
IBM System Planning Tool: Hands on Labs

The IBM System Planning Tool (SPT) is a browser-based application that helps you design system configurations. It is particularly useful for designing logical partition and planning a system based on existing performance data or for new workloads.

System plans generated by the SPT can be deployed on the system through the Hardware Management Console (HMC) or the Integrated Virtualization Manager. The SPT is available to assist the user in: system planning, design, validation. It provides a system validation report that reflects the user's system requirements while not exceeding system recommendations or forgetting any requirements.

Lab Exercise: [How to use System Planning Tool for sizing a solution, restore to Econfig for ordering, or deploy on customer site](#)

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Introduction & Objectives

This Lab is an introduction to IBM system planning tool (SPT) to help you in your future design of infrastructure.

We will follow 3 steps in use of product,
with first step design a solution from customer requirement.
with the second step, we will export our sysplan to make an order,
with the third step, we will demonstrate how can we use a system plan to deploy the solution to the customer site.

In this lab, we will install and configure IBM SPT on your laptop for windows user, for mac's users you can follow this procedure to use a docker session or if you have a fusion session you can follow windows steps.

To be sure that you use the right version of the product, you can go on this website to download the latest version . You can find all information about the product, releases, support.

for all informations → <https://www.ibm.com/support/pages/ibm-system-planning-tool-power-processor-based-systems>

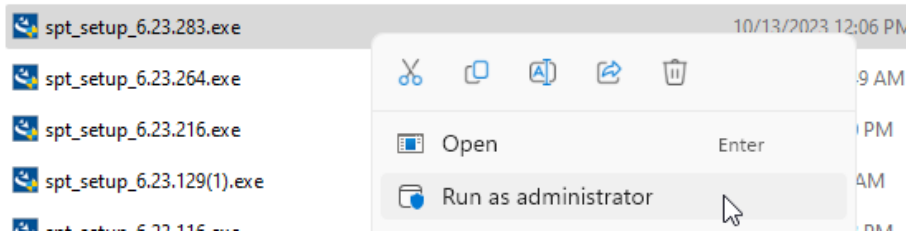
for doownload only → <http://www.ibm.com/support/docview.wss?uid=isg3T1026181>

for container images instructions → https://public.dhe.ibm.com/systems/power/systemplanningtool/SPT_Container_Image_Instructions.pdf

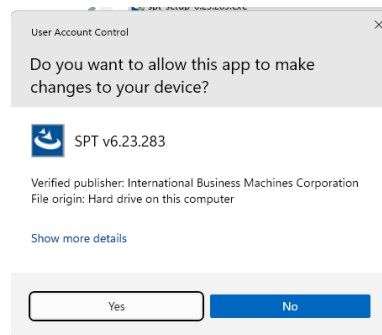
In this lab we use the version of october 10 2023, with label 6.23.283

1 Install IBM System Planning Tool

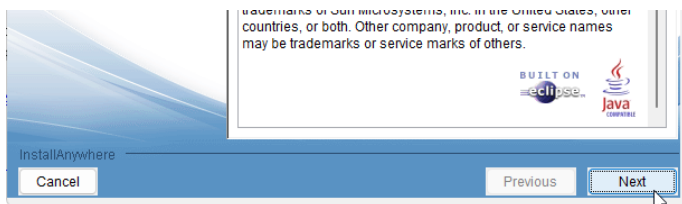
1. If SPT is already setup on your laptop,
2. Go to your file explorer in the folder where you downloaded the product and make a right click on the right file and choose **run as administrator**.



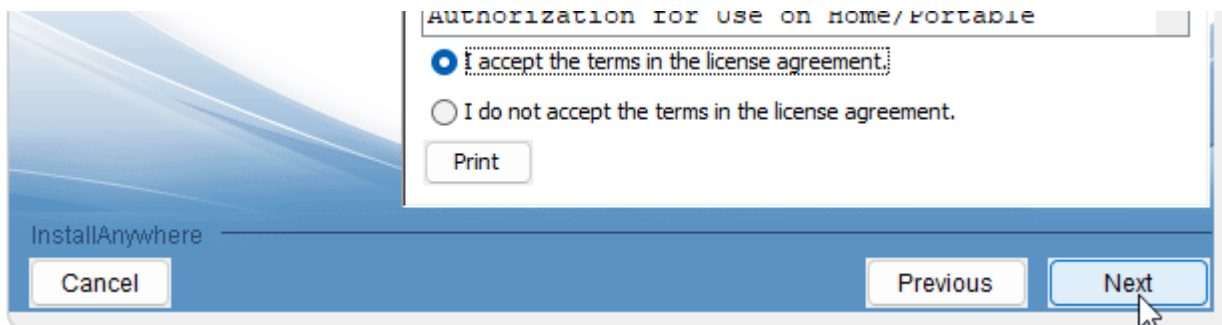
3. Click on **YES** in the box to launch installation process.



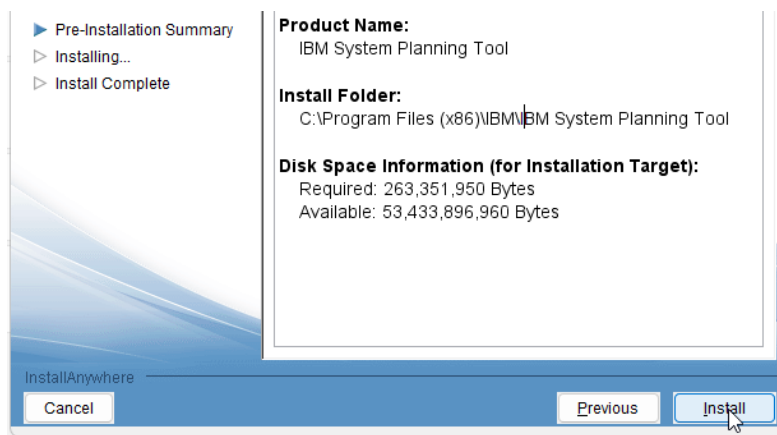
4. On the next screen, click **NEXT**.



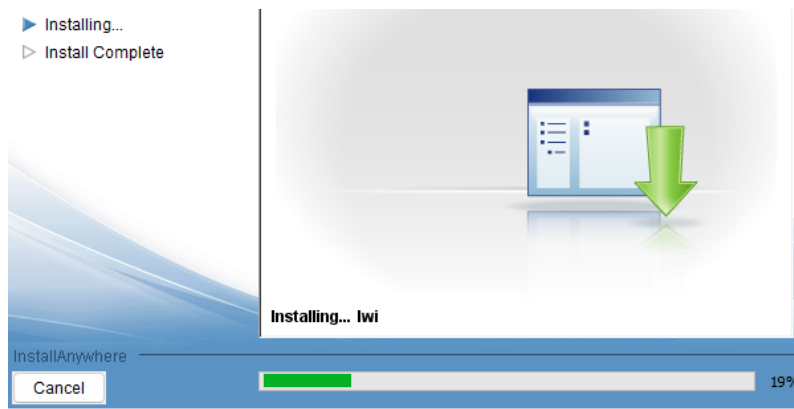
5. On the screen, select **"I accept the license agreement"** and then click on **NEXT**.



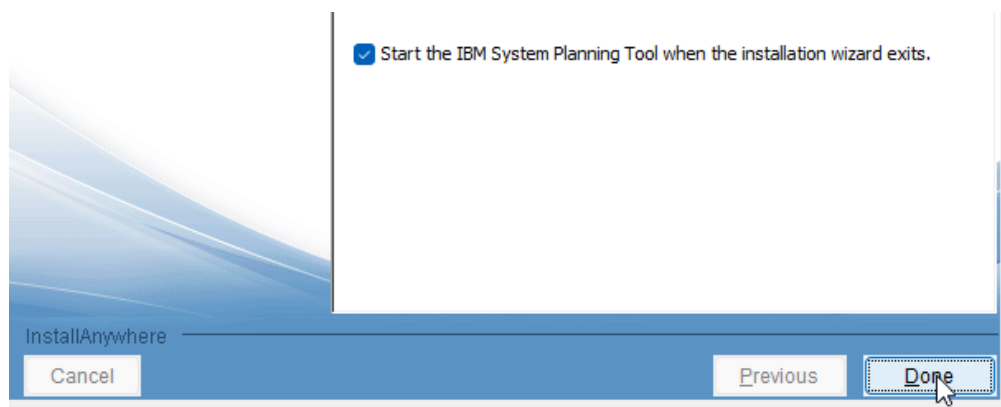
6. On the screen, click on **INSTALL**.



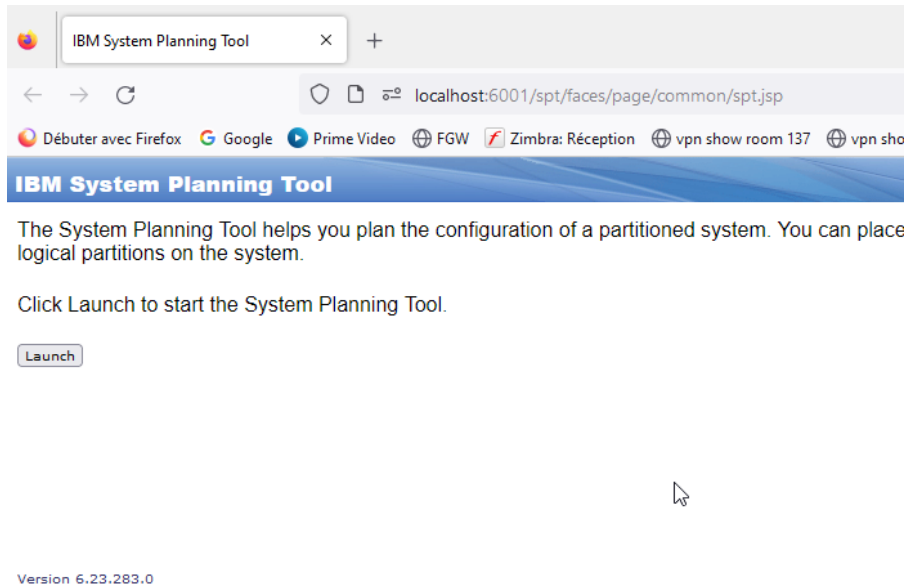
7. The installation of the application can take up to 5 minutes.



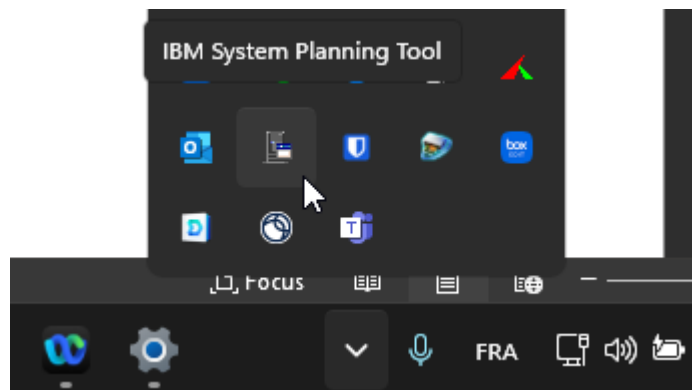
8. At the end of the installation process, you can check the box to start SPT when the wizard exiting, click on **DONE** after your choice



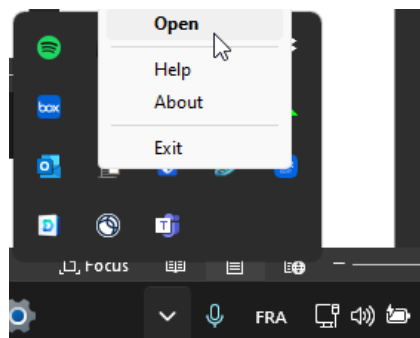
9. After exiting, SPT will be launch and a new Tab in your browser will be open.



To launch the SPT any other time, you can first check in the bottom right of your desktop if SPT is running.



If so, make a right click on the icon and click on Open.



When your SPT page is open, you can go to the next step.

2 Create a configuration

In this Lab, we are going to create a sysplan for a customer's new order, depending on their needs.

The Bulldog Security company, who is a Managed Service Provider (MSP), provides environments for security program and conformity rules for IBM i.

They need to give independence between each Logical PARTition (LPAR) and provide a maximum security. Each customer asks for a different network infrastructure, even if the hardware can be mutualized for processor and memory.

For this new configuration, Bulldog Security must provide a Power System with a maximum of **8 cores, 2 TB of memory**, a virtualization with no Single Point of Failure (SPoF), 4 independent IBM i LPARs with each a maximum of 1 core and 128 GB of ram, and native I/O for performance and network.

In addition, 4 AIX LPAR will be provided with an external storage that the customer has through a 32Gb SAN attachment.

For the backup strategy, tapes can be provided by VIOS for both AIX and IBM i partitions.

In the following table, you will find the requirements in terms of processor, memory and storage capacity for each LPAR including the VIOS server. Please note that the VIOS must have internal storage, with NO boot on SAN, and no SPoF.

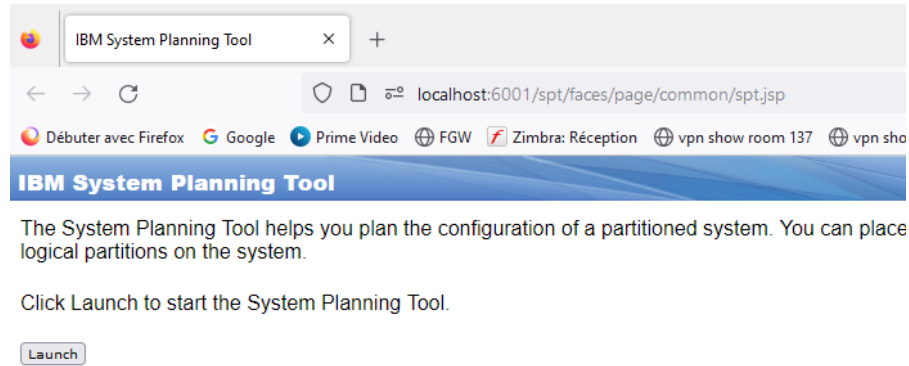
The customer requests NVMe disks for each IBM i partition to improve performance, while the AIX partitions will have external storage.

Each type of partition must have its own processor pool to avoid license overruns and control processor power.

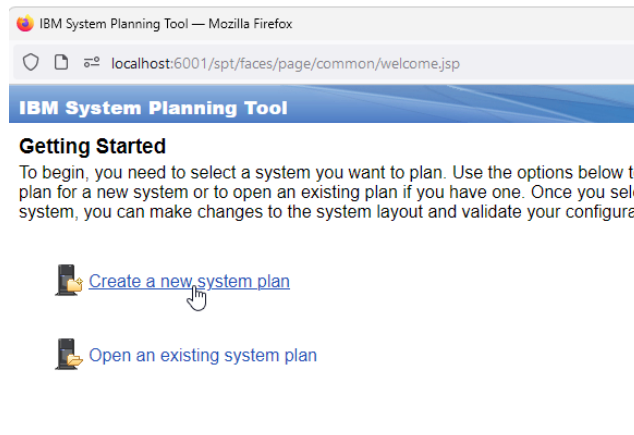
LPAR	OS	PROCESSOR			RAM in MB			STORAGE
		MIN	DESIRED	MAX	MIN	DESIRED	MAX	CAPACITY in GB
VIOS1	VIOS	0.05	0.5	1	2048	4096	16384	160
VIOS2	VIOS	0.05	0.5	1	2048	4096	16384	160
PROD1_I	IBM i V7R5	0.1	1	4	8192	65536	131072	18432
PROD2_I	IBM i V7R5	0.1	1	4	8192	65536	131072	15974
PROD3_I	IBM i V7R4	0.1	1	4	8192	65536	131072	8192
PROD4_I	IBM i V7R4	0.1	1	4	8192	65536	131072	5632
AIX1	AIX 7.3	0.1	0.5	2	4096	32768	98304	11776
AIX2	AIX 7.3	0.1	0.5	2	4096	32768	98304	5632
AIX3	AIX 7.2	0.1	0.5	2	4096	32768	65536	4404
AIX4	AIX 7.2	0.1	0.5	2	4096	32768	65536	6860

2.1 Create a project

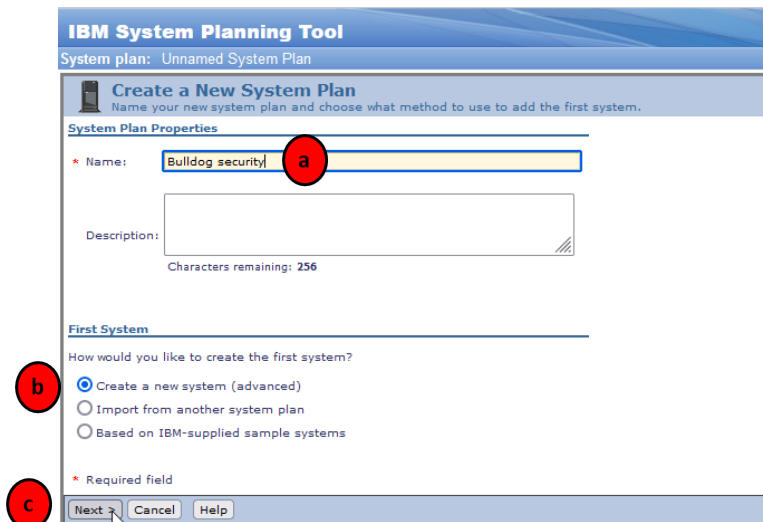
- 1) On the starting page, click on **launch**.



- 2) In the new tab, click on **create a new system plan**.



- 3) In this step, you will:
- Rename the project as you want: Bulldog Security,
 - Choose “create a new system”,
 - Click on next.



- 4) In this step, you will:
- Rename the System as you want,
 - Click the checkbox that indicates it is for a new order,
 - Select the platform: Power Systems,
 - Choose the right server you want in the list, for this case we will choose the S1022S or MTM 9105-22B

IBM System Planning Tool
System: Unnamed System

Add System Wizard

System Type
Specify the system type for the new system.

* Name: Bulldog_project **a**

Description:
Characters remaining:256

This system is being planned for a new order **b**

* Platform: Power Systems **c**

Machine type-model: 9105-22B **d**

Management interface: **IBM POWER10**

- 9043-MRX
- 9080-HEX
- 9105-22A
- 9105-22B
- 9105-41B
- 9105-42A
- 9786-22H
- 9786-42H
- IBM POWER9**

* Required field

< Back **Next >** **e** Finish Cancel Help

PS: if you checked the new order box (point 4.b), only **Power9 and Power10 servers** will appear in the Machine type-model list.

Otherwise, if the box is not checked, then you will have access in **Power Systems** category to **P6 to P10 servers**. We choose this category if we are making a sysplan for the validation of a MES.

If you select the Platform "**System I**" or "**System P**", it will only be **Power5 servers**.

- e) click on **next**.

