



dCache Firewall Issue

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for dCache Team

DESY



Protocols and Ports

20000:25000	=>	gridftp in pools
33115:33145	=>	passive dcap & xrootd
8443	=>	SRM
22223	=>	ssh
22125	=>	dcap
22128	=>	gsidcap
1049	=>	xrootd
2811	=>	gridftp
2288	=>	httpd
11111/udp	=>	lm
xxxxxx	=>	cells interconnect

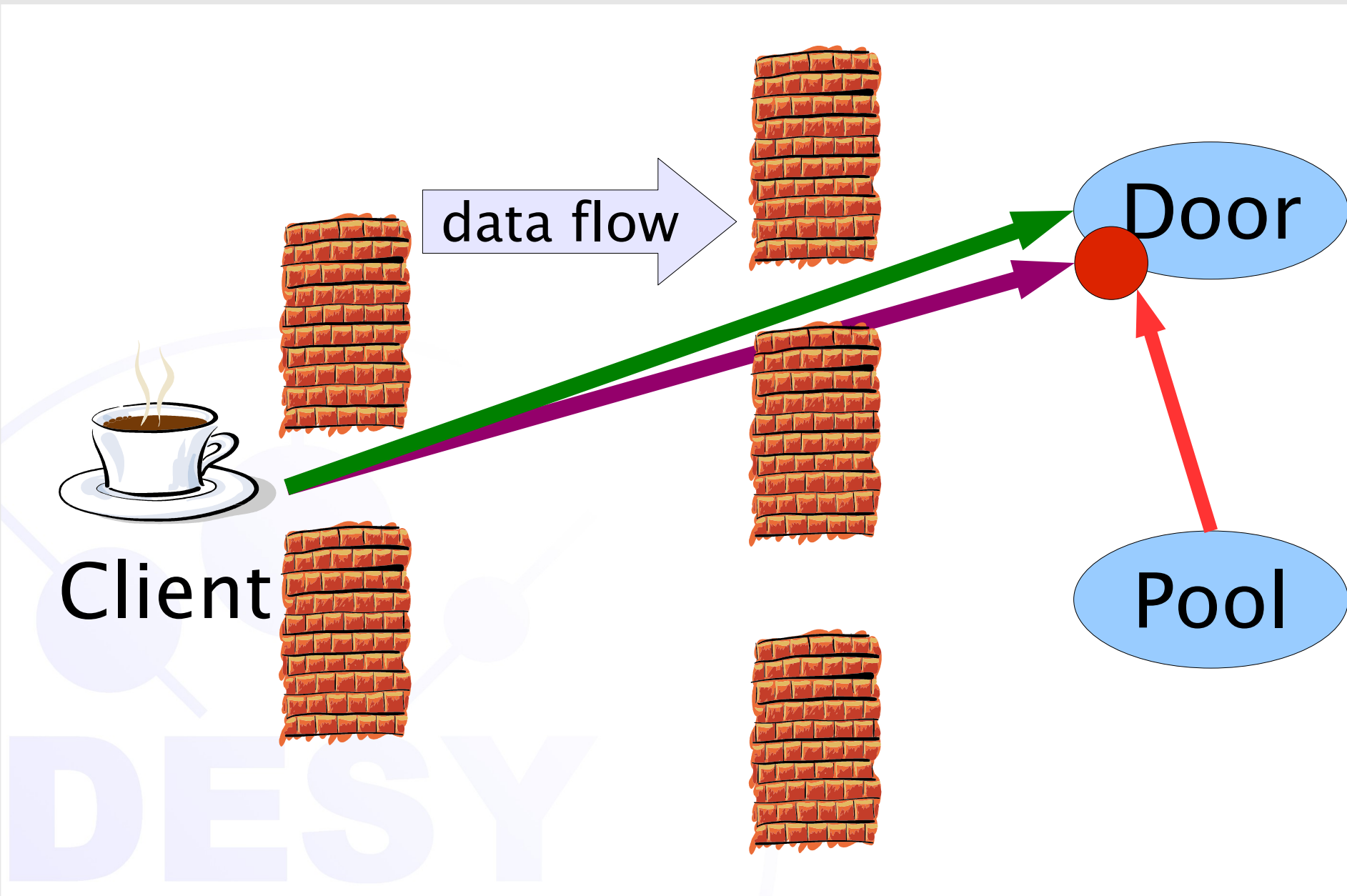


- BLOCK MODE – regular FTP
- Extended BLOCK MODE (EMODE)
 - out-of-sequence data delivery
 - block offset
 - parallel streams
 - (passive mode only)
- eXtended EMODE (XMODE)
 - removed unidirectional transfer limitation
 - added data integrity

