

Equipment Install Process

This document details the VISTA Install process and the integration of the (separate) Receive process.

The Install process starts with an initial request for hardware entered by an SA. The request then flows to the data center management team for an initial review of the request. Once validated, the request flows to a site specific Hardware Validation. The request flows based on the “preferred building” specified in the install request. Once validated, the request flows to in three concurrent paths; Data Center Operations (DCOPS), Site Delivery Team (SDT), and various storage groups.

In the DCOPS workflow, one of the members of the group takes the request and assigns the physical location of the device in a cabinet or on the floor. They then assign the power and close this segment of the workflow.

In the SDT flow, the request is validated by Network Validators at that site. It may be rejected back to the SA if necessary for correction of network port information only. Once validated, the request flows to the SDTs and one of the members of the group will assign the switch port and hops for each of the connections.

In the storage flow, the storage component of the request is validated by Distributed Storage Integration and may be rejected back to the SA if necessary for correction. Once validated, the request will flow to Distributed Storage Management where they will enter the storage array for sites containing multiple storage fabrics. They may also reject the request back to the SA for correction. Then the request flows to the appropriate group at each site (may be Hardware Planning or SDTs depending on the data center) who will assign the fibre ports and hop connections.

Meanwhile, the team at each site that is responsible for receiving hardware enters in the device in the separate Receive workflow. If they know which Install request the received device matches, they can enter the name of the device when they do the receiving or by using the Update Receive workflow once the device has been received.

Once all three Install sub-flows (DCOPS, SDTs, and storage) described above are complete, the request is ready for Rack & Stack by the SDT group. If the hardware receivers have not yet aligned the receive inventory with the install request, it may be done at this time.

Once the device is racked, if there is no storage then the request returns to the SA for final validation.

If there is SAN on the request, it either flows to the SA for WWPN entry (if not previously filled in) or to Distributed Storage Management. Distributed Storage Management has a Review step where they may reject the request back to the SA or to the port provisioning step. Once reviewed, the request is delegated to the DSM member who will provision storage. The DSM Validator completes the storage workflow and sends the request back to the SA for final approval. The SA may reject the request back to DSM if there are issues with storage.

Once the SA does a final approval the data is saved in the Aperture VISTA repository and select fields are exported to the TAS repository.

If the request is for a Production or COB server then it will flow back to the SA where it will await the SA to indicate that monitoring has been activated. Then the request flows to ESS and Monitoring. At each of these steps, the request may be rejected back to the SA. Once both monitoring steps are completed, the workflow is closed.

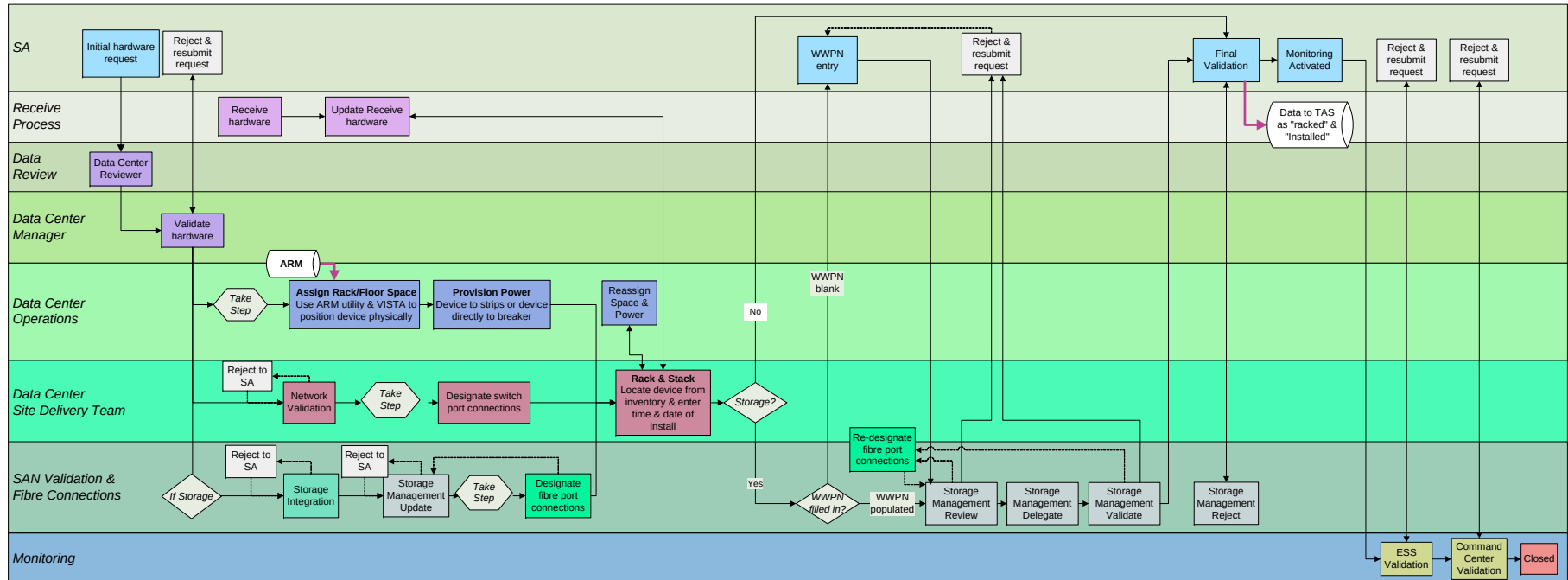


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1. Create Step

Handled by: SA

A. Main Installation Request Form

1. First enter the information in the Workflows section.
 - a. Big Iron is used to indicate workflow specific for mainframe devices only. If set to Yes then the other fields below (CitiCards, 10 Day, and Emergency) are not required. Only Mainframe, Storage, and Other type devices may be added to the request.
 - b. Install for CitiCards indicates whether the storage component of the request will flow to the CitiCards storage groups.
 - c. TCRS Yes/No is used for flagging an install in North America that is covered under the 10-day-install. Data will come from the Technology Capacity Request System.

Equipment Installation Request ?																									
Submit Request Save for Later Revert To Saved																									
Workflows Network Integration: ☐ Storage (SAN/NAS): ☐ Big Iron: No * Install For CitiCards: No * Emergency Request: No * 10 Day: No			Preferred Location * Building: --select a value-- * Floor: * Proposed Installation Date:																						
Project Information * Project Name: * Reason To Install: * Obtained By: * Obtained Detail(VR#): * PO Number: Project Comments: * Contact Name:																									
Devices <table border="1"> <thead> <tr> <th></th> <th>Manufacturer</th> <th>Model</th> <th>Platform OS</th> <th>Type</th> <th>System Name</th> </tr> </thead> <tbody> <tr> <td>Add...</td> <td colspan="5">1 Server per request Total Devices: 0</td> </tr> </tbody> </table>							Manufacturer	Model	Platform OS	Type	System Name	Add...	1 Server per request Total Devices: 0												
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Space/Power																									
Network																									
Storage																									
Supporting Documentation Attach Additional Documentation: Browse...																									

- d. Emergency Request is flag to indicate an urgent request.
2. Next, enter the fields in the Preferred Location section. Select the data center for the installation from the drop down list, the floor, and the install date from the calendar.
Note: These are preferred locations only. The data center operations team will specify the specific location in the data center.
3. In the Project Information section, specific fields for the project are entered; Project Name, Reason for Install, Project Comments, Obtained by, Obtained by detail (VR#), PO Number, and Contact Name.
4. In the Supporting Documentation section, attach any additional documents necessary for the Install.
5. Any special comments should be noted in the Comment History section at the bottom (these will be time and date stamped with each entry).

