



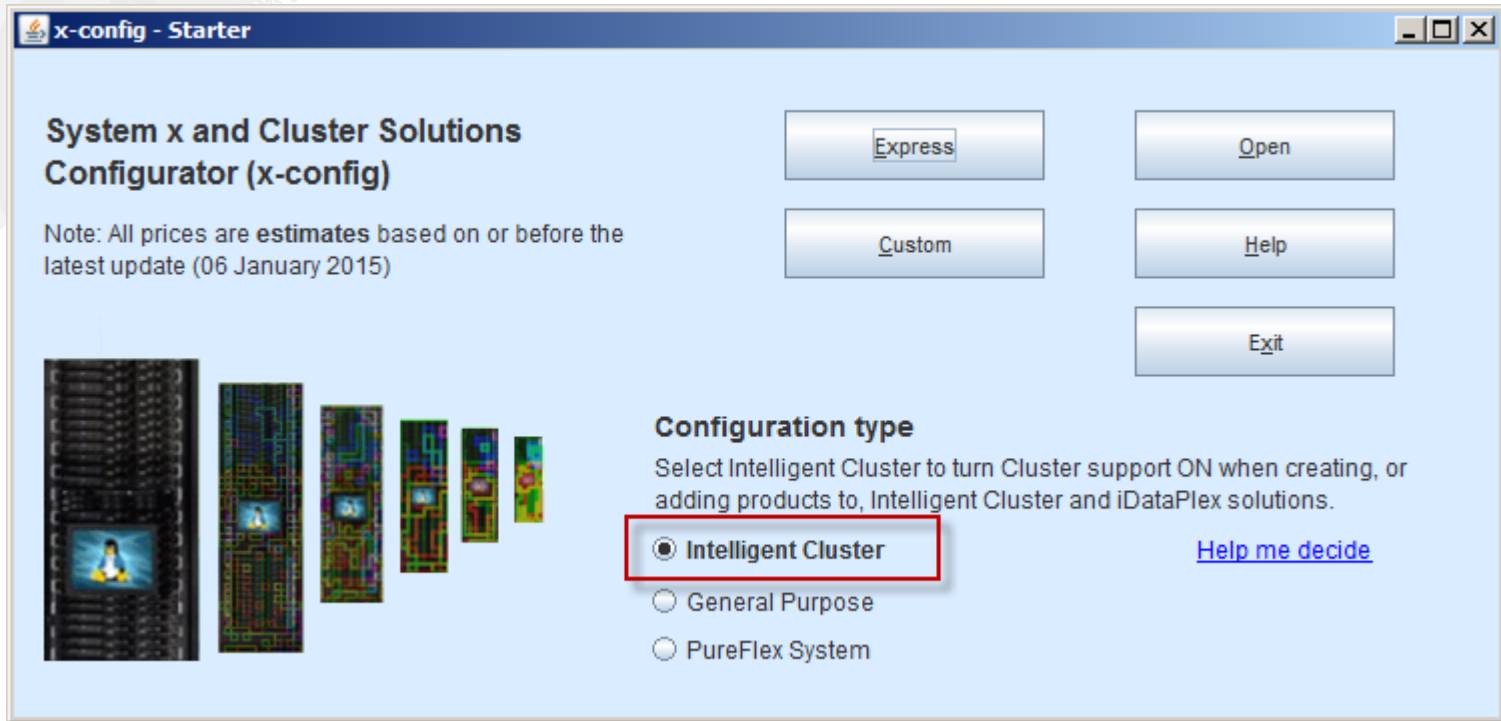
X-config – General Purpose Configure To Order (CTO) – Cluster Support OFF Training v2

Bill Luken (wluken@Lenovo.com) January 9, 2015

x-config Configure To Order (CTO) - (Cluster support OFF)

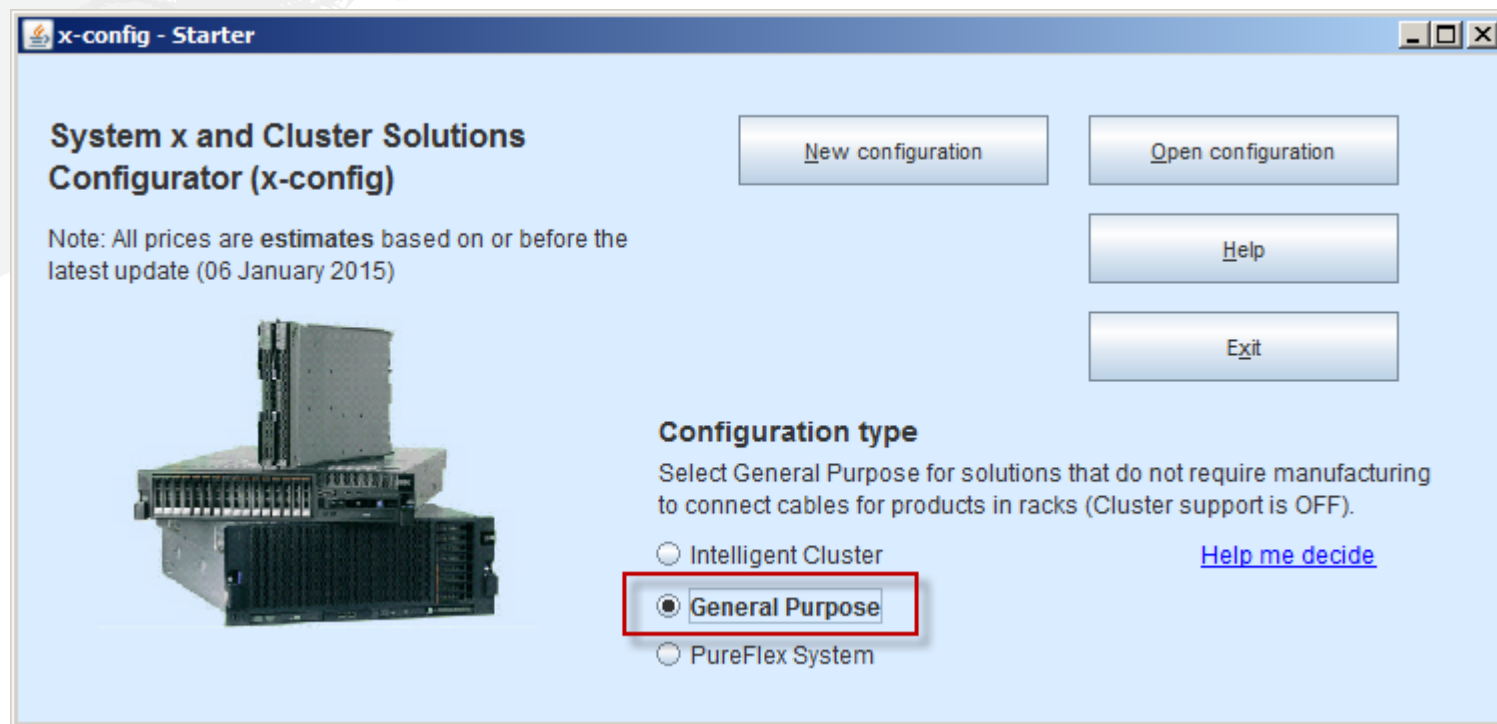
- In this training module you will learn how to build a Flex System and BladeCenter Configure to Order (CTO) general purpose solution and then generate the different output formats.
- We will not cover the Intelligent Cluster (Cluster support ON) function of x-config in this module.
- In the following screen shots you will notice a series of A, B, C, or D designators with the Servers and Options. As part of a continued effort to improve our supply chain and subsequently serviceability and customer satisfaction levels, Lenovo has moved to a parts categorization model that allows for more accurate lead time projections on all products and faster shipments on our most popular products, called the Lenovo HVSC - ABCD Classification. The "A" through "D" designators, as described below, indicate how soon your configured solution will be available to ship. The configuration availability aligns with the availability of the component feature that will require the most time to ship. Only features with known availability are considered when assessing the configuration availability.
 - "A" – Readily available; up to 7 business days order to ship
 - "B" – Standard availability; up to 12 business days order to ship
 - "C" – Special order; up to 15 business days order to ship
 - "D" – Extended lead time / limited availability
 - " " (blank, no code) - Availability is not provided
- In October 2014 we added the PureFlex System solutions to x-config.
- If you need to do a Build to Order (BTO) solution using pre-configured models, then refer to the [SSCT](#).

x-config – Starter Screen with “Intelligent Cluster” selected (Cluster support ON) – not the focus for this training



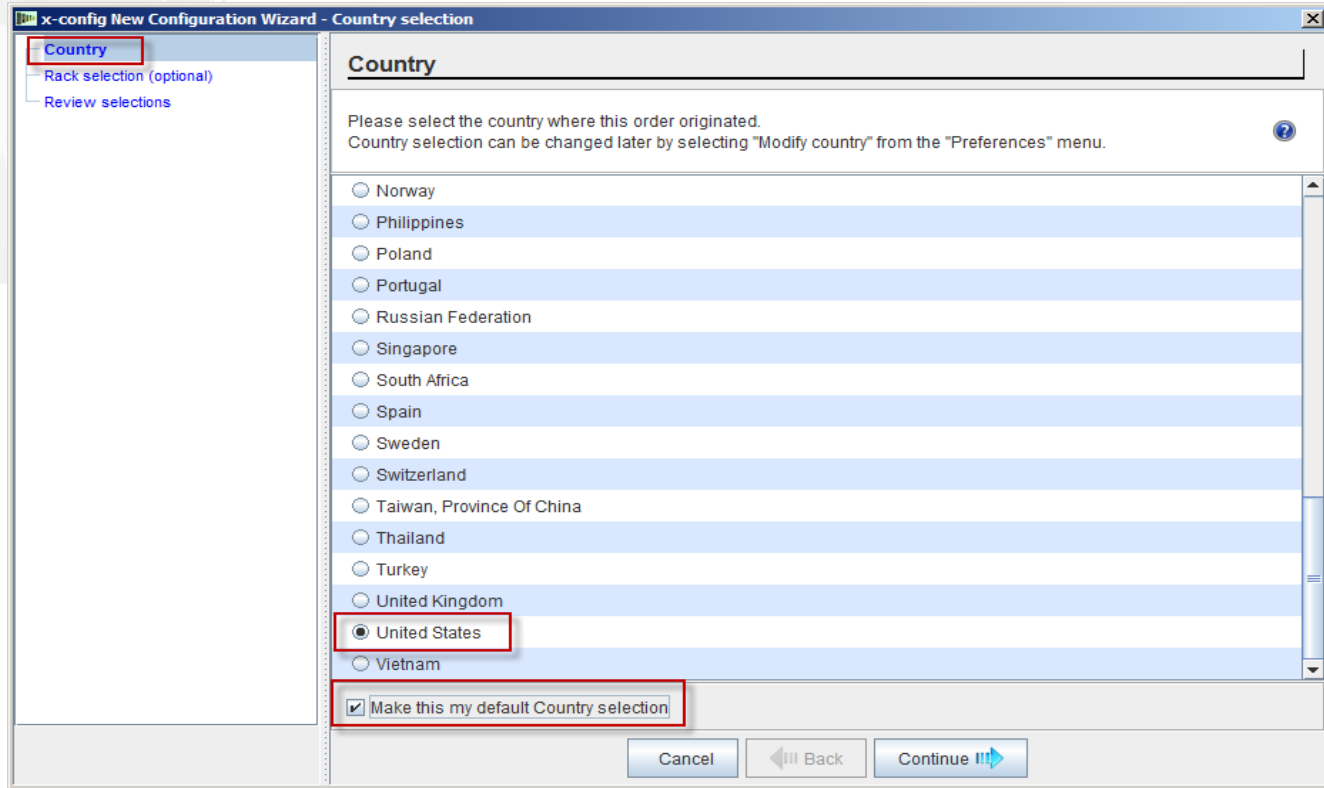
- This is the Starter Screen with Cluster support ON, as you can see you have many more options to allow for configuration of iDataPlex, Intelligent Clusters and other complex Integrated Solutions. (Not our education focus for this module)

x-config – Starter Screen with “General Purpose” selected (Cluster support OFF)



- This is the Starter screen where you can select configuration type (“General Purpose” or “PureFlex System” are the Cluster support OFF options), then build a “New Configuration” or “Open Configuration” (using .CSE file). This is the System x and Flex CTO mode.
 - This is the view when Cluster support is OFF
 - For the purpose of this training module I will only cover "Cluster support OFF"

x-config – "New Configuration" Country Selection



- After selecting "New configuration" from the Starter Screen, I will now select my Country. You can also check "Make this my default Country selection", so x-config will always default to United States or the country you selected.

x-config – "New Configuration" Rack Selection

x-config New Configuration Wizard - Rack selection (optional)

Country
Rack selection (optional)
Review selections

Rack selection (optional)

Choose a starting rack if one is needed. To get rack integration, you must first add a rack to the configuration.

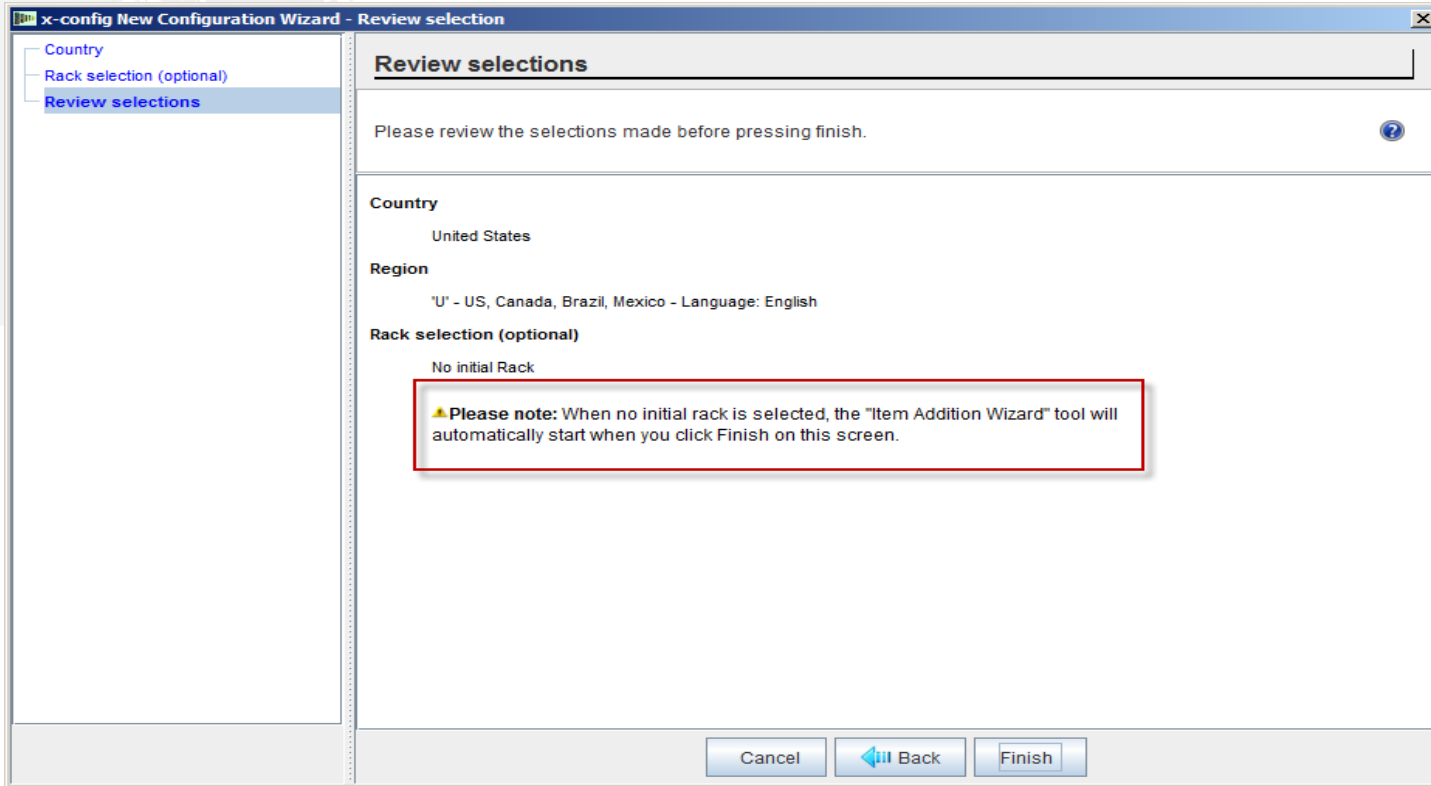
<input checked="" type="radio"/>	No initial Rack	0 USD
<input type="radio"/>	[2018 RC1, 2731] IBM 11U Office Enablement Kit	929 USD
<input type="radio"/>	[9308 RC4, 5621] IBM 42U Enterprise Rack	2,915 USD
<input type="radio"/>	[9308 RC4, 5622] IBM 42U Enterprise Expansion Rack	2,715 USD
<input type="radio"/>	[9307 RC2, 1042] S2 25U Base Cabinet	1,485 USD
<input type="radio"/>	[9360 RC4, 7649] IBM 42U 1200mm Deep Dynamic Rack	2,809 USD
<input type="radio"/>	[9360 RC4, 7650] IBM 42U 1200mm Deep Dynamic Expansion Rack	2,649 USD
<input type="radio"/>	[9363 RC4, A1RC] IBM 42U 1100mm Enterprise V2 Dynamic Rack	3,099 USD
<input type="radio"/>	[9363 RC4, A1RD] IBM 42U 1100mm Enterprise V2 Dynamic Expansion Rack	2,899 USD
<input type="radio"/>	[0750 HCD, A2GQ] DDN 42U Rack for U.S.	11,999 USD
<input type="radio"/>	[0750 HCA, A2G7] DDN 45U Rack for U.S.	14,999 USD
<input type="radio"/>	[9363 RC4, A3GR] IBM PureFlex System 42U Rack	5,399 USD
<input type="radio"/>	[9363 RC4, A3GS] IBM PureFlex System 42U Expansion Rack	5,199 USD

Make this my default Rack selection

Cancel Back Continue

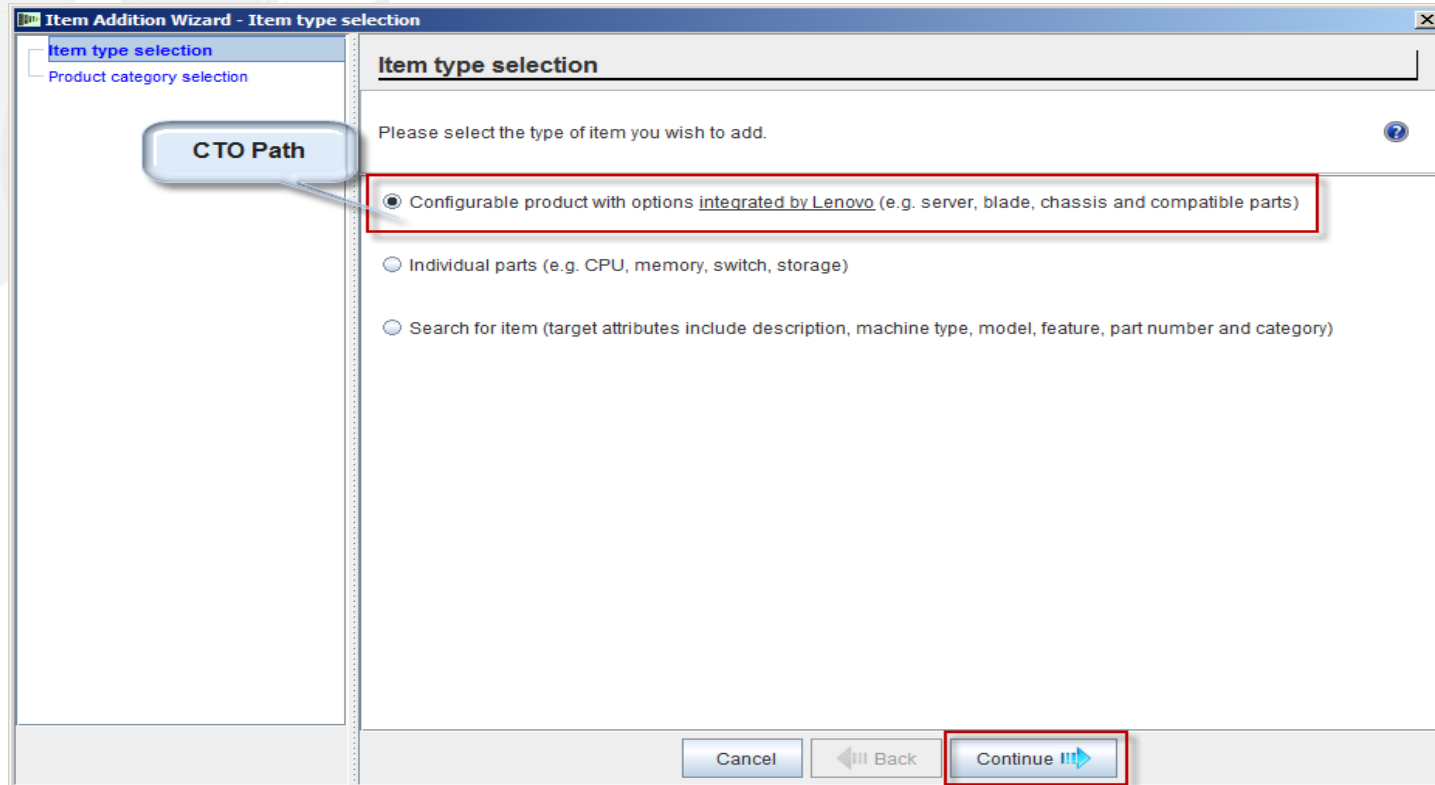
- Next you select whether you require a Rack solution or you will just configure Standalone products. You can also check “Make this my default Rack selection”, so x-config will always default to “No initial Rack”.

