



CG Infrastructure Isolation Project Server Provisioning Documentation

This document is in a high state of flux at this time. Some parts have been reviewed and a walkthrough done and other parts have changed in the last 48 hours and we haven't had time to review all of it before presenting it to the team.

Note: For any changes to this document email your comments/suggestions to:

Lin Laurie (in all cases)

And add the appropriate SME:

- **Vinay (Bare Metal and Big Data)**
- **Jason (VM)**
- **David (TTO)**

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OVERVIEW

The purpose of the project is to create a sub-data center for TurboTax so as to minimize tax season operational impacts to other applications. By isolating the TurboTax infrastructure from the impact of other applications and vice versa we are shielding TurboTax within its own data center. The scope of this project includes:

- CTG
- CTO
- EBS

Here is the server breakdown by data center:

	QDC-B	QDC-E	LVDC-A	LVDC-B
TurboTax Online (TTO)	PERF	PROD	PERF	PROD
My TurboTax (MyTT)	NA	PROD	NA	PROD
Service Platform (SP)	NA	PROD	NA	PROD
Data Platform (DP)	NA	PROD	NA	PROD

Notes:

- Previous year data will stay with existing system in QDC-C.
- Splunk and Wily monitoring included for TTO, MTT, and CFP.

SERVER TYPES

You will be setting up the following types of servers:

	Web	App	Database
TurboTax Online (TTO)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
My TurboTax (MyTT)	<input checked="" type="checkbox"/>		
Service Platform (SP)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Data Platform (DP)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

TERMINOLOGY

Sometimes the language concerning building servers can be confusing. So for the purpose of being on the same page, in this documentation we are using the following terminology to have the defined meaning listed below:

OS Deployment

This term refers to the parts of the process including:

- Building the Opware QuickBase server record that generates the change request and the initial auto-provisioning that occurs when you receive a message stating that the Provisioning was successful.
- The Provisioning the Server process where you log into the DRAC and perform the PXE boot.
- Switching Ports to VLAN using NetGenie (also known as “flipping the ports”).
- Post Provisioning – This includes running scripts. For TurboTax Online (TTO) BMs, there will be additional specific Post Provisioning processes that will be handed off to David Foster so he can perform additional tasks to build servers needed by TTO.

Build Complete, Built, or Other Terms

Any of these terms will imply that the provisioning process is complete and servers are ready for handoff to the Apps group for additional work.

Once all of these processes have been completed, we can call the server as being BUILD COMPLETE.

BEFORE YOU BEGIN

You should have checked your access to the QuickBases and tools we will be using prior to reading this document (see the Welcome email from Lin Laurie).

Note: See the Welcome Letter for additional information about gaining access to a specific tool.

QuickBase Access

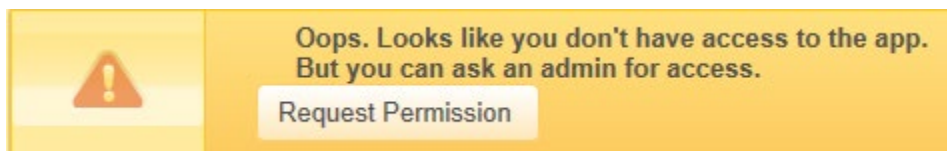
You will need to request read/write access to the following QuickBases:

- Isolation Server Build QuickBase – Owned by Terry Barker
<https://intuitcorp.quickbase.com/db/bi45ifbmw>
- Opsware Implementation QuickBase - Owned by Matt Bowdin
<https://intuitcorp.quickbase.com/db/bd7ca9pmw?a=td>

You will need to request read access to the following QuickBases:

- QDC Rack Planning QuickBase - Owned by Nathan Wells
<https://intuitcorp.quickbase.com/db/bdu6yewfb>
- LVDC Rack Planning QuickBase – Owned by Mattlo (unknown)
<https://intuitcorp.quickbase.com/db/bfd92yeev>

You can request access via the QuickBase interface by right-clicking on the Request Permission button.



However, if you don't gain access within 24 hours, send an email directly to the owners of each QuickBase requesting access directly and also explain why you need access. If there is no owner specified, notify your manager immediately and ask for access via email.

OBTAINING INFORMATION NEEDED TO BUILD SERVERS

You will be assigned a list of servers to you are responsible for building. This will likely be in the form of an electronic build list that will either be a spreadsheet or may link you to a QuickBase that is sorted by assignment name. We are working out these details.

If the information you need is not contained in the Build List or in the Isolation Server Build QuickBase, you may have to perform some manual tasks to round up all the information you will need to begin the New Server Build Process. You will need to obtain the details that will become part of the servers. This manual process is documented in Appendix A. This process is only a backup process to be used if the information you need isn't found in the [Isolation Server Build QuickBase](#).

Note: This document is a work in progress. The VM build information will not be available until after 8/18/14.

OVERVIEW OF THE OS DEPLOYMENT PROCESS

For a general overview of the process, see page XXX

SPECIFIC OS DEPLOYMENT EXAMPLES BY SERVER TYPE

Bare Metal: For specific information about how to build a Bare Metal server, see page xxx.

Big Data: For specific information about how to build a Big Data server, see page xxx.

VMs: For specific information about how to build a VM server, see [Building VMs](#). (Will not be available until after 8/18).

Manual Build Instructions: For specific information about how to do a manual build the Opsware Implementation QuickBase record (needed to begin the OS Deployment process, see [Appendix A - Manually Collecting Information Used in Provisioning](#)). Use this process if the data is not available in the Isolation Build Data QuickBase and you need to gather the needed information before you can create the record needed in the Opsware Implementation QuickBase.

OS DEPLOYMENT FOR BIG DATA SERVERS

Once you receive an Excel spreadsheet (the Build Sheet) indicating what servers you are assigned to build, you will have the actual server details so you can begin to deploy the OS for the servers. Each OS Deployment will take approximately 45 minutes to complete. Your OS Deployment should complete successfully if you have all the information you need AND the server passes the review process that occurs after you add the Change Request record to the Service-Now database for approval.

If you do not have a populated Build Sheet and you need to retrieve some of the information needed before you can start updating the Opsware Implementation QuickBase see [Appendix A - Manually Collecting Information Used in Provisioning](#).

UPDATING OPSWARE IMPLEMENTATION QUICKBASE OVERVIEW

After you receive the information you need to begin the OS Deployment process (either by the Build Sheet or by manually obtaining it, you will open the Opsware Implementation QuickBase, use an existing server record to base the creation of a new server record on (by copying an existing one, and then adding or changing the information that will be different for the server we're currently provisioning). After modifying the Opsware Implementation QuickBase record, you will save it so that it will be assigned an Asset record, and then edit the same record to add some additional information.

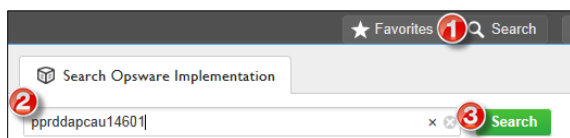
Duplicating Server Records vs. Starting From Scratch

You could create a new server record from scratch, but if you did this you would have to populate a lot of information that when you copy an existing server record will be duplicated, saving you a lot of work. For each server you add, you will be adding two records to the Opsware QuickBase because you are creating a server record for the primary and secondary MAC addresses.

Note: You want to make sure you've opened an existing server record similar to the type you want to create before you copy the record and start modifying it. Not all server records are alike.

To Copy and Modify an Existing Opsware Implementation QuickBase Server Record

1. Open the Opsware Implementation QuickBase.
<https://intuitcorp.quickbase.com/db/bd7ca9pmw?a=td>
2. Click Search, and enter the Host Name for the type of a server that is similar to the one you're are building.



