

Data Centre Engineering

**NetApp TRM Naming Standards**

**Synopsis:** Provides NetApp controller as well as logical component naming for implementation.

**Segment:** Data Centre Engineering - Storage

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# Introduction

## Management Summary

This standard defines the naming of technology for NetApp controllers and all of its internal logical configuration.

Consistent naming of technology systems will in time, once implemented and learnt, assist in service management as an indication of the system’s location and function can be easily obtained from its name. The standard will also help in producing unique names.

As host system naming conventions are based on the standard naming of other elements such as site and environment, these are also included within this standard.

Host system naming also makes extensive use of short forms of the ITIC (a three letter short form of the Infrastructure Capability, and a four letter short form of the Logical System Group components). These should be defined as part of the ITIC.

The current ITIC listing can be found here:

<http://sdsbc.ime.reuters.com/content/rgp/gsmg/gpo/config_asset%20mgmt/configuration%20management/infrastructure%20catalogue.xls>

NetApp naming standards will follow TSA rules on naming conventions as far as possible. These include rules on host system naming as at the controller level parallels may be drawn between a NetApp storage system and platform servers.

The TSA rules do not go into detail, such as aggregates, volumes or vFilers. Naming standards exist within storage I&S for the EMC Celerra NAS devices, but the technologies are different, hence an additional standard for NetApp.

## Assumptions

This document assumes:

* Understanding of the NetApp physical configuration.
* The reader has experience in NetApp storage configuration.
* **All naming will be in lower case unless stated otherwise in a particular section**.

## References

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Document** | **Document URL** | **Date** | **Author** |
| 1 | Infrastructure catalogue | <http://sdsbc.ime.reuters.com/content/rgp/gsmg/gpo/config_asset%20mgmt/configuration%20management/infrastructure%20catalogue.xls> |  |  |

## Change History

|  |  |  |  |
| --- | --- | --- | --- |
| **Ver** | **Date** | **Author** | **Key Changes** |
| 0.1 | 18 February 2010 | Sridhar Chevendra | Initial draft for discussion. |
| 0.2 | 24 February 2010 | Stewart Bird | Initial Review |
| 0.3 | 1st March 2010 | Stewart Bird | Final draft |
| 0.4 | 31st Mar 2010 | S Chevendra | Added Snap vault volumes |
| 0.5 | 7th Jul 2010 | S Chevendra | Accommodate DR implementations |
| 0.6 | 26th July 2011 | Ian Daniel | Updated Aggregate, vfiler and volume naming to include iscsi. Added igroups and LUN standards. |
| 0.7 | 26th July | Eddie Smith | Added site information, removed referenced to legacy site in example names, fixed incorrect ipspace standard. General tidy up. |
| 0.8 | 29th July 2011 | Ian Daniel | Updated volume naming, vfiler naming and qtree naming. Added IQN naming for vfilers. |
| 0.9 | 29th July | Ian Daniel | Released for review |
| 1.0 | 2nd August | Ian Daniel | Updated to remove typo in app names and volumes for iSCSI. |

## Distribution List

|  |  |
| --- | --- |
| **Name** | **Role** |
| Stewart Bird | Lead Architect – Primary Storage |
| Thomas White | Global Head of Storage Design |
| Peter O’Connor | Global Head of Storage Support |
| Global Storage Support and Implementation Teams |  |
| Global Storage Design Teams |  |

## Glossary

|  |  |
| --- | --- |
| **Term** | **Definition** |
| TRM | Thomson Reuters Markets |
|  |  |

# Site Naming Standards

Site names are made up of two parts, in general, this would be the city (or town) followed by the building name, in the format: ‘city building name’.

For example,

London Monmouth House

The three letter acronym for the site name should draw from the predefined site name (see TPPS-OPS102.6.1 Site Naming Standard), taking the first letter of the first part of the standard name, the city/town, and the 2nd and 3rd letters from the second part of the standard name, the building name.