x-config – "New Configuration" Review Selections



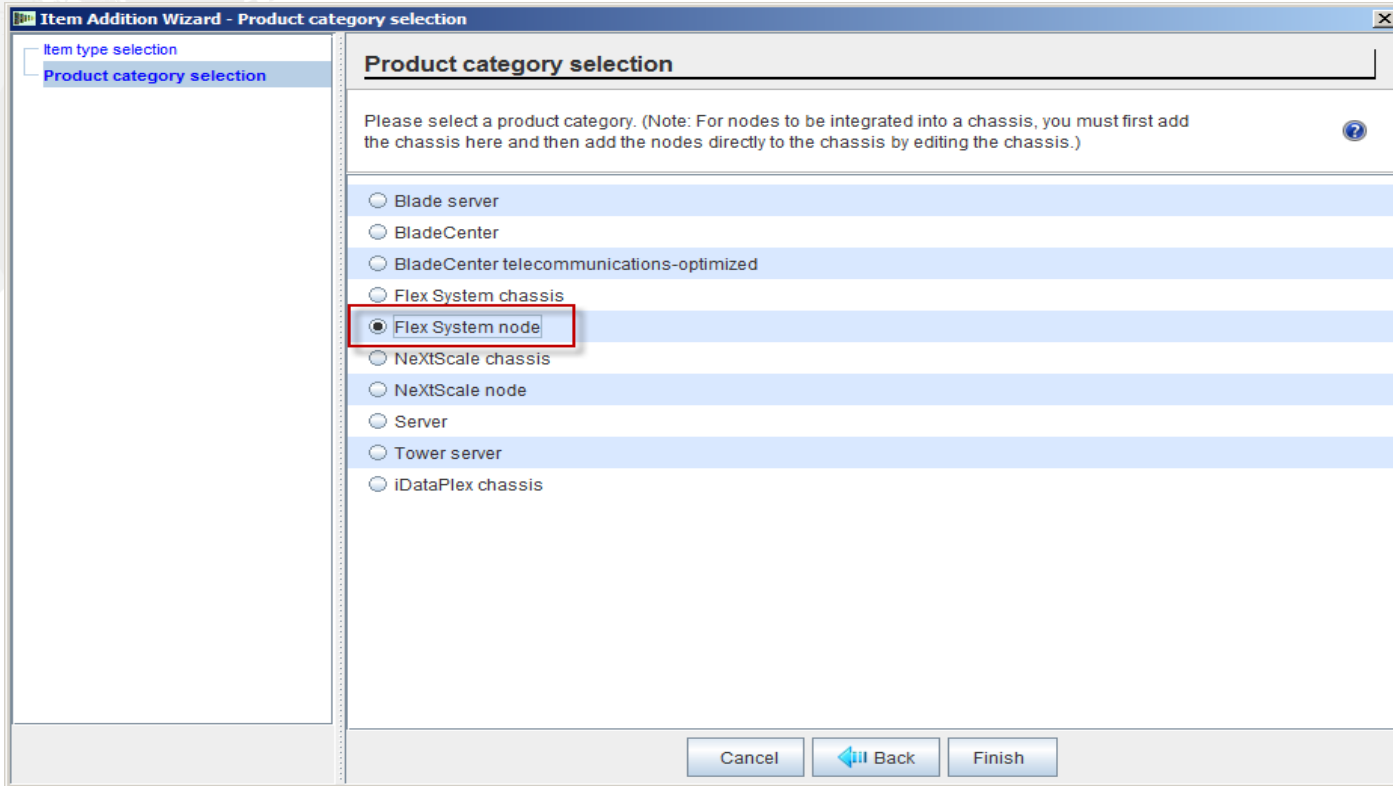
- Next is "Review selections". I chose "No Initial Rack" from the previous screen. When you choose "No initial Rack" the "Add new item" Wizard will automatically start after clicking "Finish".

x-config – "Item type selection"



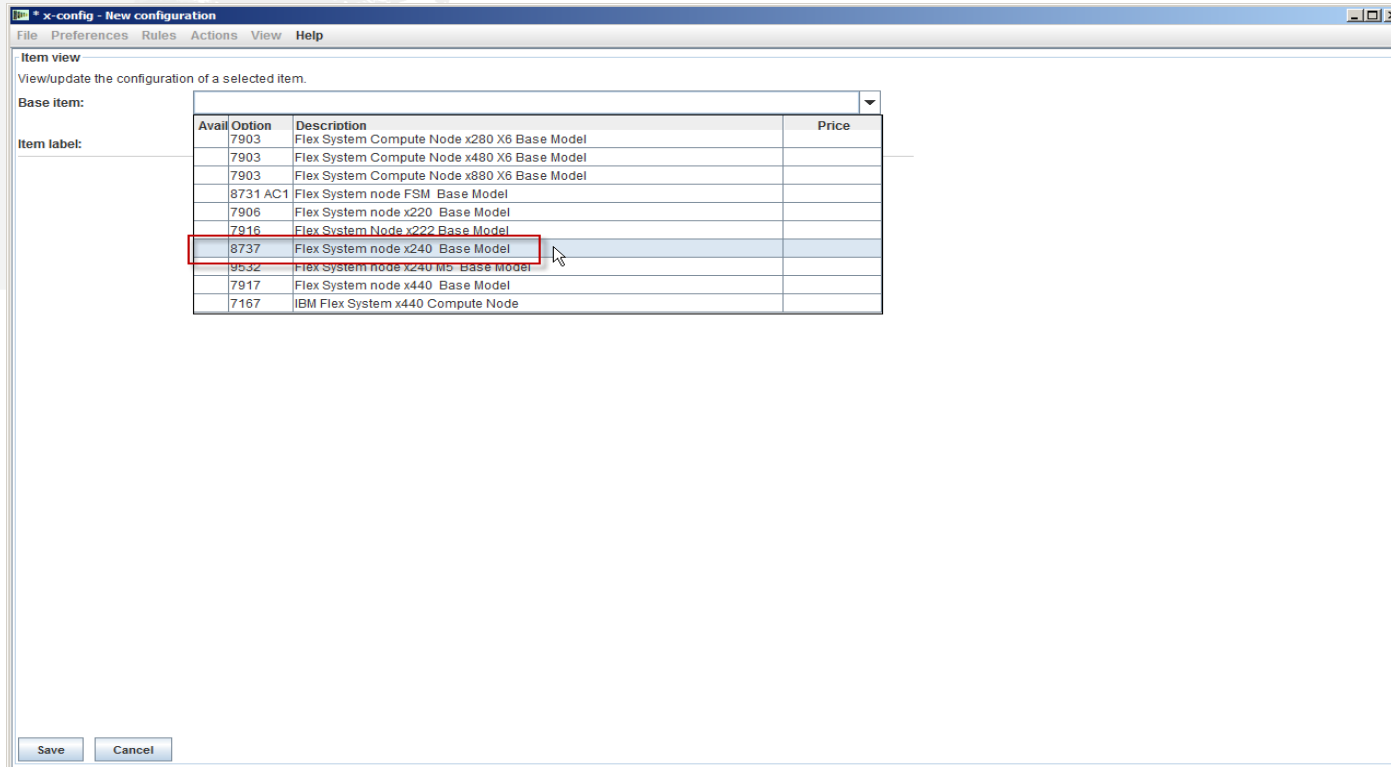
- Here is the "Item Addition Wizard" screen. From here I will select "Configurable product with options integrated by Lenovo" (CTO path). Prior to March 2013 x-config was enabled to support building GAV (Generally Announced Variants) models similar to the SSCT, but this function is now removed. Click "Continue".

x-config – "Product category selection"



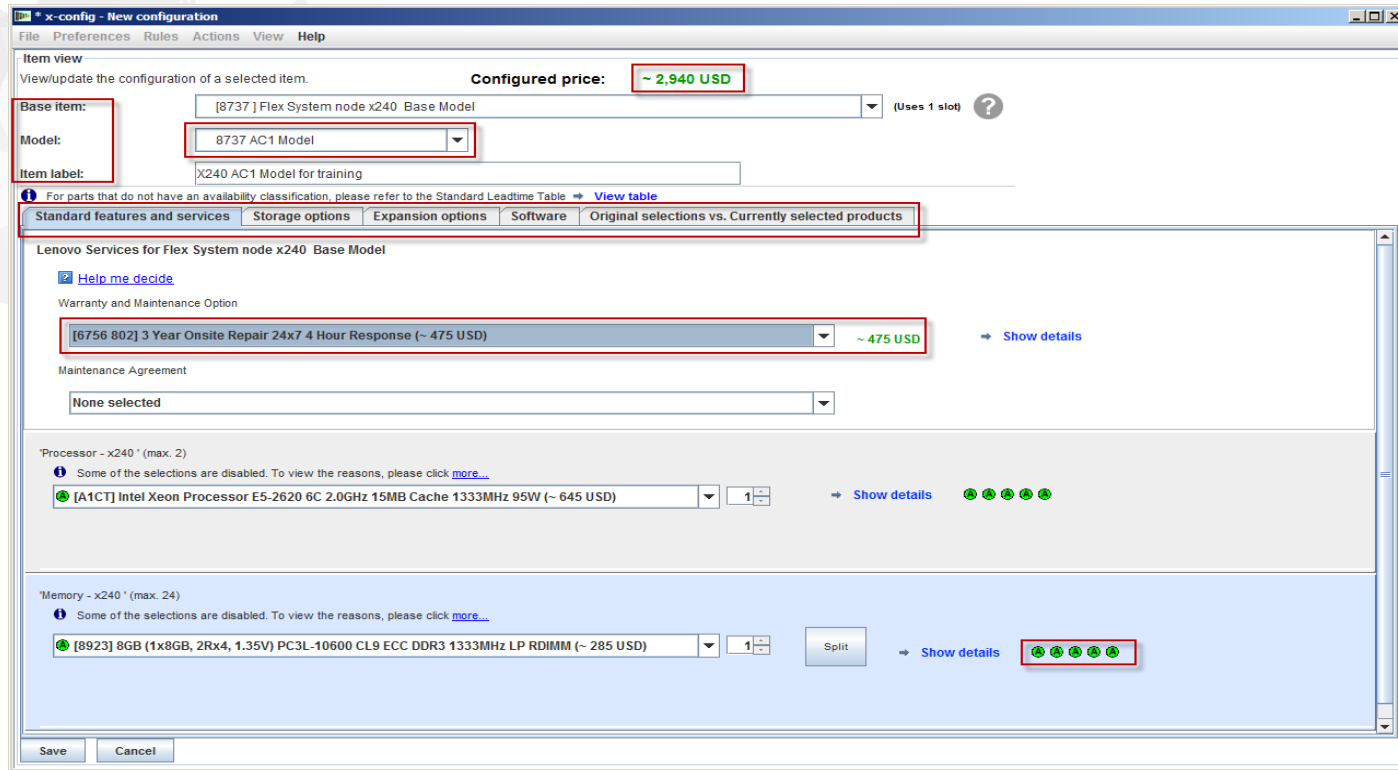
- Here is the "Product category selection" screen. From here I will select "Flex System node", but have the options for "Blade server", "BladeCenter", "BladeCenter Tele", "Flex System chassis", "Server", "Tower Server", "NeXtScale chassis", "NeXtScale node" or "iDataPlex chassis". Make your selection then click "Finish".

x-config – "New configuration" Pick Base Item



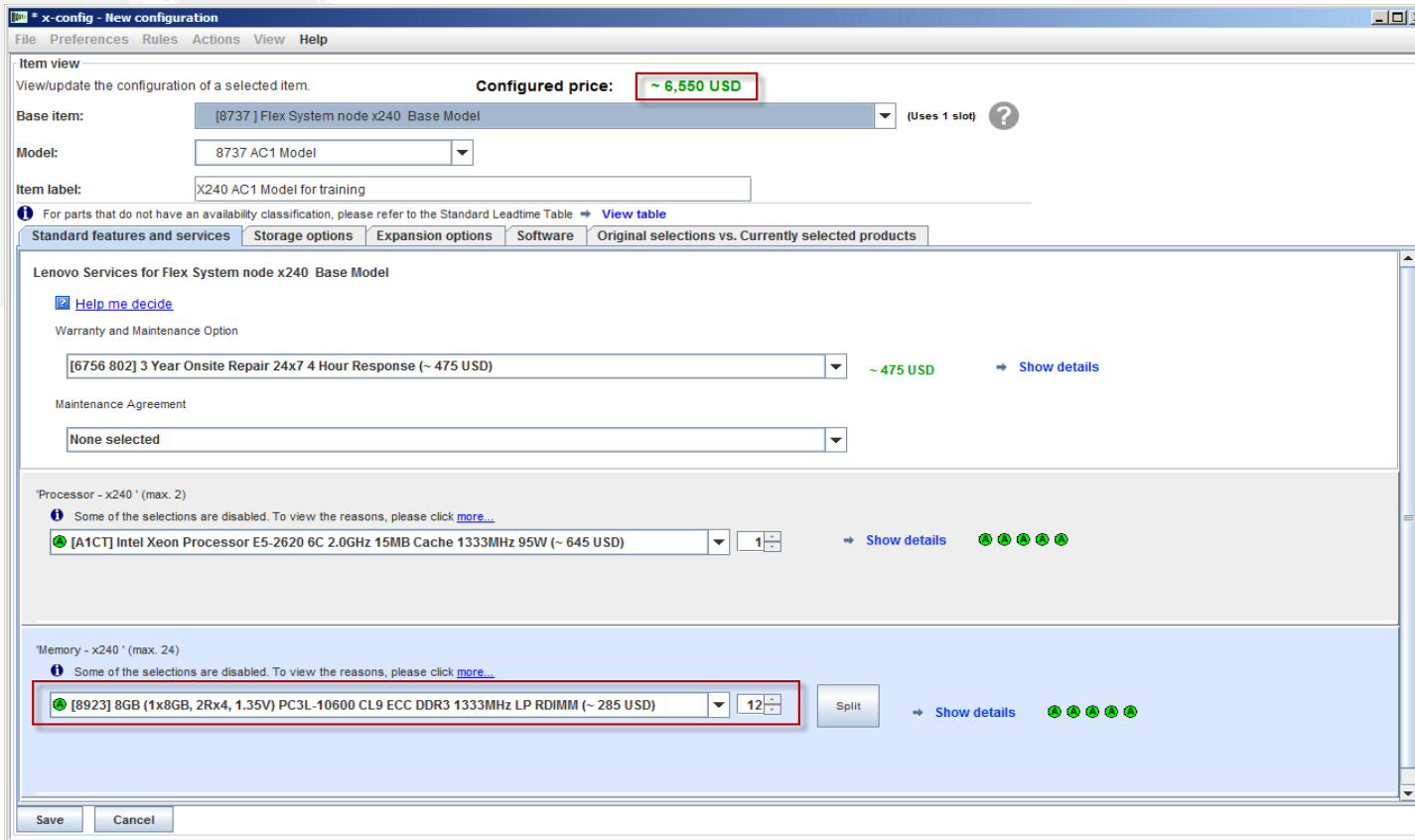
- Here is a screen shot of the "New configuration" Flex System node products. Here I selected the "8737, Flex System node x240 Base Model" from the "Base Item" drop-down. I can also configure the FSM or the Flex System V7000. Once I make my selection the configuration Wizard will populate the screen with the attributes so I can further configure the x240.

x-config – "New configuration" Standard features and services tab



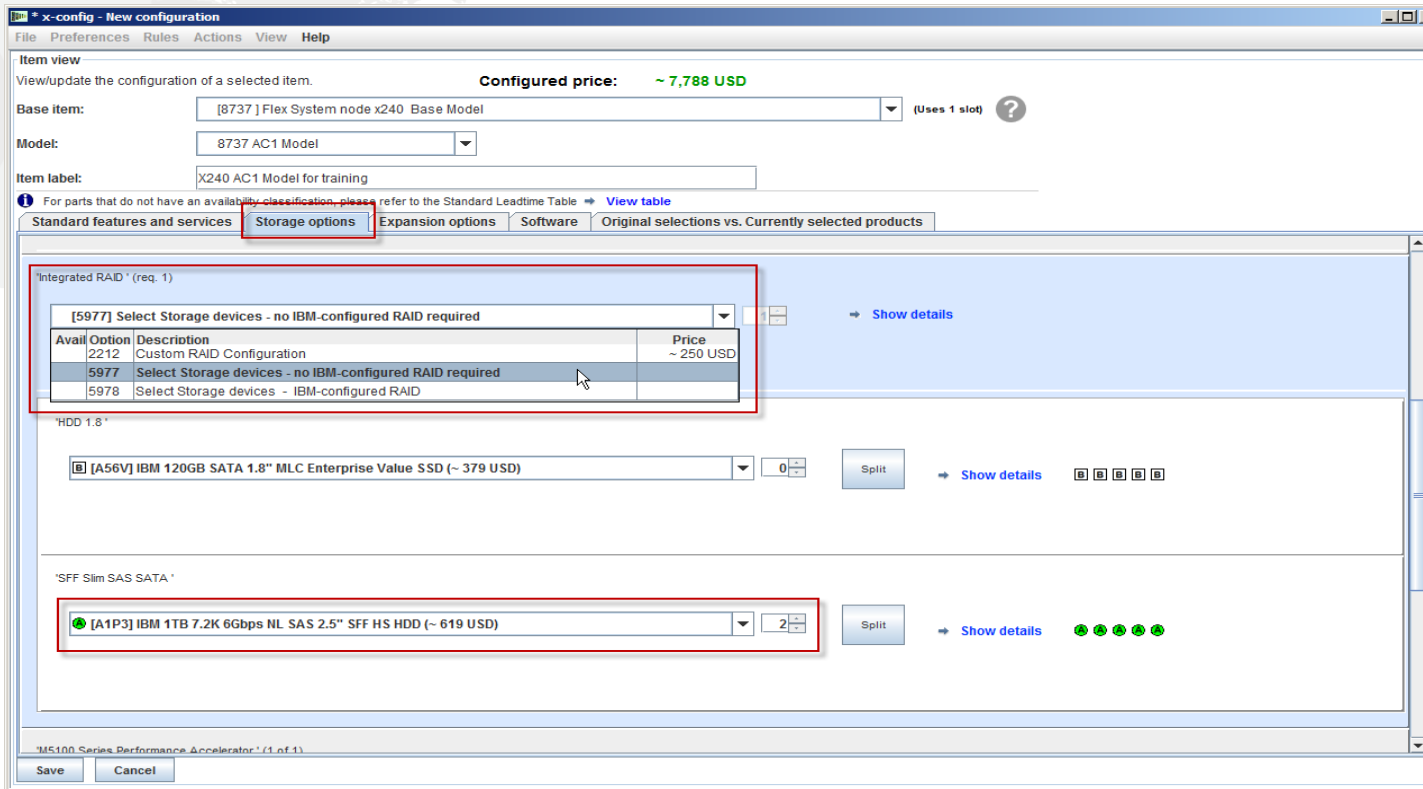
From this configuration screen you can change your "Base Item", "Model" and provide an "Item label". You can now configure the options for the x240 AC1, using the tabs in the middle of the screen. As you add options to the configuration you will see the price update on the top of the screen. Here I selected a warranty upgrade. Also, you will see ABCD codes for the options. In this case the Processor I chose is a code A, which is readily available. I could have chosen 8737 MC1 Model in the "Model" drop-down. The MC1 model is used for solutions that require Microsoft OS. From the new configuration screen you would move from tab to tab.

x-config – "New configuration" Standard features and services tab



- From the "Standard features and services" tab, I changed the memory to "FC 8923 8GB LP RDIMM" from the drop down box, selecting quantity 12. Also notice the configured price has changed based on my selections.

x-config – "New configuration" Storage options tab



Item view
View/update the configuration of a selected item. **Configured price:** ~7,788 USD

Base item: [8737] Flex System node x240 Base Model (Uses 1 slot) ?

Model: 8737 AC1 Model

Item label: X240 AC1 Model for training

For parts that do not have an availability classification, please refer to the Standard Leadtime Table → View table

Standard features and services | **Storage options** | Expansion options | Software | Original selections vs. Currently selected products

"Integrated RAID" (req. 1)

Avail	Option	Description	Price
	[5977]	Select Storage devices - no IBM-configured RAID required	
	2212	Custom RAID Configuration	~ 250 USD
	5977	Select Storage devices - no IBM-configured RAID required	
	5978	Select Storage devices - IBM-configured RAID	

HDD 1.8"

[A56V] IBM 120GB SATA 1.8" MLC Enterprise Value SSD (~ 379 USD) 0 Split → Show details

"SFF Slim SAS SATA"

[A1P3] IBM 1TB 7.2K 6Gbps NL SAS 2.5" SFF HS HDD (~ 619 USD) 2 Split → Show details

MS100 Series Performance Accelerator (1 of 1)

Save Cancel

- From the "Storage options" tab, I selected "FC 5977 No IBM-configured RAID required". There are other selections I could have made, for instance one is "FC 2212 Custom RAID Configuration". Then I selected my HDDs.

x-config – "New configuration" Expansion options tab

Item view
View/update the configuration of a selected item. **Configured price:** ~ 69,300 USD

Base item: [8737] Flex System node x240 Base Model (Uses 1 slot) ?