10.168.75.7 pppdubdds405.corp.intuit.net. Vlan 492,882 CR CHG0035042
 10.176.78.98 pppdubdds405s.corp.intuit.net
 A316919 10.172.54.187
 B8:2A:72:D3:E9:23 B8:2A:72:D3:E9:25
 AC25-ts9-c1-las-112,01,27 AC26-ts9-c1-las-112,01,27

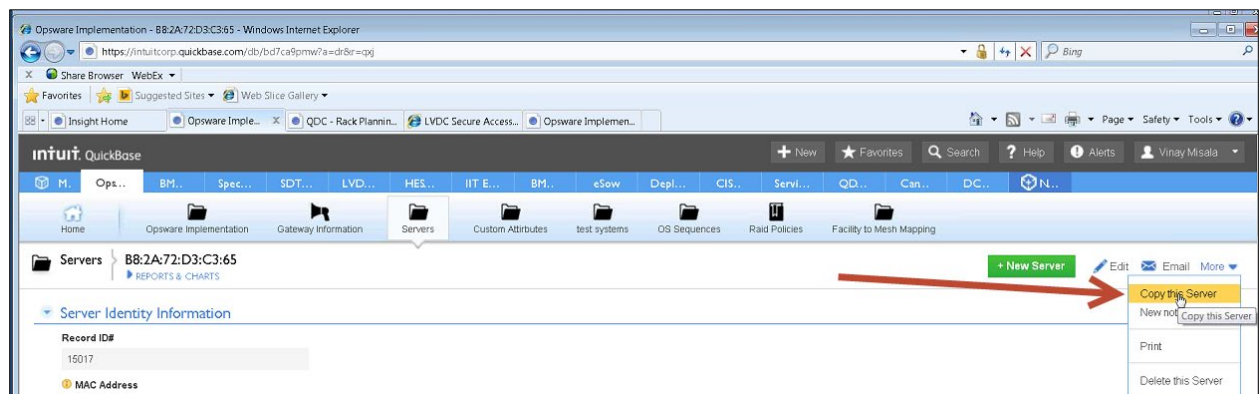
10.168.75.2 pppdubdds400.corp.intuit.net.
 10.176.78.93 pppdubdds400s.corp.intuit.net
 A316920 10.172.54.186
 B8:2A:72:D7:65:B7 B8:2A:72:D7:65:B9
 AC25-ts9-c1-las-112,01,28 AC26-ts9-c1-las-112,01,28

10.168.75.3 pppdubdds401.corp.intuit.net.
 10.176.78.94 pppdubdds401s.corp.intuit.net
 A316920 10.172.54.185
 B8:2A:72:D7:63:BF B8:2A:72:D7:63:C1
 AC25-ts9-c1-las-112,01,29 AC26-ts9-c1-las-112,01,29

<<I used this information to provide the host info and want to keep this until after the walkthrough. Then I will remove the screenshot above. >>

Server Type	Host Name
Big Data	ppdubdds400
Big Data	ppdubdds401
Big Data	ppdubdds405
Bare Metal	pprddapcau14601
VMs	TBD after 8/18.

- From the More drop-down list, select Copy this Server.



- From the Build Sheet, copy and paste the Server Name into the Opware Implementation QuickBase, and then copy and paste the primary MAC address into the MAC Address field.

<<Need to add a picture of the Build Sheet here. >>

Server Identity Information

Record ID#

MAC Address *

B8:2A:72:D7:42:08

Server Name *

pppdubdsn300

DNS Domain

corp.intuit.net

- Next scroll down to the HPSA Environment and select the items from the drop-down list. Look at your Build Sheet to determine what to select for the server record you want to generate. This selection should correspond with the Data Center environment where you are setting up the servers.

HPSA Environment

Mesh *

QCY 9.1 Mesh

Facility *

Quincy Zone C - Payload Tier NON-PHAROS - qcydc3

VLAN

841

For Bare Metal select Non-Pharos and for VM select Pharos. The VLAN information is part of the Facility selection and will auto-populate.

Note: Remember to select the correct facility and Mesh to correspond to the correct data center. Select according to the data center and type of server you are provisioning (e.g., Bare Metal or VM).

Mesh	Facility	VLAN	Comments
QCY 9.1 Mesh	Quincy Zone C Non-PHAROS	Auto-linked to Provisioning VLAN	Use for Bare Metal
QCY 9.1 Mesh	Quincy Pharos	Auto-linked to Provisioning VLAN	Use for VM
LVDC 9.1 Mesh	LVDC Non-PHAROS	Auto-linked to Provisioning VLAN	Use for Bare Metal
LVDC 9.1 Mesh	Pharos	Auto-linked to Provisioning VLAN	Use for VM

<<Was going to give a list of these but I think it can come out or just be used if the information doesn't appear in the Build Sheet. Need to verify.>>

- Scroll down to the OS Information section and select Linux as the Operating System. You can look at the Build Sheet to verify the server OS and the OS Sequence. In this example we are running Red Hat 6 so your OS Sequence would correspond to that.

OS Information

Operating System * Linux

OS Sequence * bl-rhel6u5-1.0.x86_64

Mesh/OS/Status QCY 9.1 Mesh-Linux-Enabled

OS Sequence ID 3010601

[Provisioning VLAN Information](#)

[Baseline Info and Release Notes](#)

Note: Be careful to select the one that matches the Build Sheet. For Linux you always want to select the latest version but it should show up as the latest on your Build Sheet.

Your other selections will default once you've entered the Operating System and OS Sequence.

7. Scroll down to Delayed Provisioning and clear the check box from the Ready to Provision field before proceeding any further. **Do Not Skip This Step!**

Note: If you do not clear this check box and you save the record, it will create the change request and you will have to update the change request record. We do not want you to do that.

Delayed Provisioning

☒ Ready to Provision ⓘ ☐ Processed ⓘ

8. Scroll down to the Server Ownership Information section and enter the Requestor name (your own name), and select the Customer from the drop-down list.

Note: The customer is always going to be IIT-OEI for this project.

Server Ownership Information

Requester * Vinay Misala

Customer * IIT-OEI

9. Scroll down to the Disk Configuration Linux section (if you set up a Linux server) and verify that the options are correct. You can check this against your Build Sheet to make sure the options match the requesting record. In some cases you may be setting up Windows machines so verify that you have the correct field values by reviewing the Build Sheet.

Note: The Disk Configuration information is copied to the new record when you selected the copy a server record earlier in the process. **You want to make sure that this information is valid for the server you are currently creating.**

Disk Configuration Linux

[Linux Provisioning Guide](#)

Disk Type sda

Boot (/boot) partition size * 256

Root (/) partition size * 0 - Rest of Disk

Swap partition size * Automatic

Use the fields below to create user defined partitions. Note if you set the root partition to "Rest of Disk" then you can not create extra partitions

☐ Create /var Linux Partition

☐ Create Extra Linux Partition 1

☐ Create Extra Linux Partition 2

10. Scroll down to the Networking Address section. Select the option that corresponds to the type of server you are setting up.

- DHCP – Do not use.
- Bonding – Select when you are setting up a Big Data server.
- Static – Select when you are setting up a Bare Metal server. When you select Static the Bonding configuration information in the QuickBase will not be available to change/configure. (If you are setting up a Windows server you will select Static and will not have to add bonding information.)

Network Addressing

Network Addressing *

Bonding

11. Scroll down to the IP Configuration section and check for the correct information in your Build Sheet. You will want to copy and paste the Primary IP address from the Build Sheet to make sure it is entered accurately. This information will have come from the server record you copied and you will want to make changes to this section.

IP Configuration

Primary IP Address * 10.145.74.175

Primary Subnet Mask * 255.255.254.0

Primary Gateway * 10.145.74.1

DNS 1 * 10.153.130.253

DNS 2 10.153.130.254

NTP Server 10.153.130.253

NTP Server 2 10.153.130.254

ETH0 - Speed * AUTO/AUTO

HTTP Proxy Server

HTTP Proxy Server Port

HTTP Proxy Server Excludes

Mail Gateway

This is a replacement screen shot (below) from AMY TAM. Before I remove I want to go through the walkthrough to see if this example works for both BM and BD builds.

IP Configuration

Primary IP Address* 10.145.74.175 Primary Subnet Mask* 255.255.254.0 Primary Gateway* 10.145.74.1

DNS 1* 10.154.130.16 DNS 2* 10.153.0.16 NTP Server* 10.154.130.16 NTP Server 2 10.153.0.16

ETH0 - Speed* AUTO/AUTO

HTTP Proxy Server HTTP Proxy Server Port HTTP Proxy Server Excludes

Mail Gateway

Note: Review the Primary IP Address in the Opware Implementation QuickBase and then retrieve the correct Primary Subnet Mask and Primary Gateway so you have the correct options.

FOR BIG DATA EXCLUSIVELY (DO BONDING)

If you are provisioning a Bare Metal server, see [For Bare Metal Server Provisioning](#).

12. Scroll down to Bonding and verify that it is checked IF you are creating a bonded server.

Bonding

☒ Bond 0 Configuration

13. Scroll down to Bond 0 to configure the Bonding. Look at your Build sheet to get the Linux Bond0 options. Copy and paste them into the current record's Linux Bond0 options field.

Bond 0

Mode* 802.3ad Linux Bond0 Options

Linux Bond0 Preview

Bond Interface 1*

When you paste the data into this field, it will auto-populate the Linux Bond0 Preview field below. Then you will have to clear the description from the Linux Bond0 Options field.

When you first enter text in this field, it generates the text twice and you have to remove the text so that the field only displays it one time. You cannot edit the preview field to remove the double entry. You can only clear it from the Linux Bond0 Options field to clear it from the Preview field.