Existing sites, defined before this standard, have become well known by their historical site name, which in some cases do not follow 3 letter acronym and abbreviation. For completeness, they are listed here:

|  |  |  |  |
| --- | --- | --- | --- |
| **Region** | **Site Name** | **Legacy Abbreviation** | **New Abbreviation** |
| AMERICAS | NUTLEY NEW JERSEY | NTC | - |
| ST LOUIS HAZELWOOD | HDC | US2 |
| HAUPPAUGE (DAVIDS DRIVE) | HTC | - |
| HARTLAND | OCD | US1 |
| BROOKFIELD | OCB | - |
| 75 PARK PLACE | 75PP | - |
| BOSTON | BOS | - |
| CHIGAGO | CHG | - |
| LIBERTY | OCL | - |
| PISCATAWAY | OCP | - |
| 717 OFFICE PARK WAY | 717OP | - |
| EMEA | LONDON (GOSWELL ROAD) | UKB | UK2 |
| LONDON GTC-L | DTC | - |
| GENEVA GTC-G | GVA | - |
| FAREHAM | - | UK1 |
| ALDGATE HOUSE | OCA | - |
| GREAT SUTTON STREET | GSS | - |
| MONMOUTH HOUSE | OCM | - |
| ASIA | SINGAPORE (SCIENCE PARK DRIVE) | STC | SG1 |
| SINGAPORE (TAI SENG DRIVE) | SSA | - |
| HONG KONG (YCK EXCHANGE) | HKG | HK1 |

ITIL v3 Service Operation glossary states that an environment is “a subset of the IT Infrastructure (hardware, software, network, facilities) that is used for a particular purpose.” Note: This definition does not include the quality of service, applications or content.

Each environment would have an associated level of control processes and documentation.

The terms below refer both to specific network and process controlled environments as well as to specific systems. The terms are relevant to all those involved in service development, support, and delivery.

Broadly, the environments identified follow a development lifecycle from development to QA to Pre-Production to the resilience levels of Production, and DR. Some of these are referred to in the Test Environments, Naming and Usage Standard (TPPS-DP5.4). Here the term defines the use and gives an indication of the level of support and control required for the environment.

Regarding systems; the environment abbreviation is a required element in the System Naming Standard (TPPS-OPS102.6.4) and other naming standards. The environment indicates that the system is providing a particular level of service and should be given a particular level of support and control.

Systems will classified to their relevant environment by the CI level Environment field in Service Center, this field is mandatory for Commissioned CIs.

The term ‘non-production’ should be used to reference environments other than Production.

## NetApp Storage Controllers

This section describes the naming standards for NetApp storage controllers.

### Physical Storage Controller Units

All system names are entered in lower case.

NetApp storage controllers are always (according to the current build standard) installed in clustered pairs. The name of each storage controller is mandated to be 12 characters in length. Dashes are used as separators in column 5.

The naming format is defined as follows:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| **S** | **S** | **S** | **E** | **-** | **C** | **C** | **C** | **N** | **N** | **N** | **M** |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample values** |
| **SSS** | Site Name Abbreviation, see TPPS-OPS102.6.2 or above | UKB (UK2 data centre)  HDC (Hazelwood data centre) |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample Values** |
| **E** | Environment Abbreviation, see TPPS-OPS102.6.3 or above for full list | P - Production  S - Non-Production |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample values** |
| **CCC** | Infrastructure Capability name (for Servers) | fas (NetApp Controller) |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample values** |
| **NNN** | Instance of device type within cell | 001-099 |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample values** |
| **M** | For clustered systems, indicate cluster membership. | a|b|c|d… |

**Examples:** ocdp-fas001a, ocdp-fas001b

### Data vFiler Units for general NAS/Block Storage

The names for IPSpace Data vFiler units for general NAS are based upon the site name abbreviation and business purpose for the IPSpace. Portions of the name are separated with dashes.

