



X-config – PureFlex System Training v2

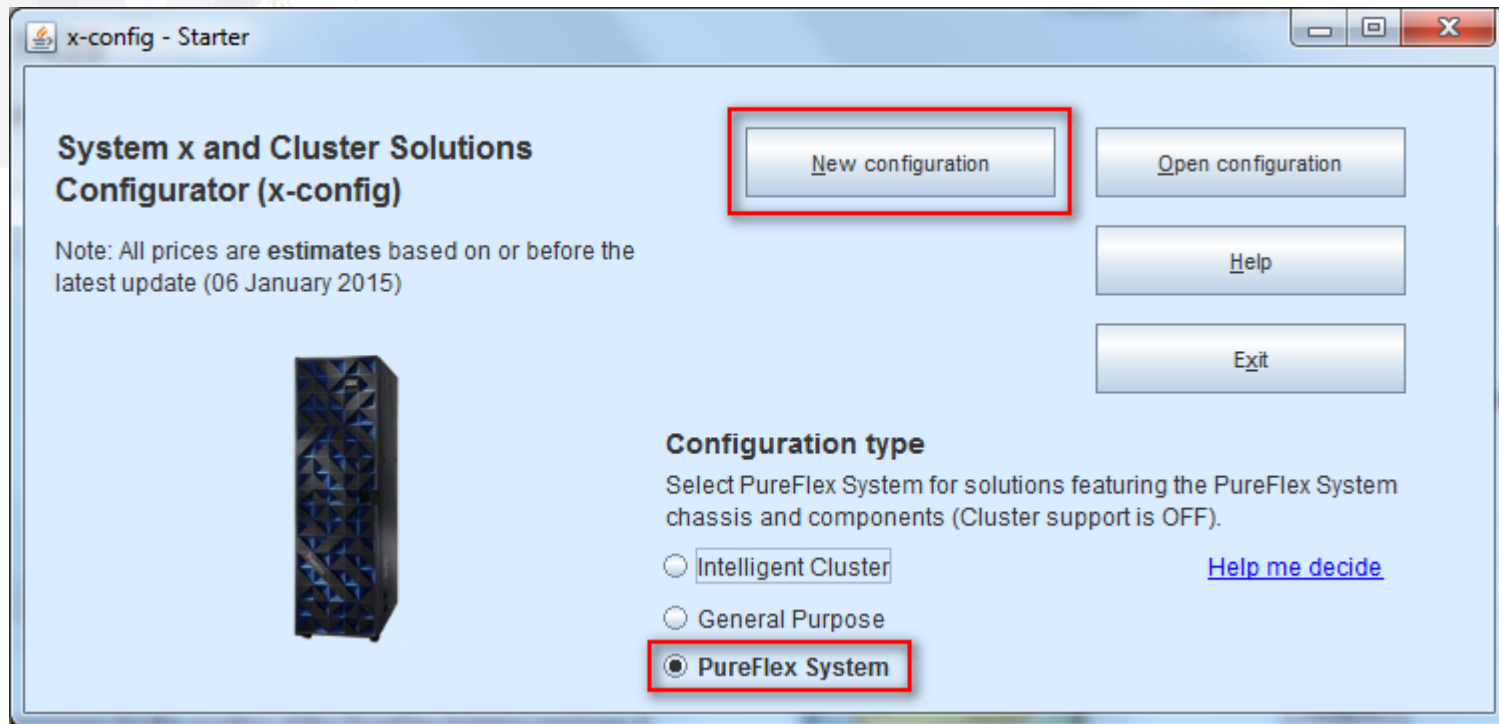
Bill Luken (wluken@Lenovo.com) January 9, 2015

Introduction

- The PureFlex solution is pre-defined and integrated, although minimal changes are allowed. As such, you have to be careful about what changes you make. It is highly suggested that you define your nodes during the initial node selections. If adding nodes after the initial node selections, be sure to validate the chassis power supply and fan selections.
- It is acceptable to make changes to the HDD, CPU and Memory of the nodes. For the switches, SFPs and cabling changes are not recommended.
- Any changes to the configuration that are made are subject to rules checking in the configurator, which are defined by the PureFlex solution definition.

x-config - Starter Screen

On the x-config Starter screen, choose “PureFlex System” and click the “New configuration” button.



Note: This presentation was validated on 13 January 2015. Images in this presentation may be slightly different from production as the configurator is continually updated to reflect new features and product selections.

Choose your country and the PureFlex System you would like to configure. In this training module we will configure the PureFlex System (single chassis) for the country selection of “United States”.

PureFlex System Selection

Create a valid PureFlex configuration by completing the selections below and clicking the "Configure" button.

Country: United States

PureFlex System:

- Select one
- Select one
- PureFlex System (single chassis)
- IBM PureFlex Solution for SmartCloud Desktop Infrastructure (VDI)

Configure Cancel

After previous screen closes, a pop-up of the template will display for building the base PureFlex System configuration. Start by choosing a Rack or no Rack (“None”). For this example I am selecting “PureFlex System 42U Rack”.

PureFlex System Selection

Create a valid PureFlex configuration by completing the selections below and clicking the "Configure" button.

Country: United States

PureFlex System: PureFlex System (single chassis)

It is recommended that you configure all the nodes in the chassis before leaving this page, as this will allow automatic configuration of power supplies and fans.

PureFlex System rack: Standard 42U Rack (Standard Door)

Rack power distribution: None

Chassis networking configuration: Select one

Please select a Chassis networking configuration type.

Storage controller: Storwize V7000 Quantity: 1 (maximum 2)

Storage expansion units for the first controller: 0 (maximum 20)

Storage expansion units for the second controller: 0 (maximum 20)

Drive layout (all enclosures): 22 HDD, 2 SSD

HDD list: 300GB, 15K

SSD list: 200GB

Integrated systems management: Flex System Manager

Configure Cancel

Next choose your Rack power distribution. For this training module I am selecting “Three Phase”. Note: The selection of the line cords into the rack PDUs and the line cords from each rack PDU to the components in the rack are automatically pre-selected and pre-configured for you.

PureFlex System Selection

Create a valid PureFlex configuration by completing the selections below and clicking the "Configure" button.

Country: United States

PureFlex System: PureFlex System (single chassis)

It is recommended that you configure all the nodes in the chassis before leaving this page, as this will allow automatic configuration of power supplies and fans.

PureFlex System rack: Standard 42U Rack (Standard Door)

Rack power distribution: Three Phase (60A and above)

Chassis networking configuration: Three Phase (60A and above)

Please select a Chassis networking configuration type.

Storage controller: Storwize V7000 Quantity: 1 (maximum 2)

Storage expansion units for the first controller: 0 (maximum 20)

Storage expansion units for the second controller: 0 (maximum 20)

Drive layout (all enclosures): 22 HDD, 2 SSD

HDD list: 300GB, 15K

SSD list: 200GB

Integrated systems management: Flex System Manager

Configure Cancel

Next choose your Chassis networking configuration. For this training module I am selecting “Converged Networking (FCoE)”.

PureFlex System Selection

Create a valid PureFlex configuration by completing the selections below and clicking the "Configure" button.

Country: United States

PureFlex System: PureFlex System (single chassis)

It is recommended that you configure all the nodes in the chassis before leaving this page, as this will allow automatic configuration of power supplies and fans.

PureFlex System rack: Standard 42U Rack (Standard Door)

Rack power distribution: Three Phase (60A and above)

Chassis networking configuration: Select one

Please select a Chassis networking configuration on

- Select one
- Converged Networking (FCoE)**
- Standard Networking (Ethernet/PoE channel)

Storage controller: Storwize V7000 Quantity: 1 (maximum 2)

Storage expansion units for the first controller: 0 (maximum 20)

Storage expansion units for the second controller: 0 (maximum 20)

Drive layout (all enclosures): 22 HDD, 2 SSD

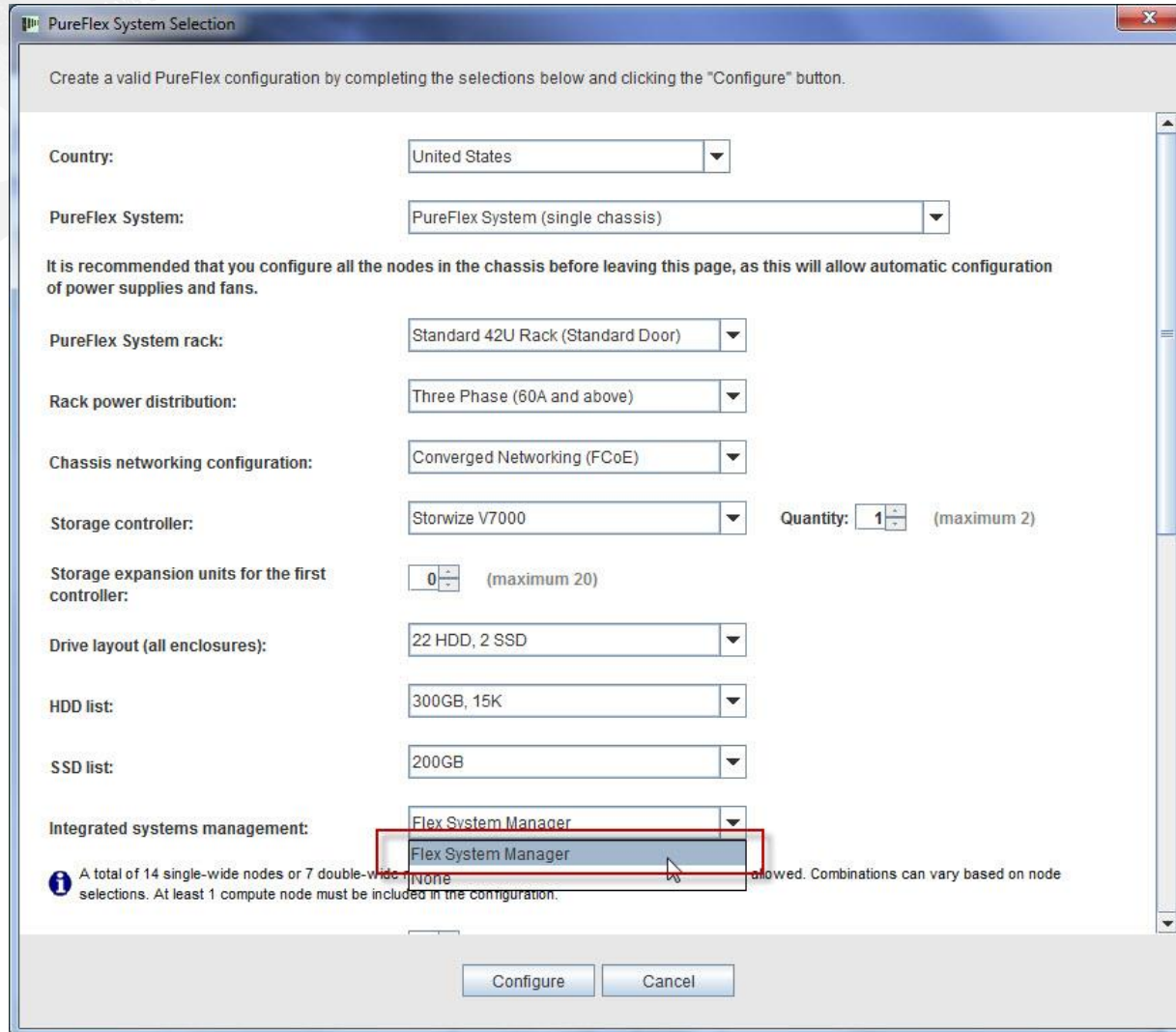
HDD list: 300GB, 15K

SSD list: 200GB

Integrated systems management: Flex System Manager

Configure Cancel

Next choose your Integrated systems management. By default the “Flex System Manager” will be selected, but you could select “None”.



PureFlex System Selection

Create a valid PureFlex configuration by completing the selections below and clicking the "Configure" button.

Country: United States

PureFlex System: PureFlex System (single chassis)

It is recommended that you configure all the nodes in the chassis before leaving this page, as this will allow automatic configuration of power supplies and fans.

PureFlex System rack: Standard 42U Rack (Standard Door)

Rack power distribution: Three Phase (60A and above)

Chassis networking configuration: Converged Networking (FCoE)

Storage controller: Storwize V7000 Quantity: 1 (maximum 2)

Storage expansion units for the first controller: 0 (maximum 20)

Drive layout (all enclosures): 22 HDD, 2 SSD

HDD list: 300GB, 15K

SSD list: 200GB

Integrated systems management: Flex System Manager, Flex System Manager, None

i A total of 14 single-wide nodes or 7 double-wide nodes are allowed. Combinations can vary based on node selections. At least 1 compute node must be included in the configuration.

Configure Cancel

Next select the Flex System nodes needed for the solution. In this example I selected one x220, one x240 and one x440. It is recommended you select the correct number of nodes at this point in the configuration, so that the proper number of chassis PSUs and fans are automatically placed in the order. You can always change/add/remove nodes during the configuration process but you may manually have to add PSUs and fans. Click “Configure”.

PureFlex System Selection

Create a valid PureFlex configuration by completing the selections below and clicking the "Configure" button.