Model: 8737 AC1 Model

Item label: X240 AC1 Model for training

Warning messages exist and should be addressed before saving the selections.
For parts that do not have an availability classification, please refer to the Standard Leadtime Table → View table

Standard features and services | Storage options | **Expansion options** | Software | Original selections vs. Currently selected products

'Expansion units' (1 of 1)

[A1BV] IBM Flex System PCIe Expansion Node (~ 2069 USD) → Show details [] [] [] []

Avail Option	Description	Price
[A1BV]	IBM Flex System PCIe Expansion Node	~ 2069 USD
[A3JF]	IBM Flex System Storage Expansion Node	~ 1669 USD

'Full Height Riser' (1 of 2)

[A3DZ] IBM 2.4TB High IOPS MLC Duo Adapter (~ 39499 USD) → Show details [] [] [] [] [] []
 ⚠ For A3DZ the current availability is "C: Ships in 15 business days or less." Fulfillment of this order may be significantly delayed. → More Info

'Full Height Riser' (2 of 2)

-

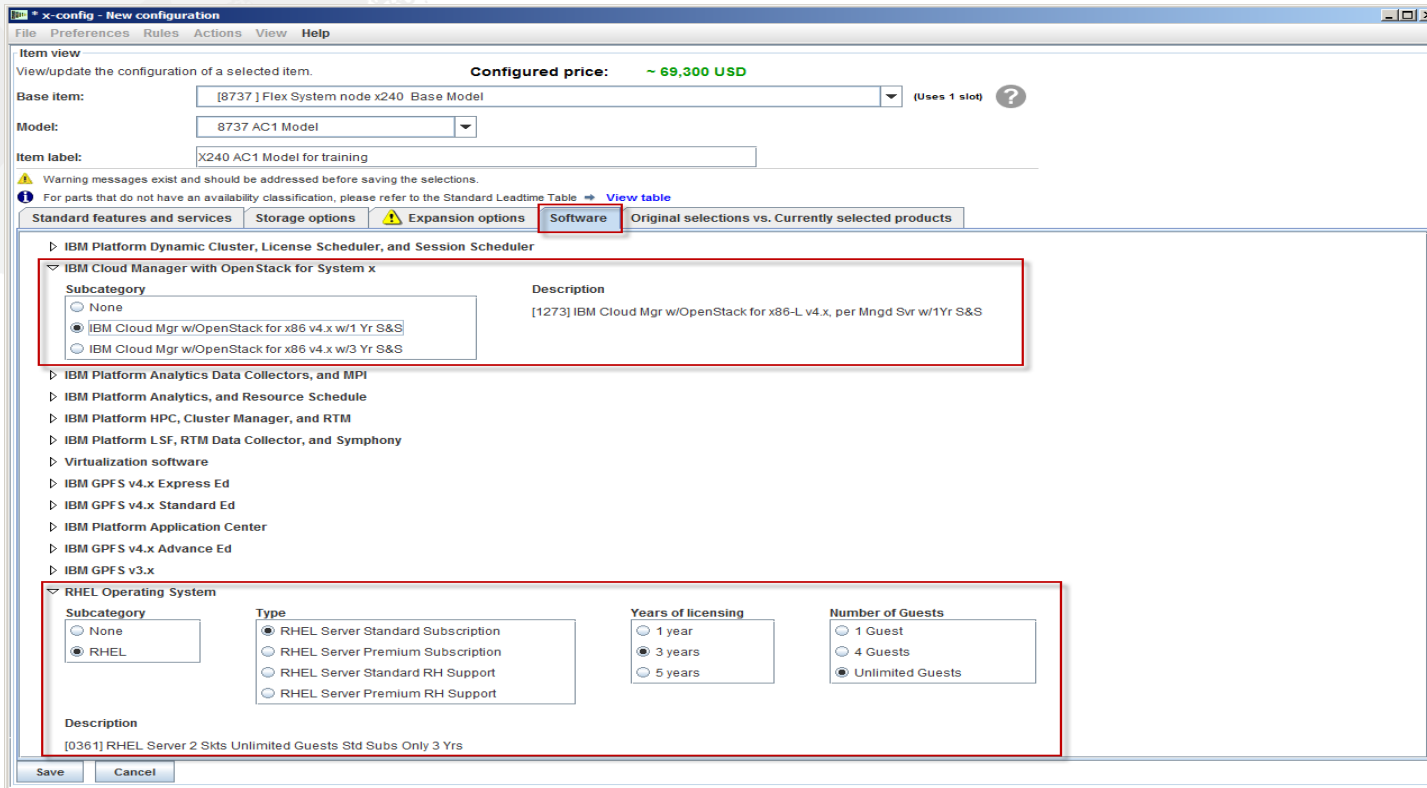
'Low Profile Riser' (1 of 2)

[A3DY] IBM 1.2TB High IOPS MLC Mono Adapter (~ 19299 USD) → Show details [] [] [] [] [] []
 ⚠ For A3DY the current availability is "C: Ships in 15 business days or less." Fulfillment of this order may be significantly delayed. → More Info

Save Cancel

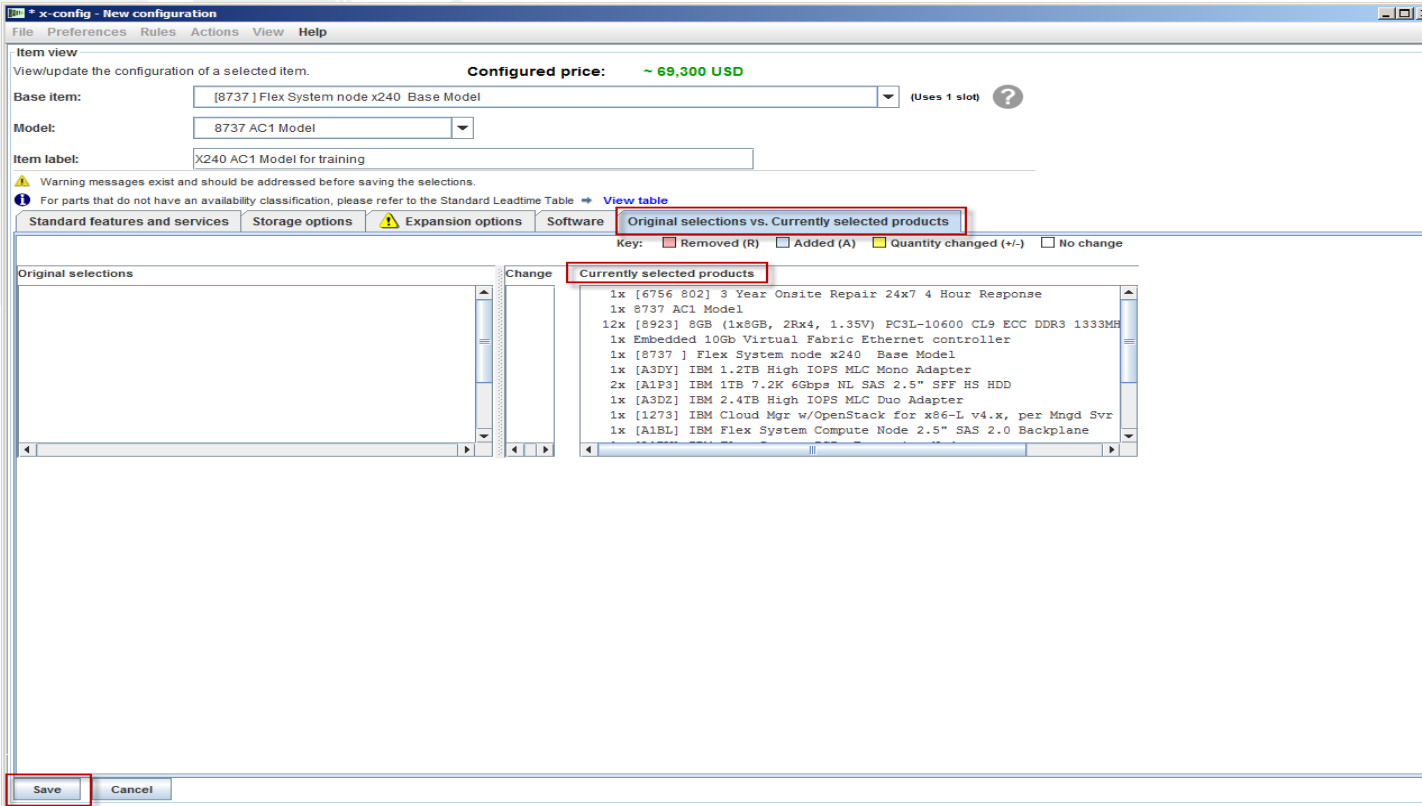
From the "Expansion options" tab, I selected "IBM Flex System PCIe Expansion Node" for my "Expansion unit", but could have selected "IBM Flex System Storage Expansion Node" as my selection. I also added the "FC A3DZ IBM 2.4TB High IOPS MLC Duo Adapter" and "FC A3DY IBM 1.2TB High IOPS MLC Mono Adapter". If you scroll down further you will find some "VAO Services" selections and the System Documentation for US as Country selection will only be "US English" but will allow other selections based on your Country selection.

x-config – "New configuration" Software tab



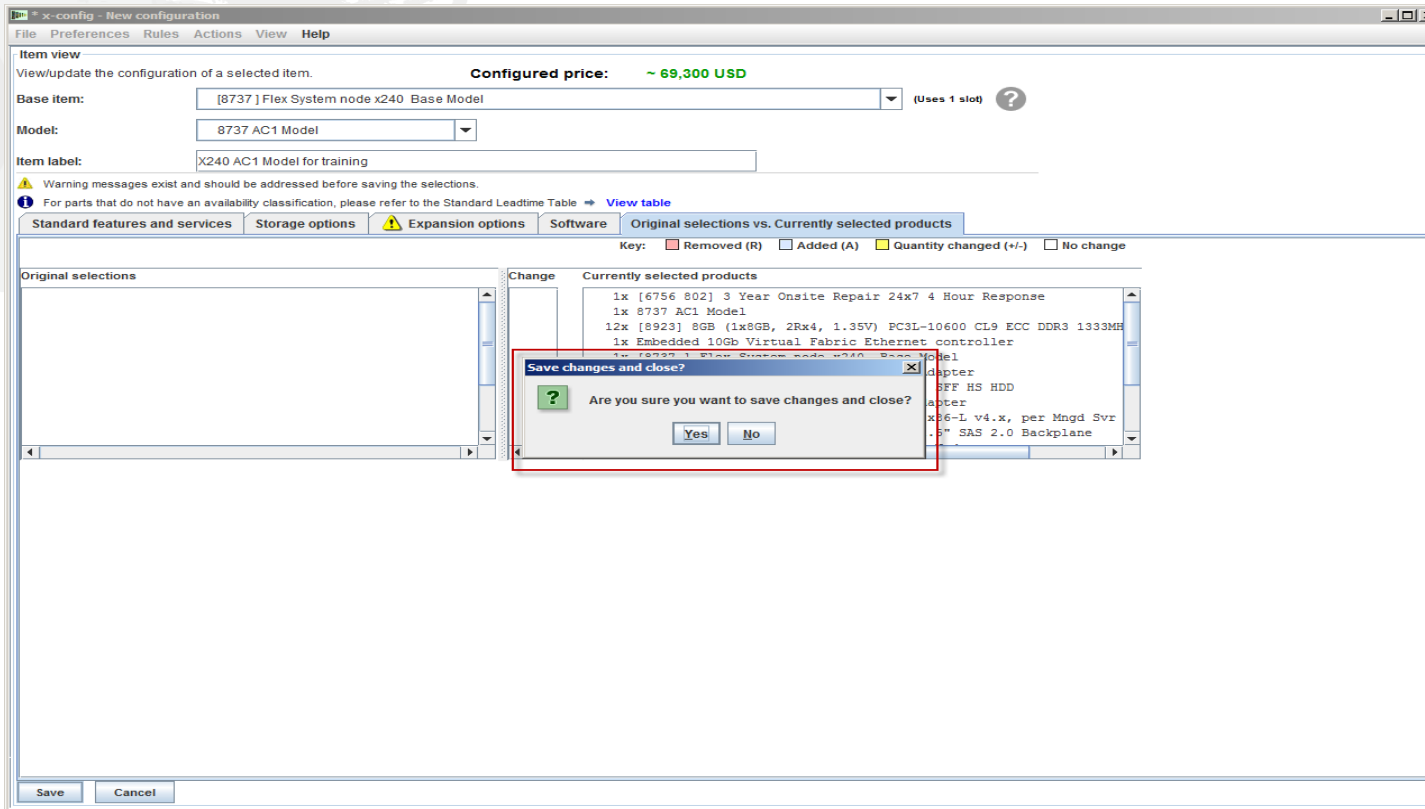
- From the "Software" tab, I selected the "IBM Cloud Manager w/OpenStack for x86 v4x w/1 Yr S&S" and the "RHEL Operating system". There are many other options available for Flex System compatible software.

x-config – "New configuration" Original selections vs. Currently selected products tab



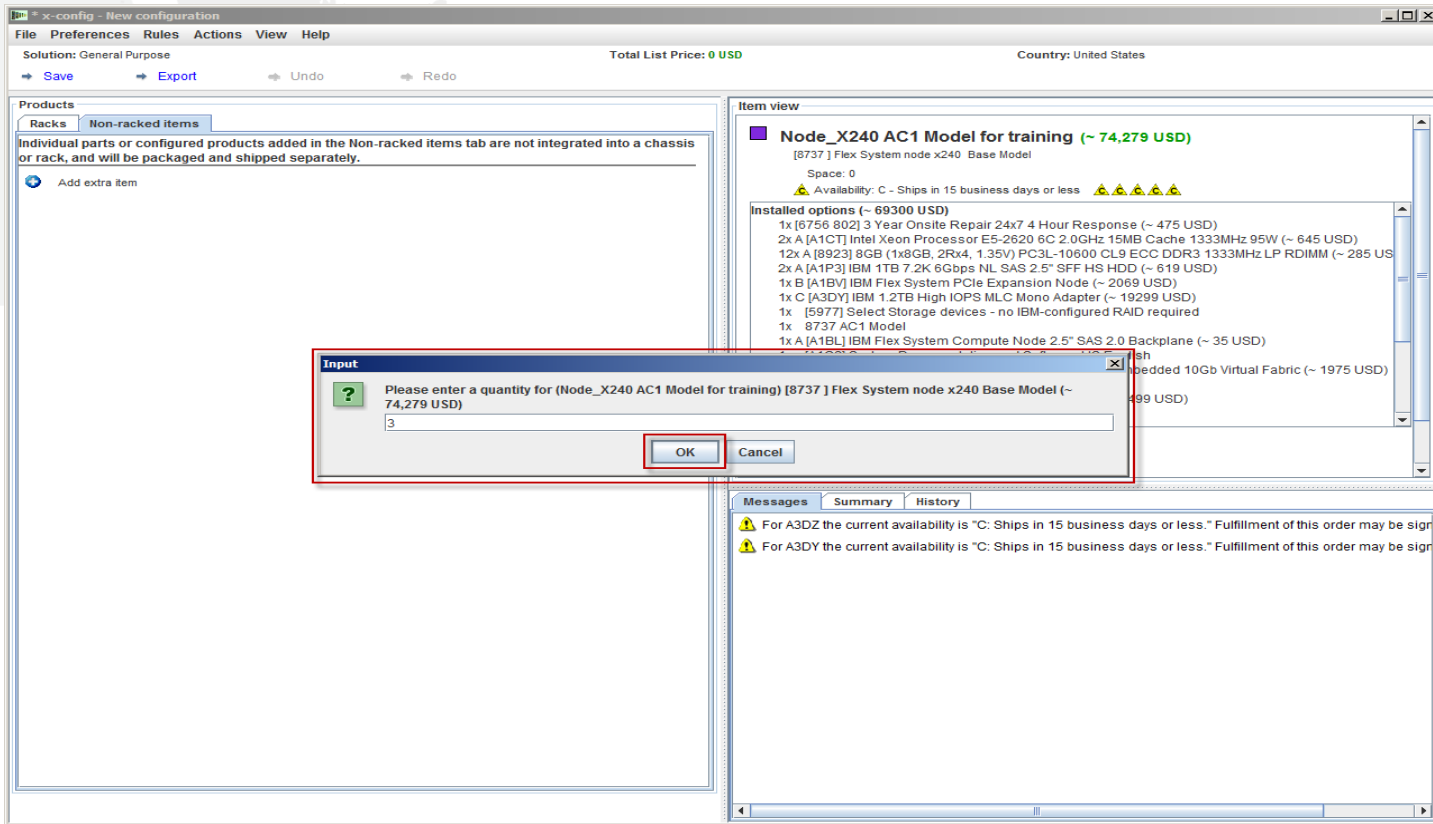
- From the "Original selections vs. Currently selected products" tab you can see what you selected for options during the configuration, you will not see any changes until you save and then reopen and make some configuration changes. Once you have all your required option/product configuration selections, click "Save" to exit the Wizard.

x-config – "New configuration" Save



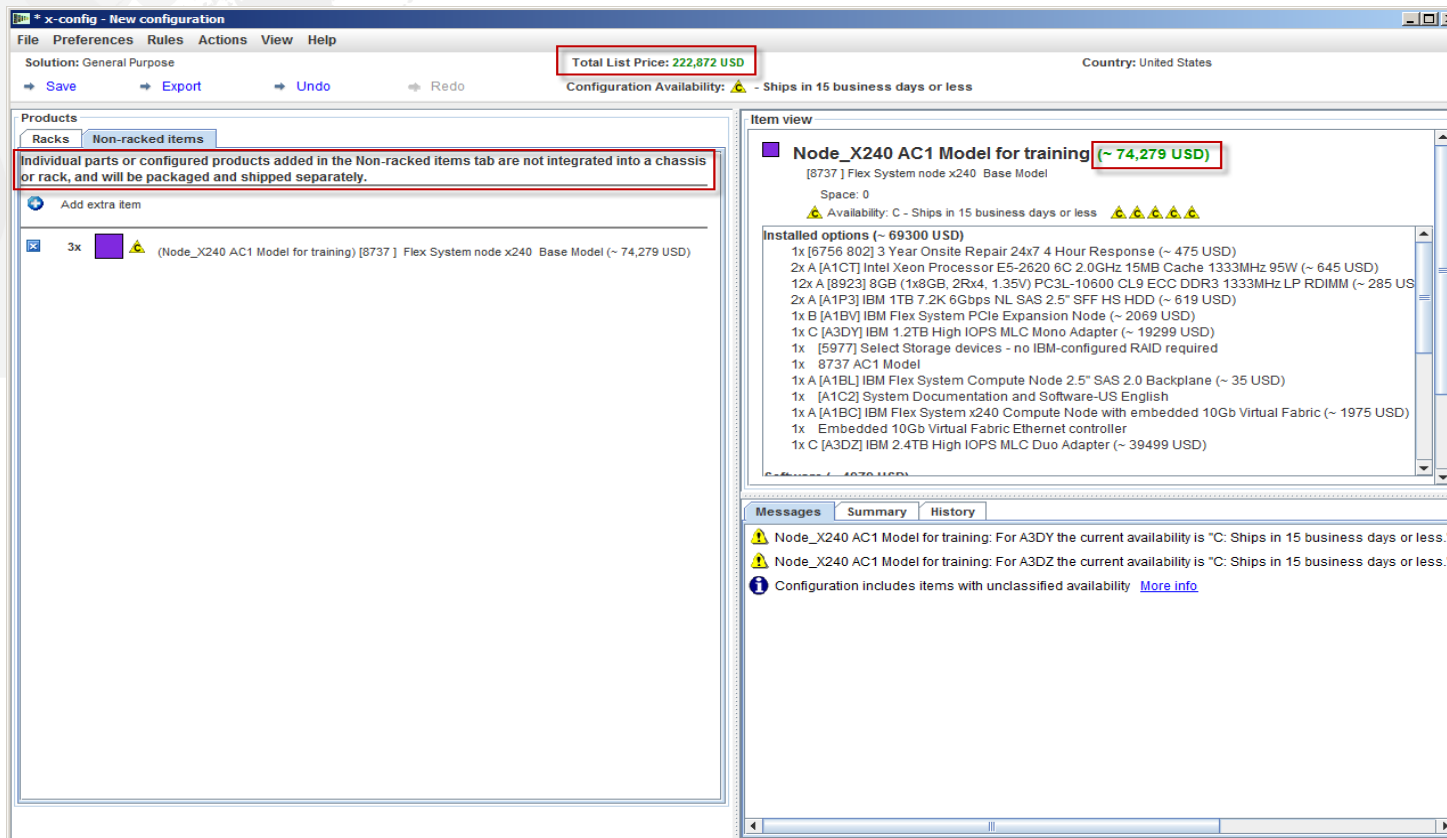
- After clicking "Save" you will either get a pop-up that indicates there are some errors and you need to go back and fix or you will get the pop-up box that asks you to "Save changes and close?" the Wizard. Click "Yes".