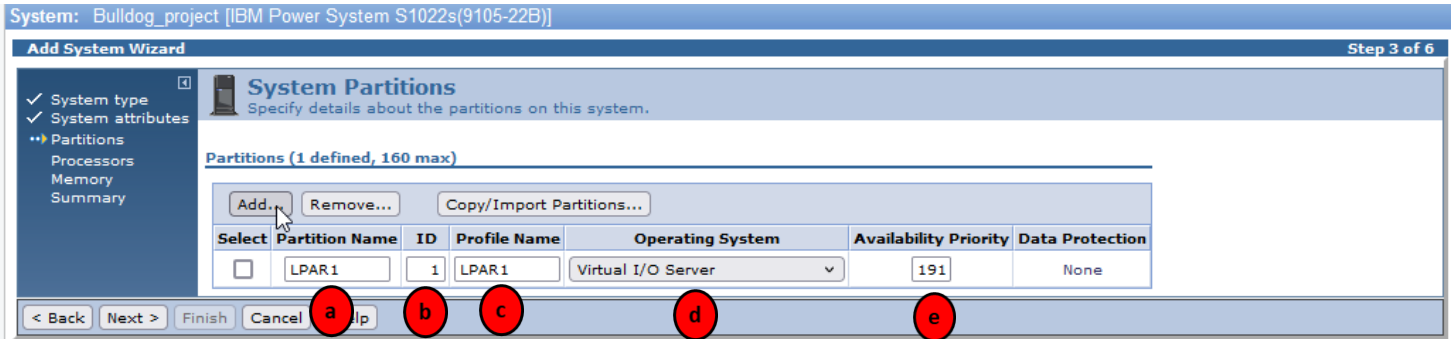
- 5) In this step, you will further instruct the system we want to build, by indicating the number of processors/sockets and the amount of memory (RAM).
- You need to choose the processors configuration for your customer by clicking on “Edit Features”. The number of sockets and cores to be installed (it depends on existing offerings) will determine the number of PCI slots available later on the configuration.
 - We must select the S1022b model with 2 sockets of 4 cores each in order to meet the need of a maximum of 8 cores. Later, we will have to adapt the configuration to separate native I/O from virtualization between AIX and IBMi.
 - You need to choose the quantity of Memory (RAM) that you want in your system. In our case, we will have 2TB of RAM.
 - Select the number of active processor(s) in your configuration. We choose to activate all cores.

PS: Be careful, the number of active processors, because it’s not mandatory to activate or license all your processor in a configuration.

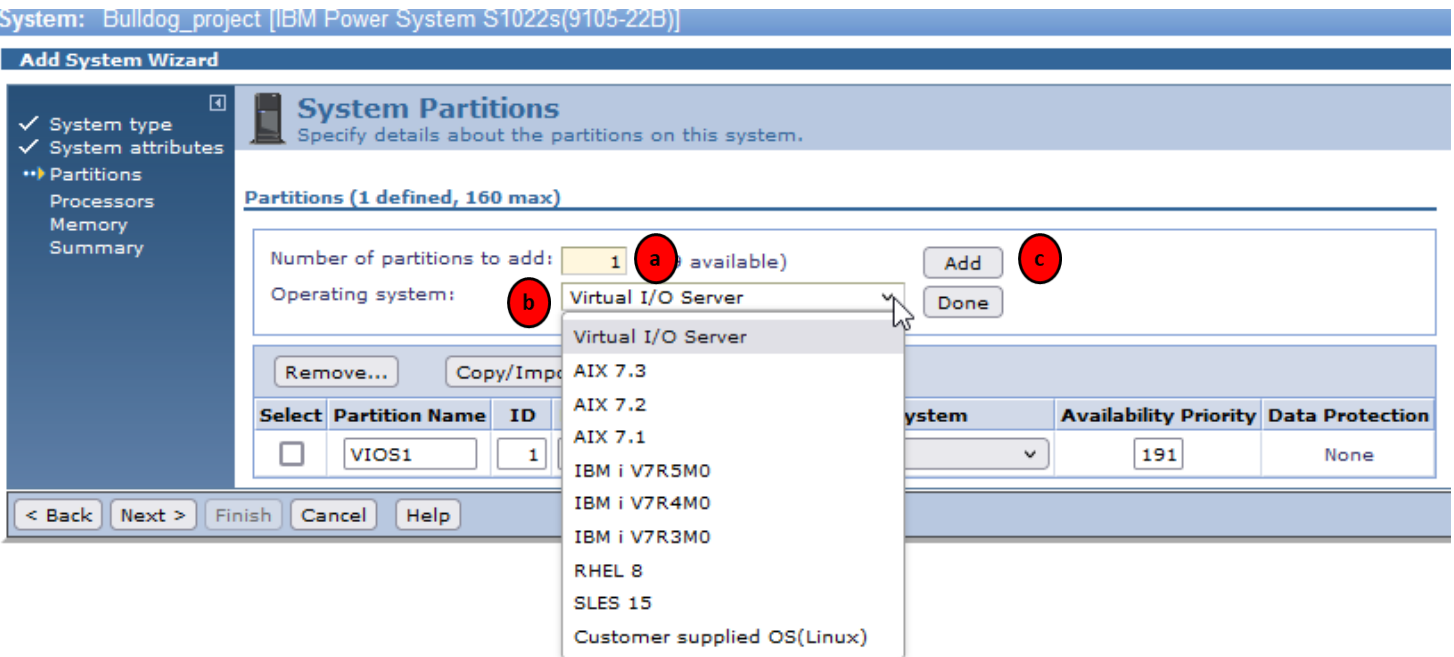
The screenshot displays the IBM System Planning Tool interface. The main window is titled "Add System Wizard" and shows "System Attributes" for a system named "Bulldog_project". The "Features" section shows "Processor feature: EPGR" and "Processor feature quantity: 2". The "Other Attributes" section shows "System memory (GB): 2048" and "Number of active processors: 8". A red arrow points from the "Edit Features" button to a dialog box titled "Edit Processor Features - IBM Power System S1022s(9105-22B)". This dialog box contains a table of processor options:

Select	Description	Processor feature	Processor Feature Quantity	Min/max memory (GB)	Maximum partitions
<input type="radio"/>	4-core Typical 3.0 to 3.90 Ghz (max) Power10 Processor (rPerf 129.4)	EPGR	1	32/2 048	80
<input checked="" type="radio"/>	4-core Typical 3.0 to 3.90 Ghz (max) Power10 Processor (rPerf 394.5) (CPW 198,200/8cores)	EPGR	2	32/4 096	160
<input type="radio"/>	8-core Typical 3.00 to 3.90 Ghz (max) Power10 Processor (rPerf 254.2) (CPW 106,300/4cores)	EPGQ	1	32/2 048	160
<input type="radio"/>	8-core Typical 3.00 to 3.90 Ghz (max) Power10 Processor (rPerf 477.8) (CPW 106,300/4cores)	EPGQ	2	32/4 096	320

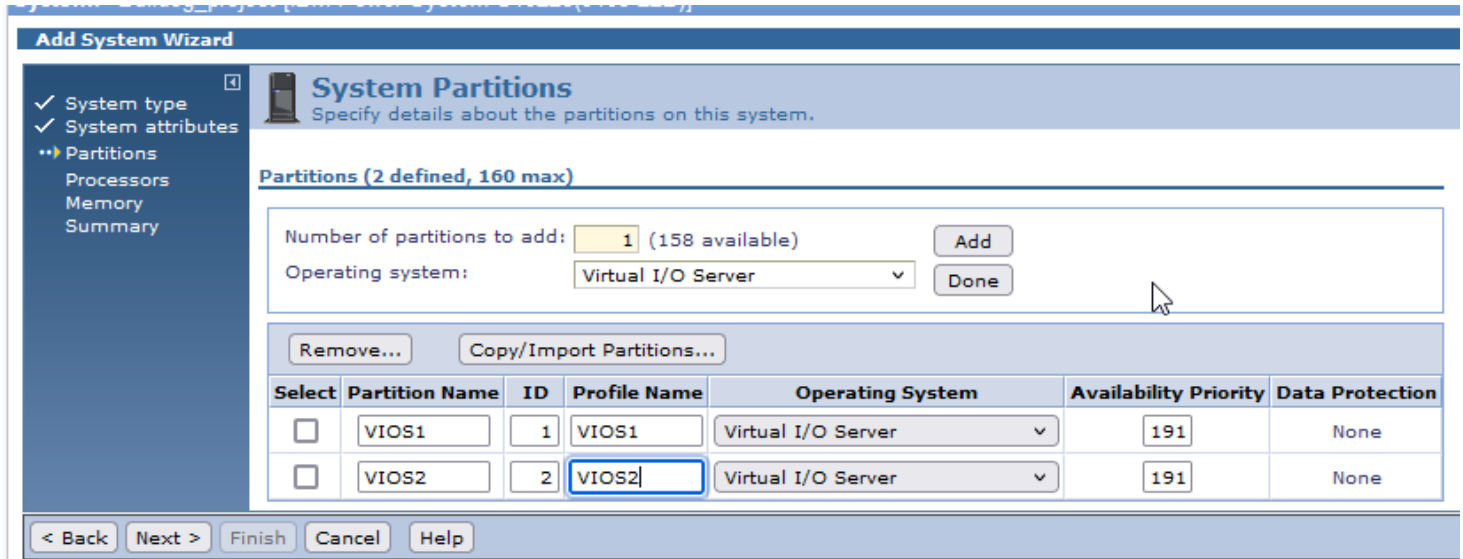
- Click on **next**.
- 6) At this step, we are adding all the LPARs to the configuration. Click on the “Add...” button to create a new partition, then for each LPAR you add, you must give the same information:
- The LPAR name,
 - The ID of the partition,
 - The name of the profile of the partition,
 - The OS of the partition (VIOS, AIX, IBM I , Linux),
 - The priority of the partition while running.



- 7) When clicking on “Add...” at the previous step, the following information boxes are displayed with action to take:
- Choose the right number of LPAR you want to add for this category (for example, 2 VIOS),
 - Choose the Operating Systems,
 - Click on “Add”.



8) Afterwards, the partitions are added and you can change parameters described at the steps 7.A-7.e.

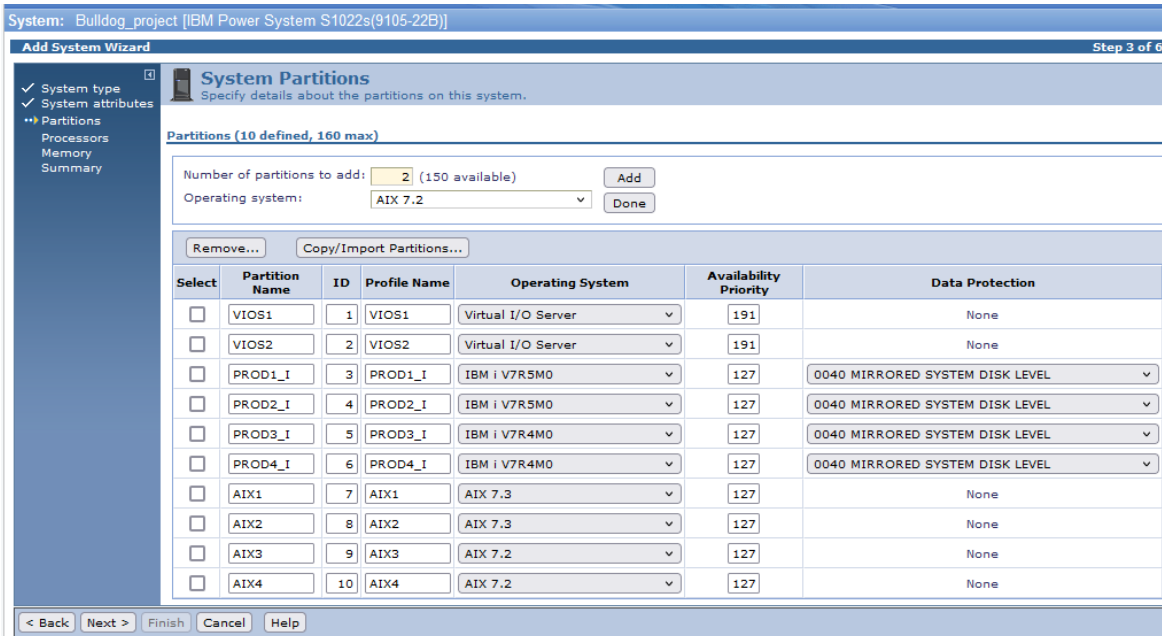


You need to repeat the step 7 for each lpar you want to add

To avoid redundancies and save time in this lab, you will create only one LPAR for each version of each OS:

- 1 IBM i V7R5
- 1 IBM i V7R4
- 1 AIX 7.3
- 1 AIX 7.2

By creating all needed partitions for Bulldog Security, the outcome of this step gives the following:



The number of LPAR you create at this moment will add other components in later steps on the configuration. For example, for each partition we have to create adapters linked to it (physical card, virtual adapters...), the number of processors and memory to allocate to the partition...

If you want to delete one or more lpar you need to check the box in front of the lpar and click on the remove button and confirm your choice



Partitions (9 defined, 160 max)

Number of partitions to add: (151 available)

Operating system:

Select	Partition Name	ID	Profile Name	Operating System	Availability Priority	Data Protection
<input type="checkbox"/>	VIOS1	1	VIOS1	Virtual I/O Server	191	None
<input type="checkbox"/>	VIOS2	2	VIOS2	Virtual I/O Server	191	None
<input type="checkbox"/>	PROD1_I	3	PROD1_I	IBM i V7R5M0	127	0040 MIRRORED SYSTEM DISK LEVEL
<input type="checkbox"/>	PROD3_I	5	PROD3_I	IBM i V7R4M0	127	0040 MIRRORED SYSTEM DISK LEVEL
<input checked="" type="checkbox"/>	PROD4_I	6	PROD4_I	IBM i V7R4M0	127	0040 MIRRORED SYSTEM DISK LEVEL
<input type="checkbox"/>	AIX1	7	AIX1	AIX 7.3	127	None
<input checked="" type="checkbox"/>	AIX2	8	AIX2	AIX 7.3	127	None
<input type="checkbox"/>	AIX3	9	AIX3	AIX 7.2	127	None
<input checked="" type="checkbox"/>	AIX4	10	AIX4	AIX 7.2	127	None

In this lab, your partition setup will look like:

Add System Wizard Step 3 of 6

System Partitions
Specify details about the partitions on this system.

Partitions (6 defined, 160 max)

Number of partitions to add: (154 available)

Operating system:

Select	Partition Name	ID	Profile Name	Operating System	Availability Priority	Data Protection
<input type="checkbox"/>	VIOS1	1	VIOS1	Virtual I/O Server	191	None
<input type="checkbox"/>	VIOS2	2	VIOS2	Virtual I/O Server	191	None
<input type="checkbox"/>	PROD1_I	3	PROD1_I	IBM i V7R5M0	127	0040 MIRRORED SYSTEM DISK LEVEL
<input type="checkbox"/>	PROD3_I	5	PROD3_I	IBM i V7R4M0	127	0040 MIRRORED SYSTEM DISK LEVEL
<input type="checkbox"/>	AIX1	7	AIX1	AIX 7.3	127	None
<input type="checkbox"/>	AIX3	9	AIX3	AIX 7.2	127	None

< Back Next > Finish Cancel Help

For the IBM i partition, you can choose the protection for your disk if you take some NVMe disks in internal storage.

Click on **NEXT** to go to the next step configuration Processor resources.

2.2 Create Processor Resources

In this page, you can change all values for each LPAR you have created in the previous step.

But there are 2 very important parameters for your configuration: **Manage Pools** and **Recalculate**:

- **Manage pools** allows you to create and set up shared processor pools,
- **Recalculate** lets you know in real time how many cores you need to license in each type of OS.

System: Bulldog_project [IBM Power System S1022s(9105-22B)]

Add System Wizard Step 4 of 4

Processors

Specify how you want processors distributed among the partitions.

<p>Processors</p> <p>Physical: 8,00 Active: 8,00 Dedicated: 8,00 Shared: 0,00 Desired: 0,00 Reserved: 0,00 Unassigned: 0,00</p>	<p>Processor Pools</p> <p>Default Pool: Shared:0,00</p> <p style="text-align: center;"><input type="button" value="Manage pools"/></p>	<p>Performance **</p> <p>CPW: 198200</p>
--	---	---

Licenses Required

IBM i family: 2
AIX: 2

				Processing units			Sharing mode			Virtual processors			Performance **
Name	ID	Operating System	Shared	Min	Desired	Max	Idle Sharing	Uncapped	Weight	Min	Desired	Max	Batch CPW
VIOS1	1	Virtual I/O Server	<input type="checkbox"/>	3	3	3	<input type="checkbox"/>	<input type="checkbox"/>	128	0	0	0	74325
VIOS2	2	Virtual I/O Server	<input type="checkbox"/>	1	1	1	<input type="checkbox"/>	<input type="checkbox"/>	128	0	0	0	24775
PROD1_I	3	IBM i V7R5M0	<input type="checkbox"/>	1	1	1	<input type="checkbox"/>	<input type="checkbox"/>	128	0	0	0	24775
PROD3_I	5	IBM i V7R4M0	<input type="checkbox"/>	1	1	1	<input type="checkbox"/>	<input type="checkbox"/>	128	0	0	0	24775
AIX1	7	AIX 7.3	<input type="checkbox"/>	1	1	1	<input type="checkbox"/>	<input type="checkbox"/>	128	0	0	0	24775
AIX3	9	AIX 7.2	<input type="checkbox"/>	1	1	1	<input type="checkbox"/>	<input type="checkbox"/>	128	0	0	0	24775

** CPW calculations shown are approximations. For more accurate CPW values, the IBM Systems Workload Estimator (WLE) should be used.

2.2.1 Manage Share Processors Pools

We are going to use the “Manage pools” function to create a shared processor pool to separate IBM i cores from other OS to better limit the number of core that will be used for IBM i / AIX partitions.

1. Click on “Manage Pools”.

System: Bulldog_project [IBM Power System S1022s(9105-22B)]

Processors

Physical: 8,00
Active: 8,00
Dedicated: 8,00
Shared: 0,00
Desired: 0,00
Reserved: 0,00
Unassigned: 0,00

Manage Shared Processor Pools

Create or Modify Shared Processor Pools

Select	Pool ID	Pool Name	Reserved	Desired	Entitled	Maximum	Partitions
<input type="checkbox"/>	0	DefaultPool	*	8,00	8,00	*	1, 2, 3, 5, 7, 9

2. Click on **“Add”**.
 - a. Change the name of the pool,
 - b. Affect the number of cores you want for this pool. It's value is the maximum of the pool and must be equal to the number of cores you want to license.

Processors

Physical: 8,00
 Active: 8,00
 Dedicated: 8,00
 Shared: 0,00
 Desired: 0,00
 Reserved: 0,00
 Unassigned: 0,00

Shared Processor Pools

		Capacities					
Select	Pool ID	Pool Name	Reserved	Desired	Entitled	Maximum	Partitions
<input type="checkbox"/>	0	DefaultPool	*	8,00	8,00	*	1, 2, 3, 5, 7, 9
<input type="checkbox"/>	1	IBM i a	0,00	0,00	0,00	4 b	

3. Repeat the previous step for an AIX pool with 2 cores.

2.2.2 Processor resource configuration

Now, we are going to add each partition in the right shared processor pool with value from customer need, and also setting the CPU capacity given the table in the Section 2.

In the following screen you have to setup the right parameters for processor:

- Choose the processor pool,
- Put the value of the minimum processor capacity,
- Put the value of the desired processor capacity,
- Put the value of the maximum processor capacity,
- Check the box to have an Uncapped processor capacity (uncheck to cap the processor capacity for the partition),
- This value is estimated by the desired processor capacity chose (step c),
- Click on **next** to go on next screen.

System: Bulldog_project [IBM Power System S1022s(9105-22B)]

Add System Wizard Step 4 of 6

Processors
Specify how you want processors distributed among the partitions.