Integrated systems management: Flex System Manager

i A total of 14 single-wide nodes or 7 double-wide nodes including Flex System Manager (if selected) is allowed. Combinations can vary based on node selections. At least 1 compute node must be included in the configuration.

Flex System x220 compute node:	<input type="text" value="1"/>	(maximum 10)
Flex System x222 compute node:	<input type="text" value="0"/>	(maximum 9)
Flex System x240 compute node:	<input type="text" value="1"/>	(maximum 10)
Flex System x440 compute node:	<input type="text" value="1"/>	(maximum 5)
Flex System x480 compute node (2 slots):	<input type="text" value="0"/>	(maximum 4)
Flex System x480 compute node (4 slots):	<input type="text" value="0"/>	(maximum 2)
Flex System x880 compute node (2 slots):	<input type="text" value="0"/>	(maximum 4)
Flex System x880 compute node (4 slots):	<input type="text" value="0"/>	(maximum 2)
Flex System x880 compute node (8 slots):	<input type="text" value="0"/>	(maximum 1)
CPU count per x220/x222/x240 node:	<input type="text" value="1"/>	(maximum 2)

CPU selection: Virtualization

Configure Cancel

After clicking “Configure” on the previous screen, the main configuration window will display. Node configuration, excluding the adding of CPU, HDD and Memory, is set to a minimum and may need to be altered to fit specific workloads. In general, rack and chassis components like PSUs, fans, switches, SFPs, and cabling should not be modified. Doing so might cause warnings in your PureFlex configuration which must be manually be corrected. When node modifications are complete, then the configuration is ready for saving and exporting. For this training module we will make additions and modifications, see the following slides.

The screenshot shows the IBM x-config software interface for configuring a PureFlex system. The window title is "x-config - New configuration". The menu bar includes File, Preferences, Rules, Actions, View, and Help. The toolbar contains Save, Export, Undo, and Redo. The main area is divided into several sections:

- Products:** Shows "Racks" and "Non-racked items". It includes options to "Add new rack" and "Add new PureFlex System". A rack named "Rack_PureFlexSystem_85" is selected with a quantity of 1.
- Rack view/update:** Contains options to "Update the rack (Rack_PureFlexSystem_85)", "Modify quantity", "Change options", "Auto allocate", and "Remove with its contents".
- Diagram:** A rack diagram showing a central chassis with nodes on either side. The nodes are numbered 1 through 42. A pop-up window shows details for "Flex system chassis_11", including "Node_7489", "Node_5932", "Node_F8M_85", and "Node_2155".
- Item view:** A panel on the right with the instruction "Place mouse cursor over an item to view details" or right-click an item and select 'Inspect'.
- Messages:** A pane at the bottom right showing a list of messages, including warnings about availability and information about Lab Services and configuration updates.

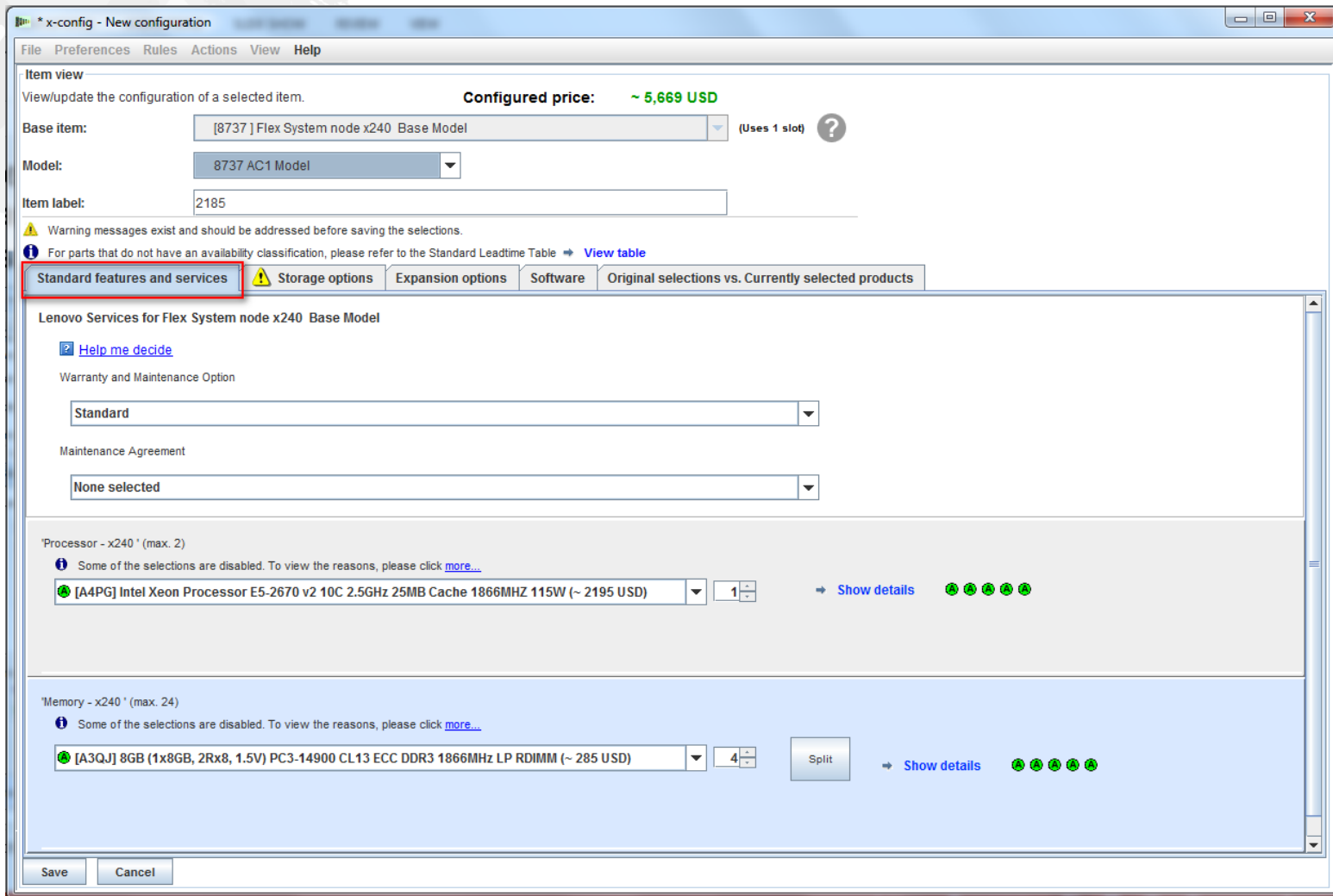
The messages pane contains the following text:

- ⚠ Rack_PureFlexSystem_85: For 9363RC4 the current availability is "C: Ships in 15 business
- ⚠ Flex System chassis_PureFlexSystem_32: For A1DP the current availability is "C: Ships in 1
- ⚠ Node_5932: In Cluster on mode 1350 Clusters require that if Flex nodes (MT 7917, 8737, 7
- ℹ 4 days of Lab Services are recommended for IBM PureFlex System Enterprise. More days of
- ℹ Configuration includes Lab Services [More info](#)
- ℹ Configuration includes items with unclassified availability [More info](#)
- ℹ Rack power updated [More info](#)
- ℹ Cabling updated [More info](#)
- ℹ All racks passed Center of Gravity tests [More info](#)

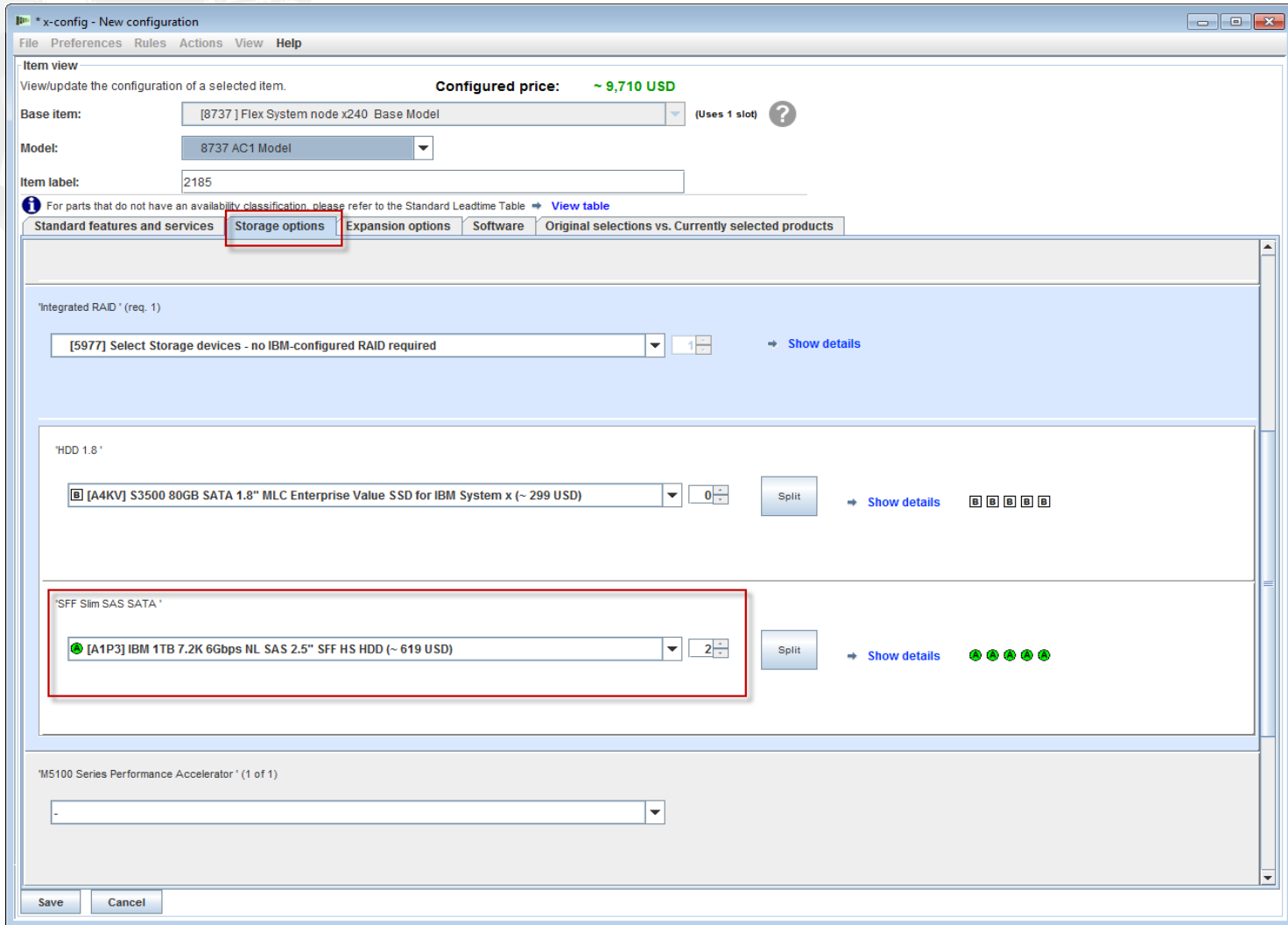
If you need to make changes, right-click on the chassis and several options will display, including “Add Node”, “Edit Node”, “Remove Node”, and “Edit” (see below). For this example I will select “Edit Node” and choose the x240.

The screenshot displays the IBM x-config software interface for a new configuration. The main window shows a rack view with a central chassis and several nodes. A context menu is open over the chassis, listing actions such as Copy, Cut, Add Node, Edit Node, Remove Node, Show details, Edit, Duplicate, and Remove. The 'Edit Node' option is selected, and a submenu is displayed showing four node options: (Node_FSM_88) [8731 AC1] Flex System node FSM Base Model (~ 21,679 USD), (Node_2185) [8737] Flex System node x240 Base Model (~ 4,246 USD), (Node_5932) [7906] Flex System node x220 Base Model (~ 5,166 USD), and (Node_7488) [7917] Flex System node x440 Base Model (~ 8,743 USD). The 'Node_2185' option is highlighted with a mouse cursor. The interface also shows a total list price of 142,199 USD and a configuration availability of 'Ships in 15 business days or less'.

Here I am making some changes to the x240 node. x-config is rules-based, so any changes may cause error messages to appear. If any red X error messages appear, you must clear them before saving and proceeding.



Now I will move to the “Storage options” tab for the x240. Here I added two IBM 1TB HDDs.



The last tab, “Original selections vs. Currently selected products”, is a great way to track changes from iteration to iteration of the configuration for the x240. This tab and capability is available for all the components in this solution. Next, click “Save”.

The screenshot shows the 'x-config - New configuration' window. The 'Original selections vs. Currently selected products' tab is active. The 'Configured price' is ~9,710 USD. The base item is '[8737] Flex System node x240 Base Model' and the model is '8737 AC1 Model'. The item label is '2185'. A key indicates: Removed (R), Added (A), Quantity changed (+/-), No change.

