Intuit

Provisioning Documentation for the CG Infrastructure Isolation Project - For Bare Metal and Big Data Servers

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Scope: The scope of this document is to reflect the CG Build Process for Bare Metal and Big Data Servers in the Eco Isolation Project and to reflect the basic build procedures for CG. It is not meant to cover all instances of provisioning.

Timeline: We have to provision 15,000 servers by November 30th to isolate TurboTax and other identified software required by TurboTax. This document will be updated daily to reflect changes as we automate the processes. It will be published each night and forwarded to India so their team can take over provisioning based on the build sheet showing where our engineers left off.

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

Lin Laurie (in all cases)

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Before Beginning Your First Server Build

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 XXXXX https://intuitcorp.quickbase.com/db/bi45ifbmw
- Opsware Implementation QuickBase Owned by XXXX https://intuitcorp.guickbase.com/db/bd7ca9pmw?a=td
- IIT Escalation Procedures Database You should have access to this one without requesting access. <u>https://intuitcorp.quickbase.com/db/bdmsudrgn</u>

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

- QDC Rack Planning QuickBase Owned by XXX <u>https://intuitcorp.quickbase.com/db/bdu6yewfb</u>
- LVDC Rack Planning QuickBase Currently owned by XXX which is an alias so I don't know who the actual owner is. Just request permission as normal.
- DCOP Data Center Operations and Planning Currently listed as being owned by XXX but this person has left Intuit. Ask your manager to escalate a request for access. <u>https://intuitcorp.quickbase.com/db/be3yieinh</u>

Requesting Access to a QuickBase

- 1. Click on the link to any QuickBase on the list above to test your access, and if you don't have access, you can request it.
- 2. When the message appears, click on the Request Permission button.



- 3. If you don't gain access within 24 hours, send an email directly to the owners of each QuickBase requesting access directly:
 - Ask for the type of access you need.
 - Explain the reason for your need.

• If there is no owner specified for the QuickBase you want, notify your manager immediately and request access via email.

Daily Build Instructions - Start Here

Building the Opsware QuickBase Record for Your Server

Timing: 15-20 minutes to build an Opsware QuickBase record for your server.

1. In email, open the latest Build Sheet.

	A	В	С	D	E	F	G
1	Assigned - OS Provisioning	Assigned - Post Provisioning	Provisioning Status	Server Siz	e Primary MAC	Server Name	DNS Dop
2	Santos B0003.cq	Santos 30003.cq	Not Started	Bare Meta	I	pprdttoas605	corp.inte
3	Santos 30003.cq	Santos 30003.cq	OS Provisioned	BigData	21:0	pprddapcau1460	ie.intuit.net 🔿
4	Santos	Santos	OS Provisioned	Bare Met	34:	pprdttoas603	corp.intuine
5							

- 2. Locate the server you want to start provisioning; find the Server Size to determine the type of server (BareMetal, BigData, or other entries), and then copy the Server Name (CTRL+C) to memory.
- 3. In the Isolation Build Data QuickBase, open the Search dialog. https://intuitcorp.quickbase.com/db/bi45ifbmw
- 4. Paste (CTRL+P) the Server Name into the Search dialog box, and then click Search to find the server you want to build.



5. In the Provisioning Status section, change the Provisioning Status from Not Started to OS Provisioning Started.



- If the Assigned OS Provisioning field contains your name, leave it as is; otherwise change it by selecting it from the drop-down to reflect your name or the person who is actually doing the OS Provisioning of this server.
- 7. In the Opsware Implementation QuickBase, search for the name of the server (from the Build Sheet) for the name of the server you're provisioning. If you cannot find it, skip to Step 9 below.
- 8. If you find the server, then change the Provisioning Status to OS Provisioned, and add today's date to the Ready for Post Provisioning line, and then skip to <u>Post Provisioning</u>.

OS Provisioning Started OS Provisioned OS Configured App Deployed Functional QA Complete Perf Test Complete	
Provisioning Status	
Provisioning Status	
OS Provisioning Started	
Ready for OS Provision Assigned - OS Provisioning	
08-08-2014 🛗 Kum	
③ Ready for Post Provision ④ Assigned - Post Provisioning	
MM-DD-YYYY 🛗 Kum 🔻	

9. Return to the Build Sheet and look at the requirements of server you're provisioning. Find a Host name from the table below and copy the Host Name to memory (CTRL+C).

Note: Please check the Hardware brand before you create an Opsware record. Verify the Raid Policy according to that specified in the Server Build Documentation. The following servers are Dell servers.

Data Center	Туре	Host Name
QDC	Cassandra	pprddapcauxxx.intuit.net
QDC	Gluster	pprddapgluxxxxxx.intuit.net
QDC	Hadoop	pprddaxxxxxx.corp.intuit.net
QDC	Bare Metal	oprdsstmoxxxxx.corp.intuit.net
		(Please pick right domain according to the server.
		e.g.: (CORP/IE))
QDC	Bare Metal TTO	pprdttoasxxxx.corp.intuit.net
LVDC	Cassandra	pprddapcauxxxxx.ie.intuit.net
LVDC	Gluster	pprddapgluxxxxxx.ie.intuit.net
LVDC	Hadoop	Currently there are no Hadoop nodes in LVDC, but
		we are planning to build them in the future and will
		update the build documentation when we do.
LVDC	Bare Metal	oprdsstmoxxxx.corp.intuit.net (Please pick right
		domain according to the server. e.g.: (CORP/IE))

DELL Hardware Only

Data Center	Туре	Host Name
LVDC	Bare Metal TTO	pprdttoasxxxx.corp.intuit.net

- 1. In the Opsware Implementation QuickBase search for the server:
 - 1. Click Search at the top of the QuickBase screen.
 - 2. Paste the Host Name for the server type that you are building using the table above
 - 3. Click Search to locate the server record.

	★ Favorites 们 Q Search
Search Opsware Implementation	
pprddapo	× 🛛 🕄 Search

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

Ø Opsware Implementation	ion - 88:2A:72:D3:C3:65 - W	vindows Internet	Explorer													
	intuitcorp.quickbase.com/	db/bd7ca9pmw?	a=dr8ir=qxj										- 🔒	4 × 2	Bing	م
X Share Browser 1	WebEx 🔻															
🚖 Favorites 🛛 🙀 📕	Suggested Sites 👻 👰 W	feb Slice Gallery														
88 • 💿 Insight Home	Opsware Imple	e X 💿 QDO	C - Rack Plann	in 🔕 LVDG	C Secure Acces	💿 Ор	sware Implemen						谷	- 🔊 - 🖃	🚔 🔻 Page	🔹 Safety 👻 Tools 👻 🔞 🕶
I ntuit . QuickBas	e									+ New	★ Favo		Q Search	? Help	Alerts	👤 Vinay Misala 🔹
🗑 M. Ops	BM Spec	. SDT	LVD	HES	IIT E	BM	eSow	Depl	CIS	Servi	QD	Can	DC	€N		
G) Home	Opsware Implementation	Gateway In	formation	Servers	Custom /	• Attirbutes	test systems	OS Sequer	nces	Raid Policies	Facility to M	lesh Mappin	g			
Servers B	8:2A:72:D3:C3:65			v										+ New Serve	Ed	it 醛 Email More 💌
Server Ident	tity Information														\rightarrow	Copy this Server
Record ID#																Print
15017																and a second
MAC Address	s															Delete this Server