Processors
Physical: 8,00
Active: 8,00
Dedicated: 0,00
Shared: 5,00
Desired: 5,00
Reserved: 0,00
Unassigned: 3,00

Processor Pools
DefaultPool v
Desired: 1,00
Reserved: *
Maximum: *
Manage pools

Performance **
CPW: 198200

Licenses Required
IBM i family: 2
AIX: 2
Recalculate

Processors for Partitions

Name	ID	Operating System	Shared	Processor unit			Share mode		Weight	Virtual processors			Performance **
				Min	Desired	Max	Idle Sharing	Uncapped		Min	Desired	Max	
VIOS1	1	Virtual I/O Server	DefaultPool v	0,50	0,50	1,00	<input type="checkbox"/>	<input checked="" type="checkbox"/>	128	1	1	1	12388
VIOS2	2	Virtual I/O Server	DefaultPool v	0,10	0,50	1,00	<input type="checkbox"/>	<input checked="" type="checkbox"/>	128	1	1	1	12388
PROD1_I	3	IBM i V7R5M0	IBM i v	0,10	1,00	4,00	<input type="checkbox"/>	<input checked="" type="checkbox"/>	128	1	1	4	24775
PROD3_I	5	IBM i V7R4M0	IBM i v	0,10	1,00	4,00	<input type="checkbox"/>	<input checked="" type="checkbox"/>	128	1	1	4	24775
AIX1	7	AIX 7.3	AIX v	0,10	1,00	2,00	<input type="checkbox"/>	<input checked="" type="checkbox"/>	128	1	1	2	24775
AIX3	9	AIX 7.2	AIX v	0,10	1,00	2,00	<input type="checkbox"/>	<input checked="" type="checkbox"/>	128	1	1	2	24775

** CPW calculations shown are approximations. For more accurate CPW values, the IBM Systems Workload Estimator (WLE) should be used.

< Back Next > Finish Cancel Help

2.3 Memory resource configuration

In the following screen we are going to set up the parameters for memory:

- Choose if you want to enable the Active Memory Mirroring (AMM). If you uncheck this box, you will divide by 2 the quantity of Ram consumed by the hypervisor as it won't mirror the memory of the partition,
- Choose the size for Logical Memory Block (LMB) size, the default value is 256 MB (128MB / 256MB / 1024MB / 2048MB / 4096MB),
- With this button you can reset **ONLY minimum** memory to default for all partitions,
- With this button you can reset **ALL memory** to default for all partitions,
- You can adjust value for all partitions for minimum, desired and maximum,
- Click on **next** to go on next screen.

System: Bulldog_project [IBM Power System S1022s(9105-22B)]

Add System Wizard Step 5 of 6

Memory
Specify how you want the memory distributed among the partitions.

Memory

System memory (MB): 2097152

Configured memory (MB): 204800

Enable system firmware memory mirroring: **a**

Hypervisor memory (MB): 99664

Unassigned memory (MB): 1842688

Logical memory block size (MB): 256 **b**

Reset minimum memory to default values: **c**

Reset all memory values to defaults: **d**

Memory for Partitions **e**

Name	ID	Operating System	Memory (MB)		
			Min	Desired	Max
VIOS1	1	Virtual I/O Server	2048	4096	16384
VIOS2	2	Virtual I/O Server	2048	4096	16384
PROD1_I	3	IBM i V7R5M0	8192	65536	131072
PROD3_I	5	IBM i V7R4M0	8192	65536	131072
AIX1	7	AIX 7.3	4096	32768	98304
AIX3	9	AIX 7.2	4096	32768	65536

f

< Back Next > Finish Cancel Help

When you arrive on this screen, you will find all information you have setted up.

System: Bulldog_project [IBM Power System S1022s(9105-22B)]

Add System Wizard Step 6 of 6

System Summary
View a summary of the configuration you specified for this system.

Details

Platform: Power Systems

Description: 9105-22B

Management interface: HMC

Processor features: EPGR

Processor Feature Quantity: 2

Feature description: Model 9105_22B 4-core Typical 3.0 to 3.90 Ghz (max) Power10 Processor (rPerf 394.5) (CPW 198,200/8cores)

Memory (GB): 2 048

Physical processors: 8

Active processors: 8

Expansion units: 0

Assigned resources

Memory (MB): 322 560

Dedicated processors: 0

Shared processors: 5

Unassigned resources

Memory (MB): 1 774 592

Processors: 3

Partitions (6)

AIX 7.2	1
AIX 7.3	1
IBM i V7R4M0	1
IBM i V7R5M0	1
Virtual I/O Server 2	2

Licenses required

IBM i Family 2

AIX 2

< Back Next > Finish Cancel Help

Click on **FINISH** to go to the next step.

2.4 Manage your system plan

With the previous step, you finished the preliminary configuration. Now, the SPT will allow to configure and add all hardware resources. But it's also the screen for managing your system plan:

- If you click on the name of system plan, you will launch the hardware configuration,
- If you click on **properties**, you can change the name of the system plan,
- If you click on **close**, at this step you **will close this system plan without saving it and without asking confirmation to close it!**
- You can save your system plan with this button, sysplan plan will be put in download directory,
- You can export this plan to a CFR file to use it in in Econfig (in another step of this lab),
- You can generate a report for the current sysplan.

System plan: Bulldog security

Work with Planned Systems
Work with the systems you have defined.

i Congratulations! System "Bulldog_project" has been successfully created. This system may require additional configuration.

Add... Copy... Edit Remove... Report

Select	System	Type	Description	Status
<input checked="" type="checkbox"/>	Bulldog_project	IBM Power System S1022z(9105-22B)		✘ Additional configuration is required. Edit this system to create a valid system plan.

Properties Close Save Export... Report Help

2.5 Manage SPT for your hardware configuration

In this step, you are going to add all hardware resources to each partition to provide a functional configuration that can be ordered or deployed to a customer site.

An important information at this step is that you will be able to have information to order the right component and use your sysplan with e-config, **only if you have checked the box in the upcoming step.**

In the next screen you can find a lot of information that can use during the hardware configuration and all steps of edition of your sysplan.

Be aware: **save is NOT automatic.** Don't miss to click on the save button after modifications. However, each time you save your sysplan, a new file is created in your download directory to avoid loss of information. So, after 10 saves you will have 10 sysplan files, this allows you to avoid losing any modifications.

Name	Date modified	Type	Size
<input type="checkbox"/> Bulldog security(3).sysplan	10/23/2023 8:47 AM	SYSPLAN File	22 KB
<input type="checkbox"/> Bulldog security(2).sysplan	10/23/2023 8:47 AM	SYSPLAN File	22 KB
<input type="checkbox"/> Bulldog security(1).sysplan	10/23/2023 8:45 AM	SYSPLAN File	21 KB

You can reload the any version if you are not sure where you lost information.

IBM System Planning Tool

System plan: Bulldog security System: Bulldog_project [IBM Power System S1022a(9105-22B)]

System Partitions **Hardware** Networking Virtual Storage Installation Consoles Summary

All changes to the system plan have been successfully applied.

9105_22B-0

Display hardware supported by: Virtual I/O Server Actions Settings

Filter box: FC/CCIN

	Action	Location	Bus Width	Bus Speed	Length	Priority	F/C	Partition / Port Connection	Order status	S/N	Description	Comments
↓		P0-C0	x16	2.5 GHz	Long	16					PCIe5 x16 Slot #0	
↓		P0-C1	x16	2.5 GHz	Long	8					PCIe5 x16 Slot #0	
↓		P0-C2	x16	2.5 GHz	Long	8					PCIe5 x16 Slot #1	
↓		P0-C3	x16	2.5 GHz	Long	16					PCIe5 x8 Slot #2	
↓		P0-C4	x16	2.5 GHz	Long	16					PCIe5 x8 Slot #3	
↓		P0-C6	x16	2.5 GHz	Long	8					PCIe5 x16 Slot #5	
↓	⊗	P0-C7	x16	2.5 GHz	Long	8	EC2T	VIOS1 - Virtual I/O Server	IBM		2-PORT 25/10Gb NIC&ROCE SR/Cu PCIe 3.0 LP ADAPTER	
↓		P0-C8	x16	2.5 GHz	Long	8					PCIe5 x16 Slot #7	
↓		P0-C9	x16	2.5 GHz	Long	8					PCIe5 x16 Slot #8	
↓		P0-C10	x16	2.5 GHz	Long	16					PCIe5 x16 Slot #9	
↓		P0-C11	x16	2.5 GHz	Long	8					PCIe5 x16 Slot #10	

Validation messages (20 total)

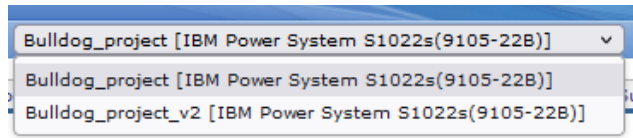
- ❌ VIOS1 partition requires a minimum of one disk IOA.
- ❌ VIOS1 partition requires a minimum of one internal storage device.
- ❌ VIOS2 partition requires a minimum of one disk IOA.
- ❌ VIOS2 partition requires a minimum of one internal storage device.
- ❌ PROD1_I partition requires a minimum of one disk IOA or a minimum of one virtual client SCSI connection.

OK Apply Save... Cancel Report Help

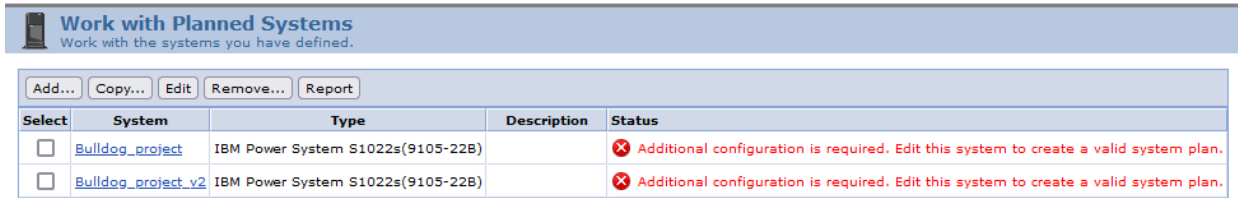
Figure 1 - Main Hardware configuration page

The points on the previous page are related to the following features:

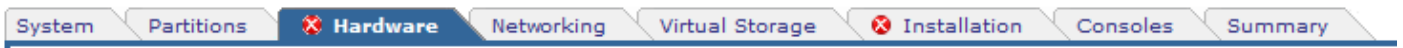
- a) On the *point A* from the **Figure 1**, if you have created different system in the same configuration, you can switch to other systems:



You can also manage your different sysplans in the manage interface (change name, create a copy):



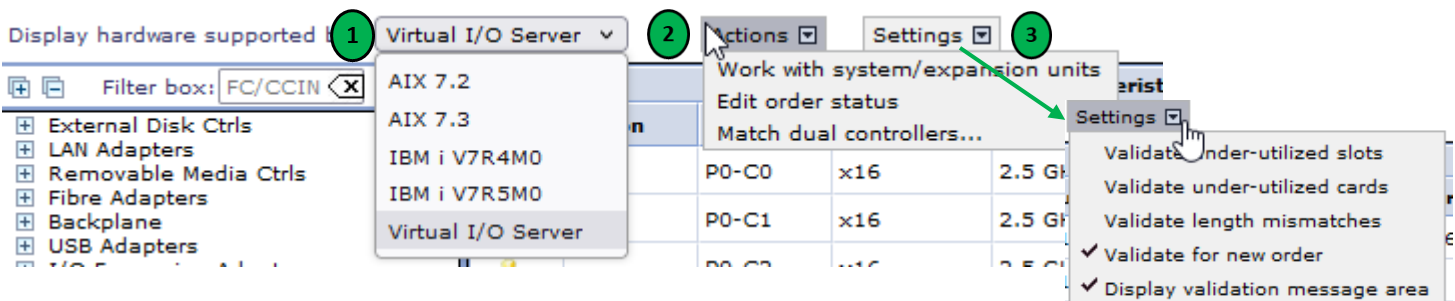
- b) On the *point B* from the **Figure 1**, This is the control panel. You can switch between each tab for your sysplan and configure each part of your system(s):



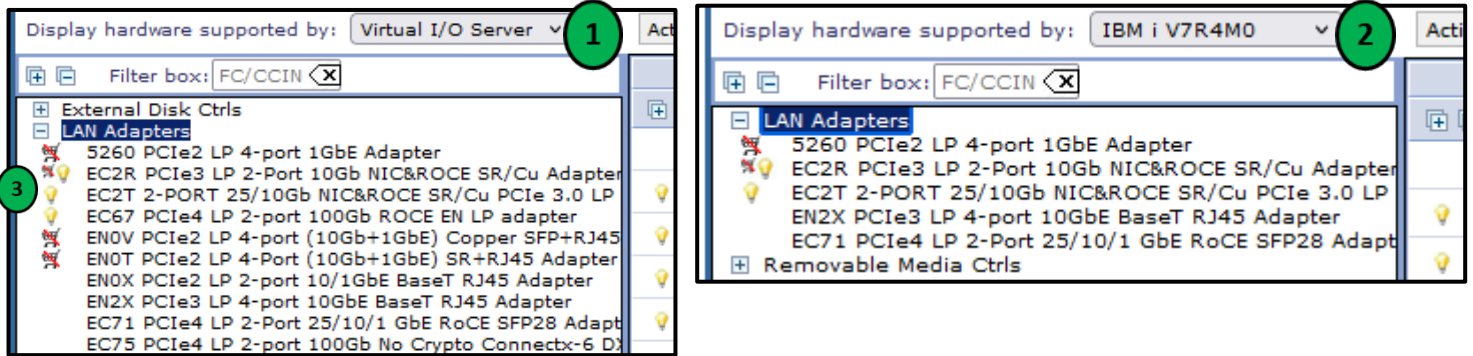
In this panel, you can see when your sysplan has errors (that we will discuss in the next steps). This zone is related to the validation message zone, at the bottom of the page. The validation messages allow to solve all issues and validate your configuration.

Red crosses mean that there are issues in the specific configuration part (here, hardware and installation). Be careful on the networking or virtual storage, in some case you only have an informational validation message.

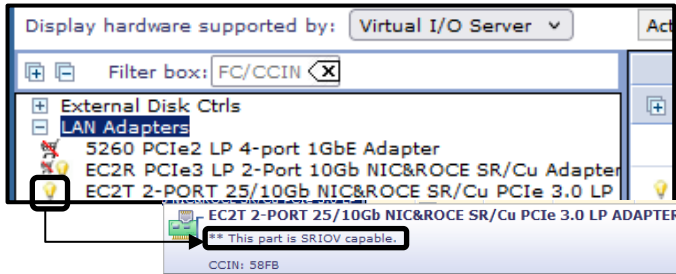
- c) On the *point C* from the **Figure 1**, you have 3 important buttons for your configuration:
 1. The list to choose the OS for each partition where you want to allocate hardware features.
 2. The Actions list, with 3 functions:
 - “Work with systems / expansion units” allows you to add drawer or expansion units to your sysplan.
 - “Edit order status” allows you to change, for each feature, if it’s an IBM, OEM or your own feature.
 - “Match dual controllers” is used in case you have SAS RAID controller that need to have pairing configuration for ENABLE WRITE CACHE MIRRORING
 3. The “Settings” list allows you to change settings for your sysplan. For example, if you missed to validate that it is for new order at the first step, you can change it here.



d) On the *point D* from the **Figure 1**, you will choose the Hardware features you want to add to the slots of your system. The selection of those features will depend on the type of OS of the partition on which you want to assign it, and then see if you can order or not the features.



1. If you choose VIOS, you can find the list of features on the picture above on the left,
2. If you choose IBM i, the list will change, as we can see on the picture above on the right,
3. In front of each component, you can see if it possible to order it or not:
 - If you have a light in front of a features, this one is SR/IOV capable.





- If you have a cart crossed out in a red, you cannot choose it for a new order. It means that the feature has been withdrawn from market. It is important to know that the SPT tool is updated frequently to keep up with new announcement letters (new / withdrawal of Hardware components). You have to ensure to update frequently the SPT tool to ensure your configuration will be possible. Also, in some few cases there will be some time between announcement letters and new SPT releases.

However, it is still compatible in your configuration.




e) On the *point E* on the **Figure 1**, each corresponds to a slot on your system. It is where you will add (or leave empty) the adapters needed by the customer:

Slot Characteristics										
Action	Location	Bus Width	Bus Speed	Length	Priority	F/C	Partition / Port Connection	Order status	S/N	Description
⊕	P0-C8	16	2.5 GHz	Long	8	EC2T	VIOS1 - Virtual I/O Server	IBM		2-PORT 25/10Gb NIC&ROCE SR/Cu PCIe 3.0 LP ADAPTER
⊕	P0-C8	16	2.5 GHz	Long	8					PCIe5 x16 Slot #7

1. Each column in the *point E* has a specific purpose:
 - Location: the slot position in the system / drawer,
 - Bus width: width of the bus for specific cards,
 - Bus speed: speed of the bus for specific needs,
 - Length: for specific needs,
 - Priority: priority of the adapter for the processing unit,
 - Feature code (F/C): short, qualified name for a feature,
 - Partition / port connection: specify LPAR attachment for this feature (allocate the adapter to the specified partition),
 - S/N: serial number when you add a card for a deployment.
2. Like in the previous information panel (*point D*), if you have a little light in a row, it means that the slot is SR/IOV capable,
3. If you have a  symbol, you can click on it to remove this feature from the slot,
4. If you have a  symbol, you can click on it to add the feature you have select in the left panel (*point D*).

- f) On the *point F* on the **Figure 1**, you cand find all validation messages and all issues that doesn't permit you to validate the configuration.



When you correct the issue(s), the message disappears from this panel. In case of a yellow warning, , it means that the issue doesn't block the validation, so you just have to be careful with these messages.

- g) On the *point G* on the **Figure 1**, you can find all button to:
- Apply your modification,
 - Save your sysplan,
 - Cancel your last modification and go out of the sysplan configuration,
 - Launch a report of your current configuration,
 - Use the help menu.

With all these panels, you can add all adapters needed and assign them to the partitions you specified in the previous part (2.4 Manage your system plan). In the next section we will add all the adapters for the use case of this lab.

2.6 Create Hardware configuration

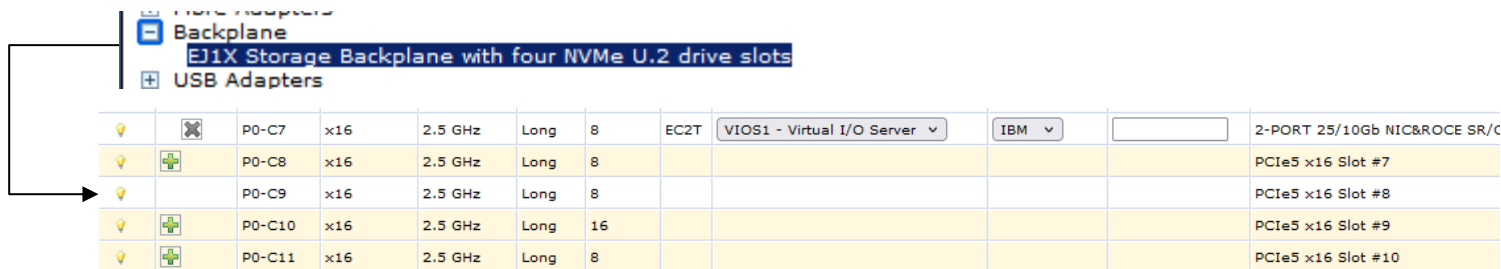
You are going to add the adapters and allocate them for each LPAR you need, to create a valid hardware configuration that meets the client's expectation. At this stage, you can ensure that your configuration is possible.

2.6.1 Storage configuration for VIOS

You are going to add the internal storage for your VIOS, and after to your IBM I partition.

Like in the previous step, you need to choose the right disk and affect to the right LPAR. Be careful, in Power10 configuration, you cannot find **Raid** adapter for your storage configuration. Now, you have backplane card to attach NVMe disk to your LPAR.