This table shows all the fields on the main install form. The items marked with an “X” in the “Repository” column will get saved to the Aperture Repository database when the work process is completed

Field Name	Required	Aperture Repository	Transfer to TAS	Notes
Mainframe/Midrange				Yes/No. Select “Yes” for an Install request specific to mainframe and storage devices
Network				Automatically filled in to create workflow to SDT groups
Storage				Automatically filled in to create workflow to storage groups
10Day	X			Yes/No
Install for CitiCards	X			Yes/No which effects SAN workflow ONLY
Emergency	X			Yes/No
Building	X		X	data center pick list
Floor	X		X	pick list
Proposed Installation Date	X			Date picker
Project Name	X	X		
Reason for Install	X			Pick list
Project Comments				
Obtained By	X	X	X	Pick List from TAS
Obtained By Detail	X	X	X	Numbers only. Not required if Obtained By=‘Other’
PO Number	X			Validation 7 digits and must start with a “1”, “2” or “3.” Not required if Obtained_by = “Redeployed”
Contact Name	X	X		

Once the main install request screen is filled in,

6. Select the Add... button in the “Device” section to add a device to this request.

Note: Each Install request may contain up to only one Server or one Frame and/or as many additional Network, Storage, NASStorage, Mainframe, HMC, or Other devices as required.

B. The Device Form

1. First specify the information in the Device Information section. Start by specifying the “System Type” as Server, Network, Frame, Storage, NASStorage, HMC, Mainframe, or Other. This field choice will dictate which fields are required in the other sections (refer to chart below).
2. Next, specify the Manufacturer and Model of the device by clicking the Locate Device Type button and search for the required device from the library.

Once the device is selected, data in the Device Specification section will be populated automatically.

3. The Name field is validated to be unique for all System Types except Other. Blank spaces are not permitted. The name must be unique as compared to
 - a. all other devices listed in Aperture inventory,
 - b. all servers in the TAS inventory (update nightly from TAS to VISTA)
 - c. Other existing workflows within Aperture VISTA that are past Hardware ValidationIf the device being named is a subsystem of a server, it should be named as the same name as the server it is connected to with a "-Sub" place after the name and a number after that if there are multiple. (Example: "Servername-Sub1", "Servername-Sub2", etc.)
4. The remaining fields in the Device Information section are similar to TAS and should be filled in when required (see chart on page 5).

This is the Device screen for the Install Request where all device specific information is entered.

EMAC Install - Device - Internet Explorer 6

Define a Device

Create Cancel

Device Information

Locate Device Type

* System Type * Manufacturer * Model * System Name

* Rack Type * Platform * OS * DMZ: ☐ Yes ☐ No

* Storage Type * Backup Type * Redundant Type * Database * CEP: ☐ Yes ☐ No

* Business Area Subsystem Type Inspection Cert. ☐

* Machine Category * Machine Type Cluster * TAS Device Type

* TCRS Cap ID * TCRS Server Req ID * Monitoring Agent * Network Owner

Device Specifications

Power Specifications			Environmental Specifications									
Volts	KVA	Amps	Temperature		Humidity		Heat Output		Dimensions			
			Min °F	Max °F	Min %	Max %	BTUs	Watts	Height (in)	Width (in)	Depth (in)	Weight (lb)

Applications

App ID	Application Name	SOX
Add... Total Applications: 0		

Support Groups

Group Type	Group Name	Primary Contact	Secondary Contact
Add... Total Support Groups: 0			

Change Tools

Change Tool ID	Change Tool
Add... Total Change Tools: 0	

Power Requirements

Special Power Needs

Network Connections

Port Type	Topology	Speed	Duplex	IP Address	Device Name	Slot	Switch Port
Add... Total Network Connections: 0							

Storage Connections (SAN/NAS)

Interface #	World Wide Port #	Space	HBA	Device Name	Slot	Switch Port
Add... Total Storage Connections: 0						

Note: If you do not add storage when you initiate your request, you will NOT be able to add storage until after the server install workflow is complete (Final Validation).

The fields on this table are collected for each device. Note that a field is set as required based on the selection of the field “System Type”. The required status is further explained on the next table.

Field Name	Transfer to TAS	Aperture Repository	Notes
System Type	X	X	Pick List from TAS (Server, Network, Frame, Storage, NASStorage, HMC, Mainframe, or Other)
Manufacturer	X	X	Automatically filled in from Locate Device Type button
Model	X	X	Automatically filled in from Locate Device Type button
System Name	X	X	Verified for unique entry against TAS & Aperture databases. No blank spaces allowed
Rack Type	X	X	Pick List from TAS
Platform	X	X	Pick List from TAS
OS	X	X	Pick List from TAS
DMZ	X	X	Yes/No
CEP	X	X	Yes/No
Storage Type	X	X	Pick List from TAS
Backup Type	X	X	Pick List from TAS
Redundant Type	X	X	Pick List from TAS
Database	X	X	Pick List from TAS
Inspection certificate	X	X	Checkbox
Business Area	X	X	Pick List from TAS
Sub System	X	X	Pick List from TAS
Machine Category	X	X	Pick List from TAS
Machine Type	X	X	Pick List from TAS
Cluster	X	X	Pick List displays only when System Type is “Server” and Machine Type is “ESX Server”
Device Type	X	X	Pick List from TAS
TCRS CAP ID		X	Data entry
TCRS Server Req ID		X	Data entry
Monitoring Agent		X	Pick List
Network Owner		X	Required for Network devices only.
<Device Specs>	Automatically filled in from Locate Device Type button with information from Aperture library		

Fields on the device form are required based on the selection of one of the values in the System Type pick list at the top left of the form. Use the table to determine whether individual fields are required based on the selection.

System Types:	HMC	Mainframe	Server	Frame	NAS Storage	Storage	Network
Field Name							
System Name	X	X	X	X	X	X	X
Building	X	X	X	X	X	X	X
Floor (assigned by DCOPs)	X	X	X	X	X	X	X
Room (assigned by DCOPs)	X	X	X	X	X	X	X
Rack Name (assigned by DCOPs)	X	X	X	X	X	X	X
TAS Device Type	X	X	X	X	X	X	X
Storage Type			X				X
Redundant Type			X				X
Machine Category	X	X	X				X
Obtained by			X				X
CSR Number (VR #)			X				X
Inspection Certificate							
Manufacturer	X	X	X	X	X	X	X
Model	X	X	X	X	X	X	X
OS			X				X
Serial Number (assigned by data center)	X	X	X	X	X	X	X
Business Area			X				X

System Types:	HMC	Mainframe	Server	Frame	NAS Storage	Storage	Network
Field Name							
Machine Type	X		X				X
Backup Type			X				X
Rack Type			X				
Receipt Date (assigned by data center)			X				
Barcode Number (assigned by data center)	X	X	X	X	X	X	X
TCRS CAP ID							
TCRS Server Req ID							
Cluster						If ESX Server	
Network Owner							X

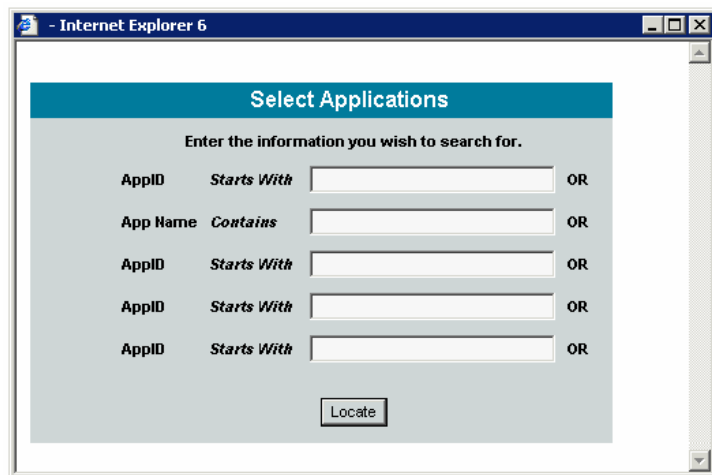
C. Applications

- Click the Add... button in the “Applications” section to specify all the applications associated with this server.

If the System Type is “Server,” then this section is required.

- Use the Select Applications screen to search all the applications that are to be added to the server. Search on multiple Application IDs or any part of the Application Name.
- Select ALL the applications that are to be added and then click “Assign Application(s)”

This table describes the field collected on the Application form.



Field Name	Required	Transfer to TAS	Aperture Repository	Notes
App ID	X	X	X	Pick List from TAS
App Name	X	X	X	Pick List from TAS
SOX Critical			X	Data provided via TAS

Only applications that have a CSI status of “P”, “D”, or “L” will be available to add. Each application can only be added to a device once.