- 3. Go back to the Build Sheet, and then copy and paste the following fields into matching fields in the Opsware Implementation QuickBase.
 - Server Name
 - Primary MAC address

	A			В	С	D	E	F	G
1	Assigned - OS Provisi	ioning	Assign	ed – Post Provisioning	Provisioning Status	Server Size	Primary MAC	Server Name	DNS Doperation
2	Santos	30003.cq	Santo	230003.cq	Not Started	Bare Metal		dttoas605	corp.intta
3	Santos	30003.cq	Santo	230003.cq	OS Provisioned	BigData	B8:2A:	ddapcau1460	ie.intuit.net 🔿
4	Santos	30003.cq	Santo	230003.cq	OS Provisioned	Bare Metal	B8:2A:	dttoas603	corp.intuit
5									

4. In the Server Identity Information section, use the values from the Build Sheet to populate the MAC Address, Server Name, and DNS Domain in the Opsware Implementation QuickBase.

Record ID#	
⑥ MAC Address *	
B8:2A: 2:09	
③ Server Name *	ONS Domain
pppdub	coreet

5. In the HPSA Environment section, use the values in the Build Sheet to populate the Mesh and Facility fields by selecting them from the drop-down list in the Opsware Implementation QuickBase.

HPSA Environm	ent	
Mesh *		Facility *
QCY 9.1 Mesh	-	Quincy Zone E - qcydc8
VLAN		
602		

 In 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 the Opsware Implementation QuickBase. In this example we are running Red Hat 6 so your OS Sequence would correspond to that.

		S Sequence *
		Make a Selection
	bl-oel4u7AS-1.0.i386 bl-oel4u7AS-1.0.x86_64 bl-oel5u2-1.0.i386	
 OS Information 		bl-rbel5u5-1.1.1386
Operating System *	OS Sequence *	bl-rhel5u6-1.0.x86_64
Linux	bl-rhel6u5-1.0×86_64	bl-rhel6u0-1.0.i386
Mesh/OS/Status	OS Sequence ID	bl-rhel6u0-1.0.x86_64
QCY 9.1 Mesh-Linux-Enabled	3010601	bl-rhss2u0-1.0.x86_64
Provisioning VLAN Information Baseline Info and Release Notes		bl-rhss2u1-1.0.x86_64 bl-rhss2u1-1.0.x86_64 bl-rhss2u1-1.1.x86_64

<<Will update #2 when RedHat gets us a new baseline. >>

Note: Be careful to select the one that matches the Build Sheet. For Linux you always want to select the latest version but select the option that matches what is on your Build Sheet.

- 1. Use selection 1 for Cassandra servers.
- 2. Use selection 2 for Gluster servers.

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

7. In the Delayed Provisioning and clear the check box from the Ready to Provision field before proceeding any further.

Warning: Do Not Skip This Step!



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

Server Ownership	Information	
Requester * Vir	а	
Customer*	DEI	
 Disk Configuration Linux 		¢
	Linux Provisioning Guide	
ઉ Disk Type	sda	
③ Boot (/boot) partition size *	256	
③ Root (/) partition size *	0 - Rest of Disk	
③ Swap partition size *	Automatic	
	Use the fields below to create	e user defined partitions. Note if you set the root partition to "Rest of Disk" then you can not create extra partitions.
	🔲 Create /var Linux Partiti	on
	🔲 Create Extra Linux Parti	ition 1
	🔲 Create Extra Linux Parti	ition 2

Disk Type: Leave blank for Bare Metal. For Big Data, select sda.

9. In the Networking Address section use the values from the Build Sheet to populate these fields.



10. In the IP Configuration section, copy and paste the correct information from your Build Sheet into the appropriate fields (see highlighted fields below).

Primary IP Address*	Primary Subnet Mask*	Primary Gateway*	
10.14	2 54.0		
DNS 1*	DNS 2*	NTP Server*	NTP Server 2
0.16	16	0.16	16
ETH0 - Speed *			
AUTO/AUTO]		
HTTP Proxy Server	HTTP Proxy Server Port	HTTP Proxy Server Excludes	
•		•	
6 Mail Gateway			

11. In the Bonding section, make sure to check it IF you are creating a bonded server.



- 12. Review the Server Size field in the Build Sheet. If the Server Size is "Big Data", proceed to Step 22, if the Server Size is "Bare Metal", proceed to Step 23.
- 13. In Bond 0, configure the Bonding options, and then proceed to Step 24.
 - Bond Interface 1 = eth0
 - Interface 1 MAC = "Primary MAC Address" from Build Sheet
 - Interface 1 Switchport = "Primary Switchport" from Build Sheet
 - Bond Interface 2 = eth1
 - Interface 2 MAC = "Secondary MAC Address" from Build Sheet
 - Interface 2 Switchport = "Secondary Switchport" from Build Sheet
 - VLAN Tagging VLAN ID = "VLAN Tagging ID" from Build Sheet

⑥ Mode*		Linux Bond0 Option	5
802.3ad	•		
Linux Bond0 Preview			
BONDING_OPTS="mode:	=802.3ad *		
Bond Interface 1*		Interface 1 MAC*	Interface 1 Switchpor
eth0	•	B8:2	21-compute-c-qcy-111,01,
Bond Interface 2*		Interface 2 MAC [*]	Interface 2 Switchport
eth1	•	B8:2A 8A	2-compute-c-qcy-111,01,1
VLAN Tagging VLAN I	D		
202			

After you configure Bond0 options above, proceed forward to Step 15.

14. In Bond 0, configure the Bonding options. (Only perform this step for a Bare Metal Server.)

- Bond Interface 1 = eth0 •
- Interface 1 MAC = "Primary MAC Address" from Build Sheet •
- Interface 1 Switchport = "Primary Switchport" from Build Sheet •
- Bond Interface 2 = eth4
- Interface 2 MAC = "Secondary MAC Address" from Build Sheet •
- Interface 2 Switchport = "Secondary Switchport" from Build Sheet
- VLAN Tagging VLAN ID = "VLAN Tagging ID" from Build Sheet

Mode*		Linux Bond0 Option	IS	
802.3ad				
Linux Bond0 Previo BONDING OPTS="	w node=802.3ad *			
Bond Interface 1*		Interface 1 MAC*	Interface 1 Switchport	
eth0		B8: 040.88	21-compute-c-qcy-111,01,1	
Bond Interface 2*		Interface 2 MAC*	Interface 2 Switchport	
eth4		B8:2/	2-compute-c-qcy-111,01,15	
VLAN Tagging VI	LAN ID			
292				

For Bare Metal with NFS data populated in the Build Sheet:

Bond 0			
Mode	Linux Bond0 Opti	ons	
802.3ad	milmon=100		
Linux Bond0 Previ	ew		
BONDING_OPTS	mode=802.3ad milmon	=100"	
Bond Interface 1	Interface 1 MAC	Interface 1 Switc	hport
eth0	44:	ac17-compute-BD-	C-141,01,45
Bond Interface 2	Interface 2 MAC	Interface 2 Switchp	ort
eth1	44.1	ac18-compute-BD-	C-141,01,45
VLAN Tagging V	LAN ID		
413			
IP	Netmask	Default Gateway	
10	54.0	8.1	
Route ADDRESS	0 Route NETMASK0	Route GATEWAY0	
			For Bare Metal
VLAN Tagging VLA	N ID		Host IP (Storage)
863			field is populated,
IP	Netmask		complete the
.43	54.0		highlighted section
Route ADDRESS0	Route NETMAKS0	Route GATEWAY0	
	.0	0.1	
Route Preview			
route-bond0.863			
NETMASKO	.0		

- 15. If the Storage_IP field is populated in the Build Sheet, update the following fields in the Opsware Implementation QuickBase to match the values in the Build Sheet:
 - Storage VLAN Tagging ID updates the VLAN Tagging VLAN ID field.
 - Storage_IP updates the IP field.
 - Storage_Netmask updates the Netmask field.
 - Storage_Route_AddressO updates to the Route AddressO field.
 - Storage_Route_NetMask0 updates Route NETMAKS0.
 - Storage_Route_Gateway0 updates Route GATEWAY0.
- 16. Click Save to auto-generate the server Record ID.

Note: Earlier in the process you removed the check in the Ready to Provision checkbox so that when you save your work, this information is available 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 you click Save.

Servers Add Server Reports & CHARTS	This information will not be generated
Server Identity Information	until we Save.
Record ID#	
④ MAC Address *	
③ Server Name * ④	DNS Domain

17. When the Record ID is generated, click Edit to complete the remainder of the Opsware Implementation QuickBase work.



- 18. At the top of the QuickBase record, highlight and copy (CTRL+C) the newly assigned Record ID from the top.
- 19. In the Advanced section, in the Adhoc Custom Attributes field, highlight the record ID that was inherited from the server record you based your new server record on, and paste (CTRL+V) the new ID to replace the highlighted field.



20. Replace the Switch Port information in this field with the new Primary and Secondary Switch Port information that you earlier added to the Bond 0 section above.



21. Verify that you selected the right data for each Switch Port and replace the commas with backslashes.

💌 A	 Advanced 			
G	D Adhoc Custom Attributes			
	DO_NETPROV=No,QB_TABLEID=bd7ca9pmw,CR_NUMBER= 184414,QB_RECID=15019,SWITCH1=AC21-compute-c-qcy- 111/01/15',SWITCH2='AC22-compute-c-qcy- I	4 2		

Your example should look like the highlighted information above and include end quotes after each Switch Port's data.

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



23. Select Deploy State to NetProv Successful in this section before you save.



24. Click Save to generate the Change Request record.

Server saved

25. Check your email until you receive a QuickBase message within about 5 minutes stating the server is saved.

Error in the OS Deployment Process

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.

Wed 7/23/	2014 11:32 AM
notify	@quickbase.com
Opswar	e: pppdubdpx305.corp.intuit.net import error
To Misala, Vinay	
If there are problems w	ith how this message is displayed, click here to view it in a web browser.
Action Items	+ Get more ap
Deployment Details	
This server had a Error checkbox to	n error during processing. Correct the data for the field in error and clear the Imp o resubmit this server to Opsware.
Import Error	Import Error Text
	Problem parsing the name/value pairs for this MAC

Once the record is successfully processed you will receive a notify@quickbase.com email like the following:

	Wed 7/23/2014 12:32 PM
	notifv@quickbase.com
	Opsware: pppdubdpx305.corp.intuit.net is ready to provision
To Misala, Vinay	
If there are p	problems with how this message is displayed, click here to view it in a web browser.
a	
Ine server n	ecord you entered for pppdubdp has been successfully processed
~	(
Opsware	Implementation: Servers (server #15017)
Server Identi	ity Information
	ny momaton
Becord ID	#
Record ID	π (free free free free free free free fre
15017	

Note: While you're waiting for this email you can begin the OS Deployment process for the next server on your list if you have others servers to work on.

If you do not receive a <u>notify@quickbase.com</u> message stating that the Opsware Implementation QuickBase server is ready for provisioning (but instead receive an error message), notify your team lead, manager, or the project manager.

Provisioning the Server (The PXE BOOT)

Timing: Approximately 30 minutes per device.

Before Using the DRAC (Dell Remote Access Controller) the First Time:

WARNING: The first time you log into the DRAC, you will be asked whether you want to keep the default password. You want to keep the default! Do not add a custom password to the DRAC.

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

notify@quickbase.com	I	
Opsware: ppp	it.net is ready t	o provision
The server record you entered	for pppc	net has been

2. Create a .txt file called Iplist.txt with the IP address of each server you are ready to perform the PXE Boot process on. It should contain 1 IP address per line.



3. Using a tool such as MobaXTerm, in Settings > General > Automatically Save Passwords, change the setting to Always on the Automatically save sessions passwords option, and then click OK.

Note: If you do not make this change, you will have to log in for each server you are provisioning in the text file you created above.

Automatically save sessions passwords Always Never Ask Stored passwords Protocol Username Password root 10. 7 root 10. 8 root 10. 7 root 10. 5 root 10. 7 Show passwords Delete selected Delete all Show passwords Delete selected Delete all Choose where to save passwords User registry Configuration file	obaXterm pa	asswords settings			
Stored passwords Protocol Username Servername Password root 10.1 77 ************************************	Automatic	ally save sessions (basswords 💿 Alw	vays 🔵 Never 🔵 Ask	
Protocol Username Servername Password root 10.1 77 ************************************	itored pass	words		Descurred	
root 10.7 root 10.7 root 10.7 root 10.7 root 10.7 root 10.5 root 10.7 root 10.7 root 10.9 ************************************	Protocol	Username	Servername	Password	
root 10. root 10. root 10. root 10. root 10. root 10. root 10. root 10. Show passwords Pelete selected Pelete all Report to file Choose where to save password for strong password encountion file	R	root	10.1	······	
root 10. 26 Interest of the selected root 10. 3 Interest of the selected Interest of the selected root 10. 7 Interest of the selected Interest of the selected Interest of the selected Show passwords Interest of the selected Interest of the selected Interest of the selected Interest of the selected Show passwords Interest of the selected Show passwords Interest of the selected Show passwords Interest of the selected Choose where to save passwords Interest of the selected Interest of the selected <td>R</td> <td>root</td> <td>10.1 89</td> <td>*******</td> <td></td>	R	root	10.1 89	*******	
root 10. root 10. root 10. root 10. 9 Show passwords Paesword for strong password encountion	R	root	10.1	******	
root 10. 7 root 10. 7 root 10. 9 Show passwords Image: Delete selected Image: Delete all Show passwords Image: Delete selected Image: Delete all Choose where to save passwords Image: Delete all Image: Delete all Sat a "Master Password" for strong passwords encomption Image: Delete all	R	root	10. 3	*******	
root 10. 7 International statements root 10. 9 International statements Image: Show passwords Image: Delete selected Image: Delete selected Image: Delete selected Show passwords Image: Delete selected Choose where to save passwords Image: Delete selected	8	root	10. 5		
root 10. 9 Infinition Image: Show passwords Image: Delete selected Image: Delete all Image: Delete all Image: Delete all Image: Show passwords Image: Delete selected Image: Delete all	2	root	10. 7		\bigcirc
Set a "Master Password" for strong passwords encryption	Choose w	passwords	Delete selected 5 D	elete all Export to file	1
	C	A Set a "Mast	ar Paceward" for strong pac	swords anonation	

4. In Settings> SSH, uncheck X11-Forwarding from the Settings Menu to stop pasting X11 Forwarding for each server while you run the script, and click OK.