Bond 0

Mode* 802.3ad

Linux Bond0 Options BONDING_OPTS=*mode=802.3ad *

Linux Bond0 Preview
 BONDING_OPTS=*mode=802.3ad BONDING_OPTS=*mode=802.3ad **

Remove the description from the Linux Bond0 Options field so it only shows in the preview one time. Your final entry should resemble the example below.

Bond 0

Mode* 802.3ad

Linux Bond0 Options

Linux Bond0 Preview
 BONDING_OPTS=*mode=802.3ad *

Bond Interface 1* eth0

Interface 1 MAC* B8:2A:72:D2:40:88

Interface 1 Switchport 21-compute-c-qcy-111,01,15

Bond Interface 2* eth1

Interface 2 MAC* B8:2A:72:D2:40:8A

Interface 2 Switchport 2-compute-c-qcy-111,01,15

VLAN Tagging VLAN ID 292

Note: The Bond Interface settings will be:

- Whatever the values are showing in the Primary Mac and Primary Switchport from the Build Sheet will go in these fields.
- Use the Secondary MAC and Secondary Switchport information in your Build Sheet to enter the Interface 2 Information.

<<If you have a PCI interface - We need to work out how the PCI 1 and 2 and which ethx options to select. >>

14. Verify the VLAN, IP Address, and Default Gateway against your Build Sheet.

15. Go to [For Both Bare Metal and Big Data OS Deployments](#) to complete the process.

FOR BARE METAL SERVER PROVISIONING

1. Scroll down to Hardware Raid Configuration if you are building a RAID-enabled server.
2. Look at the Build Sheet to find the Raid Policy Name and select the one that matches your sheet.

Note: We are using RAID for our Big Data servers.

Ex: for Cassandra servers select Dell PERC H710P - 2 Logical Drives (2 Disks RAID 1, 8 Disks RAID 1+0) - 208210601

3.

Dell PERC H710P - 2 Logical Drives (2 Disks RAID 1, 8 Disks RAID 6) - 221710801
 Dell PERC H710P - 9 Logical Drives (2 Disks RAID1 and 8, 1 Disk RAID0) - 221720801
 Dell PERC H810 - 1 Logical Drive (22 Disks, 2 Hot Spare, RAID 1+0) - 174310801
 HP DL170 - 1 Logical Volumes (2 disk, raid 1+0) - 35440801
 HP DL170 - 11 Logical Volumes (2 disk, raid 1+0 and 10, 1 disk raid0) - 35450801
 HP DL170 - 2 Logical Volumes (2 disk raid 1+0 and 10 disk raid 1+0) - 35430801
 N/A -

Hardware Raid Configuration

Raid Policy Name Dell PERC H710P - 2 Logical Drives (2 Disks RAID 1, 8 Disks RAID 1+0) - 208210801

Raid Policy ID 208210801

Raid policy - HPSA Mesh QCY 9.1 Mesh

Raid Policy Description Logical Volume 1:
2 Disks, RAID 1 for OS
Logical Volume 2:
8 Disks, RAID 1+0 for Data

FOR BOTH BARE METAL AND BIG DATA OS DEPLOYMENTS

1. Click Save to auto-generate the server Record ID.

Note: Remember that earlier we unchecked the Ready to Provision checkbox so that when we do this save, we can get this information without generating a change request record. If you scroll to the top of the QuickBase record you'll see that you don't have a Record ID and it isn't generated until now.

Servers | **Add Server** | **REPORTS & CHARTS**

Server Identity Information

Record ID# [Yellow box]

MAC Address * B8:2A:72:D2:40:88

Server Name * pppdubdsn301

DNS Domain corp.intuit.net

This information will not be generated until we Save.

2. Once you save and the Record ID is saved, click Edit to complete the remainder of the Opsware Implementation QuickBase work.
3. <<Missing a screenshot as I don't have any Editing rights.>>
4. Scroll up to the top of the QuickBase and copy the newly assigned Asset Number from the top.
5. Scroll down to the Advanced section. Highlight the existing record ID and paste the one you saved into the field to replace it with the new ID.

Advanced

Adhoc Custom Attributes

DO_NETPROV=No,QB_TABLEID=bd7ca9pmw,CR_NUMBER=184414,QB_RECID=15018,SWITCH1='AC21-compute-c-qcy-111/01/12',SWITCH2='AC22-compute-c-qcy-111/01/12'

- Replace the Switch Port information in this field with the new Switch Port information that you earlier added to the Bond 0 section above. Make sure you select the right data for each Switch Port and replace the commas with backslashes.

Advanced

Adhoc Custom Attributes

DO_NETPROV=No,QB_TABLEID=bd7ca9pmw,CR_NUMBER=184414,QB_RECID=15018,SWITCH1=AC21-compute-c-qcy-111/01/15,SWITCH2='AC22-compute-c-qcy-111/01/15'

Your example should look like the highlighted information above.

Note: Make sure that you don't erase any of the other syntax while you copy and paste to create the correct entries for this section. You need end quotes after each Switch Port's data.

- Return to the Delayed Provisioning section and check Ready to Provision.

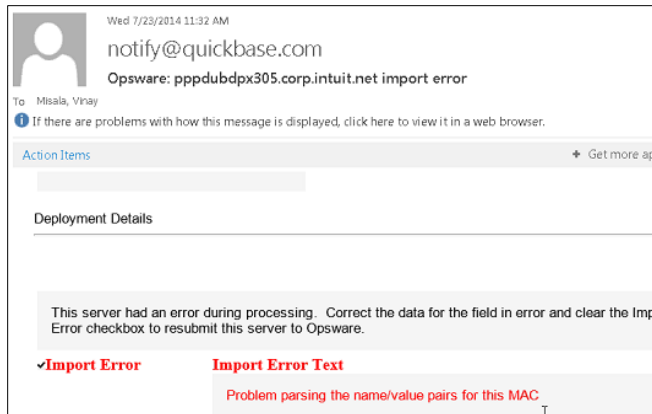
Delayed Provisioning

☒ Ready to Provision ☐ Processed

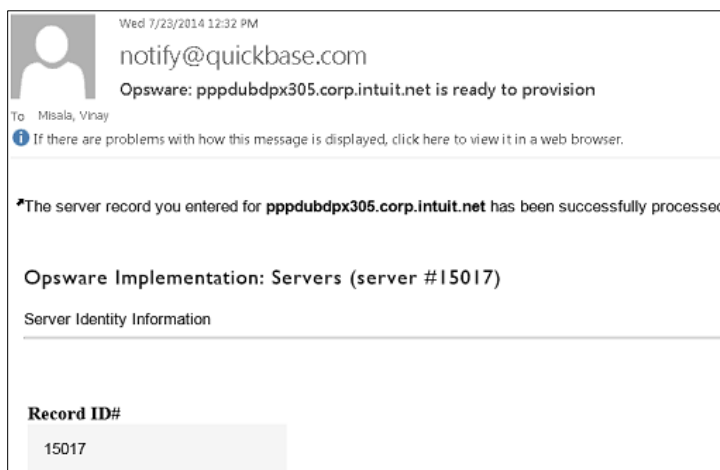
- Click Save to generate the Change Request record. You will get a QuickBase message stating the server is saved.



Note: If you miss something while entering the Adhoc data or made any other mistakes, you will receive an email like the following and will have to verify all your entries to fix the error and resubmit the record. It isn't very specific so you will have to go through and recheck all the data that you entered into every field and also review the data that auto-populated.



Once the record is successfully processed you will receive an email like the following:



PROVISIONING THE SERVER (THE PXE BOOT)

Once you have updated the Opware Implementation QuickBase successfully with the new server data, and you receive a message stating that the server is ready for provisioning, you can start the PXE Boot process.

One of the key requirements of provisioning is the hardware server's ability to boot over the network instead of a diskette or CD-ROM. There are several ways computers can boot over a network, and Preboot Execution Environment (PXE) is one of them. PXE works with Network Interface Card (NIC) of the system by making it function like a boot device. The PXE-enabled NIC of the client sends out a broadcast request to DHCP server, which returns with the IP address of the client along with the address of the TFTP server, and the location of boot files on the TFTP server.

Timing: Approximately 45 minutes per device.

