

Dcache Cell List and Introduction
a not-definitive guide to the dCache cell sub-systems

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Functional Cell Name	Common Cell Name	Common Domain for Cell
Location Manager Tunnel	c-100	all domains
Location Manager	lm	all domains
Message Routing Manager	RoutingMgr	all domains
Domain Controller Cell	System	all domains
Minimally Authenticated Dcap Door	DCap<N>	door<N>Domain
X509 Dcap Door	DCapG<N>	doorG<N>Domain
Kerberos Dcap Door	DCapK<N>	doorK<N>Domain
X509 FTP Door	GFTP<N>	gridftpdoor<N>Domain
X509 FTP Door on pool node	GFTP_<pool-host>	gridftpdoor_<pool-host>Domain
Kerberos FTP Door	KFTP<N>	kerberizedftpdoor<N>Domain
Weak Auth FTP Door	WFTP<N>	weakftpdoor<N>Domain
SRM v1.1 Door	srm_<N>	srm<N>Domain
Access Control Cell	acm	adminDoorDomain, skmslmDomain
Admin Door Login Manager	alm	adminDoorDomain
PAM Authenticator	pam	adminDoorDomain
SSH Key Manager	skm	adminDoorDomain, skmslmDomain
SSH Door Login Manager	slm	skmslmDomain
Data File Pools	<pool-name>	<pool-name>Domain
Billing	billing	billingDomain or httpdDomain
Broadcaster	broadcast	broadcastDomain
Collector	collector	httpdDomain
Copy Manager for SRM	CopyManager	utilityDomain
Directory Lookup Cache	dirLookupPool	pnfsDomain
Flush Manager	FlushManager	hsmcontrolDomain
gPlazma Pluggable Authentication	gPlazma	gPlazmaDomain
Internal Web Server	httpd	httpdDomain
Login Broker	LoginBroker	dCacheDomain
Info Collector	InfoCollector	infoProviderDomain
Info Publisher	InfoPublisher	infoProviderDomain
Pin Manager for SRM	PinManager	pin_managerDomain
Cleaner	PnfsCleaner	cleanerDomain or pnfsDomain
Pnfs Interface	PnfsManager	pnfsDomain
Pool Manager	PoolManager	dCacheDomain
Prestager	Prestager	dCacheDomain
Remote Gsiftp Transfer Manager	RemoteGsiftpTransferManager	utilityDomain
Remote Http Transfer Manager	RemoteHttpTransferManager	utilityDomain
Replica Manager	replicaManager	replicaDomain
Space Manager	SpaceManager	spaceManagerDomain

Sheet1

Spy Cell	Spy	spyDomain or httpdDomain
Topology Cell	topo	httpdDomain
Transfer Observer	TransferObserver	httpdDomain

Column Name	Description
Functional Cell Name	Functional name for the cell. Not absolutely defined.
Common Cell Name	Commonly assigned name for the cell as seen in the Cell Info page
Common Domain for Cell	Commonly assigned domain for cell in dcache.org/T2 configs. Usually I
Unofficial Sub-system	Unofficial sub-system of dCache to which the cell contributes - to provi
Role and Purpose	Role and purpose...
Cell Info Shows	Is the cell usually shown in the Cell Info page (space added to show
On by default	Is the cell installed and fully enabled by default in a dcache.org/T2 cont
Resources Stressed	Based on general operational experience, depending on hardware,
Mem (ory)	Memory consumption
Cpu	CPU consumption
Disk (I/O)	Disk I/O
Net (work I/O)	Network I/O
Int (eraction with other components)	Interaction w/other components
Requirements and Notes	Bottlenecks have been observed in Requirements and notes....
Java Class	Commonly used Java class implementing this cell. Can vary with dCac

NEW CELLS coming in 1.7.0: xrootdDoor, ...

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Unofficial Sub-system	Role and Purpose	Cell Info Shows	On by Default	Resol Mem
infrastructure	Part of cells communication infrastructure	-	Y	-
infrastructure	Part of cells communication infrastructure	-	Y	-
infrastructure	Part of cells communication infrastructure	-	Y	-
infrastructure	Domain nucleus. Processes batch file, creates other cells in domain	-	Y	-
doors	Posix I/O Control Line	Y	Y	-
doors	Posix I/O Control Line	Y	Y	-
doors	Posix I/O Control Line	Y	Y	-
doors	FTP Control Line	Y	Y	Y
doors	FTP Control Line	Y	Y	Y
doors	FTP Control Line	Y	Y	-
doors	FTP Control Line	Y	Y	-
SRM	SRM v1.1 access point	Y	Y	Y
doors	Access Control Cell	Y	Y	-
admin/doors	Admin Door Login Manager	Y	Y	-
doors	PAM Authenticator	Y	Y	-
doors	SSH Key Manager	Y	Y	-
admin/doors	SSH Door Login Manager	Y	Y	-
pools	File Service (movers)	Y	Y	-
acct&mon	Receives transfer detail messages, logs them, accumulates statistics	Y	-	Y
infrastructure	Forwards messages to one or more other cells	Y	-	-
acct&mon	Watches cells status, prepares web page with it.	-	Y	-
SRM	Performs local copy for SRM	Y	Y	-
Pnfs	Provides directory listing	Y	-	-
tape	Manages bandwidth use between writes to tape and client r/w to disk	Y	-	-
authentication	Performs Authorization of user on basis of Grid Credentials	Y	-	Y
acct&mon	Remote Monitoring Enabler	can	Y	-
admin	Tracks logins and protocols used by logins (?)	Y	Y	-
InfoProvider	Collection of info to be published in a GLUE Schema Server	Y	-	Y
InfoProvider	Publishing of info into the GLUE SCEMA server	Y	-	Y
SRM	Pins File in Cache in response to SRM Get	Y	Y	-
Pnfs	Removes from the pools the files removed from pnfs	Y	Y	-
Pnfs	Part of dcache which talks to pnfs server	Y	Y	-
pools	Managers pools, relays requests to pools, tracks pool status.	Y	Y	-
tape	Managers and tracks progress of restore (from tape) requests	Y	if tape	-
SRM	Transfer from/to dCache to/from remote Gridftp server	Y	Y	-
SRM	Transfer from/to dCache to/from remote HTTP server	Y	Y	-
resilient	Managers Resilient dCache - initiates and tracks replication, etc.	Y	can	-
SRM	Space Reservation for SRM Put/Copy	Y	Y	-

