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EMC VMax_Storage and ITS Executions 8 comments

symaccess

Specifically using for Vmax Allocation to do various operations on Masking view and related Groups.
51 Commands

- symaccess -sid 1234 list
  List all Initiator, Port and Storage Groups Created for Array 1234
- symaccess -sid 1234 list -v
  List all Initiator,Port and Storage Groups Created for Array 1234 along with related Masking Views
- symaccess -sid 1234 list -type storage
  List all Storage Groups Created for Array 1234
- symaccess -sid 1234 list -type initiator
  List all Initiator Groups Created for Array 1234
- symaccess -sid 1234 list -type port
  List all Port Groups Created for Array 1234
- symaccess -sid 1234 list view
  List masking views Created for Array 1234 with related groups details
- symaccess -sid 1234 list assignment -dev 9A0:9AF
  Shows the masking details of devices from 9A0 to 9AF
- symaccess -sid 1234 -wwn xxxx replace -new_wwn yyyy
  Replace all occurance of wwn xxxx with yyyy in array 1234
- symaccess -sid 1234 list logins -wwn xxxx
  Check whether wwn xxx logged in to any of the FAs on array 1234.
- symaccess -sid 1234 list -type initiator -wwn xxxx
  Check whether the HBA WWN xxxx is a member of any Initiator Group.
- symaccess -sid 1234 list -type storage -dev AAA
  Check whether the HBA WWN xxxx is a member of any Initiator Group.
- symaccess -sid 1234 list no_assignments -dirport 12f:1
  Shows the devices are mapped to 12f:1 but not masked.
- symaccess -sid 1234 list -name MyGroup
  List all groups named MyGroup
- symaccess -sid 1234 list -name MyGroup -v
  List all groups named MyGroup and also shows the related Masking Views
- symaccess -sid 1234 list devinfo -ig MyInitiator
  List the details of devices assigned to the initiatorgroup MyInitiator
- symaccess -sid 1234 show MyStorageGroup -type storage
  Shows the contents of storage group MyStorageGroup Created on Array 1234

- symaccess -sid 1234 show MyInitiatorGroup -type initiator
  Shows the contents of initiator group MyInitiatorGroup Created on Array 1234
- symaccess -sid 1234 show MyPortGroup -type port
  Shows the contents of port group MyPortGroup Createdon Array 1234
- symaccess -sid 1234 show view MyView
  Shows the contents of view MyView Created on Array 1234
- symaccess -sid 1234 -f MyBackup.txt backup
  Creates a file MyBackup containing all the group and view information currently on the Symmetrix array 1234
- symaccess -sid 1234 -f MyBackup.txt restore
  Restores all the group
- symaccess -sid 1234 -type initiator -name Host1 create -wwn 1000000000000001
  Creates and initiator group called Host1 by adding the specified wwn
- symaccess -sid 1234 -type initiator -name Host1 rename -new_name Host2
  Rename the Initiator Gorup Host1 as Host2
- symaccess -sid 1234 -type port -name 3E0_4E0_13E0_14E0 -dirport 3e:0,4e:0,13e:0,14e:0 create
  Create the portgroup E0_4E0_13E0_14E0 with specified ports
- symaccess -sid 1234 -type port -name 3E0_4E0_13E0_14E0 rename -new_name 3E1_4E1_13E1_14E1
  Rename the Port Gorup 3E0_4E0_13E0_14E0 as 3E1_4E1_13E1_14E1
- symaccess -sid 1234 -type storage -name Host1 create devs AAA:AAB
  Create the storage group Host1 with specified range of devices
- symaccess -sid 1234 -type storage -name Host1 add devs AAA:AAB
  Create the storage group Host1 with specified range of devices
- symaccess -sid 1234 -type storage -name Host1 remove devs AAA:AAB
  Remove the device AAA to AAB from storage group Host1
- symaccess -sid 1234 -type storage -name Host1 remove devs AAA:AAB -unmap

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AIX – **EMC Symetrix Inquiry tool to list – show LUN info for storage**

How and where can I see information about LUNs in AIX from EMC Symetrix storage?
Utility is called inq.aix64_51 and can be found in this location: /usr/lpp/EMC/Symmetrix/bin**EMC Drivers / filesets have to be installed:**

/usr/lpp/EMC/Symmetrix/bin # lslpp -L | grep EMC
EMC.Symmetrix.aix.rte 5.3.0.5 C F EMC Symmetrix AIX Support
EMC.Symmetrix.fcp.MPIO.rte
5.3.0.5 C F EMC Symmetrix FCP MPIO Support
Scripts and utilities are installed by default:

/usr/lpp/EMC/Symmetrix/bin # ls
bcvfcp.tar emc_odmupdate_uniqueid_v2.tar inq.aix32_51 rdfg.tar
boot_change_v3.tar emc_reserve_v1.sh inq.aix64_51 rmbcv
emc_cfgmgr emcgrab_AIX_v4.2.tar mkbcv
emc_odmupdate.tar emcpowerreset nsddevices.tar