1. Look in your email for a message stating that the server you submitted in QuickBase is ready to provision.



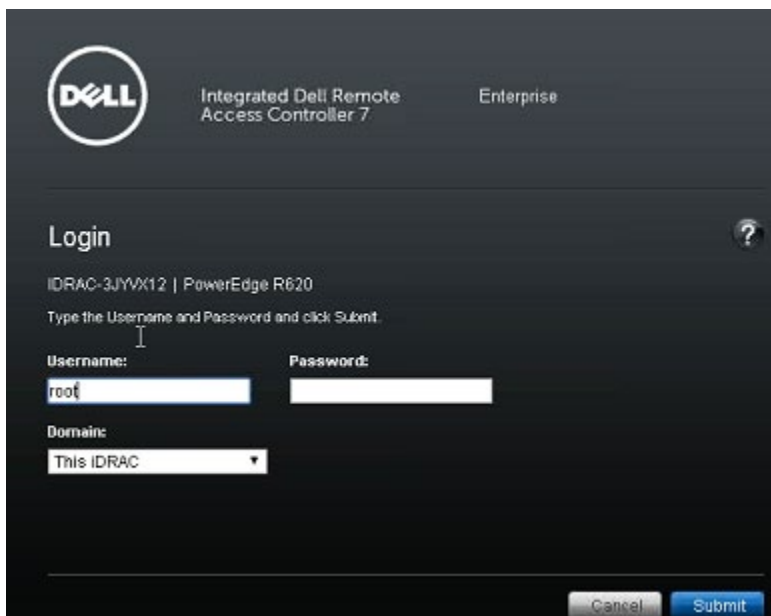
2. Log into the DRAC (Dell Remote Access Controller) using the Host IP address from your Build Sheet for the server you just completed the first part of the Opsware Implementation QuickBase process.

For example, enter <https://10.137.74.62/login.html> where the highlighted information will vary by IP address.

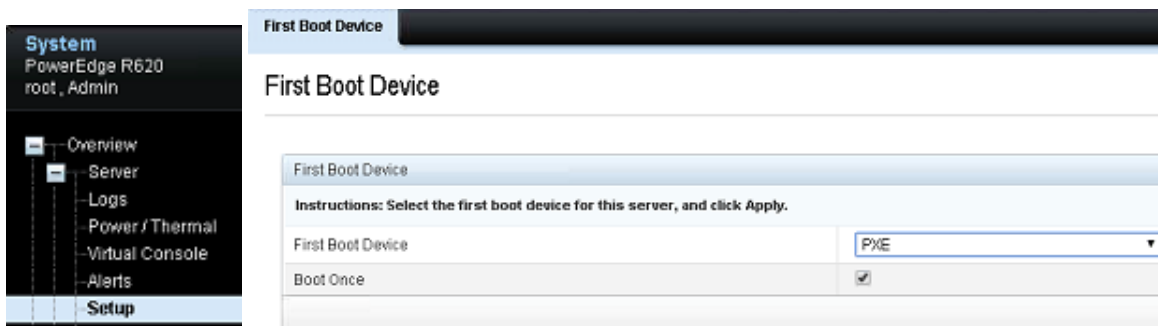


3. Enter the login and password (root and calvin), and then click Submit to access the DRAC.

Note: We are all using these login and password credentials for this project.



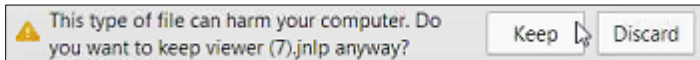
4. From the Navigation pane on the left side of the screen, click Overview>Server>Setup.



5. From the First Boot Device drop-down list, select PXE.

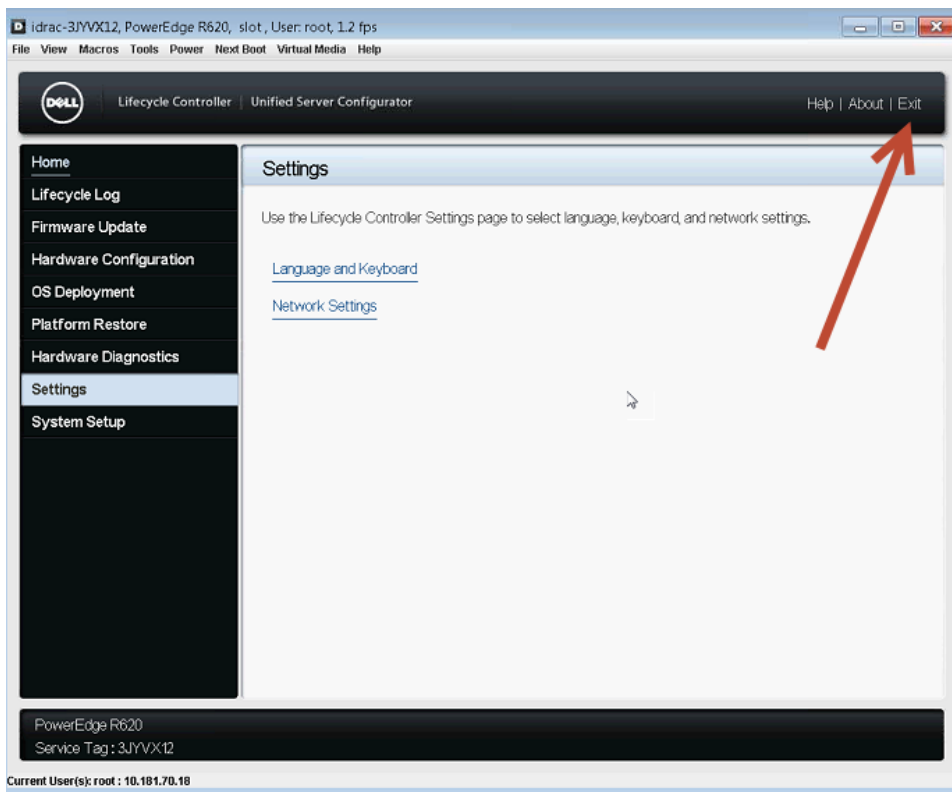


- From the Navigation pane on the left side of the screen, click Overview>Server>Virtual Console, and then select Launch Virtual Console.

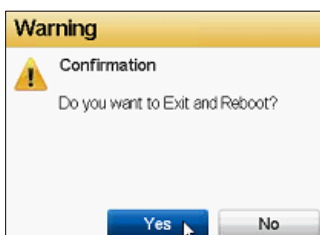


If you receive a warning message, click Keep to continue. If you see other warning messages, click OK.

Once you launch the viewer, you will see that the system is in Lifecycle Controller mode.



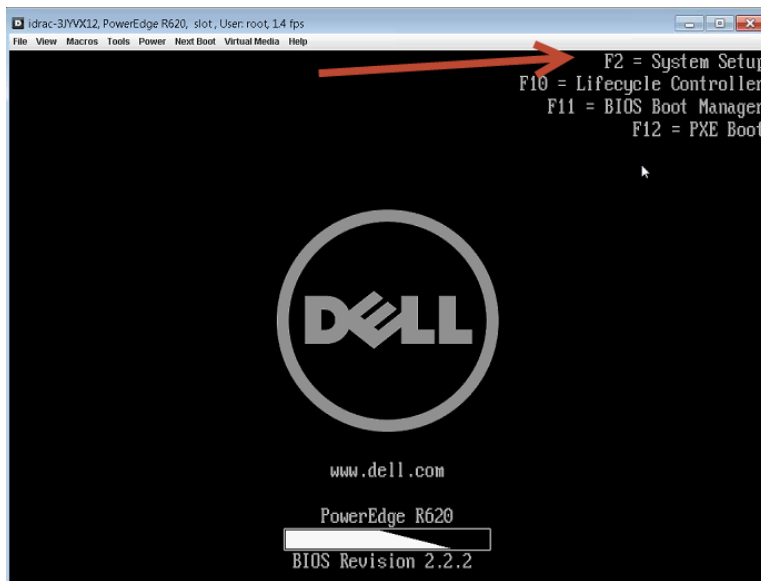
- When the Lifecycle Controller window appears, click Exit to close this tool.



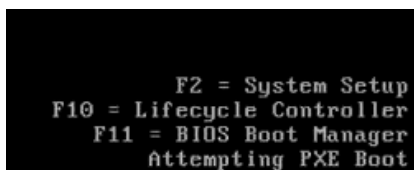
Note: Once you enter the PXE Boot process, do not press ANY KEY until the process completes. If you have a second monitor you can move it out of the way but if your mouse clicks in this window during the process your PXE Boot will crash.