DESY

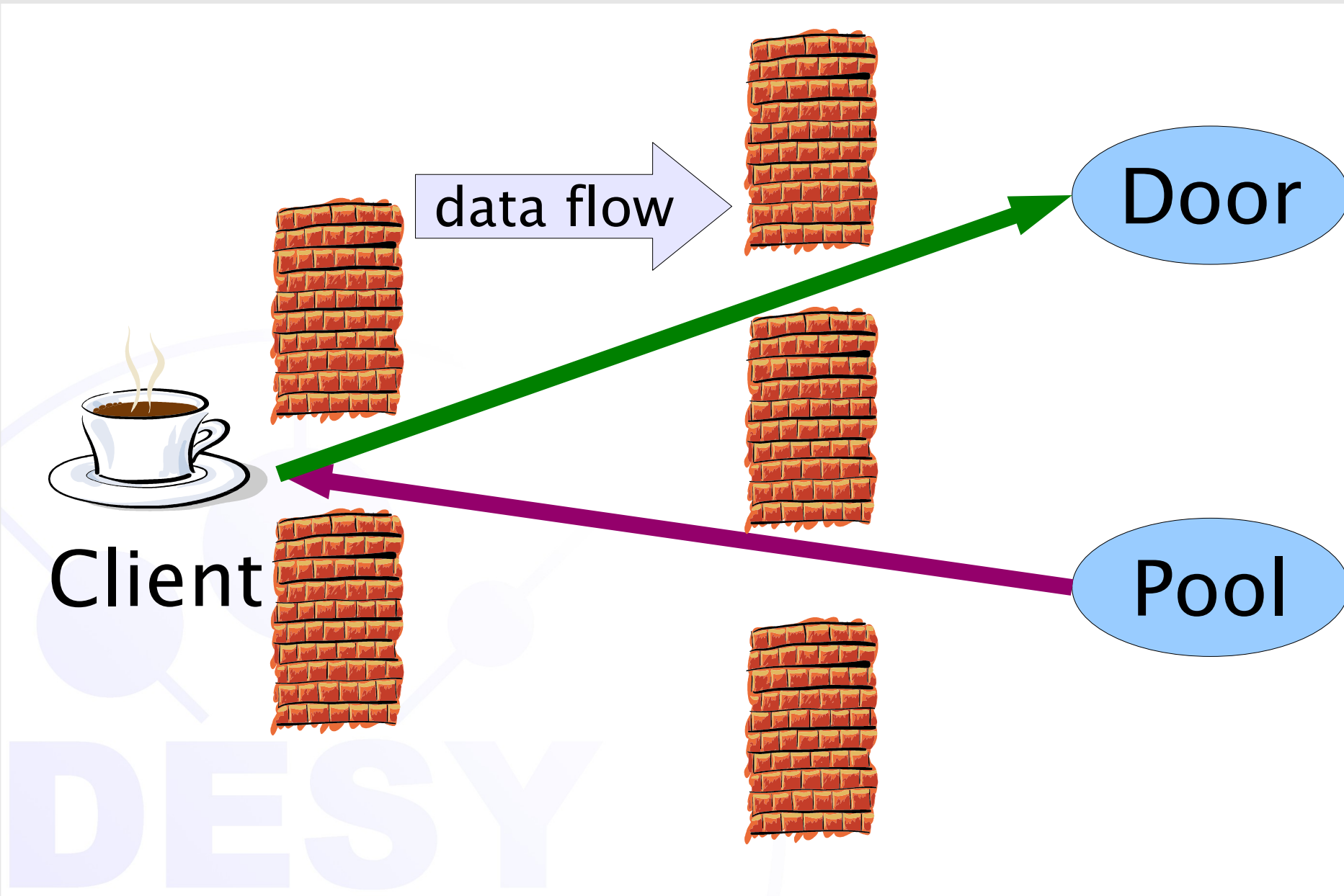


FTP write (pool passive)





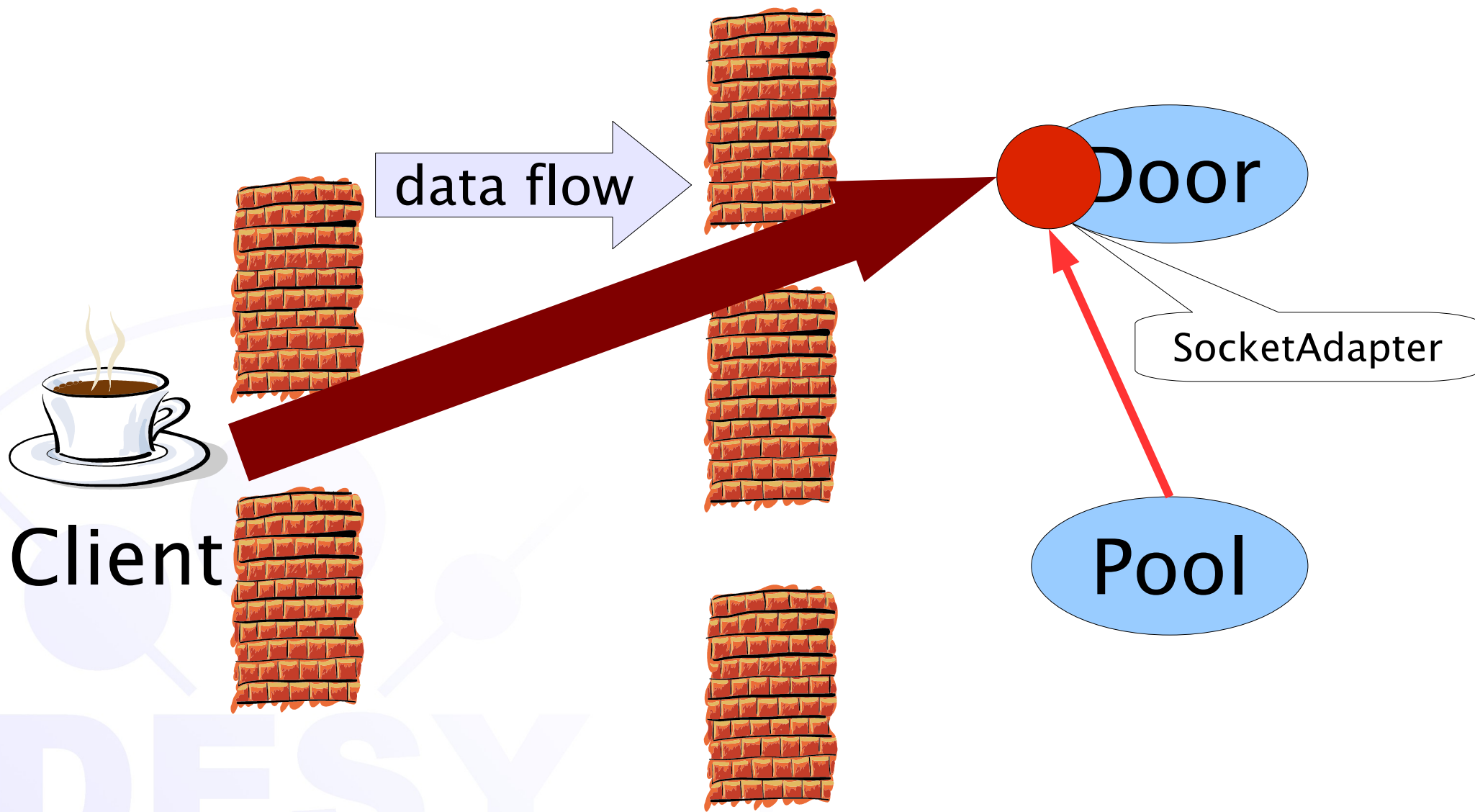
FTP write (pool active)



