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**C-MODE NAMING STANDARD**

**Synopsis:** This document details about the various naming standard for C-mode filers.

**Segment:** Data Centre Engineering and Managed Services – Storage

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# 1 Introduction

## Management Summary

**This document provides the guidelines of various naming standard across Netapp C-mode environment.**

## Document Scope

Scope of the document is more on the Cluster mode resources naming standards.

## References

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Document** | **Version** | **Date** | **Author** |
| 1 |  |  |  |  |

## 

## Change History

|  |  |  |  |
| --- | --- | --- | --- |
| **Ver** | **Date** | **Author** | **Key Changes** |
| 0.1  0.2  0.3  0.4  0.5  0.6 | 01-Jan-2014  10-Jan-2014  20-Jan-2014  30-Jan-2014  31-Jan-2014  02-Feb-2014 | Santhana Ramasamy  Santhana Ramasamy  Santhana Ramasamy  Santhana Ramasamy  Santhana Ramasamy  Santhana Ramasamy | Initial details added  Basic informations added  Cluster,Node namings added  New addition in cluster, LIF  New naming for Vserver added  Volume name derived |
| 0.7 | 31-Mar-2014 | David Ng | Update aggregate name standard |
| 0.7 | 01-Apr-2014 | David Ng | Fix typo in aggr name example |
| 0.8 | 04-Apr-2014 | Joel Edstrom | Updated vserver name standard |
| 0.9 | 10-Aug-2015 | Craig Goettig | Updated Filer/vserver/aggregate and location naming. Added IFGRP and Switch naming. |

## 

## Distribution List

|  |  |
| --- | --- |
| **Name** | **Role** |
| DCO-STO-ENG-Unified  Delivery.Storage-Infra  STORAGE-SUPPORT | Storage Design & Engineering team  Storage Delivery team  Both CIS & CPS support teams |

## 

## Glossary

|  |  |
| --- | --- |
| **Term** | **Definition** |
|  |  |

# 2 Naming Overview

The idea of creating names based on a certain key or algorithm was adopted many years ago with the intent of allowing useful information to be shared in a common way using names based on defined rules. For instance, in cities, streets are numbered with east-west/north-south information (such as EG-E or LM01) or names such as main, river, or bourbon for the location of what can be found there.

Similarly, it is always a best practice to use names that support meaningful documentation of the location, data information, priority, and use of that object. For example, Eagan\_Main\_Data\_Center is more appropriate than DC1 and sometime with customer locations as well for dedicated one’s.

# 3 Challenges

Although this sounds like a necessary and obvious requirement, many organizations do not have a standardized method for naming and tracking their data, leading to an increase in storage use and operational cost.

Data growth and the cost of managing it over the years are often major sources of many IT storage management challenges and much budget overspending.

Naming conversion logic is becoming more common and widely adopted to assist with these types of challenges, and adopting its use is becoming the de-facto way in the marketplace.

# 4 Naming Proposal

Each site has its own unique ID and using that we can identify and differentiate the sites as well. Since we have three major divisions of usage like shared, backup and dedicated, we should be able to identify the cluster using the name itself rather than having a centralized mapping or automation etc..to find the basic details. So keeping that in mind the cluster name is being provisioned as defined in the table below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sites/location** | **Site ID** |  |  |  |
| E/F/H-site (EAGAN) | E |  |  |  |
| F |  |  |  |
| H |  | **Technology identification** | **ID** |
| LN | D |  | Backup Filer | BK |
| HZ | A |  | Shared Prod Filer (CIS & CPS) | SP |
| LM | M |  | Shared Non Prod Filer | SN |
| PL | P |  | Dedicated Filer | DD |
| SN | S |  | Archive Filer | AA |
| FR | U |  |  |  |
|  |  |  |
| HY | Y |  |  |  |
|  |  |  |
| BG | B |  |  |  |
| HN | K |  |  |  |

Basic Template to derive this names are below,

<DataCenter= 2 characters><CIS or CPS= 3 charaters><BK=Backup, DD=Dedicated, SP=Shared Prod SC=Shared Client, AA=Archive><2 digits for number><1 character = site>

All the cluster name will end with site ID , reason behind this is even though currently there may not be any differences but in future when the DC expands it is easy to identify them using the unique ID. This will be even when compared with Eagan clusters.