🗹 Use :	SFTP browser (remote file bi	owser in the sidebar)	
Default username for SSH :	sessions: <same as="" th="" wind<=""><th>ows login> 🕜</th><th></th></same>	ows login> 🕜	
Automatically switch si	debar view to show the grap	hical SFTP browser	
Enable SSH compress	ion (compression of SSH fra	mes for slow networks)	
Enable SSH keepalive	(send data every 60 second	s to avoid disconnections)	
Use SSH-Agent	Use Pageant	E Forward SSH Age	ent
X11-Forwarding (autom	atic DISPLAY redirection thr	ough SSH channel)	
Workaround for "conne	ction reset by peer" issue (s	tripped-down encryption alg	orithms list)
The second second second second second		Domain name	

5. Copy the "idrac-BareMetal.sh" script for BareMetal Servers to your Desktop and execute it from "MobaXterm":

Note: Make sure the script is executable.

Running the Bare Metal Script

1. Execute this script for Bare Metal servers.

idrac-BareMetal.sh idrac-validate.sh #!/bin/bash IPfile=`cat IPlist.txt` for line in \$IPfile; do echo -e "\n" echo \$line sshpass -p 'xxx' ssh root@`echo \$line` racadm get idrac.tuning.DefaultCredentialWarning sshpass -p 'xxx' ssh root@`echo \$line` racadm get BIOS.BiosBootSettings.BootMode sshpass -p 'xxx' ssh root@`echo \$line` racadm get BIOS.BiosBootSettings.BootMode sshpass -p 'xxx' ssh root@`echo \$line` racadm get BIOS.OneTimeBoot.OneTimeBootSeqDev sshpass -p 'xxx' ssh root@`echo \$line` racadm get BIOS.BiosBootSettings.BootSeq done > \$0.log

Big Data

1. Copy " idrac-BigData.sh" script for BigData Servers to your Desktop and Execute it from "MobaXterm":

Note: Make sure the script is executable.

```
idrac-BigData.sh
#!/bin/bash
IPfile=`cat IPlist.txt`
for line in $IPfile; do
echo -e "\n"
echo $line
sshpass -p 'xxx' ssh root@`echo $line` racadm serveraction powercycle
sshpass -p 'xxx' ssh root@`echo $line` racadm set
LifecycleController.LCAttributes.LifecycleControllerState 1
sshpass -p 'xxx' ssh root@`echo $line` racadm set
iDRAC.tuning.DefaultCredentialWarning Disabled
sshpass -p 'xxx' ssh root@`echo $line` racadm set
BIOS.BiosBootSettings.BootMode Bios
sshpass -p 'xxx' ssh root@`echo $line` racadm set
BIOS.BiosBootSettings.BootSeqRetry Disabled
sshpass -p 'xxx' ssh root@`echo $line` racadm config -g cfgServerInfo -o
cfgServerBootOnce 1
sshpass -p 'xxx' ssh root@`echo $line` racadm config -g cfgServerInfo -o
cfgServerFirstBootDevice PXE
sshpass -p 'xxx' ssh root@`echo $line` racadm get
BIOS.OneTimeBoot.OneTimeBootSeqDev
sshpass -p 'xxx' ssh root@`echo $line` racadm jobqueue create BIOS.setup.1-
1 -r pwrcycle -s TIME_NOW -e TIME_NA
sshpass -p 'xxx' ssh root@`echo $line` racadm jobqueue view
done > $0.log
```

Big Data or Bare Metal Validation

1. Copy "idrac-validate.sh" script to validate parameters, on to your Desktop and execute it from "MobaXterm" (BG or BM).

Note: Make sure the script is Executable

This script is used to validate parameters that are changed. There is no compulsion to run this script. It can be run only to verify just in case there are any errors while building the server.

```
idrac-validate.sh
#!/bin/bash
IPfile=`cat IPlist.txt`
for line in $IPfile; do
echo -e "\n"
echo $line
sshpass -p 'xxx' ssh root@`echo $line` racadm get
idrac.tuning.DefaultCredentialWarning
sshpass -p 'xxx' ssh root@`echo $line` racadm get
BIOS.BiosBootSettings.BootMode
sshpass -p 'xxx' ssh root@`echo $line` racadm get
BIOS.BiosBootSettings.BootSeqRetry
sshpass -p 'xxx' ssh root@`echo $line` racadm get
BIOS.OneTimeBoot.OneTimeBootSeqDev
sshpass -p 'xxx' ssh root@`echo $line` racadm get
BIOS.BiosBootSettings.BootSeq
done > $0.log
```

Checking Validation Results

1. Open the validate log file and review its contents. They should resemble the example below:

```
cat idrac-validate.sh.log
10.154.138.87
[Key=idrac.Embedded.1#DefaultCredentialMitigationConfigGroup.1]
DefaultCredentialWarning=Disabled
[Key=BIOS.Setup.1-1#BiosBootSettings]
BootMode=Bios
[Key=BIOS.Setup.1-1#BiosBootSettings]
BootSeqRetry=Disabled
[Key=BIOS.Setup.1-1#OneTimeBoot]
```

```
OneTimeBootSeqDev=HardDisk.List.1-1
```

[Key=BIOS.Setup.1-1#BiosBootSettings]

```
BootSeq=HardDisk.List.1-1,NIC.Integrated.1-1-1
```

Reviewing the Log File

- 1. When you've successfully completed executing the appropriate scripts, the log files should show up in the current directory.
- 2. See the Example Log file below (idrac-BigData.sh.log)
- 3. If you see the message "Object value modified successfully," it indicates that the parameters have been successfully updated. All the changed parameters are still pending until a reboot. At this point, a job queue is created to reflect all the pending changes.
- 4. Open the Console and you should see the server rebooting several times for all the changes to take effect. The server automatically PXE boots and picks up the image.

cat idrac-BigData.sh.log



```
Object value modified successfully
```

[Key=iDRAC.Embedded.1#DefaultCredentialMitigationConfigGroup.1] Object value modified successfully

[Key=BIOS.Setup.1-1#BiosBootSettings]

RAC1017: Successfully modified the object value and the change is in pending state.

