

**Additional Pre-checks For 8.2.3P5 Upgrades**

**Authors:** Ian Daniel

**Contributors:** Ken Zola, Joel Edstrom

**Document Version:** V0.2

**Date:** March 2018

Status: Draft

**CONFIDENTIAL INFORMATION**

This document contains information proprietary to Thomson Reuters and may not be reproduced, disclosed or used in whole or part without express permission of Thomson Reuters.

© Thomson Reuters 2018

Contents

[1 Introduction 3](#_Toc509569999)

[1.1 Management Summary 3](#_Toc509570000)

[1.2 Change History 3](#_Toc509570001)

[1.3 Distribution List 4](#_Toc509570002)

[1.4 Glossary 4](#_Toc509570003)

[2 Process Details 5](#_Toc509570004)

[2.1 Description 5](#_Toc509570005)

[2.2 Tasks 5](#_Toc509570006)

[2.2.1 Obtain the LIF Sufficiency checker script. 5](#_Toc509570007)

[2.2.2 Enter Systemshell (You may need to set the diag user password and enable the account) 5](#_Toc509570008)

[2.2.3 Get The Script (Systemshell) 5](#_Toc509570009)

[2.2.4 Run The Script In Reporting Mode and Collect Output 6](#_Toc509570010)

[2.2.5 Send the Output to NetApp For Checks 11](#_Toc509570011)

# Introduction

## Management Summary

This document details the process used to run off a report as a pre-check which will be analysed by NetApp to provide pointers as to required fixes before attempting an upgrade.

## Change History

|  |  |  |  |
| --- | --- | --- | --- |
| **Ver** | **Date** | **Author** | **Key Changes** |
| 0.1 | March 2018 | Ian Daniel | Initial Version |
| 0.2 | March 2018 | Ian Daniel | Updated following feedback |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

## Distribution List

|  |  |
| --- | --- |
| **Name** | **Role** |
| Storage Engineering | Reviewer |
| Storage Delivery | Reviewer |
| Storage Architecture | Reviewer |

## Glossary

|  |  |
| --- | --- |
| **Term** | **Definition** |
| cDOT | clustered Data ONTAP |
| Vserver | A logical storage virtual server, also known as a Storage Virtual Machine (SVM), which contains LIFs, Volumes, and configuration information such as access control details. |
| LIF | Logical Interface – a cDOT logical network interface with an IP address, assigned to a single Vserver. |
| CIFS | Short for Common Internet File System, a protocol that defines a standard for remote file access using millions of computers at a time. With CIFS, users with different platforms and computers can share files without having to install new software. |
| SMB | Short for Server Message Block, a message format used by DOS and Windows to share files, directories and devices. |
| NFS | A distributed file system protocol originally developed by Sun Microsystems in 1984, allowing a user on a client computer to access files over a computer network much like local storage is accessed. |

# Process Details

## Description

To generate the report the following process should be followed. Note for this report the LIFs will not be on the first node so there will be a lot of errors that can be discounted. This is the reason for the review by NetApp.

## Tasks

### Obtain the LIF Sufficiency checker script.

orf-graph-01:~ # git clone https://git.sami.int.thomsonreuters.com/ian.daniels/LIF-Checker.git  
Cloning into 'LIF-Checker'...  
Username for 'https://git.sami.int.thomsonreuters.com': ian.daniels  
Password for 'https://ian.daniels@git.sami.int.thomsonreuters.com':  
remote: Counting objects: 6, done.  
remote: Compressing objects: 100% (4/4), done.  
remote: Total 6 (delta 1), reused 0 (delta 0)  
Unpacking objects: 100% (6/6), done.

The checker script is called lif**-**checker.

### Enter Systemshell (You may need to set the diag user password and enable the account)

orf-lab2552::> set diag -confirmations off

orf-lab2552::\*> systemshell -node orf-lab2552-01

(system node systemshell)

Data ONTAP/amd64 (orf-lab2552-01) (pts/2)

login: diag

Password:

Last login: Wed Mar 21 11:42:58 from localhost

Warning: The system shell provides access to low-level

diagnostic tools that can cause irreparable damage to

the system if not used properly. Use this environment

only when directed to do so by support personnel.

orf-lab2552-01%

### Get The Script (Systemshell)

orf-lab2552-01% scp root@10.220.179.83:/root/lif-checker .