Utility to show device linked to LUN with inforation like capacity, serial number, ID…

```
# /usr/lpp/EMC/Symmetrix/bin/inq.aix64_51 -sid -showvol
Inquiry utility, Version V7.3-1009 (Rev 0.0) (SIL Version V7.1.0.0 (Edit Level 1009)
Copyright (C) by EMC Corporation, all rights reserved.
For help type inq -h.
……
———————————————————————————————————————
DEVICE :VEND :PROD :REV :SER NUM :Volume :CAP(kb) :SYMM ID
———————————————————————————————————————
/dev/rhdisk2 :EMC :SYMMETRIX :5773 :xxxxxxxx : 0097B: 75648000 :zzzzzzzzyyxx
```

Help for inq.aix64_51

```
/usr/lpp/EMC/Symmetrix/bin # ./inq.aix64_51 -h
Inquiry utility, Version V7.3-1009 (Rev 0.0) (SIL Version V7.1.0.0 (Edit Level 1009)
Copyright (C) by EMC Corporation, all rights reserved.
For help type inq -h.
Usage: inquirydisplay types:
-h : display this help screen
-et : display emulation and type info (Symmetrix only)
-ckd : display CKD device info (Symmetrix only)
-page0 : display detailed page0 (only valid with -dev option)
-pagec0 : display detailed pagec0 (only valid with -dev option
and on CLARiiON devices)
-parent : display both PowerPath and OS device relationships
-celerra : display Celerra lable devices
-sid : display Symmetrix Serial Number
-sym_wwn : display Symmetrix device wwn and Serial Number
-clariion : display CLARiiON device information
-clar_wwn : display CLARiiON WWN and Serial Number
-showvol : display Symmetrix Volume Number.
-compat : display old format
-btl : display Bus Target and Lun
-sw_wwn : display StorageWorks WWN and Serial Id
-hds_wwn : display HDS WWN and Serial Id
-s80_wwn : display S80 WWN and Serial Id
-invista_wwn : display Invista WWN and Serial Id
-shark_wwn : display IBM Shark WWN and Serial Id
-compaq_wwn : display Compaq WWN and Serial Id
-netapp_wwn : display Netapp WWN and Serial Id
-hba : display HBA info only. See options below
-identifier
: display device identifier info (EMC devices only)
-mapinfo : display target mapping information
-emcvdasd : display EMC VDASD device informationfilter options:
-no_filters : show every device even if no data available
-f_powerpath : filter – only powerpath devices
-f_pseudo : filter – only pseudo devices
-f_real : filter – only real devices
-f_emc : filter – only EMC devices
-f_ckd : filter – only ckd devices
```

-f_celerra : filter – only Celerra devices
-f_4k : filter – only Symmetrix volumes < 4096 -f_clariion : filter – only CLARiiON devices -f_storwrks : filter – only Compaq StorageWorks devices -f_hds : filter – only Hitachi HDS devices -f_s80 : filter – only Fujitsu Siemens S80 devices -f_invista : filter – only EMC Invista devices -f_shark : filter – only IBM SHARK devices -f_size : filter – only show devices with <= size in kbytes query options: -skipread : do not request Read Capacity -skipinq : do not request Inquiry data -skipboth : do not request Read Capacity or Inquiry data device options: -dev : do inquiry on specified device (option will not work for devices that are part
of a varied ON volume group or that may have SCSI
reservations placed on them)
-symmvol : show devices with Symm HEX volume #=
-clar_file : show clariion devices in fileother options:
-no_dots : do not display status dots
-sortoff : do not perform ANY sorting
-sortsymm : sort by Symmetrix serial number (Symmetrix only)sym_wwn options:
-sid_wwn : the 12 digit SID of the symm for which you want wwn's
-symdev : the device for which you want the wwnHBA specific options:
-hba : display HBA info only
-fibre : display FC HBA info only
-iscsi : display ISCSI HBA info only
-scsi : display SCSI HBA info only
-hba_file : external HBA file to use. -fibre only
-create : create external HBA file specified by -hba_file
Usage :
inquiry -hba [-fibre [-hba_file] [-create]] [-scsi] [-iscsi]

Release notes:
Only options listed above are supported, although other options
may continue to work, they are subject to change or removal.

the following parameter changes have occurred
-nodots -> -no_dots
-c -> -ckd
-v -> -page0
-r -> -dev
-s SymmVolumeNumber -> -symmvol SymmVolumeNumber
-xr -> -f_pseudo
-xps -> -f_real
-system -> no longer exists
-emcvdasd -> display EMC VDASD specific information

Remove the device AAA to AAB from storage group Host1 and also unmap from the FAs

- symaccess -sid 1234 -type storage -name Host1 rename -new_name Host2
  Rename the Storage Gorup Host1 as Host2
- symaccess -sid 1234 create view -name Host1_Allocation -sg Host1 -pg 3E0_4E0_13E0_14E0 -ig Host1
  Create a masking view combined with specified groups
- symaccess -sid 1234 view -name Host1_Allocation rename -new_name Host2_Allocation
  Rename name of view Host1_Allocation as Host2_Allocation
- symaccess -sid 1234 delete view -name Host1_Allocation
  Delete view Host1_Allocation.
- symaccess -sid 1234 delete view -name Host1_Allocation -unmap

Delete view Host1_Allocation and also unmap all the device in associated storage group.

