

# *Improved dCache – HSM Interface*

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## Overall Goal

Keep drives streaming !!!!

Reduce number of (real) mount/dismount operations !!!

## Allows HSM to do smart scheduling

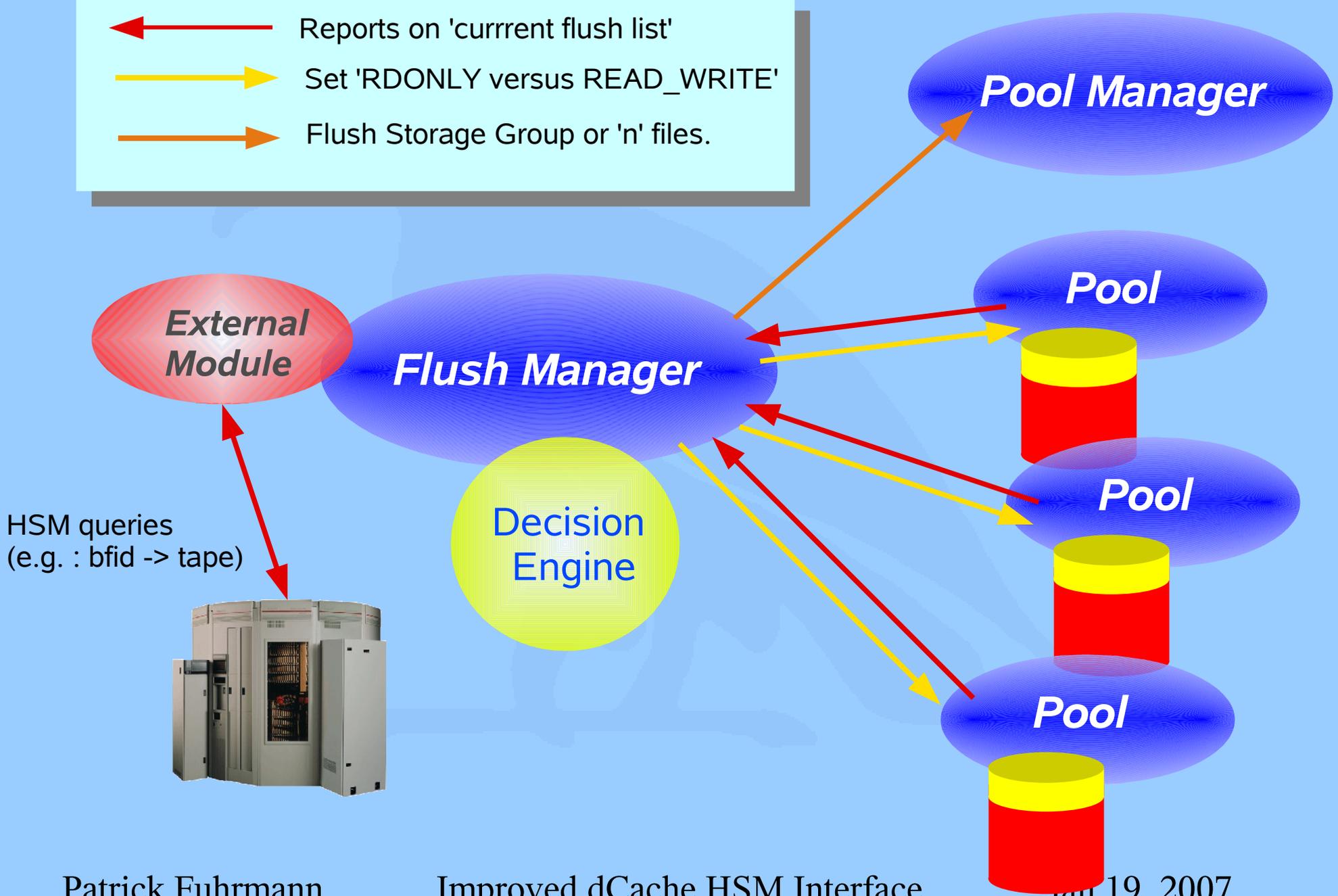
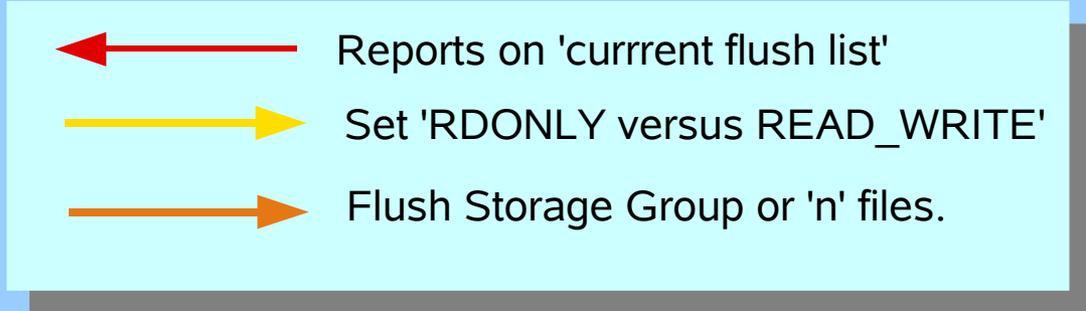
Sorts requests based on media container (tape)

