Report Title:	IQ Template Details
Run Date and Time:	27-Oct-2023 04:33:18 PM India Standard Time
Run by:	G,Ramsanthosh
Table name:	u_iq_template

IQ Template

Number:	AIQ0007358	Status:	Published
Product Name:	Infosrio Safety - Oracle 19c cluster installation	Version Number:	1
IQ Date:	14-Sep-2021 07:37:59 PM	Category:	Cat 1
IQ Version:	1.1	GXP Regulated (A):	false
Type:	Software	SOX (B):	false
		Non Regulated (C):	Yes
		Privacy (P):	Yes

Form Changed:

true

Author:

G,RamSanthosh (808326)

Technical Approver:

Ball,Linda (633987)

Development Manager:

IT Manager:

Ball,Linda (633987)

Qualification Coordinator:

Overview:

\\usadc-sboxi01\q\Dummy_Work_Instruction.htm#overview

System Introduction:

Installation Location and Environment Verification:

Responses to the following questions provide information about the location and environment into which the system is being installed:

CS.OP.CV001   Computer System Validation Activities and Deliverables
CS.WI.CV007   Creating and Executing an Installation Qualification

· What business group/department is responsible for the installation of this system?
Infosario Safety DBA support

· What site preparation is needed for this installation?

· What software preparation is needed for this installation?

Required OS patch's and kernal settings are present for 19C
Grid config mounts should be mounted on all nodes that are needed for OCR and VOTING DISK

· What interface preparation is needed for this installation?

· What data preparation is needed for this installation (e.g., patient data, metadata setup, project-specific data, pre-loaded data necessary to install test user accounts, configuration settings)?

· Is this to be a multi-component installation (i.e., a single IQ or a series of related IQs)? If yes, describe.

· What access rights are necessary to perform this installation (e.g., OS or database admin privileges)?

Instructions for the Installer:	
\\usadc-sboxi01\q\Dummy_Work_Instruction.htm#instructions	
Acceptance Criteria:	
Instructions for Resolving Errors:	
\\usadc-sboxi01\q\Dummy_Work_Instruction.htm#error	
Uninstall Procedures:	
uninstall Grid infrastructure from server	
Name And Version:	
Infosrio Safety - Oracle 19c cluster installation 1	

Installation Procedures

Test Case Number:
Title:
Test Objective:
App Dependencies:
Dependencies:
Starting Point:
Overview Validate:
\\usadc-sboxi01\q\Dummy_Work_Instruction.htm#overview
ILEV Validate:

<p class="level1bodytext" style="margin: 6pt 0in 0pt 0.3in;">Responses to the following questions provide information about the location and environment into which the system is being installed:</p>

<p>

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<p>CS.OP.CV001&nbsp;&nbsp;&nbsp;&nbsp;&nbsp; Computer System Validation Activities and Deliverables</p>

<p>CS.WI.CV007&nbsp;&nbsp;&nbsp;&nbsp;&nbsp; Creating and Executing an Installation Qualification</p>

<p>&nbsp;</p>

<p class="level1bullet" style="margin: 6pt 0in 0pt 0.8in;">&middot; What business group/department is responsible for the installation of this system?</p>

<p>
Infosario Safety DBA support</p>

<p class="level1bullet" style="margin: 6pt 0in 0pt 0.8in;">&nbsp;</p>

<p class="level1bullet" style="margin: 6pt 0in 0pt 0.8in;">&middot; What site preparation is needed for this installation?</p>

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<p class="level1bullet" style="text-indent: 0in; margin: 6pt 0in 0pt 0.8in;">&nbsp;</p>

<p class="level1bullet" style="margin: 6pt 0in 0pt 0.8in;">&middot; What software preparation is needed for this installation?</p>

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<p class="level1bullet" style="margin: 6pt 0in 0pt 0.8in;">Required OS patch's and kernal settings are present for 19C &nbsp;</p>

<p class="level1bullet" style="margin: 6pt 0in 0pt 0.8in;">Grid config mounts should be mounted on all nodes that are needed for OCR and VOTING DISK</p>

<p class="level1bullet" style="margin: 6pt 0in 0pt 0.8in;">&nbsp;</p>

<p class="level1bullet" style="margin: 6pt 0in 0pt 0.8in;">&middot; What interface preparation is needed for this installation?</p>

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<p class="level1bullet" style="text-indent: 0in; margin: 6pt 0in 0pt 0.8in;">&nbsp;</p>

<p class="level1bullet" style="margin: 6pt 0in 0pt 0.8in;">&middot; What data preparation is needed for this installation (e.g., patient data, metadata setup, project-specific data, pre-loaded data necessary to install test user accounts, configuration settings)?</p>

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<p class="level1bullet" style="text-indent: 0in; margin: 6pt 0in 0pt 0.8in;">&nbsp;</p>