The SOX critical field will be populated automatically. The values will be:

- B – SOX Critical as indicated by the Business Owner
- K – SOX Critical as indicated by the Business Owner and KPMG
- N – Not SOX Critical

D. Change Tool

This section is required only if one or more Applications are marked as SOX critical (“B” or “K”). However, a change tool may be added to a server even if there are no SOX critical applications selected.

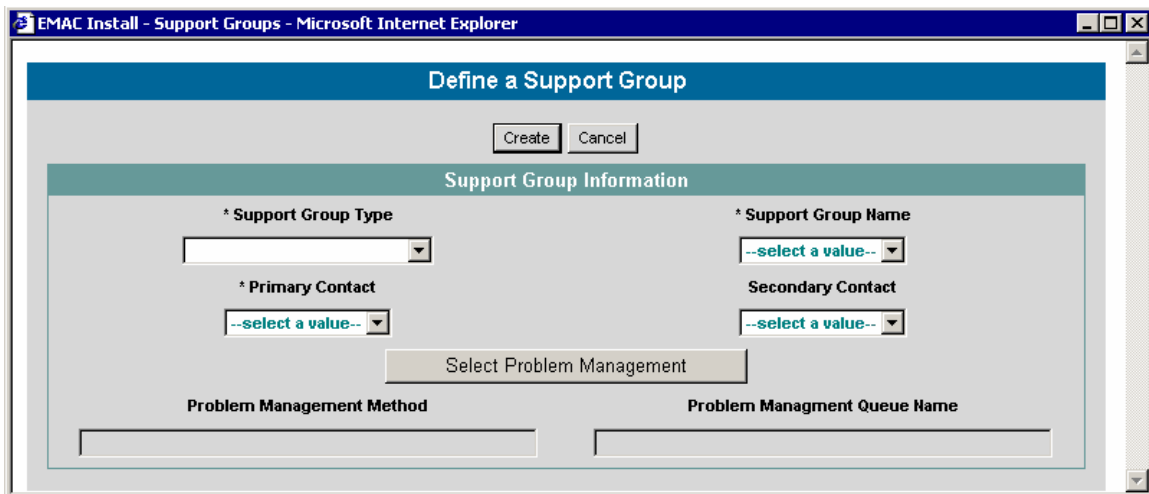
8. Click the Add... button in the “Change Tool” section to specify the change promotion tool(s) associated with this server.

The following table describes the field collected on the Change Control.

Field Name	Required	Transfer to TAS	Aperture Repository	Notes
Tool ID		X	X	Pick List from TAS
Tool Name		X	X	Pick List from TAS

E. Support Group

9. Using the Add... button in the “Support Group” section, the user will specify all the support groups associated with this server.



If the System Type is “Server,” then this section is required.

The following table describes the field collected on the Support Group form.

Field Name	Required	Transfer to TAS	Aperture Repository	Notes
Support Group Type	X	X	X	Pick List from TAS
Support Group	X	X	X	Pick List from TAS
Primary Contact	X*	X	X	Pick List from TAS
Secondary Contact		X	X	Pick List from TAS
Problem Management Method		X	X	Pick List from TAS
Queue Name		X	X	Pick List from TAS

* Primary contact not required when Support Group Type= Application, Vendor, or Monitoring

- ✓ **Data Entry Rule:** If there is at least one SOX critical application added to the server then there must be one from each of the following support group types added to the device
- Systems Support Group
 - Monitoring Group
 - OS ISA Group
 - Change Promotion Group

F. Power

The next section for “Power Requirements” is handled during a step later in the process. The requestor step can specify the Special Power Requirements. If there are any special needs for this device, that detail should be entered at this step.

10. Enter any special power requirements.

Field Name	Required	Aperture Repository	Notes
Special Power Needs		X	

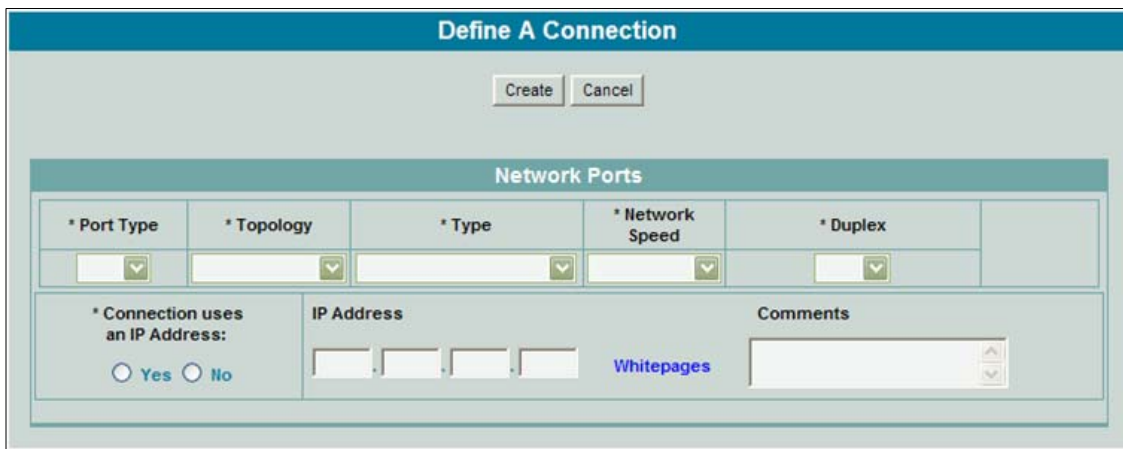
G. Network

The network connection section of the Device Install is to specify all the network connections on the device. To specify each individual connection, click the “Add...” button.

11. Enter Network Port connection information in the Define A Connection window.

Clicking on the label “Whitepages” will open a new browser window with Whitepages for reference purposes in assigning the IP address.

12. Terminal Server connections are indicated with a Port Type of CON, CN1, or CN2. If a terminal server port



is selected, all remaining fields on the form are not required and changed to read-only.

13. Repeat for each connection.

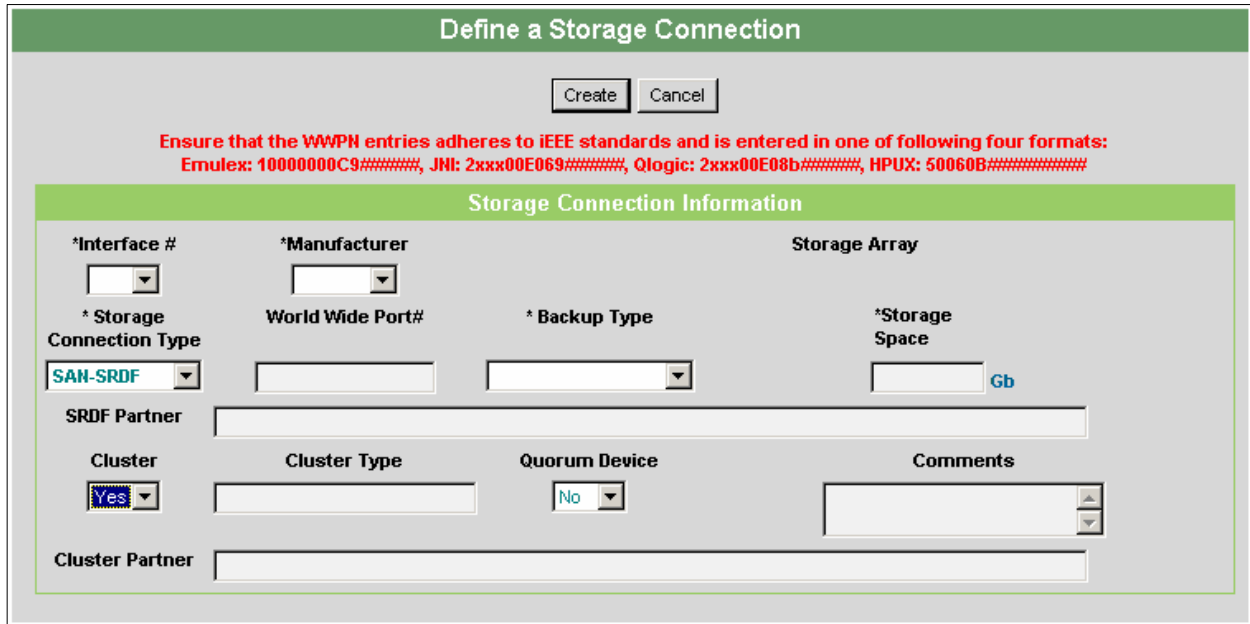
The following fields are collected on the Network form at this initial request stage.