DESY

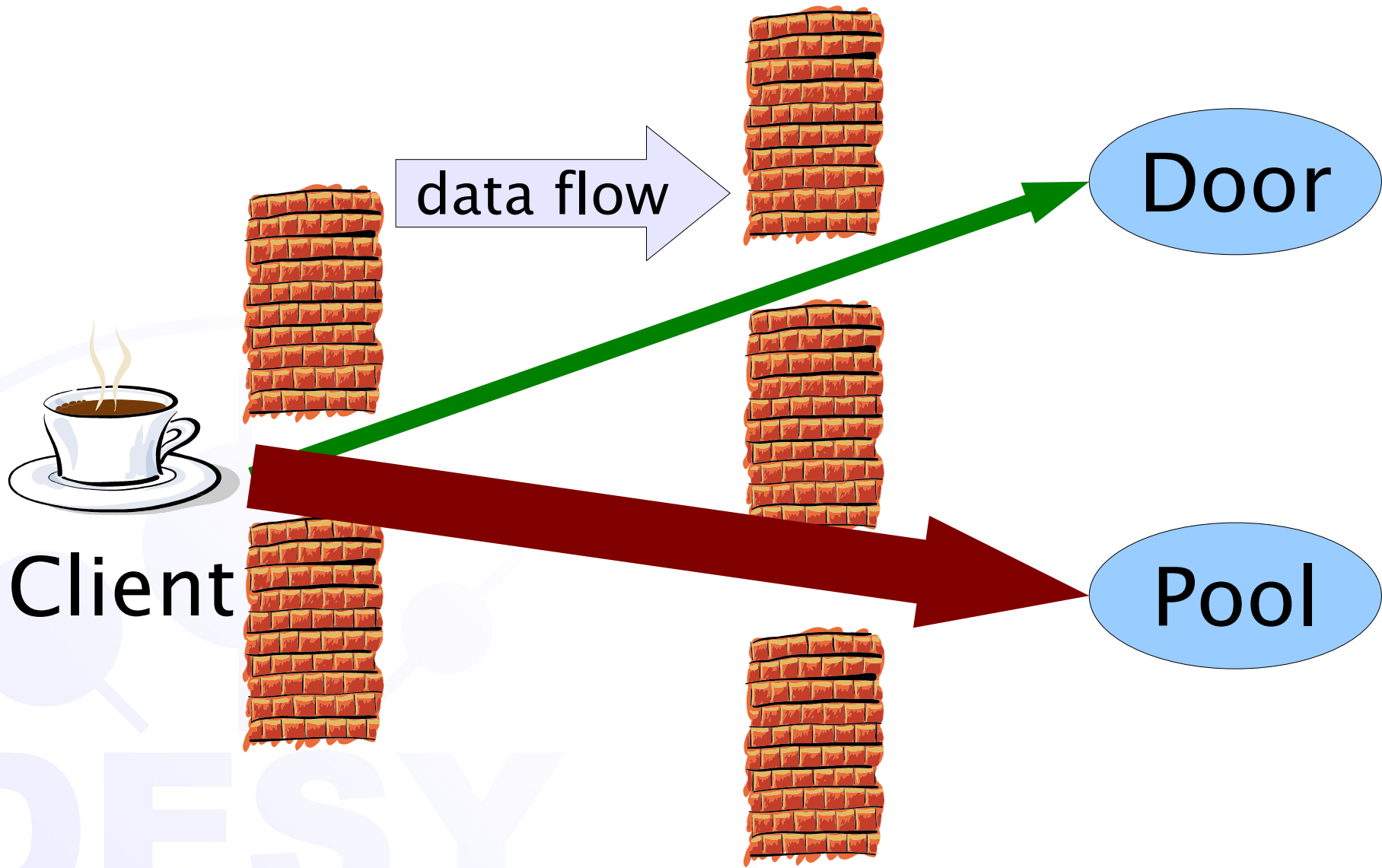


FTPv1 write (EMODE)