- symconfigure -sid 1234 list -freespace -units mb
  Shows the Formatted and Unformatted freespace in MegaBytes on array 1234
- symconfigure -sid 1234 -f command_file.txt preview
  Validates the syntax of the commands in 'command_file.txt' and also verify the configuration changes.
- symaccess -sid 1234 -name PG_1_2_15_16_E0_Group -type port -dirport 1e:0,16e:0 remove
  Remove ports 1e:0 and 16e:0 from port group 'PG_1_2_15_16_E0_Group'.
- symaccess -sid 1234 -name PG_1_2_15_16_E0_Group -type port -dirport 1e:0,16e:0 remove
  Remove ports 1e:0 and 16e:0 from port group 'PG_1_2_15_16_E0_Group'.
- symaccess -sid 1234 -name IG_Server_A -type initiator -wwn xxxx remove
  Remove HBA WWN 'xxxx' from Initiator Group 'IG_Server_A'
- symaccess -sid 1234 -name IG_Servers -type initiator -ig IG_Server_A remove
  Remove Initiator Group 'IG_Server_A' from parent Initiator Group 'IG_Servers'
- symaccess list hba
  Shows the wwn of the local HBA and the devices assigned to those.
- symaccess -sid 1234 view -name Host1_Allocation rename -new_name Host2_Allocation
  Rename name of view Host1_Allocation as Host2_Allocation
- symaccess -sid 1234 -f Total_views backup
  This command will backup all the Maksing Views information for array 1234 to file Total_views.
- symaccess -sid 1234 -f Total_views restore
  This command will restore all Masking view information for Vmax Array 1234 from file Total_views , which is earlier created by "backup" option.
- symaccess -sid 1234 -type initiator -name Host1 add -wwn 1000000000000002
  Add another HBA WWN to the existing Initiator group(IG) "Host1".
- symaccess -sid 1234 -type port -name MyPorts add -dirport 6e:0
  Add an aditional port 6e:0 to the existing port group(PG) "MyPorts".
- symaccess -sid 1234 -type initiator -name Host1_Host2_IG add -ig Host2_IG
  Add a child Initiator Group(Host2_IG) to the parent Initiator Group(Host1_Host2_IG).
- symaccess -sid 1234 show MyInitiatorGroup -type initiator -detail
  By including '-detail' option will shows the Flag settings like 'FCID Lockdown' ,'Consistent Lun'.. for each WWN number in the initiator group.
- symaccess -sid 1234 show view MyView -detail
  This command is the best option to see both parent and child initiator groups(cascaded initiator group) and associated devices for a masking view.
- symaccess -sid 1234 show view Server_A_B_View -ig Server_B_IG
  Displays the content of view 'Server_A_B_View' with the WWN details of child-Initiator group 'Server_B_IG'.
- symaccess -sid 1234 remove -login -wwn 1000000000000001 -dirport 12g:1
  Delete the wwn 1000000000000001 on port 6g:1 form the login history table of vmax 1234

symcfg

Discovers or displays Symmetrix configuration information. *32 Commands*

- symcfg discover
  Scans all the devices in hosts looking for new symmetrix devices and rebuilds the symmetrix configuration database .
- symcfg list
  A brief description of the all connected Symmetrix boxes.