8. Click Yes to confirm that you want to Exit and Reboot the server.

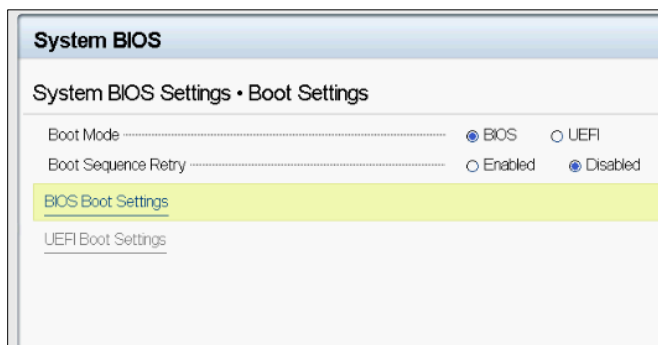
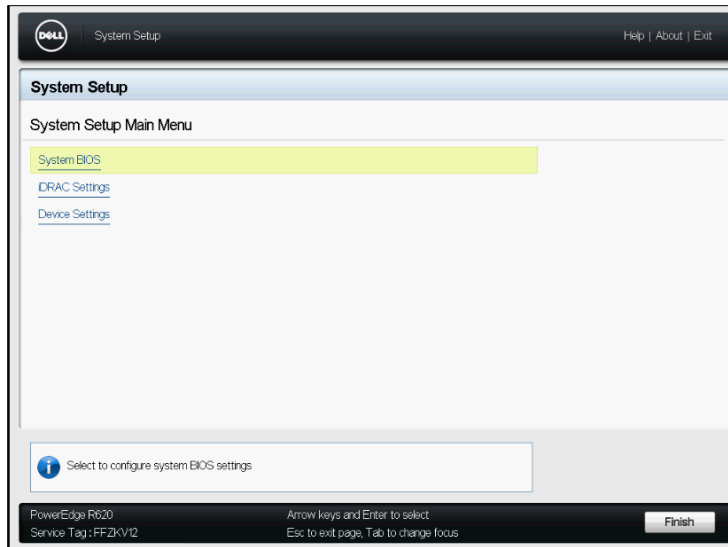
During the reboot process you will see a screen indicating No Signal, and then it will begin showing you the progress of the reboot. A PXE boot is performing its boot from the network and then installing the OS image on the server.



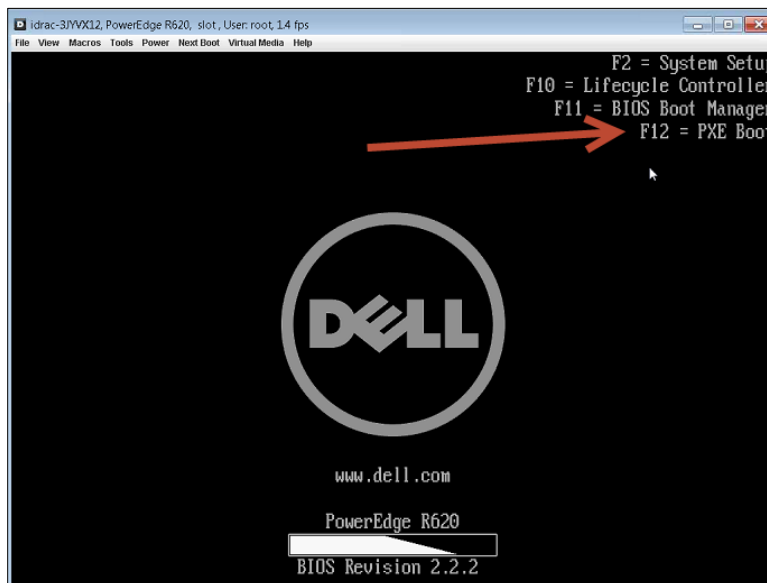
9. When you receive the Reboot screen with the function keys showing, press F2. The system boots into System Setup mode.



10. Change the boot settings to boot from the BIOS by clicking on the System BIOS option.



11. Change the Boot Mode to BIOS, and then click Exit on the upper-right side of the screen.
12. The system will reboot.

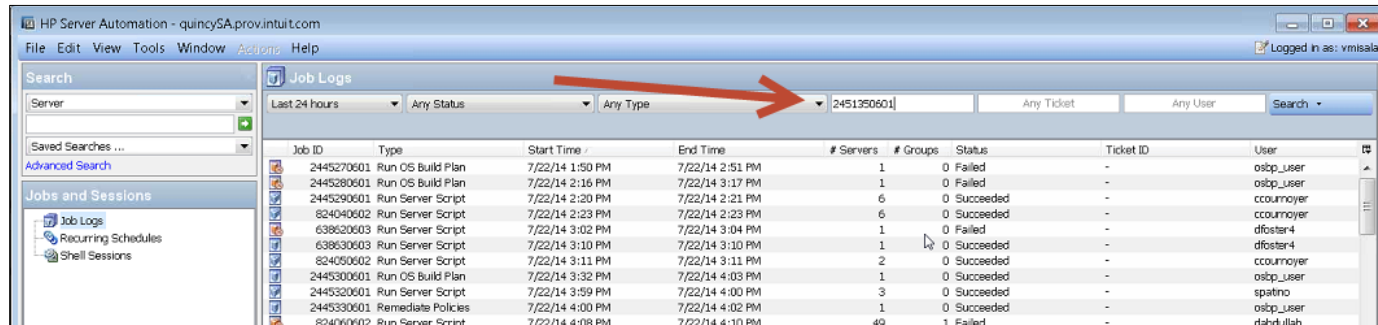


13. Press F12 to continue with the PXE boot process. When the PXE boot completes, you will see a job

number on your screen. Write it down so you can use that job to track its process in the HP Server Automation tool.

```
Starting up the HPSA OGFS agent...
Server is now in MAINTENANCE mode.
Starting OSBP Build Plan 3010601
Started OSBP Job 2451350601
```

14. Open the HP Server Automation tool from your desktop, and use the job number to search for the specific job.

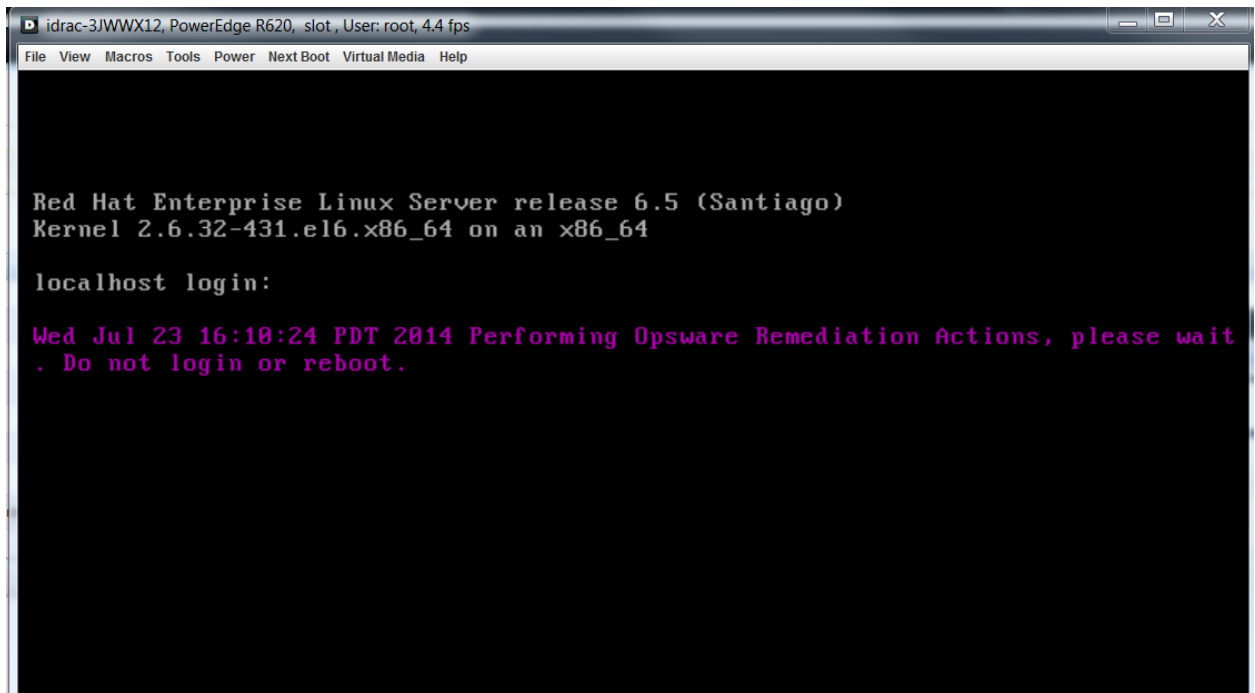


When you click Search it will display the results.

Job ID	Type	Start Time	End Time	# Servers	# Groups	Status
2451350601	Run OS Build Plan	7/23/14 1:45 PM	-	1	0	In Progress

The system will complete the process. You will see this screen when the process is completed.

Reminder: Once you enter the PXE Boot process, do not press ANY KEY until the process completes.



Once you see this screen you know the provisioning completed successfully.

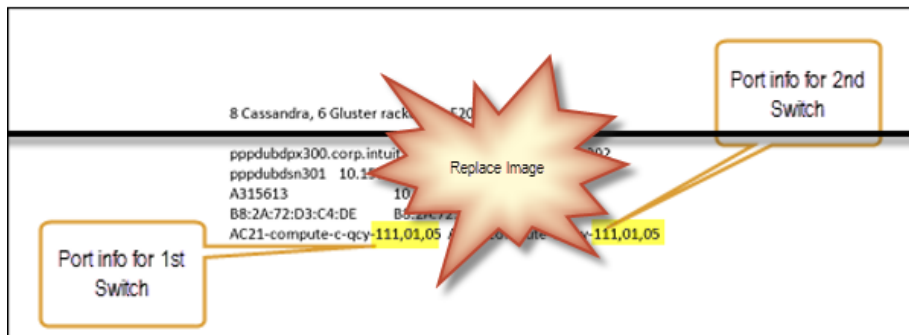
BUILDING VMs

This documentation will not be available until after 8/18.