x-config – "New configuration" Input Quantity



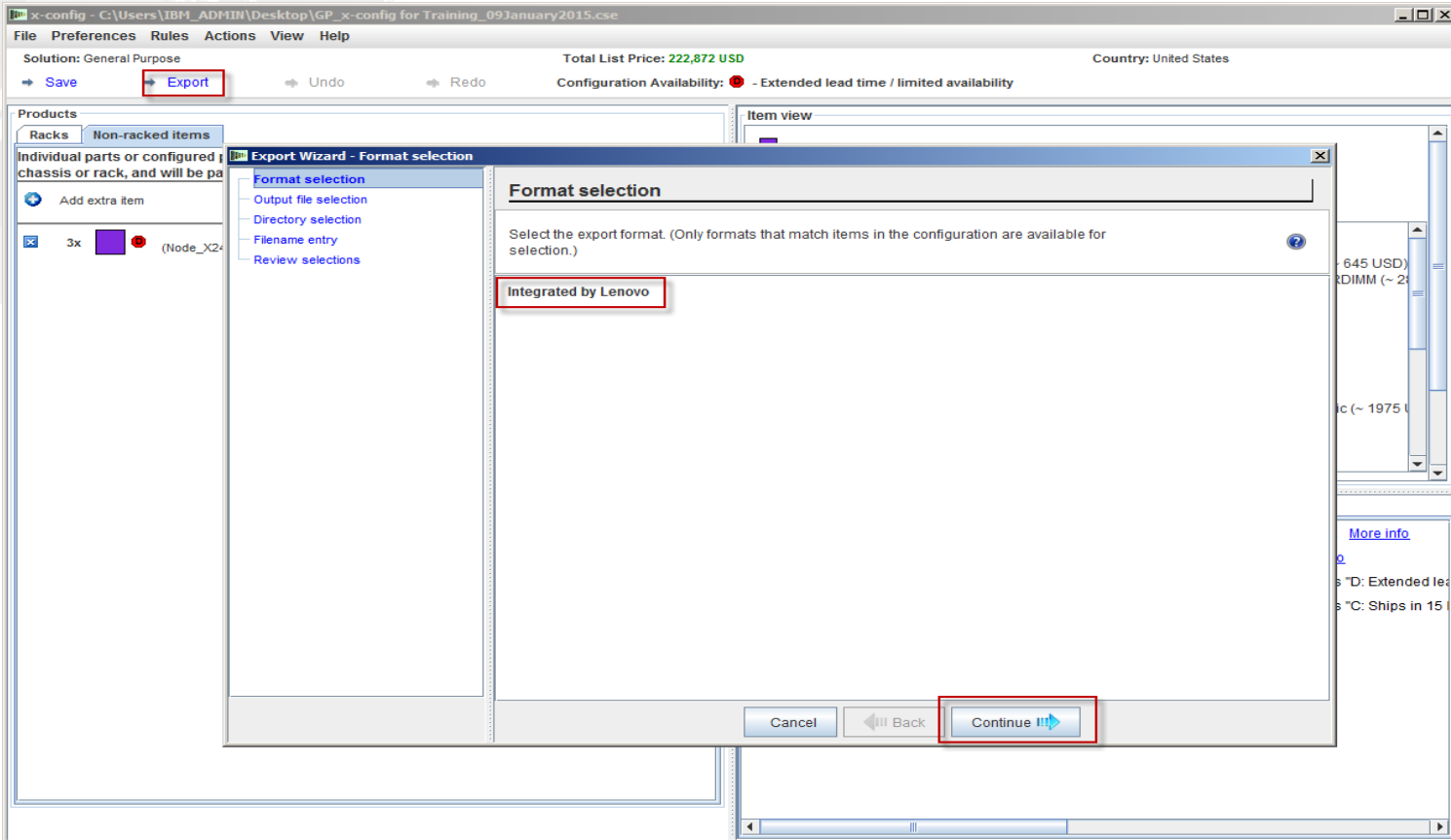
- After clicking "Yes" on the previous screen you will get a pop-up box asking for "Input" on the quantity for this product configuration. Here I changed the default of 1 to 3, then clicked "OK".

x-config – "New configuration" Main configuration screen



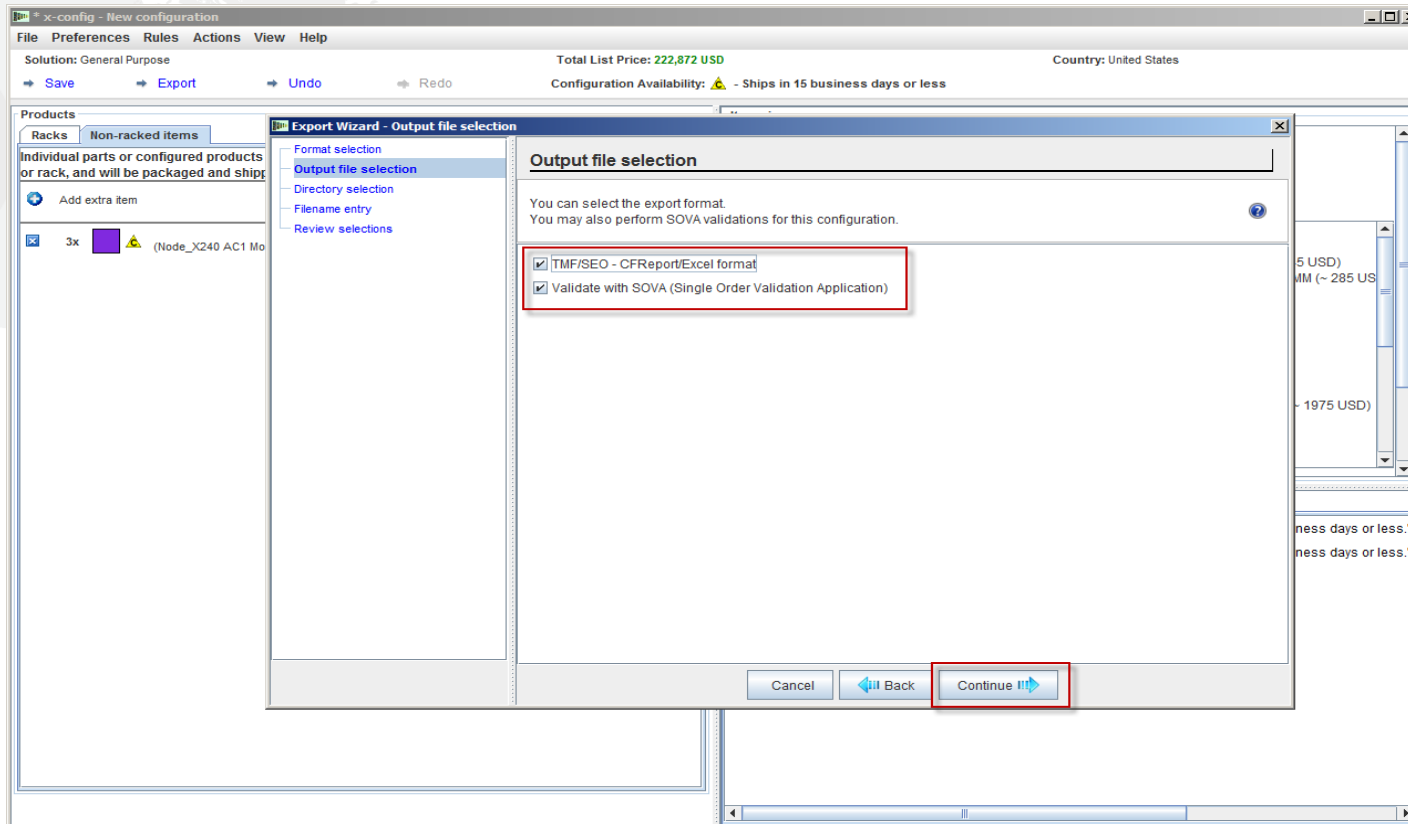
- After exiting the configuration Wizard you will be at the main configuration screen. From here you can see the "Total List Price", which is 3 times the single Blade cost of "~74,279 USD". There is also a message explaining that "Individual parts and configured products added here are not ordered in a rack and ship separately". From here you can "Save" or "Export" the configuration or Add another item, and other menu selections.

x-config – "Export Configuration Wizard" Format selection



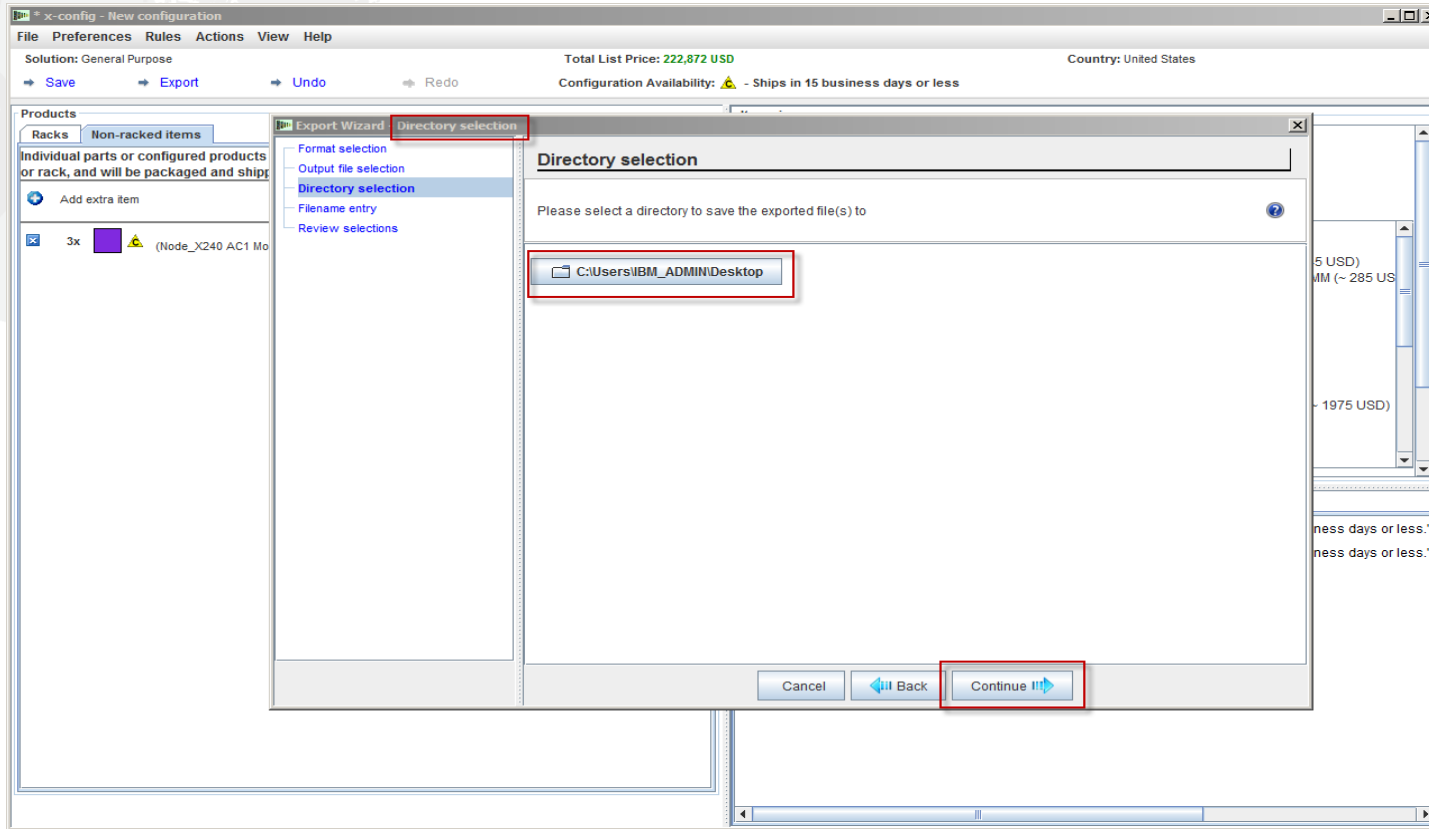
- From the main configuration Wizard I selected "Export". You will get a pop-up for the "Export Configuration Wizard – Format selection" alerting you to that this configuration path will be "Integrated by Lenovo" (CTO). Click "Continue".

x-config – "Export Wizard" - Output file selection



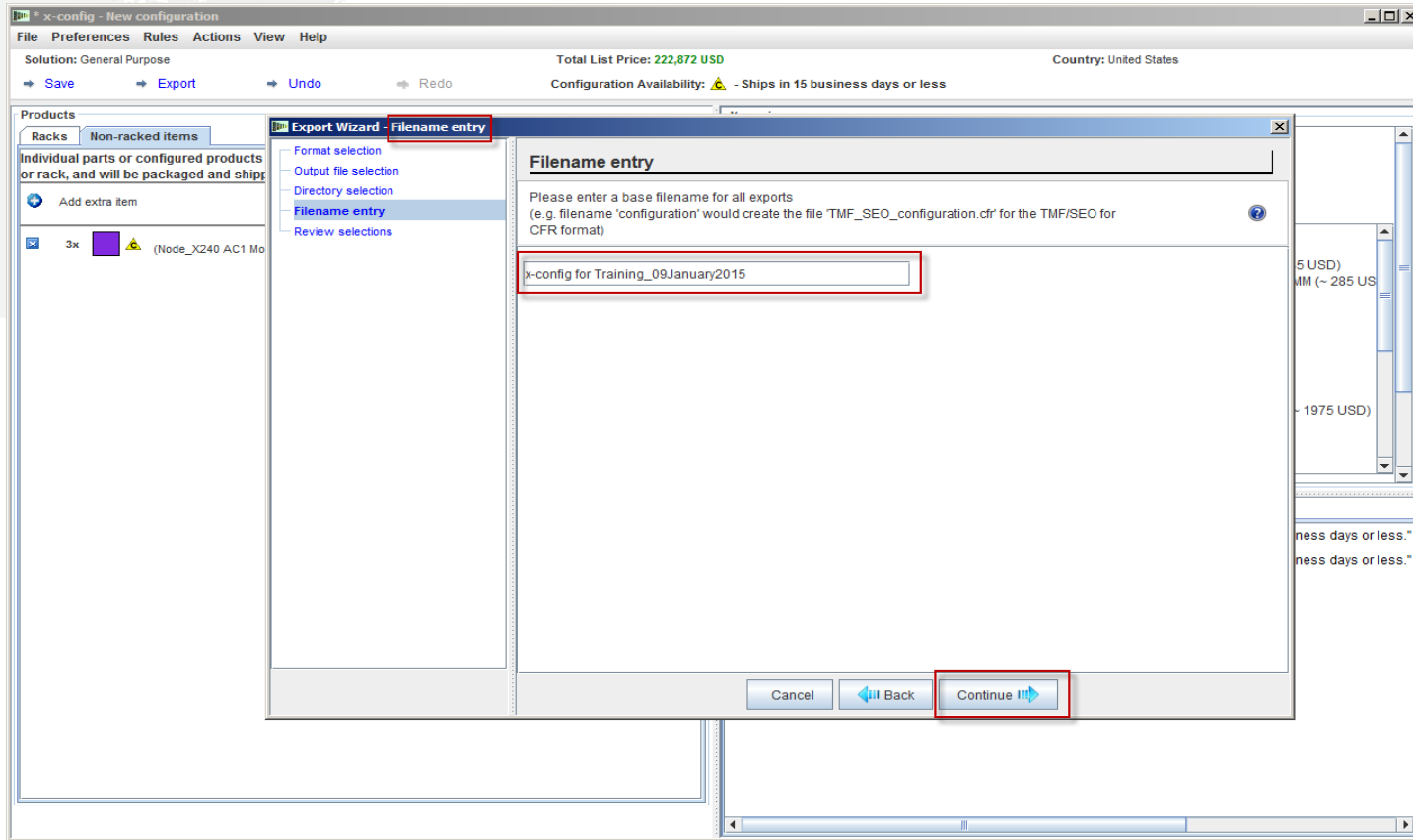
- From the main configuration Wizard I selected "Export". You will get a pop-up for the "Export Wizard – Output file selection". By default for Country US you will have checkboxes for "TMF/SEO - CFReport/Excel format" and "Validate with SOVA". By default "Validate with SOVA" is checked. SOVA (Single Order Validation Application) is a Web-based tool that validates that the configuration can be manufactured and does not contain any errors. Click "Continue".

x-config – "Export Wizard" - Directory selection



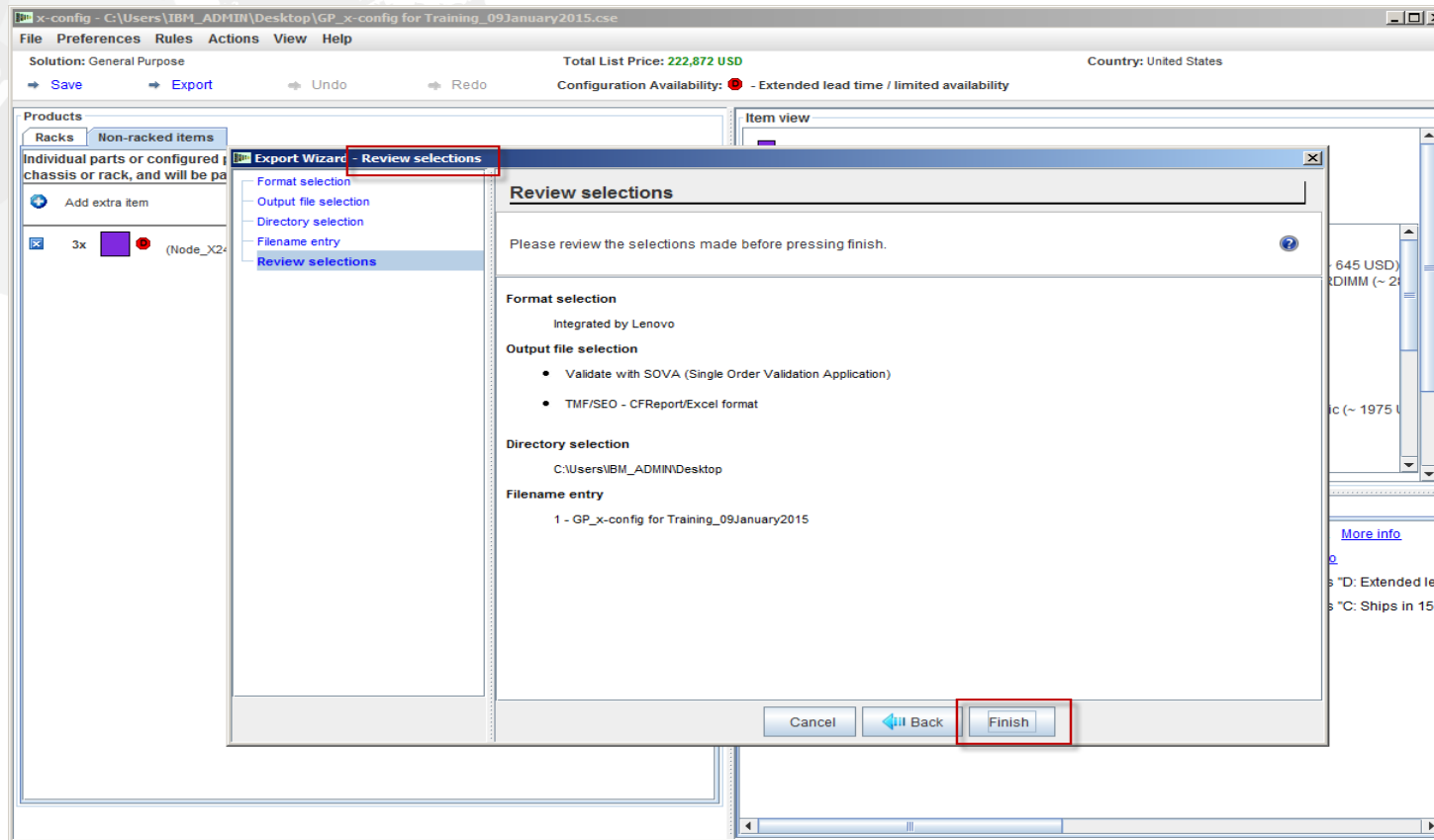
- On the previous screen I clicked "Continue" and the next selection is the "Directory selection". By default your files will be placed in the "C:\Users\xxxxx", where xxxxx is User name. You can change this in the settings utility to any other directory. Here I have set to export to my Desktop. Click "Continue".