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\* This computer system is the property of Thomson Reuters and may be \*

\* accessed only by authorized users. Unauthorized use of this system is \*

\* strictly prohibited and may be subject to criminal prosecution. Your \*

\* use of Thomson Reuters systems and networks is permitted only in \*

\* accordance with Thomson Reuters policies, including the Code of \*

\* Business Conduct and Ethics. Where permitted by applicable law, we \*

\* reserve the right to monitor your use of these systems and networks and \*

\* review any communications made through them. By accessing the Thomson \*

\* Reuters system, you consent to such monitoring and to the retrieval of \*

\* information required for law enforcement or for the purpose of \*

\* protecting Thomson Reuters intellectual property and the \*

\* confidentiality of our corporate, client, and personnel data. \*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

root@10.220.179.83's password:

lif-checker 100% 92KB 91.8KB/s 00:00

orf-lab2552-01%

orf-lab2552-01% chmod 755 lif-checker

### Run The Script In Reporting Mode and Collect Output

sudo vcontext -v 4294967295 <path>/lif-checker <path>/lif-checker -ALL -report -check -optim -verbose

**Example**

orf-lab2552-01% sudo vcontext -v 4294967295 ./lif-checker ./lif-checker -ALL -report -check -optim -verbose

Checking ALL Vservers for sufficiency LIFs.

Running in report mode.

Enabling Script Optimizations.

Running in verbose mode.

Post upgrade flag NOT set

Checker may take up to 60 minutes to complete.

Checking Vserver(s) (TestSVM2 ar-wfatest-0005 silab-iscsi-01 silab-mssql-01 silab-oracle-e01 sioracle-e0006 svm070njz) for sufficiency LIFs.

There are 2 nodes in the cluster.

--------------------------------------------------------------------------------

TestSVM2:

--------------------------------------------------------------------------------

LIFS of TestSVM2:

v4: (TestSVM2\_nfs\_lif1)

optimizations will use: (TestSVM2\_nfs\_lif1)

v6: ()

optimizations will use: ()

.DNS servers:

(163.231.226.250 163.231.227.250)

.163.231.226.250 is reachable from Vserver TestSVM2 via TestSVM2\_nfs\_lif1.

.163.231.227.250 is reachable from Vserver TestSVM2 via TestSVM2\_nfs\_lif1.

............

--------------------------------------------------------------------------------

ar-wfatest-0005:

--------------------------------------------------------------------------------

LIFS of ar-wfatest-0005:

v4: (ar-wfatest-0005-lif01)

optimizations will use: (ar-wfatest-0005-lif01)

v6: ()

optimizations will use: ()

.DNS servers:

(163.231.26.2 163.231.26.3)

.

DNS Server 163.231.26.2 is NOT REACHABLE from Vserver ar-wfatest-0005.

.

DNS Server 163.231.26.3 is NOT REACHABLE from Vserver ar-wfatest-0005.

............

--------------------------------------------------------------------------------

silab-iscsi-01:

--------------------------------------------------------------------------------

LIFS of silab-iscsi-01:

v4: (silab-iscsi-01-lif-01 silab-iscsi-01-lif-02 silab-iscsi-01-mgmt-lif)

optimizations will use: (silab-iscsi-01-lif-01)

v6: ()

optimizations will use: ()

.DNS servers:

(163.231.26.2 163.231.26.3)

.163.231.26.2 is reachable from Vserver silab-iscsi-01 via silab-iscsi-01-lif-01.

.163.231.26.3 is reachable from Vserver silab-iscsi-01 via silab-iscsi-01-lif-01.

............

--------------------------------------------------------------------------------

silab-mssql-01:

--------------------------------------------------------------------------------

LIFS of silab-mssql-01:

v4: (silab-mssql-01-lif01 silab-mssql-01-lif02 silab-mssql-01-lif03 silab-mssql-01-mgmt-lif01)

optimizations will use: (silab-mssql-01-lif01)

v6: ()

optimizations will use: ()

.DNS servers:

(163.231.26.2 163.231.26.3)

.163.231.26.2 is reachable from Vserver silab-mssql-01 via silab-mssql-01-lif01.

.163.231.26.3 is reachable from Vserver silab-mssql-01 via silab-mssql-01-lif01.

...CIFS domain discovered servers:

(10.205.79.105 10.205.79.107 10.205.79.113 10.51.52.149)

.10.205.79.105 is reachable from Vserver silab-mssql-01 via silab-mssql-01-lif01.

.10.205.79.107 is reachable from Vserver silab-mssql-01 via silab-mssql-01-lif01.

