

dCache Storage Resource Manager introduction

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For the dCache team
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Project Topology : The Team

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Development Contribution

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Support and Help

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Maarten Lithmaath, CERN

Flavia Donno, CERN

Project Topology: Partners

Code contribution

besides DESY, FERMI

NDGF : ftp (protocol V2)

IN2P3 : HoppingManager

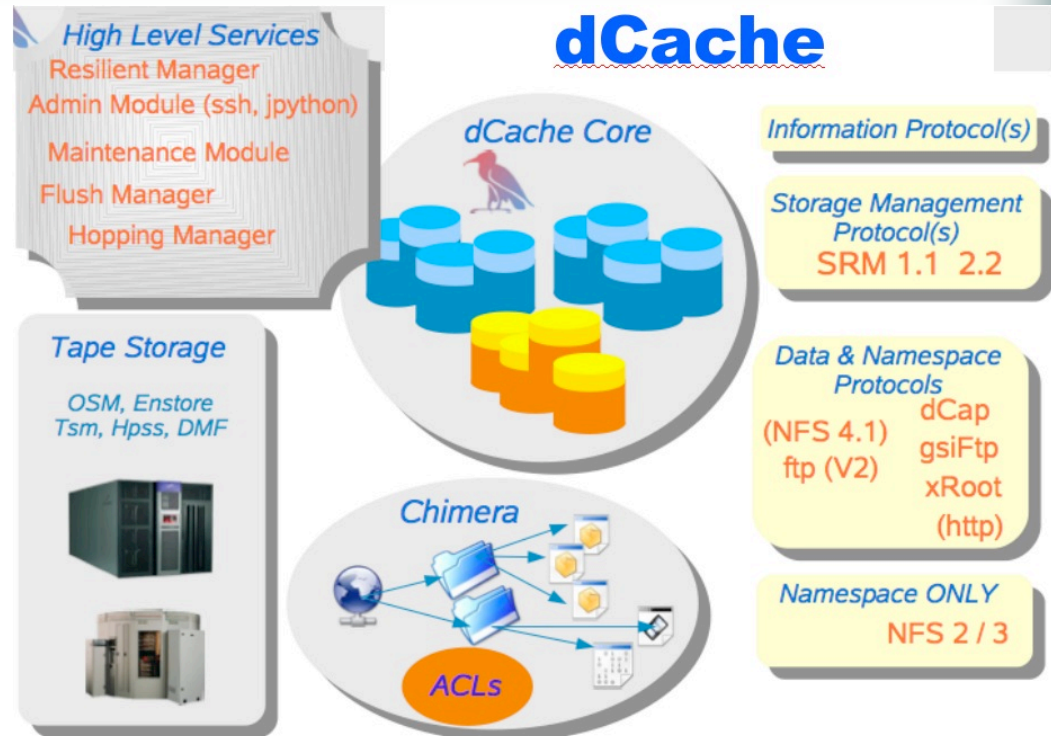
Integration. Verification

- CERN
- Open Science Grid
- d-Grid



dCache-SRM

- Strict name space and data storage separation
- Automatic file replication on based on access patterns
- HSM Connectivity (Enstore, OSM, TSM, HPSS, DMF)
- Automated HSM migration and restore
- Scales to Peta-byte range on 1000's of disks
- Supported protocols:
 - (gsi/krb)FTP, (gsi/krb)dCap, xRoot, NFS 2/3
 - Separate IO queues per protocol
 - Resilient dataset management
 - Command line and graphical admin interface
 - Variety of Authorization mechanisms including VOMS
 - Deployed in a large number of institutions worldwide