Submit requests based on resource knowledge (drives)

## Data Stream Control

Overcome disk deficiencies (read/write competition/congestion)

Network bandwidth limitation



dCache.ORG  
dCache.ORG  
dCache.ORG

- \* A single *Flush Manager* operates on a single *Pool-Manager Pool-Group*
- \* Multiple *Flush Managers* may run in a single *dCache* instance
- \* Pools are set *rdOnly* before being flushed ( to improve Disk Performance)
- \* starts flushing after considering the following rules :
  - never flushes more than a configured number of pools.
  - makes sure there are always enough DATA INPUT pools available.
  - never flushes more than a configured number of storage groups (drives)
  - may limit the maximum number of files per flush operation.

Cell Login

Session Windows Specials Help

## LOCAL

Commander Restore Transfer Pools CostModule **Flush**

### Flush Control

PoolName	Pool Mode	Flushing	Total Size	Precious Size	Fraction
limerick_1	R-	0	7 GB	60 MB	
limerick_2	R-	0	7 GB	2 KB	

Action on selected queue entries

Set ReadOnly

Set ReadWrite

Flush All

PoolName	Storage Class	Active	Pending	Failed	Fraction
limerick_1	dteam:GENE...	0	1	0	
limerick_1	dteam:STATI...	0	4	0	
limerick_1	ops:GENERA...	0	1	0	
limerick_2	dteam:STATI...	0	3	0	

Toggle View    30    Update    FlushControllerName: hfc

Update this Flush Manager (hfc)

Manager : hfc

Cell Name	Driver Class	Control Type
hfc@hsmcontrolDomain	diskCacheV111.hsmControl.flush.driver.AlternatingFlushSchedulerV1	Centrally Controlled

Control Locally

Control Centrally

Flushing Pools

Action	PoolName	Pool Mode	Flushing	Total Size	Precious Size	Fraction
<input type="checkbox"/>	limerick_1	ReadOnly	0	7516192768	63398804	8.4349624E-5
<input checked="" type="checkbox"/>	limerick_2	ReadOnly	0	7516192768	2334	3.1052956E-9