To apply modified value, create a configuration job and reboot the system. To create the commit and reboot jobs, use "jobqueue" command. For more information about the "jobqueue" command, see RACADM help.

```
[Key=BIOS.Setup.1-1#BiosBootSettings]
RAC1017: Successfully modified the object value and the change is in
pending state.
```

To apply modified value, create a configuration job and reboot the system. To create the commit and reboot jobs, use "jobqueue" command. For more information about the "jobqueue" command, see RACADM help.

Object value modified successfully Object value modified successfully [Key=BIOS.Setup.1-1#OneTimeBoot] OneTimeBootSeqDev=HardDisk.List.1-1 RAC1024: Successfully scheduled a job. Verify the job status using "racadm jobqueue view -i JID_xxxxx" command. Commit JID = JID 083751269708 Reboot JID = RID 083751270132 ----JOB QUEUE-----[Job ID=JID_081335346696] Job Name=Configure: BIOS.setup.1-1 Status=Completed Start Time=[Now] Expiration Time=[Not Applicable] Message=[PR19: Job completed successfully.] _____ [Job ID=RID_081335347012] Job Name=Reboot: Power cycle Status=Reboot Completed Start Time=[Now] Expiration Time=[Not Applicable] Message=[RED030: Reboot is complete.] _____ [Job ID=JID_083751269708] Job Name=Configure: BIOS.setup.1-1 Status=Ready For Execution

Start Time=[Now]
Expiration Time=[Not Applicable]
Message=[JCP000: New]
[Job ID=RID_083751270132]
Job Name=Reboot: Power cycle
Status=Pending Reboot
Start Time=[Now]
Expiration Time=[Not Applicable]
Message=[JCP000: New]

Logging into the DRAC to start the PXE Boot Process

1. Log into the DRAC (Dell Remote Access Controller) using the DRAC Host IP address from your Build Sheet.

For example, enter <u>Http://10.1 52/login.html</u> where the highlighted information will vary by IP address.



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

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

\sim			
(DELL)	Integrated Dell Remote Access Controller 7	Enterprise	
\smile			
Login			
IDRAC-3JYVX12	PowerEdge R620		
Type the Usernane a	nd Password and click Submit.		
Username:	Pessword:		
reot			
Domain:			
This IDRAC			
This IDRAC			
		Cancel	Subm

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



4. 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.

5. Once the server starts the PXE Boot process, 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 no	ow in MAIN	ITENANCE mode.
Starting OSE	BP Build P	'lan 3010601
Started OSBI	? Job <mark>2451</mark>	350601

6. Open the HP Server Automation console from your desktop, and search for the specific job by entering it into the Job Logs field.

						Logged in as	vmisala
· Ary Type	\rightarrow	• 2451270003	- 1	Any Tidut	Any User	Search +	
10 -	End Time	# Servers # Gr	xps Status	Ticket	0	User	
1:50 PM	7/22/14 2:51 PM	1	0 Faled			orbp_user	
1:16 PM	7/22/14 3:17 PM	1	0 Failed			reau_qdeo	10
1:20 PM	7/22/14 2:21 PM	6	0 Succeeded			ccournoyer	1.2
1-25 FM	7/22/14 2:23 PM	6	0 Succeeded			tro mover	- 19

When you click Search it will display the results.

Job	ID Type	Start Time /	End Time
Dik .	2451350601 Run OS Build Plan	7/23/14 1:45 PM	

The system will complete the process. You can close the results screen.

You will see the following screen when the process is completed.

Warning: Once you enter the PXE Boot process, do not press ANY KEY while the following window is active until the process completes. If you do, the build will fail!



When this screen displays, the provisioning completed successfully. You can now close this window.



- 7. Log into the server with 'ea' and 'su' to the root using the password for both accounts as "deadbeef".
- 8. Enter 'reboot' to REBOOT the server.

Troubleshooting the PXE Boot Process

If you do not get this screen after approximately ½ hour, (but instead receive an error message), notify your lead or manager to indicate you have a problem with the PXE Boot process.

\smile	sessment Service Tag B91WX12			_	
	Configuration Results Sys	tem Health Event Log			
	Fans				
Backplane 1-1-32	Sensor	Current	High	Low	
	System Board Fan1A RPM	4800 RPM	12488 RPM	4680 RPM	
Expander 1-1-33	System Board Fan2A RPM	4800 RPM	12480 RPM	4680 RPM	
	System Board Fan3A RPM	4440 RPM	12360 RPM	4440 RPM	_
S Boot Path 1-1-0	System Board Fan4A RPM	4440 RPM	12360 RPM	4440 RPM	
	System Board Fan5A RPM	4680 RPM	12488 RPM	4560 RPM	
	System Board Fan6A RPM	4680 RPM	12480 RPM	4560 RPM	_
OS Boot Path 1-1-1	System Board Fan7A RPM	4680 RPM	12600 RPM	4560 RPM	
a construction of the second second	System Board Fan1B RPM	4200 RPM	11528 RPM	4080 RPM	_
Services	System Board Fan2B RPM	4320 RPM	11768 RPM	4200 RPM	
ePSA 42	41.1 - Prompt			4200 RPM	_
Network 1			-	4080 RPM	
	No problems have been found with this	system so far. Do you	want to run the	4080 RPM	_
Network 2	remaining memory tests? This will tak	e about 30 minutes or m	nore	4200 RPM	_
V	D	- 0		4080 RPM	
	Do you want to continue? [recommend	caj	E E		
Network 3	Yes	No			
	Inermals	2.000.0000		the second second	
Network 4	Sensor	Current	High	Low	
	Hard Drive 1-1-0	26 C	28 C	24 C	
and a second second second second	Hard Drive 1-1-1	26 C	29 C	24 C	
Video Card			0.0.0	100.0	
Video Card	Hard Drive 1-1-2	29 C	33 C	28 C	-
Video Card	Hard Drive 1-1-2 Hard Drive 1-1-3	29 C 29 C	33 C 34 C	28 C 29 C	
Video Card	Hard Drive 1-1-2 Hard Drive 1-1-3 Hard Drive 1-1-4	29 C 29 C 29 C	33 C 34 C 33 C	28 C 29 C 28 C	
Video Card	Hard Drive 1-1-2 Hard Drive 1-1-3 Hard Drive 1-1-4 Hard Drive 1-1-5	29 C 29 C 29 C 30 C	33 C 34 C 33 C 34 C 34 C	28 C 29 C 28 C 29 C	_
2 Kees Video Card 2 🔯 Fans 😽 2 💭 Processor	Hard Drive 1-1-2 Hard Drive 1-1-3 Hard Drive 1-1-4 Hard Drive 1-1-5 Hard Drive 1-1-5	29 C 29 C 29 C 30 C 29 C	33 C 34 C 33 C 34 C 34 C 33 C	28 C 29 C 28 C 29 C 29 C 28 C	
Image: Wideo Card Image	Hard Drive 1-1-2 Hard Drive 1-1-3 Hard Drive 1-1-4 Hard Drive 1-1-5 Hard Drive 1-1-5 Hard Drive 1-1-6	29 C 29 C 29 C 30 C 29 C 29 C	33 C 34 C 33 C 34 C 33 C 33 C	28 C 29 C 28 C 29 C 29 C 28 C	
Video Card Fans Processor	Hard Drive 1-1-2 Hard Drive 1-1-3 Hard Drive 1-1-4 Hard Drive 1-1-5 Hard Drive 1-1-6	29 C 29 C 29 C 30 C 29 C	33 C 34 C 33 C 34 C 34 C 33 C	28 C 29 C 28 C 29 C 28 C 28 C	
Video Card Fans Processor	Hard Drive 1-1-2 Hard Drive 1-1-3 Hard Drive 1-1-4 Hard Drive 1-1-5 Hard Drive 1-1-6	29 C 29 C 29 C 30 C 29 C 29 C	33 C 34 C 33 C 34 C 33 C 33 C	28 C 29 C 28 C 29 C 29 C 28 C 28 C	