.........

--------------------------------------------------------------------------------

silab-oracle-e01:

--------------------------------------------------------------------------------

LIFS of silab-oracle-e01:

v4: (silab-oracle-e01-lif-01)

optimizations will use: (silab-oracle-e01-lif-01)

v6: ()

optimizations will use: ()

.DNS servers:

(163.231.226.250 163.231.26.2 163.231.26.3)

.163.231.226.250 is reachable from Vserver silab-oracle-e01 via silab-oracle-e01-lif-01.

.163.231.26.2 is reachable from Vserver silab-oracle-e01 via silab-oracle-e01-lif-01.

............

--------------------------------------------------------------------------------

sioracle-e0006:

--------------------------------------------------------------------------------

LIFS of sioracle-e0006:

v4: (sioracle-e0006-lif-01)

optimizations will use: (sioracle-e0006-lif-01)

v6: ()

optimizations will use: ()

.DNS servers:

(163.231.26.2 163.231.26.3)

.163.231.26.2 is reachable from Vserver sioracle-e0006 via sioracle-e0006-lif-01.

.163.231.26.3 is reachable from Vserver sioracle-e0006 via sioracle-e0006-lif-01.

...CIFS domain discovered servers:

(10.204.32.153 10.205.40.135 10.197.8.6 10.222.170.9 10.238.136.22 10.238.136.18 10.205.40.134 10.52.130.28 10.206.16.83 10.52.130.29 10.204.56.69 10.176.8.254 10.234.82.88 10.238.72.3 10.51.2.20 10.30.106.17 10.51.2.5 10.55.2.20 10.184.2.21 10.184.2.20 10.55.2.21 10.238.72.2 10.234.82.87 10.218.184.11 10.218.184.12 10.202.83.10 10.202.83.2 10.218.184.10 10.116.67.144 10.223.234.215 10.198.200.15 10.223.182.34 10.223.182.35 10.192.4.33 10.192.4.34)

.10.204.32.153 is reachable from Vserver sioracle-e0006 via sioracle-e0006-lif-01.

.10.205.40.135 is reachable from Vserver sioracle-e0006 via sioracle-e0006-lif-01.

.........

--------------------------------------------------------------------------------

svm070njz:

--------------------------------------------------------------------------------

LIFS of svm070njz:

v4: (svm070njz\_lif)

optimizations will use: (svm070njz\_lif)

v6: ()

optimizations will use: ()

.DNS servers:

(163.231.26.2 163.231.26.3)

.163.231.26.2 is reachable from Vserver svm070njz via svm070njz\_lif.

.163.231.26.3 is reachable from Vserver svm070njz via svm070njz\_lif.

............

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\* \*\*\* FAILURES FOUND. \*\*\*

\* You must correct these failures to avoid service disruptions.

\*

\* One way to avoid failures in most environments is to create a

\* Vserver management LIF, one for each Vserver, that has connectivity to all

\* external servers (infrastructure servers such as DNS/NIS/LDAP).

\* Add a route for this LIF, if necessary, to provide connectivity to servers.

\* Command to add LIFs:

\* network interface create -vserver <Vserver\_name> -lif <lif\_name>

\* -role data -data-protocol none

\* -home-node <node\_in\_first\_ha\_pair> -home-port <port\_name>

\* -address <IP\_addr> -netmask-length <bits> -auto-revert true

\* Command to add routes:

\* network routing-groups route create -vserver <Vserver\_name>

\*

\* Other corrective actions may include:

\* - Remove any decommissioned external servers from the Vserver configuration.

\* Commands to show/modify/delete server configurations

\* are in directories:

\* vserver services dns

\* vserver services nis-domain

\* vserver services kerberos-realm

\* vserver services ldap

\* vserver cifs domain

\* vserver fpolicy policy external-engine

\* vserver iscsi isns

\* - Restore any LIFs that are administratively down.

\* Command to determine if any LIFs are down:

\* network interface show -role data -status-admin down

\* Command to restore down LIFs:

\* network interface modify -vserver <Vserver\_name> -lif <lif\_name>

\* -status-admin up

\* - Restore any LIFs that are operationally down.

\* Command to determine if any LIFs are down:

\* network interface show -role data -status-oper down

\* Operationally down LIFs are generally caused by infrastructure issues.

\*

\* For more information, see the "Clustered Data ONTAP 8.3 Upgrade and

\* Revert/Downgrade Guide".

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### Send the Output to NetApp For Checks