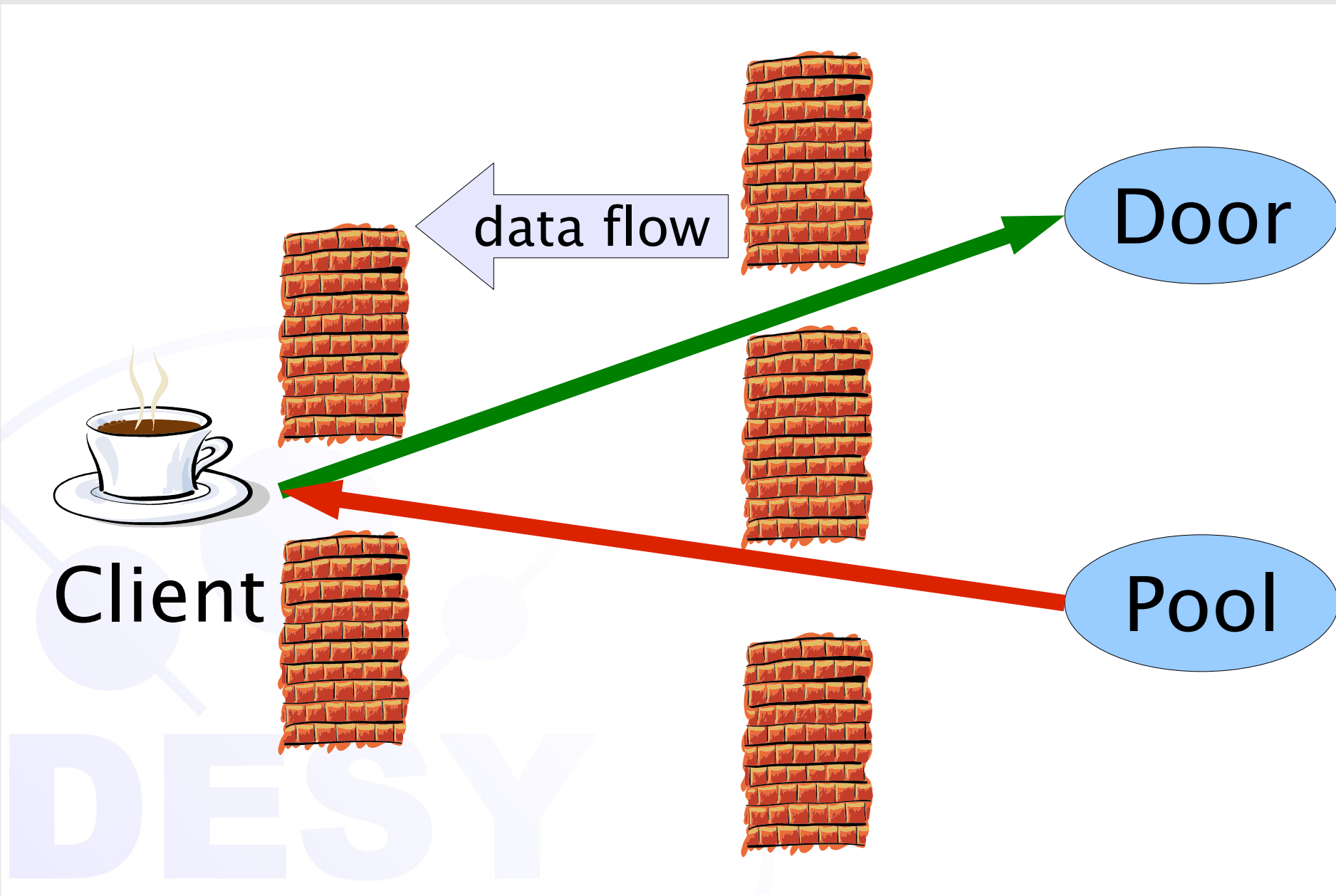


FTPv2 write (XMODE)