- 1. If you see this screen, click No to exit from the prompt screen in the Hardware Diagnostic mode.
- 2. In Click on Next Boot>Bios Setup>, and then save the settings when prompted.



3. Select Power>Reset System (Warm Boot).



When it completes its boot process you will see the System Setup screen.

System Setup		Help Abcut Exit
System Setup		
System Setup Main Menu		
System EIOS		
DRAC Settings		
Device Settings		
Select to configure system BIOS settings		
PowerEdge R620	Arrow keys and Enter to select	Finish
Service Tag : FFZKV12	Esc to exit page. Tab to change focus	Firlisti

4. Select System Bios.



5. Change the Boot Mode to BIOS, and then click Exit.

If you are doing a Bare Metal server build, you will see the following screen.

Hard drive C:	Change Order
Boot Option Enable/Disable F Hard drive C: I Integrated NIC 1Port 1Partition 1 Control Disk Drive Sequence	Use arrow keys to select an item. Use +/- to position the item in the list. Integrated RAD Controller 1: PERC H710P Minibus 02 Internal SDt Internal Dual SD
Integrated RAD Controller 1 PERC Internal SD: Internal Dual SD	Cancel

For Bare Metal Server Builds:

- a. Click on the Hardware Drive Sequence.
- b. On the Change Order screen, select Integrated RAID Controller as shown above, and click Plus.
- c. Click OK to continue.

Configuring the Ports and VLAN for a Server

We are going to get direct approval for this process during the Isolation Build Project so we think we won't need to use this process but I am waiting for verification. Right now, Vinay is still doing this manually. If we are not doing this procedure, skip to step <u>Post Provisioning</u>

- 1. Log into NetGenie at <u>netgenie.corp.iXXXXX</u>.
- 2. Open the Provisioning Wizard and click Add Request.



3. When the Select Operation screen appears, click Next.

	*
Select Operation:	
 Switch/Pert configuration Host Cloning 	
Source Type: Switch/Port Name Single/Multiple Hostname	

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

Switch		
No data availab ac1-agg-w1- ac1-agg-w2- ac1-comput ac1-syc-ct-1 ac1-compu ac1-ct-las ac10-compu ac11-ct-las ac10-compu ac11-ct-las ac12-ct-w2- ac12-ct-w2- ac12-ct-w2- ac12-ct-w2- ac12-ct-las ac16-compu ac14-ct-las ac16-compu ac14-ct-las	every Port info for 1st Switch Swit	Port info for 2nd Switch

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.

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

	Switch		Port/Port Range		Exclude Port/Port Range		
	ac21-compute-C-qcy	٠	111/01/06		e.g. 101/5/8-1.101/5/13	Query	
						10 N.O.	
							Dek
and the second	0007		MODE	16 dN			

- 6. Change the commas to backslashes as you did earlier in the Opsware Implementation QuickBase.
- 7. Click Query to 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:

111/1/6	Access		641				
Mode		Tom	olate		ul ANe		
· VPC-L	ACP	• ma	nual	- C.	VLANs entered will over	ente existing configurati	on]
		Lenne		Þ			
	Mode • VPC-L	Mode • VPC-LACP	Mode Tem • VPC-LACP • mai	Mode Template VPC-LACP manual	Mode Template • VPC-LACP • manual •	Mode Template vLANs VPC-LACP VLANs entered will over	Mode Template vLANs VPC-LACP Manual VLANs entered will overwrite existing configuration

- 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.
- 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.

	Mode	Template	VLANs	
configure	 VPC-LACP 	 manual 	• 292,852	

12. When the following information displays, click Finish.

		SELECT OPERATION	
		Selected	target configuration summary
змітсн	PORT	MODE 0	VLAN
ac21-compute-C-qcy	111/1/6	VPC-LACP	292,852
Operation : configure femplate Name : nanual			

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

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

Switch	Port/Port Range	Exclude Port/Port Range	
ac22-compute-C-qcy	• 111/01/06	e.g. 101/5/6-6,101/5/13	Que

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.

Omeration	Mada	Tomelate	ul AN-	
configure	VPC-LACP	manual	· 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.

V	SWITCH	PORT	REQUEST TYPE	MODE	VLAN
•	ac21-compute-C-qcy	111/08	contigue	VPC-LACP	292,852
×	ac22 compute-C-qcy	111/16	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.

Functional Group*	Product & Technology Grou	•	
Application Name*	NetGenie	•	

- Provisioning Group: Select Product and Technology Group.
- 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.

1. In the Isolation Build Server QuickBase, change the Provisioning Status to OS Provisioned.



 Update the Ready for Post Provision date field to today's date. If the Assigned – Post Provisioning field is blank and you will perform the Post Provisioning, select your name from the drop-down list.

Linux Host Post Provisioning

Use this procedure when performing Post Provisioning for the Service Delivery Team's servers:

- 1. Open the HPSA Opsware console to start.
- 2. Check "root" user's profile and confirm /sbin is in its path. If not, add it and then "source /etc/profile"
- 3. Check the current date and time of the server by using the Date command:

```
# date
```

If it reflects the current date and time, continue to the next step. Otherwise, set the date using the following command as an example:

date --set="Mon Aug 21, 2014 11:00:00"

4. Use the VAStool to add the hosts to the Active Directory and move the hosts to the right organizational unit (OU) in Active Directory.

```
/opt/quest/bin/vastool -u yourname-
$(hostname) $(hostname -d)
```

-u is the only variable that needs to be changed. The variable *yourname* is your Active Directory username-admin ID. The rest of the command can be submitted verbatim.

5. We can skip this section because we selected the RH baseline Linux up-to-date version during the OS Deployment. Otherwise, install software and patches via Opsware.