Original selections	Change	Currently selected products
1x [A4PE] Intel Xeon Processor E5-2650 v2 8C 2.6GHz 20M	R	2x [A1F3] IBM 1TB 7.2K 6Gbps NL SAS 2.5" SFF HS HDD
2x [A3QH] 8GB (1x8GB, 1Rx4, 1.35V) PC3L-12800 CL11 ECC	A	1x [A4P8] Intel Xeon Processor E5-2697 v2 12C 2.7GHz 30MB Cache 1
1x 8737 AC1 Model	+	12x [A3QH] 8GB (1x8GB, 1Rx4, 1.35V) PC3L-12800 CL11 ECC DDR3 1600M
1x Embedded 10Gb Virtual Fabric Ethernet controller		1x 8737 AC1 Model
1x [8737] Flex System node x240 Base Model		1x Embedded 10Gb Virtual Fabric Ethernet controller
1x [A1BL] IBM Flex System Compute Node 2.5" SAS 2.0 Ba		1x [8737] Flex System node x240 Base Model
1x [A4P5] IBM Flex System x240 Compute Node v2 - embed		1x [A1BL] IBM Flex System Compute Node 2.5" SAS 2.0 Backplane
1x [A2TD] IBM Virtual Fabric Advanced Software Upgrade		1x [A4P5] IBM Flex System x240 Compute Node v2 - embedded 10Gb V1
		1x [A2TD] IBM Virtual Fabric Advanced Software Upgrade (LOM)

Buttons: Save, Cancel

Clicking “Save” as indicated on the previous slide returns you to the main configuration window. Next I will add another node, see the following slides. Note: Not shown is the ability to copy nodes after configuring the 1st node. For example, if you need 10x nodes with the same CPU SKU, memory and storage then build the 1st and then duplicate the 1st node nine times. You should not copy Chassis, as this will invalidate the solution and cause multiple errors.

The screenshot shows the 'x-config - New configuration' window. The top status bar indicates 'Solution: General Purpose', 'Total List Price: 148,458 USD', and 'Country: United States'. The 'Products' panel on the left shows 'Racks' and 'Non-racked items' tabs, with 'Rack_PureFlexSystem_85' selected. The 'Rack view/update' panel shows 'Update the rack (Rack_PureFlexSystem_85)' with options to 'Modify quantity', 'Auto allocate', 'Change options', and 'Remove with its contents'. The 'Item view' panel shows 'Flex System chassis_PureFlexSystem_32 (~ 123,509)' with a list of installed options including 'Rack Cabling Exit - Bottom', 'IBM Flex System Enterprise Chassis 2500W Power Module', and various cables and transceivers. The 'Messages' panel at the bottom shows several warning and information messages regarding availability and configuration details.

Right-click on the chassis to get the pop-up box shown below. From here I will select “Add Node”, then select “New Node”. I could add an already configured node, like the x220.

The screenshot displays the 'x-config - New configuration' application window. The interface is divided into several sections:

- Menu Bar:** File, Preferences, Rules, Actions, View, Help.
- Header:** Solution: General Purpose, Total List Price: 148,458 USD, Country: United States.
- Buttons:** Save, Export, Undo, Redo.
- Configuration Availability:** - Ships in 15 business days or less.
- Products:** Racks, Non-racked items. Includes options like 'Add new rack' and 'Add new PureFlex System'. A rack 'Rack_PureFlexSyste...' is selected with a quantity of 1.
- Rack view/update:** Shows a diagram of a rack with a central chassis and two side racks. A context menu is open over the chassis, listing actions: Copy, Cut, Add Node (selected), Edit Node, Remove Node, Show details, Edit, Duplicate, and Remove. The 'Add Node' sub-menu is open, showing options: (Node_2185) [8737] Flex System node x240 Base Model (~ 9,710 USD), (Node_5932) [7906] Flex System node x220 Base Model (~ 5,166 USD), (Node_7488) [7917] Flex System node x440 Base Model (~ 9,443 USD), (Node_FSM_88) [8731 AC1] Flex System node FSM Base Model (~ 21,839 USD), and 'New Node...'. The 'New Node...' option is highlighted.
- Item view:** Contains the instruction: 'Place mouse cursor over an item to view details or right-click an item and select 'inspect''. Below this is a 'Messages' pane with a 'Summary' tab, showing several warning and information messages regarding availability and configuration details.

After selecting “Add a new node...”, the screen below displays. Now you can select the node type you would like to add. In this example I selected the “Flex System node x240 Base Model”.

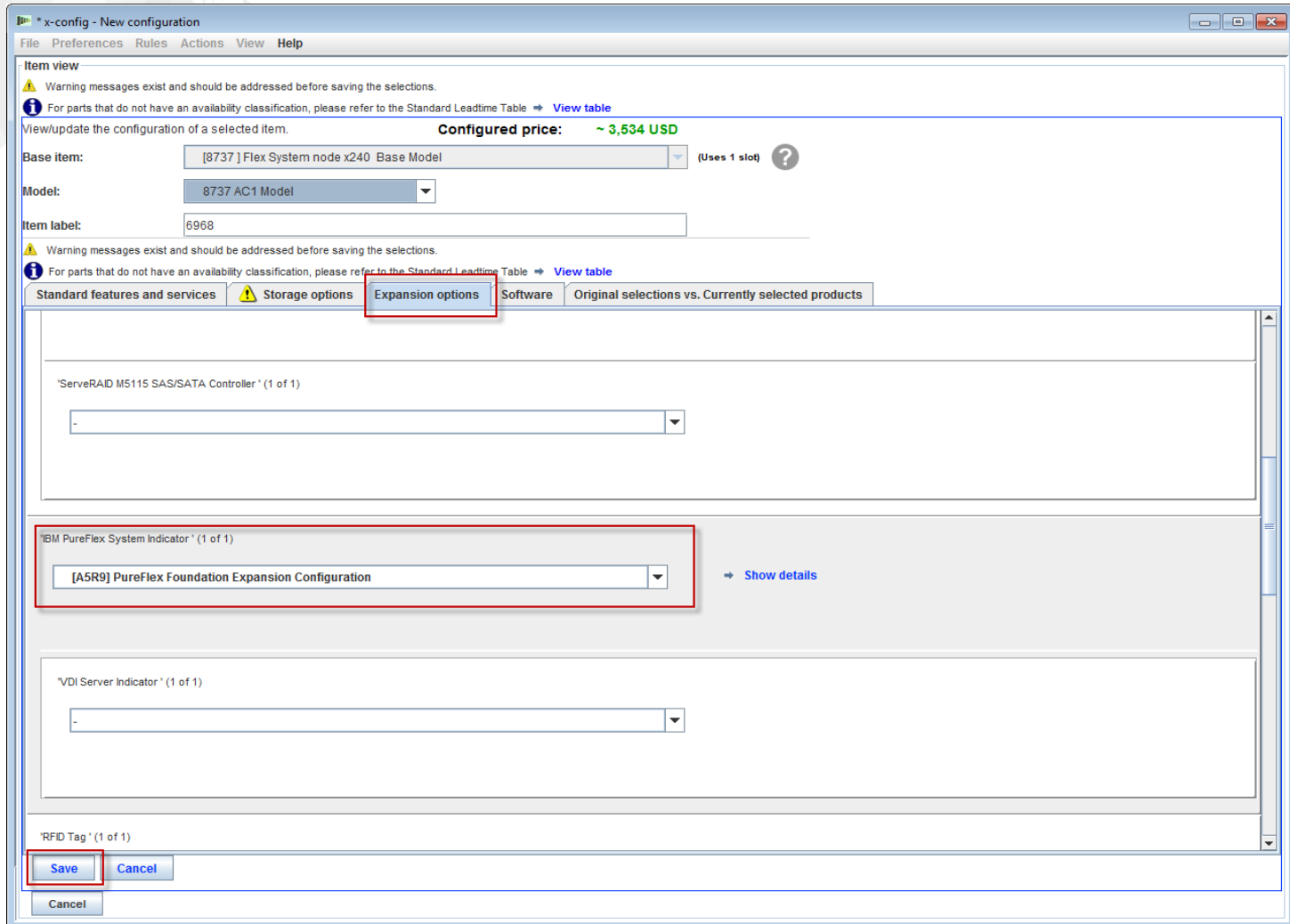
The screenshot shows the 'x-config - New configuration' window. It features a menu bar with 'File', 'Preferences', 'Rules', 'Actions', 'View', and 'Help'. Below the menu is an 'Item view' section with an information icon and a message: 'For parts that do not have an availability classification, please refer to the Standard Leadtime Table → View table'. A text prompt reads: 'View/update the configuration of a selected item.' Below this is a 'Base item:' dropdown menu. To the left of the table is an 'Item label:' field. The table has four columns: 'Avail', 'Option', 'Description', and 'Price'. The row for 'Flex System node x240 Base Model' (Option 8737) is highlighted with a red box.

Avail	Option	Description	Price
	7903	Flex System Compute Node x480 X6 Base Model	
	7903	Flex System Compute Node x880 X6 Base Model	
	8731 AC1	Flex System node FSM Base Model	
	7906	Flex System node x220 Base Model	
	7916	Flex System Node x222 Base Model	
	8737	Flex System node x240 Base Model	
	7917	Flex System node x440 Base Model	

Next go through the tabs to add the desired options and build the configuration as needed.

The screenshot shows the 'x-config - New configuration' window. The 'Item view' section displays the configured price as ~ 2,940 USD. The 'Base item' is '[8737] Flex System node x240 Base Model' (Uses 1 slot), the 'Model' is '8737 AC1 Model', and the 'Item label' is '6968'. A warning message is present: 'Warning messages exist and should be addressed before saving the selections.' Below this, a tabbed interface is shown with the following tabs: 'Standard features and services', 'Storage options', 'Expansion options', 'Software', and 'Original selections vs. Currently selected products'. The 'Storage options' tab is currently selected. Under 'Lenovo Services for Flex System node x240 Base Model', there are options for 'Warranty and Maintenance Option' (Standard) and 'Maintenance Agreement' (None selected). The 'Processor - x240 * (max. 2)' section shows '[A1CT] Intel Xeon Processor E5-2620 6C 2.0GHz 15MB Cache 1333MHz 95W (~ 645 USD)' with a quantity of 1. The 'Memory - x240 * (max. 24)' section shows '[8923] 8GB (1x8GB, 2Rx4, 1.35V) PC3L-10600 CL9 ECC DDR3 1333MHz LP RDIMM (~ 285 USD)' with a quantity of 1. At the bottom, there are 'Save', 'Cancel', and 'Split' buttons.

Here on the “Expansion options” tab you need to set the “IBM PureFlex System Indicator”, see below. Since this is not the primary node, you will need to select “PureFlex Foundation Expansion Configuration”; for the US it will be FC A5R9. Then click “Save”. Take note of the “Item Label” value of “6968”. Note: Recommendation is to add all nodes during initial node selection.



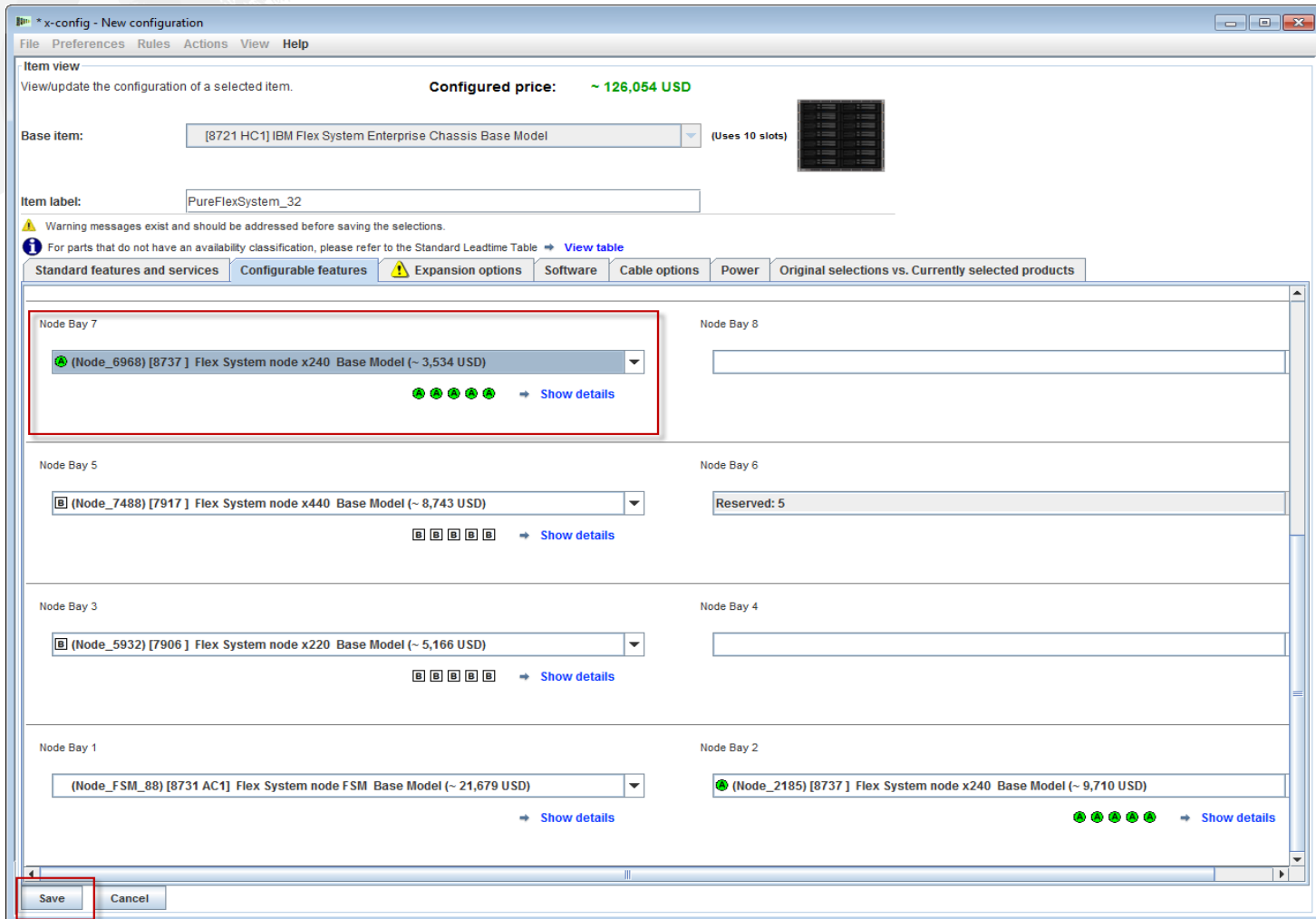
From the Chassis configuration window you need to select a Node Bay as a location for the new x240. In this example I placed the x240 in Node Bay 7, see below. If you want a node duplicated, then make sure to choose the x240 just configured in the previous slides. In this example it is “Node_6968”.