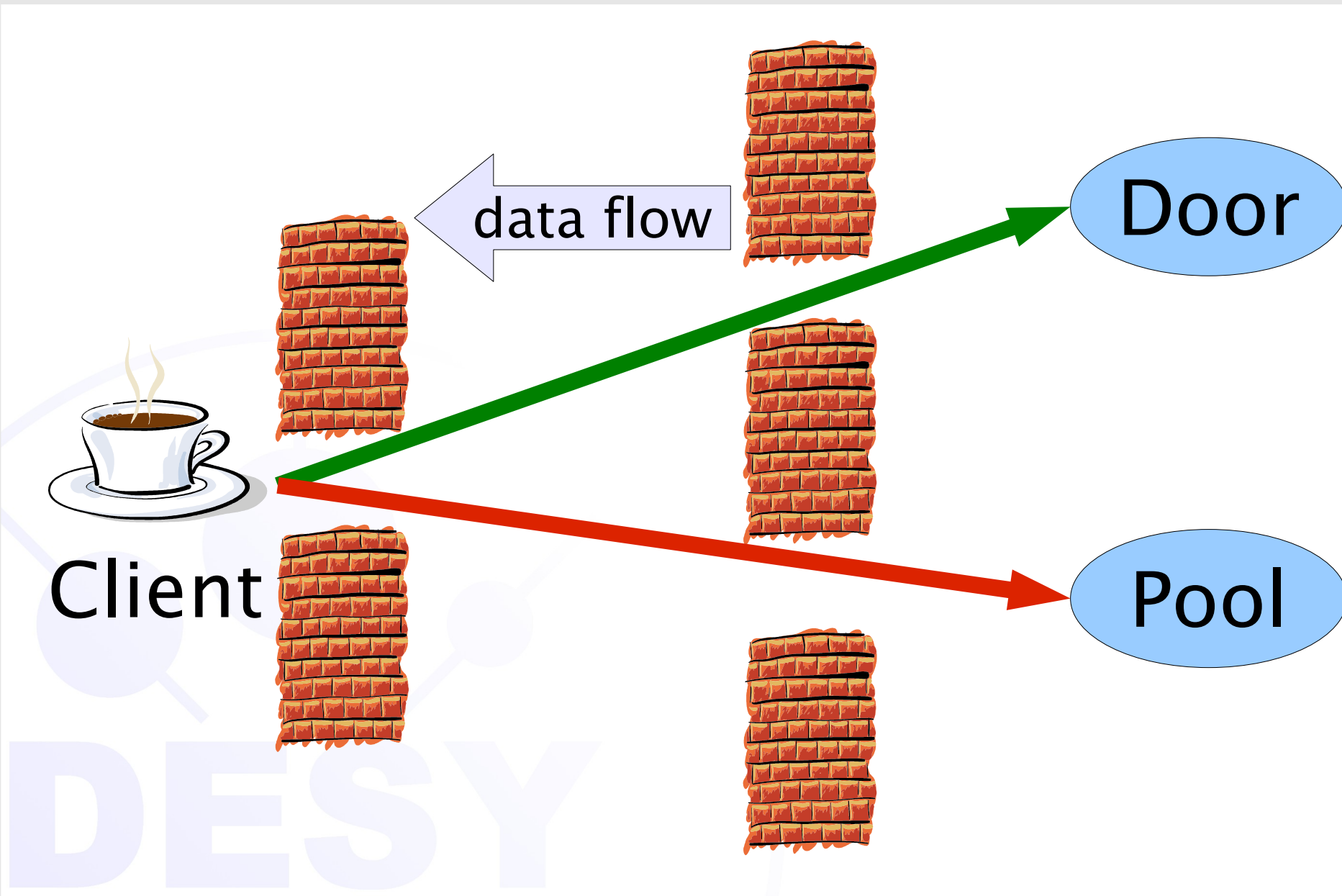
FTP read (pool active)



DESIGN

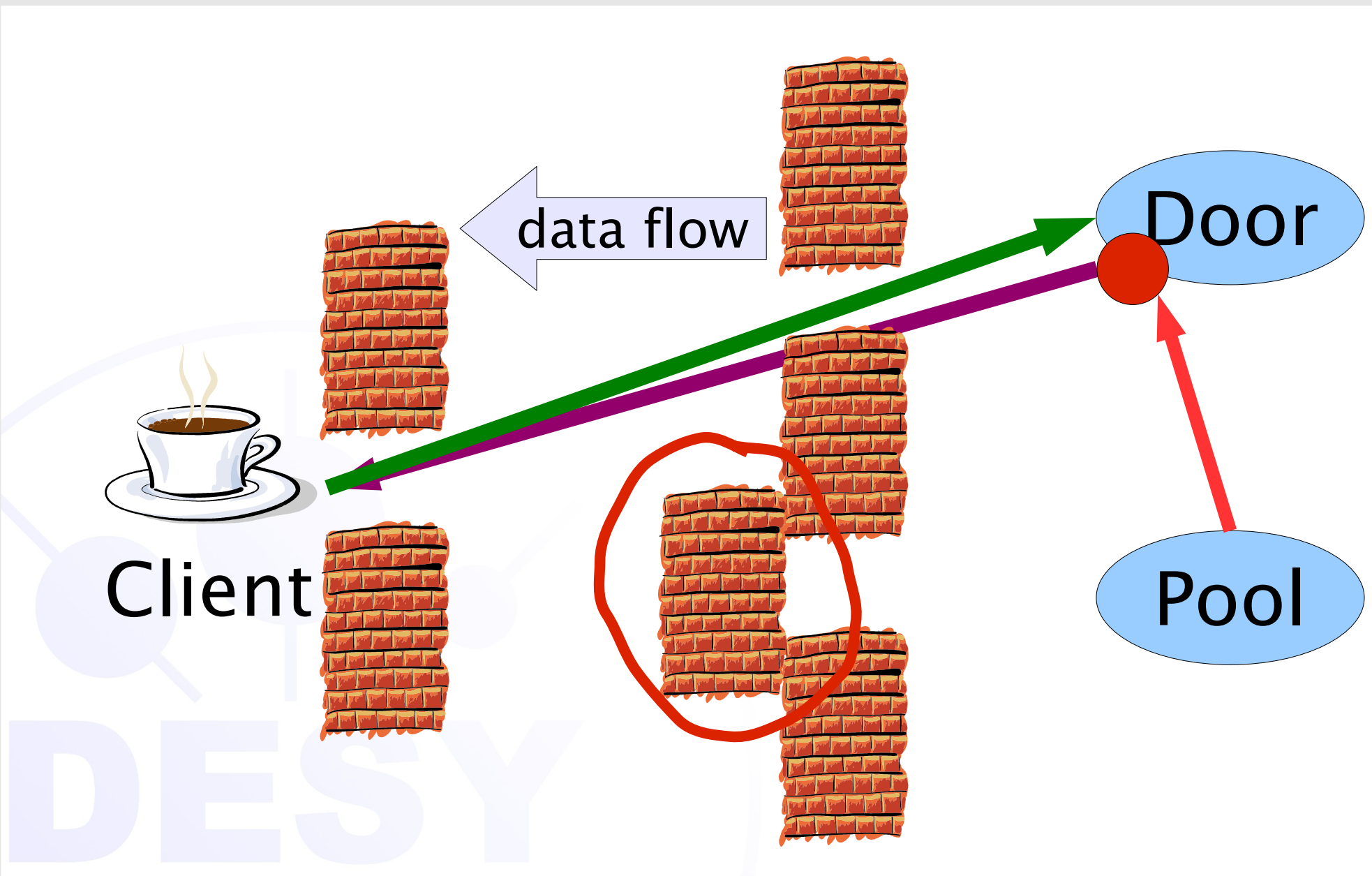


FTP read (pool passive)