Sheet1

acct&mon	Provides info for GUI to dcache	can	?	-
acct&mon	Discovers dcache internal structure	-	?	-
acct&mon	Provides active transfer info on dcache web page	-	?	-

.. Names vary widely though.
 not a requirement to run exactly this way.
 de another kind of hint as to cell's role

n letters)? Y' = yes, '-' = no
 figuration? Y' = yes, '-' = no
 , configuration, Y' = yes, '-' = no
 1 heap size to improve performance (reduce garbage collection frequency).
 sing, message processing, or garbage collection.
 ase back-end, and it is used frequently.
 process very large number of client requests.
 some configurations with these.

he releases as new cell modules appear.

Sources Stressed...				
CPU	Disk	Net	Int	Java Class
-	-	-	-	dmg.cells.network.LocationMgrTunnel
-	-	-	-	dmg.cells.services.LocationManager
-	-	-	-	dmg.cells.services.RoutingManager
-	-	-	-	dmg.cells.nucleus.SystemCell
-	-	-	-	diskCacheV111.doors.DCapDoor
-	-	-	-	diskCacheV111.doors.DCapDoor
-	-	-	-	diskCacheV111.doors.DCapDoor
Y?	-	Y	-	diskCacheV111.doors.GsiFtpDoorV1
Y?	-	Y	-	diskCacheV111.doors.GsiFtpDoorV1
-	-	-	-	diskCacheV111.doors.KerberosFtpDoorV1
-	-	-	-	diskCacheV111.doors.WeakFtpDoorV1
Y	Y-DB	Y	-	diskCacheV111.srm.dcache.Storage
-	-	-	-	dmg.cells.services.login.user.AclCell
-	-	-	-	dmg.cells.services.login.LoginManager + more
-	-	-	-	diskCacheV111.admin.PAMAuthenticator + more
-	-	-	-	dmg.cells.services.login.SshKeyManager
-	-	-	-	dmg.cells.services.login.LoginManager + more
-	Y	Y	-	diskCacheV111.pools.MultiProtocolPool2
Y	Y-DB	-	Y	diskCacheV111.cells.BillingCell
-	-	-	-	dmg.cells.services.multicaster.BroadcastCell
-	-	-	-	diskCacheV111.cells.WebCollectorV3
-	-	-	-	diskCacheV111.doors.CopyManager
-	-	-	-	diskCacheV111.pools.DirectoryLookUpPool
-	-	-	-	...hsmControl.flush.HsmFlushControlManager
-	-	-	-	diskCacheV111.services.authorization.GPLAZMA
-	-	-	-	dmg.cells.services.HttpServiceCell
-	-	-	-	dmg.cells.services.login.LoginBroker
-	-	-	-	org.dcache.services.infoCollector.InfoCollector
-	-	-	-	org.dcache.services.jclarens.InfoPublisher
-	-	-	-	diskCacheV111.services.PinManager
-	-	-	-	diskCacheV111.cells.CleanerV2
-	-	-	Y	diskCacheV111.namespace.PnfsManagerV3
-	-	-	-	...poolManager.PoolManagerV5+more
-	-	-	-	...hsmControl.DummyStager
-	-	-	-	diskCacheV111.services.RemoteGsiftpTransferManager
-	-	-	-	diskCacheV111.doors.RemoteHttpTransferManager
Y-DB	Y-DB	-	-	...replicaManager.ReplicaManagerV2
-	-	-	-	diskCacheV111.services.SpaceManager

Sheet1

-	-	-	-	dmg.cells.services.login.LoginManager
-	-	-	-	dmg.cells.network.TopoCell
-	-	-	-	diskCacheV111.cells.TransferObserverV1

Requirements and Notes
Plaintext uid,gid accepted as is. Firel protection recommended since R/W. host cert, kpwd on node host key host cert, kpwd on node; multi-piped, passive mode uses intermediate buffer. host cert, kpwd on node; multi-piped, passive mode uses intermediate buffer. host key uses plaintext passwords, Read-only (forced at code level). db setup required
put mover characteristics here or with doors?
db setup required, messaging central point can be a bottleneck.
usually runs on port 2288
db setup required
Can be a bottleneck under extreme loads. Beware recursive file listings.
db setup required
db setup required
db setup required

Sheet1