The screenshot shows the 'x-config - New configuration' window. The 'Base item' is '[8721 HC1] IBM Flex System Enterprise Chassis Base Model' (Uses 10 slots). The 'Item label' is 'PureFlexSystem_32'. The 'Configured price' is '~ 122,520 USD'. A warning message states: 'Warning messages exist and should be addressed before saving the selections.' A note says: 'For parts that do not have an availability classification, please refer to the Standard Leadtime Table -> View table'. The 'Expansion options' tab is active, showing a table of node options for Node Bay 7.

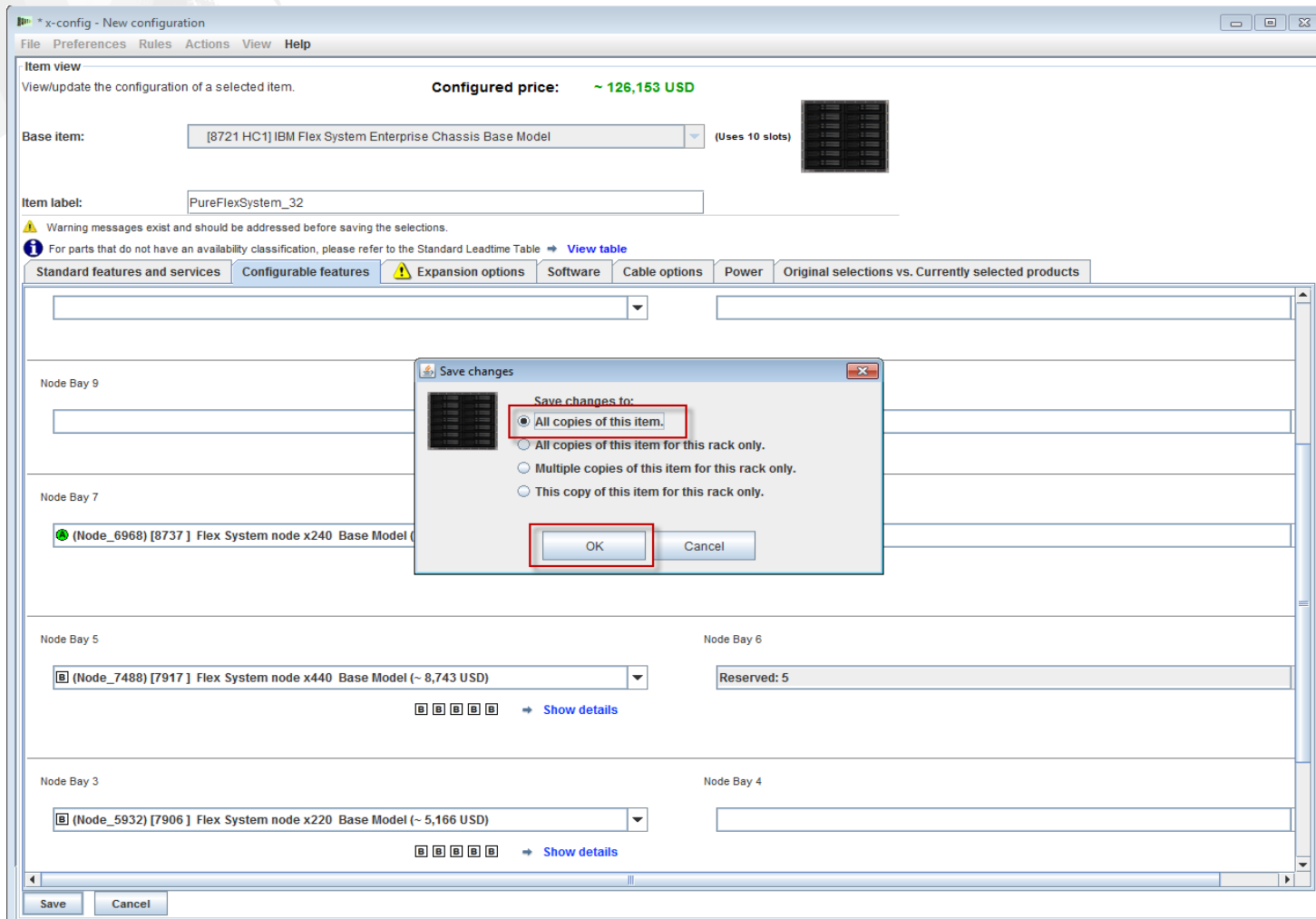
Avail	Option	Description	Price
		New node...	
●	8737	(Node_6968) Flex System node x240 Base Model	~ 3,534 USD
●	8737	(Node_2185) Flex System node x240 Base Model	~ 9,710 USD
□	7906	(Node_5932) Flex System node x220 Base Model	~ 5,166 USD
□	7917	(Node_7488) Flex System node x440 Base Model	~ 8,743 USD
	8731 AC1	(Node_FSM_88) Flex System node FSM Base Model	~ 21,679 USD

Node Bay 7 is highlighted in a red box. The table row for '(Node_6968) Flex System node x240 Base Model' is also highlighted in a red box. The 'Show details' button is visible at the bottom of the table.

After adding the “Node_6968 ... x240” to Node Bay 7, click “Save”. Note: Adding additional nodes will often require adding additional PSUs and fans to the chassis.



A pop-up window will display where you can select how to save the changes. For this example I chose “All copies of this item”, but any one of the selections would work in this single node change. Click “OK”.



After modifying the existing nodes and adding new nodes, you need to save the configuration. Make sure there are no RED X stop messages in the “Messages” tab (there are none in the image below). YELLOW yield messages are acceptable to proceed. Note: Before saving you may want to verify the System x Enterprise Solution Services in the “Non-racked items” tab, and increment the days if needed.

The screenshot displays the 'x-config - New configuration' window. The top menu includes 'File', 'Preferences', 'Rules', 'Actions', 'View', and 'Help'. The 'Solution' is set to 'General Purpose' with a 'Total List Price' of 154,908 USD and 'Country: United States'. The 'Configuration Availability' is noted as 'Ships in 15 business days or less'. The 'Save' button is highlighted with a red box. The interface is divided into three main sections: 'Products', 'Rack view/update', and 'Item view'. The 'Products' section on the left shows 'Racks' and 'Non-racked items' tabs, with 'Non-racked items' selected. Below this, there are options to 'Add new rack' and 'Add new PureFlex System', and a list of components including 'Rack_PureFlexSystem_85' with a quantity of 1. The 'Rack view/update' section shows a diagram of a rack with a central column of slots numbered 11 to 42. The 'Item view' section on the right contains instructions: 'Place mouse cursor over an item to view details or right-click an item and select 'Inspect''. The 'Messages' tab at the bottom right is highlighted with a red box and contains a list of messages, including warnings about availability and information about System x Enterprise Solution Services and rack power updates.

File Preferences Rules Actions View Help

Solution: General Purpose Total List Price: 154,908 USD Country: United States

Save Export Undo Redo Configuration Availability: ⚠ - Ships in 15 business days or less

Products

Racks Non-racked items

Select a rack to view details in the diagram to the right. Right-click any rack or item to see available actions.

➔ Add new rack

➔ Add new PureFlex System

Rack_PureFlexSystem_85 Quantity: 1 +/-

Rack view/update

Update the rack (Rack_PureFlexSystem_85)

➔ Modify quantity ➔ Auto allocate

➔ Change options ➔ Remove with its contents

Right click on the diagram below to see the available actions for each item.

Item view

Place mouse cursor over an item to view details
or right-click an item and select 'Inspect'

Messages Summary History

- ⚠ Rack_PureFlexSystem_85: For 9363RC4 the current availability is "C: Ships in 15 busi
- ⚠ Flex System chassis_PureFlexSystem_32: For A2C0 the current availability is "C: Ships
- ⚠ Flex System chassis_PureFlexSystem_32: For A1DP the current availability is "C: Ship
- ⚠ Node_5932: In Cluster on mode 1350 Clusters require that if Flex nodes (MT 7917, 87
- ⚠ Node_7488: For A2C0 the current availability is "C: Ships in 15 business days or less.
- ℹ 4 days of System x Enterprise Solution Services are recommended for IBM PureFlex Sy
- ℹ Configuration includes System x Enterprise Solution Services [More info](#)
- ℹ Configuration includes items with unclassified availability [More info](#)
- ℹ Rack power updated [More info](#)
- ℹ Cabling updated [More info](#)
- ℹ All racks passed Center of Gravity tests [More info](#)

When you click “Save” a pop-up box will display to select where to save the file and to give it a “File Name”. My preferences are set to save to my Desktop. Lastly, click “Save configuration file”.

The screenshot displays the IBM x-config software interface. The main window shows a configuration for a PureFlex system. A 'Save configuration' dialog box is open, allowing the user to save the current configuration. The dialog box has the following fields and options:

- Look In:** Desktop
- File Name:** PureFlex_Training_9Jan2015
- Files of Type:** (*.cse)
- Buttons:** Save configuration file (highlighted with a red box), Cancel

The background interface includes a menu bar (File, Preferences, Rules, Actions, View, Help), a toolbar with 'Save', 'Export', 'Undo', and 'Redo' buttons, and a main workspace showing a rack diagram and a 'History' panel on the right. The 'History' panel lists several events, including 'Configuration includes items with unclassified availability', 'Rack power updated', 'Cabling updated', and 'All racks passed Center of Gravity tests'.

A pop-up window confirms that the save was successful. Click “OK”.

The screenshot shows the x-config application window. The title bar reads "x-config - C:\Users\IBM_ADMIN\Desktop\GP_PureFlex_Training_9Jan2015.cse". The menu bar includes "File", "Preferences", "Rules", "Actions", "View", and "Help". The main interface is divided into several panes:

- Products:** Shows "Racks" and "Non-racked items" tabs. Under "Racks", there is a list of items including "Rack_PureFlexSystem_85" with a quantity of 1.
- Rack view/update:** Displays a diagram of a rack structure with a table of components. The table lists items from 34 to 42. Below the diagram, there are options: "Update the rack (Rack_PureFlexSystem_85)", "Modify quantity", "Change options", "Auto allocate", and "Remove with its contents".
- Item view:** Contains the instruction: "Place mouse cursor over an item to view details or right-click an item and select 'Inspect'".
- Summary/History:** Shows a list of configuration updates, including "Configuration includes items with unclassified availability", "Rack power updated", "Cabling updated", and "All racks passed Center of Gravity tests".