SWITCHING PORTS TO VLAN (PORT FLIPPING WITH NETGENIE)

After the Provisioning has occurred and the server is built, you will need to use NetGenie to provision the ports for the server you just had PXE booted. This process involves having the following data available before proceeding. You should have your Build Sheet available for this next step.

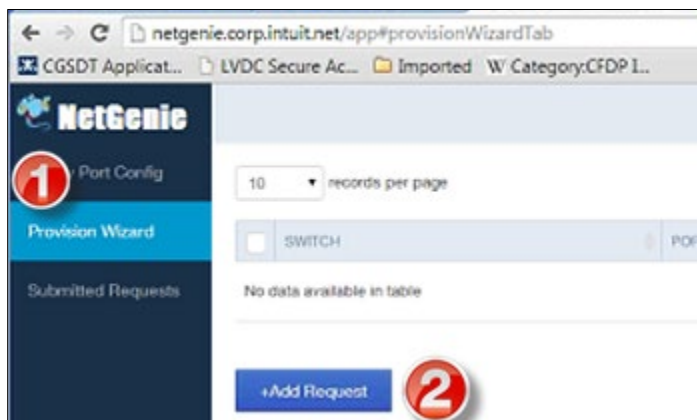
- Switch Information
- Port/Port Range
- VLAN(s)



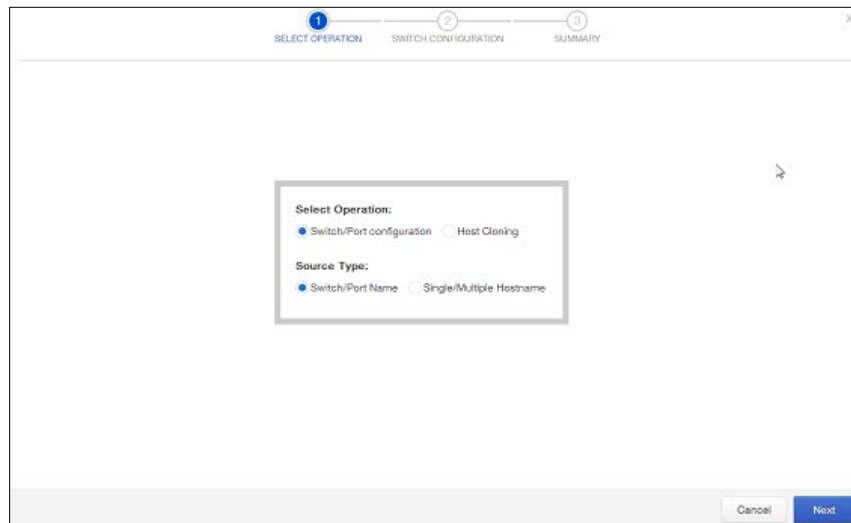
<<Substitute a shot of the Build Sheet with this information highlighted.>>

To configure the ports and VLAN for a Server:

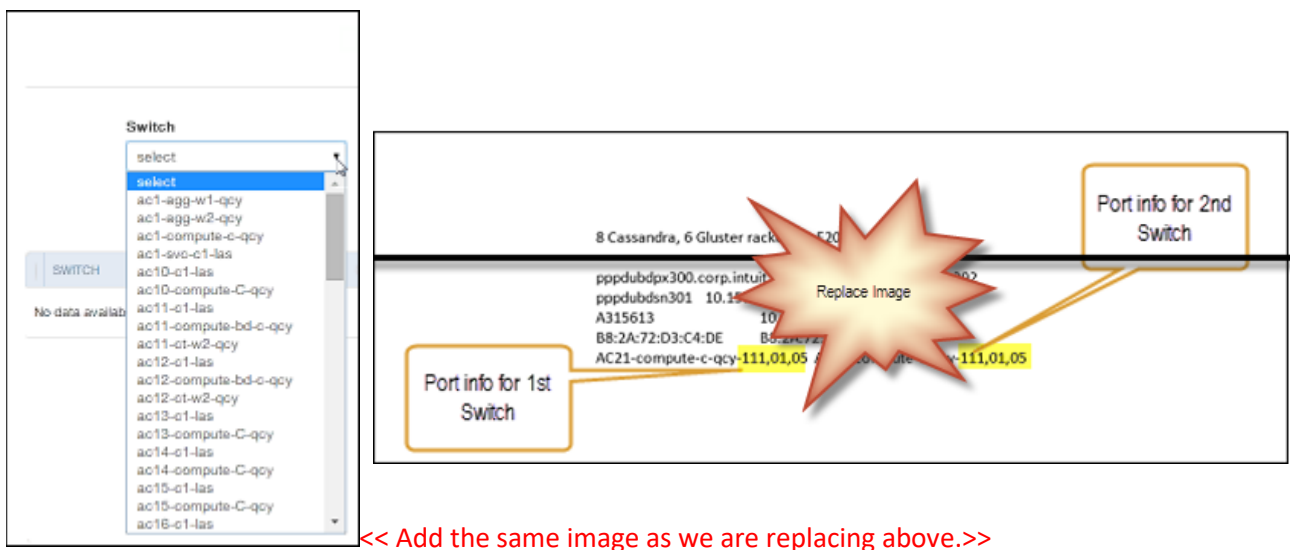
1. Log into NetGenie at netgenie.corp.intuit.net.
2. Open the Provisioning Wizard and click Add Request.



- When the Select Operation screen appears, click Next.



- From the Switch drop-down list, select the Switch you want to configure. This information can be found in the Build Sheet.



<< Add the same image as we are replacing above.>>

Note: In this example, we are setting up **AC21-compute-c-qcy** so you would select that from the drop-down list and then copy the highlighted port information.

- Enter the port information associated with the Switch Port in the Port/Port Range field.

1 SELECT OPERATION 2 SWITCH CONFIGURATION 3 SUMMARY

Switch: ac21-compute-C-qcy

Port/Port Range: 111/01/06

Exclude Port/Port Range: e.g. 101/5/6, 101/5/13

Query

SWITCH PORT MODE VLAN

No data available in table

6. Change the commas to backslashes as you did earlier in the Opsware Implementation QuickBase.
7. Click Query so that it will change the Mode to Access and display the VLAN associated with the switch. Once the Query is complete you will see the following results populating below the Switch line:

SWITCH PORT MODE VLAN

ac21-compute-C-qcy 111/1/6 Access 641

Operation: configure

Mode: VPC-LACP

Template: manual

vLANs: vLANs entered will overwrite existing configuration

Previous Next

8. From the Operation drop-down list, select configure.
 9. From the Mode drop-down list, select VPC-LACP. You will do this for all servers.
 10. From the Template drop-down list, select manual.
- Note:** If you select another template it will populate the vLANs field with preconfigured VLAN data.
11. Enter the VLAN information from the Build Sheet into the vLANs field, and then click Next.

<<Need Example from the Build Sheet.>>

Operation: configure

Mode: VPC-LACP

Template: manual

vLANs: 282,852

Previous Next

12. When the following information displays, click Finish.

SWITCH	PORT	MODE	VLAN
ac21-compute-C-qcy	111/1/6	VPC-LACP	292,852

Operation :
configure

Template Name :
manual

13. Repeat this process for the second switch to configure the ports for this switch.

<<Need Example from the Build Sheet.>>

14. Remember to change the Switch information and then also replace the commas with backslashes before you click Query.

Switch: ac22-compute-C-qcy

Port/Port Range: 111/01/06

Exclude Port/Port Range: e.g. 101/5/6-8,101/5/13

Query

15. Enter the Operation, Mode, Template, and vLAN information again for the second switch, click Next, and then click Finish to complete the port configuration process.

Operation: configure

Mode: VPC-LACP

Template: manual

vLANs: 292,852

Previous Next

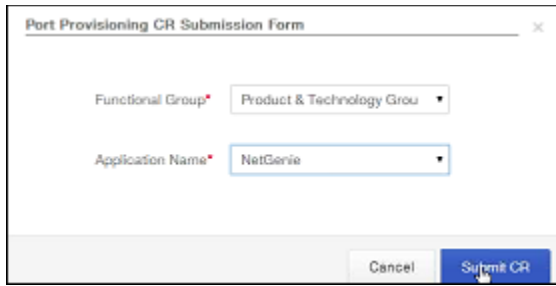
16. When the list of switches appears, select the two you just configured and place a check to the left of both of them.