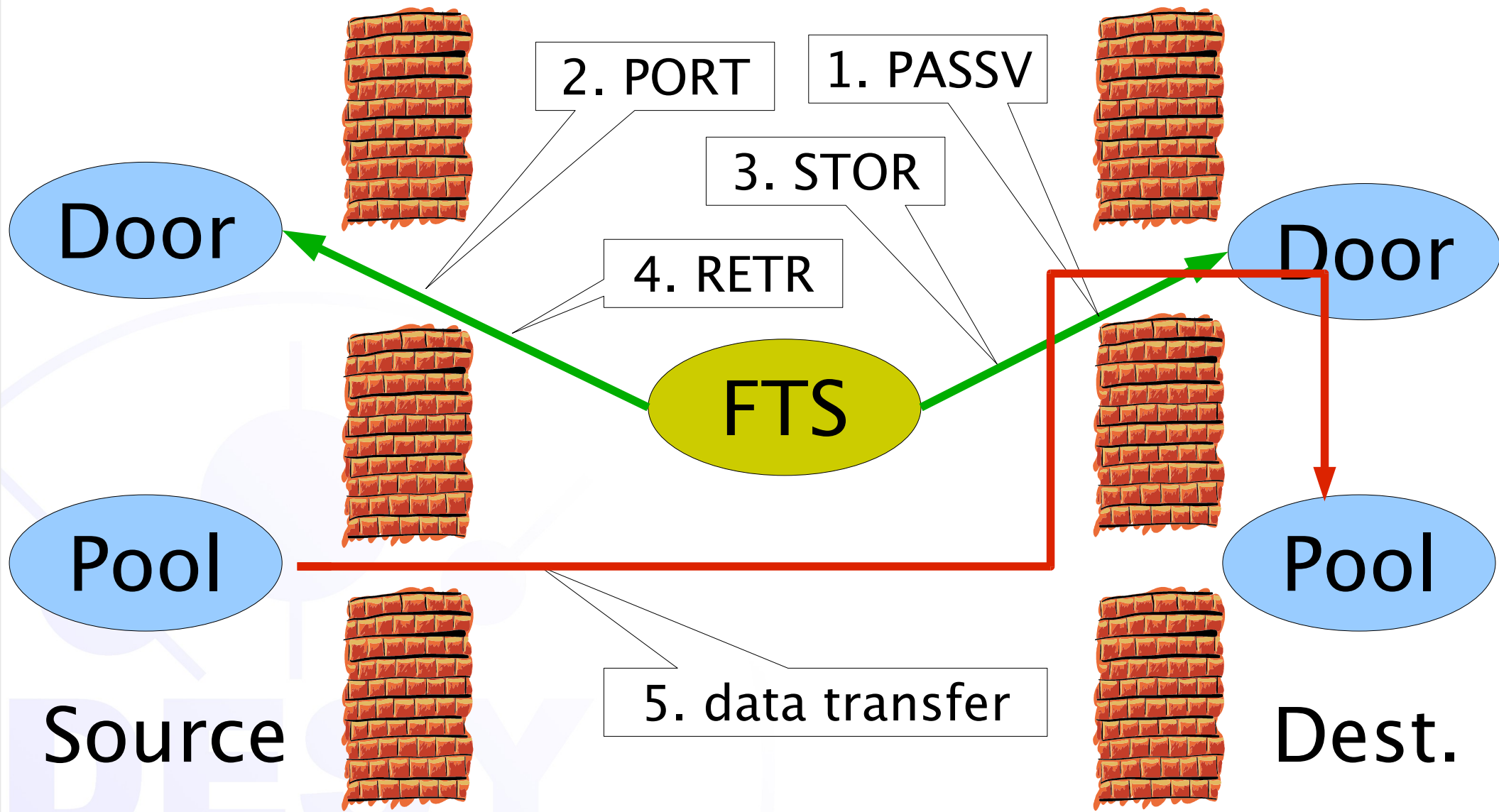
FTP read (pool passive)