<p class="level1bullet" style="margin: 6pt 0in 0pt 0.8in;">&middot; Is this to be a multi-component installation (i.e., a single IQ or a series of related IQs)? If yes, describe.</p>

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<p class="level1bullet" style="margin: 6pt 0in 0pt 0.8in;">&nbsp;</p>

<p class="level1bullet" style="margin: 6pt 0in 0pt 0.8in;">&middot; What access rights are necessary to perform this installation (e.g., OS or database admin privileges)?</p>

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<p class="level1bullet" style="margin: 6pt 0in 0pt 0.8in;">&nbsp;</p>

Instrinstall Validate:

\\usadc-sboxi01\q\Dummy_Work_Instruction.htm#instructions

Acceptcrit Validate:

System Introduction Validate:

Errors Validate:

\\usadc-sboxi01\q\Dummy_Work_Instruction.htm#error

Uninstall Procedures Validate:

Lifecycle Dates

IQ Date:

14-Sep-2021 07:37:59 PM

Published:	
24-Feb-2023 03:41:06 PM	
Superseded:	
Retired:	
Retired by:	
Updated:	24-Feb-2023 03:41:06 PM

Activity

IQ Variables

Related List Title:	Document Revision History List
Table name:	u_iq_revision_history
Query Condition:	IQ Template = Infosrio Safety - Oracle 19c cluster installation 1
Sort Order:	Revision Date in ascending order

2 Document Revision History

Version	Changes	Author	▲ Revision Date	IQ Template
1	Initial Version	Q801379	07-Mar-2022 09:32:21 PM	Infosrio Safety - Oracle 19c cluster installation 1
1.1	Updates	Q808326	24-Feb-2023 03:35:45 PM	Infosrio Safety - Oracle 19c cluster installation 1

Related List Title:	IQ Template Step List
Table name:	u_iq_template_step
Query Condition:	IQ Template = Infosrio Safety - Oracle 19c cluster installation 1
Sort Order:	Step Number in ascending order

5 IQ Template Steps

▲ Step Number	Step Type	Instructions
1	Install	PREREQ: 1. Make sure OCR & VOTING DISK Qtree (Grid mounts) are requested and mounted on server. 2. Download below grid patch from oracle support for 19.3 LINUX.X64_193000_grid_home.zip Create a directory structure on both nodes to install grid Mkdir -p /u02/app/19.3.0/grid Copy grid home software to /u02/app/19.3.0/grid and unzip the file on first node.

▲ Step Number	Step Type	Instructions
2	Install	Cluster Verify =============== Pre-Req: ======== 1. Get the private IP's from cat/etc/hosts and ping private IP from one server to all other server. i.e First server to second & third server, second server to first & third server and third server to first & second server Ex: cat /etc/oratab # Private network - bond0.600 # 172.16.11.17/28 - 255.255.255.240 172.16.11.18 ca2ulsrac401p-priv 172.16.11.20 ca2ulsrac402p-priv 172.16.11.21 ca2ulsrac403p-priv # VIPs 10.2.91.125 ca2ulsrac401p-vip 10.2.91.126 ca2ulsrac402p-vip 10.2.91.130 ca2ulsrac403p-vip # lsprod2-scan #10.2.91.27 #10.2.91.28 #10.2.91.29 -bash-4.2 oracle@ca2ulsrac401p: ~ $ ping 172.16.11.20 PING 172.16.11.20 (172.16.11.20) 56(84) bytes of data. 64 bytes from 172.16.11.20: icmp_seq=1 ttl=64 time=0.070 ms 64 bytes from 172.16.11.20: icmp_seq=2 ttl=64 time=0.072 ms 64 bytes from 172.16.11.20: icmp_seq=3 ttl=64 time=0.131 ms --- 172.16.11.20 ping statistics --- 3 packets transmitted, 3 received, 0% packet loss, time 2035ms rtt min/avg/max/mdev = 0.070/0.091/0.131/0.028 ms -bash-4.2 oracle@ca2ulsrac401p: ~