<input checked="" type="checkbox"/>	SWITCH	PORT	REQUEST TYPE	MODE	VLAN
<input checked="" type="checkbox"/>	ac21-compute-C-qcy	111/1/6	configure	VPC-LACP	292,852
<input checked="" type="checkbox"/>	ac22-compute-C-qcy	111/1/6	configure	VPC-LACP	292,852

+Add Request proceed

17. Click Proceed.

18. When the Port Provisioning CR Submission Form appears, select the following from the drop-down lists, and then click Submit the CR.



Port Provisioning CR Submission Form

Functional Group* Product & Technology Grou ▼

Application Name* NetGenie ▼

Cancel Submit CR

- Provisioning Group: Select Product and Technology Group. <<Will this be a constant or will they need information to make a selection? >>
- Application Name: Select NetGenie

This will generate a change request in the Service Now system and it will be automatically routed to the appropriate person for approval.

19. Once the Change Request is approved the status of the request will change from Pending to Complete in NetGenie.

POST PROVISIONING

This part of the OS Deployment process should be the same for all servers that are running Linux. After this section is completed, we will hand off the Build Complete server information to either the Apps team or for TTO, to David Foster for further work.

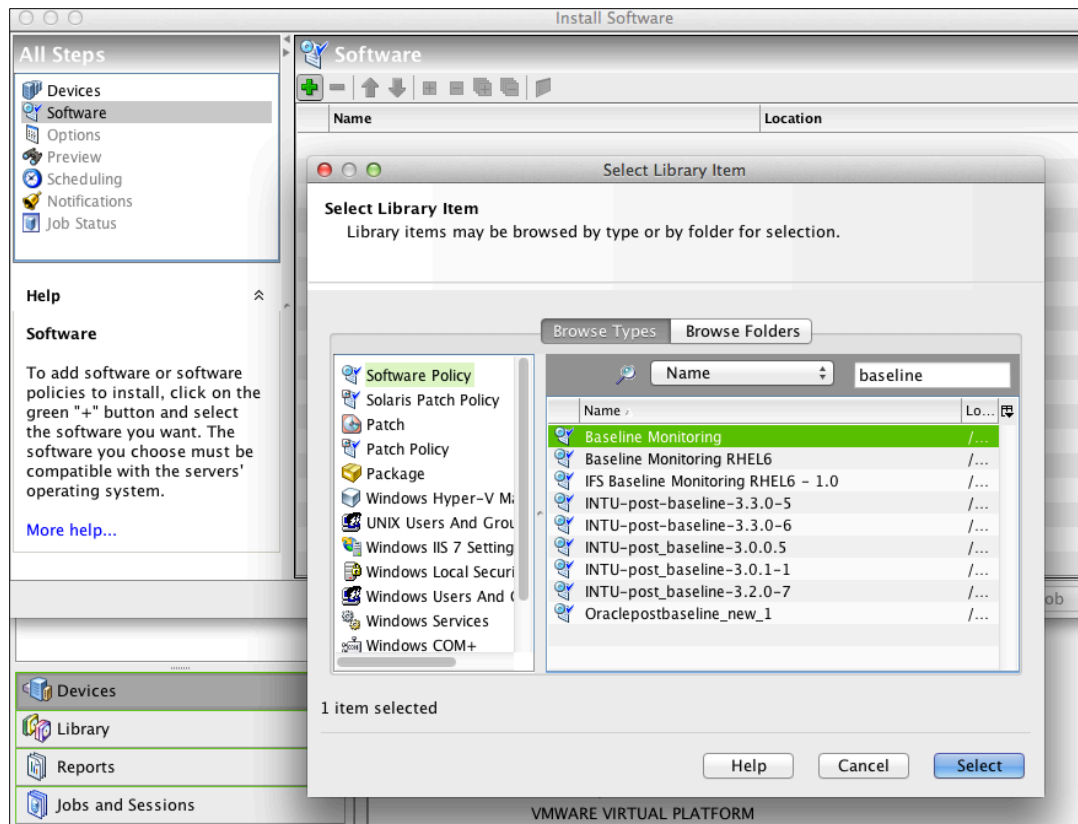
<<I got this information from <https://wiki.intuit.com/display/SDT/Linux+Host+Post+Provisioning+Steps> and then edited it to make it clearer but I have not gone through this process with anyone. Vinay wasn't able to meet with me before the dry run to step through this process so I am including my questions and concerns in this document.>>

LINUX HOST POST PROVISIONING

Use this procedure when performing Post Provisioning for SDT's:

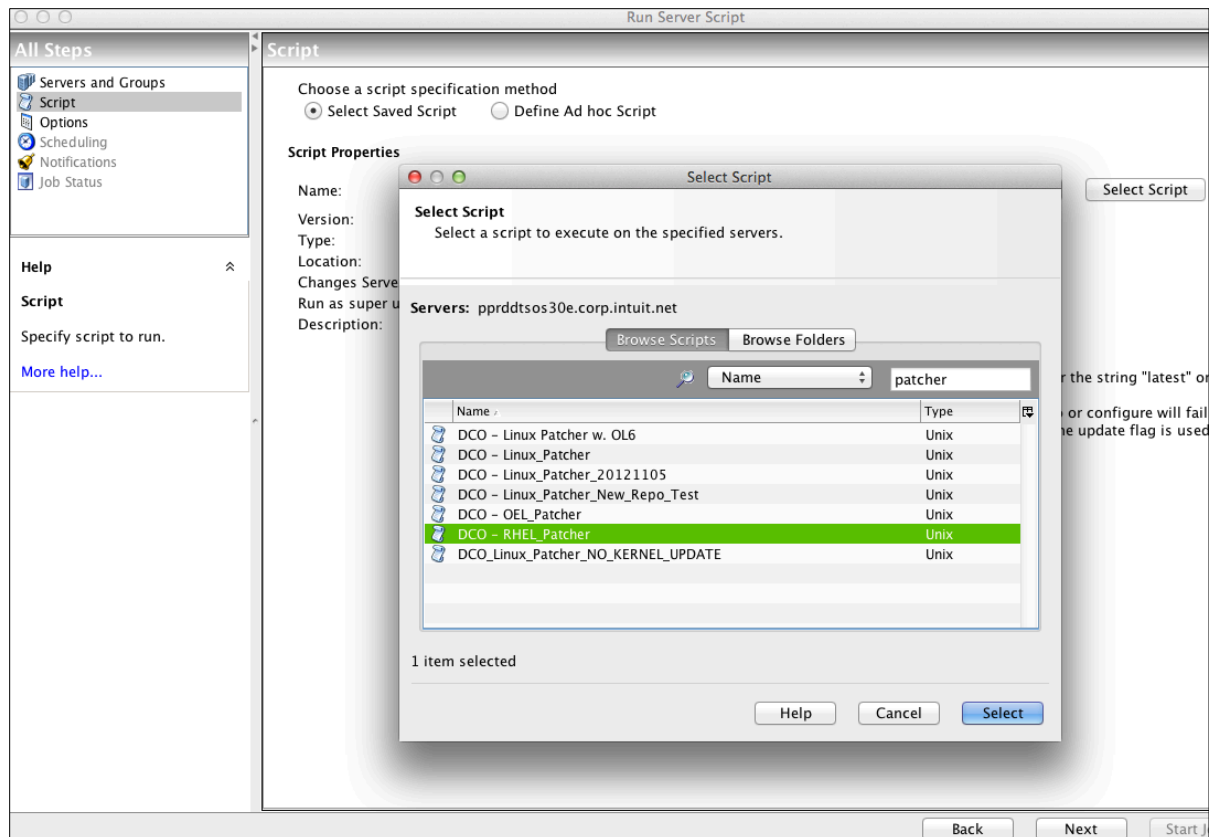
1. Open the HPSA Opware console to start.
2. Check "root" user's profile and confirm /sbin is in its path. <<Not sure if you do this in Opware or where?>>

If not, add it and then "source /etc/profile"
3. If you haven't already done so, add the hosts to the Active Directory and move the hosts to the right organizational unit (OU) in active directory. <<I think we need more direction on how to do this.>>
4. Install software and patches via Opware. <<How do we do this?>>
5. Install Software Policy(s):
 - a. Right-click on the host and select "Install Software".
 - b. In the left frame of the "Install Software" dialog box select "Software".
 - c. In the right frame of the "Install Software" box, click on the green "+" sign.
 - d. In the left frame of the "Select Library Option" popup box, select "Software Policy".
 - e. In the frame on the right of the popup box type "baseline" and select the closest fit to "Baseline Monitoring" that is appropriate for the host you are doing the post provisioning work for, then click "select".



