Guarant #PP** will be sorted in **Descending** order

8. Other Features.

8.1 Simple Dashboard.

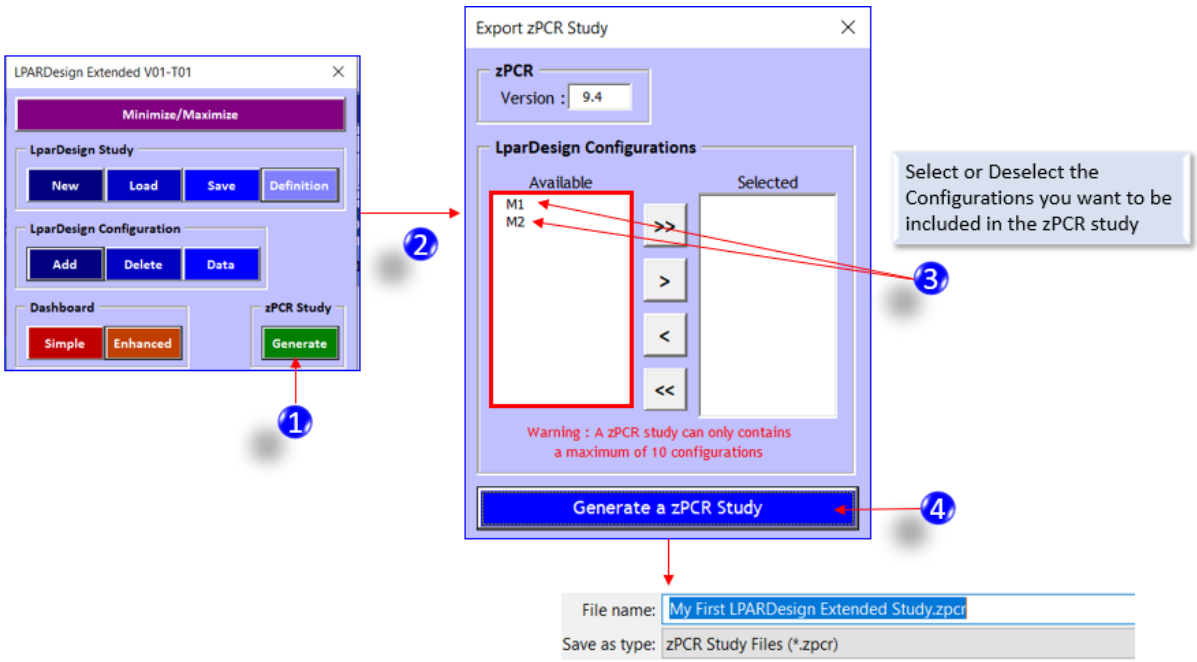
When you hit

you will have a unique Dashboard display as you have in LPARDesign. This is done to figure out a single configuration.

8.2 zPCR study generation

In this Tool, you can have multiple configurations.
So you can generate a zPCR study including those configurations (with the limitation of zPCR)

8.2.1 zPCR study generation workflow.



8.3 The DATA button

This will show you the raw values of the configurations you have loaded in the study.