▲ Step Number	Step Type	Instructions
		$ ping 172.16.11.21 PING 172.16.11.21 (172.16.11.21) 56(84) bytes of data. 64 bytes from 172.16.11.21: icmp_seq=1 ttl=64 time=0.051 ms 64 bytes from 172.16.11.21: icmp_seq=2 ttl=64 time=0.110 ms --- 172.16.11.21 ping statistics --- 2 packets transmitted, 2 received, 0% packet loss, time 1036ms rtt min/avg/max/mdev = 0.051/0.080/0.110/0.030 ms 2. Install cvuqdisk-1.0.10-1 package which is needed for 19c cluster install. cvuqdisk-1.0.10-1 package will be given by oracle. we need to ask unix team to run below script on both nodes to install package as root. Location of files: ================== 1.ca2ulsrac601q --> /u02/app/19.3.0/grid/cv/rpm/cvuqdisk-1.0.10-1.rpm 2. ca2ulsrac602q --> /tmp/cvuqdisk-1.0.10-1.rpm (copy rpm from first node to temporary location of second node) Script execution steps: ======================= CVUQDISK_GRP=dba; export CVUQDISK_GRP rpm -iv cvuqdisk-1.0.10-1.rpm Refer below steps to install https://docs.oracle.com/en/database/oracle/oracle-database/19/ladbi/installing-the-cvuqdisk-rpm-for-linux.html#GUID-8A74CA97-D2FA-4016-8B61-99D6CB52A40E Cluster verify: ============== Go to /u02/app/19.3.0/grid and ask unix team to run runcluvfy.sh and get the output. Reason: RPM package manager should be checked as part of cluster verify, which can done with help of root password. so steps would be

▲ Step Number	Step Type	Instructions
		1. Ask unix team to sudo su - oracle 2. Run cluster verify. it will promt root password. unix team has to enter root password sudo su - oracle cd /u02/app/19.3.0/grid ./runcluvfy.sh stage -pre crsinst -n ca2ulsrac601q,ca2ulsrac602q -method root -c /mounts/grid_config7,/mounts/grid_config8,/mounts/grid_config9 -q /mounts/grid_config7,/mounts/grid_config8,/mounts/grid_config9 -osdba dba -orainv dba -verbose 3. Get the output and make sure no errors. If errors are there, please fix all errors and rerun the cluster veriy until logs are error free. Frequent errors: =============== 1.SWAP space issue on both servers. get unix team to fix this Verifying Swap Size ... Node Name Available Required Status ------------ ---------------------- ---------------------- ---------- ca2ulsrac601q 0.0 bytes 16GB (1.6777216E7KB) failed ca2ulsrac602q 0.0 bytes 16GB (1.6777216E7KB) failed Verifying Swap Size ...FAILED (PRVF-7573) 2.Node connectivity failed Verifying Node Connectivity ...FAILED PRVG-11891 : Connectivity failed between interface "bond0.600" configured with IP address "172.16.11.34" on node "ca2ulsrac601q" and interface "bond0.600" configured with IP address "172.16.11.36" on node "ca2ulsrac602q" for the subnet "172.16.11.32". PRVG-11078 : node connectivity failed for subnet "172.16.11.32" This is expected. Need to ping the private IP of the other server on each server before running verify. 3. Verifying Group Existence: asmadmin ...FAILED & Verifying Group Membership: asmadmin

▲ Step Number	Step Type	Instructions
		...FAILED
		Ignore these errors, as we are not using asmadmin
		Attach cluster verify output to EIQ
		Sample output file is attached here

▲ Step Number	Step Type	Instructions
3	Install	open a VNC session and start the installation: Open a VNC session using below steps export DISPLAY=ca2ulsrac601q:1 oracle >vncpasswd Password: Verify: Would you like to enter a view-only password (y/n)? n A view-only password is not used oracle >vncserver New 'ca2ulsrac601q:1 (oracle)' desktop is ca2ulsrac601q:1 Starting applications specified in /u01/app/oracle/.vnc/xstartup Log file is /u01/app/oracle/.vnc/ca2ulsrac601q:1.log Now open VNC Viewer in local laptop and enter session details as ca2ulsrac601q:1. It will ask for password and enter the vnc password that we created on server. on VNC session, Navigate to /u02/app/19.3.0/grid and execute "gridSetup.sh" 1. Window Name: Select Configuration Option : Select "Configure Oracle Grid Infrastructure for a New Cluster" and click "Next". 2. Window Name: Cluster Configuration : Select "Configure an Oracle Standalone cluster " and click "Next" 3. Window Name: Grid Plug and Play : Select "Create Local SCAN" and enter the specific details and uncheck other details and click "Next" Cluster name : LSDEV3 SCAN name : LSDEV3-SCAN PORT : 1545 4. Window Name: Cluster Node Information Click the "Add" button and add all nodes in the cluster and their corresponding vip addresses. Be sure to use the fully qualified domain names. You may have to edit the listed node to include the fully qualified domain name. Public hostname Virtual hostname