x-config – "Export Wizard" - Filename entry



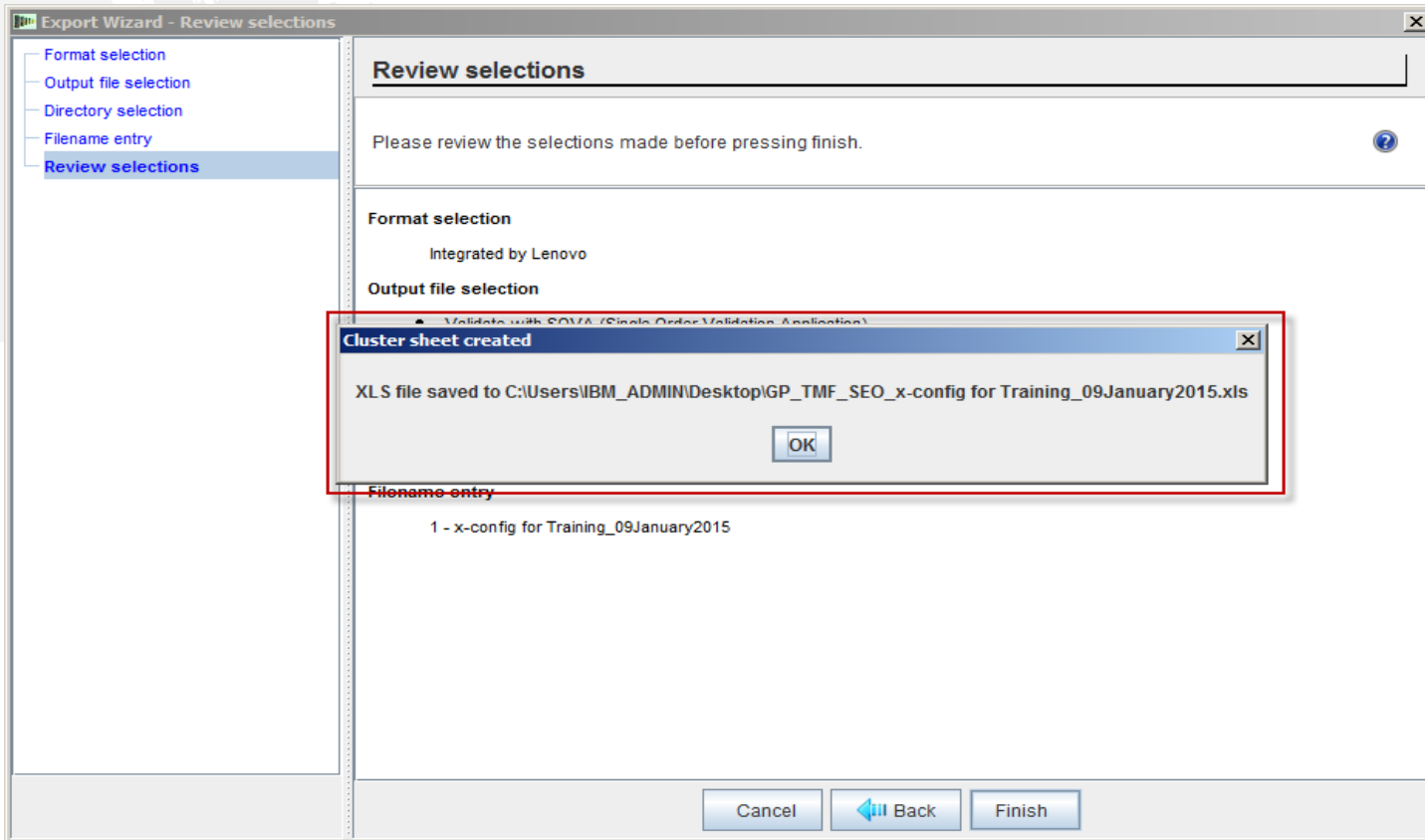
- On the previous screen I clicked "Continue" and next is the Filename entry screen. By default x-config puts in the date and time stamp for the file name, I changed to "x-config for Training_09January2015" file name. Next I clicked "Continue".

x-config – "Export Wizard" - Review selections



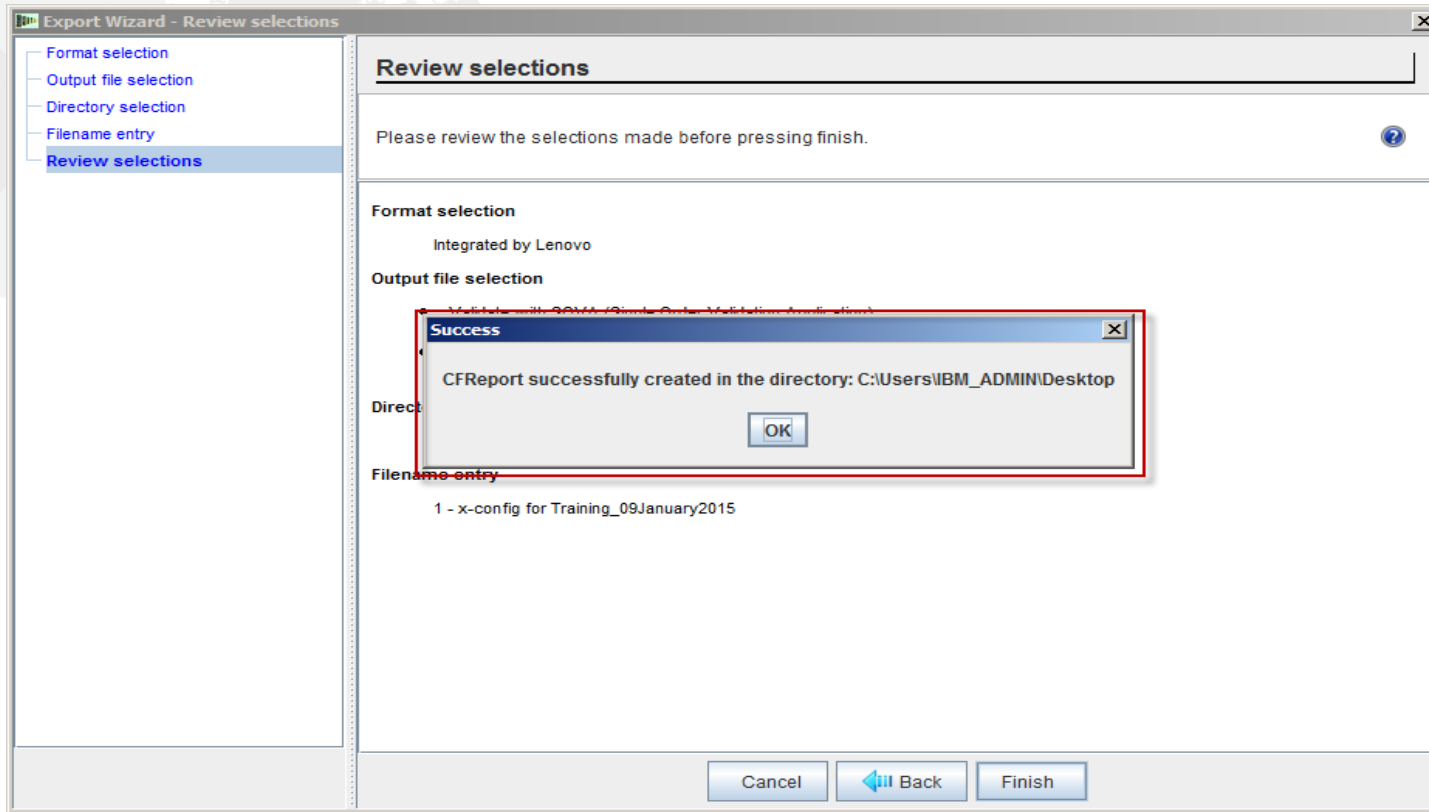
- On the previous screen I clicked "Continue" and next is the "Review selections" screen. Click "Finish".

x-config – "Export Wizard" - Review selections



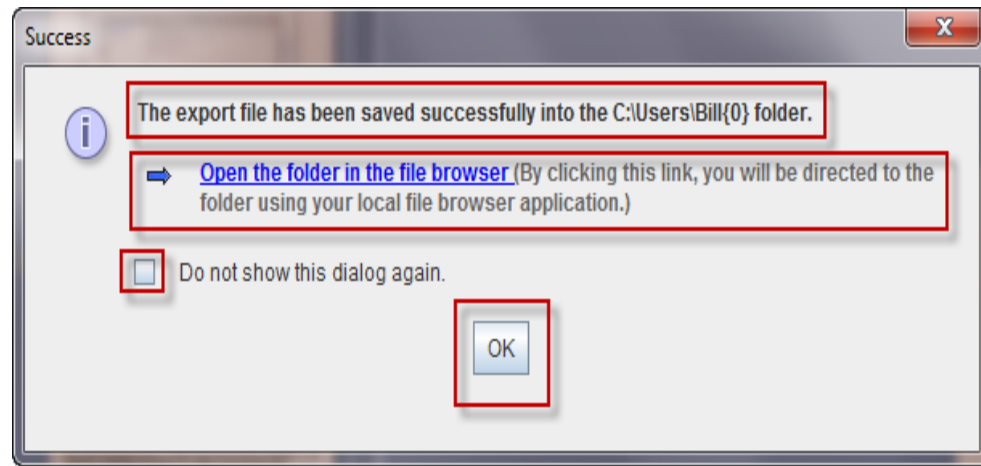
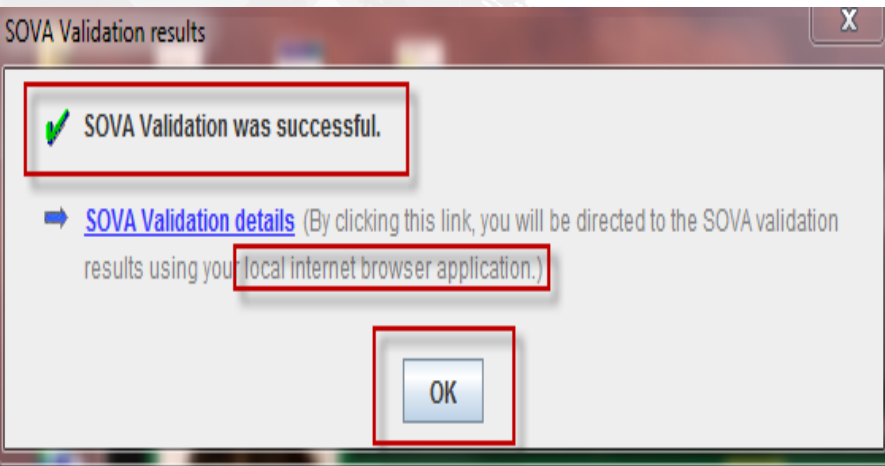
- On the previous screen I clicked "Finish". Next you will get a pop-up screen showing that the XLS file was created successfully in your directory that you chose. Click "OK".

x-config – "Export Wizard" - Review selections



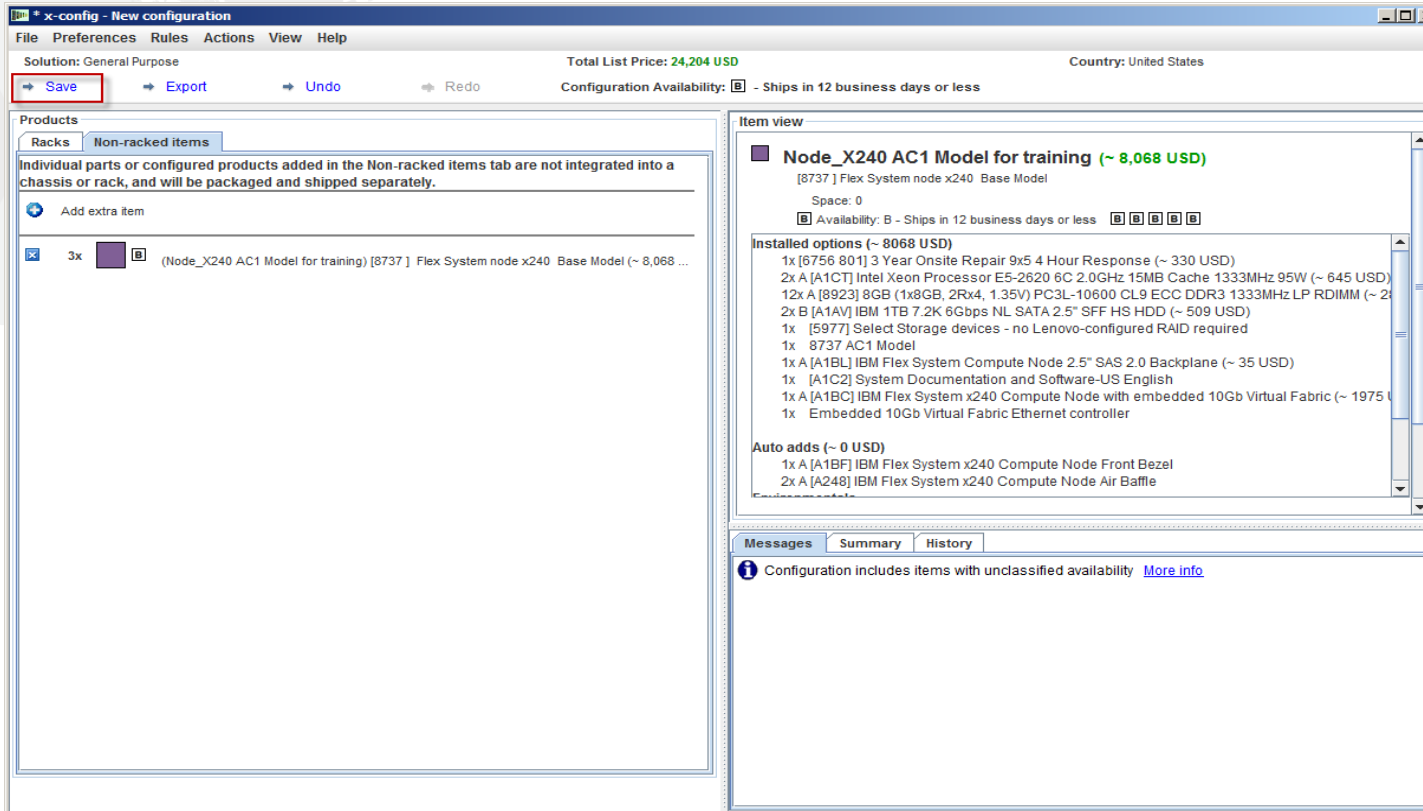
- On the previous screen I clicked "Finish". Next you will get a pop-up screen showing that the CFReport file was created successfully in your directory that you chose. Click "OK".

x-config – "Export Configuration Wizard" Review selections



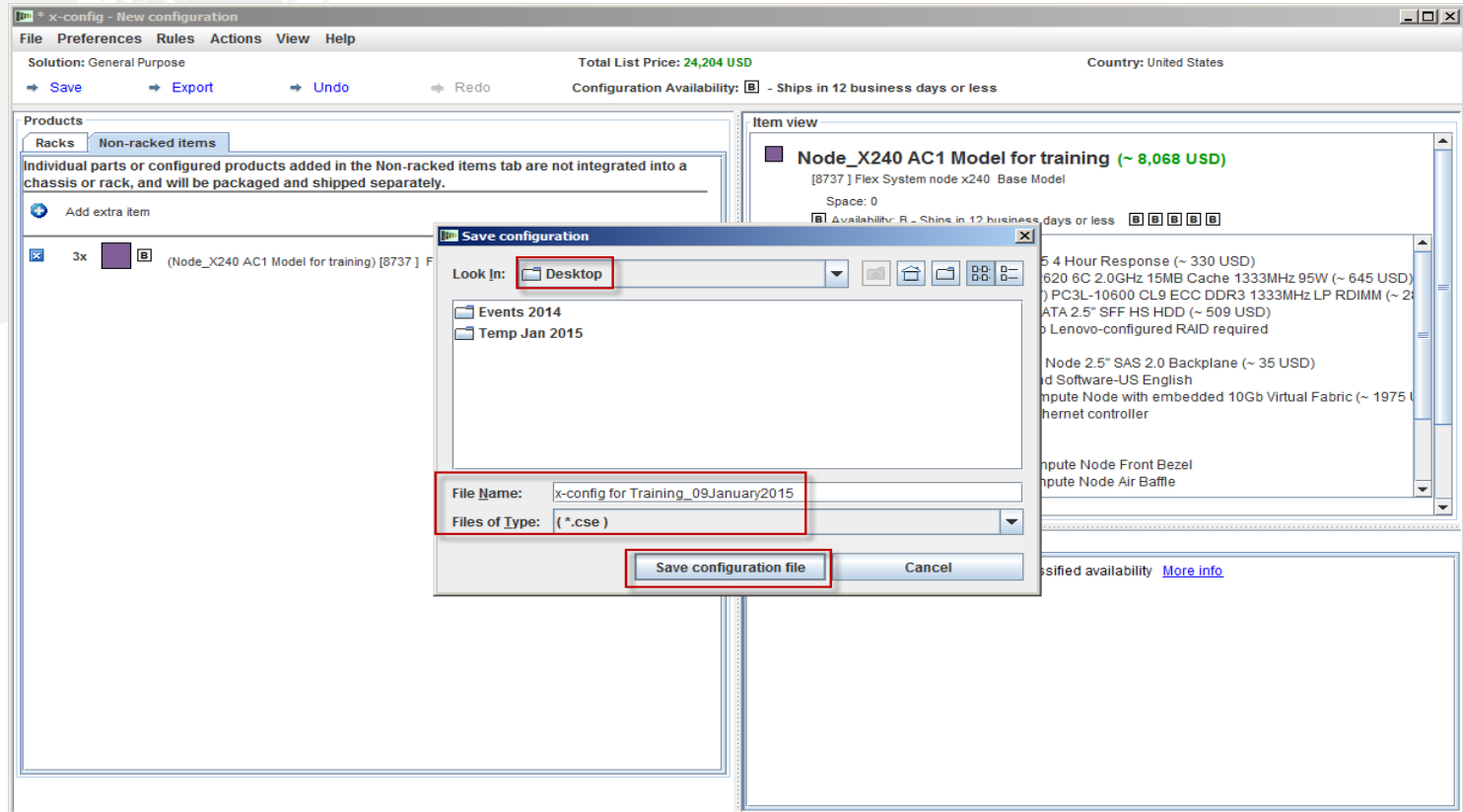
- On the previous screen I clicked "Finish". Next you should get two pop-up screens showing that SOVA Validation was successful or it failed. You can click on the link to view the results, but you need to be connected to the Internet to view the report. The other pop-up screen confirms again that your Export has been successful. You can view the files by clicking on the "Open the folder in the file browser" link. If you would rather not see this pop-up again, check "Do not show this dialog again" box. In both pop-up screens click "OK".

x-config – Main configuration screen "Save"



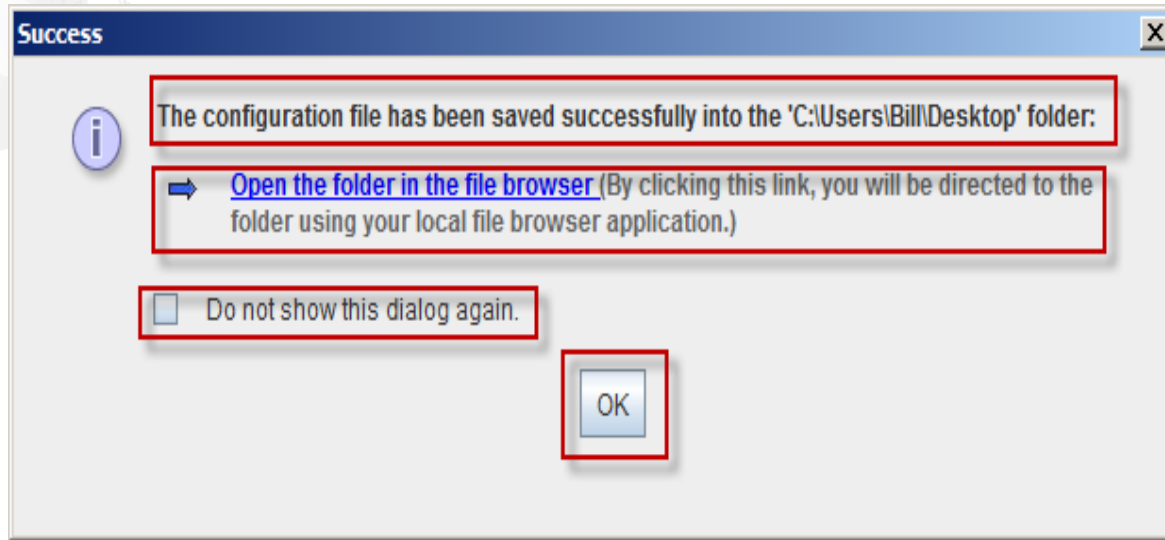
- After clicking "OK" on the previous pop-ups you will be brought back to the Main configuration screen. From here you want to click "Save" the configuration so you can make future modifications if needed. The default import format for x-config is ".CSE".

x-config – Main configuration screen "Save Configuration"



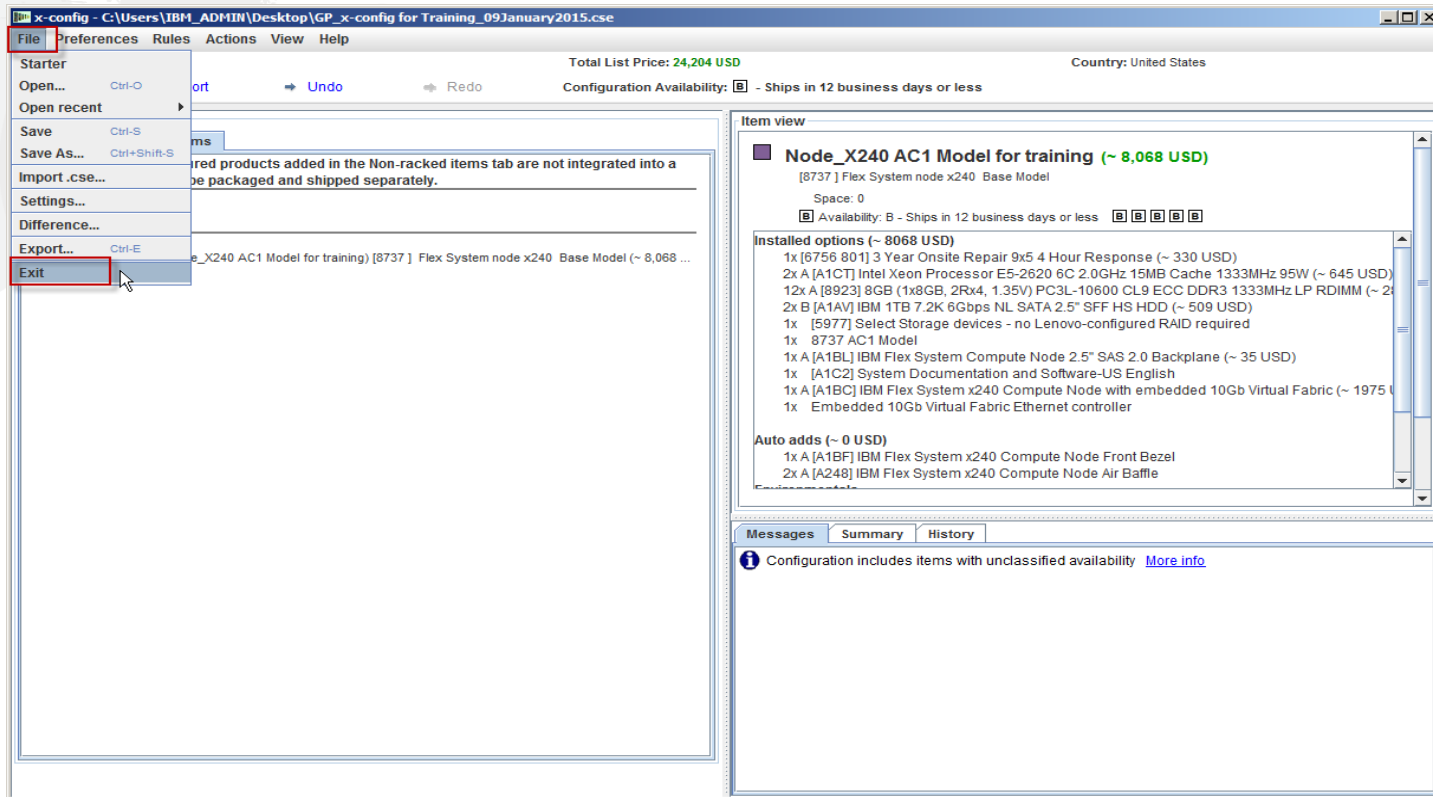
- After clicking "Save" on the previous screen you will get a pop-up box, "Save configuration", where you can select the default directory or put the .CSE file into another directory. You need to create a "File Name" for the .CSE file. Then click "Save configuration file".

x-config – Main configuration screen "Success"



- After clicking "Save configuration file" you will get another pop-up box showing "Success" and the directory in which the file was saved. As with Export, you have the ability to "Open the folder in the file browser". Also you can chose not to show this dialog again by checking the box. Click "OK".

x-config – Main configuration screen "Exit"



- After clicking "OK", you will be brought back to the Main configuration screen. If complete, you can click "Exit" from the "File" drop-down menu.

x-config – Feature Code (FC) XLS Output

NOTES: 1) All hardware and software list prices are for reference only and are subject to change without notice.
2) Maintenance prices shown are reference prices only and are standard level of service.