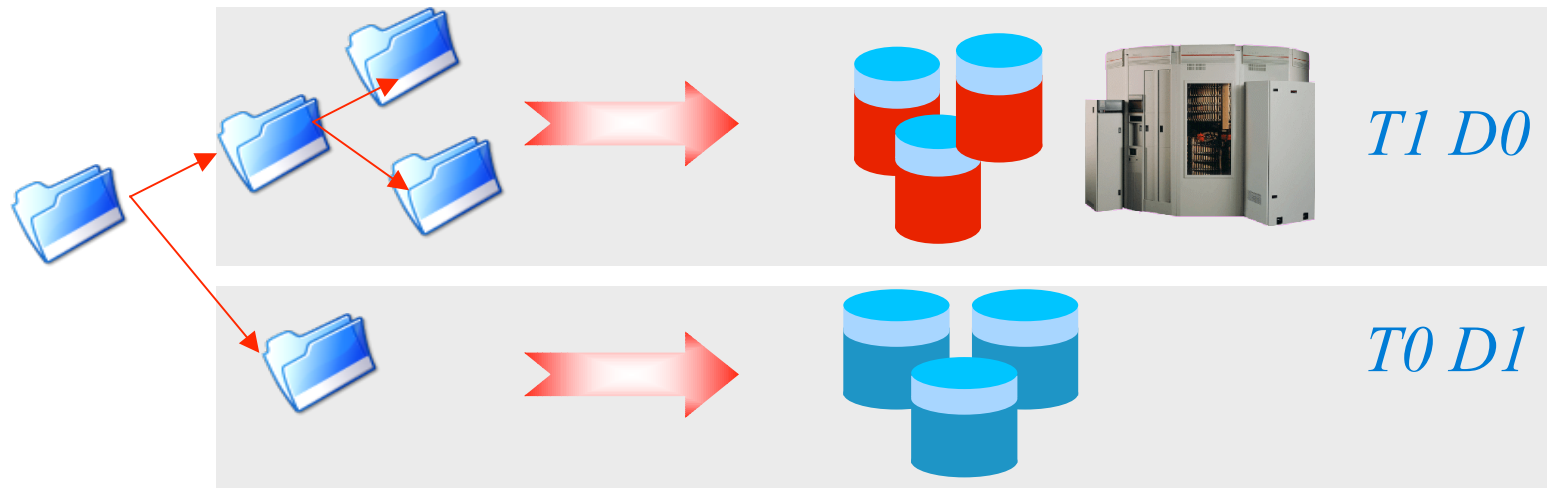
- SRM 1.1 and SRM 2.2
- Dynamic Space Management
- Request queuing and scheduling
- Load balancing
- Robust replication using SrmCopy functionality via SRM, (gsi)FTP and http protocols

SRM Versions support in dCache 1.8

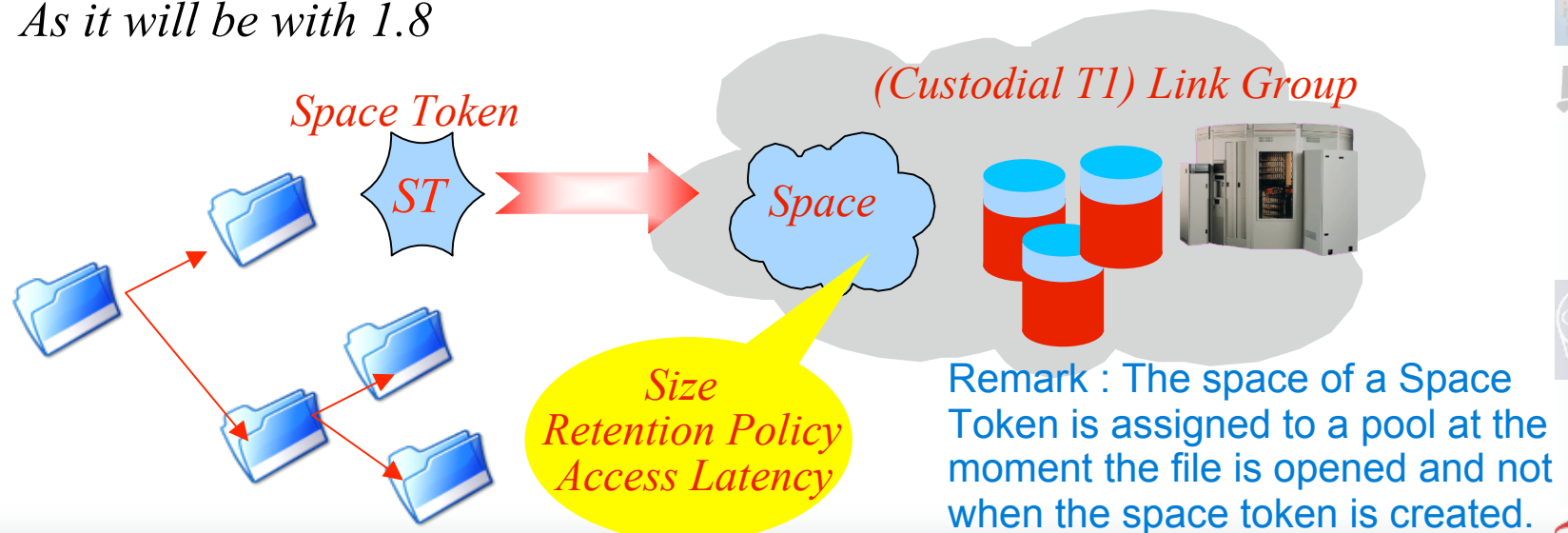
- **dCache 1.8.0** and higher will support **SRM 1.1** and **SRM 2.2** at the same time on the same TCP Port.
- Both SRM protocol versions will run in the same dCache instance, using just one file system instance. (pnfs)
- Both SRM versions will have access to the **same file name space**.
- Files written with 1.1 can be accessed via 2.2 and vice versa.