**Note that the name must be limited to a maximum of 15 characters because when a CIFS service is created it uses the vFiler name and the CIFS protocol limits the name to 15 characters.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| **S** | **S** | **S** | **E** | **-** | **B** | **B** | **B** | **F** | **F** | **N** | **N** | **M** |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample values** |
| **SSS** | Site Name Abbreviation, see TPPS-OPS102.6.2 or above | UK2 (London Goswell Road data centre)  US2 (Hazelwood data centre) |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Values** |
| **E** | Environment Abbreviation, see TPPS-OPS102.6.3 or above for full list | p-Prod  n-Non-Prod(used to be s)  q-QA  d-Development  Where devices are shared amongst non production environments use the “n” value to describe the device. |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample Values** |
| **BBB** | Business Unit Abbreviation or VM cluster name. | Iba |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample Values** |
| **FF** | Storage access type(File level/Block Level) | fs-File servers  bs-Block storage (iSCSI only, no FC block storage at this time). |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample Values** |
| **NN** | File Server number | 01-99 |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample values** |
| **M** | For clustered systems, indicate cluster membership. | a|b|c|d… |

**Examples:** uk1p-ibafs01a, hk1p-ibafs01b

### Data vFiler Units for VMware

The names for IPSpace Data vFiler units for VMware are based upon the site name abbreviation and the general name portion of the VMware cluster. Portions of the name are separated with dashes.

**Note that the name must be limited to a maximum of 15 characters because when a CIFS service is created it uses the vFiler name and the CIFS protocol limits the name to 15 characters.**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| **S** | **S** | **S** | **E** | **-** | **V** | **V** | **V** | **N** | **N** | **N** | **M** |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample values** |
| **SSS** | Site Name Abbreviation, see TPPS-OPS102.6.2 or above | UK2 (London Goswell Road data centre)  US2 (Hazelwood data centre) |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **values** |
| **E** | Environment Abbreviation, see TPPS-OPS102.6.3 or above for full list | p-Prod  n-Non-Prod(used to be s)  q-QA  d-Development  Where devices are shared amongst non production environments use the “n” value to describe the device. |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample Values** |
| **VVV** | VM cluster name(Core/Service) | vic  vis |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample Values** |
| **NNN** | File Server Number(001-999) | 000-050 for Aurora  051-100 for Hybrid |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample values** |
| **M** | For clustered systems, indicate cluster membership. | a|b|c|d… |

**Examples:** us1p-vic001a,us2p-vic001b, sg1n-vis005a, hk1p-vis005b

## NetApp Vifs and Tagged VLANs

This section describes the naming standards for vifs and tagged VLANs.

### NetApp Physical Interfaces

The names of physical interfaces on NetApp storage controllers are controlled by Data ONTAP and cannot be changed. The interface names are based upon the slot the interface card is in, and the port on the card.

In the Aurora standard configuration, the available 10GigE interfaces within all three of the standard builds are e3a, e3b, e4a and e4b. However there are non-standard configurations with cards in different PCI slots. The interface names can be verified with the commands ‘sysconfig –a’ and ‘ifconfig –a’. Please see the NetApp Data ONTAP manual pages for na\_sysconfig(1) and na\_ifconfig(1) for further details.

### NetApp VIFs

The names of VIFs on a NetApp storage controller are based upon what network segment the VIF is connected to. It is important to note that unlike most of the name constructs there is no space, underline or dash between the ‘vif’ text and the VIF number.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 |
| **E** | **Z** | **v** | **i** | **f** | **N** |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **values** |
| **E** | Environment Abbreviation, see TPPS-OPS102.6.3 or above for full list | p-Prod  n-Non-Prod (used to be s) |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample values** |
| **Z** | Network Security Zone | c-Core Security Zone  s-Service Security Zone |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample Values** |
| **vif** | Fixed field to indicate that this is a network virtual interface. | vif |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample Values** |
| **N** | VIF number for a specific network segment. Usually 0 (zero) or 1 (one) but can be higher as needed. | 0  1  2  3 |

There should be only two VIFs connected to the 10GigE network.