- symcfg -sid 1234 verify
  Check whether the SYMAPI database is in sync with the current configuration of array 1234.
- symcfg list -status
  Check the configuartion and SYMAPI database status of all arrays.
- symcfg -db
  Shows the configuration information about the current symapi database.
- symcfg -sid 1234 remove
  Remove the array 1234 from symcfg list.
- symcfg -sid 1234 list -lockn all
  List all the external locks held in Symmetrix array 1234.
- symcfg -sid 1234 -lockn 15 release -force
  Release the lock 15 held on array 1234 .
- symcfg -sid 1234 list -v
  Displays detailed information about the Symmetrix Array 1234.
- symcfg -sid 1234 list -dir all
  Displays the online status of all directors(Frontend+Backend).
- symcfg -sid 1234 list -sa all
  Displays the online status of all Front-end directors.
- symcfg -sid 1234 list -da all
  Displays the online status of all Back-end directors.
- symcfg -sid 1234 list -fa all
  Displays wwn of all front-end director ports.
- symcfg -sid 1234 list -fa all -port
  Displays online and connection status of all front-end director ports.
- symcfg -sid 1234 list -ra all
  List all RA ports with details like rdfg number , remote array sid and online status.
- symcfg -sid 1234 -dir 4a -p 0 list -addr -avail
  List the LUN information / availability of lun ids on port 4a0 in array 1234 .
- symcfg -sid 1234 list -rdfg all
  List details about all the rdf groups in array.
- symcfg -sid 1234 list -rdfg 3
  List details about rdf group 3 .
- symcfg -sid 1234 list -rdfg all -dynamic
  List details about all the dynamic rdf groups in array .
- symcfg -sid 1234 list -rdfg all -static
  List details about all the static rdf groups in array .
- symcfg -sid 198 list -rdfg 10 -rdfa
  Shows the specific SRDF/A information about the rdf group 10.
- symcfg -sid 1234 list -env_data
  Dispalys the information and status of arrays physical components like powersupply units Fans etc.
- symcfg -sid 1234 list -thin -pool -GB
  List all the thinpools in array 1234.
- symcfg -sid 1234 show -pool My_Pool -thin -GB
  List all the datadevices in thinpool My_Pool on array 1234.
- symcfg -sid 1234 list -tdev -GB
  List all the thin devices in array 1234.And also shows the thinpools associated to each device with the binding status.
- symcfg -sid 1234 list -tdev -gb -thin -pool My_Pool
  List all the thin devices assoicated with thinpool My_Pool
- symdev -sid 1234 list -tdev
  list all thin devices in array 1234

- symcfg -sid 1234 list -tdev -noport
  list all thin devices in array 1234 which are not mapped
- symcfg -sid 1234 -SA 6h -P 1online
  Make the front-end port 6h:1 to online.
- symcfg -sid 1234 -SA 6h -P 1offline
  Make the front-end port 6h:1 to offline.
- symcfg -sid 1234 list -memory
  shows the amount and details of memory configure in the array .
- symcfg -sid 1234 list -tdev -GB -detail
  With “detail” option ,this commands will displays the multiple thin pools that each TEVS binded with.

symcli

Know about the version, list of symcli commands ect.. *4 Commands*

- symcli
  Displays the version of symapi.
- symcli -v
  Shows the version of symapi and total list of symcli commands with a short description.
- symcli -env
  The list of ennvironmental variable that can be set for a SYMCLI session.
- symcli -def
  List of currently defined environmental variables .

symconfigure

This command used to perform control operations or configuration changes on Symmetrix arrays, and the array devices,groups,directors, and ports. *22 Commands*

- symconfigure -sid 1234 list -v
  Shows the configuration informations like the micro-code version , whether the Dynamic RDF is enabled or not etc..
- symconfigure -sid 1234 query
  Check the status of a running configuration change.
- symconfigure -sid 1234 -f command_file.txt prepare
  The prepare option will validate the command syntax and Verify the appropriateness of the changes and operations.
- symconfigure -sid 1234 -f command_file.txt commit
  Apply the changes defined in the command file.
- create dev count=10, size=18414, emulation=FBA, data_member_count=3, config=RAID-5, disk_group=2, dynamic_capability=dyn_rdf;
  Create 10 RAID-5 devices of size 18414 cylinders , as emulation FBA from diskgroup 2 and also set the dynamic bit on those.
- create dev count=10, size=20GB, emulation=FBA, config=TDEV;
  Create 10 thin devices of size 20GB with emulation type as FBA.
- create dev count=10, size=1025, emulation=FBA, config=TDEV;
  Create 10 thin devices of cylinder size 1025(around 1GB) with emulation type as FBA.

- create dev count=10, size=10GB, emulation=FBA, config=TDEV, binding to pool=MyPool;
  Create 10 thin devices of size 20GB with emulation type as FBA and also bind to thin pool MyPool.
- create dev count=10, size=10GB, emulation=FBA, config=TDEV, binding to pool=MyPool,preallocate size=5GB ;
  Create 10 thin devices of size 20GB with emulation type as FBA , bind to thin pool MyPool and prellocate 5GB.
- bind tdev AAA:AAB to pool MyPool;
  Bind the TDEVS AAA and AAB to thin pool MyPool.
- bind tdev AAA:AAB to pool MyPool preallocate size =5GB ;
  Bind the TDEVS AAA and AAB(of 10GB each) to thin pool MyPool and preallocate 5GB for each device.
- start allocate on tdev AAAA:AABB start_cyl=0 end_cyl = last_cyl;
  Allocate the tdevs AAAA to AABB to 100% of its defined size.
- set device ABCD emulation=FBA;
  Convert a CELERA_FBA device to FBA.(the existing emulation type of device ABCD is CELERA_FBA)
- set device ABCD emulation=CELERRA_FBA;
  Convert FBA Device ABCD to a CELERA Device.(The current emulation type of the device ABCD is FBA.)
- bind tdev in SG Server1_SG to pool My_Pool;
  Bind the devices in Storage Group “Server1_SG” to thin pool “My_Pool”
- set disk_group 5, disk_group_name = Tier2_400GB;
  Assign a name “Tier2_400GB” to disk group 5.
- convert rdf dev AAA to dynamic;
  convert static SRDF device AAA to dynamic device.
- delete dev AAA:AAB;
  delete the symdevs AAA:AAB.
- set symmetrix concurrent_rdf=ENABLE;
  Enables the concurrent SRDF Feature in a Symmetric Array.This will enable to create SRDF-R1 devices with multiple R2s.
- set symmetrix dynamic_rdf=ENABLE;
  Enables the Dynamic RDF capabilty of the array.
- set symmetrix dynamic_concurrent_rdf=ENABLE;
  enables the concurrent SRDF capability in the array level, where can have multiple R2s for a single R1 dynamic rdf device.
- bind tdev AAA to pool MyPool preallocate size=ALL ;
  Bind the device AAA to thin pool MyPool and prellocate the entire size of device.