A "Success" dialog box is overlaid on the main window. It contains the following text:

Success

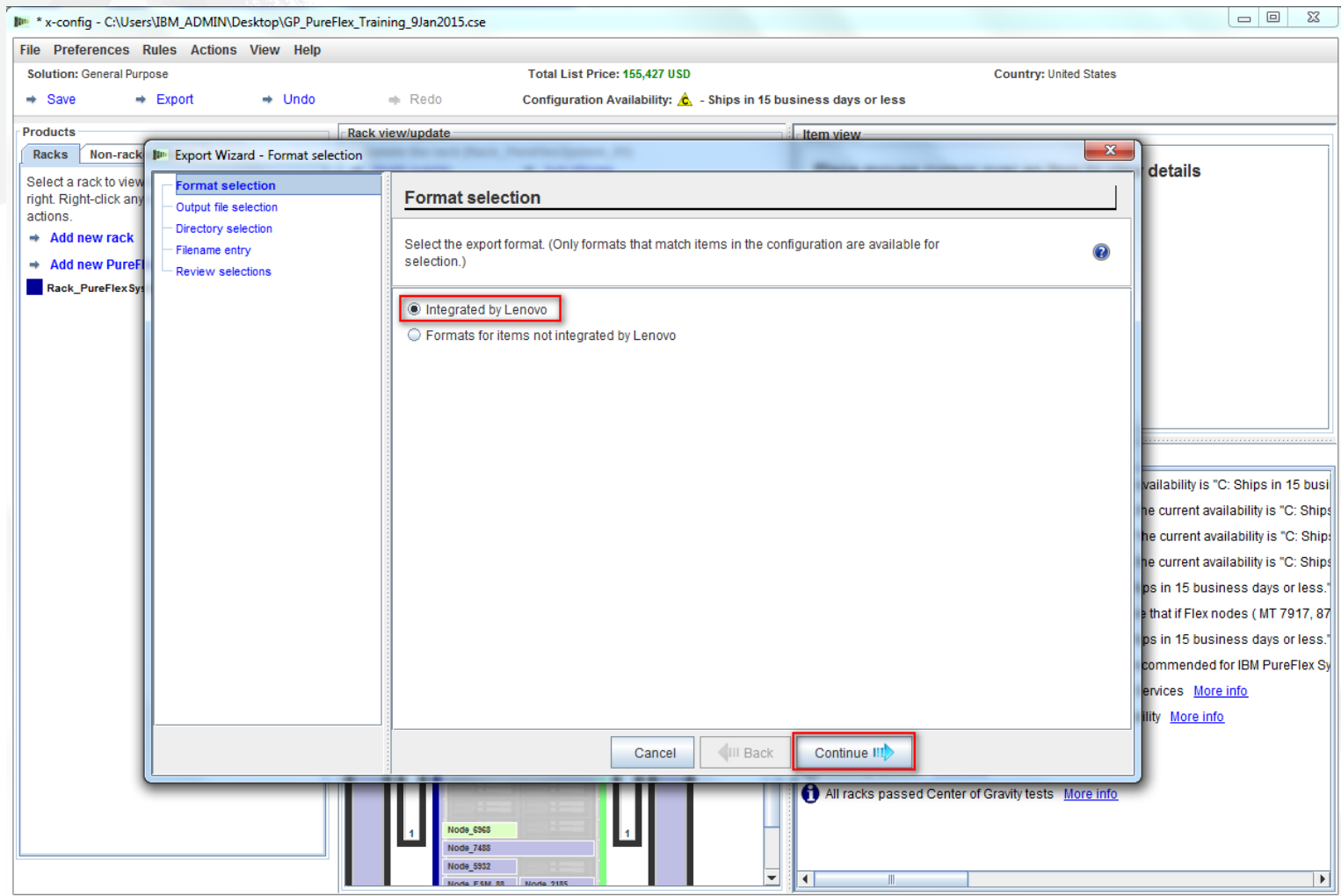
The configuration file has been saved successfully into the 'C:\Users\IBM_ADMIN\Desktop' folder:

- [Open the folder in the file browser.](#) (By clicking this link, you will be directed to the folder using your local file browser application.)

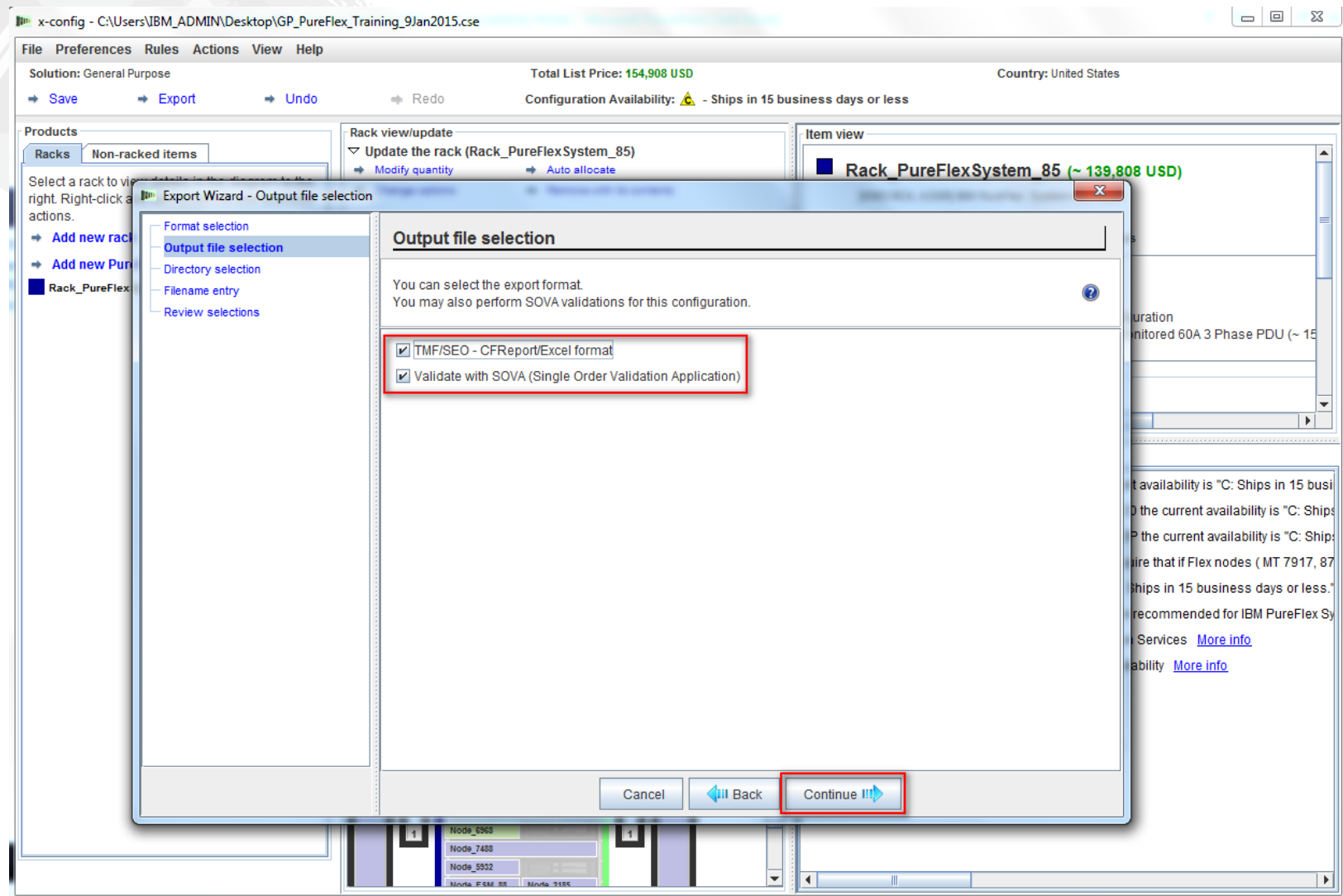
Do not show this dialog again.

OK

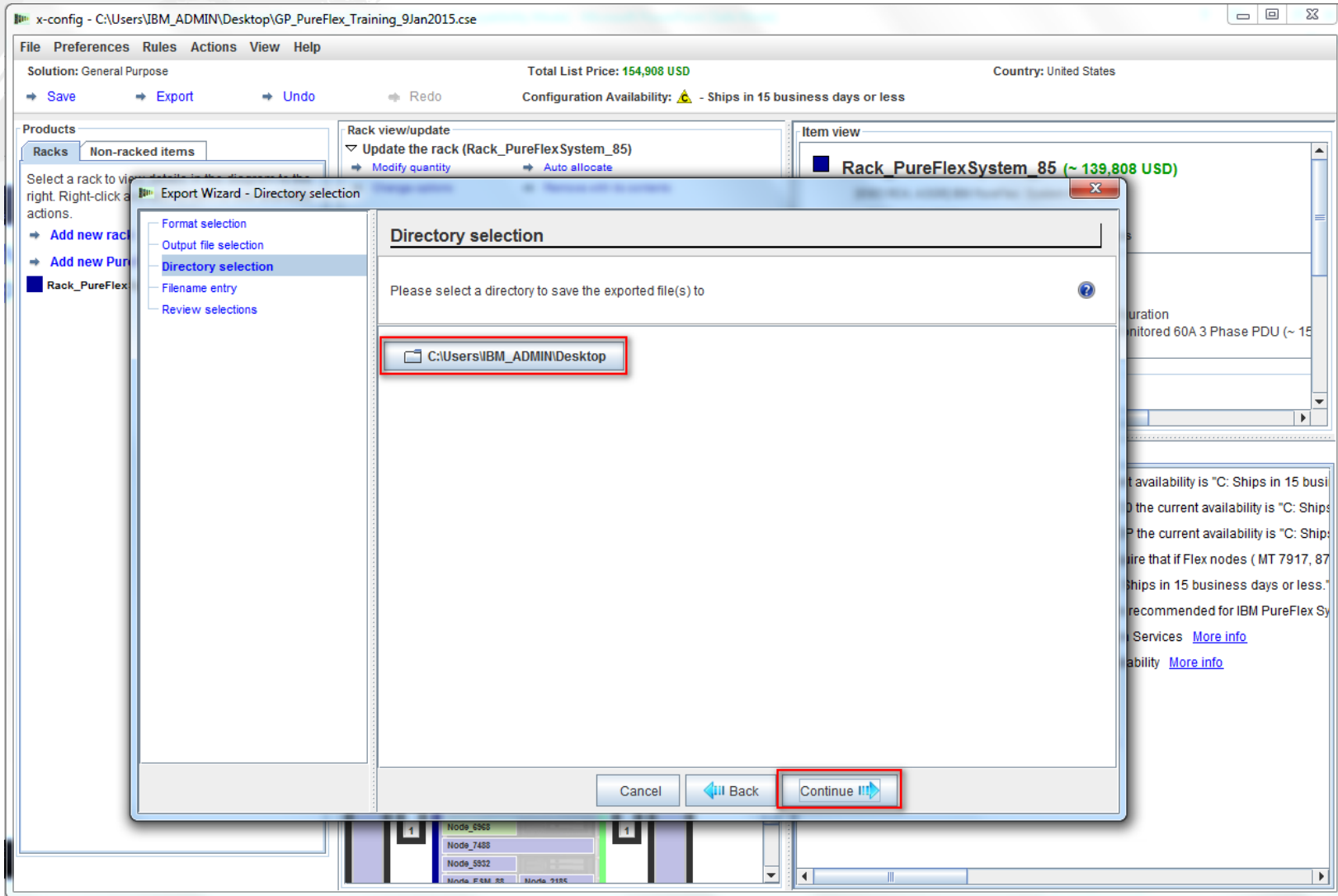
Next is to export the configuration. When you click “Export”, a “Format selection” pop-up window displays. Choose “Integrated by Lenovo”. Then click “Continue”.



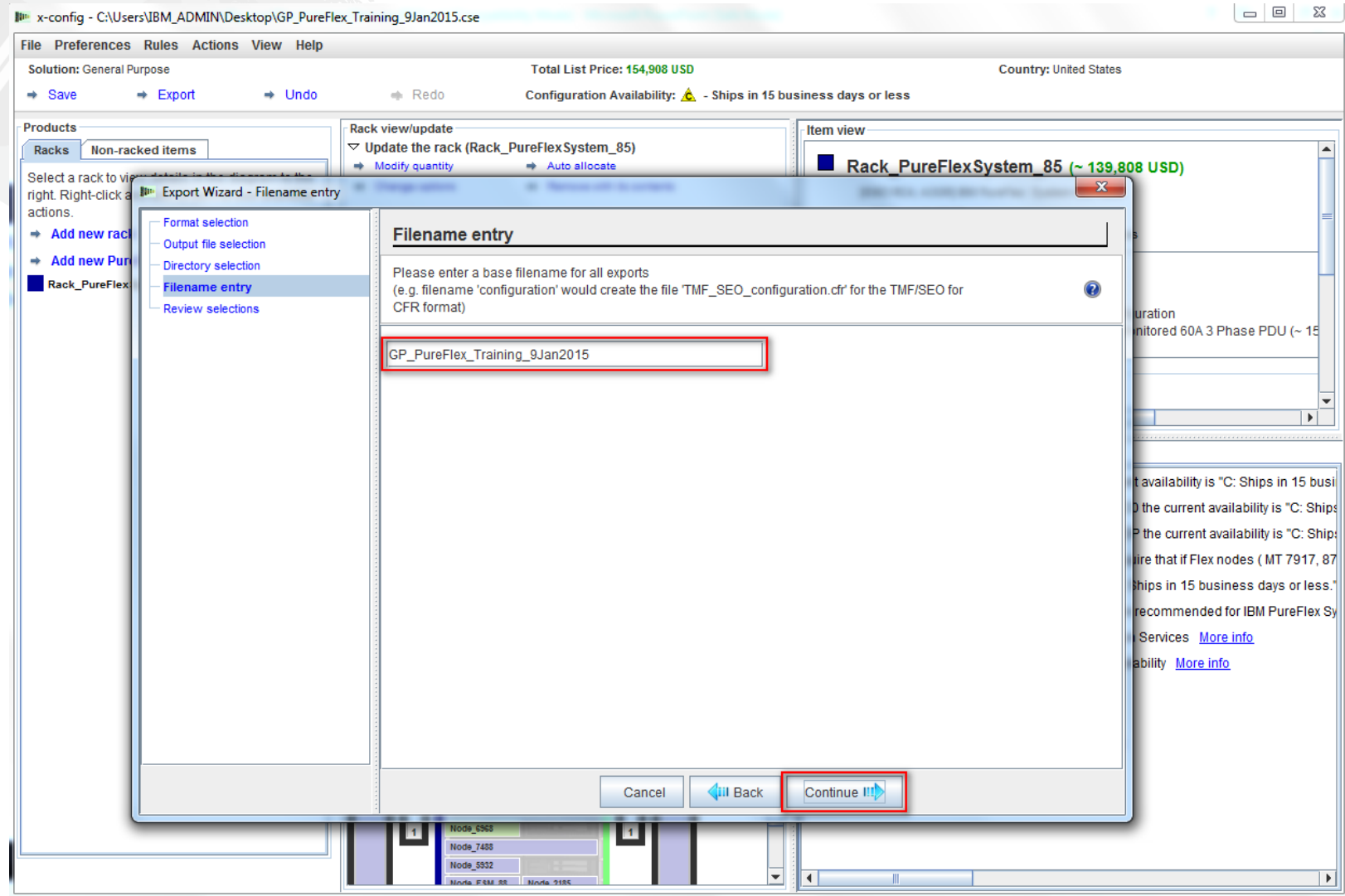
In the “Output file selection” pop-up window, choose the appropriate format(s) for your country. In this example for the US, the selection is “TMF/SEO + CFReport/Excel format”; this is checked along with the default option of “Validate with SOVA...”. The SOVA selection will verify that the configuration can be built. Click “Continue”.