DESYS



FTS(FTP) COPY

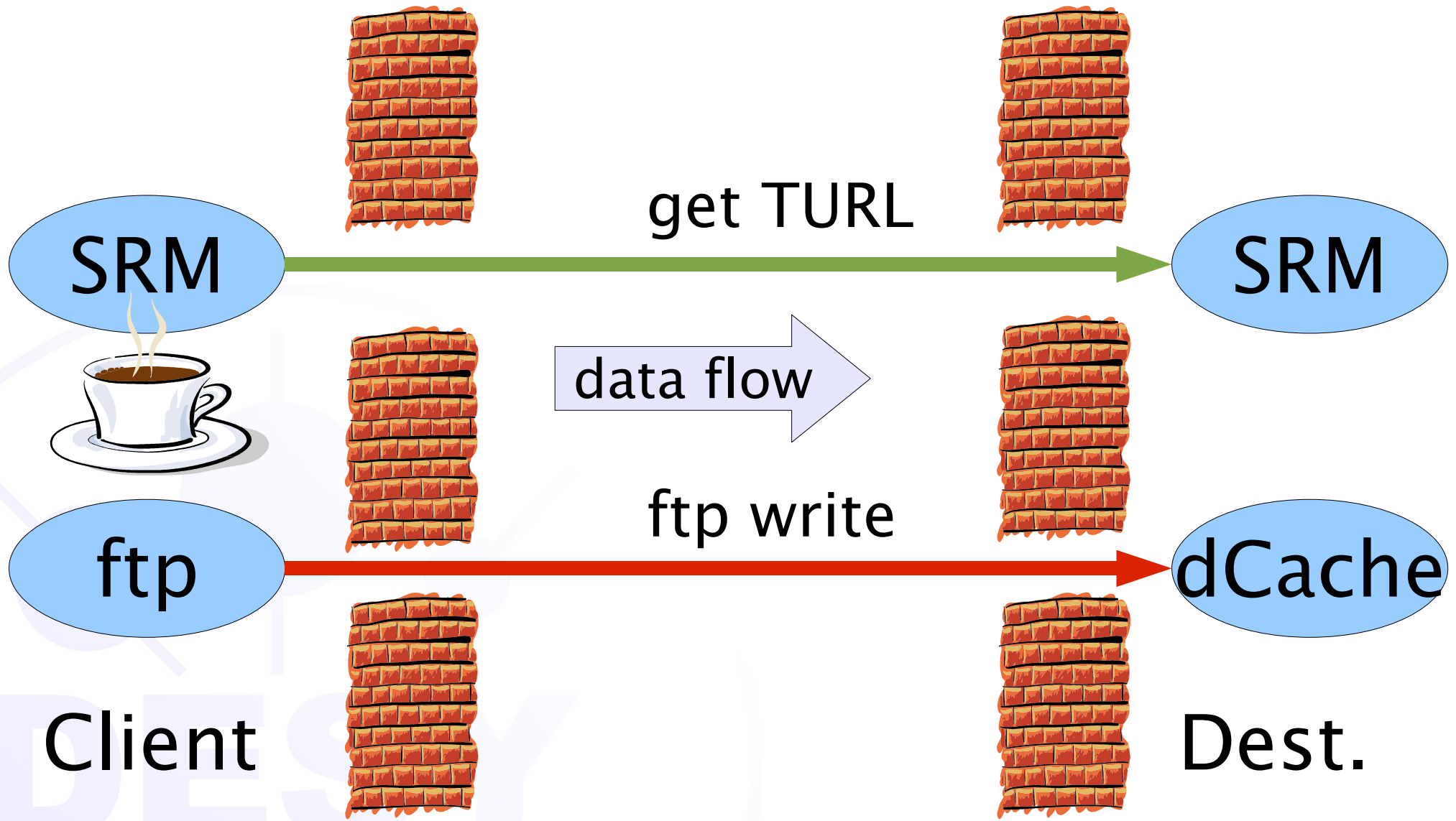




SRM PUT (gsiFTP)