**Examples:** pcvif0, psvif1, ncvif0

### NetApp Tagged VLANs

The names of tagged VLANs are created automatically by Data ONTAP. The chosen name is based upon the VIF that the tagged VLAN is associated with.

It is not possible to rename tagged VLANs. Dashes are used as a field separator. The format is as follows:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| **E** | **Z** | **v** | **i** | **f** | **N** | **-** | **L** | **L** | **L** | **L** |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **values** |
| **E** | Environment Abbreviation, see TPPS-OPS102.6.3 or above for full list | p-Prod  n-Non-Prod (used to be s) |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample values** |
| **Z** | Network Security Zone | c-Core Security Zone  s-Service Security Zone |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample Values** |
| **vif** | Fixed field to indicate that this is attached to a virtual interface | vif |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample Values** |
| **N** | VIF number for a specific network segment. Usually 0 (zero) or 1 (one) but can be higher as needed. | 0  1  2  3 |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample Values** |
| **LLLL** | The VLAN tag as supplied by the Network group. (variable length) | 10  444  1030 |

**Examples:** pcvif0-10, pcvif1-2511, nsvif0-1111

## NetApp IPSpaces

IPSpace names must be consistent across the network type on all NetApp storage controllers. Naming consistency for IPSpaces is a best practice and allows data mobility to be implemented at a later time. IPSpaces are named based upon the network type and the tagged VLAN number associated with the VIF. They do not include the VIF name or anything that is specific to the physical NetApp storage controller.

Dashes are used as a field separator. The format is as follows:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **E** | **Z** | **-** | **i** | **p** | **N** | **N** |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Values** |
| **E** | Environment Abbreviation, see TPPS-OPS102.6.3 or above for full list | p-Prod  n-Non-Prod (used to be s) |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample values** |
| **Z** | Network Security Zone | c-Core Security Zone  s-Service Security Zone |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample Values** |
| **ip** | Fixed length 2 character field to represent an ipspace | ip[ |
| **Field** | Description | Sample Values |
| **NN** | Next number available | 0  11 |

**Examples:** pc-ip1, pn-ip12

## NetApp Aggregates

This section describes the naming standards for aggregates.

### General Use

General use aggregates are used to serve up data to users. The root aggregate is always described as aggr0 by ONTAP. The naming convention takes into account tiers of disk which will be useful with regard to automation and also when managing new requests for space. There is no restriction on usage within a disk tier on a general aggregate i.e. A mid-tier aggregate can be used to provide storage to VI and also general NAS if for some reason the requirements both have a need for mid tier storage.

The Tiers are:

Mid Tier – For example FC/SAS Disk

Standard Tier – For example SATA Disk

General use aggregates use a simple name and tier plus they are incremented numerically.

The format is as follows:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| **a** | **g** | **g** | **r** | **\_** | **T** | **T** | **T** | **\_** | **A** | **\_** | **X** | **X** | **\_** | **N** | **N** |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Values** |
| **Aggr** | Use “aggr” for NetApp aggregates | Aggr |
|  |  |  |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample values** |
| **TTT** | Aggregate disk tier | mid=Mid Tier  std=Standard Tier |
| **Field** | **Description** | **Sample values** |
| **A** | Aggregate enabled for automation | a=Automation Allowed  n=No Automation |
| **Field** | **Description** | **Sample values** |
| **XX** | Aggregate type | 32=32Bit aggregate (ONTAP7/8)  64=64Bit aggregate (ONTAP8 only) |
| **Field** | **Description** | **Sample values** |
| **NN** | Aggregate number to prevent duplicate aggregate numbers on a controller | 01-99 |

**Examples:** aggr\_mid\_a\_64\_01, aggr\_std\_n\_32\_02

### Special System Use Aggregate

There is one aggregate that does not follow the naming standard, aggr0 (that is a zero on the end). This aggregate is intended to hold the underlying NetApp physical storage controller’s root volume and vfiler root volumes.