- 1) You can find it in the backplane category in the left panel (*point D* of **Figure 1**)

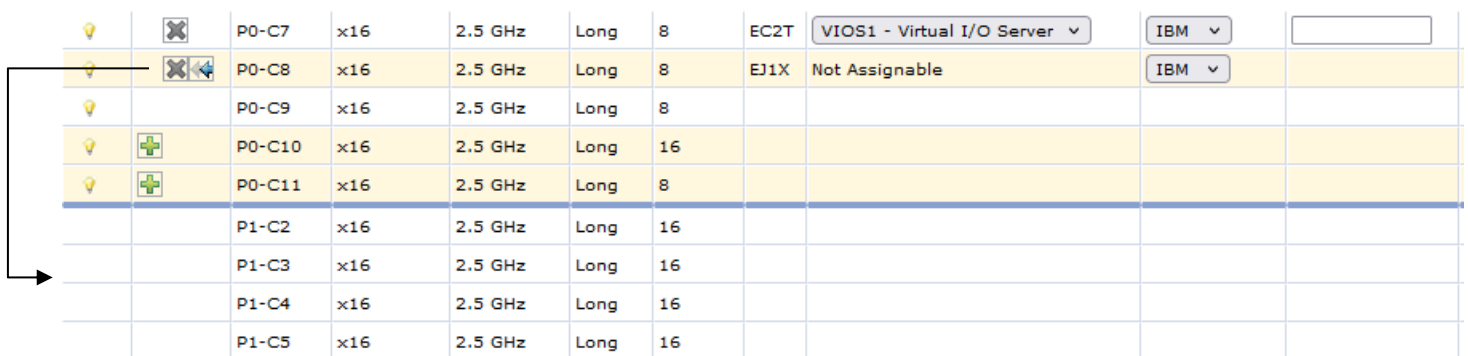


Lightbulb	Close	Adapter ID	Form Factor	Speed	Length	Ports	Adapter Type	Manufacturer	Model	Slot
		P0-C7	x16	2.5 GHz	Long	8	EC2T	VIOS1 - Virtual I/O Server	IBM	2-PORT 25/10Gb NIC&ROCE SR/c
	+	P0-C8	x16	2.5 GHz	Long	8				PCIe5 x16 Slot #7
		P0-C9	x16	2.5 GHz	Long	8				PCIe5 x16 Slot #8
	+	P0-C10	x16	2.5 GHz	Long	16				PCIe5 x16 Slot #9
	+	P0-C11	x16	2.5 GHz	Long	8				PCIe5 x16 Slot #10

Like other feature adapters, you need to select the corresponding slot on the System (*point E* of **Figure 1**)

As we can see on the above picture, only 3 slots are available to add the storage backplane to the configuration. The customer needs RAS (Reliability, availability and serviceability), so you need to add 2 backplane adapters to have one NVMe backplane for each for a VIOS.

- 2) When you add a backplane, a new panel appear at the bottom of the table (below the slots of the system), it allows you to add disks to the first backplane:



Lightbulb	Close	Adapter ID	Form Factor	Speed	Length	Ports	Adapter Type	Manufacturer	Model	Slot
		P0-C7	x16	2.5 GHz	Long	8	EC2T	VIOS1 - Virtual I/O Server	IBM	
	✕	P0-C8	x16	2.5 GHz	Long	8	E11X	Not Assignable	IBM	
		P0-C9	x16	2.5 GHz	Long	8				
	+	P0-C10	x16	2.5 GHz	Long	16				
	+	P0-C11	x16	2.5 GHz	Long	8				
		P1-C2	x16	2.5 GHz	Long	16				
		P1-C3	x16	2.5 GHz	Long	16				
		P1-C4	x16	2.5 GHz	Long	16				
		P1-C5	x16	2.5 GHz	Long	16				

3) When you add the backplane to the second backplane, 4 new rows (disks slots) will appear:

⚡	⊗	P0-C8	x16	2.5 GHz	Long	8	EJ1X	Not Assignable
⚡		P0-C9	x16	2.5 GHz	Long	8		
⚡	+	P0-C10	x16	2.5 GHz	Long	16		
⚡	⊗	P0-C11	x16	2.5 GHz	Long	8	EJ1X	Not Assignable
		P1-C2	x16	2.5 GHz	Long	16		
		P1-C3	x16	2.5 GHz	Long	16		
		P1-C4	x16	2.5 GHz	Long	16		
		P1-C5	x16	2.5 GHz	Long	16		
		P2-C10	x16	2.5 GHz	Long	16		
		P2-C11	x16	2.5 GHz	Long	16		
		P2-C12	x16	2.5 GHz	Long	16		
		P2-C13	x16	2.5 GHz	Long	16		

4) Now you can add NVMe disk for each VIOS:

- a. Select the **NVmemory module** category,
- b. Choose **#EC7T** features,
- c. **Add one #EC7T** for each VIOS in both backplane (select the **+** sign after selecting the **#EC7T** feature).

NVmemory module

- EC5X Mainstream 800 GB SSD PCIe3 NVMe U.2 module for AIX/Linux
- EC5V 6.4 TB Enterprise 4K NVMe SFF U.2 15mm SSD PCIe4 for AIX/Linux
- ES1E 1.6 TB Enterprise 4K NVMe SFF U.2 15mm SSD PCIe4 for AIX/Linux
- EC7T 800Gb Mainstream NVMe U.2 15mm SSD 4k for AIX/Linux

⊗	P1-C2	x16	2.5 GHz	Long	16	EC7T	VIOS1 - Virtual I/O Server	IBM
⊗	P1-C3	x16	2.5 GHz	Long	16	EC7T	VIOS2 - Virtual I/O Server	IBM
+	P1-C4	x16	2.5 GHz	Long	16			
+	P1-C5	x16	2.5 GHz	Long	16			
⊗	P2-C10	x16	2.5 GHz	Long	16	EC7T	VIOS1 - Virtual I/O Server	IBM
⊗	P2-C11	x16	2.5 GHz	Long	16	EC7T	VIOS2 - Virtual I/O Server	IBM
+	P2-C12	x16	2.5 GHz	Long	16			
+	P2-C13	x16	2.5 GHz	Long	16			

Now, you have 2 backplanes and on each one you have 2 NVMe disks. The first backplane is assigned to VIOS 1 and the other to VIOS 2. **This assignment does NOT manage the mirroring between the 2 disk in the backplanes**, it is done from the VIOS environment directly.

2.6.2 Storage configuration for IBM i LPAR

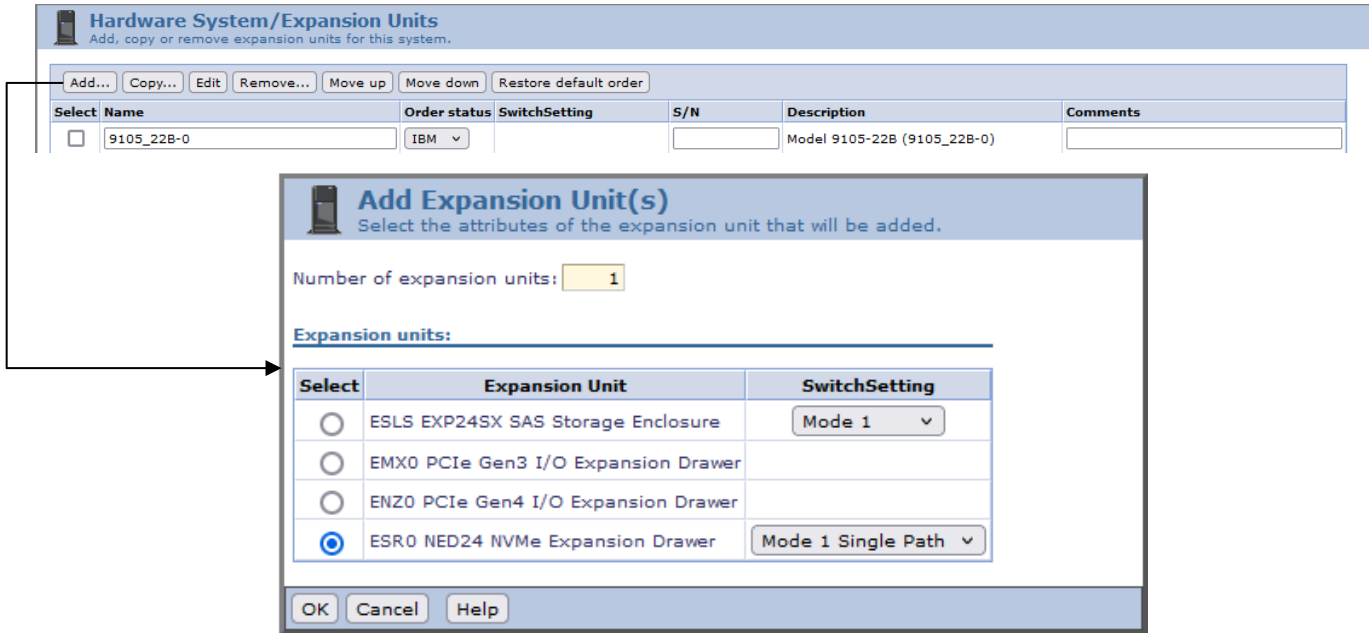
Now you are going to add storage configuration for your IBM i LPAR. From the previous step, we only have 4 disk slots remaining with the 2 backplanes. Which is not enough. Thus, as the client wants to have internal storage for IBM I, you need to add a specific drawer to increase the storage capacity of your configuration.

In IBM portfolio, we have a NED24 (#ESR0) drawer that allows to have 24 NMVe memory modules as internal storage on your system. To add a drawer onto your sysplan follow the next steps:

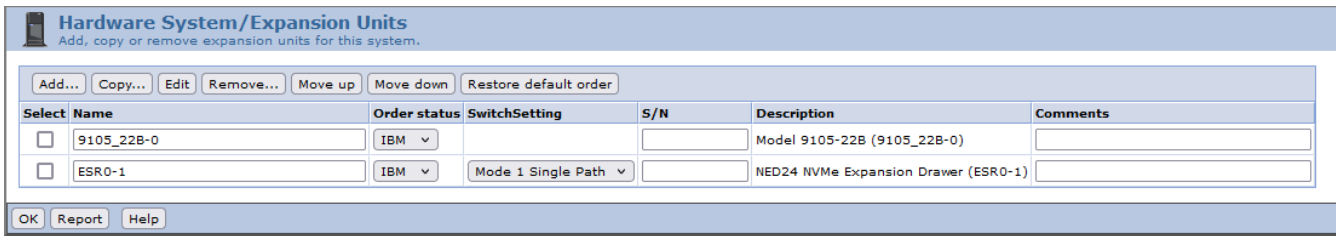
1) Click on the action button to select **Work with system/expansion units** in the top of sysplan

The screenshot shows the IBM System Planning Tool interface. The 'Hardware' tab is selected. At the bottom, there is an 'Actions' button. A mouse cursor is clicking on the 'Actions' button, which has opened a dropdown menu. The menu options are: 'Work with system/expansion units', 'Edit order status', and 'Match dual controllers...'. The 'Work with system/expansion units' option is highlighted.

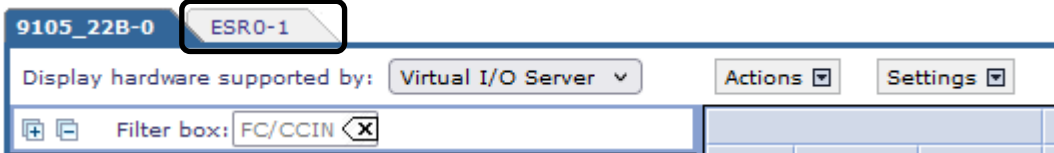
- In the new screen, click on **ADD** and then choose the drawer you need in the popup screen with the number of drawer you want. Then click on **OK**.



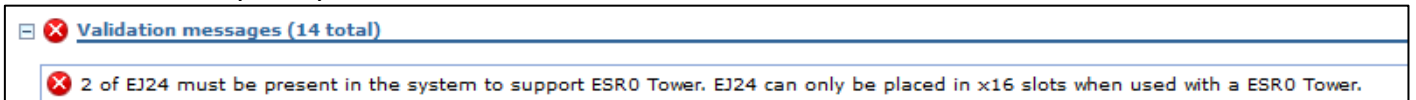
- Then you will be able to set up your new component (name, switch settings...). Once finished, click on **OK**.



- When you are back on the hardware configuration, a new tab appears for the drawer:



Also, a new validation messages appeared. It specifies that you need an I/O adapter to attach this drawer to your system:



- Go to the **I/O expansion adapters category**, then select the **#EJ24 adapters** and add in a slot on your system. Put one on the slot **P0-C0**, and a second on **P0-C10**.

Action	Location	Bus Width	Bus Speed	Length	Priority	F/C	Partition / Port Connection
+	P0-C0	x16	2.5 GHz	Long	16		
+	P0-C1	x16	2.5 GHz	Long	8		
+	P0-C2	x16	2.5 GHz	Long	8		
+	P0-C3	x16	2.5 GHz	Long	16		
+	P0-C4	x16	2.5 GHz	Long	16		
	P0-C6	x16	2.5 GHz	Long	8		
✗	P0-C7	x16	2.5 GHz	Long	8	EC2T	VIOS1 - Virtual I/O Server
✗	P0-C8	x16	2.5 GHz	Long	8	EJ1X	Not Assignable
	P0-C9	x16	2.5 GHz	Long	8		
+	P0-C10	x16	2.5 GHz	Long	16		
✗	P0-C11	x16	2.5 GHz	Long	8	EJ1X	Not Assignable

- Now you can add storage to your IBM i LPAR. Click on the tab of the drawer (ESR0-1), and you will see all NVmemory module available (b) for this drawer, depending on the OS chose on the panel (a):

9105_22B-0 ESR0-1

Display hardware supported by: IBM i V7R4M0

Filter box: FC/CCIN

NVmemory module

- ES3A Enterprise 800GB SSD PCIe4 NVMe U.2 module fo
- ES3C Enterprise 1.6 TB SSD PCIe4 NVMe U.2 module fo
- ES3E Enterprise 3.2 TB SSD PCIe4 NVMe U.2 module fo
- ES3G Enterprise 6.4 TB SSD PCIe4 NVMe U.2 module fo
- EKF2 Enterprise 800GB SSD PCIe4 NVMe U.2 module fo
- EKF4 Enterprise 1.6 TB SSD PCIe4 NVMe U.2 module fo
- EKF6 Enterprise 3.2 TB SSD PCIe4 NVMe U.2 module fo
- EKF8 Enterprise 6.4 TB SSD PCIe4 NVMe U.2 module fo
- ES5B Enterprise 800GB SSD PCIe4 NVMe U.2 module fo
- ES5D Enterprise 1.6 TB SSD PCIe4 NVMe U.2 module fo
- ES5F Enterprise 3.2 TB SSD PCIe4 NVMe U.2 module fo
- ES5H Enterprise 6.4 TB SSD PCIe4 NVMe U.2 module fo

- Like in previous step for VIOS, you are going to add storage for each IBM i partition following the volumetry that the customer needs. In NVMe configuration, disk protection will be operated by the OS through a mirroring. You **MUST** have the **double** of the **effective capacity** to be sure to **protect your environment**. The storage capacity required is:

- IBM i LPAR1: 18432 GB
- IBM i LPAR3: 8192 GB

For the IBM i partitions, you will put 6 * #ES3G NVMe modules in the drawers equilibrate on each Enclosure Services Manager (ESM). Your configuration should then be as follow:

Action	Location	Bus Width	Bus Speed	Length	Priority	F/C	Partition / Port Connection	Order status
	P3-C1	x16	2.5 GHz	Long	16	ES3G	PROD3_I - IBM i V7R4M0	IBM
	P3-C2	x16	2.5 GHz	Long	16	ES3G	PROD3_I - IBM i V7R4M0	IBM
	P3-C3	x16	2.5 GHz	Long	16	ES3G	PROD3_I - IBM i V7R4M0	IBM
	P3-C4	x16	2.5 GHz	Long	16			
	P3-C5	x16	2.5 GHz	Long	16			
	P3-C6	x16	2.5 GHz	Long	16			
	P3-C7	x16	2.5 GHz	Long	16			
	P3-C8	x16	2.5 GHz	Long	16			
	P3-C9	x16	2.5 GHz	Long	16			
	P3-C10	x16	2.5 GHz	Long	16			
	P3-C11	x16	2.5 GHz	Long	16			
	P3-C12	x16	2.5 GHz	Long	16			
	P3-C13	x16	2.5 GHz	Long	16	ES3G	PROD3_I - IBM i V7R4M0	IBM
	P3-C14	x16	2.5 GHz	Long	16	ES3G	PROD3_I - IBM i V7R4M0	IBM
	P3-C15	x16	2.5 GHz	Long	16	ES3G	PROD3_I - IBM i V7R4M0	IBM

- Repeat the same step for the second IBM i LPAR, to add 6 disks of 3,2 TB #ES3E equally between each ESM (3 by ESM).

2.6.3 Ethernet adapters

The hardware related to the storage being handled, you are going to add ethernet adapters for your VIOS to virtualize ethernet connection. You are also going to add ethernet adapters for your IBM i partitions to isolate their network connections and have their own dedicated adapter.

WARNING:

By default, all Scale-out models come with 1 ethernet adapter. You can remove it to select the adapter that suits your configuration.

In our case study, you are letting the default adapter on to dedicate it to the first VIOS and add same adapter for the second VIOS.

- Click on the name of **Lan adpaters** in the left panel, all features' code will appear, select the #EC2T and add it to the P0-C4 slot:

Action	Location	Bus Width	Bus Speed	Length	Priority	F/C	Partition / Port Connection
	P0-C0	x16	2.5 GHz	Long	16	EJ24	Not Assignable
	P0-C1	x16	2.5 GHz	Long	8		
	P0-C2	x16	2.5 GHz	Long	8		
	P0-C3	x16	2.5 GHz	Long	16		
	P0-C4	x16	2.5 GHz	Long	16		
	P0-C6	x16	2.5 GHz	Long	8		
	P0-C7	x16	2.5 GHz	Long	8	EC2T	VIOS1 - Virtual I/O Server

- Affect the ethernet adapters to the corresponding VIOS. To do it, click on the “Partition / Port Connection” list on the P0-C4 row to then select the VIOS2:

	P0-C4	x16	2.5 GHz	Long	16	EC2T	VIOS1 - Virtual I/O Server	IBM
	P0-C6	x16	2.5 GHz	Long	8		VIOS1 - Virtual I/O Server	
	P0-C7	x16	2.5 GHz	Long	8	EC2T	VIOS2 - Virtual I/O Server	IBM
	P0-C8	x16	2.5 GHz	Long	8		PROD1_I - IBM i V7R5M0	
	P0-C9	x16	2.5 GHz	Long	8		PROD3_I - IBM i V7R4M0	
	P0-C10	x16	2.5 GHz	Long	16		AIX1 - AIX 7.3	
	P0-C11	x16	2.5 GHz	Long	8		AIX3 - AIX 7.2	
							Unassigned	
							Switchable-LPAR	

- For your partition IBM i, you need to change the category of LPAR in the list:

Display hardware supported by: Virtual I/O Server

Filter box: FC/CCIN

- External DiskCtrls
- LAN Adapters
 - 5260 PCIe2 LP 4-port 1Gb
 - EC2R PCIe3 LP 2-Port 10G
 - EC2T 2-PORT 25/10Gb NIC
 - EC67 PCIe4 LP 2-port 100G

Virtual I/O Server dropdown menu:

- AIX 7.2
- AIX 7.3
- IBM i V7R4M0
- IBM i V7R5M0
- Virtual I/O Server

- After the list of features has changed, choose the suited adapter for your IBM i partition and click on **add** in the panel on the right:

Display hardware supported by: IBM i V7R4M0

Filter box: FC/CCIN

LAN Adapters

- 5260 PCIe2 LP 4-port 1GbE Adapter
- EC2R PCIe3 LP 2-Port 10Gb NIC&ROCE SR/Cu Adapter
- EC2T 2-PORT 25/10Gb NIC&ROCE SR/Cu PCIe 3.0 LP
- EN2X PCIe3 LP 4-port 10GbE BaseT RJ45 Adapter
- EC71 PCIe4 LP 2-Port 25/10/1 GbE RoCE SFP28 Adapt

Slot Characteristics

Action	Location	Bus Width	Bus Speed	Length	Priority	F
	P0-C0	x16	2.5 GHz	Long	16	E
	P0-C1	x16	2.5 GHz	Long	8	
	P0-C2	x16	2.5 GHz	Long	8	
	P0-C3	x16	2.5 GHz	Long	16	

↓

	P0-C1	x16	2.5 GHz	Long	8	EN2X	PROD3_I - IBM i V7R4M0	IBM		PCIe3 LP 4-port 10GbE BaseT RJ45 Adapter
--	-------	-----	---------	------	---	------	------------------------	-----	--	--

PS: Ensure to dedicate the adapter to the partition you want, in the column “Partition / Port Connection”.