Field Name	Required	Transfer to TAS	Aperture Repository	Notes
Port Type (name)	X	X	X	Pick list from TAS
Topology	X*	X	X	Pick list from TAS
Type	X*	X	X	Pick list from TAS
Network Speed	X*	X	X	Pick list from TAS
Duplex	X*	X	X	Pick list from TAS
IP Address	X*	X	X	Only required if yes is checked Validated for each octet 0-255
Comments				

* Note: Port Types of CON, CN1, or CN2 are terminal server ports. If any of these are selected, all remaining fields on the form are not required

H. Storage

The Storage Connection section of the Device Install form is for specifying the external storage connections. Note that the Storage Connections section is hidden when installing a frame (when the System Type ID is set to “Frame.”)



14. To specify a connection, click the “Add...” button below this section.

15. Enter each Storage Port connection using the screen displayed here. Repeat for each connection.

The form for connecting storage connections is on a per port basis. The fields to be captured on a per port basis are:

Field Name	Required	Transfer to TAS	Aperture Repository	Notes
Interface #	X	X	X	SN0-SN9
Manufacturer (card)	X		X	Pick list
Space	X		X	Number
Storage Array				Entered by Storage Management at a later step.
Storage Connection Type	X		X	Direct attach/NAS/SAN-SRDF/SAN-NSRDF
World Wide Port Number		X	X	* Data entry 16 characters required based on Manufacturer selection.
Backup Type	X		X	Pick List from TAS
SRDF Partner				Data entry for Connection Type of SAN-SRDF only
Cluster			X	Yes/no
Cluster Type			X	
Quorum Device			X	Yes/no
Cluster Partner				Data entry if Cluster="Yes"
Comment				

✓ **Data Entry Rule:** WWPN entries adhere to iEEE standards and are filtered in one of following four formats based on HBA Manufacturer:

- 10000000c9##### (Valid for Emulex)
- 2xxx00e069##### (Valid for JNI)

- 2xxx00e08b##### (Valid for Qlogic)
- 50060b##### (Valid for HPUX)

After the Storage form is complete;

16. Select “Create” at the top of the Device form to complete the installation information.

If additional devices are required for the installation, repeat these steps by adding another device to the request. Each device to be elevated or installed should be added to the request however only one server can be installed per request. If a server requested requires a direct attached external storage device, that hardware should be added as a second device on the same request.

Once all devices are added to the request

17. Click “Submit Request” to initiate the workflow.

2. Data Center Review Step

Handled by: **Data Center Review**

This step is for the data center management team to review the data entered by the SA. There is a “Take” step prior to the Review step for the individuals in this group to take ownership of the request before processing.

3. Hardware Validation Step

Handled by: **Hardware Validators** for each site

This step is for validating the hardware information. As with each of the three validation steps, there is no data entry. The Validator reviews the information. If there are changes to be made, the request is rejected back to the SA (Requestor). A window for comments will be presented and the contents of what is entered will appear in the comments section when the form is flowed back to the Requestor for re-submittal.

The Hardware Validators check for the following items:

- Assure that the device belong on the specified floor
- Assures that a valid PO number has been entered
- Assure that only one server is on the request
- Verifies that the Machine Category matches what is to be installed in that data center
- Make sure that the System Type is marked as SERVER if the device is a server

Note: The Hardware Validators may update the information in the Workflows section of the main request form only

Data Center Operations Sub-flow

4. Space Allocation Step

Handled by: **DCOPs** (Data Center Operations for each site)

Following the Validation steps is the Space Provisioning step. The step requires the use of the Aperture Repository Manager (ARM) which is a part of the Aperture Repository Administrator software installed on selected user's workstations.

1. Open the request.
2. This request will go to a "Take" step first where everyone in the group will see the request. The first person to click "TAKE" will own the request and complete this step.
3. Select the EDIT button next to the device to be elevated.

Note the manufacturer and model of the device to be elevated.

4. Launch the ARM utility from the desktop (requires client software) and use the ARM utility to place the device in the rack (there are separate instructions on the use of ARM).
5. Returning to the VISTA portal, click either the Select Space in Rack or Select Space on Floor buttons to assign the space.



The screenshot shows a web form titled "Hardware Space Provisioning" and "Construction Requirements".

Hardware Space Provisioning

Buttons: OR

Fields:

Grid Location	Rack Name	Top Rack Unit	Bottom Rack Unit
N08-7.07	N08-7.07	30.0	26.0

Construction Requirements

Tiling

Tile Cut: ☐ Yes ☐ No

Perforated Tiles: ☐ Yes ☐ No

Extra Support: ☐ Yes ☐ No

Power

New Installation: ☐ Yes ☐ No

Comments fields are present for each section.

The space information will filled in.

Other additional install information may be collected here as well. Indicate any Floor Tile information regarding cut tiles, perforated tiles, or extra support. Also specify new power that may be needed.

6. Return to the main install screen and repeat the above steps for any other devices on the request.
7. Once all devices have been provisioned, select the check box next to Space Provisioned to indicate that all devices on the request have been provisioned and submit the request.

The request will then flow to the Power & Network Allocation steps. These two steps occur simultaneously.

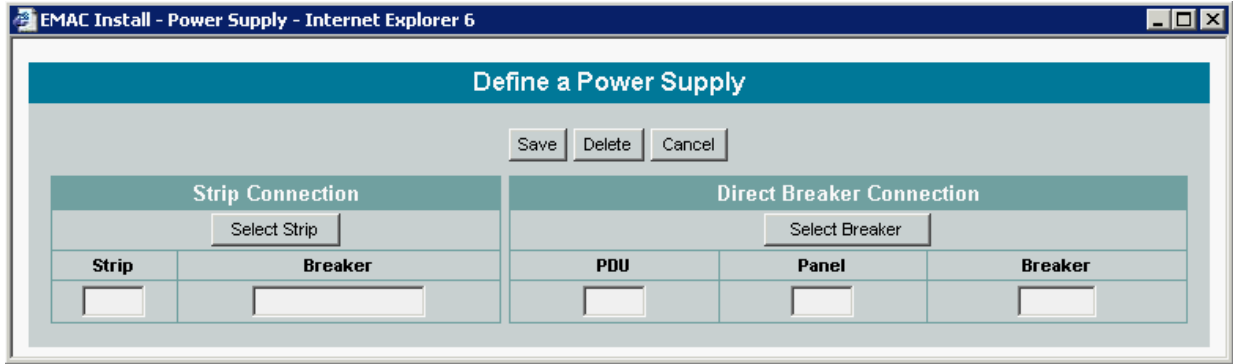
5. Power Provisioning Step

Handled by: **DCOPs** (Data Center Operations for each site)

At the Power Allocation step, the power information is specified.

1. On the main Device form, the connector type, whether or not the device is dual powered, and the number of power supplies is specified.
2. Then click Add... to connect each power supply.

Use either the left side (Strip Connection) or the right side (Direct Breaker Connection) of the “Define a Power Supply” form.



For a power strip connection:

- a) Click the “Select Strip” button to identify the power strip.
- b) From the list of power supplies in the cabinet, select the appropriate power strip.
- c) Click “Use this Strip”
- d) Click the “Create” button at the top of the Define a Power Supply form.
- e) Repeat for each power supply.

For a direct breaker connection:

- a) Click “Select Breaker” button.
- b) Enter the PDU and/or panel and/or breaker number to identify the breaker.
- c) Select the breaker from the list presented and click “Use Selected Breaker”.
- d) Click Create
- e) Repeat for each power connection.

Return to the Main Device screen and repeat for all devices on the request.

Use the “Edit” button next to each connection to make any modifications or deletes.

Note: If the space provisioning was done incorrectly at the previous step in the workflow, it may also be done at this step. The “Select Space in Rack” and “Select Space on Floor” buttons are still active at this step in the process.