Proot@ppr		- • ×
File "./bs_software.py	7", line 534, in blockingmainThread	*
File "./bs_software.py	/", line 512, in blockingmain	
File "./bs_software.py	y", line 488, in do_software	
File "./bs_software.py	y", line 429, in register_software	
File "./spinwrapper.py	7", line 110, in func	
File "./spinwrapper.py	y", line 239, in getInfoFromServer	
File "./xmlrpc/xmlrpc.	lib.py", line 822, in <u>call</u>	
<pre>self.append(_string;</pre>	ify(data))	
File "./xmlrpc/lcxmlrp	oclib.py", line 113, inrequest	
File "./xmlrpc/xmlrpc]	lib.py", line 909, inrequest	
"unexpected type in	multicall result"	
File "./SSLTransport.p	oy", line 71, in request	
File "./asyncssl.py",	line 108, in connect	
File "./asyncssl.py",	line 131, in _connect_inner	
File "./asyncssl.py",	line 229, in _blocking_connect	
File " <string>", line</string>	1, in connect	
error: (111, "Connection	refused while connecting to ('1 70', 3	001) from
pprddapcau14603.ie.intu	uit.net ")	
	т	
	· <u>1</u>	
Iroot@pprdc	井	
[root@pprdc	# 	
	#	
	#	
	# //	
	# 	
Troot@pprdc	#	v

Install Software Policy(s):

- 1. Right-click on the host and select "Install Software".
- 2. In the left frame of the "Install Software" dialog box select "Software".
- 3. In the right frame of the "Install Software" box, click on the green "+" sign.
- 4. In the left frame of the "Select Library Option" popup box, select "Software Policy".
- 5. 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".

000	Install Software
All Steps	省 Software
I Devices	
🌱 Software	Name Location
Options Provious	
Scheduling	● ○ ○ Select Library Item
Votifications	Select Library Item Library items may be browsed by type or by folder for selection.
Help 🎄	
Software	Browse Types Browse Folders
To add software or software policies to install, click on the green "+" button and select the software you want. The software you choose must be compatible with the servers' operating system. More help	Image: Software Policy Image: Software Policy Image: Software Poli
Contraction Devices	1 item selected
Reports	Help Cancel Select
Jobs and Sessions	VMWARE VIRTUAL PLATFORM

- 6. Run the Post Provisioning script.
- 7. Install the LinuxPostProv.sh script
- 8. This script can be installed and run in multiple ways. Select how you want to perform it from the list below:
- 9. 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

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

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

				Run Server Scr	ipt				
All Steps		Options							
Servers and Gr Script	oups	Runtime Optio	ns						*
Options Scheduling		Runtime User:	💿 root						
Votifications			Name:						
Job Status			Password:						
			Cartin						
Halp	^		Confirm:						
Help	~	Script Timeout:	60	minute(s)					
Options		Specify any nee	ded parameters for th	is script execution					
Set your options running your scr	prior to ipt and	Specify any nee	@intuit.com	is script execution					
specifying the ou	utput.								
More help		Output Option	s						*
		The system car	retain a maximum of	f the last 10 KB of script out	tput per server.				
		Retain scr	ipt output						
		Size of the	e output to retain (KB):	10					
1									
						Back	Next	Start Job	Cancel

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

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

10. Make password changes for ea and root users in Opsware.

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.
- 3. Run the command /opt/quest/bin/vgptool –v

- 4. Using Opsware, 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 Opsware following the steps outlined in 3a for installing software. Search for software package "vas".
- 5. Mount any external storage.
- 6. Reboot the server and log in to verify all is stable.
- Create an escalation policy in the Escalation Procedures QB (https://www.quickbase.com/db/bdmsudrgn)
- 8. Add custom configurations specified in the eSOW.
- 9. Add users, packages, and Active Directory policy requirements.
- 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.
 - 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).
- 11. Verify host is in caci, and then create the appropriate group if necessary.

CFP Post Provisioning (for Cassandra or Gluster servers)

Warning: If you are provisioning a SPLUNK server, skip to Running the SPLUNK Script on page 36.

- 1. In the HPSA console, run the script that matches the type of server you are provisioning.
- 2. Search for your host by entering either the full or a partial name in the search field (see highlighted area below), and press Enter.



- 3. In the search results:
 - 1. Right-click on the host Name field.
 - 2. Click Run Script.
 - 3. Click Select Script.

Name		IP Add	lress	OS	Facility
4.ie in	nhiit net	10.154	128.169	Red Hat Enterprise Linux Server 6	QCYDC8
9.ie 🕻	Open	Enter	.128.149	Red Hat Enterprise Linux Server 6	QCYDC8
10 2.ie	Open with	,	.128.158	Red Hat Enterprise Linux Server 6	QCYDC8
5.ie	Mary Frank Likstern		.128.166	Red Hat Enterprise Linux Server 6	QCYDC8
1.ie	View Event History		128.156	Red Hat Enterprise Linux Server 6	QCYDC8
6 ia	Install	•	128.168	Red Hat Enterprise Linux Server 6	QCTDC8
	Uninstall	•			derect
	Attach	•			
	Scan				
I Summary	Remediate				
	Create	•			
	Export Patch Info to CSV				
	Run	•			
Curtan	Run Extension	•			
System 2	Run Script	•	LinuxP	ostProv_IN-TEST.sh	
R	Reboot Server		LinuxP	ostProv.sh	
	Deactivate Server		LinuxP	ostProv_using_hostname_convention	on.sh
Computer	Refresh Server		oraPre	pInst.sh	
	Delete Server		DCO -	Linux Patcher	
0	Add to Device Group		Hadoo	op-CreateHadoopUsersSharedKeys	.sh
	Rename	F2	intut-v	asjoin.sh	
		୍	Select	Script	

4. When the following screen appears, click Next.

Script	
Choose a script spe	cification method cript
Script Properties	۲
Name:	LinuxPostProv_IN-TEST.sh Select Script View Script
Version:	3
Type:	Unix
Location:	/Customers/IIT-OEI/Unified Service Delivery/Linux Post Provisioning
Changes Server:	Yes
Run as super user:	Yes
Description:	USAGE: LinuxPostProv_v4.4.3.sh <environment><to a="" be="" db="" n="" y=""><your_email_address></your_email_address></to></environment>
	Where <environment> Options are P (Prod) or NP (NonProd)</environment>
	Where <to a="" be="" db="" n="" y=""> should be Y if it going to be a DB, N if not</to>
	EXAMPLE: LinuxPostProv_v4.4.3.sh P Y mandy_rees@intuit.com

- 5. Select Script>Browse Folders> Customers>IIT OEI>Unified Service Delivery and locate the script you want to run.
- 6. Select the script you want to run and then click Start Job:

G	/Customers/IIT-OEI/Unified Service Delivery
6	
	Name /
	Linux Post Provisioning
	Oracle Post Provisioning
8	BigdataAPP.sh 🕖
2	CFP Bigdata Validation Script 🛛 🙆
8	CFP VM Validation
8	CFP_VM.sh

- 7. Location: Customers 2 IIT OEI 2 Unified Service Delivery 2 BigdataAPP.sh
- 8. Run CFP Bigdata Validation Script.
- 9. At the end of the post provisioning process, if there are no problems, remember to perform last steps at Last Steps Before Handing Off to Apps.