- Repeat the same operation for each LPAR that need dedicated adapters in the configuration. When you are finished, your Hardware configuration should be as follow:

		Slot Characteristics							
Action	Location	Bus Width	Bus Speed	Length	Priority	F/C	Partition / Port Connection	Order status	
	P0-C0	x16	2.5 GHz	Long	16	EJ24	Not Assignable	IBM	
	P0-C1	x16	2.5 GHz	Long	8	EN2X	PROD3_I - IBM i V7R4M0	IBM	
	P0-C2	x16	2.5 GHz	Long	8	EN2X	PROD1_I - IBM i V7R5M0	IBM	
	P0-C3	x16	2.5 GHz	Long	16				
	P0-C4	x16	2.5 GHz	Long	16	EC2T	VIOS2 - Virtual I/O Server	IBM	
	P0-C6	x16	2.5 GHz	Long	8				
	P0-C7	x16	2.5 GHz	Long	8	EC2T	VIOS1 - Virtual I/O Server	IBM	
	P0-C8	x16	2.5 GHz	Long	8	EJ1X	Not Assignable	IBM	
	P0-C9	x16	2.5 GHz	Long	8				
	P0-C10	x16	2.5 GHz	Long	16	EJ24	Not Assignable	IBM	
	P0-C11	x16	2.5 GHz	Long	8	EJ1X	Not Assignable	IBM	

At this point, each VIOS has an ethernet adapter to provide external access, and each IBM i partition has a dedicated ethernet adapter attached to their LPAR profile to provide isolated external access.

The AIX LPAR will get their external access from the VIOS. This configuration will be seen later on the lab. You are going to see this point in the section **2.7.1 Ethernet configuration**. We will first finish the hardware configuration by adding the rest of adapters to attach to the available slots of the system, the next step is to add Fibre Channel adapters.

2.6.4 Fiber channel adapter

As the client wants to use only internal storage for their IBM i partition and wants to use external storage for their AIX environments, the adapters will be attached to the VIOS only. Then, the VIOS will grant access to those fibre channel adapters to its clients' partitions (AIX partitions).

To add the fibre channel adapters, select the **#EN1F** adapter for both VIOS and put in slot **P0-C3 for VIOS 2** and **slot P0-C9 for VIOS 1**. The process to assign the adapter to a partition is the same as in the previous step with ethernet adapters.

The Hardware configuration is now finished and should look like the picture below:

		Slot Characteristics							
Action	Location	Bus Width	Bus Speed	Length	Priority	F/C	Partition / Port Connection	Order status	S/N
	P0-C0	x16	2.5 GHz	Long	16	EJ24	Not Assignable	IBM	
	P0-C1	x16	2.5 GHz	Long	8	EN2X	PROD3_I - IBM i V7R4M0	IBM	
	P0-C2	x16	2.5 GHz	Long	8	EN2X	PROD1_I - IBM i V7R5M0	IBM	
	P0-C3	x16	2.5 GHz	Long	16	EN1F	VIOS2 - Virtual I/O Server	IBM	
	P0-C4	x16	2.5 GHz	Long	16	EC2T	VIOS2 - Virtual I/O Server	IBM	
	P0-C6	x16	2.5 GHz	Long	8				
	P0-C7	x16	2.5 GHz	Long	8	EC2T	VIOS1 - Virtual I/O Server	IBM	
	P0-C8	x16	2.5 GHz	Long	8	EJ1X	Not Assignable	IBM	
	P0-C9	x16	2.5 GHz	Long	8	EN1F	VIOS1 - Virtual I/O Server	IBM	
	P0-C10	x16	2.5 GHz	Long	16	EJ24	Not Assignable	IBM	
	P0-C11	x16	2.5 GHz	Long	8	EJ1X	Not Assignable	IBM	
	P1-C2	x16	2.5 GHz	Long	16	EC7T	VIOS1 - Virtual I/O Server	IBM	
	P1-C3	x16	2.5 GHz	Long	16	EC7T	VIOS2 - Virtual I/O Server	IBM	
	P1-C4	x16	2.5 GHz	Long	16				
	P1-C5	x16	2.5 GHz	Long	16				
	P2-C10	x16	2.5 GHz	Long	16	EC7T	VIOS1 - Virtual I/O Server	IBM	
	P2-C11	x16	2.5 GHz	Long	16	EC7T	VIOS2 - Virtual I/O Server	IBM	
	P2-C12	x16	2.5 GHz	Long	16				
	P2-C13	x16	2.5 GHz	Long	16				

Having finished to add all Hardware components doesn't necessarily mean that the configure is valid. We can see that there are validation messages at the bottom of the page with blocking issues. You need to go on the VIOS advanced configuration to resolve this issue.

As a quick reminder for your own sysplans:

Don't forget to



- **choose the right operating systems, and**
- **affect the right card in the right slot for the right VIOS,**
- **Ensure you update your SPT version with new releases to keep up to date the list of available Hardware components.**

2.7 VIOS advanced Configuration

In this step, you are going to configure virtual adapters for your VIOS to provide ethernet connection, fibre connection and boot sequence for your client LPAR.

2.7.1 Ethernet configuration

You are going to configure ethernet settings for each VIOS, to provide external access to your LPAR. The first step is to go on the “Networking” tab:

The screenshot shows the IBM PowerVM Networking configuration interface. The 'Networking' tab is active, displaying a table of VLANs for various partitions. A red circle 'a' points to the 'Partitions' column. Below, the 'Details - VIOS1 (Virtual I/O Server)' tab is open, showing 'Virtual Ethernet Adapters' with a table of 'Additional VLANs'. A red circle 'b' points to the 'Select' column. A red circle 'c' points to the 'hide details' link. A red circle 'd' points to the 'Shared Ethernet Adapters' tab. A red circle 'e' points to a validation message box containing two warnings about LAN ID 5 and LAN ID 10. A red circle 'f' points to the 'OK' button at the bottom.

Partitions	VLANs					Add
	1	2	3	5	10	
VIOS1 (Virtual I/O Server)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
VIOS2 (Virtual I/O Server)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PROD1_I (IBM i V7R5M0)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
PROD3_I (IBM i V7R4M0)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
AIX1 (AIX 7.3)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AIX3 (AIX 7.2)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Select	PVID	Slot ID	Additional VLANs				
			1	2	3	5	10
<input type="radio"/>	1	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

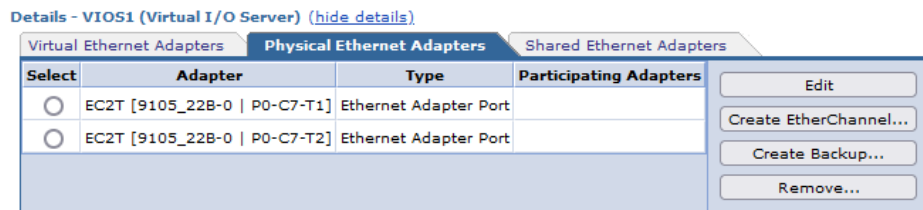
Validation messages (2 total):

- Partition PROD3_I is the only partition configured to use LAN ID 5.
- Partition PROD1_I is the only partition configured to use LAN ID 10.

Figure 2 - Network configuration through the Network tab

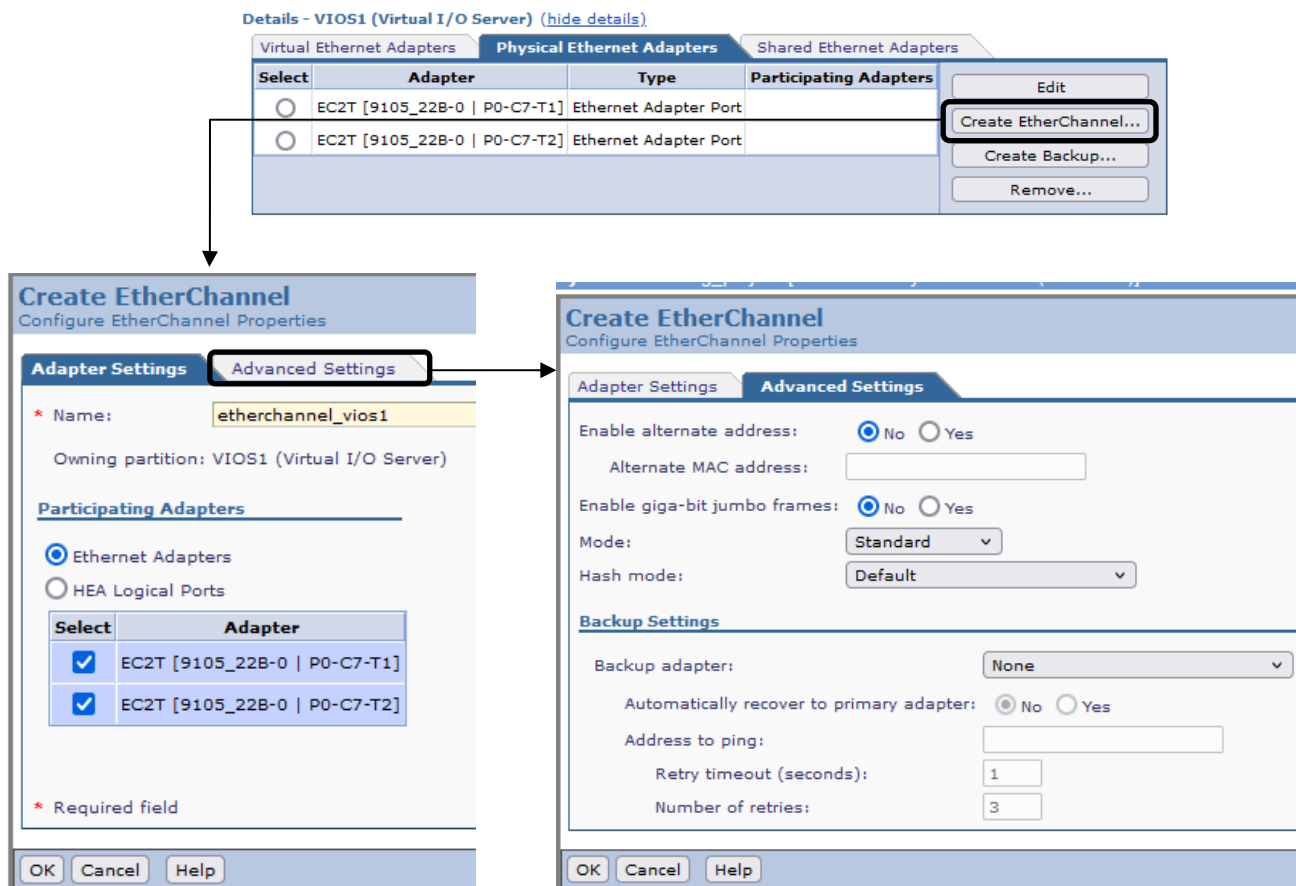
- On the *Point A* from the **Figure 2**, choose a line (a partition you created) to access its network configuration. You can check/uncheck a box to add/remove access to a VLAN. At first, there is a default VLAN with all partitions on it. You can configure all the VLANs (by adding / removing in the VLAN column) and which partition should be linked to it.
The number of VLAN an LPAR has access to (1 or more) is flexible and depends on the clients' needs.
- On the *Point B* from the **Figure 2**, you have access to the network setup of the partition you selected at the step a.

- c) On the *Point C* from the **Figure 2**, you can set up the physical adapters, if the partition has some assigned to it. In our case, the VIOS and IBM i partitions have physical adapters and can set up each port of the adapter from here:



OPTIONNALLY on the lab, only for a deployment configuration

For VIOS, you can configure Etherchannel from the Physical Ethernet Adapters tab, by clicking on “Create EtherChannel”:

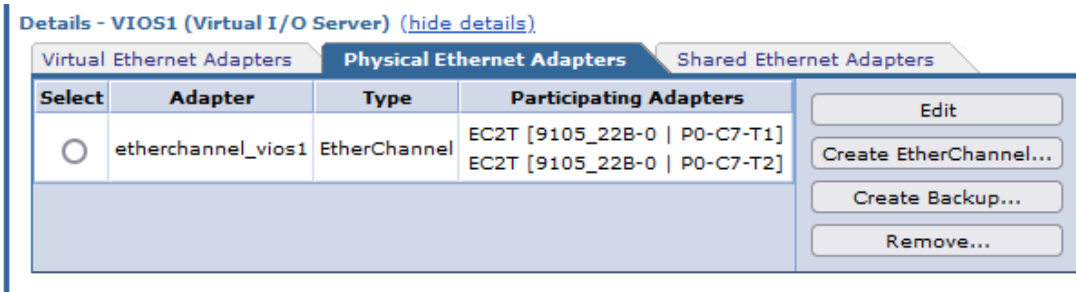


You can configure an EtherChannel in different ways:

- Fuse the ports of a card: both will belong to the same network, it allows to give a better throughput (picture above, on the left). It will create a virtual adapter, and you will set up your environment to use this virtual adapter to access external connection.
- Use backup ports: you select some ports you want to fuse to gain in throughput and a separate port will be spared and if the ports used stop working, the network communication will go through the backup port (configurable from picture above on the right).

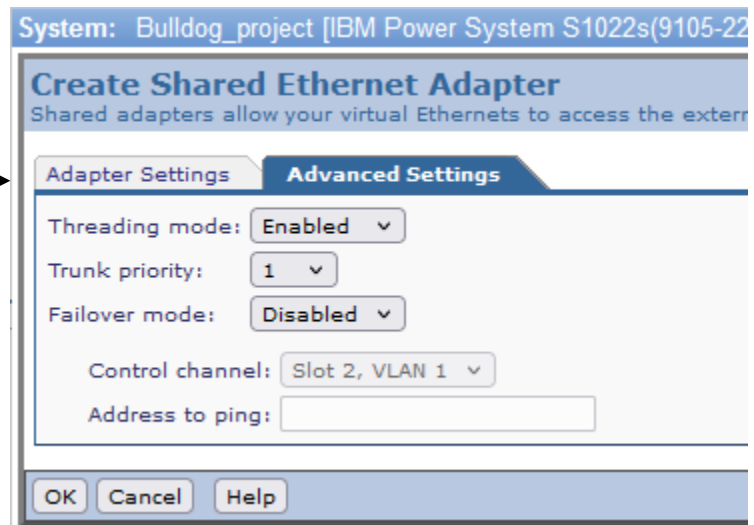
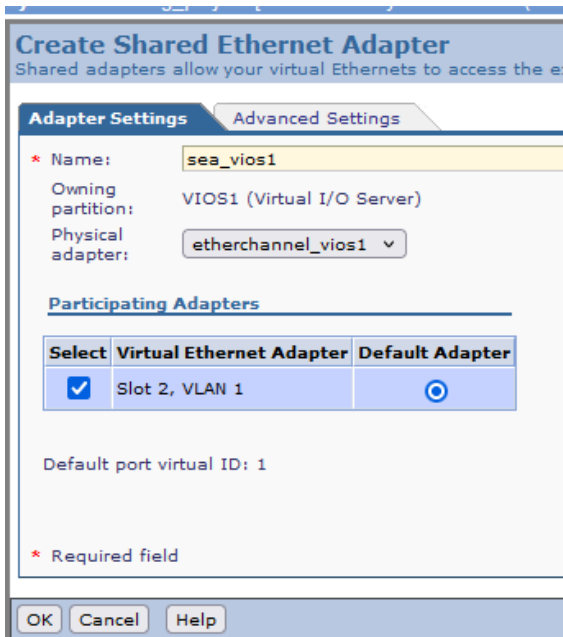
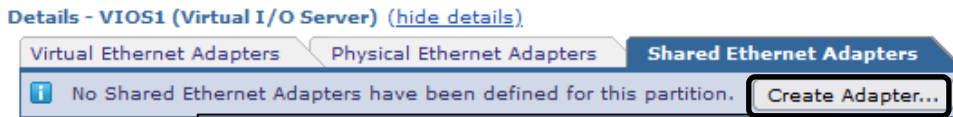
You can have a third configuration combining both ways, only if you have a physical adapter with more than 2 ports.

In our lab we choose the throughput way and fuse both physical ports together. It then creates the following virtual adapter.



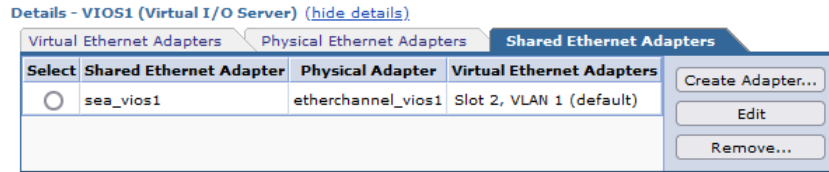
You can notice that the physical ports are no longer configurable now that they had been used by the EtherChannel.

- d) On the *Point D* from the **Figure 2**, you can create a Shared ethernet adapter to provide access to multiple VLANs to your client partitions, from the “Shared Ethernet Adapters” tab:



To create the SEA, you first assign the adapter to which you will connect your SEA to. In our case, we assign the EtherChannel. Then in the advanced settings, select the mode on which you want to work the network in the configuration.

After settings you can find your SEA:

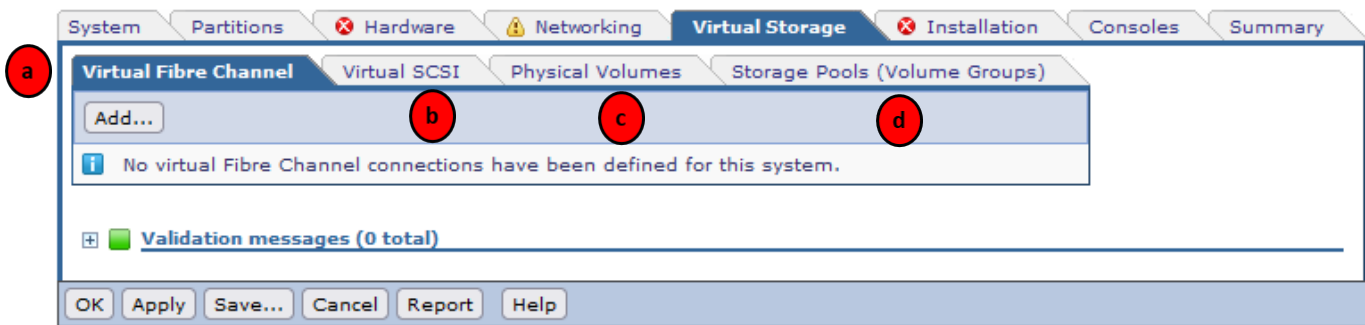


You can repeat this operation for the second VIOS. You will just have to change the trunk priority from the advanced settings of the SEA creation page.