No field separator is used as there is only one possible field with one possible value.

|  |
| --- |
| aggr0 |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Values** |
| **aggr0** | Use “aggr0” for physical NetApp storage controller root aggregate and vfiler root volumes. | aggr0 |

## NetApp Volumes and Qtrees

This section describes the naming standards for NetApp volumes and qtrees.

### System Volumes for Data vFilers

The root volume for a data vFiler should have the following naming scheme.

The underscore character is used as a field separator.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | | 5 | | 6 | 7 | | 8 | | 9 | 10 | | 11 | | 12 | 13 | | 14 | | 15 | 16 | | 17 | | 19 | 20 | 21 | 22 |
| V | V | V | V | | \_ | | V | V | | V | | V | V | | V | | V | \_ | | r | | o | o | | t | | \_ | v | o | l |
|  | | | |  | |  | | |  | |  | | |  | |  | | |  | |  | | |  | |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample values** |
| **VVVV\_VVVVVVV** | Vfiler name with the site name . | us1n\_satfs01b |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample Values** |
| **root** | Use “root” to indicate that this is the root volume for the storage controller or vFiler | root |

### 

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample Values** |
| **vol** | Use “vol” to indicate that this is a volume. | vol |

**Examples:** us1n\_satfs01b\_root\_vol

### Data volumes for general NAS/Block Storage

Data volumes for general iSCSI, CIFS and NFS file shares.

The underscore character is used as a field separator.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | - | 12 | 13 | 14 | 15 | 16 | 17 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
| V |  | V | \_ | r | R | R | T | \_ | N | N | \_ | F | F | F | F | F | F | \_ | v | o | l |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample values** |
| **VVVVVVVVVVVV** | Vfilername with Site name and environment name (12 Characters) | us1p\_vic001a, us2n\_ccsfs01a |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Values** |
| **r** | Retention | “r” standard value for indication of retention |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Values** |
| **RR** | Retention values | 01  99 |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Values** |
| **T** | Type | d-days  w-weeks  m-months  y-years |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample Values** |
| **NN** | Volume number for the vFiler | 01-99 |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample values** |
| **FFFFFF** | Application (up to 6 characters) | shpt = Sharepoint  exch = Exchange  ora = Oracle  mssql = MS SQL Server |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample Values** |
| **vol** | Volume descriptor | vol |

**Examples:** us1p**-**ibafs01a\_r30d\_user\_vol

### Data qtrees for general NAS/Block Storage

Data qtrees for general CIFS and NFS file shares. These will normally follow the volume name with the \_vol extension replaced by \_qtree. In the event you need to create a qtree without following a volume name the standard is shown below.

The underscore character is used as a field separator.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | - | 12 | 13 | 14 | 15 | 16 | 17 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 |
| V |  | V | \_ | r | R | R | T | \_ | N | N | \_ | F | F | F | F | F | F | \_ | q | t | r | e | e |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample values** |
| **VVVVVVVVVVVV** | Vfilername with Site name and environment name (12 Characters) | us1p\_vic001a, us2n\_ccsfs01a |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Values** |
| **r** | Retention | “r” standard value for indication of retention |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Values** |
| **RR** | Retention values | 01  99 |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Values** |
| **T** | Type | d-days  w-weeks  m-months  y-years |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample Values** |
| **NN** | Qtree number for the vFiler | 01-99 |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample values** |
| **FFFFFF** | Application (up to 6 characters) | shpt = Sharepoint  exch = Exchange  ora = Oracle  mssql = MS SQL Server |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample Values** |
| **qtree** | Qtree descriptor | qtree |

**Examples:** hk1p**-**ibafs01a\_r30d\_user\_qtree

### VMware (ESX) data volumes

Default O/S and data volumes and qtrees for ESX usage. These are added to the VMware cluster as data stores. If data is separated from O/S at the request of platform support the volume naming should follow the same convention.