symdev

Performs operations on a Symmetrix device name. *16 Commands*

- symdev -sid 1234 list
  List all devices in symmetrix 1234.
- symdev -sid 1234 list -noport
  List the devices which are not mapped to any ports.
- symdev -sid 1234 list -noport -meta
  List all unmapped meta devices .
- symdev -sid 1234 list -dynamic

List all devices whose dyn_rdf attribute set .
- symdev -sid 1234 list -emulation celerra
  List all celerra devices .
- symdev -sid 1234 list -emulation FBA
  List all FB devices .
- symdev -sid 1234 list -hotspare
  Checks whether hotspare invoked in the array .
- symdev -sid 1234 list -inventory
  Lists the grouped list of various devices like RAID-5 2-Way_Mirror etc..
- symdev -sid 1234 show ABC
  show the detailed information about device ABC.
- symdev -sid 1234 list -range ABC:ABE -v
  show the detailed information of devices ABC to ABE.
- symdev -sid 1234 list -range ABC:ABE -multiport
  List the devices from ABC:ABE with the mapped FA information if they are assigned to more than one FA port.
- symdev -sid 1234 write_disable ABC -SA all
  Write disable the device ABC from through all directors.
- symdev -sid 1234 write_disable ABC -SA 3a -p 0
  Write disable the device ABC on FA port 3a:0.
- symdev -sid 1234 not_ready ABC -SA all
  Not ready the device ABC from through all directors.
- symdev -sid 1234 not_ready ABC -SA 3a -p 0
  Not ready the device ABC on FA port 3a:0.
- symdev -sid 1234 list -datadev
  This commands will provide the list of DATA devices created in array 1234.

symdg

Performs various operations on Symmetrix Device Group like creation,deletion and importing. *11 Commands*

- symdg -sid 1234 list
  List device groups which include the devices from array 1234.
- symdg create mydg -type rdf1
  Create device group mydg of rdf1 type .
- symdg show mydg
  Shows members/details of mydg.
- symdg rename mydg yourdg
  Renames the mydg to yourdg.
- symdg -sid 1234 export mydg -f mydgfile.txt
  Export mydg to file mydgfile.txt.
- symdg -sid 1234 import mydg -f mydgfile.txt
  Create mydg from the file mydgfile.txt which created earlier using export option.
- symdg -sid 1234 exportall -f mydgfile.txt
  Export all device groups created in array 1234 to file mydgfile.txt.
- symdg -sid 1234 importall -f mydgfile.txt
  Create all device groups from the file mydgfile.txt which created earlier using exportall option.
- symdg -sid 1234 -g mydg move DEV002 yourdg
  Move the device DEV003 from mydg to yourdg(both DGs must be in same RDFG.

- symdg -sid 1234 -g mydg moveall yourdg
  Move all the devices from mydg to yourdg(both DGs must be in same RDFG.
- symdg delete mydg -force
  Delete device group mydg.

symdisk

Displays configuration and status of disks and their hypers within Symmetrix arrays. *10 Commands*

- symdisk -sid 1234 list
  List of total disks in the array.
- symdisk -sid 1234 show 1A:C12
  Shows the detailed information like speed and HYPERS of the disk 1A:C12.
- symdisk -sid 1234 show 1A:C12 -gaps
  Shows the available space(GAPS) on the disk 1A:C12.
- symdisk -sid 1234 show 1A:C12 -gaps_only
  Shows only the available space(GAPS) on the disk 1A:C12.
- symdisk -sid 1234 list -hotspare
  List Hotspares configured in the array.
- symdisk -sid 1234 list -v -spare_info
  Displays the details of all hotspare in the array.
- symdisk -sid 1234 list -by_diskgroup
  Displays all the disks in array by disk groups.
- symdisk -sid 1234 list -disk_group 1
  Displays all the disks in disk group 1.
- symdisk -sid 1234 list -dskgrp_summary
  This provides a brief summary of all diskgroups in array 1234 along with speed , size and type of disks.
- symdisk -sid 1234 list -failed
  Lists all the failed drives in array 1234.

symgate

The symgate command performs operations on a local gatekeeper device like defining a host device as a gatekeeper device, listing the gatekeeper devices etc.. *2 Commands*

- symgate list
  Lists all Gatekeeper devices in the local host.
- symgate -sid 1234 define dev 00AA
  Define the symdev 00AA as Gatekeeper Device.

syminq

SCSI Disk and HBA information on the local host. *4 Commands*

- syminq
  Lists all physical devices attached to local host.