Once completed:

3. Click the check box next to Provisioning Complete?
4. Select the Provisioning Complete button at the top of the form.

Network Sub-flow

6. Network Validation Step

Handled by: **SDT Validators** for each site

This step is for validating the network information. As with each of the three validation steps, there is no data entry. The Validator reviews the information. If there are changes to be made, the request is rejected back to the SA (Requestor). A window for comments will be presented and the contents of what is entered will appear in the comments section when the form is flowed back to the Requestor for re-submittal.

The Network Validators check for the following items:

- Correct number of network connections (i.e. - both ports in a teamed connection)
- Correct types of connections
- Valid segment
- Valid IP address

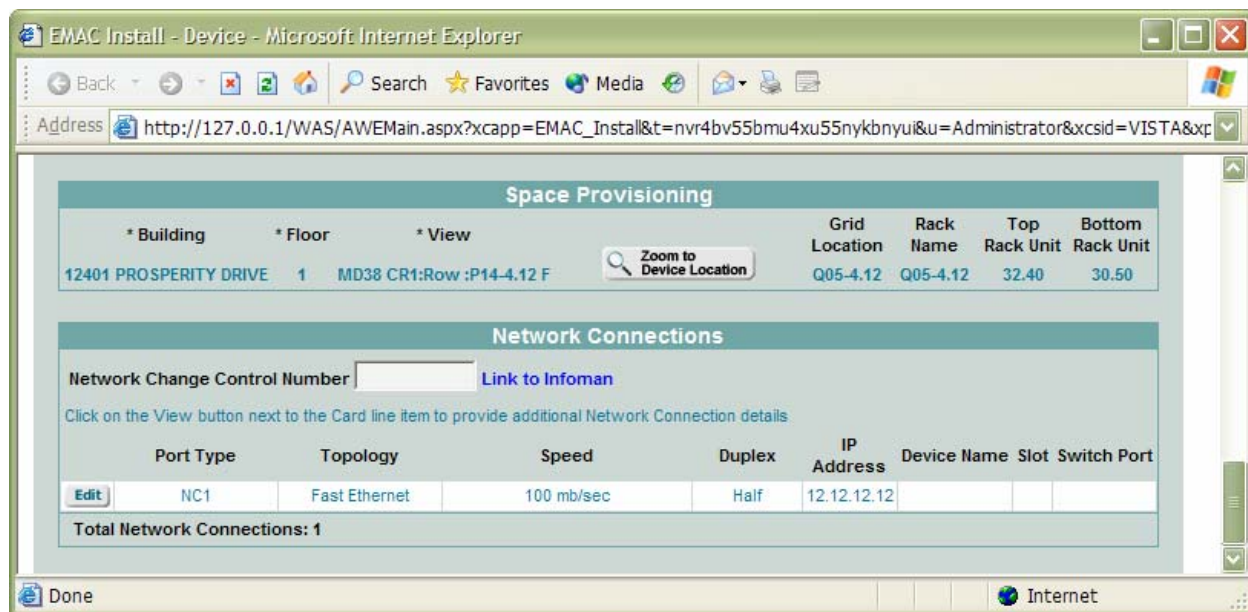
7. Network Provisioning Step

Handled by: **SDT (Site Delivery Teams)** for each site

At the Network Provisioning step, the network connection information is entered. SDTs will enter the port connection at the switch for each defined connection.

1. Open the request and click Edit next to the device to establish the network connection.

The network information will be at the bottom of the form.



The screenshot shows a web browser window titled "EMAC Install - Device - Microsoft Internet Explorer". The address bar shows a URL starting with "http://127.0.0.1/WAS/AWEMain.aspx?xcapp=EMAC_Install&t=nvr4bv55bmu4xu55nykbnuyi&u=Administrator&xcid=VISTA&xp". The main content area is divided into two sections: "Space Provisioning" and "Network Connections".

Space Provisioning

* Building	* Floor	* View	Grid Location	Rack Name	Top Rack Unit	Bottom Rack Unit
12401 PROSPERITY DRIVE	1	MD38 CR1:Row :P14-4.12 F	Q05-4.12	Q05-4.12	32.40	30.50

Network Connections

Network Change Control Number [Link to Infoman](#)

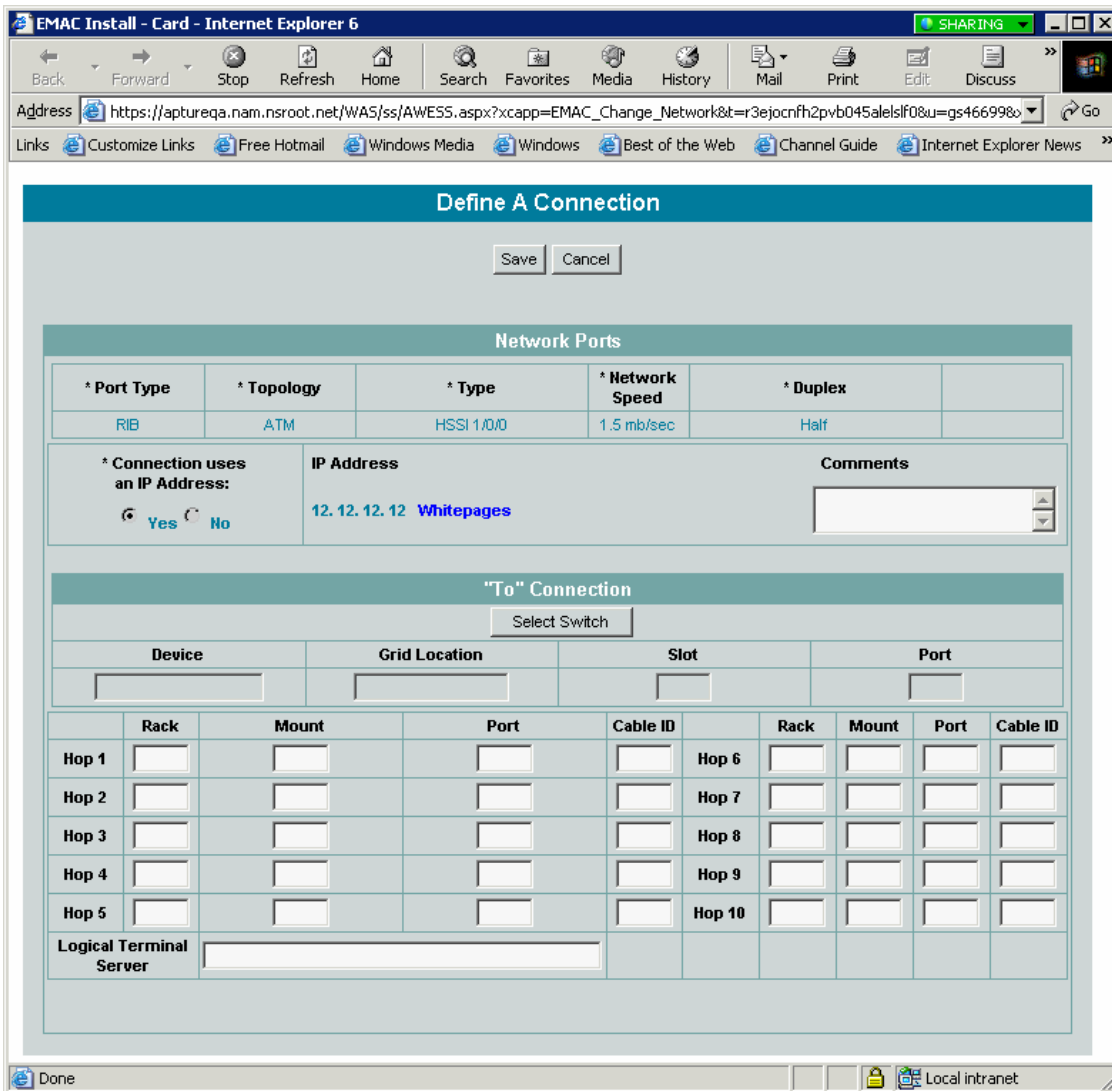
Click on the View button next to the Card line item to provide additional Network Connection details

Port Type	Topology	Speed	Duplex	IP Address	Device Name	Slot	Switch Port
Edit	NC1	Fast Ethernet	100 mb/sec	Half	12.12.12.12		

Total Network Connections: 1

2. Enter the Network Change Control Number and use the Link to Infoman as a reference if necessary.
3. Select the "Edit" button next to the first connection to be assigned.