The underscore character is used as a field separator.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | - | 12 | 13 | 14 | 15 | 16 | 17 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| V |  | V | \_ | r | R | R | T | \_ | N | N | N | \_ | v | o | l |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample values** |
| **VVVVVVVVVVVV** | Vfilername with Site name and environment name (12 Characters) | us1p\_vic001a, us2s\_ccsfs01a |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Values** |
| **r** | Retention | “r” standard value for indication of retention |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Values** |
| **RR** | Retention values | 01  99 |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Values** |
| **T** | Type | d-days  w-weeks  m-months  y-years |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Values** |
| **NNN** | Volume numbering | 001-999 |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample values** |
| **FFFF** | Application functionality | os  data |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample Values** |
| **vol** | Volume descriptor | vol |

**Examples:** uk1p**-**vis001\_r01m\_001\_os\_vol

### VMware (ESX) data qtrees

Default O/S and data qtrees for ESX usage. These will normally follow the volume name with the \_vol extension replaced by \_qtree. In the event you need to create a qtree without following a volume name the standard is shown below.

The underscore character is used as a field separator.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | - | 12 | 13 | 14 | 15 | 16 | 17 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| V |  | V | \_ | r | R | R | T | \_ | N | N | N | \_ | q | t | r | e | e |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample values** |
| **VVVVVVVVVVVV** | Vfilername with Site name and environment name (12 Characters) | us1p\_vic001a, us2s\_ccsfs01a |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Values** |
| **r** | Retention | “r” standard value for indication of retention |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Values** |
| **RR** | Retention values | 01  99 |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Values** |
| **T** | Type | d-days  w-weeks  m-months  y-years |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Values** |
| **NNN** | Qtree numbering | 001-999 |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample values** |
| **FFFF** | Application functionality | os  data |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample Values** |
| **qtree** | qtree descriptor | qtree |

**Examples:** uk1p**-**vis001\_r01m\_001\_os\_qtree

### VMware (ESX) page and vswap volumes

VM guest page and VMware/ESX vswap volumes. These are also added to the VMware cluster as data stores but serve a different purpose from normal O/S and data volumes. Under normal circumstances there should be an equivalent page or vswap volume for every O/S and data volume.

The underscore character is used as a field separator.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | - | 12 | 13 | 14 | 15 | 16 | 17 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| V |  | V | \_ | s | s | s | s | \_ | N | N | N | \_ | v | o | l |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample values** |
| **VVVVVVVVVVVV** | VMware (VI) cluster name with the site name and environment name (12 Characters). | uk2p\_vis001  uk2p\_vic010 |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Values** |
| **ssss** | VM guest page or VMware/ESX vswap descriptor. | page (page swap files)  vswp (ESX swap files) |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Values** |
| **NNN** | Volume numbering | 001-999 |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample Values** |
| **vol** | Volume descriptor | vol |

**Examples:** uk2p**\_**vis001\_page\_001\_vol, us1s\_vic010\_page\_008\_vol

### VMware (ESX) page and vswap qtrees

These will normally follow the volume name with the \_vol extension replaced by \_qtree. In the event you need to create a qtree without following a volume name the standard is shown below.

The underscore character is used as a field separator.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | - | 12 | 13 | 14 | 15 | 16 | 17 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 26 | 26 |
| V |  | V | \_ | s | s | s | s | \_ | N | N | N | \_ | q | t | r | e | e |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample values** |
| **VVVVVVVVVVVV** | VMware (VI) cluster name with the site name and environment name (12 Characters). | uk2p\_vis001  uk2p\_vic010 |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Values** |
| **ssss** | VM guest page or VMware/ESX vswap descriptor. | page (page swap files)  vswp (ESX swap files) |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Values** |
| **NNN** | Qtree numbering | 001-999 |

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Sample Values** |
| **qtree** | Qtree descriptor | qtree |

**Examples:** uk1p\_vis001\_vswp\_001\_qtree, us2p\_vic010\_vswp\_008\_qtree

### SnapVault Destination Volume Name

SnapVault destination volumes are given names based upon the SnapVault primary name. In all cases SnapVault volume names are created by appending “sv” to the start of the source volume name. **This section is currently under review pending SnapVault implementation and testing.**

## NetApp iGroups and LUNs

### iGroups for vfilers

iGroups are given names based upon the type of iGroup (clustered or standalone) in order to ensure that disk is presented only to the nodes that should be accessing it. In all cases iGroups are created by appending “ig” to the end of the name.