SRM 2.2 (The space token)

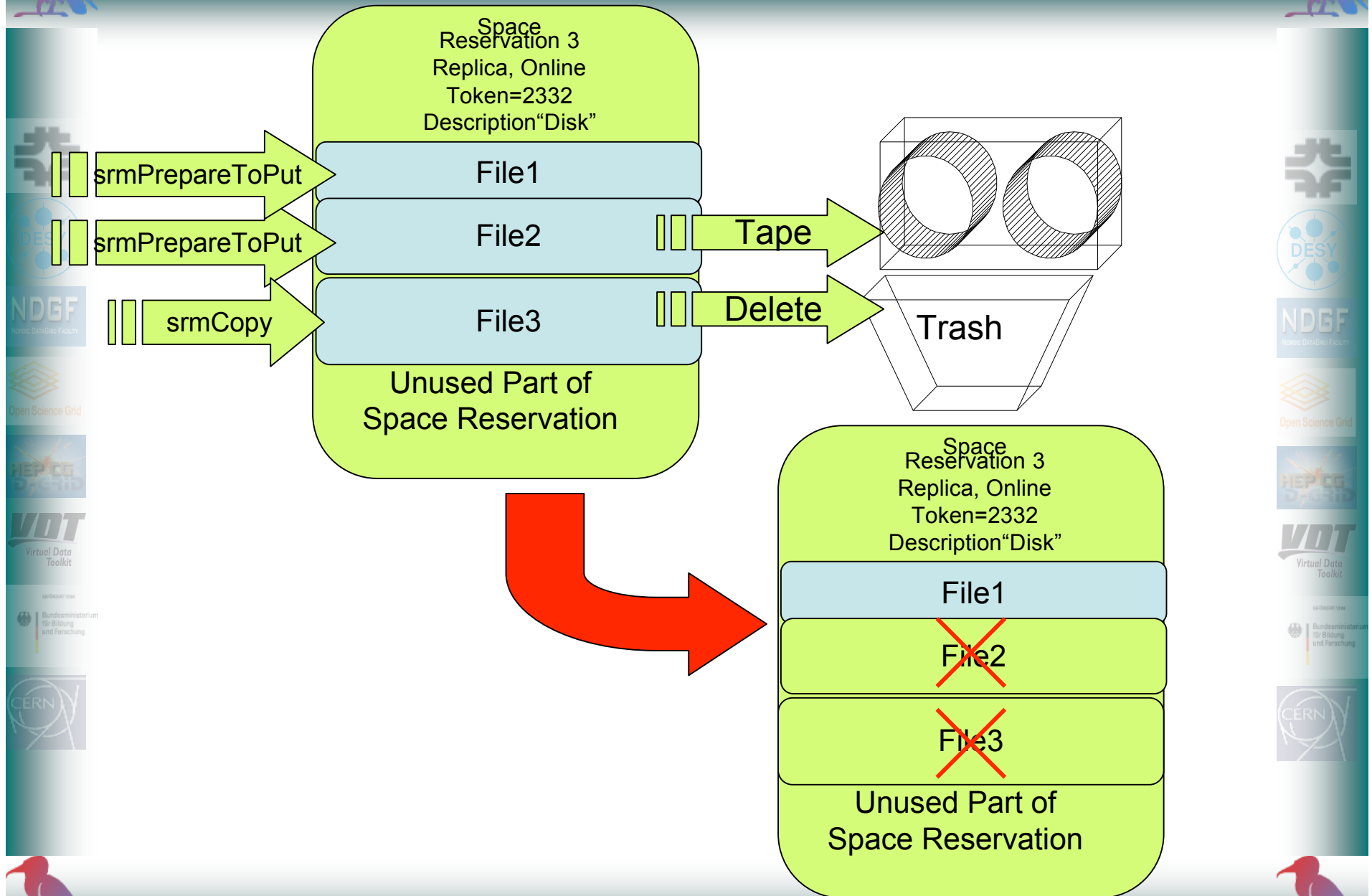
As it used to be (≤ 1.7)