4. Click the “Select Switch” button and search for the switch.
5. Then drill down to the slot and then the port to connect to.



The screenshot shows the 'Define A Connection' form in Internet Explorer 6. The form is titled 'Define A Connection' and has 'Save' and 'Cancel' buttons. It contains several sections:

- Network Ports**: A table with columns for Port Type, Topology, Type, Network Speed, and Duplex. The values are: RIB, ATM, HSSI 10/0, 1.5 mb/sec, Half.
- Connection uses an IP Address:** A section with a 'Yes' radio button selected and a 'No' radio button. The IP Address is 12.12.12.12 and the Comments are Whitepages.
- “To” Connection**: A section with a 'Select Switch' button and a table for Device, Grid Location, Slot, and Port.
- Hops**: A table with columns for Rack, Mount, Port, and Cable ID. It lists Hops 1 through 10.
- Logical Terminal Server**: A section with a text input field.

6. Click “Fill in Form” when the port is selected.
7. All intermediate hops are to be entered into the available spaces at the lower portion of the screen.
8. If a Terminal Server connection was specified (CON, CN1, or CN2), enter the Logical Terminal Server connection in the space provided.

Also note if the connection is a Terminal Server connection:

- a. The switch connection will be to the Patch Panel which is usually located just above or below the terminal server in the cabinet.
- b. The patch panel will need to be named the same as the Terminal Server
- c. There must be an entry for the Terminal Server in TAS. Be sure the entry in TAS is marked as a “Terminal Server” otherwise; VISTA will not validate the connection.

9. Repeat for each port on the device

Listed here are all of the fields that are editable for the Network Provisioner

Field Name	Required	Transfer to TAS	Aperture Repository	Notes
Port Type (name)	X	X	X	Pick list
Topology	X	X	X	Pick list from TAS
Type	X	X	X	Pick list from TAS
Network Speed	X	X	X	Pick list from TAS
Duplex	X	X	X	Pick list from TAS
IP Address	X	X	X	Only required if yes is checked Validated for each octet 0-255
Comments				Data entry
To Device	X		X	Selected from "Select Switch" button
To Device Location	X		X	Selected from "Select Switch" button
To Device Slot	X		X	Selected from "Select Switch" button
To Device Port	X		X	Selected from "Select Switch" button
Hop 1-10 Rack			X	Data entry
Hop 1-10 Mount			X	Data entry
Hop 1-10 Port			X	Data entry
Hop 1-10 Cable ID			X	Data entry
Terminal Port			X	4 digit number

10. Returning to the Main form, click the check box next to Provisioning Complete?

11. Select the Network Provisioned button at the top of the form.

Once both network and power are completed, the request flows on to the Rack and Stack step.

Storage Sub-flow

8. Storage Validation Step

Handled by: **Distributed Storage Integration**

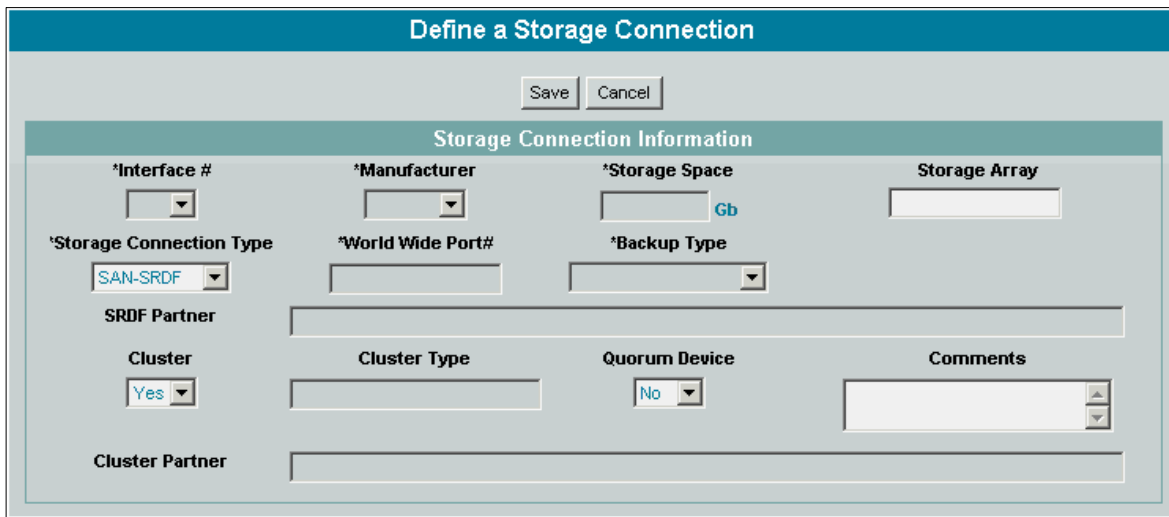
This step is for validating the storage information. As with each of the three validation steps, there is no data entry. The Validator reviews the information. If there are changes to be made, the request is rejected back to the SA (Requestor). A window for comments will be presented and the contents of what is entered will appear in the comments section when the form is flowed back to the Requestor for re-submittal.

The Storage Validators check for the following items:

- Correct number of connections
- Correct type of storage

9. Storage Management Update

Handled by: **Distributed Storage Management**



At this step, the Storage Array is indicated for the SAN connections.

1. Open the request.
2. Click "Edit" next to the device to be edited.

Select the "Edit" button next to the Storage Port to be edited."

3. Fill in the Storage Array Information.
4. Click Save at the top of the form and repeat for each storage connection
5. Click Save at the top of the device form
6. Click "Storage Management Updated" to complete this step in the process.

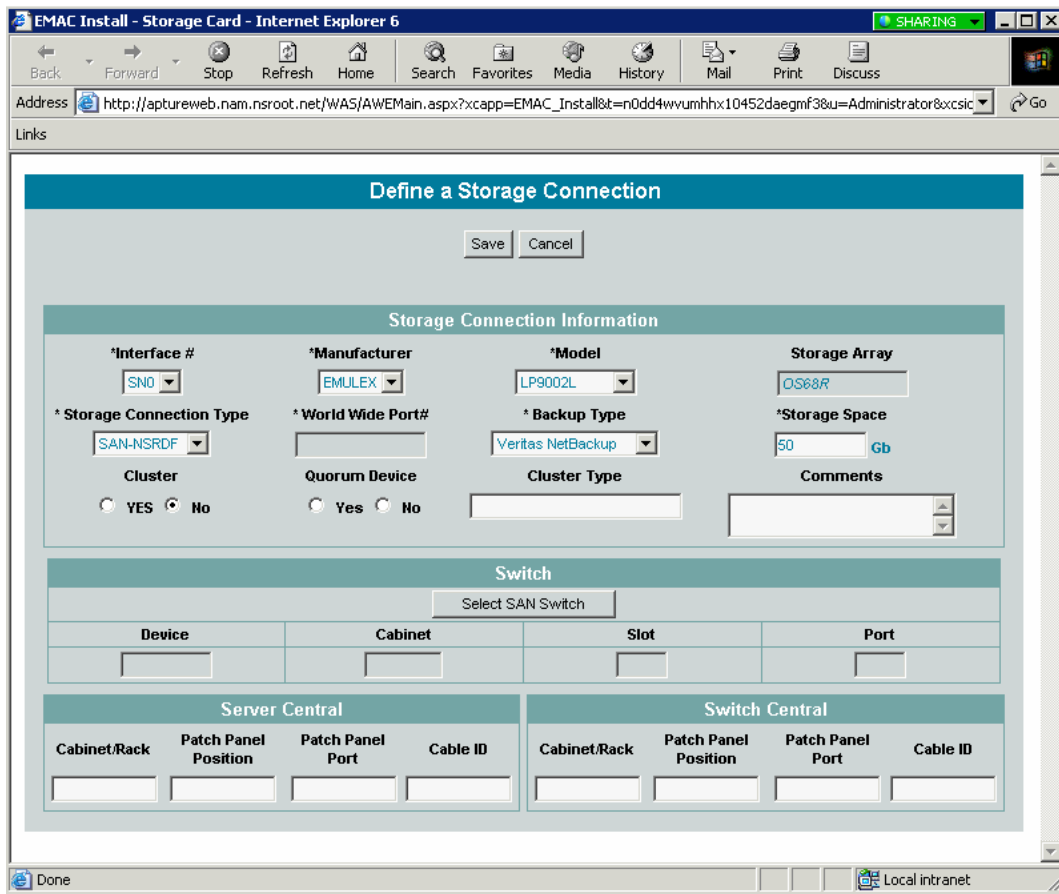
10. Designate SAN Fibre Ports

Handled by: **Hardware Planning or SDT**

At this step, the SAN Fiber ports are designated.