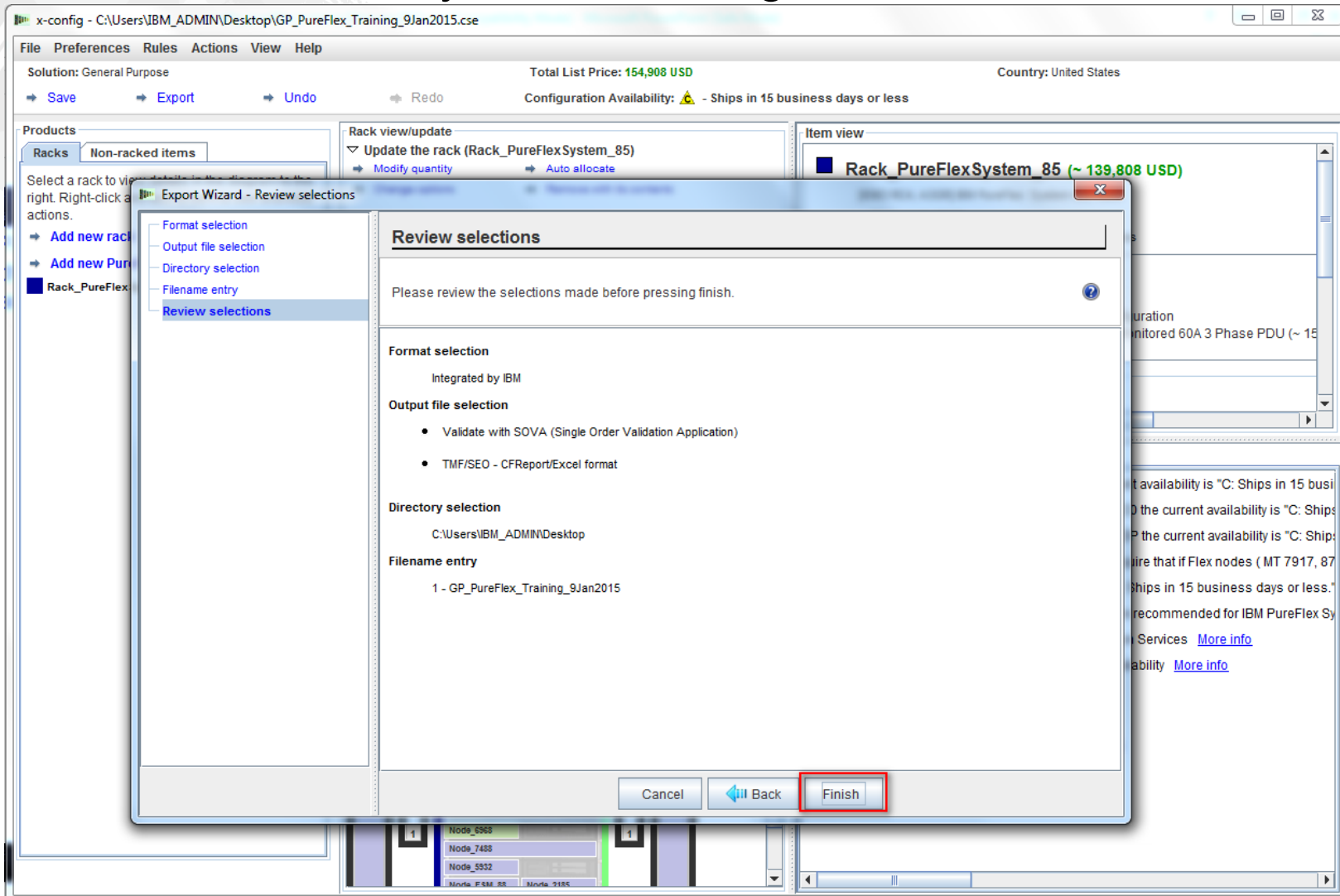
Next select the directory to export files. As shown below, my preference is set to export to the Desktop. Click “Continue”.



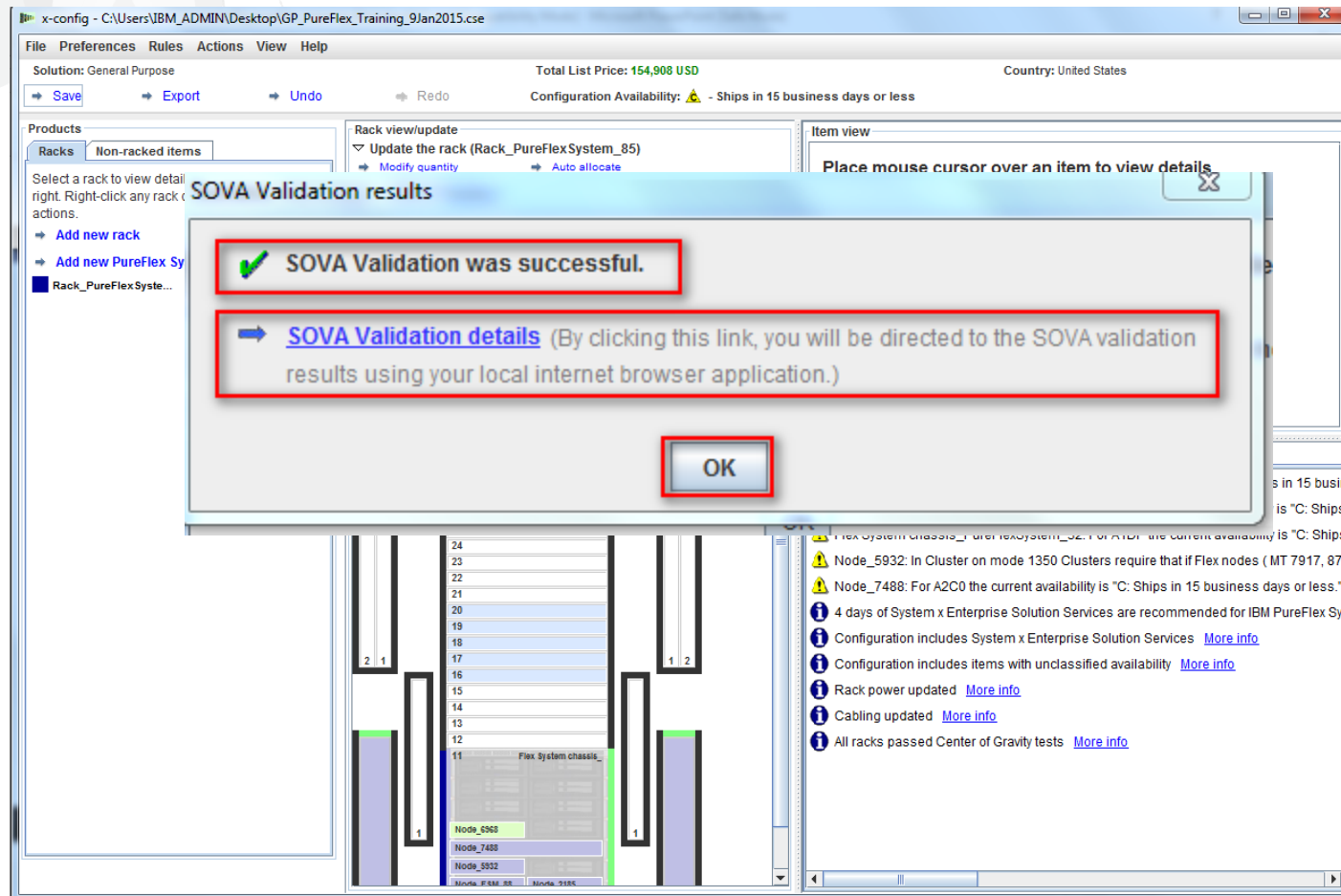
Next is “Filename entry”. In this example since I to save the file first and provided the file name, the export file name will be the same (see below). You can change the filename if you want. Click “Continue”.



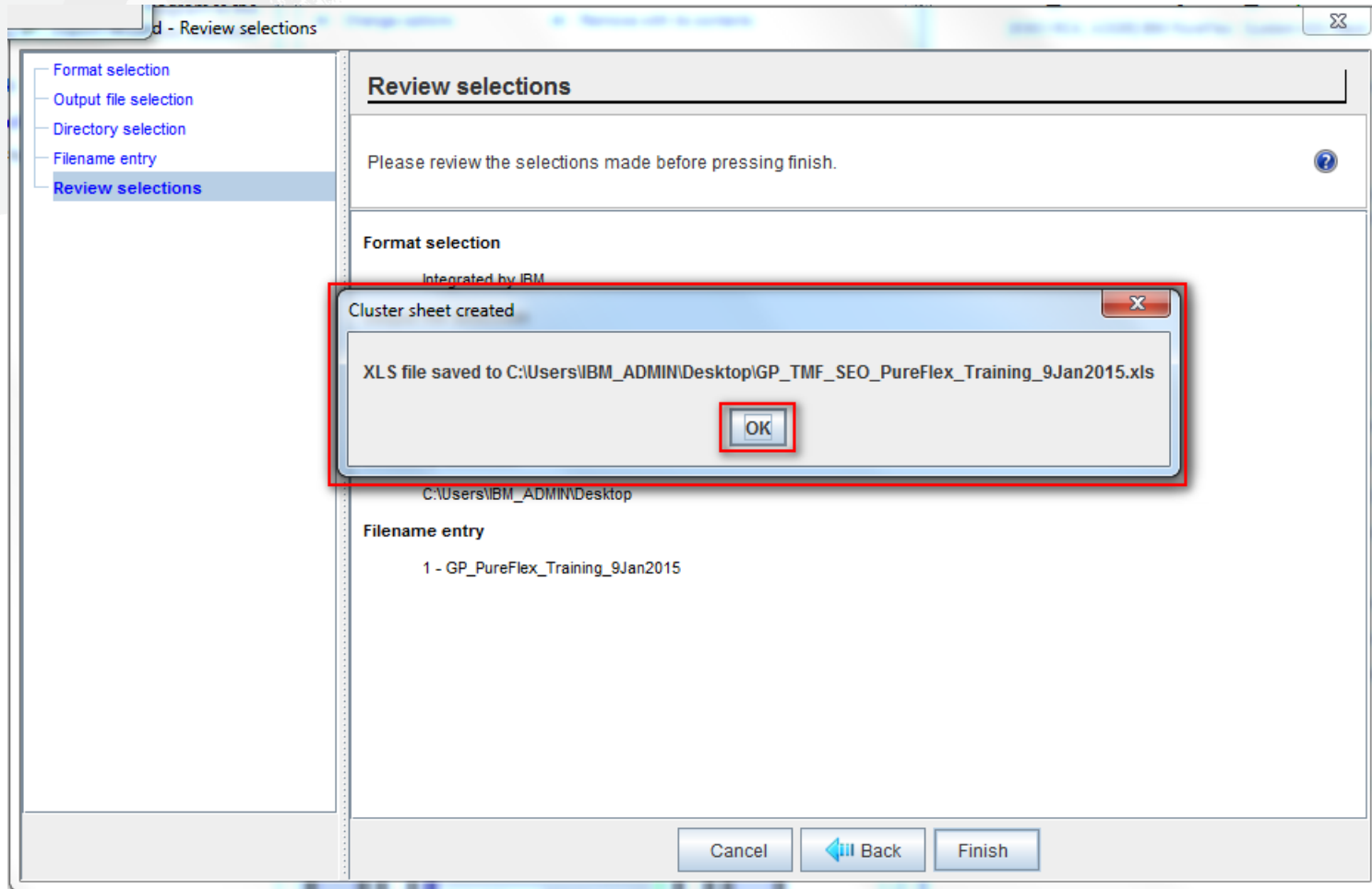
Finally, click “Finish” if you are satisfied with the selections displayed in the “Review selection” pop-up window. Otherwise, click “Back” and make any needed changes.