Clusters will have a single igroup with multiple initiators configured. If they have any disk that is host specific that will be presented using a second igroup only to that host.

The underscore character is used as a field separator (note a hyphen is not allowed in any part of the name so if used in the hostname, replace with an underscore).

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | - | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| **H** | **H** | **\_** | **TT** | **\_** | **NN** | **\_** | **ig** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | | **Description** | | **Sample Values** |
| **HH** | | Cluster or host name (up to 24 characters) | | SG1P-OPSMG01B |
| **Field** | | **Description** | | **Sample Values** |
| **TT** | | iGroup type | | cl = Clustered/Shared LUNs  sa = Standalone |
| **Field** | | **Description** | | **Sample Values** |
| **NN** | | Numeric Identifier | | 01 |
| **Field** | **Description** | | **Values** | | |
| **ig** | Fixed field to indicate an igroup | | ig | | |

Examples:- sg1p\_opsmg01a\_sa\_01\_ig

### LUNs for vfilers

LUNs are given names based upon the type of application being served and the data they contain. In all cases LUNs are created by appending “ln” to the end of the name in order to differentiate them. LUNs must always reside in a qtree due to SnapVault requirements. Depending on usage of the LUNs multiple LUNs can reside in one volume but must be kept in separate qtrees.

The underscore character is used as a field separator, if this is used in the hostname replace with an underscore.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | - | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 |
| **H** |  | **H** | **\_** | **A** | **A** | **A** | **A** | **A** | **A** | **\_** | **D** | **D** | **D** | **D** | **D** | **N** | **N** | **N** | **N** | **\_** | **lun** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Field** | **Description** | | **Values** | | |
| **H-H** | Cluster or host name (up to 24 characters) | | OCDS-OPSMG01B | | |
| **Field** | **Description** | | **Values** | | |
| **AAAAAA** | Application (up to 6 characters) | | shpt = Sharepoint  exch = Exchange  ora = Oracle  mssql = MS SQL Server | | |
| **Field** | | **Description** | | **Sample Values** |
| **DDDD** | | LUN type (up to 5 characters) | | data=data files  log=log files  idx=index  arch=archive files |
| **Field** | | **Description** | | **Sample Values** |
| **NNNN** | | LUN number | | 0001 |
| **Field** | | **Description** | | **Sample Values** |
| **lun** | | Fixed field to indicate a LUN | | lun |

Examples:- uk1p\_opsmg01a\_exch\_data\_0001\_ln

### IQN for vfilers

iSCSI nodenames (IQNs) will be modified to include the project name. The RFC defines a specific syntax which must be used in the format:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | - | 22 | 21 | 22 | - | 35 | 35 | 36 | 36 |
| **i** | **q** | **n** | **.** | **y** | **y** | **y** | **y** | **-** | **m** | **m** | **.** | **N** |  | **N** | **:** | **V** |  | **V** | **-** | **N** | **N** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Description** | **Values** | | |
| **iqn** | All IQNs start with iqn | Iqn | | |
| **Field** | **Description** | **Values** | | |
| **yyyy** | Year vfiler IQN created | Always 1992 | | |
| **Field** | **Description** | | **Sample Values** |
| **mm** | Month vfiler IQN created | | Always 08 |
| **Field** | **Description** | | **Sample Values** |
| **NNN.NNNNNN** | Backward naming authority | | Always com.netapp |
| **Field** | **Description** | | **Sample Values** |
| **VVVVVVVVVVVVV** | Vfiler name | | us1p-intbs01a |
| **Field** | **Description** | | **Sample Values** |
| **NN** | Numeric Identifier | | 01 |

**Examples:-** iqn.1992-08.com.netapp:us1p-intbs01a-01

snapmirror

clones