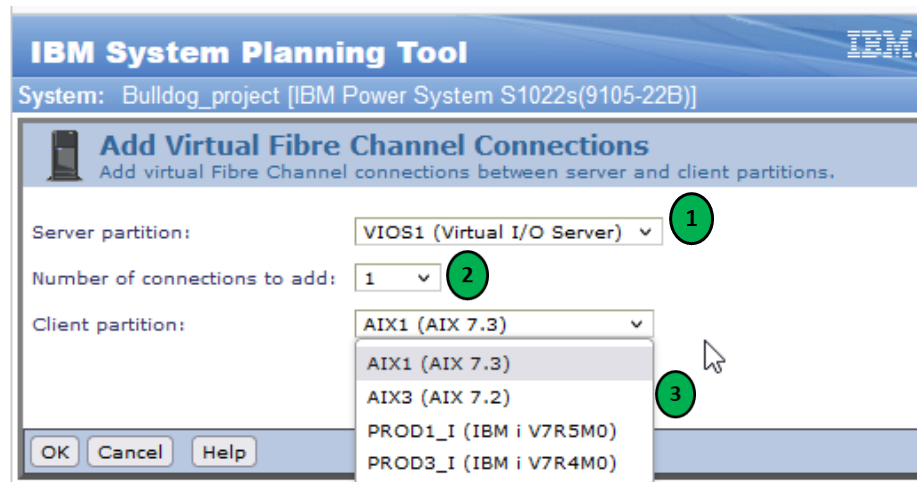
- e) On the *Point E* from the **Figure 2**, you can check-in the validation messages if your settings are valid or if there are some issues blocking the sysplan deployment.
- f) On the *Point F* from the **Figure 2**, don't forget to click on **apply** to validate your configuration.

2.7.2 Virtual storage

In this step, you will configure your storage virtual adapters for each LPAR: create virtual adapters to link each client partition to each VIOS.



- a) If you click on Add in the **virtual fiber channel tab**, a new pop-up comes:



1. You select the VIOS to which you want to connect the Virtual Fibre Channel (VFC),
2. You select the number of VFC you want on this VIOS,
3. You select which LPAR will be attached to this VIOS.

After validation, you can see the adapter for all LPARs and the VIOS which provides the VFC, like on the below picture:

Server partition	Virtual Fibre Channel connections	Client partition
VIOS1 (Virtual I/O Server)	1	PROD1_I (IBM i V7R5M0)
VIOS1 (Virtual I/O Server)	1	PROD3_I (IBM i V7R4M0)
VIOS1 (Virtual I/O Server)	1	AIX1 (AIX 7.3)
VIOS1 (Virtual I/O Server)	1	AIX3 (AIX 7.2)
VIOS2 (Virtual I/O Server)	1	PROD1_I (IBM i V7R5M0)
VIOS2 (Virtual I/O Server)	1	PROD3_I (IBM i V7R4M0)
VIOS2 (Virtual I/O Server)	1	AIX1 (AIX 7.3)
VIOS2 (Virtual I/O Server)	1	AIX3 (AIX 7.2)

You can add a VFC to a client LPAR in case you want to add functionality for storage connection (storage, tape) from each VIOS.

- b) You can manage virtual SCSI from the **virtual SCSI tab**, to add a new vSCSI adapter the process is the same as creating vFC.

IBM System Planning Tool
System: Bulldog_project [IBM Power System S1022s(9105-22B)]

Add Virtual SCSI Connections
Add virtual SCSI connections between server and client partitions

Server partition: 1

Number of connections to add: 2

Client partition: 3

OK Cancel Help

1. You choose the VIOS to which you want to connect the vSCSI,
2. You choose the number of vSCSI (also called virtual hosts (vhost)) you want on this VIOS,
3. You select which lpar can be attach to this VIOS.

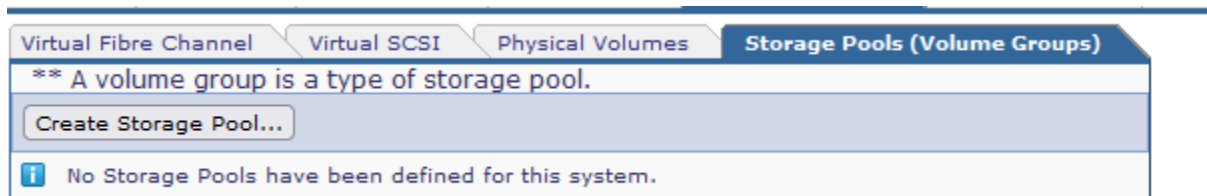
After validation, you can see the adapter for all LPARs and the VIOS which provides the vSCSI, like on the below picture:

Server partition	Virtual SCSI connections	Client partition
VIOS1 (Virtual I/O Server)	1	PROD1_I (IBM i V7R5M0)
VIOS1 (Virtual I/O Server)	1	PROD3_I (IBM i V7R4M0)
VIOS1 (Virtual I/O Server)	1	AIX1 (AIX 7.3)
VIOS1 (Virtual I/O Server)	1	AIX3 (AIX 7.2)

c) If you click on Add in the **physical volume tab**, you can see all disks attached to a partition:

Physical Disk/Volume	Controller	Physical Size	Owned By	Assigned To
EC7T [9105_22B-0 P1-C2]	EC7T [9105_22B-0 P1-C2]	781,3 GB	VIOS1 (Virtual I/O Server)	Disable
EC7T [9105_22B-0 P2-C10]	EC7T [9105_22B-0 P2-C10]	781,3 GB	VIOS1 (Virtual I/O Server)	Disable
EC7T [9105_22B-0 P1-C3]	EC7T [9105_22B-0 P1-C3]	781,3 GB	VIOS2 (Virtual I/O Server)	Disable
EC7T [9105_22B-0 P2-C11]	EC7T [9105_22B-0 P2-C11]	781,3 GB	VIOS2 (Virtual I/O Server)	Disable
ES3E [ESR0-1 P3-C16]	ES3E [ESR0-1 P3-C16]	0 MB	PROD1_I (IBM i V7R5M0)	Disable
ES3E [ESR0-1 P3-C17]	ES3E [ESR0-1 P3-C17]	0 MB	PROD1_I (IBM i V7R5M0)	Disable

d) If you click on Add in the **physical volume tab**, you can create storage pools for VIOS.

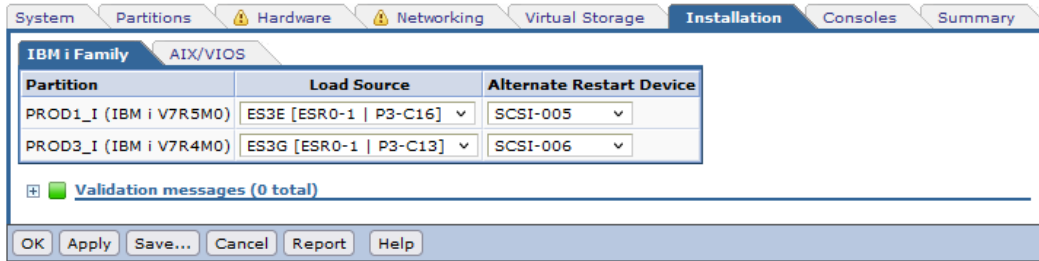


2.7.3 Installation

In this panel, you can configure the boot volume or cdrom to start your LPAR on:

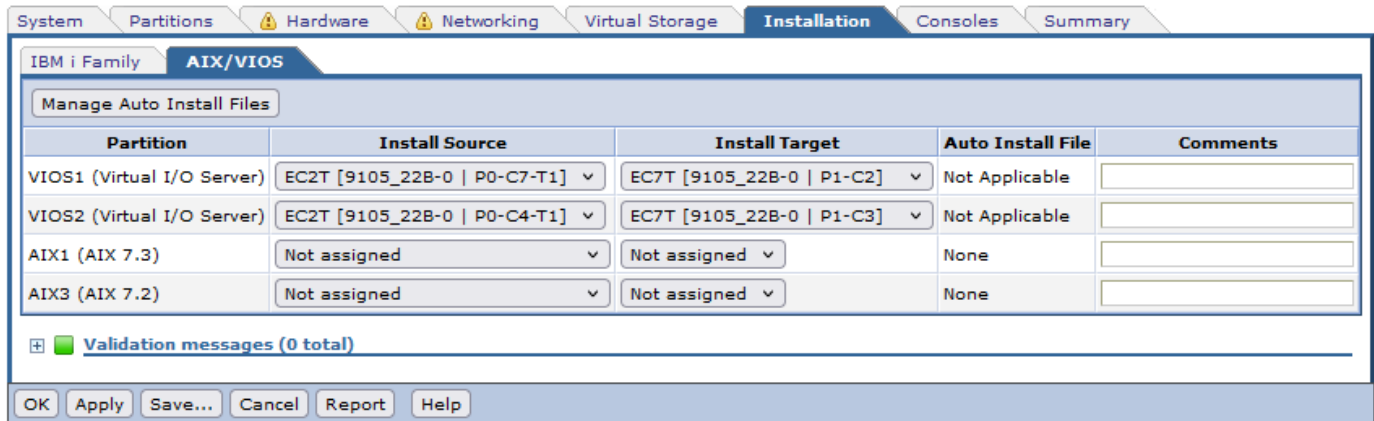


- You can choose the type of OS to configure,
 - For IBM i LPAR, you need to choose the disk that contains the load source. Take this step carefully,
 - You need to assign a resource for cdrom (or vSCSI),
 - If you correctly set up the load source and alternate resource validation message is green.
- For this lab, the expected outcome is as it is shown in the picture below:



For AIX, you make the same operation as for VIOS.

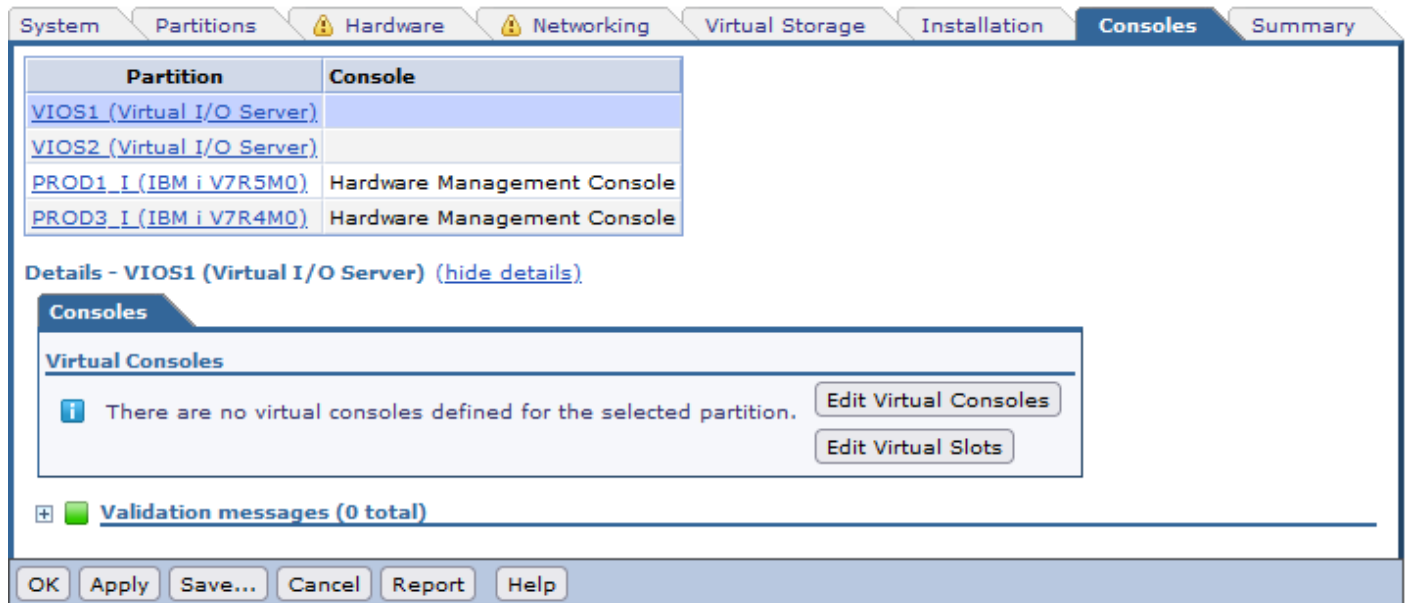
WARNING: for AIX partitions, let information to “none” because you are in a “boot on san” mode and you will configure on set up the process from the HMC.



Validation message is green so you can go to the next tab for console.

2.7.4 Console

In this panel you can configure the console for your LPAR:



You don't have to make any changes

2.7.5 Summary

You can find in this screen all information about your system plan and the different steps you made through this document will be summarized on it:

IBM System Planning Tool
 System plan: Bulldog security System: Bulldog_project [IBM Power System S1022a(9105-228)]

System Partitions Hardware Networking Virtual Storage Installation Consoles **Summary**

Details
 Platform: Power Systems
 Description:
 Type-Model: 9105-228
 Management interface: HMC
 Processor feature: EPGR
 Processor Feature Quantity: 2
 Feature description: Model 9105_228 4-core Typical 3.0 to 3.90 GHz (max) Power10 Processor (Perf 394.5) (CPW 198,200/Bores)
 Memory (GB): 2 048
 Physical processors: 8
 Active processors: 8
 Expansion units: 1
 * Estimated Energy: Unavailable

Assigned resources
 Memory (MB): 322 560
 Dedicated processors: 0
 Shared processors: 3

Unassigned resources
 Memory (MB): 1 774 592
 Processors: 3

Partitions (6)

AIX 7.2	1
AIX 7.3	1
IBM i V7R4M0	1
IBM i V7R5M0	1
Virtual I/O Server	2

Virtual slots

Serial:	14
Ethernet:	10
Client SCSI:	4
Server SCSI:	4
Reserved:	48

Licenses required

IBM i family	2
AIX	2

* The calculated energy estimate is an expected, typical value for this system configuration under normal environmental operating conditions. It should not be used in planning the electrical supply infrastructure.

Validation messages (0 total)

- Partition PRDD3_1 is the only partition configured to use LAN ID 5.
- Partition PRDD1_1 is the only partition configured to use LAN ID 10.
- Partition AIX1 has its CD/DVD requirements met by a virtual SCSI connection with partition VIOS1. However, it appears that this SCSI connection is also being used for other devices and IBM recommends separate SCSI connections for each virtual device.
- Partition AIX1 has its Tape requirements met by a virtual Fibre Channel connection with partition VIOS1. However, it appears that this virtual connection may also be used for other devices and IBM recommends separate virtual connections for each virtual device.
- Partition AIX3 has its CD/DVD requirements met by a virtual SCSI connection with partition VIOS1. However, it appears that this SCSI connection is also being used for other devices and IBM recommends separate SCSI connections for each virtual device.

OK Apply Save... Cancel Report Help

In the bottom of the screen, you can find all validation messages. Click **“OK”** to go to main menu.

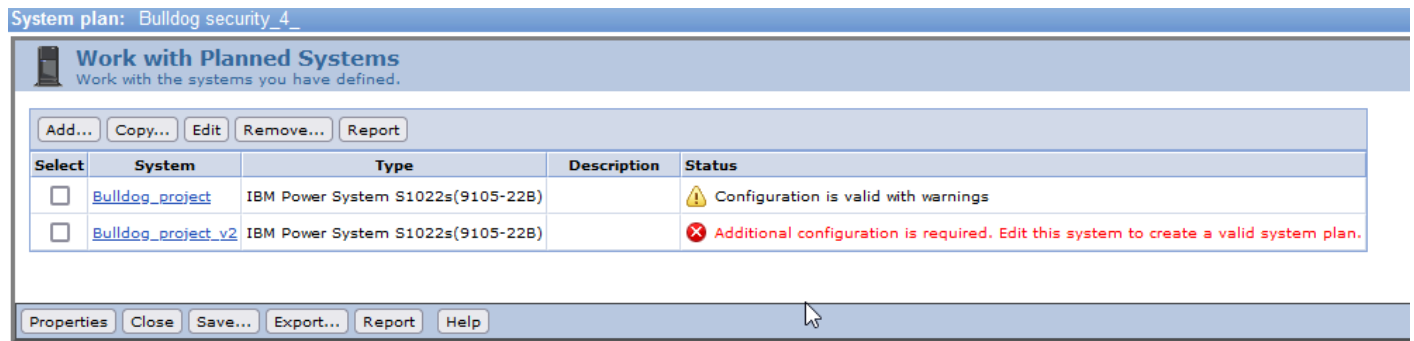
This part is finished, you can save your sysplan to reuse it later, import on the HMC & deploy it on the system, or export it to use in e-config.

When deploying it through the HMC, it will automatically create “empty” partitions with the profiles corresponding to the configuration you made of them during the lab (i.e., assigning physical adapters, creating virtual adapters and links between the client LPAR and the VIOS...). The partitions are “empty” because if you only deploy it on your system, except if all your data are prepared on your storage and ready, the partitions won’t have any bootable volumes on which to boot directly without having to install the OS (through vSCSI / CDR0M).

3 Use your sysplan to E-config

In this step, you will use the sysplan that you created in the previous section of this roadbook.

As mentioned previously, with SPT you can create the sysplan and export them in order to import them onto e-config. It is important to have in mind that the sysplan will allow to predefine all hardware components of the configuration. However, the sysplan won't handle the software configuration. You will have to do it directly on e-config (LPPs, other software like PowerSC, PowerVC, PowerHA...).

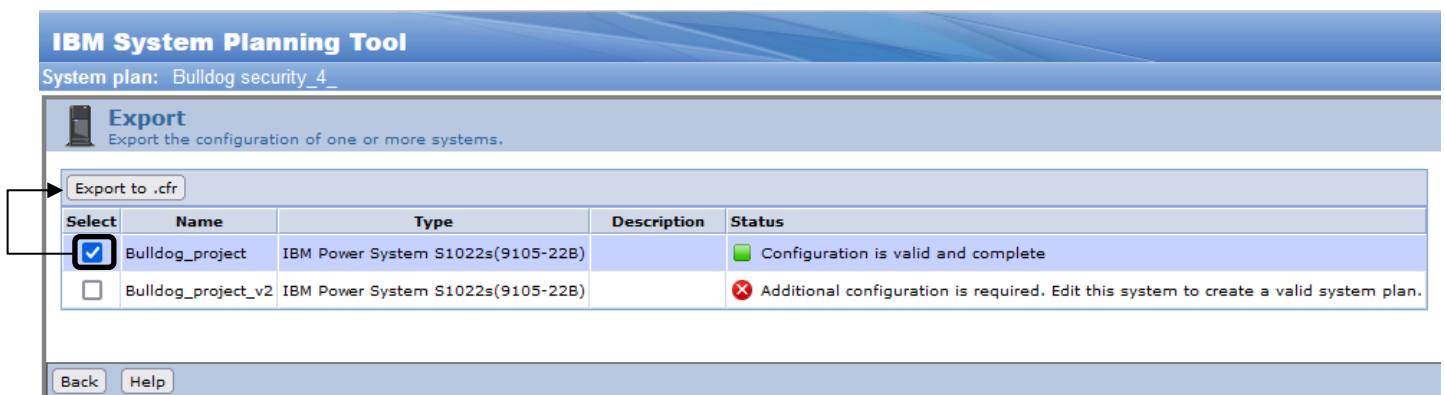


On the screen above, you could retrieve all your systems from the project, if you created several systems¹ on the sysplan.