## 4.1 Cluster naming

|  |  |  |
| --- | --- | --- |
| **SITE** | **CPS** | **CIS** |
| Eagan E | EG-CPS-CLSP-E01 EG-CPS-CLBK-E01 EG-CPS-CLDD-E01 EG-CPS-CLAA-E01 | EG-CIS-CLSN-E01 EG-CIS-CLSP-E01 EG-CIS-CLBK-E01 EG-CIS-CLDD-E01 EG-CIS-CLAA-F01 |
| Eagan F | EG-CPS-CLSP-F01 EG-CPS-CLBK-F01 EG-CPS-CLDD-F01 EG-CPS-CLAA-F01 | EG-CIS-CLSN-F01 EG-CIS-CLSP-F01 EG-CIS-CLBK-F01 EG-CIS-CLDD-F01 EG-CIS-CLAA-F01 |
| Eagan H | EG-CPS-CLSP-H01 EG-CPS-CLBK-H01 EG-CPS-CLDD-H01 EG-CPS-CLAA-H01 | EG-CIS-CLSN-H01 EG-CIS-CLSP-H01 EG-CIS-CLBK-H01 EG-CIS-CLDD-H01 EG-CIS-CLAA-H01 |
| LN | LN-CPS-CLSP-D01 LN-CPS-CLBK-D01 LN-CPS-CLDD-D01 LN-CPS-CLAA-D01 | LN-CIS-CLSN-D01 LN-CIS-CLSP-D01 LN-CIS-CLBK-D01 LN-CIS-CLDD-D01 LN-CIS-CLAA-D01 |
| HZ | HZ-CPS-CLSP-A01 HZ-CPS-CLBK-A01 HZ-CPS-CLDD-A01 HZ-CPS-CLAA-A01 | HZ-CIS-CLSN-A01 HZ-CIS-CLSP-A01 HZ-CIS-CLBK-A01 HZ-CIS-CLDD-A01 HZ-CIS-CLAA-A01 |
| LM | LM-CPS-CLSP-M01 LM-CPS-CLBK-M01 LM-CPS-CLDD-M01 LM-CPS-CLAA-M01 | LM-CIS-CLSN-M01 LM-CIS-CLSP-M01 LM-CIS-CLBK-M01 LM-CIS-CLDD-M01 LM-CIS-CLAA-M01 |
| PL | PL-CPS-CLSP-P01 PL-CPS-CLBK-P01 PL-CPS-CLDD-P01 PL-CPS-CLAA-P01 | PL-CIS-CLSN-P01 PL-CIS-CLSP-P01 PL-CIS-CLBK-P01 PL-CIS-CLDD-P01 PL-CIS-CLAA-P01 |
| SN | SN-CPS-CLSP-S01 SN-CPS-CLBK-S01 SN-CPS-CLDD-S01 SN-CPS-CLAA-S01 | SN-CIS-CLSN-S01 SN-CIS-CLSP-S01 SN-CIS-CLBK-S01 SN-CIS-CLDD-S01 SN-CIS-CLAA-S01 |
| FR | FR-CPS-CLSP-U01 FR-CPS-CLBK-U01 FR-CPS-CLDD-U01 FR-CPS-CLAA-U01 | FR-CIS-CLSN-U01 FR-CIS-CLSP-U01 FR-CIS-CLBK-U01 FR-CIS-CLDD-U01 FR-CIS-CLAA-U01 |
| HY | HY-CPS-CLSP-Y01 HY-CPS-CLBK-Y01 HY-CPS-CLDD-Y01 HY-CPS-CLAA-Y01 | HY-CIS-CLSN-Y01 HY-CIS-CLSP-Y01 HY-CIS-CLBK-Y01 HY-CIS-CLDD-Y01 HY-CIS-CLAA-Y01 |
| BG | BG-CPS-CLSP-B01 BG-CPS-CLBK-B01 BG-CPS-CLDD-B01 BG-CPS-CLAA-B01 | BG-CIS-CLSN-B01 BG-CIS-CLSP-B01 BG-CIS-CLBK-B01 BG-CIS-CLDD-B01 BG-CIS-CLAA-B01 |
| HN | HN-CPS-CLSP-K01 HN-CPS-CLBK-K01 HN-CPS-CLDD-K01 HN-CPS-CLAA-K01 | HN-CIS-CLSN-K01 HN-CIS-CLSP-K01 HN-CIS-CLBK-K01 HN-CIS-CLDD-K01 HN-CIS-CLAA-K01 |