1. Open the request.

2. Click “Edit” next to the device to establish the connections.
3. Scroll to the Storage section of the form and click “Edit” next to the storage port to be connected.
4. Select “Select SAN Switch.”
5. Enter the name of the patch panel where the port will be connected to.
6. Select the patch panel and click the Show Port button.
7. Select the port and click Use this Port.



Define a Storage Connection

Save Cancel

Storage Connection Information

*Interface # *Manufacturer *Model Storage Array

*Storage Connection Type *World Wide Port# *Backup Type *Storage Space Gb

Cluster ☐ YES ☒ No Quorum Device ☐ Yes ☒ No Cluster Type Comments

Switch

Select SAN Switch

Device	Cabinet	Slot	Port

Server Central

Cabinet/Rack	Patch Panel Position	Patch Panel Port	Cable ID

Switch Central

Cabinet/Rack	Patch Panel Position	Patch Panel Port	Cable ID

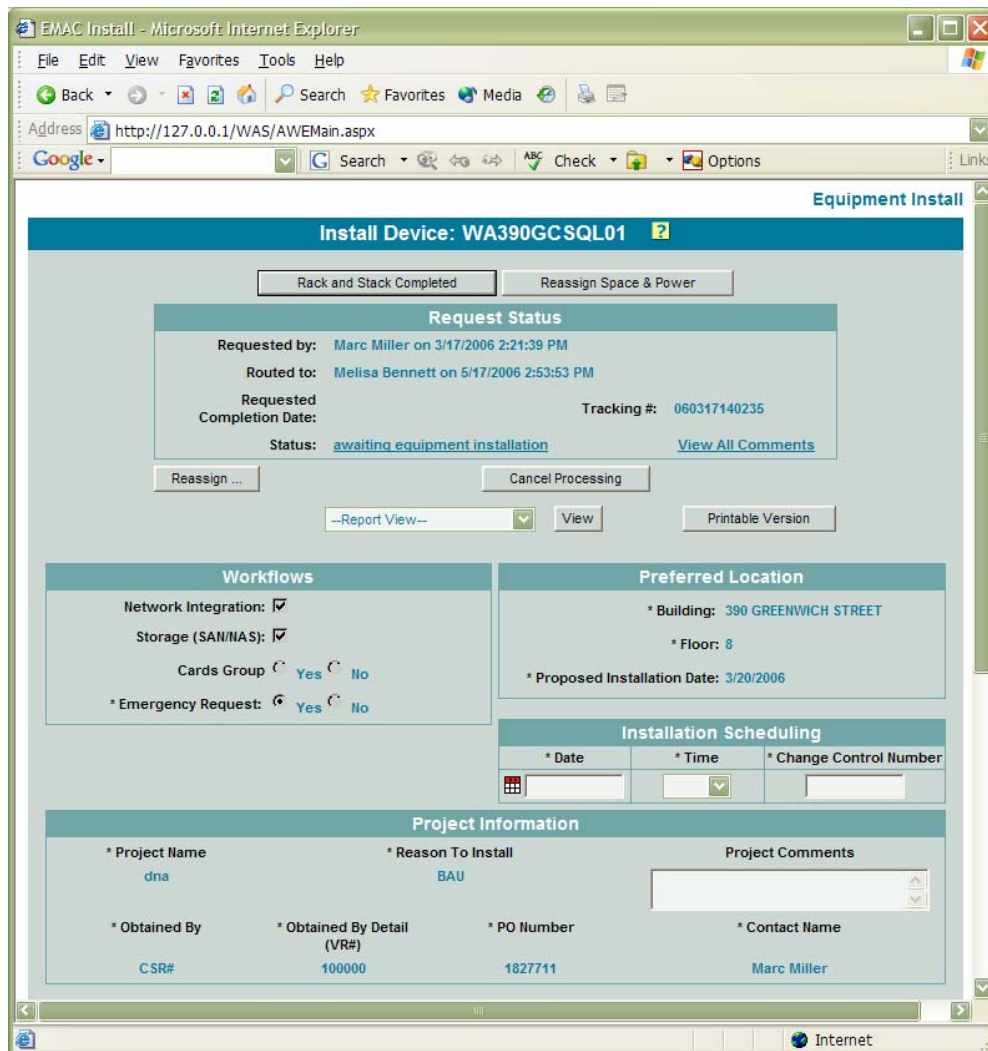
8. Fill in the Server Central and Switch Central connections.
 9. Click “Save” button at the top of the form.
- Repeat for each storage connection.
10. Once all ports are completed, click “Save” at the top of the Device form.
 11. Click “SAN Switch Port Assigned” at the top of the Main form to complete the request.

11. Rack & Stack Step

Handled by: SDT (Site Delivery Team for each site)

This request will go to a “Take” step first where everyone in the group will see the request. The first person to click “TAKE” will own the request and complete this step.

1. Click “Take” to begin processing the request. (Selecting Take will remove the request from other users in the same Org Role.



Equipment Install

Install Device: WA390GCSQL01

Rack and Stack Completed Reassign Space & Power

Request Status

Requested by: Marc Miller on 3/17/2006 2:21:39 PM
Routed to: Melisa Bennett on 5/17/2006 2:53:53 PM
Requested Completion Date: Tracking #: 060317140235
Status: [awaiting equipment installation](#) [View All Comments](#)

Reassign ... Cancel Processing

--Report View-- View Printable Version

Workflows

Network Integration: ☒
Storage (SAN/NAS): ☒
Cards Group: ☐ Yes ☐ No
* Emergency Request: ☐ Yes ☐ No

Preferred Location

* Building: 390 GREENWICH STREET
* Floor: 8
* Proposed Installation Date: 3/20/2006

Installation Scheduling

* Date	* Time	* Change Control Number

Project Information

* Project Name	* Reason To Install	Project Comments	
dna	BAU		
* Obtained By	* Obtained By Detail (VR#)	* PO Number	* Contact Name
CSR#	100000	1827711	Marc Miller

2. On the Main Request Form, the person handling this step will fill in the three fields under the heading Installation Scheduling.

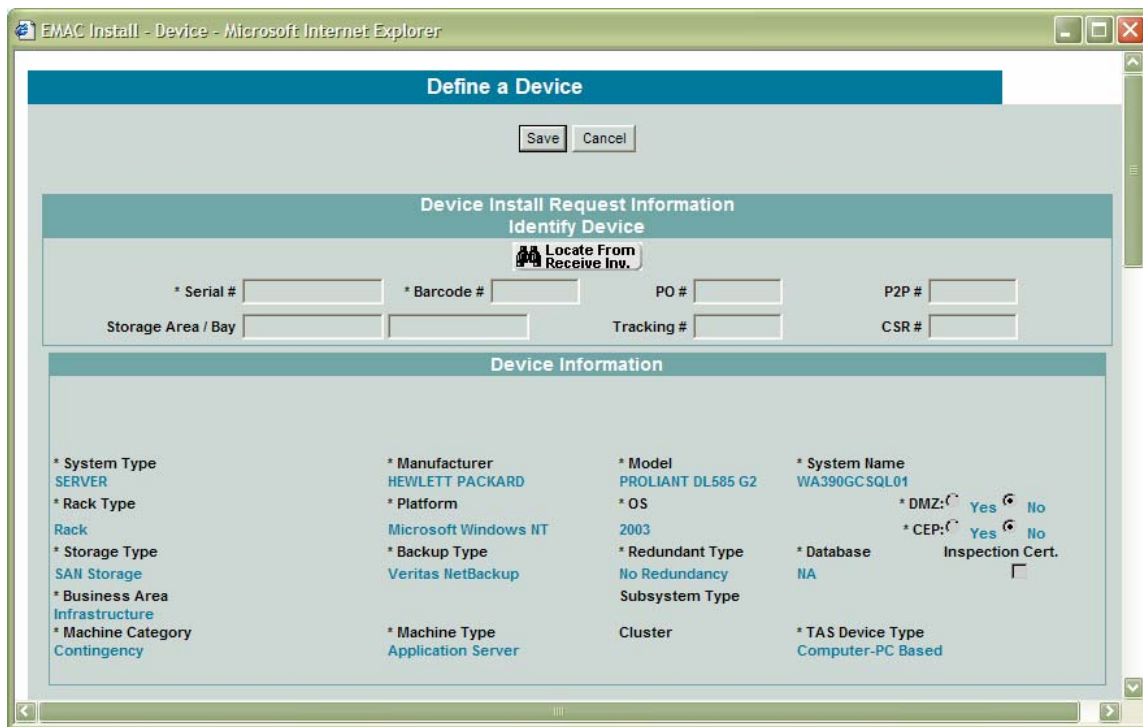
Field Name	Required	Transfer to TAS	Aperture Repository	Notes
Install Date	X		X	
Install Time	X			
Change Control Number	X			Infoman # or other change control #

