



dCache

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Storage Element (SE)?

- dCache is a SE .. and much more
- User perspective
 - Data operations
 - Accept data,
 - Later retrieve of bytes
 - Optimise for WAN- and LAN- access.
 - Control QoS (store on disk or tape)
 - Space management; pinning
 - Interoperability
 - SRM, (Grid-)FTP, LAN access

What extra...

- WebDAV
- NFS v4.1 (with pNFS)
- Tape protection
- Storage management
- Hot data replication

dCache deployment req

- To run dCache you need:
 - Java, PostgreSQL, POSIX shell
- To support YAIM / site-info.def
 - Python, POSIX shell.
- Supported platforms
 - GNU/Linux, Solaris, ...
- See “The dCache Book”
 - dCache version-specific
 - <http://www.dcache.org/manuals/>

Improving scalability

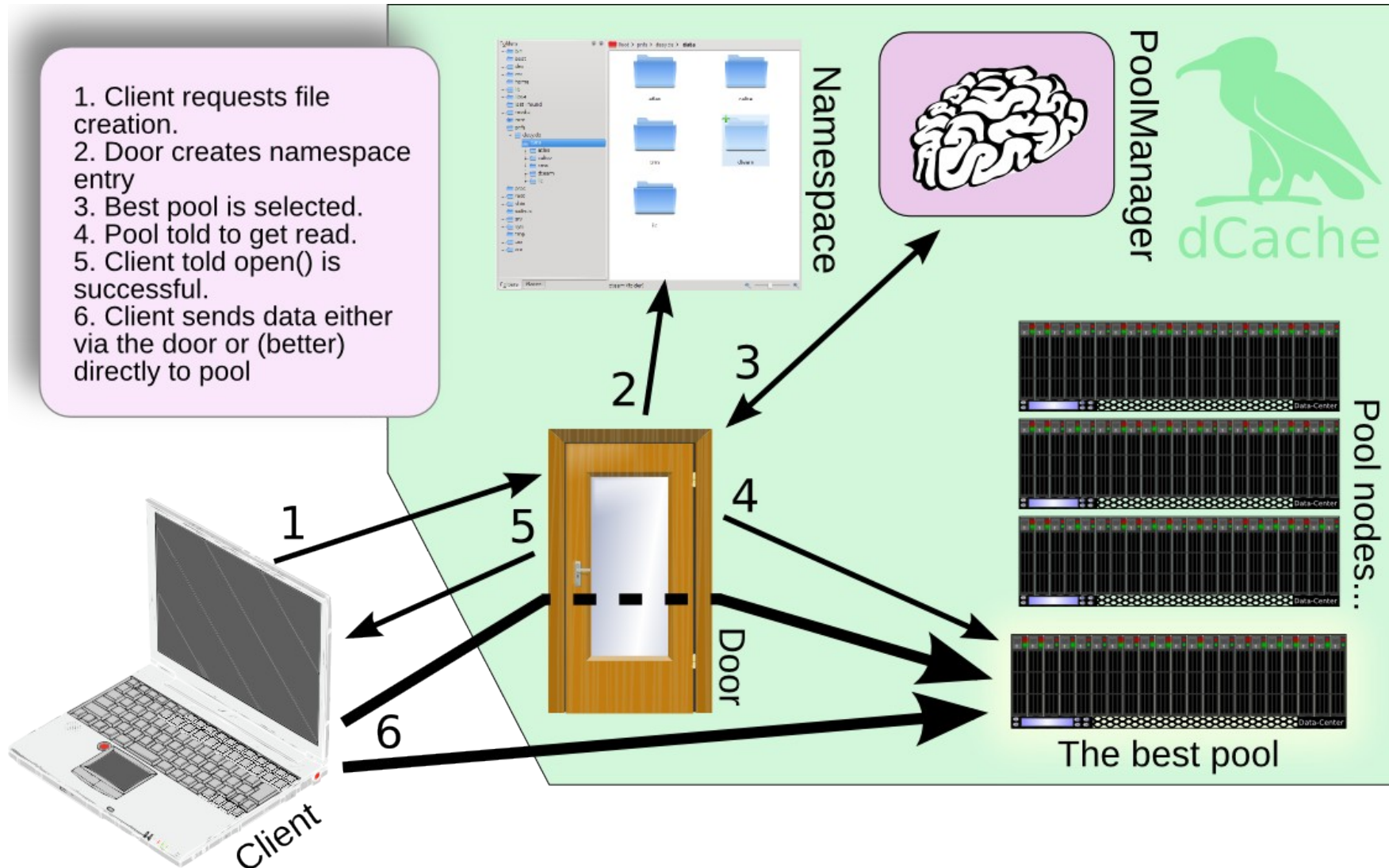
- Scaling to larger scales ($>10\text{PB}$):
 - Administrative challenges:
 - Not just fault-tolerant but self-repairing,
 - Management of higher-level concepts,
 - Increasing autonomy.
- Scaling to smaller scale:
 - Tiny deployments that can grow,
 - Easy configuration
 - Make trial deployment easy

Distributed system

- Activity is split into discrete components,
- Components communicate via messages
 - Current Homebrewed (EMB-like)
 - Investigating JMS (ActiveMQ, ...)
- Components are location agnostic
 - Moving components is trivial

dCache walk-through

1. Client requests file creation.
2. Door creates namespace entry
3. Best pool is selected.
4. Pool told to get read.
5. Client told open() is successful.
6. Client sends data either via the door or (better) directly to pool



Dependencies & contact pts

- Globus
 - jcog library
- gLite
 - VOMS support, BDII (GLUE)
- Installation
 - YAIM (for site-info.def support)



Thank you!

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