### Provision new host

The script is only intended for new hosts & new LDEV’s. Future revisions will include expanded functions.

The script will work for one host or a cluster with multiple hosts however the questions and input will be different to accommodate a cluster.

SAN Fabric zoning can be done before or after the script has been run.  Obviously the host will not see the storage until both have been completed.  As always a reboot may be required to see the new storage.

### Single Host example

# ./create\_new\_host\_storage.py 149

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This script will create a new host group

   and devices on a Hitachi VSP SAN array.

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Array is now locked

If the script aborts under abnormal failure or you abort the script the array will still be locked and you will have to issue the following command.  The number at the end is the last 3 digits of the serial number which is also the HORCM instance for raidcom management work.

# raidcom unlock resource –IM149

What is the ticket # 123456

Enter the Service Now Ticket number you are working on.

What is your SSO # 9999999

Enter your SSO ID.

What is the hostname for the host or cluster? (tnsd12345 or esx01\_08)- tnld12345

Enter the host name.  This will be used to create the \_p1 and \_p2 host group names on the appropriate CL ports.

What is the host OS (L)inux, (S)olaris, (V)Mware, (W)indows? – l

Enter the OS for the host.  The first letter in upper or lower case will work.

Is this a cluster? (y) / (n) n

If you were working with multiple hosts this would be y.

What Tier ? ('perf' or 'std')- perf

Company has two options Performance and Standard tier.  Only option is perf or std.

Array – 149 has the following pools.

Pool ID #000 Name = 93149\_ Subscribed free space = 190.4 TB  
Pool ID #002 Name = 212078\_ Subscribed free space = 220.0 TB  
Pool ID #003 Name = 93149\_FMD Subscribed free space = 8.4 TB  
Use external pools unless they are full.  CMD devices and UR should be on internal pools if possible.

What Pool ID do you want to use - 0

The pool name is truncated however enough information is available to determine external vs internal pools and where free space is available.  Valid #’s depend on the array.

How many LDEVs do you want to create for the new host? 2

Enter how many LDEV’s you want to create.  The goal is to create the fewest number LDEV’s possible. The device may also be grown in the future if requested.

Will the LDEVs all be the same size (y)es or (n)o n

If you say (y) all the devices will be crated the same size

Do you want to manually control LDEV names?  (auto will use host name).  (y)es or (n)o – n  
Manual name allows you to set the name associated with the LDEV typically only used for Solaris LDOM’s.

What size LDEV do you want to create?  (min 8G / max 3990G) - 8G

Engineering has placed a limit of 8G min and 3990G max on device size.  Decimal size is not allowed.  Round up to next nearest whole number.

What size LDEV do you want to create?  (min 8G / max 3990G) – 2T

Engineering has placed a limit of 8G min and 3990G max on device size.  Decimal size is not allowed.  Round up to next nearest whole number.

How many CL Pairs are required for this host or cluster? 1

1 pair will have 2 CL ports.  One for odd fabric one for even fabric.  Valid numbers are 1 to 3.  If you have a host that requires 4 pair or 8 HBA’s per node please see Storage Engineering to evaluate best options.

Create pair # 1

Enter the ODD CL-Port to be used (ex. cl5-a) ? cl1-a

Enter the EVEN CL-Port to be used (ex. cl6-a) ? cl2-a

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

Enter the CL port names you would like to use for this host.  Odd port will be \_p1 Even will \_p2

CL ODD Port  cl1-a

Enter the host pwwn (ex. aaaabbbbccccdddd) ? abcd1234abcd1234

CL EVEN Port  cl2-a

Enter the host pwwn (ex. aaaabbbbccccdddd) ? fdec4321fdec4321

Enter the pwwn of the hosts you are building storage from.  Odd port will be \_p1 Even will \_p2

The script will now display all the values you input and preview what is about to be executed.  Up till this point the only command that has been run on the array was to lock the array.  If there is a typo or error you can stop the script and start over.  The script will find the next free LDEV # from the array and increment up accordingly.  As the script process data is displayed to the screen.  A log file is also created when the job is finished in /hds\_data/scripts/logs.  The file will contain the ticket #.

The script is about to provision storage.

Ticket=  123456

Technician SSO=  9999999

Host= tnld12345 will be added to HDS array xxx149 and set as a LINUX/IRIX host

   Port-cl1-a

        pwwn- abcd1234abcd1234

   Port-cl2-a

        pwwn-fdec4321fdec4321

  LDEV- 0x9c  Size=  8G in pool # 0 tier= perf

  LDEV- 0x9d  Size=  2T in pool # 0 tier= perf

\*\*\*\* Warning \*\*\*\*

Are you sure you want to continue?