PN	Description	Unit Price	Quantity	Total Price	Flag
	COUNTRY = United States			USD	
	CONFIGURATION TOTAL			24,204.00	
Extras					
	Node_X240 AC1 Model for training	8,068.00	3	24,204.00	
8737AC1	Flex System node x240 Base Model	0.00	3	0.00	
5977	Select Storage devices - no Lenovo-configured RAID required	0.00	3	0	
A1AV	BM 1TB 7.2K 6Gbps NL SATA 2.5" SFF HS HDD	509.00	6	3054	
8923	8GB (1x8GB, 2Rx4, 1.35V) PC3L-10600 CL9 ECC DDR3 1333MHz LP RDIMM	285.00	36	10260	
A1BL	BM Flex System Compute Node 2.5" SAS 2.0 Backplane	35.00	3	105	
A1C2	System Documentation and Software-US English	0.00	3	0	
A1BC	BM Flex System x240 Compute Node with embedded 10Gb Virtual Fabric	1,975.00	3	5925	
A1CT	Intel Xeon Processor E5-2620 6C 2.0GHz 15MB Cache 1333MHz 95W	645.00	3	1935	
A1D4	Add Intel Xeon Processor E5-2620 6C 2.0GHz 15MB Cache 1333MHz 95W	645.00	3	1935	
6756801	3 Year Onsite Repair 9x5 4 Hour Response	330.00	3	990	
A1BF	BM Flex System x240 Compute Node Front Bezel	0.00	3	0	
A248	BM Flex System x240 Compute Node Air Baffle	0.00	6	0	

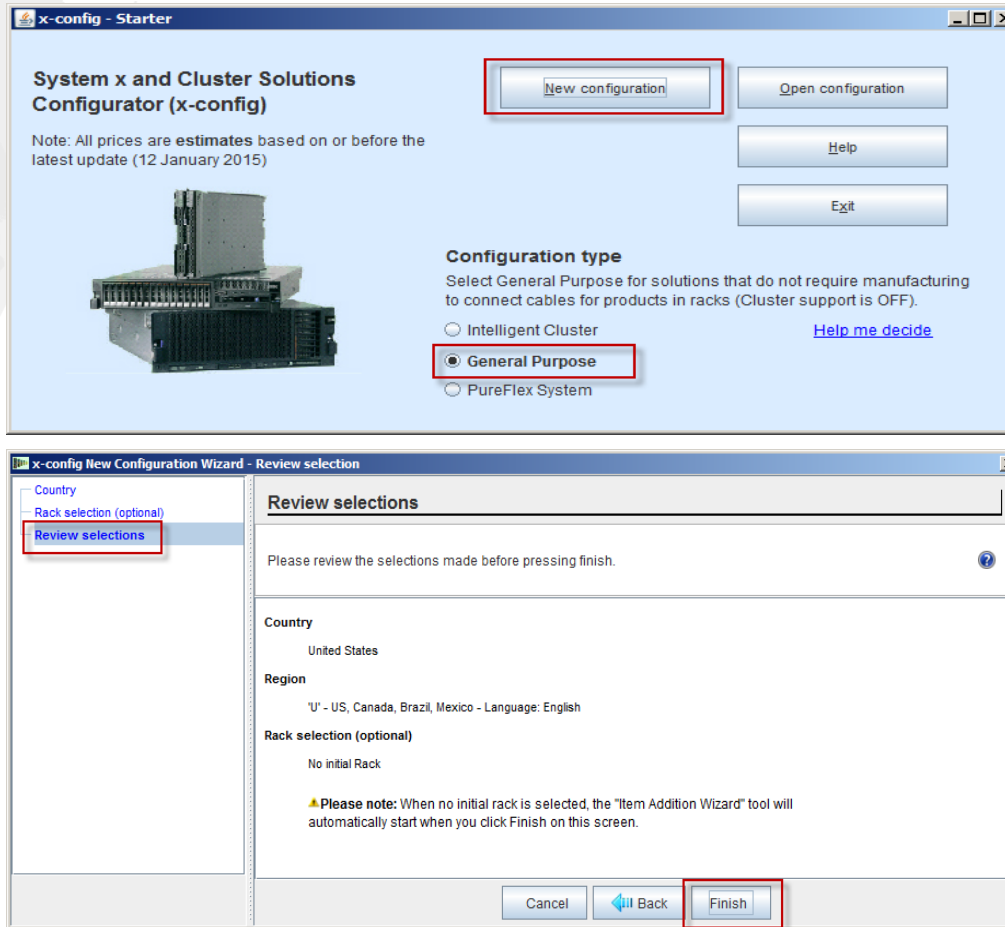
- Here is a view of the "Reference" tab from the Feature Code (FC) XLS output file. Feature Codes (FC) are used in System x in the Americas for products and solutions to be fulfilled by Lenovo. You also need the CFR from the "Export" for Lenovo fulfillment. You can use this XLS output for your customer proposal.

x-config – Feature Code (FC) XLS Output

MT_ModelX	Feature Code	Description	Quantity
CFR_Floor_1		x-config ID: 1798446F01	
8737AC1			3
	A1BL	IBM Flex System Compute Node 2.5" SAS 2.0 Ba	3
	5377	Select Storage devices - no Lenovo-configured	3
	A1BA	IBM Flex System Compute Node w/w packaging -	3
	8923	8GB (1x8GB, 2Rx4, 1.35V) PC3L-10600 CL9 ECC	36
	A248	IBM Flex System x240 Compute Node Air Baffle	6
	A1AV	IBM 1TB 7.2K 9Gbps NL SATA 2.5" SFF HS HDD	6
	A1BF	IBM Flex System x240 Compute Node Front Beze	3
	A1D4	Add Intel Xeon Processor E5-2620 6C 2.0GHz 15	3
	A1C2	System Documentation and Software-US English	3
	A1CT	Intel Xeon Processor E5-2620 6C 2.0GHz 15MB C	3
	3206	No Preload Specify	3
	A1BC	IBM Flex System x240 Compute Node with embec	3
	A26R	IBM Flex System Compute Node Fabric Connect	3
	A1BE	IBM Flex System x240 Compute Node Label	3
	A1BJ	IBM Flex System x240 Compute Node Cover	3
Warranties	6756801	3 Year Onsite Repair 3x5 4 Hour Response	3

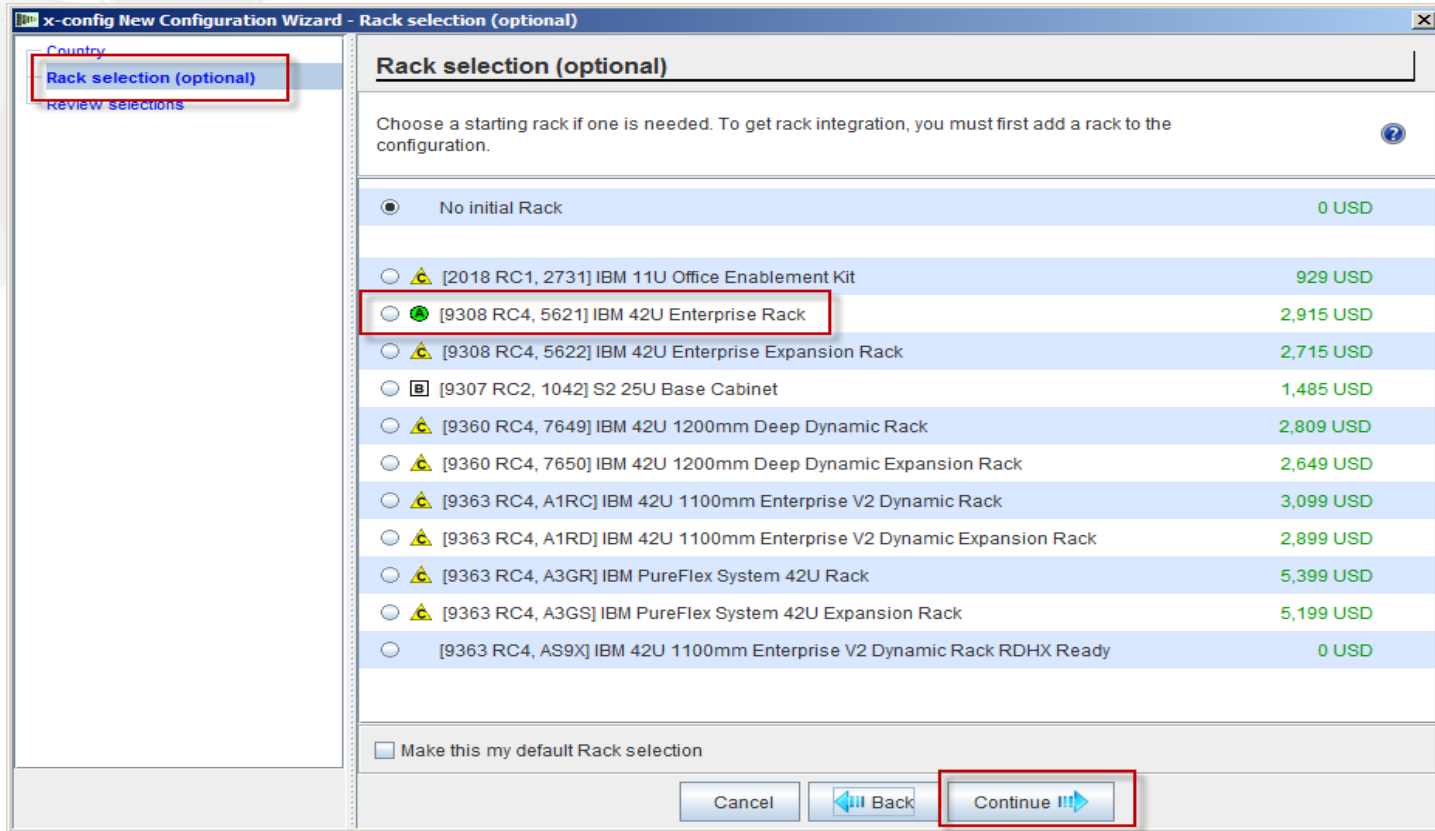
- Here is a view of the "CFR Review" tab from the Feature Code (FC) XLS output file. This can be used to verify your solution.

x-config – New Configuration



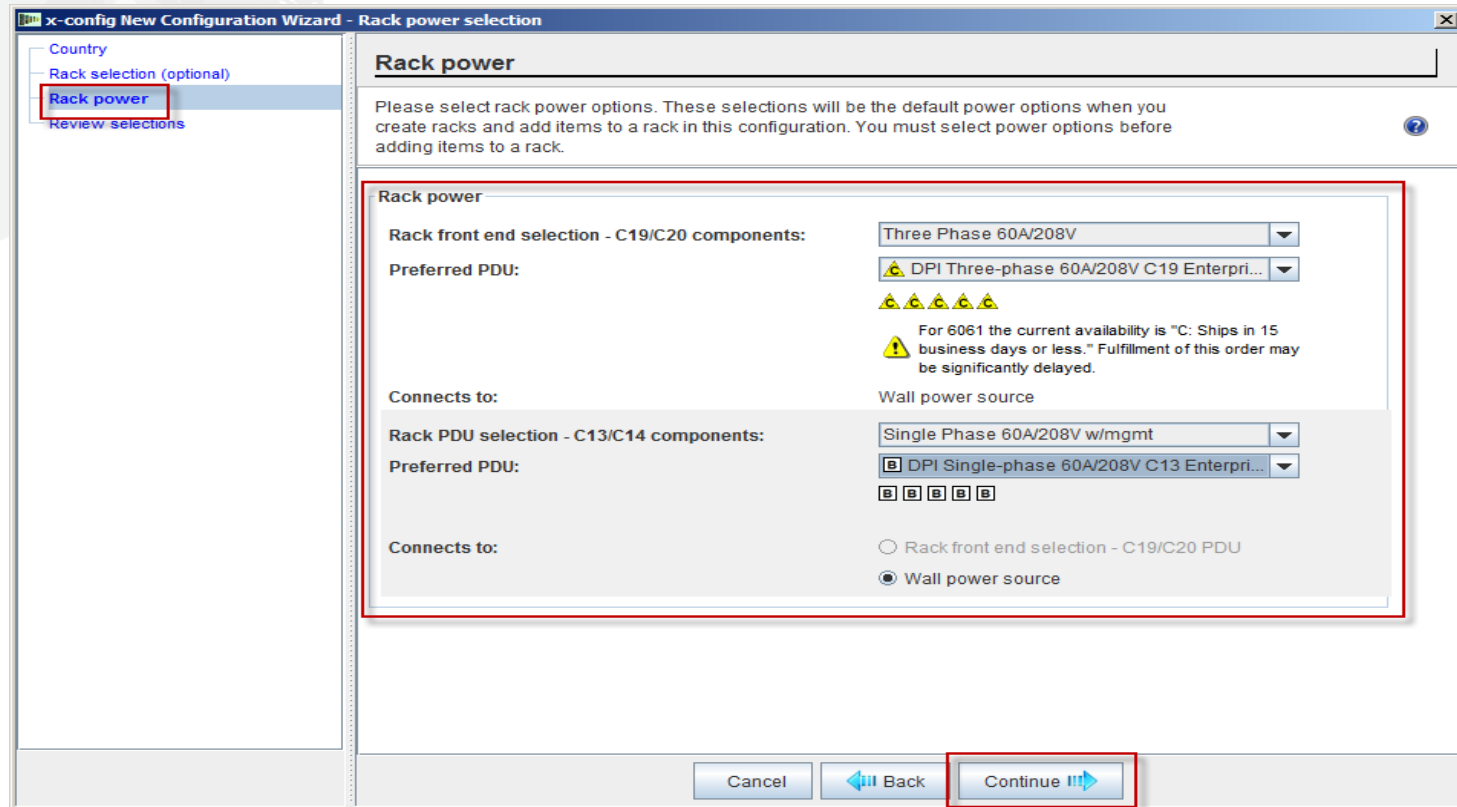
- Now we will restart x-config so we can select a different configuration path. Here I selected "New Configuration" from the Starter screen. Based on my previous selections I will skip right to the review selections page. I can change the assigned values by clicking "Back". Or complete the configuration by clicking "Finish".

x-config – New Configuration Wizard – Rack selection



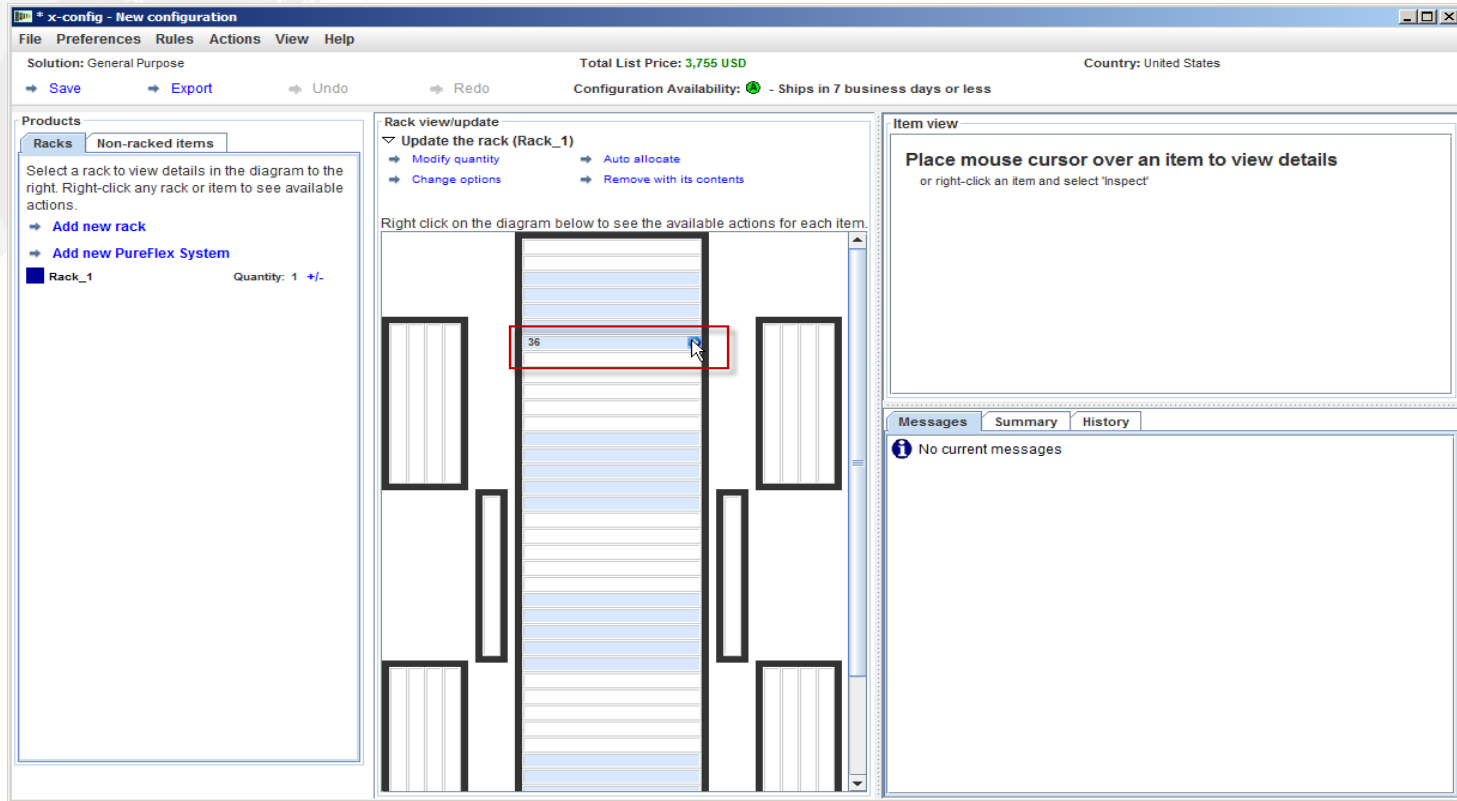
- From the New Configuration Wizard I went back to the "Rack selection" screen and chose the "9308 RC4, 5621 IBM 42U Enterprise Rack". Click "Continue".