Now the device needs to be matched to the Receive process.

If a received device has been matched to an Install request by matching on the device name in the Receive or Update Receive process, then these next steps can be omitted and the “Rack and Stack Completed” button can be clicked to close the request.

If the device is not yet matched (i.e.-all the information in the Identify Device section at the top of the form is blank) then the request has not been matched up to the Receipt Inventory and the following steps are required.

3. Click Edit next to the device to be received on the Main Install form



The screenshot shows a web browser window titled "EMAC Install - Device - Microsoft Internet Explorer". The main content area is titled "Define a Device" and contains a "Save" button and a "Cancel" button. Below these buttons is a section titled "Device Install Request Information" which includes a sub-section "Identify Device". In this section, there is a button labeled "Locate From Receive Inv." and several input fields: "Serial #", "Barcode #", "PO #", "P2P #", "Storage Area / Bay", "Tracking #", and "CSR #". Below the "Identify Device" section is a section titled "Device Information" which contains a table of fields. The fields are organized into four columns:

* System Type	* Manufacturer	* Model	* System Name
SERVER	HEWLETT PACKARD	PROLIANT DL585 G2	WA390GCSQL01
* Rack Type	* Platform	* OS	* DMZ: Yes No
Rack	Microsoft Windows NT	2003	* CEP: Yes No
* Storage Type	* Backup Type	* Redundant Type	* Database
SAN Storage	Veritas NetBackup	No Redundancy	NA
* Business Area		Subsystem Type	
Infrastructure			
* Machine Category	* Machine Type	Cluster	* TAS Device Type
Contingency	Application Server		Computer-PC Based

4. Select the “Locate From Receive Inv” button to locate the specific device to be used for this installation.
 5. Using the search criteria, find the device to be received from the Receive Inventory.
 6. Select the device on the list presented and click “Receive Selected Device”
- This will populate the top section of the form with data from the Receiving Workflow.
7. Next, click “Save” at the top of the form.
 8. Repeat for each device on the request.
 9. Once the data is entered, click “Rack and Stack Completed” to flow the request.

If there is no storage on the workflow, the request will next flow to Final Validate. If there is storage on the request, it will next flow to either the SA for WWPN entry or Storage Management.

12. WWPN Entry

Handled by: SA

Once the device is racked, if there is storage requested for the server and the SA had left the WWPN blank, then the request flows back to the SA who entered the request in order to enter the World Wide Port Number of the storage connections.

1. Open the request.
2. Click the “Edit” button next to the server listed in the Devices section of the form.
3. Scroll to the Storage section at the bottom of the form and click “Edit” next to the first storage port.
4. Enter the WWPN in the space provided and click “Save.”
5. Repeat for each storage port defined.
6. Click “Save” at the top of the Device form.
7. Click “WWPN Entered” at the top of the Main Request form to complete the request.

13. Storage Management Review

Handled by: Distributed Storage Management

The request is next reviewed by Storage Management. If the SA had already entered the WWPN earlier in the workflow, the request will come directly to this step following Rack & Stack.

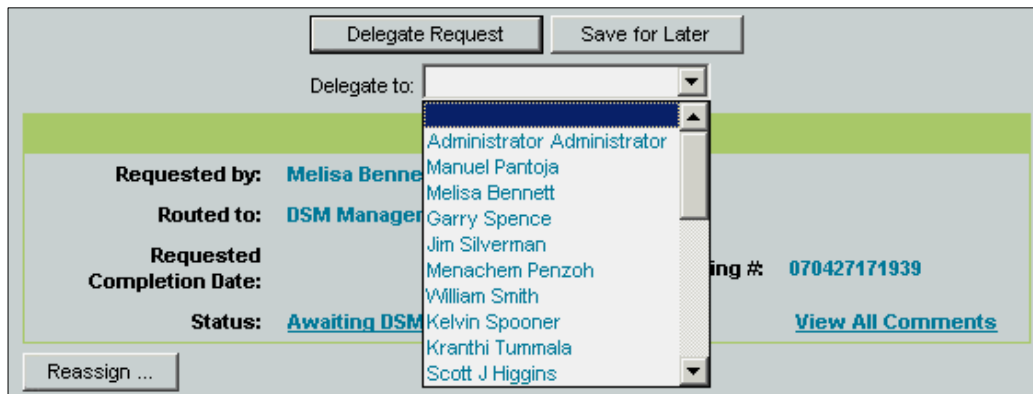
1. Open the request.
2. Click “View” next to the port in order to examine the connection data.
3. The request can be rejected back to the SA, rejected back to the data center for correction of the connection data, or passed to the next step for delegation.

14. Storage Management Delegate

Handled by: DSM Management

The request is delegated by one of the Management team from DSM.

1. Open the request.
2. Click the Delegate To: drop down menu to select a member of the DSM team.



3. Enter the “Target Date” which is the date the storage should be available to the server.
4. Click “Delegate Request”

15. Storage Management Validate

Handled by: Distributed Storage Management

The request is validated by one of the Distributed Storage Management members.

1. Open the request.
2. Click “View” next to the port in order to validate the data.
3. Then process the request:

- a. If the WWPN is incorrect, click “Reject Request” to send the request back to the SA,
- b. If the Fibre ports are incorrect, click “Reconnect Ports” to send the form back for Fibre connections,
- c. Otherwise, click “Validation Completed” to flow the request.

16. Final Validation

Handled by: SA

At this last step, the request flows back to the Requestor for final validation.

1. Open the request.
2. Click “Validation Completed” at the top of the form to complete the request.
3. Or, reject back to Storage Management to correct any issue with SAN connectivity prior to completing the workflow. DSM will return the request back to Final Validate once the SAN issue has been resolved.

Once the request is processed at this step, all information is saved immediately to the Aperture Repository and is ready for viewing or update.

Select fields are saved in separate database tables that TAS picks up in the nightly transfer process and will display in TAS the next day.

The request is now closed or if the request is for a Production or COB Server then the workflow continues for the monitoring groups.

Conditional Monitoring Steps

NOTE: If the Install request is for Server and the Machine Type is specified as either Production or COB then the request will flow on for these additional steps. If the request is not for a Production or COB Server then the request will close after the Final Validation step.

17. Monitoring Activated

Handled by: SA

The request returns to the SA’s Request List where it will remain until the server is ready for monitoring. The SA will process the request which will alert the ESS team the server is ready.

1. Click “Monitoring Activated”.

18. ESS Validation

Handled by: ESS

The request flows to the ESS group to alert them that the server is ready for monitoring. ESS can either process the request or reject the record back to the SA if there is any issue. Data cannot be edited in the request at this or the reject to SA step.

1. Click “ESS Validated” or “Reject to SA”.

19. Command Center Validation

Handled by: Command Center

The request flows to the Command Center to alert them that the server is ready for monitoring. They can either process the request or reject the record back to the SA if there is any issue. Data cannot be edited in the request at this or the reject to SA step.

1. Click “Command Center Validated” or “Reject to SA”.