\*\*\*\* Warning \*\*\*\*

Enter (y)es to continue (n)o to abort: y

Created host group tnld12345\_p1 on cl1-a-1

Created host group tnld12345\_p2 on cl2-a-1

waiting 30 sec for Host Groups to be created.

pwwn -  abcd1234abcd1234 added to tnld12345\_p1 on cl1-a-1

pwwn - fdec4321fdec4321 added to tnld12345\_p2 on cl2-a-1

waiting 30 sec for LDEVs to be created before applying tiering policy...

Tier policy for 0x9c set to Performance

Tier policy for 0x9d set to Performance

LDEV 0x9c added to cl1-a host group - tnld12345\_p1

LDEV 0x9d added to cl1-a host group - tnld12345\_p1

LDEV 0x9c added to cl2-a host group - tnld12345\_p2

LDEV 0x9d added to cl2-a host group - tnld12345\_p2

array is now unlocked

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### Provision multiple hosts

In the case of multiple hosts one host group per CL pair will be created and multiple host WWN’s will be added to the same host group and proper host mode settings will be applied.

Multiple hosts example

The script is very similar to a single host but accommodates a multiple host config.  Types of clusters are VMware hosts, Solaris Veritas Clusters,  Linux Oracle RAC, Windows Clusters.

# ./create\_new\_host\_storage.py 149

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

This script will create a new host group

and devices on a Hitachi VSP SAN array.

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

array is now locked

What is the ticket # 345676

What is your SSO # 999999999

What is the hostname for the host or cluster? (tnsd12345 or esx01\_08)- tnvp12345\_tnvp12346\_tnvp12347

Enter the cluster name by combining all the host names or if they are in sequence just use the first and last hostname.  The script will handle the \_p1 / \_p2 naming scheme.

What is the host OS (L)inux, (S)olaris, (V)Mware, (W)indows? - v

Is this a cluster? (y) / (n) y

How many hosts will be in the cluster? - 3

What Tier ? ('perf' or 'std')- std

What pool ID do you want to use? - 1

How many LDEVs do you want to create for the new host? 4

Will the LDEVs all be the same size (y)es or (n)o y

What size LDEV do you want to create?  (min 8G / max 4T) - 2T

How many CL Pairs are required for this host or cluster? 2

Create pair # 1

Enter the ODD CL-Port to be used (ex. cl5-a) ? cl1-a

Enter the EVEN CL-Port to be used (ex. cl6-a) ? cl2-a

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Create pair # 2

Enter the ODD CL-Port to be used (ex. cl5-a) ? cl3-a

Enter the EVEN CL-Port to be used (ex. cl6-a) ? cl4-a

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

CL ODD Port  cl1-a

Enter the host pwwn (ex. aaaabbbbccccdddd) ? 1111222233334444

Enter the host pwwn (ex. aaaabbbbccccdddd) ? 2222333344445555

Enter the host pwwn (ex. aaaabbbbccccdddd) ? 3333444455556666

CL ODD Port  cl3-a

Enter the host pwwn (ex. aaaabbbbccccdddd) ? 4444555566667777

Enter the host pwwn (ex. aaaabbbbccccdddd) ? 5555666677778888

Enter the host pwwn (ex. aaaabbbbccccdddd) ? 6666777788889999

CL EVEN Port  cl2-a

Enter the host pwwn (ex. aaaabbbbccccdddd) ? 7777888899990000

Enter the host pwwn (ex. aaaabbbbccccdddd) ? 8888999900001111

Enter the host pwwn (ex. aaaabbbbccccdddd) ? 9999000011112222

CL EVEN Port  cl4-a

Enter the host pwwn (ex. aaaabbbbccccdddd) ? aaaa111122223333

Enter the host pwwn (ex. aaaabbbbccccdddd) ? bbbb111122223333

Enter the host pwwn (ex. aaaabbbbccccdddd) ? cccc111122223333

The script is about to provision storage.

Ticket=  345676

Technician SSO=  999999999

Host= tnvp12345\_tnvp12346\_tnvp12347 will be added to HDS array xxx149 and set as a VMWARE\_EX host

   Port-cl1-a

        pwwn-1111222233334444

        pwwn-2222333344445555

        pwwn-3333444455556666

   Port-cl3-a

        pwwn-4444555566667777

        pwwn-5555666677778888

        pwwn-6666777788889999

   Port-cl2-a

        pwwn-7777888899990000

        pwwn-8888999900001111

        pwwn-9999000011112222

   Port-cl4-a

        pwwn-aaaa111122223333

        pwwn-bbbb111122223333

        pwwn-cccc111122223333

  LDEV- 0x9e  Size=  2T in pool # 1 tier= std

  LDEV- 0x9f  Size=  2T in pool # 1 tier= std

  LDEV- 0xa0  Size=  2T in pool # 1 tier= std

  LDEV- 0xa1  Size=  2T in pool # 1 tier= std

\*\*\*\* Warning \*\*\*\*

Are you sure you want to continue?