**EG-CPS-CLSP-E01 🡪 CPS Shared Prod cluster**

**EG-CIS-CLSN-E01 🡪 CIS Shared Client cluster**

**EG-CIS-CLBK-E01 🡪 CIS backup cluster**

**EG-CIS-CLDD-E01 🡪 CIS Dedicated cluster**

**EG-CIS-CLAA-D01 🡪 CIS Archive cluster**

**Where,**

EG/LN/HZ/LM/PL/SG 🡪 Two letter location identifier

E/F/H/D/A/M/P/S/U/Y/B 🡪 Site identification

CPS/CIS 🡪 DCO group identifier

CL 🡪 Cluster identifier

01/02 🡪 Cluster number

BK 🡪 backup filer

SP 🡪 Shared Prod filer

SN 🡪 Shared Non Prod filer

DD 🡪 Dedicated filer

AA 🡪 Archive filer

|  |  |
| --- | --- |
|  |  |
|  |  |

## 4.2 Cluster node naming

|  |  |
| --- | --- |
| CPS/CIS Prod High Tier | EG-C\*S-CLSP-E01-H01 EG-C\*S-CLSP-E01-H02 EG-C\*S-CLSP-E01-H03 EG-C\*S-CLSP-E01-H04 |
| CPS/CIS Prod Low Tier | EG-C\*S-CLSP-E01-L01 EG-C\*S-CLSP-E01-L02 EG-C\*S-CLSP-E01-L03 EG-C\*S-CLSP-E01-L04 |
| CPS/CIS Cheap & Deep | EG-C\*S-CLDD-E01-C01 EG-C\*S-CLDD-E01-C02 EG-C\*S-CLDD-E01-C03 EG-C\*S-CLDD-E01-C04 |
| CPS/CIS Archive | EG-C\*S-CLAA-E01-N01 EG-C\*S-CLAA-E01-N02 |
| CPS/CIS Backup | EG-C\*S-CLBK-E01-B01 EG-C\*S-CLBK-E01-B02 |

**EG-CPS-CLSP-E01-H01 🡪 Eagan Prod Shared High Tier Node**

**HZ-CIS-CLBK-A01**-**B01 🡪 Hazelwood Backup Node**

Where,

EG/HZ/LN **🡪** Two letter site identifier

CPS/CIS 🡪 DCO group identifier

E/A/D 🡪 SITE identifier

CL 🡪 cluster identifier

H01/H02 … 🡪 Node identifier for High Tier

L01/L02 … 🡪 Node identifier for Low Tier

C01/C02 … 🡪 Node identifier for Cheap & Deep

N01/N02 … 🡪 Node identifier for Archive

B01/B02 … 🡪 Node identifier for Backup

DD 🡪 Dedicated node

SP 🡪 Shared Prod node

SN 🡪 Shared Non Prod node

BK 🡪 Backup node

AA 🡪 Archive node

## 4.3 Switch naming

The cluster switch names will include the cluster name followed by sw for switch and a number.