- syminq hba
  Shows the HBA details of the local host like HBA Name , WWN etc..
- syminq -mapinfo
  Lists all physical devices with target ports which are mapped.
- syminq -symmids
  List the local devices along with the serial number of corresponding array.

symld

Performs operations on one or more STD, BCV, TGT or VDEV devices in a device group (DG). *2 Commands*

- symld -g mydg -sid 1234 add dev ABC DEV006
  Add the RDF device ABC to device group mydg as DEV006
- symld -g mydg remove DEV006
  Remove DEV006 form device group mydg.

symlmf

Command used to manage the licenses with Solution Enabler. *3 Commands*

- symlmf list -type se
  List the Tradition Solution Enabler Licenes.
- symlmf add -type se -license FFFF-FFFF-FFFF-FFFF
  Register the Tradition Solution Enabler Licene key FFFF-FFFF-FFFF-FFFF.
- symlmf delete -type se -license FFFF-FFFF-FFFF-FFFF
  Delete the Tradition Solution Enabler Licene key FFFF-FFFF-FFFF-FFFF.

symmask

Mask or Unmask the symmetrix devices or list the wwn logins. *8 Commands*

- symmask list hba
  List HBA details of the host.
- symmask -sid 1234 -dir 4a -p 0 list logins
  List out wwns logged through port 4a0 .
- symmask -sid 1234 list logins -wwn xxx
  Check whether wwn xxx logged in to any of the FAs on array 1234.
- symmask -sid 1234 delete -logins -wwn xxx
  Delete the login history of wwn xxx from all FA logged ports.
- symmask -sid 1234 refresh
  Refresh the VCM Data Base after a masking and unmasking operation.
- symmask -sid 1234 -wwn xxxx -dir 4a -p 0 add devs ABC,ABD
  Mask the devices ABC and ABD to given wwn in 1234 arrray .
- symmask -sid 1234 -wwn xxxx -dir 4a -p 0 remove devs ABC,ABD
  Unmask the devices ABC and ABD from given wwn in 1234 arrray .
- symmask -sid 1234 -wwn xxxx replace yyyy

Replace all occurance of wwn xxxx with yyyy in array 1234.

symmaskdb

Initialize back-up, restore and show the contents of the device masking VCMDB. *4 Commands*

- symmaskdb -sid 1234 -dev ABC list assign
  List the masking details of the dev ABC .
- symmaskdb -sid 1234 -wwn xxxxxx list devs
  List the devices masked to given wwn number .
- symmaskdb -sid 1234 -awwn hba_alias list devs
  List the devices masked to given alias hba name .
- symmaskdb -sid 1234 list database -v
  Lists the detailed VCMDB database which includes all the FA ports , the WWN associated with it and the devices masked to those.Also shows the flag status like “Visibility”,” Lun Offset” ect ..

symrdf

Performs various SRDF operations symmetrix devices.Also performs dynamic RDF group controls:Adding,modifying or removing a dynamic RDF group. *11 Commands*

- symrdf -sid 1234 -rdfg 3 -type rdf1 -file rdf.txt -g mydg createpair -establish
  Establish the SRDF relation between the devices given in the file rdf.txt from array 1234(R1) and remote box according to the rdf group .This command start sync between R1 and R2 and also add these devices after creating the device group mydg
- symrdf -sid 1234 -rdfg 3 -file rdf.txt query
  Query the Devices by using device pair file.
- symrdf -g mydg query
  Query device group.
- symrdf -g mydg split
  Split the srdf pair for devices given in mydg.
- symrdf -sid 1234 -rdfg 3 -file rdf.txt deletepair -force
  Delete the srdf pairing between R1/R2 and return them to stanadard.
- symrdf -sid 1234 -rdfg 3 -file rdf_pair.txt query -i 5
  Queries the pair devices mentioned in the pairfile “rdf_pair.txt” in every 5 seconds.This command also shows the estimated time to sync up all the devices if those are currently in “sync in progress” state.
- symrdf -sid 1234 -rdfg 3 -file rdf.txt movepair -new_rdfg 4
  Moves the SRDF devices from rdf group 3 to 4.We need to split the pair before doing this operation.
- symrdf -sid 1234 -rdfg 3 -file rdf.txt set mode acp_disk
  Change the current SRDF mode of the pair file devices to Adaptive disk mode.
- symrdf -g mydg establish -full
  Establish a full copy on the devices in MyDg
- symrdf -sid 1234 -rdfg 3 -file rdf.txt set mode sync
  Change the current SRDF mode of the pair file devices to Synchronous
- symrdf -sid 1234 list rdfg all
  This command will list all the SRDF devices in all rdf groups.