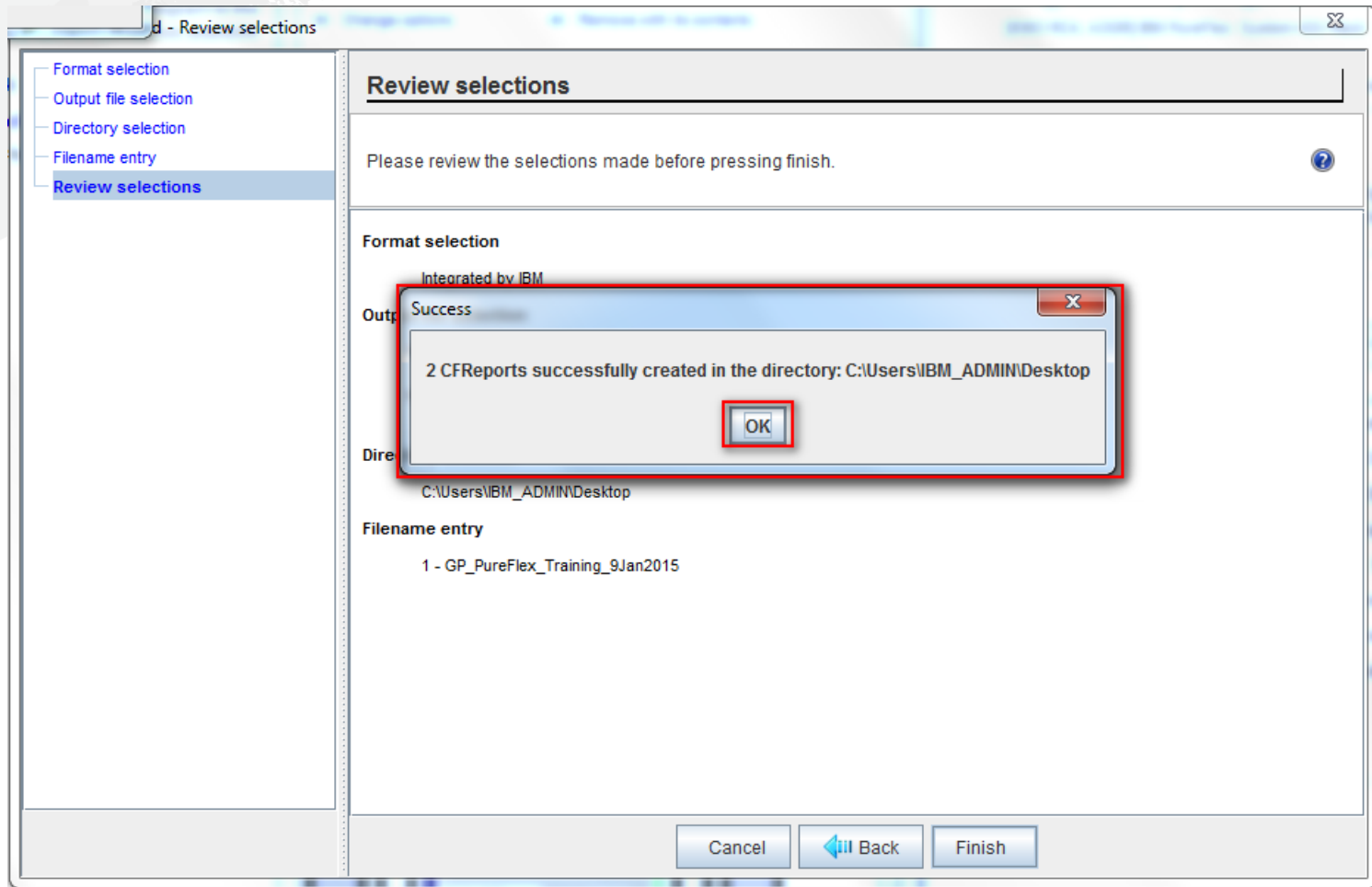
A “SOVA Validation results” pop-up window displays when finishing a configuration. In this example the configuration passed SOVA, which is a good indicator that manufacturing can build the solution without any issues. If SOVA failed, then you would click the “SOVA Validation details” link to fix the issues. There will be an email address to send a defect to the SOVA team. Otherwise send a defect request to erchelp@ca.ibm.com. Click “OK”.



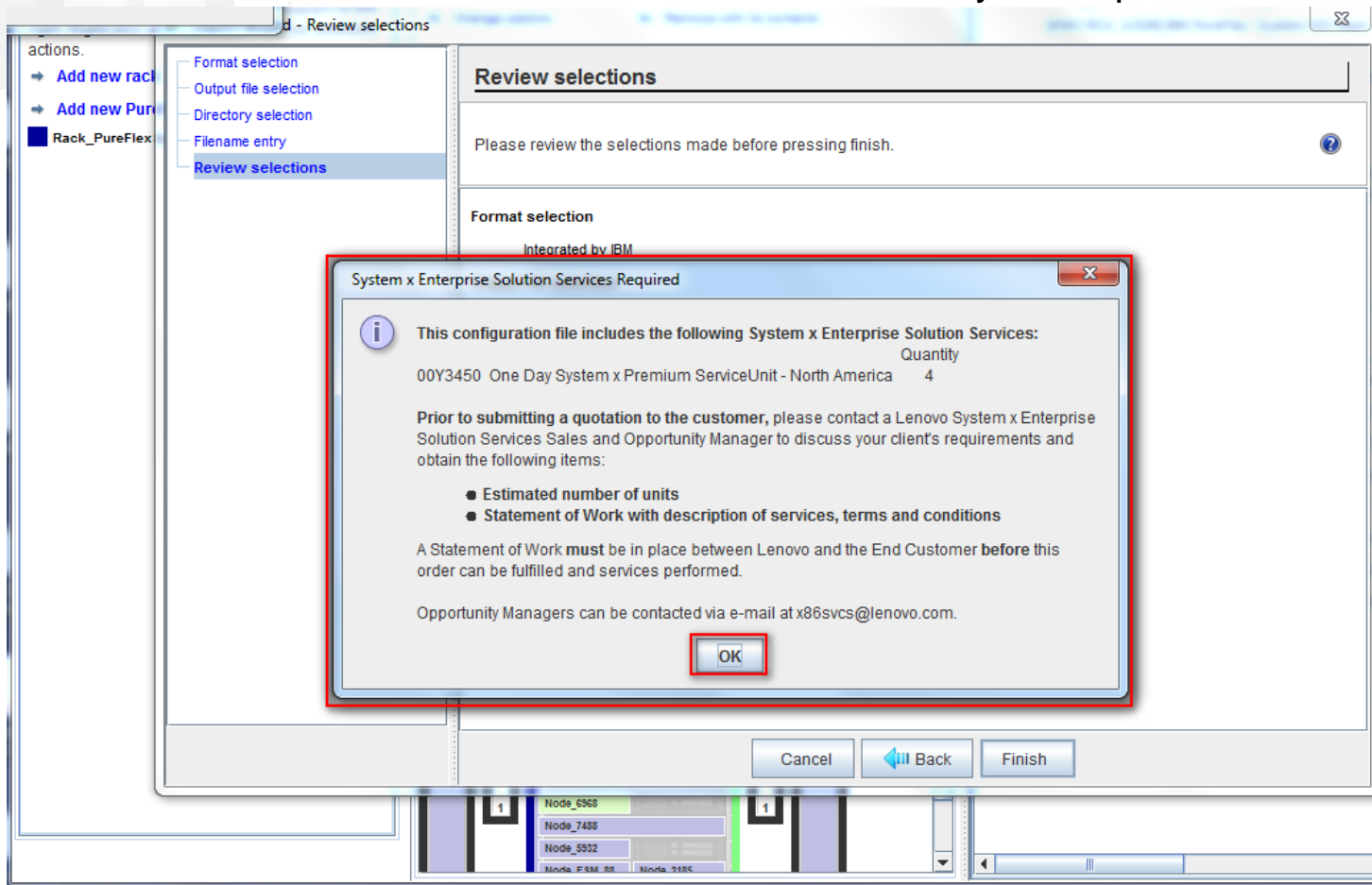
A pop-up window confirms “Cluster sheet created”; this is the XLS file. Click “OK”.



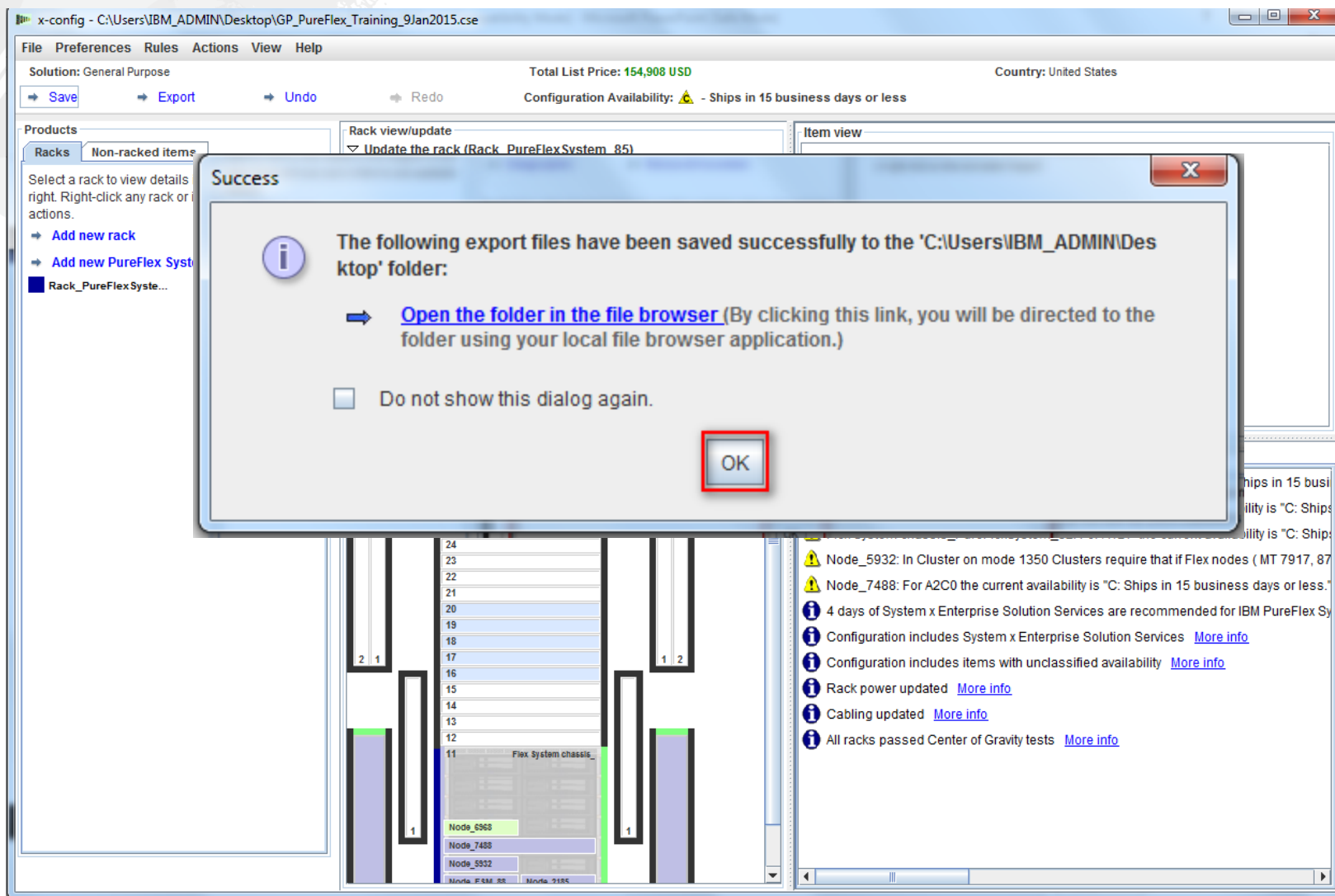
Next, a pop-up window confirms the creation of the CFReports at your selected directory. Click “OK”.



Next, a pop-up window shows that System x Enterprise Solution Services were included in the configuration, including the number of days. You can remove the System x Enterprise Solution Services during the configuration process. PureFlex configuration and deployment services are available as an integral way to help speed deployment of your PureFlex System and rapidly develop a skills base. These services are highly recommended and are available from Lenovo or your qualified Business Partner. A minimum of four Service units is recommended and additional units can be added based on your requirements.



Next, a pop-up window shows “Success” for the saved files. Like many pop-up windows you can indicate “Do not show this dialog again” by checking the box. Click “OK”.



The configuration is now complete. It has been saved and exported, and it passed SOVA. There are no red X messages to fix. You can now exit x-config.