Cluster                    Switch                                Nodes

eg-cis-clsp-e01      eg-cis-clsp-e01-sw01      eg-cis-clsp-e01-h01, eg-cis-clsp-e01-h02, eg-cis-clsp-e01-h0\*…

**EG-CIS-CLSP-E01-SW01 🡪 EG-CIS-CLSP-E01 Cluster Switch**

**4.4 VSERVER Naming**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **VSERVER NAME** | | | | | |
| SITE/LOCATION | CLUSTER NAME | | **VSERVER** | **TYPE** | **EXAMPLE** |
|  |  |  |
| Eagan | EG-CPS-CLSP-E01 | EG-CIS-CLSP-F01 | **EG-CPS-CLSP-E01**   **EG-CIS-CLSP-E01** | ADMIN |  |
| **EG-CIS-CLSP-E01-H01**  **EG-CPS-CLSP-E01-H**  **02** | NODE |  |
| <GRP><TECH>-<SiteID>XXXX | DATA (Shared/Dedicated) | cpsprod-e0117  cisprod-h0049 |
| cisclnt-e0342 |
| cisded-f0197 |
| Limerick | LM-CPS-CL**AA-**M01 | LM-CIS-CL**AA-**M01 | <GRP><DataBaseType>-<SiteID>XXXX | DATA  (Archive) | cpsoracle-m0391  cismssql-m0073  cismysql-m0108 |
| DTC | LN-CPS-CL**BK-D**01 | LN-CIS-CL**BK-D**01 | <GRP>SS-CLBK-<SiteID>XX  (SS=same-site backups) | DATA  (Backup) | cps-ss-clbk-d01  cis-ss-clbk-d02 |
| <GRP>CS-CLBK-<SiteID>XX  (CS=cross-site backups) | cis-cs-clbk-d01  cps-cs-clbk-d02 |

**CPSPROD**-**F**0129 **CISCLNT**-**D**0186 **CISPROD**-**E**0129 **CPSORACLE**-**M**0004 **CISMSSQL**-**H**0084

**Site ID Site ID Site ID Site ID Site ID**

**Production**   **Client**  **Production Oracle DB MSSQL DB**

**Group**  **Group Group Group Group**

**Where,**

**CIS/CPS**  🡪 DCO group identifier

**PROD/CLNT/ORACLE/MSSQL/CLEAR/RCJ** 🡪 Vserver Purpose/Use

**D/E/F/H/M** 🡪 Site identifier

XXXX 🡪 Vserver reserve number from Zipper

Datacenter Site Identifiers are a single alphabet character that corresponds to a physical city/datacenter. This can be found on Sharepoint for anyone unfamiliar with the SiteID relationships:

<https://theshare.thomsonreuters.com/sites/ie/storage/Lists/DC%20Addresses%20and%20Contacts/Main.aspx>

CIFS vserver names will be identical to vserver naming as all vservers that will utilize CIFS are less than 15 characters long.

## 4.5 IFGRP Naming

TR is going with the defaults of the first ifgrp name on a controller is “a0a” and the second is “a0b” and so on.

For 2 ifgrps that are both VLAN tagged you would then end up with ifgrp names of a0a-<vlan #> and a0b-<vlan #>

## 4.6 LIF Naming

Most of the times the lif names will be same as vserver name and the only addition is to add the ‘-lif’ at the end of the vserver name. This applies for all Data LIF’s,

For example,

**CISPROD**-**E**0129

Vserver name : <Group><VserverPurpose>-<SiteID>####

Then the Lif name will be like this,

<Group><VserverPurpose>-<SiteID>####-LIF

Example, **CISPROD**-**E**0129-LIF or **CPSPROD**-**F**0276-LIF

## 4.7 AGGREGATE Naming

**AGGREGATE NAME STANDARD (use lower case):**

<aggr\_string=’aggr’><aggr#>\_<aggr\_type <Node=’n’><Node\_Number>

               Aggr\_string = Characters which show this is an aggregate: ‘aggr’.

Aggr# =  aggregate number starting with 0 (no padding). This number is incremented by 1 for each aggregate which is added to a node.