6. Run Scripts

- Right click on the host and choose "Run Script" --> "Select Script".
- In the "Run Server Script" pop up box, in the right frame click on "Select Script".
- In the "Select Script" pop up box, type "Patcher" in the search box.
- Choose the closest fit to the Linux Patcher that fits the OS of the host you are post provisioning.
- <<Don't think this applies to our project.>>5/1/2014: Per Anthony Bacoy/Patching Team: Please use DCO - Linux_Patcher for ALL Linux versions (RH/OEL 4,5,6), no need to add parameters, if you are NOT patching to a specific date.



7. Click the "Select" button to complete selecting the script.
8. Run the Post Provisioning script. <<Is the LinuxPostProv.sh script the one you want to run?>>
9. Install the LinuxPostProv.sh script
10. This script can be installed and run in multiple ways. Select how you want to perform it from the list below:
 - a. The script can be downloaded from Opsware (HES repo will be available soon to download the script from as well) and copied to the server to be run manually.
 - a. copy the script to /tmp
 - b. In Opsware: Library --> Customers --> IIT-OEI --> Unified Service Delivery --> Linux Post Provisioning --> LinuxPostProv.sh
 - b. The script can be run from Opsware:
 - a. In Opsware, select: Library --> Customers --> IIT-OEI --> Unified Service Delivery --> Linux Post Provisioning --> LinuxPostProv.sh.
 - b. Run the script called Linux_PostProv.sh
11. Usage is: ./Linux_PostProv.sh <Environment><DB?> <email address>
 - a. Select your "Environment" Options: P (Prod) or NP (NonProd).

b. "DB?" - Means is this host going to be a DB server of any type?

- If you choose "N" it will change the ea and root passwords to the default ea/root for preprod and default ea for prod. Root passwords in prod need to be set manually
- If you choose "Y" it will set the root/ea passwords to "intuit01" so that the oracle preparation script will run

EXAMPLE: `./Linux_PostProv.sh P Y mandy_rees@intuit.com`

The screenshot shows the 'Run Server Script' window in the Opware interface. The sidebar on the left lists 'All Steps' (Servers and Groups, Script, Options, Scheduling, Notifications, Job Status) and 'Help' (Options, Set your options prior to running your script and specifying the output, More help...). The main area is titled 'Options' and contains 'Runtime Options' and 'Output Options'. Under 'Runtime Options', 'Runtime User' is set to 'root'. There are fields for 'Name', 'Password', and 'Confirm'. 'Script Timeout' is set to '60' minute(s). A text box for 'Specify any needed parameters for this script execution' contains 'P N mandy_rees@intuit.com'. Under 'Output Options', 'Retain script output' is selected, and 'Size of the output to retain (KB)' is set to '10'. At the bottom are buttons for 'Back', 'Next', 'Start Job', and 'Cancel'.

Note: Detailed information about the script can be found at this wiki:

<http://wiki.intuit.com/display/SDT/Linux+Post+Provisioning+Script+for+Service+Delivery>

VERIFICATION PROCESS

1. Log in and verify all configurations are correct and any errors flagged in the hosts file are notification errors or are corrected before you proceed.
2. Verify the version of VAS running on the host. <<How?>>
3. Run the command `/opt/quest/bin/vgptool -v` <<Is this running inside the Opware?>>
4. Using Opware, verify that the newest version of VAS is running on the host. If it is not, push the desired version of VAS to the host from Opware following the steps outlined in 3a for installing

software. Search for software package "vas". <<Number of steps have changed. I think it should say in Step 4 (Installing Software Policies).>>

5. Mount any external storage. <<How?>>
6. Reboot the server and log in to verify all is stable. <<How?>>
7. Create an escalation policy in the Escalation Procedures QB (<https://www.quickbase.com/db/bdmsudrgn>) <<How? Need to review this.> >
8. Add custom configurations specified in the eSOW. <<How? What? Where?>>
9. Add users, packages, and Active Directory policy requirements. <<How?>>
10. Verify hosts are in spectrum. <<How? Is spectrum an evaluation tool, software, a range of appropriate values?>>
 - If the hosts are not in spectrum, discover them in the proper landscape with the correct version of SNMP. <<How?>>
 - If they cannot be discovered, check your /etc/snmp/snmpd.conf file to make sure it is configured to send to the correct snap trap server (Depends on DC) and community (iecommunity). <<How do we want to handle this step in this project?>>
11. Verify host is in cac, create appropriate group if necessary. <<How? Is this creating the appropriate group in the Active Directory?>>

HANDING OFF THE COMPLETED SERVERS TO APPS

<<Not clear on this process yet. This is not completely figured out yet. I think we are moving them by updating the tracking information in which QuickBase? >>

APPENDIX A - MANUALLY COLLECTING PROVISIONING INFORMATION

BEFORE YOU BEGIN UPDATING ASSET RECORDS AND GENERATING BUILD RECORDS

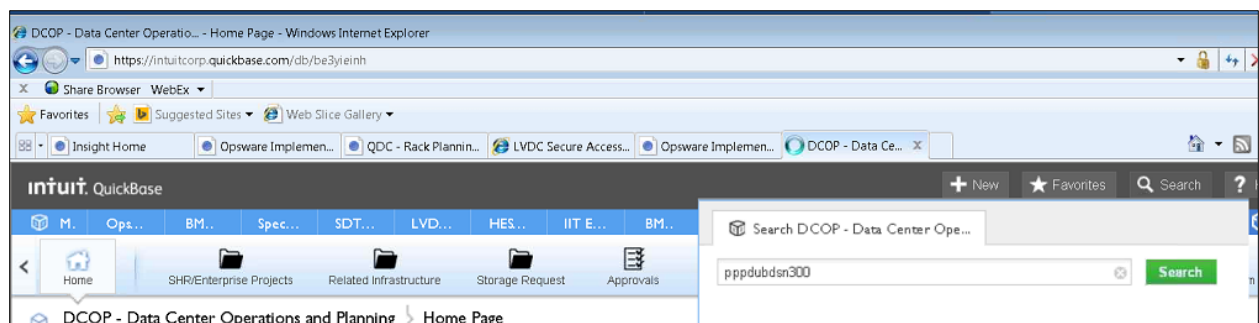
You will build a list of servers with associated details such as IP Address, MAC Address, and other information before you start the provisioning process. You should have a build list of your assigned servers that you are responsible for provisioning. Use the host names from that server to begin to accumulate information for the work you'll be doing that day.

<<Need to review this process as it has changed and I ran out of time today to do this. Not sure if we still want them to do this from the DCOP QuickBase as I removed it from their list of QBs to have access to. Will review on 8/7 after team briefing. >>

Finding the Data you will need when it isn't in the Build Sheet

Tools Needed:

- Notepad
 - Opware Implementation QuickBase
 - DCOP QuickBase <<Verify?>>
1. Access the Opware Implementation QuickBase.
 2. Search for the server that you want to provision.



3. Obtain the information you need to have each server on your list built and copy and paste it into Notepad so you will have a group of servers to process at the same time.
4. You should have a list like the following example that you can use for the next steps.

```


8 Cassandra, 6 Gluster racked on E20-17

pppdubdp300.corp.intuit.net 10.137.74.62 VLAN 292
pppdubdsn301 10.157.28.46 VLAN 852
A315613 10.153.184.61
B8:2A:72:D3:C4:DE B8:2A:72:D3:C4:E0
AC21-compute-c-qcy-111,01,05 AC22-compute-c-qcy-111,01,05

pppdubdp301.corp.intuit.net 10.137.74.63
pppdubdp301s.corp.intuit.net 10.157.28.47
A315591 FG0MV12 10.153.184.62
B8:2A:72:D3:C5:DA B8:2A:72:D3:C5:DC
AC21-compute-c-qcy-111,01,06 AC22-compute-c-qcy-111,01,06

pppdubdp302.corp.intuit.net 10.137.74.64
pppdubdp302s.corp.intuit.net 10.157.28.48
A315610 FG1KV12 10.153.184.63
B8:2A:72:D3:F2:84 B8:2A:72:D3:F2:86
AC21-compute-c-qcy-111,01,08 AC22-compute-c-qcy-111,01,08

```



5. Open Notepad.
6. Copy the Hostname into Notepad from each Build Sheet you are responsible for.
7. Using the Hostname found in the DCOP, retrieve the IP address, MAC address, Switch Port info and other information from the various sources listed below and copy and paste it into the Notepad document.
8. Toggle between QuickBase and other tools to retrieve the information you need to complete the various sections needed in QuickBase (as shown below).
9. Obtain the Server Identity information by logging into the DRAC Console IP (ILO IP) to obtain the Primary MAC (ETH0) address and then copy and paste each field into Notepad. <<Need to expand.>>
10. Obtain the server name from the Men N Mice (DNS tool), and copy and paste it into Notepad. <<I thought we weren't using MNM so I need to get some example screenshots if we are.>>