x-config – New Configuration Wizard – Rack power selection



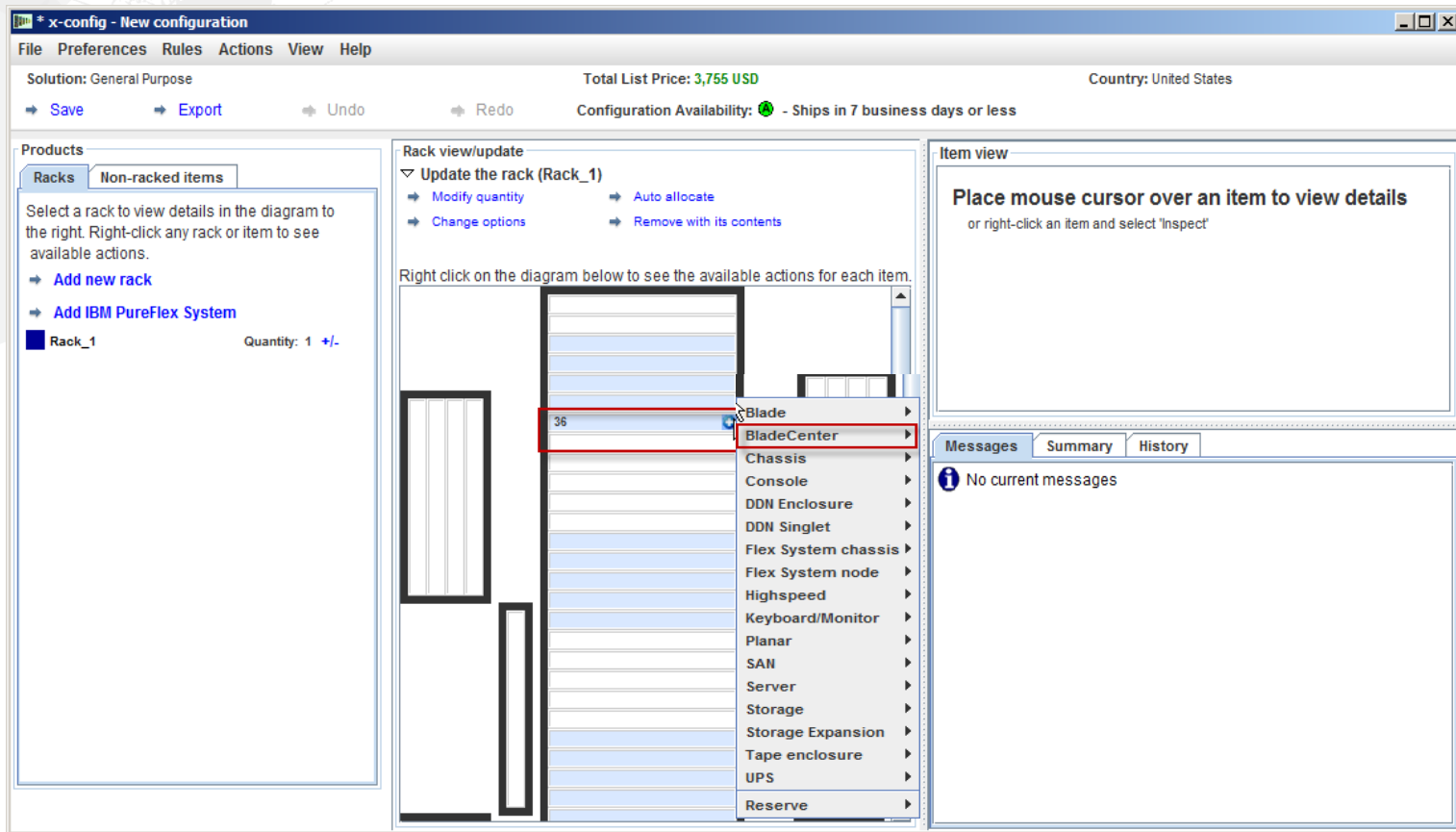
- Next you will need to choose your Rack power. Click "Continue".

x-config – New Configuration Main configuration screen



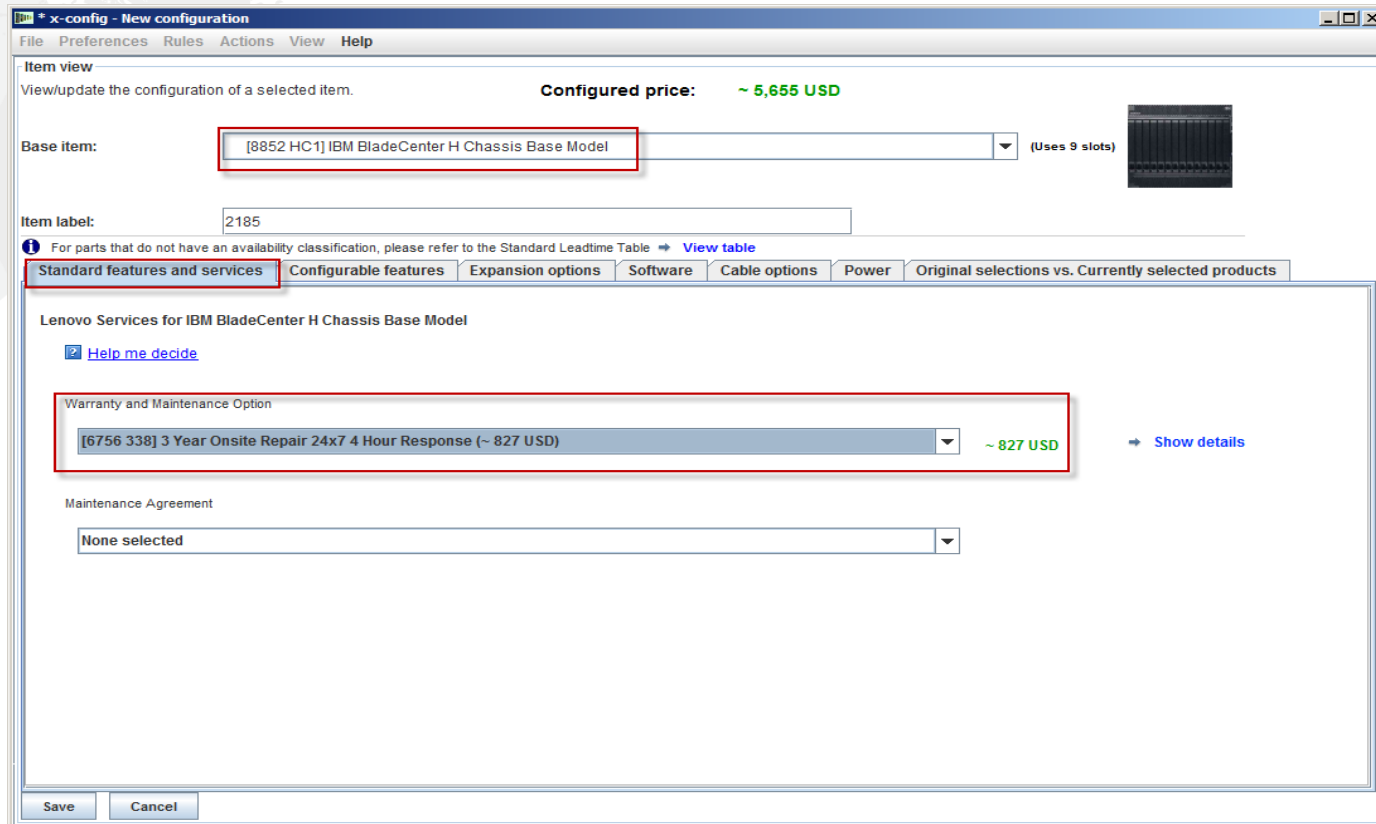
- After clicking "Finish" in the New configuration Wizard I am brought to Main configuration screen. Now I can add product(s) to the Rack by placing my cursor over any empty slot (number) in the Rack. In this example I chose position "36".

x-config – New Configuration Product selection



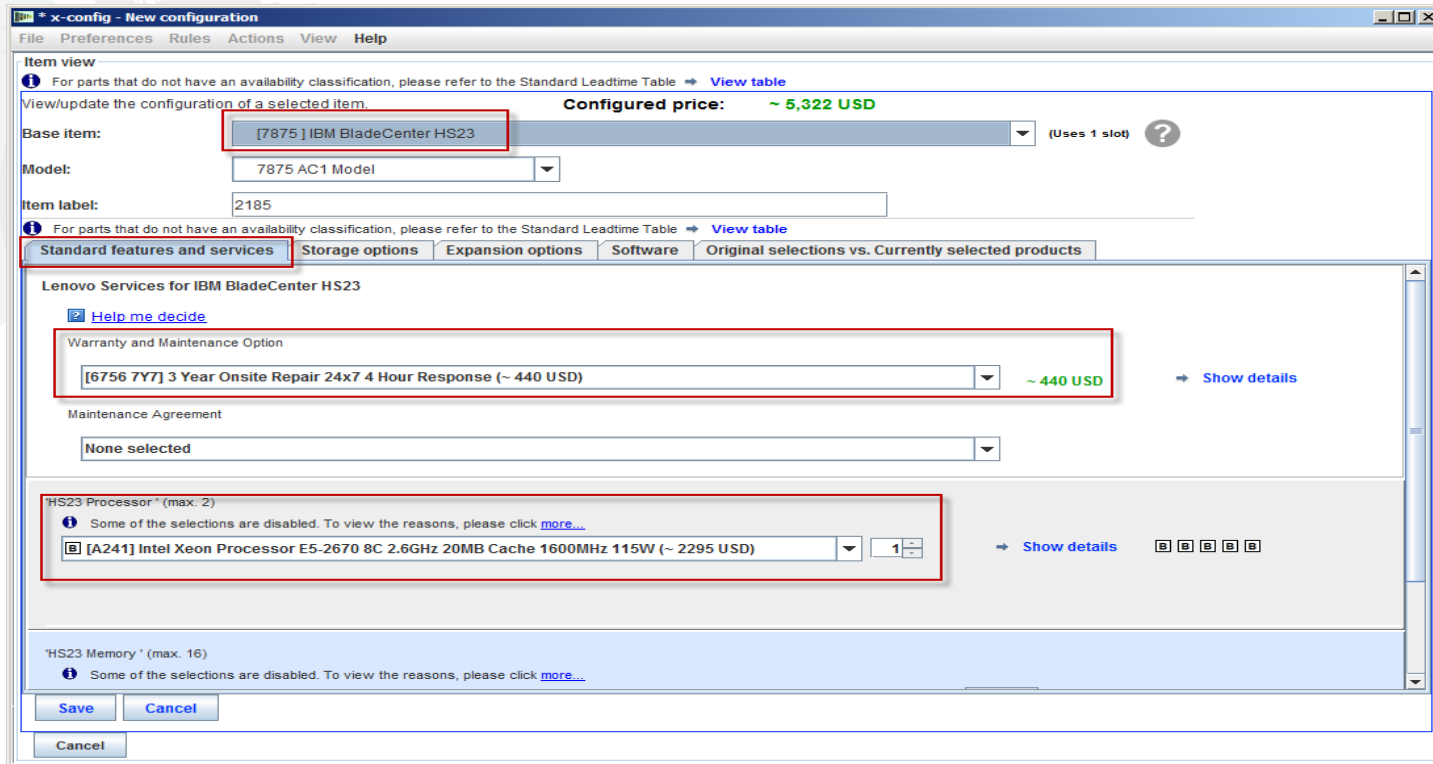
- Now you would left-click on the plus sign in slot "36" (could be any open slot position) to add a product. For this module I am going to select a BladeCenter chassis by continuing to move the cursor down to "BladeCenter" and then click "New BladeCenter".

x-config – New Configuration Product configuration



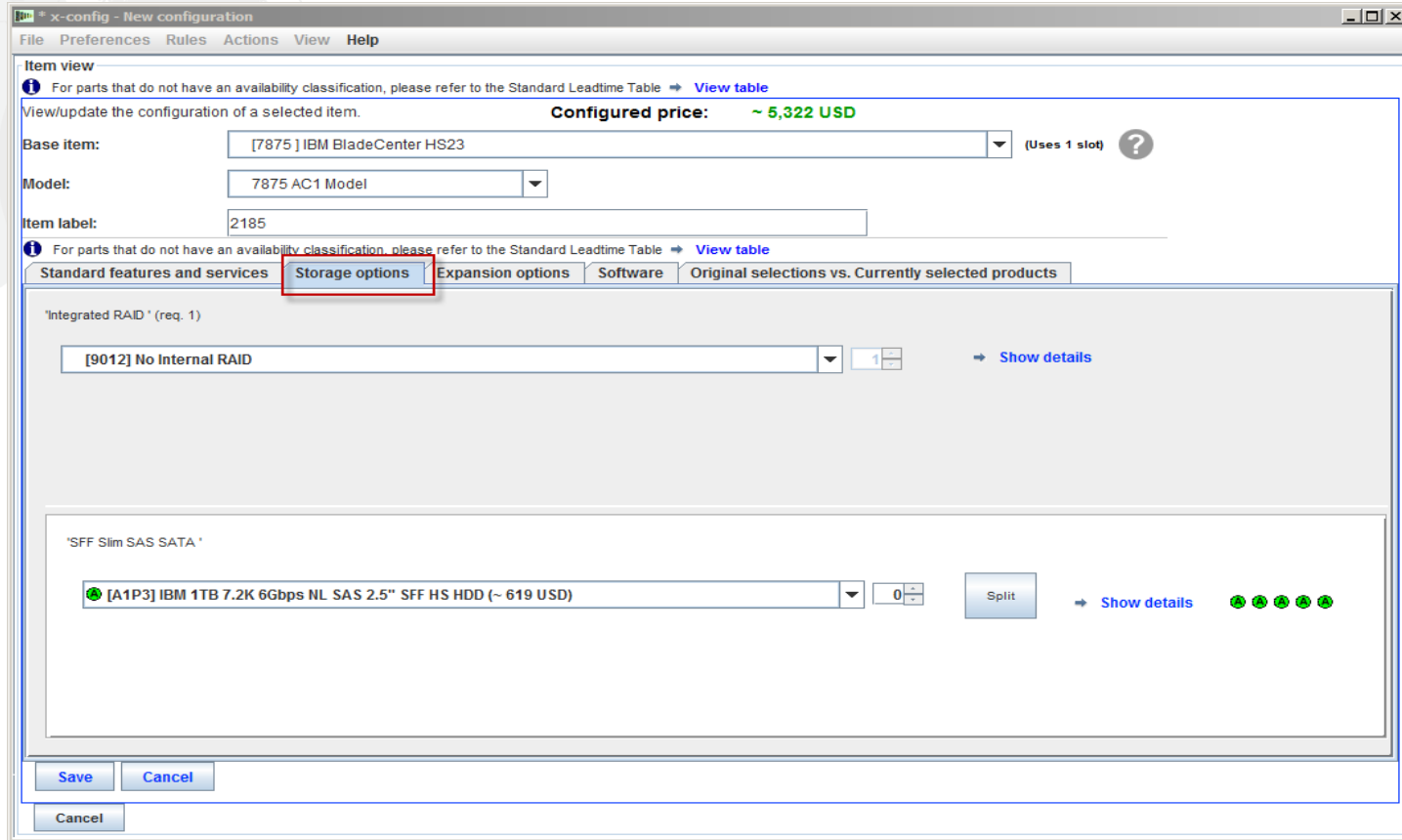
- For this training module I selected the BCH for my "Base Item". Now I can go through the tabs and configure the options as needed. Here I selected a warranty support upgrade on the "Standard features and services" tab.

x-config – Product Configuration "Standard features and services"



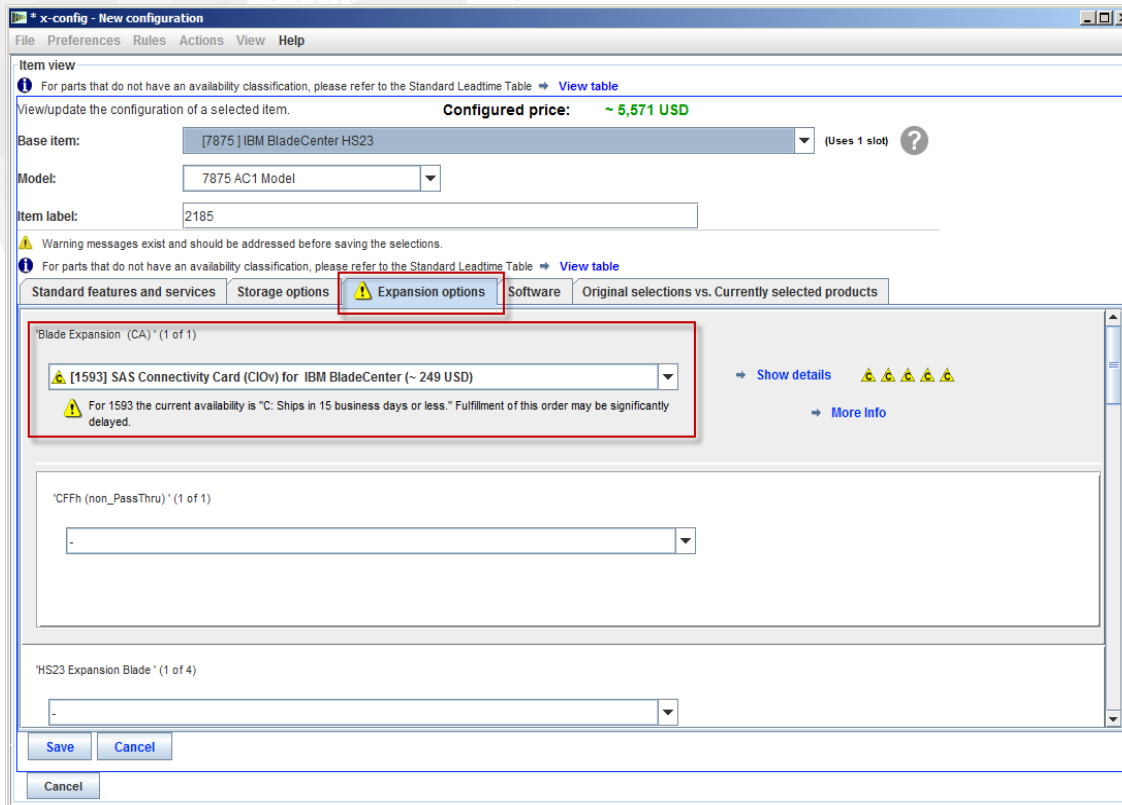
- On the previous screen using the "Configurable features" tab I chose "Auto Fill" the Blades into the Blade Chassis, by selecting "New Blade". Then on this screen I selected the "7875 HS23 Base Model" under the "Base item" drop down menu. Next on the "Standard features and services" tab I selected the warranty upgrade for the Blades that matches the Chassis warranty. Next I changed to "Intel Xeon Processor E5-2670..." for my Processor. Make sure to add/change the memory as needed.

x-config – Product Configuration "Storage options"



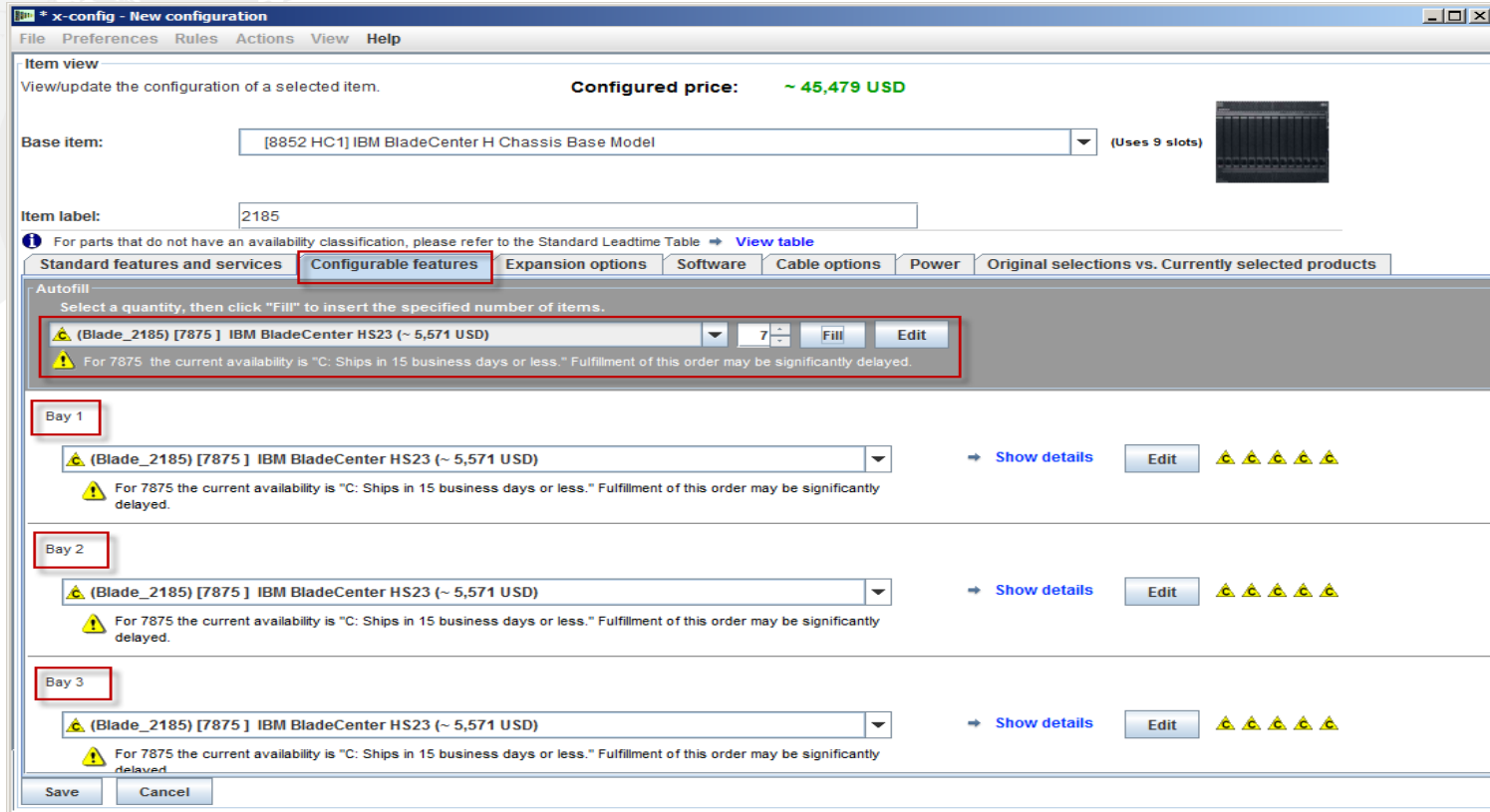
- On the "Storage options" tab, I left the defaults.

x-config – Product Configuration "Expansion options"