\*\*\*\* Warning \*\*\*\*

Enter (y)es to continue (n)o to abort: y

Created host group tnvp12345\_tnvp12346\_tnvp12347\_p1 on cl1-a-1

Created host group tnvp12345\_tnvp12346\_tnvp12347\_p3 on cl3-a-1

Created host group tnvp12345\_tnvp12346\_tnvp12347\_p2 on cl2-a-1

Created host group tnvp12345\_tnvp12346\_tnvp12347\_p4 on cl4-a-1

waiting 30 sec for Host Groups to be created.

pwwn - 1111222233334444 added to tnvp12345\_tnvp12346\_tnvp12347\_p1 on cl1-a-1

pwwn - 2222333344445555 added to tnvp12345\_tnvp12346\_tnvp12347\_p1 on cl1-a-1

pwwn - 3333444455556666 added to tnvp12345\_tnvp12346\_tnvp12347\_p1 on cl1-a-1

pwwn - 4444555566667777 added to tnvp12345\_tnvp12346\_tnvp12347\_p3 on cl3-a-1

pwwn - 5555666677778888 added to tnvp12345\_tnvp12346\_tnvp12347\_p3 on cl3-a-1

pwwn - 6666777788889999 added to tnvp12345\_tnvp12346\_tnvp12347\_p3 on cl3-a-1

pwwn - 7777888899990000 added to tnvp12345\_tnvp12346\_tnvp12347\_p2 on cl2-a-1

pwwn - 8888999900001111 added to tnvp12345\_tnvp12346\_tnvp12347\_p2 on cl2-a-1

pwwn - 9999000011112222 added to tnvp12345\_tnvp12346\_tnvp12347\_p2 on cl2-a-1

pwwn - aaaa111122223333 added to tnvp12345\_tnvp12346\_tnvp12347\_p4 on cl4-a-1

pwwn - bbbb111122223333 added to tnvp12345\_tnvp12346\_tnvp12347\_p4 on cl4-a-1

pwwn - cccc111122223333 added to tnvp12345\_tnvp12346\_tnvp12347\_p4 on cl4-a-1

waiting 30 sec for LDEVs to be created before applying tiering policy...

Tier policy for 0x9e set to Performance

Tier policy for 0x9f set to Performance

Tier policy for 0xa0 set to Performance

Tier policy for 0xa1 set to Performance

LDEV 0x9e added to cl1-a host group - tnvp12345\_tnvp12346\_tnvp12347\_p1

LDEV 0x9f added to cl1-a host group - tnvp12345\_tnvp12346\_tnvp12347\_p1

LDEV 0xa0 added to cl1-a host group - tnvp12345\_tnvp12346\_tnvp12347\_p1

LDEV 0xa1 added to cl1-a host group - tnvp12345\_tnvp12346\_tnvp12347\_p1

LDEV 0x9e added to cl3-a host group - tnvp12345\_tnvp12346\_tnvp12347\_p3

LDEV 0x9f added to cl3-a host group - tnvp12345\_tnvp12346\_tnvp12347\_p3

LDEV 0xa0 added to cl3-a host group - tnvp12345\_tnvp12346\_tnvp12347\_p3

LDEV 0xa1 added to cl3-a host group - tnvp12345\_tnvp12346\_tnvp12347\_p3

LDEV 0x9e added to cl2-a host group - tnvp12345\_tnvp12346\_tnvp12347\_p2

LDEV 0x9f added to cl2-a host group - tnvp12345\_tnvp12346\_tnvp12347\_p2

LDEV 0xa0 added to cl2-a host group - tnvp12345\_tnvp12346\_tnvp12347\_p2

LDEV 0xa1 added to cl2-a host group - tnvp12345\_tnvp12346\_tnvp12347\_p2

LDEV 0x9e added to cl4-a host group - tnvp12345\_tnvp12346\_tnvp12347\_p4

LDEV 0x9f added to cl4-a host group - tnvp12345\_tnvp12346\_tnvp12347\_p4

LDEV 0xa0 added to cl4-a host group - tnvp12345\_tnvp12346\_tnvp12347\_p4

LDEV 0xa1 added to cl4-a host group - tnvp12345\_tnvp12346\_tnvp12347\_p4

array is now unlocked

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Script Finished.