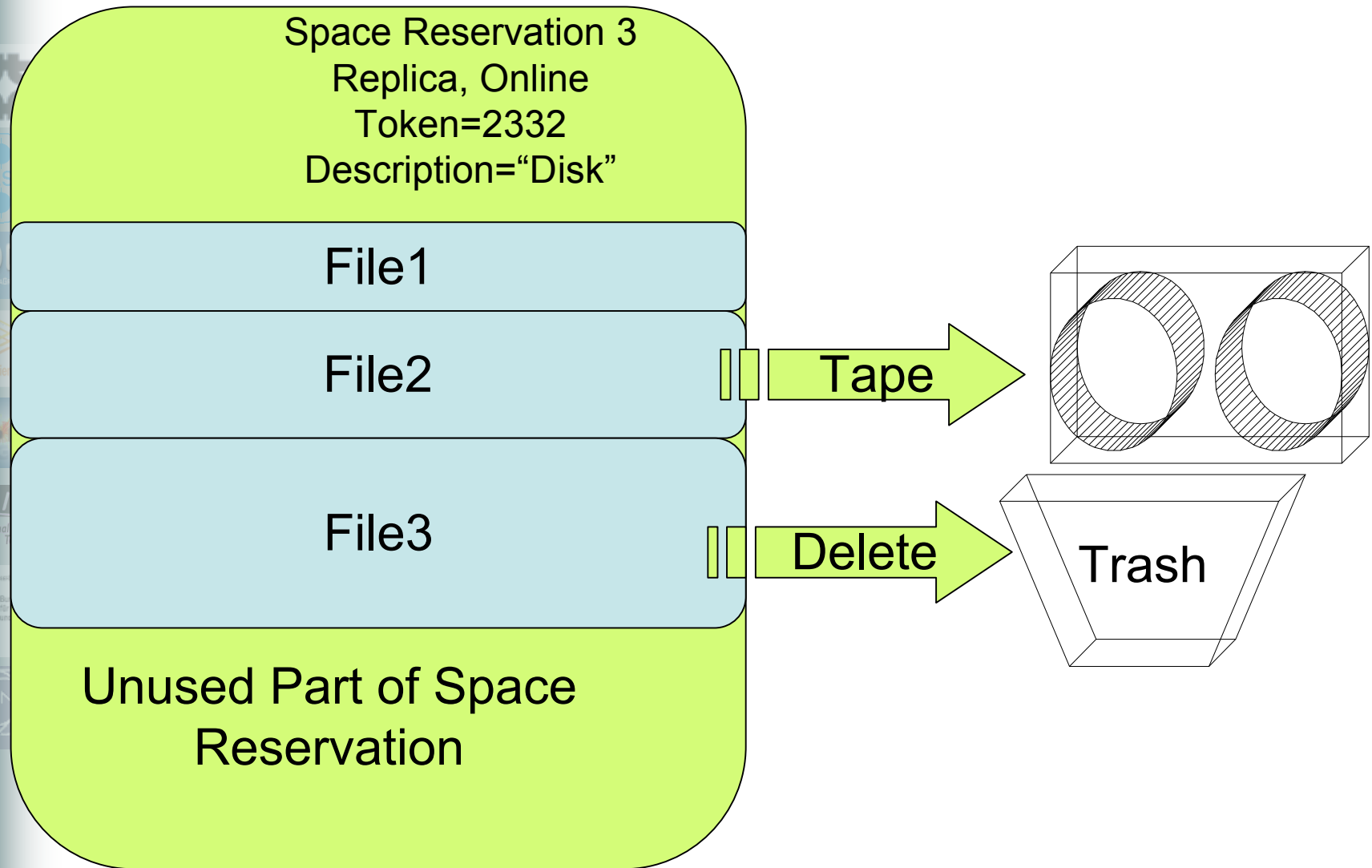
As it will be with 1.8



Lifecycles of Files in Space Reservations



Movement of Files in Spaces



Deployment Schedule

Site	Week of Upgrade	Comment
NDGF	Oct 29	Agreed
gridKa	Nov 5	Agreed. Downtime will be Nov 6, Tuning Nov 7
Workshop Edinburgh	Nov 12	Tuesday/Wednesday 13/14
SARA	Nov 19	Agreed
IN2P3, FERMILab	Nov 26	Agreed (FERMI : 29 Nov)
RAL, Triumpf	Dec 3	Agreed
BNL	Dec 10	rather sure
PIC	Dec 17	Agreed

SRM Tutorial Outline

- SRM at a glance
- dCache Specific Concepts
- Deployment
- dCache SRM Configuration
- gPlazma
- Monitoring dCache SRM
- SRM and dCache Deployment & Upgrade Q&A
- SRM Network Usage and Firewalls
- SRM inter-dCache interactions

Goals of the Hands On Session

- Learn about dCache SRM 2.2 Configuration
 - configure Link Groups
 - Create LinkGroupVOAuthorization file
 - Activate SRM Space Manager
 - Configure default Access Latency and Retention Policy
 - System Wide defaults
 - Path Specific defaults
 - Reserve Spaces
 - Write Files in the Spaces