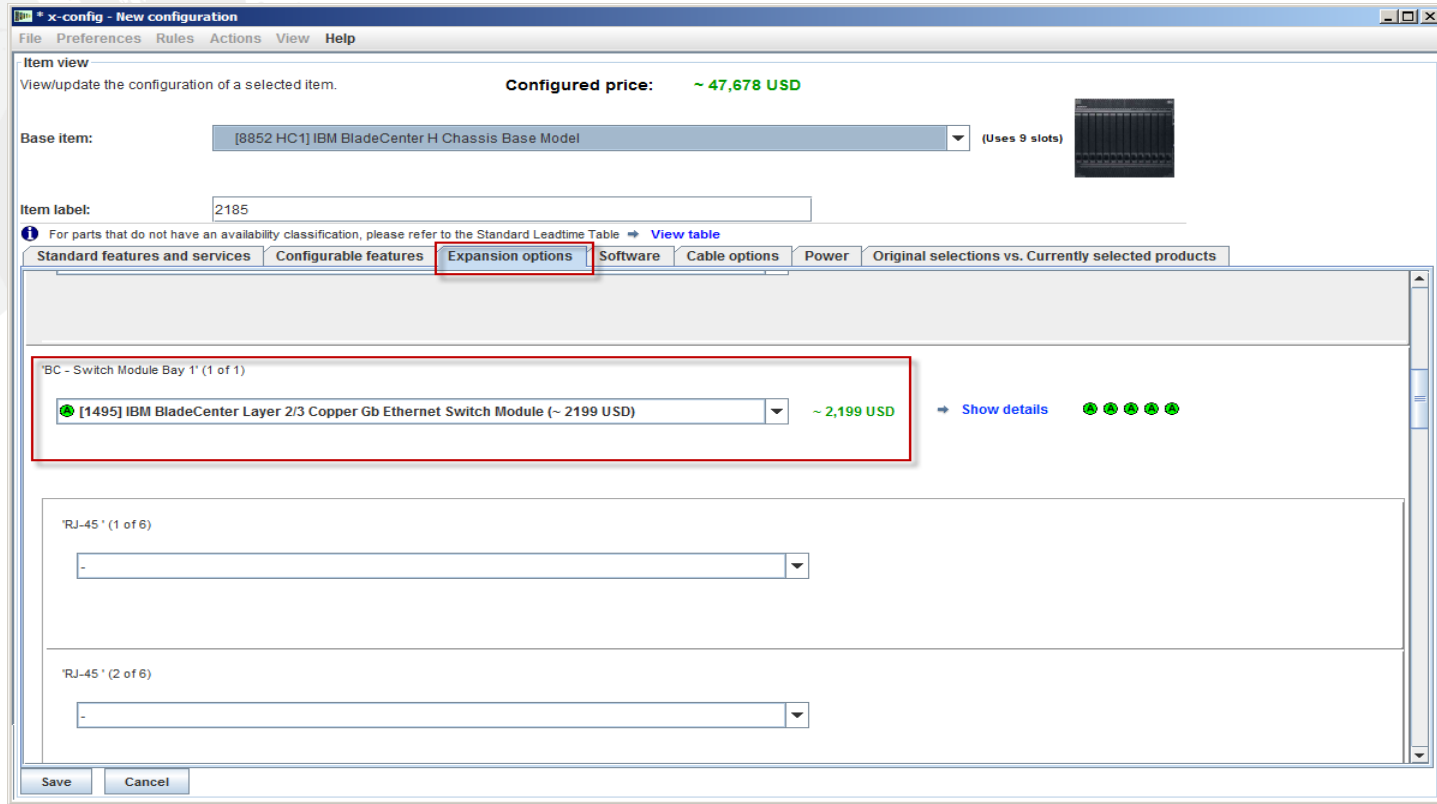
- On this screen, "Expansion options" I added the "1593 SAS Connectivity Card (CIOv) for IBM BladeCenter". Next, I clicked "Save". I then received a pop-up window warning about the availability of FC 1593. It is labeled as a "C" part, meaning it will ships in 15 business days or less.

x-config – Product Configuration "Configurable features"



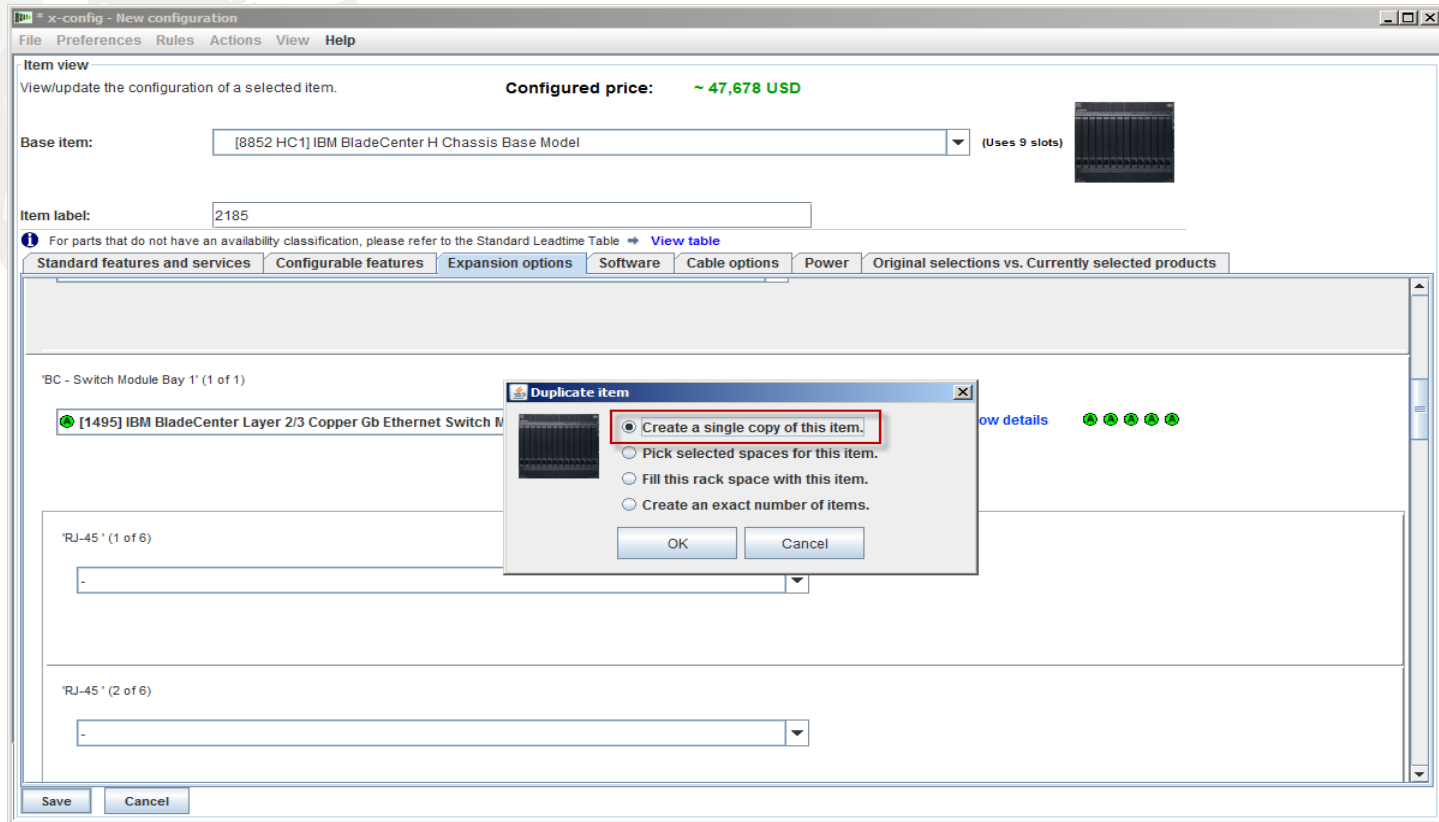
- After clicking "Save" on the previous HS23 Blade configuration Wizard, I can now choose amount of Blades to fill, I selected 7. Then I clicked "Fill". This will automatically populate Blades in Blade bay positions 1-7.

x-config – Product Configuration "Expansion options"



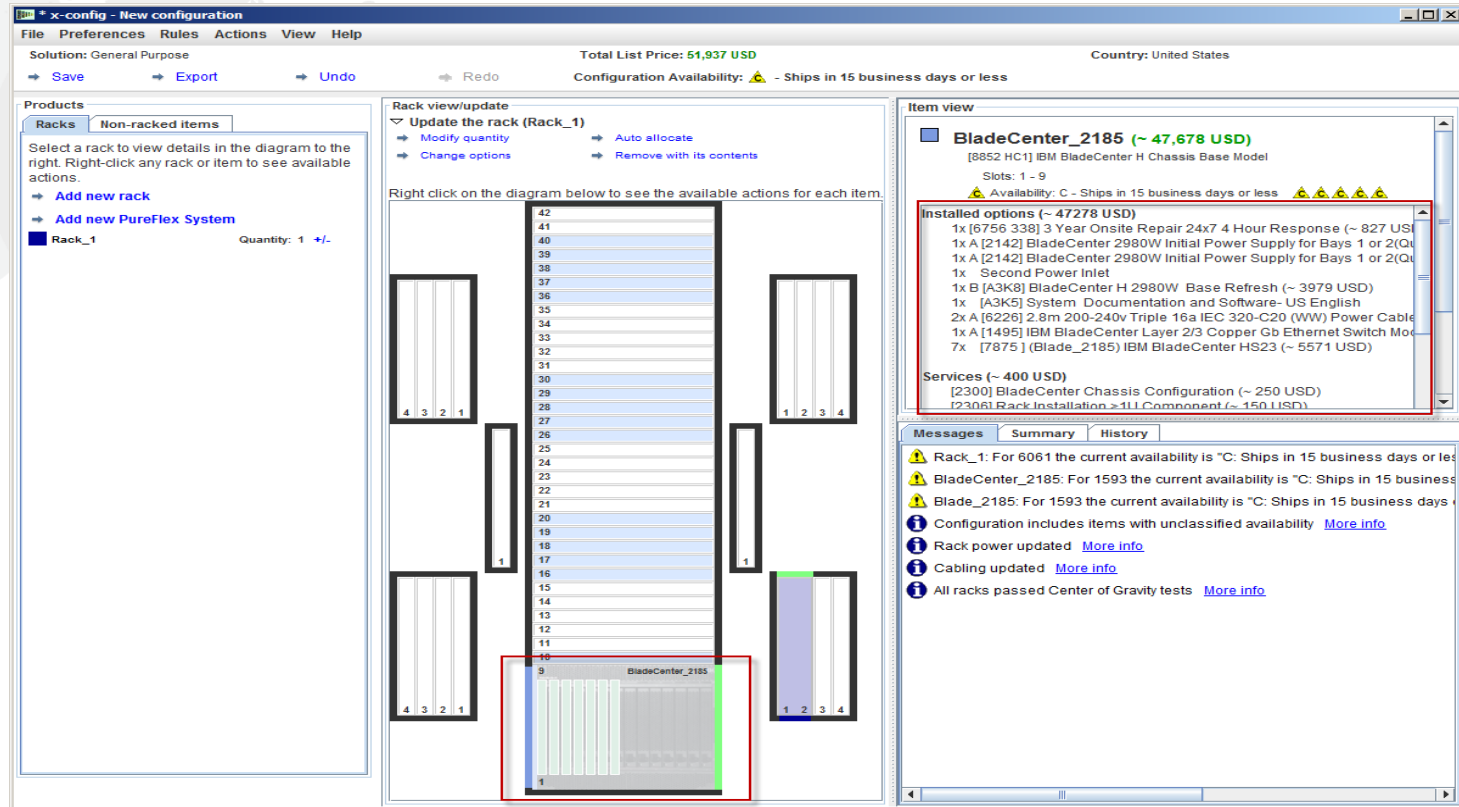
- Next I went to the "Expansion options" tab, adding "1495 IBM BladeCenter Layer 2/3 Copper Gb Ethernet Switch Module". I will not go through all the Expansion options selections. From here I click "Save", as the rest of the configuration will be similar to the Flex product covered earlier.

x-config – Product Configuration "Save"



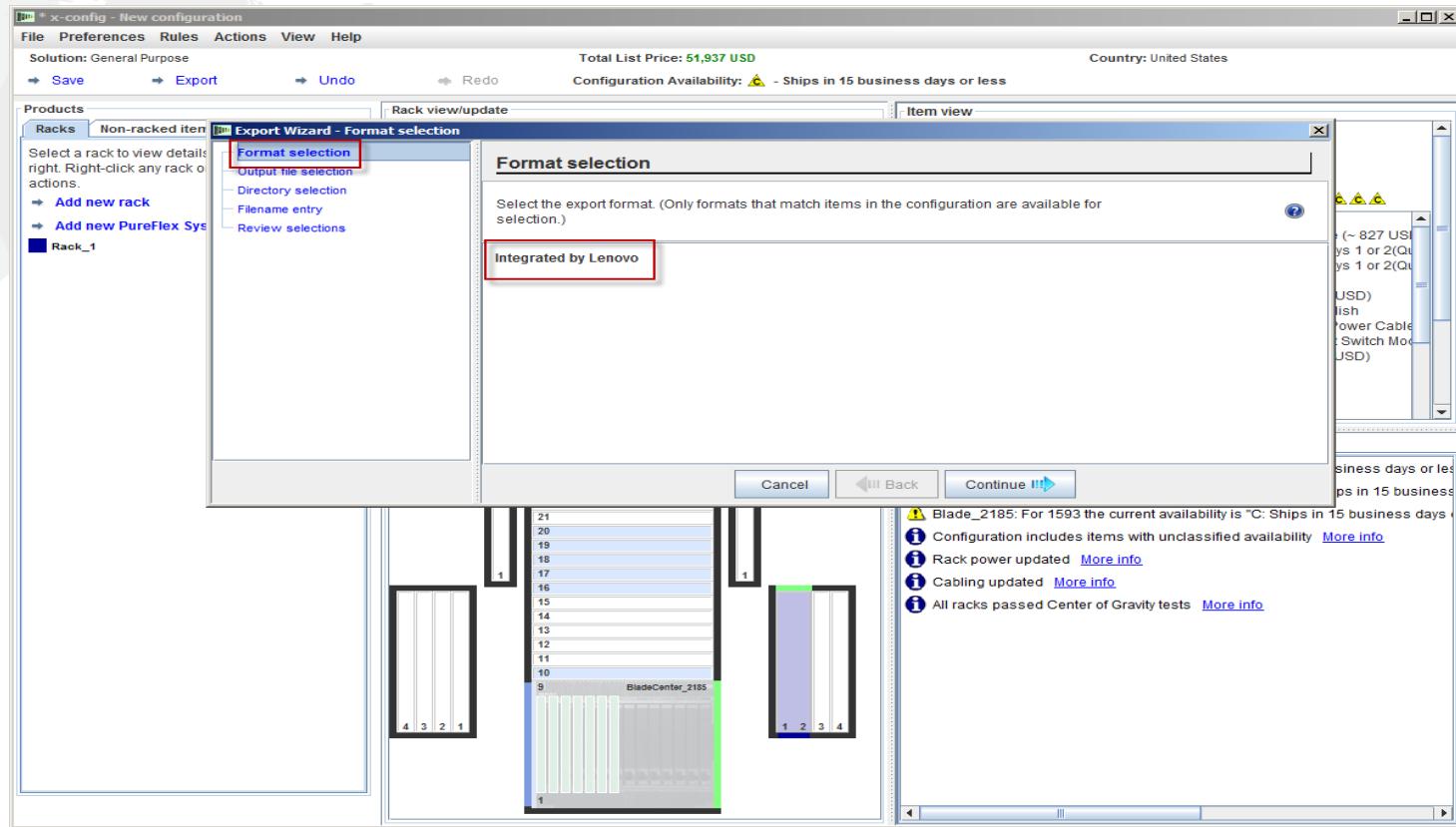
- Now when I clicked "Save" I received this pop-up, "Duplicate item" where I chose "Create a single copy of this item". Then I clicked "OK".

x-config – Main configuration screen



Notice that x-config automatically populated the BladeCenter (BC) chassis at the bottom of the Rack. When you move the cursor over the BC chassis you will see the information populate in the top right of the screen, showing "Installed options" and "Services". I could scroll down and see more. From here I could add another product following the same process as I used adding the BC Chassis and Blades, or I can now "Export" and "Save" following the same process as used in the previous configurations.

x-config – "Export Configuration Wizard" Format selection



- From the main configuration Wizard I selected "Export". You will get a pop-up for the "Export Configuration Wizard – Format selection" alerting you to that this configuration path will be "Integrated by Lenovo". From here I click "Continue".

x-config – Feature Code (FC) XLS output

GP_TMF_SEO_x-config for Training_09January2015.xls [Compatibility Mode] - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW ADD-INS

A1

NOTES: 1) All hardware and software list prices are for reference only and are subject to change without notice.
2) Maintenance prices shown are reference prices only and are standard level of service.

PN	Description	Unit Price	Quantity	Total Price	Flag
				USD	
				CONFIGURATION TOTAL	51,937.00
Blade_2185		5,571.00	7	38,997.00	
7875AC1	IBM BladeCenter HS23	0.00	7	0.00	
A241	Intel Xeon Processor E5-2670 8C 2.6GHz 20MB Cache 1600MHz 115W	2,295.00	7	16065	
A4G9	16GB (1x16GB, 2Rx4, 1.35V)PC3L-12800 CL11 ECC DDR3 1600MHz VLP RDIMM	339.00	14	4746	
A1RL	System Documentation and Software-US English	0.00	7	0	
1593	SAS Connectivity Card (CIOv) for IBM BladeCenter	249.00	7	1743	
A1RG	HS23 Blade Base	1,909.00	7	13363	
9012	No Internal RAID	0.00	7	0	
67567Y7	3 Year Onsite Repair 24x7 4 Hour Response	440.00	7	3080	
A1RJ	CPU Heat Sink Filler	0.00	7	0	
A1RH	Blade Cover	0.00	7	0	
BladeCenter_2185		8,681.00	1	8,681.00	
8852HC1	IBM BladeCenter H Chassis Base Model	0.00	1	0.00	
1495	IBM BladeCenter Layer 2/3 Copper Gb Ethernet Switch Module	2,199.00	1	2199	
2142	BladeCenter 2980W Initial Power Supply for Bays 1 or 2(Quantity=1)	549.00	1	549	
2112	BladeCenter 2980W Initial Power Supply for Bays 1 or 2(Quantity=1)	540.00	1	540	

Help Reference CFR Review Diagram Messages_History PriceCalc F ...

READY 100%

- Here is a view of the "Reference" tab from the Feature Code (FC) XLS output file. Currently this FC output is used for products to be fulfilled by Lenovo. You also need the CFR from the "Export" for Lenovo fulfillment. You can use this XLS output for your customer proposal.

x-config – XCC XLS output

MT_ModelX	FeatureCode	Description	Quantity
CFR_Rack_1_1		x-config ID: 2623260R01	
8852HC1			1
	2142	BladeCenter 2980w Initial Power Supply for Bays	2
	0906	Optical Blank- Bezel	1
	6226	2.0m 200-240v Triple 16a IEC 320-C20 (w/w) Pow	2
	0961	Switch Module Filler	6
	0920	Power Module Filler	2
	1495	IBM BladeCenter Layer 2/3 Copper Gb Ethernet S	1
	A3K8	BladeCenter H.2980w/ Base Refresh	1
	2144	Code GBM	1
	0919	Double Bay High Speed Filler Panel	2
	A3K5	System Documentation and Software- US Englis	1
	2300	BladeCenter Chassis Configuration	1
	8371	Integrate in manufacturing	1
	2306	Rack Installation > 1U Component	1
	3301	BladeCenter 01	1
	8077	Integrate BladeCenter in Manufacturing	1
	8072	General Racking Solution	1
	3101	Install in Rack 01	1
	3201	Install in Rack location U01	1
7875AC1			7
	8026	No HDD selected	7
	A4G9	16GB (1x16GB, 2Rx4, 1.35V)/PC.3L-12800 CL11EC	14
	9206	No Preload Specify	7
	1533	SAS Connectivity Card (CIDv) for IBM BladeCent	7
	A1FG	HS23 Blade Base	7
	4916	Dummy DIMM for improved airflow	35
	A241	Intel Xeon Processor E5-2670 6C 2.6GHz 20MB	7
	A1RH	Blade Cover	7
	A1RL	System Documentation and Software-US English	7
	A1RJ	CPU Heat Sink Filler	7
	4069	2.5" HDD Filler Bezel	14
	9012	No Internal RAID	7
	A1FK	Labels for HS23 Blade Base	7
	3301	Install in BladeCenter 01	7
	8077	Integrate BladeCenter in Manufacturing	7
	8072	General Racking Solution	7
	3101	Install in Rack 01	7
9308RC4			1
	5621	Base	1
	6061	DPI Three-phase 60A/208V C19 Enterprise PDU I	1
	2304	Rack Assembly - 42U Rack	1
	9125	4-bay compartment arrangement	1
	9134	Use 200V (high voltage)	1

- Here is a view of the "CFR Review" tab from the XCC XLS output file. This can be used to verify your solution.

Acronyms

- CTO - Configure To Order
- GAV - Generally Announced Variant
- SOVA - Single Order Validation Application
- FC - Feature Code
- PN - Part Number
- HVEC - High Volume Easily Configured Pipeline
- XCC - XCCelerator Pipeline
- SBB - Sales Building Block

x-config resources

- All Users: [System x and Cluster Solutions configurator \(x-config\)](#)
- Training contact: wluken@lenovo.com
- Report errors and suggest improvements: erchelp@ca.ibm.com
- **Link to x-config install**
 - <https://www.ibm.com/products/hardware/configurator/americas/bhui/asit/>



Thank you