Another important fact to notice is that when the first sysplan is ready to use with warnings but the second cannot be use for validation. In fact, if the configuration is not valid, then e-config won't create the configuration with all your settings done. Also, if you do not keep your SPT tool up-to-date and add adapters that has been withdrawn without you noticing it won't create the new configuration.

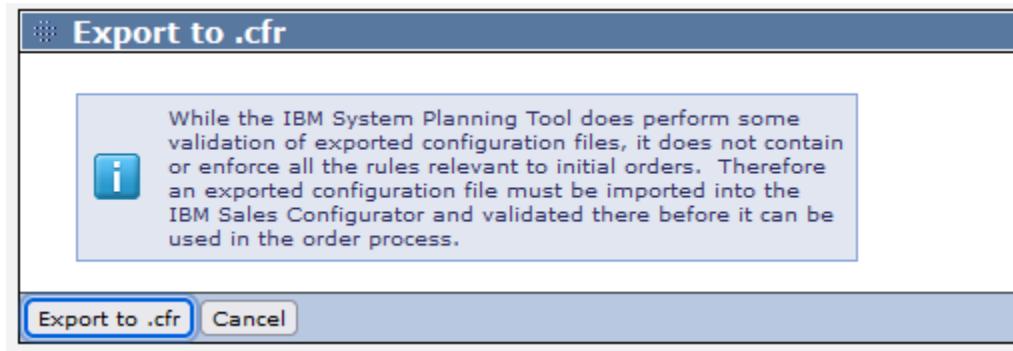
3.1 Export sysplan to CFR file

E-config uses CFR files to handle hardware configuration. When you want to export a sysplan to CFR file for e-config, you must select the box of the system you to have the CFR file then click on **export**:



On this screen you have a green square in the status column to confirm that configuration is valid and complete to export.

¹ When importing a CFR file with several systems created on the sysplan to e-config, there has to be no hardware configuration error on every system. Otherwise, e-config will refuse to create the new configuration. Thus, creating a sysplan for a single system to then import it on e-config would be easier.



WARNING: the file is store in your download directory and in some cases NO message will confirm that the file has been created. So each time you click on button, you export the file and you can have multiple file in your directory.

Downloads

Name	Date modified	Type	Size
Bulldog security_4_(2).cfr	10/25/2023 10:58 AM	CFR File	123 KB
Bulldog security_4_(1).cfr	10/25/2023 10:58 AM	CFR File	123 KB
Bulldog security_4_.cfr	10/25/2023 10:57 AM	CFR File	123 KB

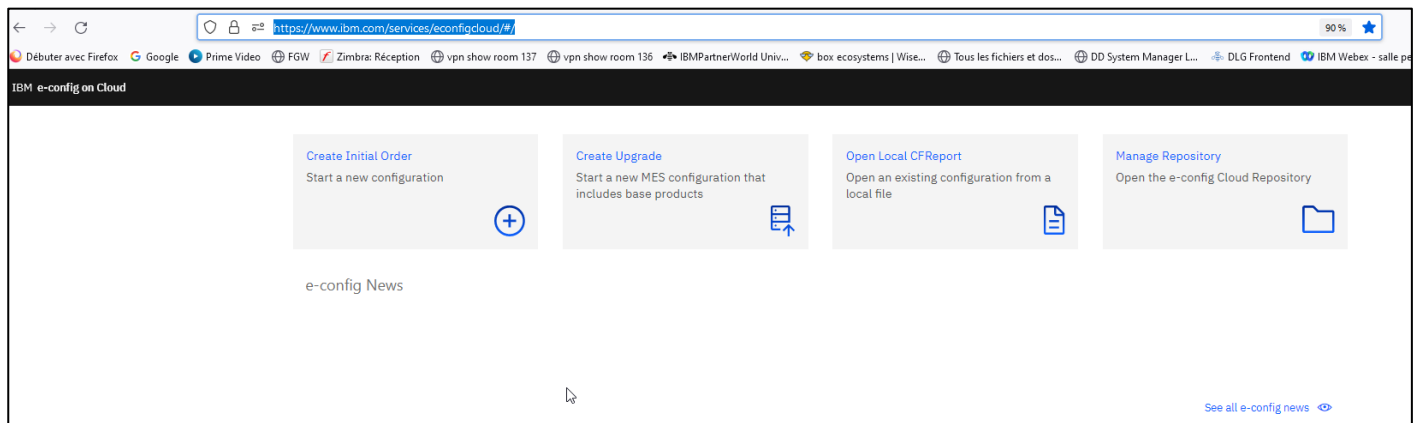
3.2 Utilization of CFR file

To use your CFR file, you must go onto the e-config page: <https://www.ibm.com/services/econfigcloud/#/>
Then, log in using your IBM ID and passwords:

Once logged in, you can choose between 4 options to work with configurations:

- **Create initial order:** create a new configuration by creating at each step your hardware configuration,
- **Create upgrade:** it is to make a MES, for an existing configuration a client as done and want to upgrade some product (software / hardware),
- **Open local CFReport:** you can open a file from your laptop,
- **Manage repository:** when you created a configuration and saved it onto e-config, this option allows you to access all your saved configuration (and create different repository from there).

In your case, you will use the option **Open local CFReport:**

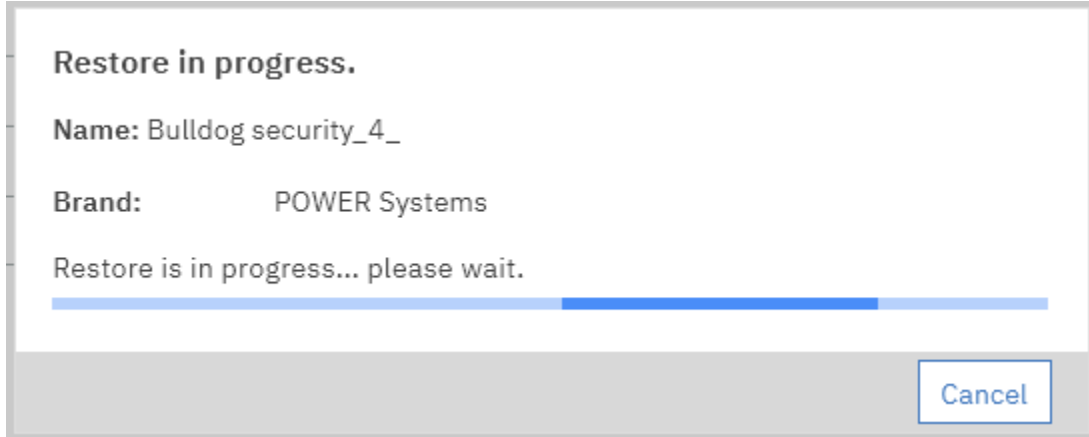


When you click on the button a popup comes and you choose the CFR file that you exported in the previous step.

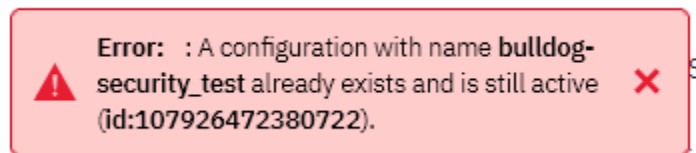
you need to verify all information and click on **Open configuration** to launch the process:

The screenshot shows the 'Configuration Preferences' popup form. The form is divided into two columns. The left column contains: 'Selected configuration: Bulldog security_4_cfr', 'Source: Local file', 'Restore Type: Initial Order Configuration', and 'Configuration country:'. The right column contains: 'Brand: POWER Systems', 'Products: Initial: 2', and a 'Select different file' button. Below these fields, there is a confirmation message: 'Confirm or modify your configuration preferences and select Open Configuration to proceed:'. The form includes several input fields: 'Select a user role *' (dropdown menu with 'ibm-standard'), 'Brand: *' (dropdown menu with 'Power Systems & GTS/ISS (23.2970)'), 'Configuration Name: *' (text input with 'Bulldog security_4_'), and 'Configuration Description:' (text area with '(Optional)'). At the bottom, there is a 'FastPath:' section with a checked checkbox 'Skip Edition and continue with the configuration after validation'. The form ends with 'Cancel' and 'Open Configuration' buttons.

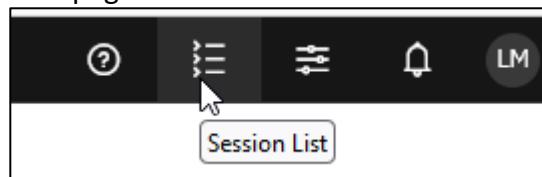
You will have a small popup on the screen to confirm the process is running:



Be careful, if a previous session stayed active in e-config with the same name as the one you choose on the previous page, you will have an error message like this one:

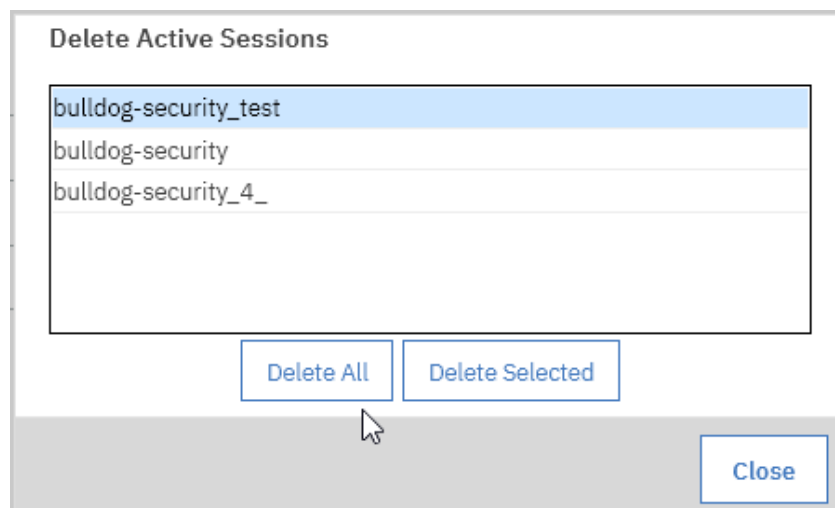


In this case, to open your configuration, you need to delete the active session with the same name. To do so, go on the upper right angle of the page and select the session list button



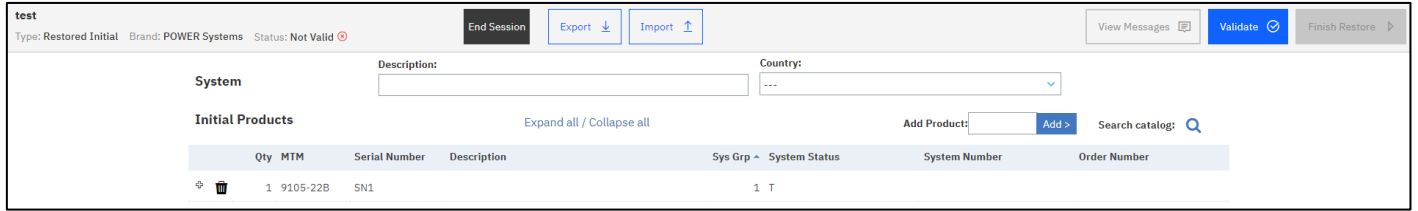
On the screen, select the session you want to delete. You could also delete all session.

WARNING: if you close your browser, it doesn't kill your session!



Click on delete all and close popup. Then, retry to upload your file. If the issue persists, uncheck the box skip edition on the "Configuration Preference" page (before clicking on "Open Configuration").

If you uncheck “skip edition”, you have the following screen and you need to click on validate:



After validation your CFR file will be loaded on e-config and you will be on the configuration page, as follows:

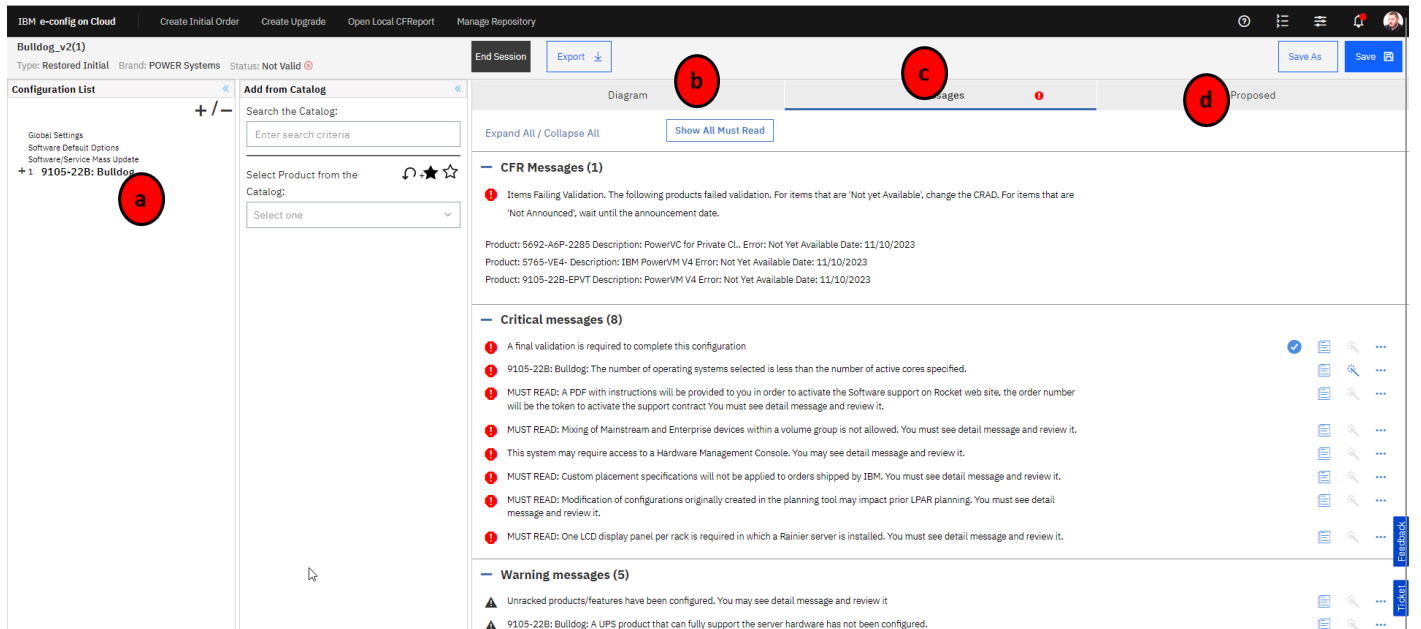
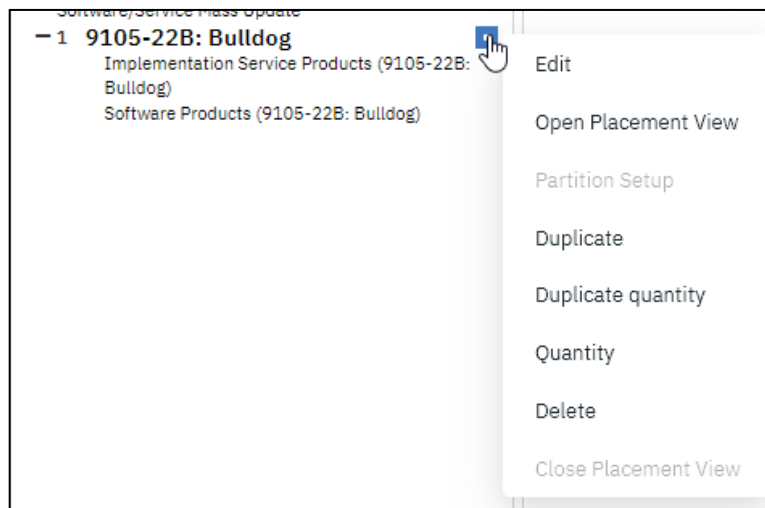


Figure 3 - e-config configuration edition page

a) On the point A of the Figure 3, you can perform several actions on your hardware configuration:



To edit the configuration from sysplan click on “Edit”. Then you will see all the hardware sections related to the server you selected with every configuration you prepared and that you could perform. The first page is related to the Power system selected, which configuration you choose

(1/2 sockets, how many cores by socket, number of active cores, primary OS...) We can see it on the 2 pictures below:

The image displays two screenshots of the IBM e-config on Cloud interface for configuring a Bulldog system. The first screenshot shows the 'Products' section with fields for Model, Name, Server/Value Package, Edition, Primary OS, and Additional OS. The second screenshot shows the 'OS PCS' section with options for Primary OS, Additional OS, Preinstall Option, and Processors. Red circles highlight specific settings: 1. Primary OS set to VIO, 2. IBM i 7.5 selected in Additional OS, 3. Processor activation slots set to 2, and 4. Configuration information showing 8 of 8 processor activation slots used and 2 of 2 processor board slots used.

For each category on the left panel, you must verify the values you setted up on your sysplan, to ensure everything is as expected:

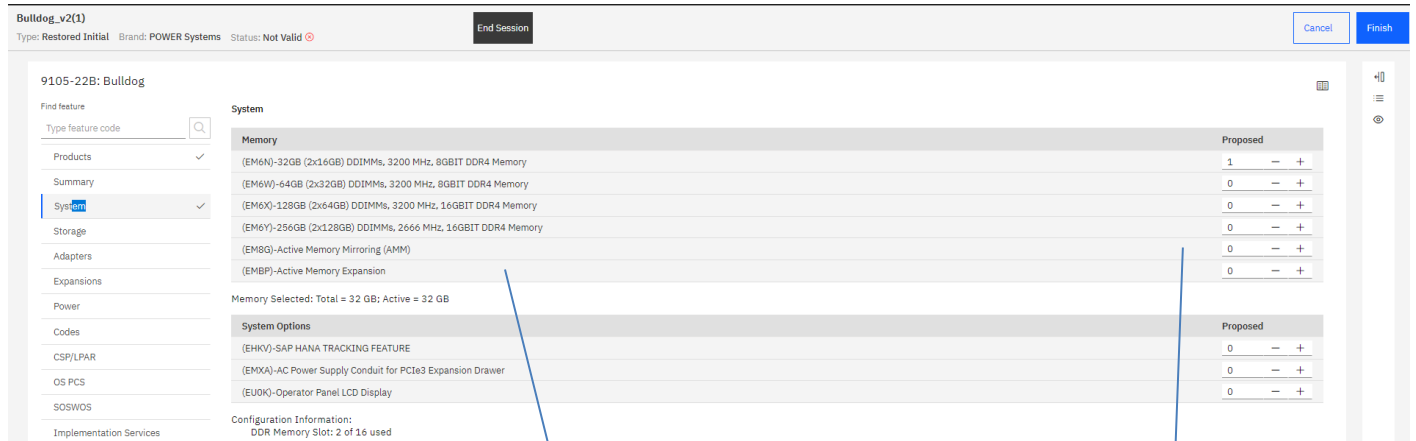
1. For the first OS, you must put VIO if you have IBM i in secondary OS,
2. If you have 2 different IBM i, you select the higher available version,
3. Check the number of processors and the number you activated on SPT,
4. You have a summary of number of activation and the number of sockets.

When you finish to check all settings and value are good, you can go on the next category: System.

On this page, you can select and specify which memory DDIMS and systems options

WARNING: in SPT, you have selected a quantity of memory for your system. But in e-config this one isn't retrieved because SPT doesn't work on memory type (features, size of each DDIM, number of DDIM...) and placement for now.

You need to choose the right quantity of memory you want and you **CANNOT** mix different size of memory on Power10. Usually the best practice is to allow your system to be flexible and do not allocate all DDIM slot if possible, to allow future MES if the clients' workload increases.