Set Read Only

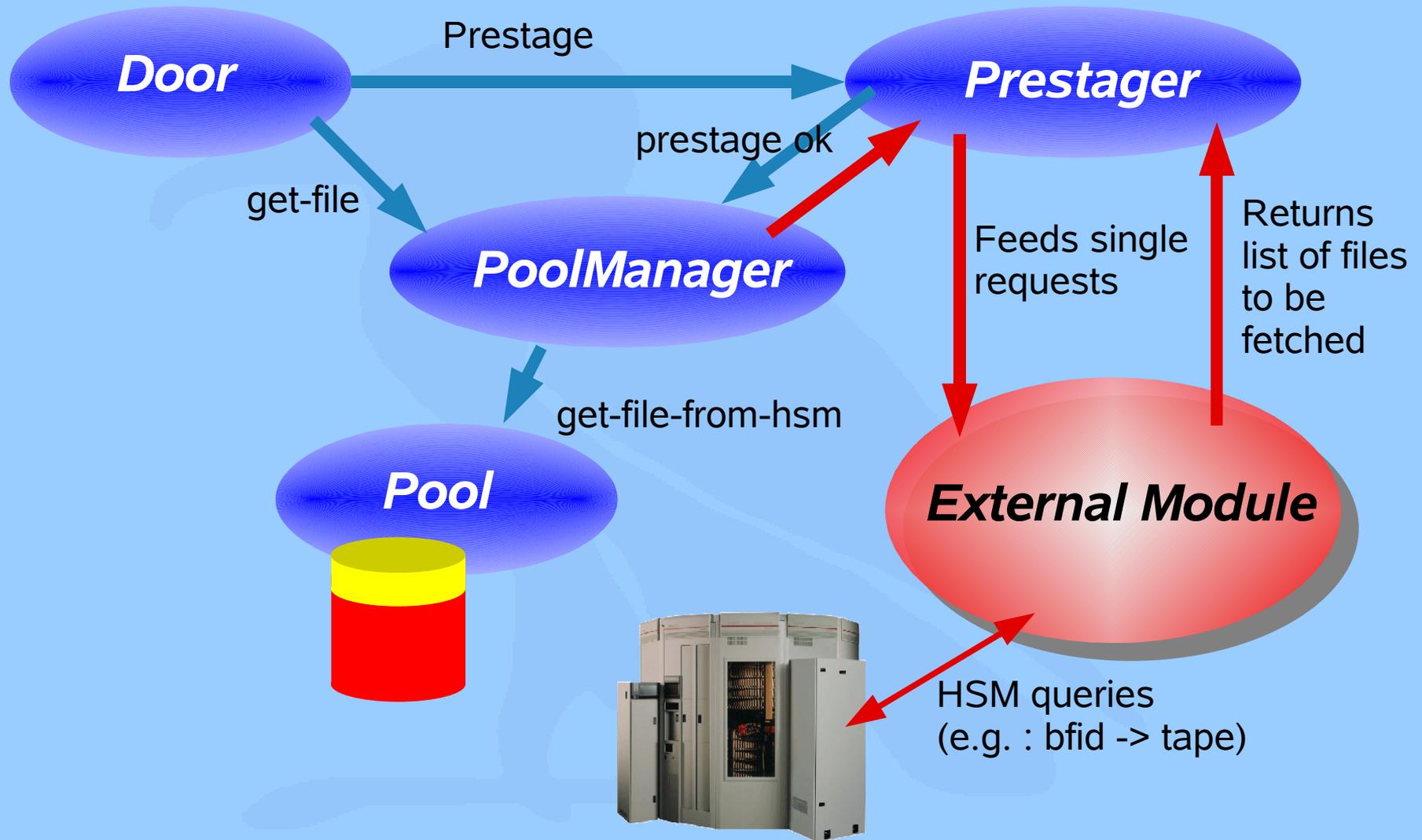
Set Read Write

Query

Flushing Storage Classes

Action	PoolName	StorageClass	Status	Total Size	Precious Size	Fraction	Active	Pending	Failed
<input type="checkbox"/>	limerick_1	ops:GENERATED@osm	Idle	7516192768	31698359	4.2173426E-5	0	1	0
<input checked="" type="checkbox"/>	limerick_2	dteam:STATIC@osm	Idle	7516192768	2334	3.1052956E-9	0	3	0
<input type="checkbox"/>	limerick_1	dteam:STATIC@osm	Idle	7516192768	2086	2.7753413E-9	0	4	0
<input checked="" type="checkbox"/>	limerick_1	dteam:GENERATED@osm	Idle	7516192768	31698359	4.2173426E-5	0	1	0

Flush



dCache.ORG  
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*Flush Manager*

Evaluated at USCMS and BNL

Functional except for unclear behavior in conjunction with Pool 2 Pool

Will be worked on next

*Improved HSM restore*

Not clear when we get free resources for that