▲ Step Number	Step Type	Instructions
		========================= ============================== ca2ulsrac601q-quintiles.net ca2ulsrac601q-vip-quintiles.net ca2ulsrac602q-quintiles.net ca2ulsrac602q-vip-quintiles.net 5. After all nodes have been added, click on the SSH Connectivity button, check "Reuse private and public keys existing in the user home". And click on "TEST". You should receive the message "Successfully established passwordless SSH connectivity between the selected nodes." If so, then click "OK" and then "Next". If not, do the SSH setup or copy SSH files from first node to remaining nodes. 6. Window Name: Specify Network Interface Usage Select the proper interface type for each interface listed. Make sure you have selected the correct type. It is possible to complete the installs with an incorrect configuration, but this will cause serious problems later. Select "Public" for the public interface, select "Private" for the interconnect, and select "Do Not Use" for the SAN as listed below, You can verify in /etc/hosts file and select it appropriately. Then click "Next". * on network selection, interface name & subnet will be picked automatically. Only "use for" column need to be selected based on /etc/hosts file ** This is very critical step and make sure to have second pair of eyes before moving to next step. ex: # RAC nodes - public bond0.3249 ================== 10.3.91.30 ca2ulsrac601q.quintiles.net ca2ulsrac601q 10.3.91.31 ca2ulsrac602q.quintiles.net ca2ulsrac602q # NAS - bond0.1064 ========== 10.18.92.30 ca2ulsrac601q-san 10.18.92.31 ca2ulsrac602q-san # # Private network - bond0.600 ====================

▲ Step Number	Step Type	Instructions
		#172.16.11.32/28 - 255.255.255.240 172.16.11.34 ca2ulsrac601q-priv 172.16.11.36 ca2ulsrac602q-priv 7. Window Name: Storage Option Information Select "Use Shared File System" and then click "Next". 8. Window Name: Create GIMR : Select No and then click "Next" 9. Window Name: Shared File System Storage Option : you should see the "/mounts/grid_config" mounts directories. You should see all three with the added path of "storage/ocr". If not, correct the paths, Do the same for Voting Disks and then click "Next" to continue OCR FILE LOCATION /mounts/grid_config7/storage/ocr1 /mounts/grid_config7/storage/ocr2 /mounts/grid_config7/storage/ocr3 VOTING DISK LOCATION /mounts/grid_config7/storage/vdsk1 /mounts/grid_config7/storage/vdsk2 /mounts/grid_config7/storage/vdsk3 10. Window Name: Failure Isolation Support Select "Do not use Intelligent Platform Management Interface (IPMI)", and then click "Next". 11. Window Name: Management Options Uncheck the checkbox and Click "Next" 12. Window Name: Privileged Operating System Groups Leave all the drop-down boxes set to "dba" and click "Next". You will receive a warning message with INS-41808, INS-41809, INS-41810, and INS-41813 errors. This is simply a warning since we are using the same group. If you receive only these errors, click "Yes" indicating that you wish to continue anyway. 13. Window Name : Create Inventory : Give

▲ Step Number	Step Type	Instructions
		appropriate location and click "Next" Ex: /u01/app/oraInventory 14. Window Name : Root Script execution configuration : Uncheck the box and click "Next". 15. Window Name : Prerequisite checks : it would run and once complete it would show any errors or Warnings. If you got any errors, fix that and continue with installation. 16. Window Name : Summary : Click "Save Response File" and keep it in the desired location and click "Install". 17. Window Name : Install Product : It will proceed with the installation, check all the status are "Succeeded" Check with Unix team to run the scripts as root user in the mentioned nodes during installation. Note: Do not click ok and proceed until the script execution is completed by Unix team. 18. Once Unix team confirms the scripts has been completed, check the logs for succeeded. Then click ok. It will proceed further, and the installation will be completed successfully.
4	Install	Add below entry in oratab of all nodes. ex: +ASM1:/u02/app/19.3.0/grid:N --> Node1 +ASM2:/u02/app/19.3.0/grid:N --> Node2

▲ Step Number	Step Type	Instructions
5	Verify	Perform a basic check on the server. oenv to ASM instance and run below commands 1. ocrcheck --> to check OCR file status and location 2. crsctl query css votedisk --> to check Voting disk file status and location 3. olsnodes -n -t --> to check no nodes on cluster 4. sudo crsctl status resource -t --> to check staus of each CRS cluster resource. Attach the output to EIQ

Related List Title:	Approval List
Table name:	sysapproval_approver
Query Condition:	Review for = Infosrio Safety - Oracle 19c cluster installation 1
Sort Order:	State in ascending order

3 Approvals

▲ State	Approver	Approval Meaning	Group	Workflow activity	Created
Approved	Ball,Linda (633987)	For Cat 1: This signature indicates technical review of this document has been completed, and authorizes execution of the IQ For Cat 2-5: This signature indicates review of this document and confirms that this deliverable includes sufficient detail to install the system or project			24-Feb-2023 03:40:33 PM

▲ State	Approver	Approval Meaning	Group	Workflow activity	Created
Approved	Ball,Linda (633987)	This signature indicates technical review of this document and confirms that this deliverable includes sufficient detail to install the system, and that the document is in compliance with the applicable SOPs			24-Feb-2023 03:36:18 PM
Approved	G,RamSanthosh (808326)	This signature confirms that installation and verification steps described in this document are complete and sufficient to demonstrate qualified installation of the system.			24-Feb-2023 03:35:46 PM