Troubleshooting Post Provisioning Issues

In the HPSA Automation Tool Console, if your server does not show up in the All Managed Servers section (it has an \blacksquare icon showing) perform the procedure below.



1. Enter the following command in your favorite shell access tool:

/opt/opsware/agent/pylibs/cog/bs_hardware

Output: should look like the following which means that the server is good.



2. Enter the next line of code:

/opt/opsware/agent/pylibs/cog/bs_software

Output:

Registering full software inventory information... Contacting core for delta with SpinWrapper to <u>https://spin:1004/spinrpc.py</u>... Software inventory delta registered. 3. Restart the server by entering the following command:

```
/etc/init.d/opsware-agent restart
```

- 4. Once this command completes, log into the Web Opsware tool to test the communication to the server.
 - If the server is in Quincy, run <u>https://quincys</u> ---- QDC
 - If the server is in Las Vegas, run https://vegassian.coordoop.ac.t --- LVDC
- 5. Click Tasks>Run Communication Test.



6. Check when the test is finished and if the server passed the test it displays the following:

https://www.endline.com		- Communication	X
Commun	ication Test - Job ID: 65	7300603	Close
pprd	(000(000) 004		
Last Te Total E	ested: 08/11/14 10:14:14 PM rrors: 0	Run Test Again	
AGT 🥥	ОК		
CRP 🥥	ОК		
CE 🥥	ОК		
DAE 🥥	ОК		
SWR 🥥	ОК		
MID 🥥	ОК		

If you do not receive this output, let your lead or manager know.

7. If you are successful, continue below.

TTO-Specific Server Post Provisioning

If your server is a TTO server (if in the host naming structure, you see TTO, for example), servers within this naming structure will be TTO-specific servers and need to go through the TTO-specific post provisioning procedure.



You will download the script for each server you provision. The script is downloaded to the server and then run in your shell program.

Note: Use quotes for –o. Run the 'script' command first so that the output of the script gets saved to a file so we can tell what happened and troubleshoot as needed.

1. In your favorite shell software, run the script to download the script to the server you want to do post provisioning on.



```
# chmod 755 ./tto_post-provision_finishscript.sh
```

2. For LVDC Only run the following script and then skip to Running the SPLUNK Script:

```
script /var/tmp/tto_post-provision_finishscript.sh.out
```

```
./tto_post-provision_finishscript.sh -L
```

exit

3. For QDC, run the following step for the type of server you're trying to provision.

Application Servers

1. Run the following script to provision an app server:

Note: Leave the servers where "6xx" is included in the name as is. In some instances, this is being changed to reflect the hostname (i.e. "611"); DO NOT change this.

```
[pprdttoas601 - pprdttoas665]
```

- # script /var/tmp/tto_post-provision_finishscript.sh.out
- # ./tto_post-provision_finishscript.sh -d qdc -e prod \

```
-n pnxpqyefd1c102-n1-972n.corp.intuit.net \
```

```
-m /pprdttoas6xx_nf
```

-t app -o "staticroute, mountnfs, patchcurrent"

exit

2. Skip to the <u>SPLUNK script</u> below.

Web Servers

1. Run the following script to provision a web server:

Note: Leave the servers where "6xx" is included in the name as is. In some instances, this is being changed to reflect the hostname (i.e. "611"); DO NOT change this.



WEBNAME specifies the VIP to use for the corresponding "Unit":

Odd	numbered	hosts	in Ç	QDC ((001,00)3,)
qtw	ul.qyeprd	turbot		I	ntu	it.com
Eve	n numbered	l hosts	in	QDC	(002,	004,):
qtw	12.qyeprd	turi	1		.intu	it.com

2. Skip to the <u>SPLUNK script</u> below.

DSM Servers

1. Run the following script to provision a DSM server:

Note: Leave the servers where "6xx" is included in the name as is. In some instances, this is being changed to reflect the hostname (i.e. "611"); DO NOT change this.

```
[oprdttois601 and ostgttois601]
# script /var/tmp/tto_post-provision_finishscript.sh.out
# ./tto_post-provision_finishscript.sh -d qdc -e prod \
-n pnxpqyefdlcl02-n1-9
-m /pprdttoas6xx_nfs_2
-t dsm -o "staticroute,mountnfs,patchcurrent"
# exit
```

2. Run the <u>SPLUNK script</u> below.

Running the SPLUNK Script

1. Run the SPLUNK script (listed below) to provision SPLUNK on your servers.

```
/sbin/parted -s /dev/sdb mklabel gpt
```

```
/sbin/parted -s /dev/sdb mkpart primary ext4 '1 -1'
/sbin/pvcreate --dataalignment 2048k /dev/sdb1
/sbin/vgcreate splunkvg /dev/sdb1
lvcreate -l 100%FREE -n splunkvol1 splunkvg
/sbin/mkfs.ext4 /dev/mapper/splunkvg-splunkvol1
echo "/dev/splunkvg/splunkvol1 /splunk ext4 defaults 0 2"
>> /etc/fstab
mkdir /splunk
mount -a
```

Validating Your Post Provisioning

1. After the TTO-specific post-provisioning is complete, run the following to confirm that the NFS file system is mounted:

df -P -t nfs

If you see the following line:

pnxpqyefdlcl02-n1corp.intuit.name.com/0140807145500/install 2621 4400 1301824 249125765% /tax/olt_mnt/install

Then you can skip to the <u>Completing the Provisioning Status and Handing Off to Apps</u> <u>Team</u> section and update the Provisioning Status to hand the server off to the Apps team.

- If you do NOT see the line above, then the NFS file system was not mounted. In this case, update the Isolation Build QuickBase Provisioning Status field "QA Failed" and assign it to the provision of the post-provisioning failure so he can troubleshoot the problem.
- 3. If the line above does not appear when you run the DF command, open the Isolation Build Server QuickBase, and change the Provisioning Status to OS Provisioned, and change the Ready for Post Provision date to today's date.



Provisioning Status					
Provisioning Status					
OS Provisioned	1				
Ready for OS Provision	Assigned - OS Provisioning				
08-01-2014	Misa /				
Ready for Post Provision	Assigned - Post Provisioning				
08-04-2014	Kumar /				
Ready for App Deploy	Assigned - App Deploy				
MM-DD-YYYY	•				

Last Steps - Before Handing Off to Apps

1. In the Isolation Build Server QuickBase, change the Provisioning Status to OS Configured.

Provisioning Status	
Not Started	
OS Provisioning Started	
OS Provisioned	
Post Provision Complete	9
App Deployed	
Punctional QA Complete	,
Fen rest Complete	
 Provisioning Status 	
Provisioning Status	
Post Provision Complete	•
Ready for OS Provision	Assigned - OS Provisioning
08-08-2014	Kun /
Ready for Post Provision	() Assigned - Post Provisioning
08-11-2014	Kum
Ready for App Deploy	Assigned - App Deploy
• • • • • • • • • • • • • • • • • • • •	

- 2. Update the Ready for Ready for App Deploy field today's date.
- 3. Click Save to keep your work and the server will be transitioned to the Apps team for additional work.