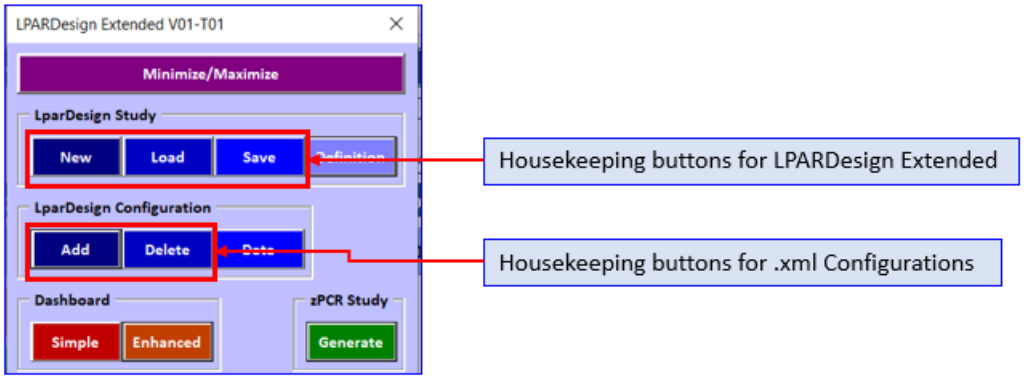
ConfigId	ConfigName	ConfigCustome	ConfigMachine	CPtype	TotCP	LparName	Weight	LCP	SharedPct	Guarantee	Workload	HDhigh	HDmediur	HDmediur	HDlow	HDactive
M1	Machine#1 z15	IBM Corp	8561-718	GCP	18	W013	142	2	8.9%	1.42	High	0	2	71.0%	0	2
M1	Machine#1 z15	IBM Corp	8561-718	GCP	18	W014	242	3	15.1%	2.42	Avg-High	1	2	71.0%	0	3
M1	Machine#1 z15	IBM Corp	8561-718	GCP	18	W015	196	3	12.3%	1.96	High	1	1	96.0%	1	2
M1	Machine#1 z15	IBM Corp	8561-718	GCP	18	W017	302	4	18.9%	3.02	Avg-High	2	2	51.0%	0	4
M1	Machine#1 z15	IBM Corp	8561-718	GCP	18	W018	60	2	3.8%	0.6	Average	0	1	60.0%	1	2
M1	Machine#1 z15	IBM Corp	8561-718	GCP	18	W019	300	3	18.8%	3	High	3	0	0.0%	0	3
M1	Machine#1 z15	IBM Corp	8561-718	GCP	18	W020	300	5	18.8%	3	Average	2	1	100.0%	2	3
M1	Machine#1 z15	IBM Corp	8561-718	GCP	18	W021	58	2	3.6%	0.58	Avg-High	0	1	58.0%	1	2
M1	Machine#1 z15	IBM Corp	8561-718	GCP	18	W022	DED	2	100.0%	2	Average	2	0	0.0%	0	2
M1	Machine#1 z15	IBM Corp	8561-718	IIP	18	W013	142	2	8.9%	1.42	-	0	2	71.0%	0	2
M1	Machine#1 z15	IBM Corp	8561-718	IIP	18	W014	242	3	15.1%	2.42	-	1	2	71.0%	0	3
M1	Machine#1 z15	IBM Corp	8561-718	IIP	18	W015	196	3	12.3%	1.96	-	1	1	96.0%	1	2
M1	Machine#1 z15	IBM Corp	8561-718	IIP	18	W017	302	4	18.9%	3.02	-	2	2	51.0%	0	4
M1	Machine#1 z15	IBM Corp	8561-718	IIP	18	W018	60	2	3.8%	0.6	-	0	1	60.0%	1	2
M1	Machine#1 z15	IBM Corp	8561-718	IIP	18	W019	300	3	18.8%	3	-	3	0	0.0%	0	3
M1	Machine#1 z15	IBM Corp	8561-718	IIP	18	W020	300	5	18.8%	3	-	2	1	100.0%	2	3
M1	Machine#1 z15	IBM Corp	8561-718	IIP	18	W021	58	2	3.6%	0.58	-	0	1	58.0%	1	2
M1	Machine#1 z15	IBM Corp	8561-718	IIP	18	W022	DED	2	100.0%	2	-	2	0	0.0%	0	2
M1	Machine#1 z15	IBM Corp	8561-718	IFL	18	ZVM1	142	2	8.9%	1.42	-	0	2	71.0%	0	2
M1	Machine#1 z15	IBM Corp	8561-718	IFL	18	ZVM2	242	3	15.1%	2.42	-	1	2	71.0%	0	3
M1	Machine#1 z15	IBM Corp	8561-718	IFL	18	ZVM1	196	3	12.3%	1.96	-	1	1	96.0%	1	2
M1	Machine#1 z15	IBM Corp	8561-718	IFL	18	ZVM3	302	4	18.9%	3.02	-	2	2	51.0%	0	4
M1	Machine#1 z15	IBM Corp	8561-718	IFL	18	ZVM6	60	2	3.8%	0.6	-	0	1	60.0%	1	2
M1	Machine#1 z15	IBM Corp	8561-718	IFL	18	ZVM3	300	3	18.8%	3	-	3	0	0.0%	0	3
M1	Machine#1 z15	IBM Corp	8561-718	IFL	18	ZVM3	300	5	18.8%	3	-	2	1	100.0%	2	3
M1	Machine#1 z15	IBM Corp	8561-718	IFL	18	ZVM5	58	2	3.6%	0.58	-	0	1	58.0%	1	2
M1	Machine#1 z15	IBM Corp	8561-718	IFL	18	ZVMD	DED	2	100.0%	2	-	2	0	0.0%	0	2
M1	Machine#1 z15	IBM Corp	8561-718	ICF	18	ICF1	200	2	50.0%	2	-	0	2	100.0%		2

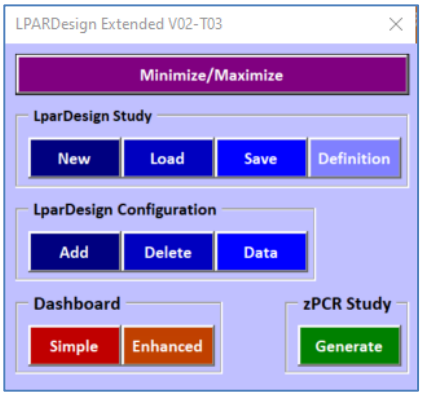
8.4 Housekeeping

There are various buttons that helps you:

Create (new)
Restore (Load)
Save
Add (.xml Configuration)
Delete (.xml Configuration

to keep you study useful.





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