Memory
(EM6N)-32GB (2x16GB) DDIMMs, 3200 MHz, 8GBIT DDR4 Memory
(EM6W)-64GB (2x32GB) DDIMMs, 3200 MHz, 8GBIT DDR4 Memory
(EM6X)-128GB (2x64GB) DDIMMs, 3200 MHz, 16GBIT DDR4 Memory
(EM6Y)-256GB (2x128GB) DDIMMs, 2666 MHz, 16GBIT DDR4 Memory
(EM8G)-Active Memory Mirroring (AMM)
(EMBP)-Active Memory Expansion

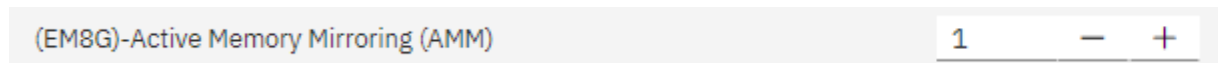
Proposed
0 - +
0 - +
0 - +
8 - +
0 - +
0 - +

Memory Selected: Total = 2048 GB; Active = 2048 GB

For memory you have the quantity of slot used by memory kit

Configuration Information:
DDR Memory Slot: 16 of 16 used

You can choose to activate the new functionality to protect your hypervisor with AMM. It increases your system resiliency.



Now that you allocated the right amount of memory and selected the size of your DDIMs, you can access the "Storage" category.

On this page, you need to control each type of disk you selected, in order to be sure that it retrieved what you selected on SPT.

(EC7T)-800GB Mainstream NVMe U.2 SSD 4k for AIX/Linux	4	-	+
(ES5F)-Enterprise 3.2 TB SSD PCIe4 NVMe U.2 module for IBM i	6	-	+
(ES5H)-Enterprise 6.4 TB SSD PCIe4 NVMe U.2 module for IBM i	6	-	+

You can also see your backplane, and all slot populated with NVMe disks:

Additional Hardware	Proposed		
(EJ1X)-Storage backplane with four NVMe U.2 drive slots	2	-	+

Configuration Information: (Additional features auto-configured to satisfy selections where possible)
NVMe U.2 Drive Bay: 16 of 32 used

In this case we have 16 of 32 used, 4 in CEC and 12 in the NED24 drawer. All the components are as expected, you can go onto the next category “Adapter”.

On this page, ensure that you have the right number of each adapter type:

(EC2T)-PCIe3 LP 2-Port 25/10Gb NIC&ROCE SR/Cu Adapter	2	-	+
(EJ24)-PCIe x16 to CXP Converter Card, Supports optical cables	2	-	+
(EN1F)-PCIe3 LP 16Gb 4-port Fibre Channel Adapter	2	-	+

You can also find all information about which adapters you selected (and their number) and the number of slots used at the bottom of the page:

Configuration Information: (Additional features auto-configured to satisfy selections where possible)

PCI-E LP Slot: 10 of 10 used

Selections:

- (2) (EJ1X)-Storage backplane with four NVMe U.2 drive slots
- (2) (EJ24)-PCIe x16 to CXP Converter Card, Supports optical cables
- (2) (EC2T)-PCIe3 LP 2-Port 25/10Gb NIC&ROCE SR/Cu Adapter
- (2) (EN2X)-PCIe3 LP 4-port 10GbE BaseT RJ45 Adapter
- (2) (EN1F)-PCIe3 LP 16Gb 4-port Fibre Channel Adapter

If all information is as expected, you can go to the next category: “Expansion” to see the expansion drawers (disk expansion drawers and PCIe expansion drawers).

For the expansion drawer, you can see cables who need to be attached to your drawer (selected automatically), at the top of the page.

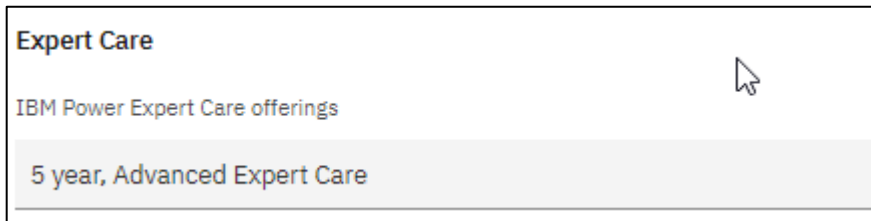
Cables	Proposed
(ECLS)-3.0M CXP x16 Copper Cable Pair for PCIe4 Expansion Drawer	2 - +

If you need extra PCIe slots, you can add an #ENZ0 with fan-outs to allow extra PCIe capacity (useful in case clients want to dedicated all adapters to specific partitions without using VIOS I/O virtualization). In the case of this lab, we don't need i/o drawer, but you can notice that all adapters slots are used and no new card can be added without having to shutdown the server, add a PCIe expansion drawer and fanout(s) to add new adapters.

Drawers/Towers	Proposed
(EMX0)-PCIe Gen3 I/O Expansion Drawer	0 - +
(EMXH)-PCIe3 6-Slot Fanout Module for PCIe3 Expansion Drawer	0 - +
(ENZ0)-PCIe Gen4 I/O Expansion Drawer	0 - +
(ESR0)-EXP24U.2 NVMe SAS Storage Enclosure	1 - +

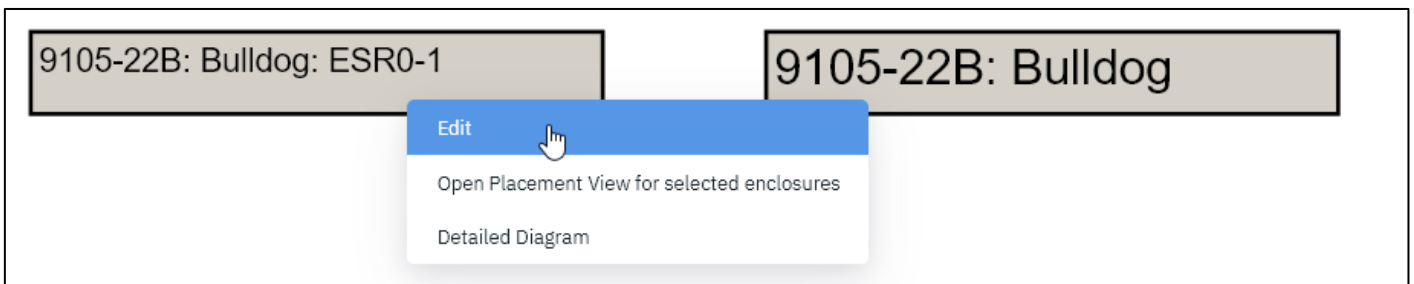
You can find that there is one #ESR0 (NED24) expansion drawer, as expected. We can go to the next category: "Implementation Services".

In this page, you need to check the Expertcare, in the list you choose the ExpertCare level you want, with the number of years that suits you:



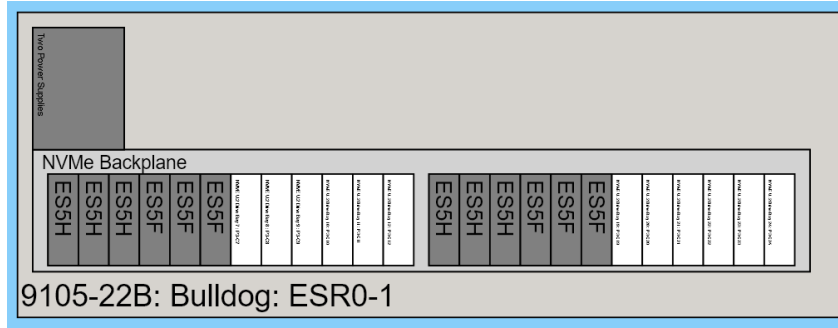
After this step, you can click on the blue button "FINISH" in the upper right corner.

b) On the *point B* of the **Figure 3**, you can check the diagram of your configuration:



On each element you have 3 choices:

- **Edit:** you can go in the configuration view,
- **Open placement view for selected enclosures:** it gives you a diagram with physical placement.



on this diagram, you can select a component and remove it, copy it or replace in another slot on the diagram. We can see here that it corresponds to the placement we made on the SPT tool,

- **Detailed diagram:** it only allows you to edit the configuration and brings you to the configuration view.

c) On the *point C* of the **Figure 3**, you can see all messages for your configuration.

Expand All / Collapse All Show All Must Read

CFR Messages (1)

! Items Failing Validation. The following products failed validation. For items that are 'Not yet Available', change the CRAD. For items that are 'Not Announced', wait until the announcement date.

Product: 5692-A6P-2285 Description: PowerVC for Private Cl.. Error: Not Yet Available Date: 11/10/2023
 Product: 5765-VE4- Description: IBM PowerVM V4 Error: Not Yet Available Date: 11/10/2023
 Product: 9105-22B-EPVT Description: PowerVM V4 Error: Not Yet Available Date: 11/10/2023

Critical messages (7)

! A final validation is required to complete this configuration ✔ 📄 ✎ ⋮

! 9105-22B: Bulldog: The number of operating systems selected is less than the number of active cores specified. 📄 ✎ ⋮

! MUST READ: A PDF with instructions will be provided to you in order to activate the Software support on Rocket web site, the order number will be the token to activate the support contract You must see detail message and review it. 📄 ✎ ⋮

! MUST READ: Mixing of Mainstream and Enterprise devices within a volume group is not allowed. You must see detail message and review it. 📄 ✎ ⋮

! This system may require access to a Hardware Management Console. You may see detail message and review it. 📄 ✎ ⋮

! MUST READ: Custom placement specifications will not be applied to orders shipped by IBM. You must see detail message and review it. 📄 ✎ ⋮

! MUST READ: Modification of configurations originally created in the planning tool may impact prior LPAR planning. You must see detail message and review it. 📄 ✎ ⋮

You can close all warning message by clicking on the **“Show all must read”**. Then, only critical messages which need to be corrected will remain.

❗ Items Failing Validation. The following products failed validation. For items that are 'Not yet Available', change the CRAD. For items that are 'Not Announced', wait until the announcement date.

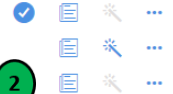
Product: 5692-A6P-2285 Description: PowerVC for Private CL. Error: Not Yet Available Date: 11/10/2023

Product: 5765-VE4- Description: IBM PowerVM V4 Error: Not Yet Available Date: 11/10/2023

Product: 9105-22B-EPVT Description: PowerVM V4 Error: Not Yet Available Date: 11/10/2023

— Critical messages (3)

- ❗ A final validation is required to complete this configuration
- ❗ 9105-22B: Bulldog: The number of operating systems selected is less than the number of active cores specified.
- ❗ This system may require access to a Hardware Management Console. You may see detail message and review it.

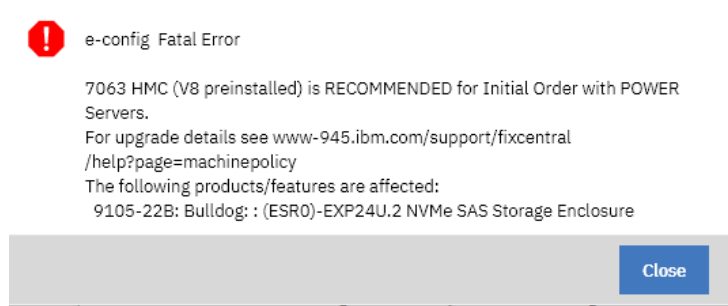


1

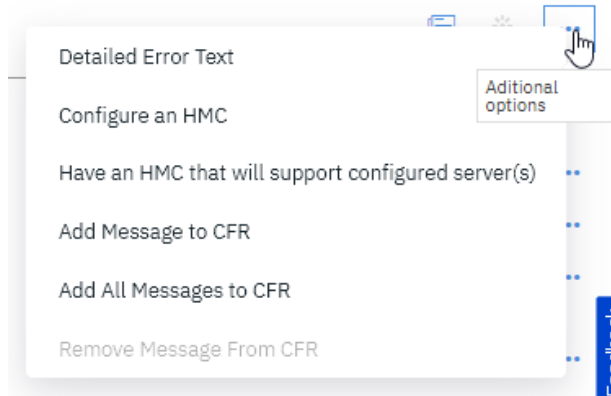
2

3

1. For each critical message blocking the validation you have possibility to work on it,
2. if you click on the page symbol , you will see the message with detailed information,



3. if you click on the 3 dots, you have special menu with action you can take:



For the message regarding the fact that no HMC has been added to the configuration. If the customer already has a HMC, you specify the “have an HMC that will support configured server(s)”.

— Critical messages (2)

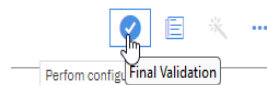
- ❗ A final validation is required to complete this configuration
- ❗ 9105-22B: Bulldog: The number of operating systems selected is less than the number of active cores specified.



You must repeat this step for all messages and correct the issue in order to have at the end only the message for final validation, as follows:

— Critical messages (1)

- ❗ A final validation is required to complete this configuration



You need to click on the blue button to perform final validation and now your configuration will be finish and you can order it

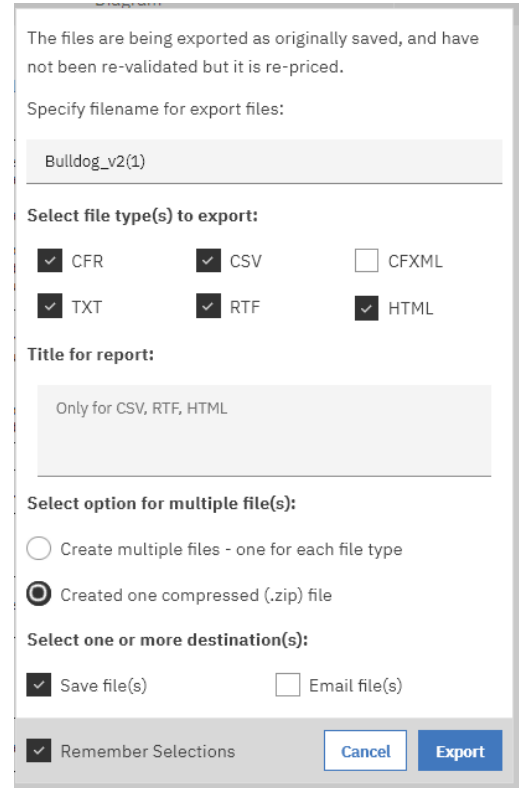
You can go on the proposed tab to see price of your configuration.

d) On the *point D* from **Figure 3**, you can see the proposed configuration with the public price:

Configuration Summary	
Hardware Section Totals	
Initial orders	
Purchase	355,956.84
<hr/>	
Overall Hardware Order (Net Charges)	
Purchase	USD 355,956.84
<hr/>	
Software Section Totals	
Initial orders	
OTC	49,482.00
<hr/>	
Overall Software Order (Net Charges)	
OTC	USD 49,482.00
<hr/>	
Overall System Order (Net Grand Totals)	
OTC	485,438.84
<hr/>	
Total Non-discountable Shipping and Handling Charge: USD 523.00	

At this step, you can click on the blue button “export” to have the final configuration file for order and all files for your distributor. On the export popup, you can choose:

- The type of file you want (several at the same time is possible): CFR, CSV, TXT...
- If you want multiple file (depending the file types you selected) or all files in one zip file,
- Download it or send it by email,
- Click on “export” to finalize the operation.



The files are being exported as originally saved, and have not been re-validated but it is re-priced.

Specify filename for export files:

Bulldog_v2(1)

Select file type(s) to export:

CFR CSV CFXML

TXT RTF HTML

Title for report:

Only for CSV, RTF, HTML

Select option for multiple file(s):

Create multiple files - one for each file type

Created one compressed (.zip) file

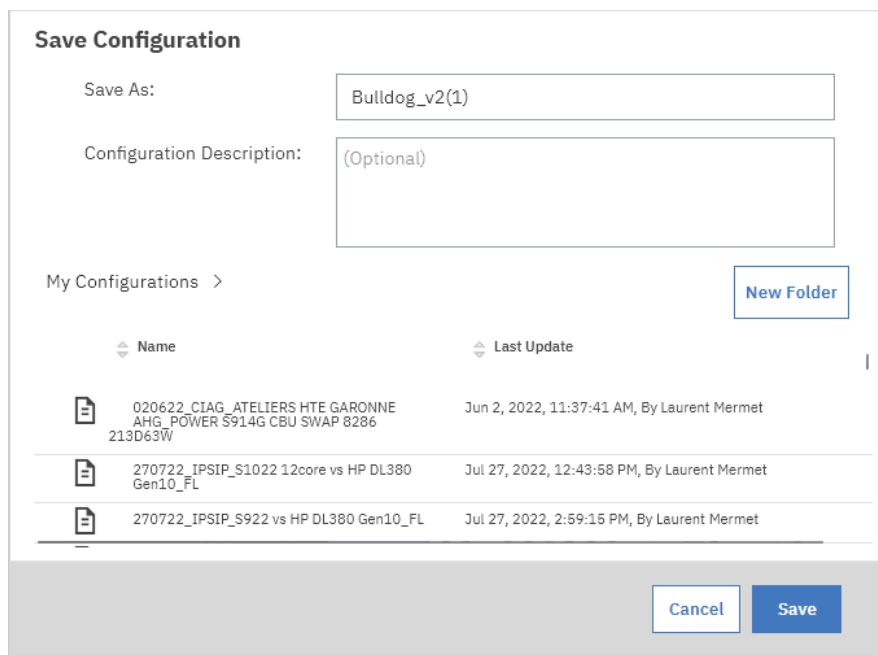
Select one or more destination(s):

Save file(s) Email file(s)

Remember Selections

[Cancel](#) [Export](#)

When you have exported your configuration file, you can also save your configuration in the e-config repository:






Save Configuration

Save As:

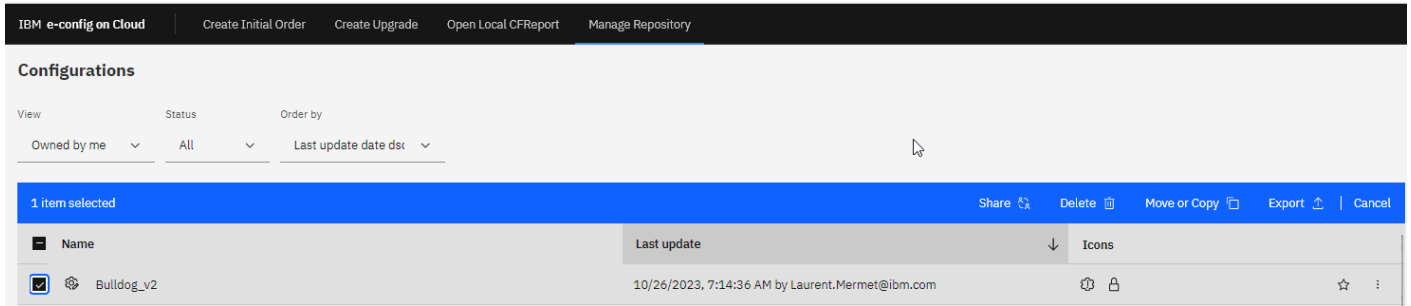
Configuration Description:

My Configurations > [New Folder](#)

Name	Last Update
 020622_CIAG_ATELIERS HTE GARONNE AHG_POWER S914G CBU SWAP 8286 213D63W	Jun 2, 2022, 11:37:41 AM, By Laurent Mermet
 270722_IPSIP_S1022 12core vs HP DL380 Gen10_FL	Jul 27, 2022, 12:43:58 PM, By Laurent Mermet
 270722_IPSIP_S922 vs HP DL380 Gen10_FL	Jul 27, 2022, 2:59:15 PM, By Laurent Mermet

[Cancel](#) [Save](#)

This way, when you came back for a future session, you can retrieve it in the repository with the “**Manage repository**”:



4 Deployment of your sysplan

For this step you can watch the video at this address →