symsg

Performs variuos operations like create,list,show,export,copy on Storage Groups(SG) in a Vmax array. *15 Commands*

- symsg -sid 1234 list
  Lists all the storage groups in Vmax array 1234 along with informations like whether the SG a member of Masking View and is a part of FAST Policy.
- symsg -sid 1234 list -v
  the -v options displays the member devices of Storage Groups along with other details given by list.
- symsg -sid 1234 create MyStorageGroup
  Create a new SG,'MySrorageGroup' in Vmax Array 1234
- symsg -sid 1234 delete MyStorageGroup
  Deletes the empty SG 'MySrorageGroup' from 1234.The SG should not be associated with any Masking View.
- symsg -sid 1234 delete MySrorageGroup -force
  Deletes the SG 'MySrorageGroup' which contains devices but not associated with any Masking View.
- symsg -sid 1234 show MyStorageGroup
  Shows the devices in MyStorageGroup along with its Masking View and FAST Policy association status.
- symsg -sid 1234 export MyStorageGroup -file mystoragegroup.txt
  export the device information from SG to the text file.
- symsg -sid 1234 exportall -storagegroups.txt
  exports the device information from all the SGs from 1234 array to the text file storagegroups.txt
- symsg -sid 1234 import MyStorageGroup -file MystorageGroup.txt
  Create SG 'MyStorageGroup' from the earlier exported file MystorageGroup.txt.
- symsg -sid 1234 importall -file MystorageGroups.txt
  Create storage groups from the earlier exported file MystorageGroup.txt.Storage Group names will be created according to the names in text file.
- symsg -sid 1234 rename MyStorageGroup MyNewStorageGroup
  Rename SG MyStorageGroup to MyNewStorageGroup
- symsg -sid 1234 -sg MyStorageGroup ready
  Set the status of all devices in SG 'MyStorageGroup' to READY.
- symsg -sid 1234 -sg MyStorageGroup not_ready
  Change the status of all the devices in SG 'MyStorageGroup' from READY to NOT READY.
- symsg -sid 1234 -sg MyStorageGroup rw_enable
  Write enable all the devices in SG 'MyStorageGroup'
- symsg -sid 1234 -sg MyStorageGroup write_disable
  Write Disable all the devices in SG 'MyStorageGroup'
-

VMAX doesn't have VCMDB for masking. Insted, its using Autoprovisioning Groups.

Autoprovisioning Groups allow storage administrators to create groups of host initiators, front-end ports, and logical devices. These groups are then associated to form a masking view, from which all controls are managed.

A new command, symaccess, provides all the storage provisioning requirements for Symmetrix V-Max arrays running Enginuity 5874.

The masking views, including storage groups, port groups, and initiator groups can be backed up to a file, and restored from the backup file.

Use the following syntax to backup the masking views for a Symmetrix array to a file:

symaccess -sid SymmID -f BackupFilename [-noprompt] backup

Symmetrix V-Max Approach to Storage Reclamation

Follow the Below Steps for Storage Reclamation from the Vmax.

Step 1: Verify the Masking View Information. The Masking would give us the information about the current Storage Group(SG), Initiator Group(IG) and Port Group(PG)
Symaccess -sid 155 list view
The above syntax will list all the Masking View and identify the one you are working it on.
Step 2: View the Details of the Specific Masking
Symaccess –sid 155 show view d1oraclust_MV
Step 3: Unmask and unmap the Devices. With Autoprovisioing Groups, this is simply matter of deleting the Masking View and the Devices will be unmapped and unmasked automatically. The following is an example if the command.
Caution
#symaccess –sid 155 delete view d1oraclust_MV
Step 3: Delete the Storage Group
#symaccess –sid 155 delete –name d1oraclust_SG -type storage -force
Step4: Delete the Initiator Group
#symaccess –sid 155 delete –name d1oraclust_IG -type initiator -force
Step5: Delete the Port Group
#symaccess –sid 155 delete –name d1oraclust_PG -type port -force

Step 6: Unbind the Devices from the thin Pool.
This step will make sure that we unbind the devices those are reclaimed from the host.