The screenshot shows the x-config application window. The title bar reads "x-config - C:\Users\IBM_ADMIN\Desktop\GP_PureFlex_Training_9Jan2015.cse". The menu bar includes "File", "Preferences", "Rules", "Actions", "View", and "Help". The toolbar contains "Save", "Export", "Undo", and "Redo". The main interface is divided into several sections:

- Products:** A sidebar on the left with tabs for "Racks" and "Non-racked items". It contains instructions: "Select a rack to view details in the diagram to the right. Right-click any rack or item to see available actions." and buttons for "Add new rack", "Add new PureFlex System", and "Rack_PureFlexSyste..." with a quantity of 1 +/-.
- Rack view/update:** A central area titled "Update the rack (Rack_PureFlexSystem_85)". It includes buttons for "Modify quantity", "Change options", "Auto allocate", and "Remove with its contents". Below this is a diagram of a server rack with a vertical list of slots numbered 11 to 42. Some slots contain server components, and others are empty. A "Flex System chassis" is visible at the bottom of the rack.
- Item view:** A panel on the right with the instruction: "Place mouse cursor over an item to view details or right-click an item and select 'inspect'".
- Messages:** A pane at the bottom right showing a list of messages with icons (warning and information). The messages include:
 - Warning: Rack_PureFlexSystem_85: For 9363RC4 the current availability is "C: Ships in 15 busi
 - Warning: Flex System chassis_PureFlexSystem_32: For A2C0 the current availability is "C: Ships
 - Warning: Flex System chassis_PureFlexSystem_32: For A1DP the current availability is "C: Ship
 - Warning: Node_5932: In Cluster on mode 1350 Clusters require that if Flex nodes (MT 7917, 87
 - Warning: Node_7488: For A2C0 the current availability is "C: Ships in 15 business days or less."
 - Information: 4 days of System x Enterprise Solution Services are recommended for IBM PureFlex Sy
 - Information: Configuration includes System x Enterprise Solution Services [More info](#)
 - Information: Configuration includes items with unclassified availability [More info](#)
 - Information: Rack power updated [More info](#)
 - Information: Cabling updated [More info](#)
 - Information: All racks passed Center of Gravity tests [More info](#)

The “Reference” tab of the exported XLS spreadsheet lists the part number (PN), description, and prices for features included in the configuration. In Europe and Asia Pacific the XLS file is used for ordering and manufacturing, see the following slides.

GP_TMF_SEO_PureFlex_Training_9Jan2015.xls [Compatibility Mode] - Microsoft Excel (Safe Mode)

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW

Clipboard Font Alignment Number Styles

Normal Bad Good Neutral

A1

1

2 **NOTES: 1) All hardware and software list prices are for reference only and are subject to change without notice.**

3 **2) Maintenance prices shown are reference prices only and are standard level of service.**

4

PN	Description	Unit Price	Quantity	Total Price	Flag
	COUNTRY = United States			USD	
	CONFIGURATION TOTAL			154,908.00	
	Flex System chassis_PureFlexSystem_32	77,351.00	1	77,351.00	
8721HC1	IBM Flex System Enterprise Chassis Base Model	0.00	1	0.00	
A3HH	IBM Flex System Fabric CN4093 10Gb Converged Scalable Switch	20,899.00	1	20899	
A5DL	IBM SFP 1000Base-T (RJ-45) Transceiver	299.00	2	598	
5075	IBM 8Gb SFP + SW Optical Transceiver	189.00	4	756	
5053	IBM SFP+ SR Transceiver	665.00	4	2660	
A3HL	IBM Flex System Fabric CN4093 Converged Scalable Switch (Upgrade 1)	10,999.00	1	10999	
A0UE	IBM Flex System Chassis Management Module	935.00	1	935	
3803	3m Blue Cat5e Cable	25.00	4	100	
A0UC	IBM Flex System Enterprise Chassis 2500W Power Module Standard	439.00	1	439	
A0UC	IBM Flex System Enterprise Chassis 2500W Power Module Standard	439.00	1	439	
6252	2.5m, 16A/100-240V, C19 to IEC 320-C20 Rack Power Cable	19.00	4	76	
A0TW	System Documentation and Software - US English	0.00	1	0	
A0TA	IBM Flex System Enterprise Chassis	4,624.00	1	4624	

Help Reference CFR Review Diagram Messages_History PriceCalc P2P Rack A1

READY

The “CFR Review” tab of the exported XLS spreadsheet can be used to verify that all the parts needed for your solution are in the configuration. Manufacturing features are also included.

The screenshot shows an Excel spreadsheet with the following data:

MT ModelX	Feature Code	Description	Quantity
CFR_Rack_PureFlexSystem_85_1		x-config_ID: 3794297R01	
8721HC1	A1NF	IBM Flex System Console Breakout Cable	1
	A0TP	IBM Flex System Compute Node Filler	8
	A0UA	IBM Flex System Enterprise Chassis 80mm Fan Module	2
	A3HH	IBM Flex System Fabric CN4093 10Gb Converged	2
	A0UC	IBM Flex System Enterprise Chassis 2500W Power	2
	A5R8	PureFlex Foundation Minimum Configuration	1
	3802	1.5m Blue Cat5e Cable	1
	A3HL	IBM Flex System Fabric CN4093 Converged Scal	2
	5075	IBM 8Gb SFP + S/W Optical Transceiver	4
	A0TQ	IBM Flex System Switch Filler	2
	A0TA	IBM Flex System Enterprise Chassis	1
	A5DL	IBM SFP 1000Base-T (RJ-45) Transceiver	4
	5053	IBM SFP+ SR Transceiver	4
	A22T	IBM Fabric Manager Manufacturing Instruction	1
	3803	3m Blue Cat5e Cable	4
	A5RA	Transparent Mode Switch Indicator	1
	6252	2.5m, 16A/100-240V, C19 to IEC 320-C20 Rack F	4
	A0TW	System Documentation and Software - US English	1
	A0UD	IBM Flex System Enterprise Chassis 2500W Power	2
	A0UE	IBM Flex System Chassis Management Module	1
	A1DP	1m IBM QSFP+ to QSFP+ cable	1
	A2RR	IBM Flex System Management Serial Access Cab	1
	A0TU	IBM Flex System Enterprise Chassis Fan Module F	2
	A0TL	IBM Flex System Enterprise Chassis Power Modul	2
	2300	BladeCenter Chassis Configuration	1
	8971	Integrate in manufacturing	1
	A0TM	IBM Flex System Chassis Management Module	1
	A0TR	IBM Flex System Enterprise Chassis Label Group	1
	A10X	IBM Flex System Enterprise Chassis Rack Kit	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
	3202	Install in Rack location U02	1
8731AC1			1
	5420	IBM 200GB SATA 1.8" MLC SSD	2
	7860	Integrated Solid State Striping	1
	A1AU	IBM Flex System Manager Node Backplane	1

Below is a view of the “SAP Order Entry Robot” tab of the XLS spreadsheet for a configuration in the UK. This tab is used for order entry in Europe and Asia Pacific.

SAP field	Instructions/Comments for CSO	Enter value here
Mandatory fields to be completed by CSO before robot submission		
ORDER TYPE	Typical values are ZGOR, ZIBM, ZWTR	
SOLD_TO Customer		
Number	8-10 digits	
CONTRACT	8-10 digits	
PO_NUMBER	35 char max	
PO_DATE	dd/mm/yyyy	
BILL_TO	8-10 digits	
PAYER	8-10 digits	
SHIP_TO	8-10 digits	
CRAD_DATE	dd/mm/yyyy	
Mandatory fields if Contract number is not provided above		
SALES_ORG	4 digits	
DISTRIBUTION_CHANNEL	1 char	
DIVISION	2 digits	
Optional fields to be completed by CSO before robot submission. Values not provided will be defaulted or obtained from contra		
ORDER_REASON	3 digits	
SPEC_DIST_INST	CPOM # (35 Chars max)	
CONTACT_NAME	35 chars	
CONTACT_PHONE	16 chars	
Ship-to ADDRESS_NAME1	35 chars	
Ship-to ADDRESS_NAME2	35 chars	
Ship-to ADDRESS_NAME3	35 chars	
Ship-to STREET	35 chars	
Ship-to CITY	35 chars	
Ship-to Region		
Ship-to Postal Code	12 chars	
World Trade Ship-to Code	3 chars	
World Trade Bill-to Code	3 chars	
PAYMENT_METHOD	For example: "E". SAP code forces you	
SPECIAL BID APPROVAL NUMBER		

Line Item	Higher Level Line Item Tie	Material PN	Description
Order1			
10		8721FT1	IBM Flex System Enterprise Chassis
20	10	43W9065	System Documentation and Software - UK English
30	10	43W9048	IBM Flex System Enterprise Chassis Power Module Filler
40	10	81Y5286	IBM Flex System Console Breakout Cable
50	10	00D8022	IBM Fabric Manager Manufacturing Instruction
60	10	43W9060	IBM Flex System Switch Filler
70	10	39Y7916	2.5m, 16A/100-240V, C19 to IEC 320-C20 Rack Power Cable
80	10	43W9047	IBM Flex System Enterprise Chassis 2500W Power Module Standard
90	10	00JX952	IBM Flex System Management Serial Access Cable
100	10	00AE171	PureFlex Foundation Minimum Configuration
110	10	00AE175	Transparent Mode Switch Indicator
120	10	43W9053	IBM Flex System Enterprise Chassis Fan Module Filler
130	10	00D5845	IBM Flex System Fabric CN4093 Converged Scalable Switch (Upgrade 1)
140	10	44X1964	IBM 8Gb SFP + SW Optical Transceiver
150	10	00FE333	IBM SFP 1000Base-T (RJ-45) Transceiver
160	10	68Y7030	IBM Flex System Chassis Management Module
170	10	40K8785	1.5m Blue Cat5e Cable
180	10	00D5823	IBM Flex System Fabric CN4093 10Gb Converged Scalable Switch
190	10	43W9054	IBM Flex System Compute Node Filler
200	10	46C3447	IBM SFP+ SR Transceiver
210	10	49Y7890	1m IBM QSFP+ to-QSFP+ cable
220	10	40K5581	3m Blue Cat5e Cable
230	10	59Y7921	BladeCenter Chassis Configuration
240	10	25R4194	Integrate in manufacturing
250	10	43W9058	IBM Flex System Chassis Management Module
260	10	43W9061	IBM Flex System Enterprise Chassis Label Group
270	10	43W9062	IBM Flex System Enterprise Chassis Rack Kit
280	10	49Y1013	Rack Installation >1U Component
290	10	49Y1029	BladeCenter 01
300	10	49Y1050	Integrate BladeCenter in Manufacturing
310	10	49Y0990	General Racking Solution
320	10	46M2873	Rack 01
330	10	49Y2180	Rack Location L102

Below is a view of the CSV spreadsheet for the UK. The ePricer CSV file is used for pricing in Europe and Asia Pacific. When you export the configuration for Europe and Asia Pacific countries, an “SAPePricer” folder is created in your selected directory. The CSV file is in the folder.

Table Type	Part Number	Quantity	Quantity	Quantity	Requested Price
Country Code	GB				
Creation Date	9/26/2014				
Line Items					
PureFlex Foundation Minimum Configuration	00AE171	4			
Transparent Mode Switch Indicator	00AE175	1			
8GB (1x8GB 1Rx4 1.35V) PC3L-12800 CL11 ECC DDR3 1600MHz LP RDIMM	00D5037	2			
IBM Flex System Fabric CN4093 10Gb Converged Scalable Switch	00D5823	2			
IBM Flex System Fabric CN4093 Converged Scalable Switch (Upgrade 1)	00D5845	2			
IBM Fabric Manager Manufacturing Instruction	00D8022	1			
IBM SFP 1000Base-T (RJ-45) Transceiver	00FE333	4			
IBM 200GB SATA 1.8" MLC SSD	00JX128	2			
IBM Flex System Management Serial Access Cable	00JX952	1			
Intel Xeon Processor E5-2650 v2 8C 2.6GHz 20MB Cache 1866MHz 95W	00Y2801	1			
Integrate in manufacturing	25R4194	2			
2.5m 16A/100-240V C19 to IEC 320-C20 Rack Power Cable	39Y7916	2			
3m Blue Cat5e Cable	40K5581	6			
1.5m Blue Cat5e Cable	40K8785	1			
IBM Flex System Enterprise Chassis 2500W Power Module Standard	43W9047	2			
IBM Flex System Enterprise Chassis Power Module Filler	43W9048	4			
IBM Flex System Enterprise Chassis Fan Module Filler	43W9053	4			
IBM Flex System Compute Node Filler	43W9054	12			
IBM Flex System Chassis Management Module	43W9058	1			
IBM Flex System Switch Filler	43W9060	2			
IBM Flex System Enterprise Chassis Label Group	43W9061	1			
IBM Flex System Enterprise Chassis Rack Kit	43W9062	1			
System Documentation and Software - UK English	43W9065	1			
IBM 8Gb SFP + SW Optical Transceiver	44X1964	4			
IBM SFP+ SR Transceiver	46C3447	4			
Rack 01	46M2873	4			
Preload by Hardware Feature Specify	46M4992	1			
General Racking Solution	49Y0990	4			
Rack Installation >1U Component	49Y1013	1			
BladeCenter 01	49Y1029	3			
5U black plastic filler panel	49Y1039	6			
Integrate BladeCenter in Manufacturing	49Y1050	3			
Use 200V (high voltage)	49Y1056	1			



Thank you