Aggr\_Type = String (‘root’ or ‘data’) designation which defines this as a root or data aggregate.

Node = ‘n’

Node\_Number = Number of the node in the cluster. The first node will start with ‘01’. This number will be incremented by 1 for each node which is added to the cluster.

|  |  |
| --- | --- |
| **Aggr Name Example** | |
| **Owner Node Name** | **Aggregate Name** |
| EG-CPS-CLSP-E01-H01 | aggr0\_root\_ h01  aggr1\_data\_ h01 |
| EG-CIS-CLSP-E01-L01 | aggr0\_root\_ l01  aggr3\_data\_ l01 |
| HZ-CPS-CLDD-A01-H01 | aggr1\_data\_ h01  aggr2\_data\_ h01 |

## 4.8 Volume naming

This is already been cover as part of Netapp deployment documents and but if it makes sense to have ‘cbXXX’ numbers as part of the volumes has more advantages probably we may need to look at that.. for now this is left open and if everyone is interested then we can take this further.

The volume naming convention will be *<bu>\_<app>\_<#>\_n01aarch1\_nosnap* for Oracle or MySQL log files, where *<#>* is the number of days that logs are retained, with a value of 7, 14, or 45.

*The volume naming convention will be <bu>\_<app>\_<#>\_sqlarch\_nosnap for SQL Server log files, where <#> is the number of days that logs are retained, with a value of 7, 14, or 45*

So instead of BU name we will need to use the cbXXX numbers so that it will be more uniq across the board and easy for anyone to identify the actual customers as well. For example,

***<bu>\_<app>\_<#>\_n01aarch1\_nosnap***

cb0074\_RIAonline\_*07\_n01aarch1\_nosnap*

Where,

cbXXX - Customer ID

RIAonline - Apps/product code

n01aarch1 - archive volume

07/14/30/45 - Retention periods

Nosnap/snap - backup identifier

With the above naming standard it will be very easy for anyone to identify the customer names and their respective products. Also since when it comes to archive volumes the vservers containing these volumes will not hold any customer ID’s and it will be more generic vserver names. So it will help to add ‘CB’ numbers in to the volumes for further identifications.

For example,

Please find the volume names and their respectivbe cb number (Charge back numbers).

|  |  |
| --- | --- |
| **Volume name** | **CB number** |
| elite\_wi\_peermonitordev\_usr\_snap | cb0187 |
| findlaw\_telecityprod\_snap | cb0149 |
| bsi\_documents\_snap | cb0182 |

Above volumes can be names with Charge back numbers and which will be very easy for identification and also easy to compile the charges as well. This can be derived as,

|  |  |
| --- | --- |
| **Volume name** | **CB number** |
| CB0187\_wi\_peermonitordev\_usr\_snap | cb0187 |
| CB0149\_telecityprod\_snap | cb0149 |
| CB0182\_documents\_snap | cb0182 |

Formula will be, <**cb number-customerid>\_<apps>\_<snap r nosnap>**

**For archive it will be,** <cbxxx>\_<app>\_<RET>\_n01aarch1\_nosnap

All the latest CB numbers can be found in the below link , this sheet will be up to date since this is used for finance team for charging and analyzing the usages etc..

[**https://ereport.thomson.com/reportlib.asp?id=CB004**](https://ereport.thomson.com/reportlib.asp?id=CB004)

## 4.9 CIFS share naming standard

Since we got the standard until volume names will leave the cifs share naming as a user friendly for apps or customer to decide on the share names . This can vary as per their convenient and if in case of any issue or during troubleshooting using the vserver or volume names we should be able to find the respective customers and the application running in the top of this shares etc..

## 4.10 Qtree naming standard

Currently Qtree is being used in the environment for DB, flat ,VM volumes and now there is a plan to take out the qtrees from the environment. Even though we have couple of concerns in taking out the qtrees, this is left open for further conversation to decide on this.

# 5 Conclusions

This document can be used for further reference and is expected to have changes in future as in when it goes in to production.