#symconfigure –f unbinddevice.cmd –preview
#symconfigure –f unbinddevice.cmd –prepare
#symconfigure –f unbinddevice.cmd –commit

Step6: Dissolve the Meta Devices
It is advised and to follow to delete the met devices once these freed up. The Intention behind is to have no discrepancy in the data of one server to be presented to other host by reusing the Devices in any form.
symconfigure –f metadissolve.cmd preview
symconfigure –f metadissolve.cmd prepare
symconfigure –f metadissolve.cmd commit

Control and log files locations

/var/symapi/db/symapi_db.bin
default symapi database file

/var/symapi/config/netcnfg
lists the network services available from that host

/var/symapi/config/options
the options file contains behavior parameters that can be set to critically change default behavior of SYMCLI operations, SYMAPI calls and their control actions

/var/symapi/config/symavoid
identifies devices to skip over when looking for devices

/var/symapi/config/gkavoid
identifies devices not chosen as gatekeepers

/var/symapi/config/inqfile
lists devices to be added to the symapi database

/var/symapi/log/symapi-.log
logfile for symcli.symapi functions, calls, activities

Procedure to add VDEVS devices to appropriate snap pool.

1. Create a text file, disable.txt, containing the following line:

disable dev <Your Save Device>:<Your Save Device> in pool DEFAULT_POOL, type = SAVEDEV;

Use the text file with symconfigure command.

1. Add the disabled save device to the appropriate save pool and enable it

Create a text file, adddev.txt , containing the following line:

add dev <Your Save Device>:<Your Save Device> to pool Cam_snap type = SAVEDEV, member_state = ENABLE;

Use the text file with symconfigure command

1. To verify if the devices were added correctly

symsnap -sid 4782 show pool CAM_Snap

Let me know if you have any questions.

What WWN we need to use in the intiator Group PortWWN or Node WWN

When we use node wwn, the wwn logins to the FA and SAN but host will not be able to see the Disk. So use Port WWN in the intiator Group.

10000000c9d438f8 Fibre 10000000c9d438f8 10000000c9d438f8 182e00 Yes Yes
10000000c9e85230 Fibre NULL NULL 17ae00 Yes Yes
10000000c9e8525c Fibre 10000000c9e8525c 10000000c9e8525c 15e200 Yes Yes
10000000c9f95922 Fibre 10000000c9f95922 10000000c9f95922 15ee00 Yes Yes
10000000c9fc5158 Fibre NULL NULL 18c700 Yes Yes
20000025b5b3506f Fibre 20000025b5b3506f 20000025b5b3506f 01500f Yes Yes
10000090fa08e5b1 Fibre 10000090fa08e5b1 10000090fa08e5b1 155600 No Yes
10000090fa08e5b3 Fibre 10000090fa08e5b3 10000090fa08e5b3 155500 Yes Yes
10000090fa13e0af Fibre 10000090fa13e0af 10000090fa13e0af 16df00 Yes Yes
10000090fa1422c8 Fibre NULL NULL 17d100 Yes Yes
10000090fa1431b4 Fibre 10000090fa1431b4 10000090fa1431b4 17dd00 Yes Yes
10000090fa143cf0 Fibre NULL NULL 17d000 Yes Yes

10000090fa143f9e Fibre NULL NULL 17cf00 Yes Yes
10000090fa143fa0 Fibre 10000090fa143fa0 10000090fa143fa0 17ce00 Yes Yes
50000972084f8964 Fibre NULL NULL 01d200 Yes Yes
50000972084f899c Fibre NULL NULL 019400 No Yes
c05076047672000a Fibre c05076047672000a c05076047672000a 179707 Yes Yes
21000024ff25aead Fibre NULL NULL 15ed00 Yes Yes

HighLights of VMAx Architecture

Posted August 10, 2011 by g6237118

8 responses to “*EMC VMax_Storage and ITS Executions*”

Subscribe to comments with RSS.

Thanks, helped out all day Saturday with multiple issues

Reply
Dave K

October 7, 2012 at 1:02 pm

Thanks for your comment. I thought to put straight forward details instead i search all over the intenet

Reply
g6237118

January 12, 2013 at 6:58 pm

Thanks for posting valuable information.
I have an issue in my environment where initiators are getting logged into Fabric but not into Vmax.
What do you think could be the reasons?

Reply

System_Admin

March 5, 2013 at 12:33 pm

Hi, Can you check wwn used to zone to the FA. There will be two parts, node and port. Can you tell me which one you used.

Reply

g6237118

March 20, 2013 at 11:54 pm

How to replace the old wwpn instead of new wwpn in VMAX? I know the replace command in VMAX but what about in Initiator group do need to remove the old wwpn and add the new_wwpn?

Please give the some clarification on this…I'm really appreciate on this…

Reply

babu

August 9, 2014 at 11:48 am

It is very easy.

A replace hba in server
B add new wwn to the alias in San and remove old one
C verify the login status on the fa port on the vmax using sum access list login

D add new wwn to the initiator group and remove the old one

Symaccess – Sid 123 -name ig_name -type init -wwn xxxxxxx add

Remove old wwn

Symaccess – Sid 123 -name ig_name -type init -wwn yyyyyyyyyy remove

This will take care of all

And finally scan the disk on the host

Reply

g6237118

August 9, 2014 at 6:08 pm

Is this helped you Babu

Reply

g6237118

August 12, 2014 at 8:09 pm

Has my Response Helped you

Reply

g6237118

August 22, 2014 at 12:18 pm