dCache.ORG

dCache.ORG

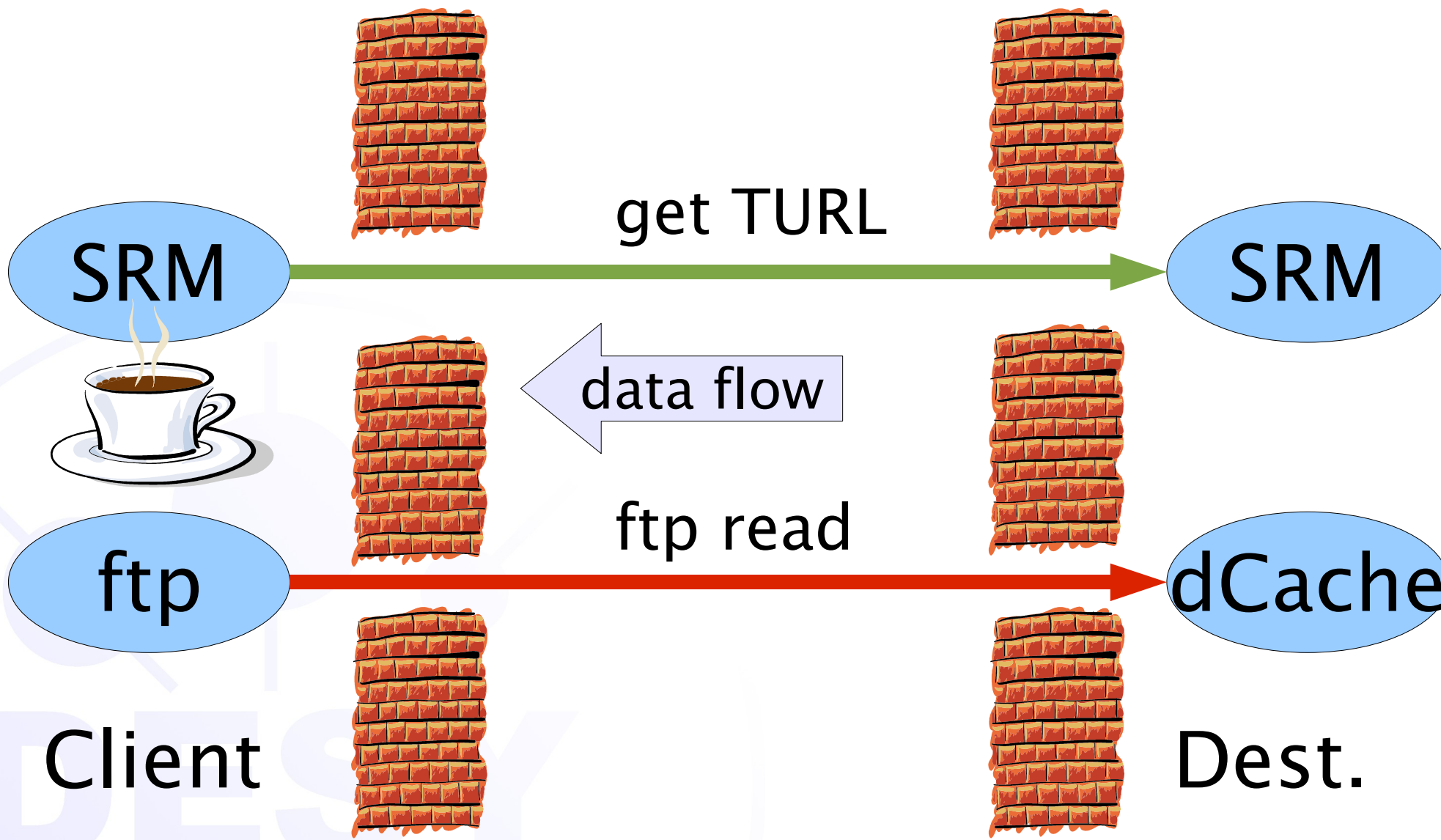




SRM GET (gsiFTP)

dCache.ORG

dCache.ORG

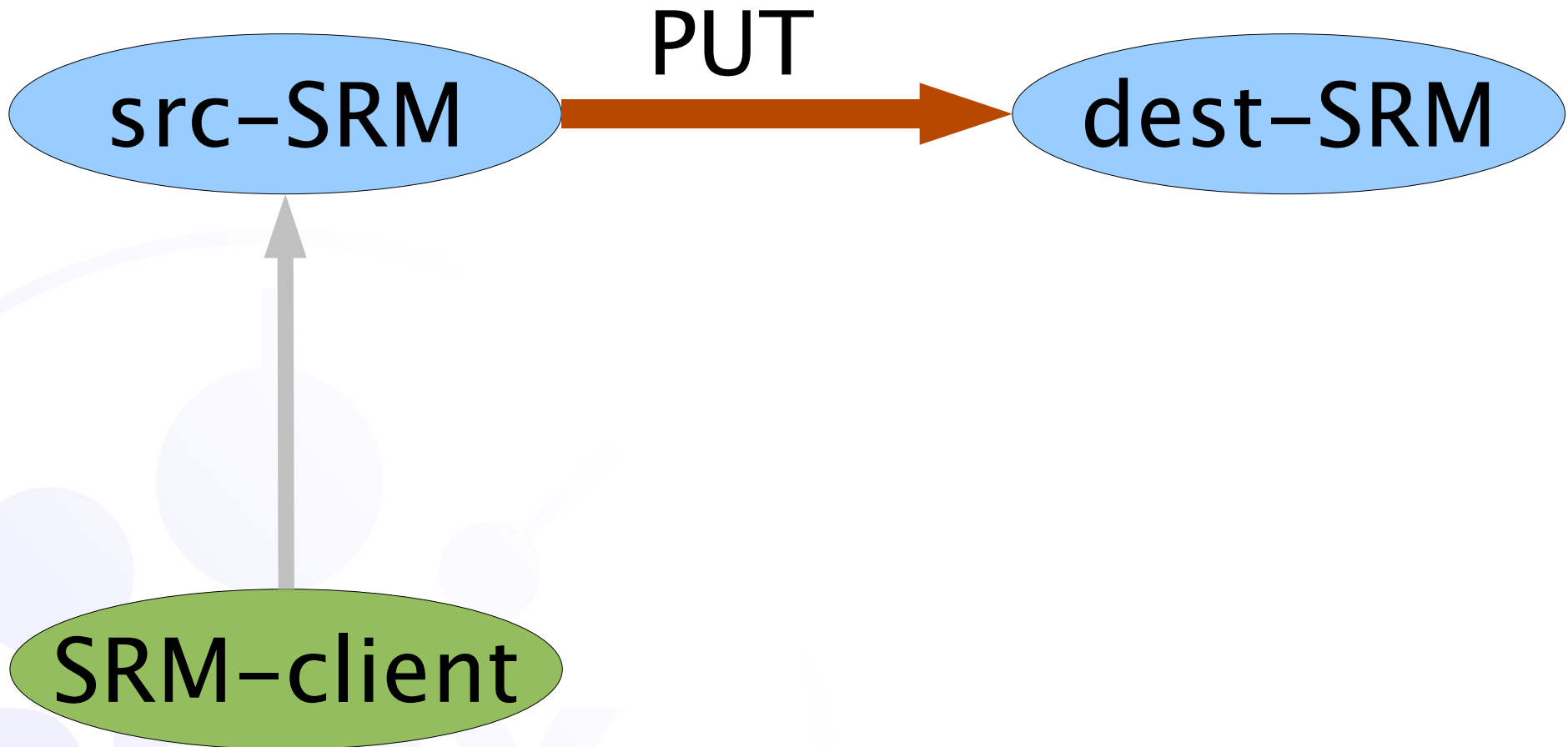




SRM COPY-PUSH

dCache.ORG

dCache.ORG

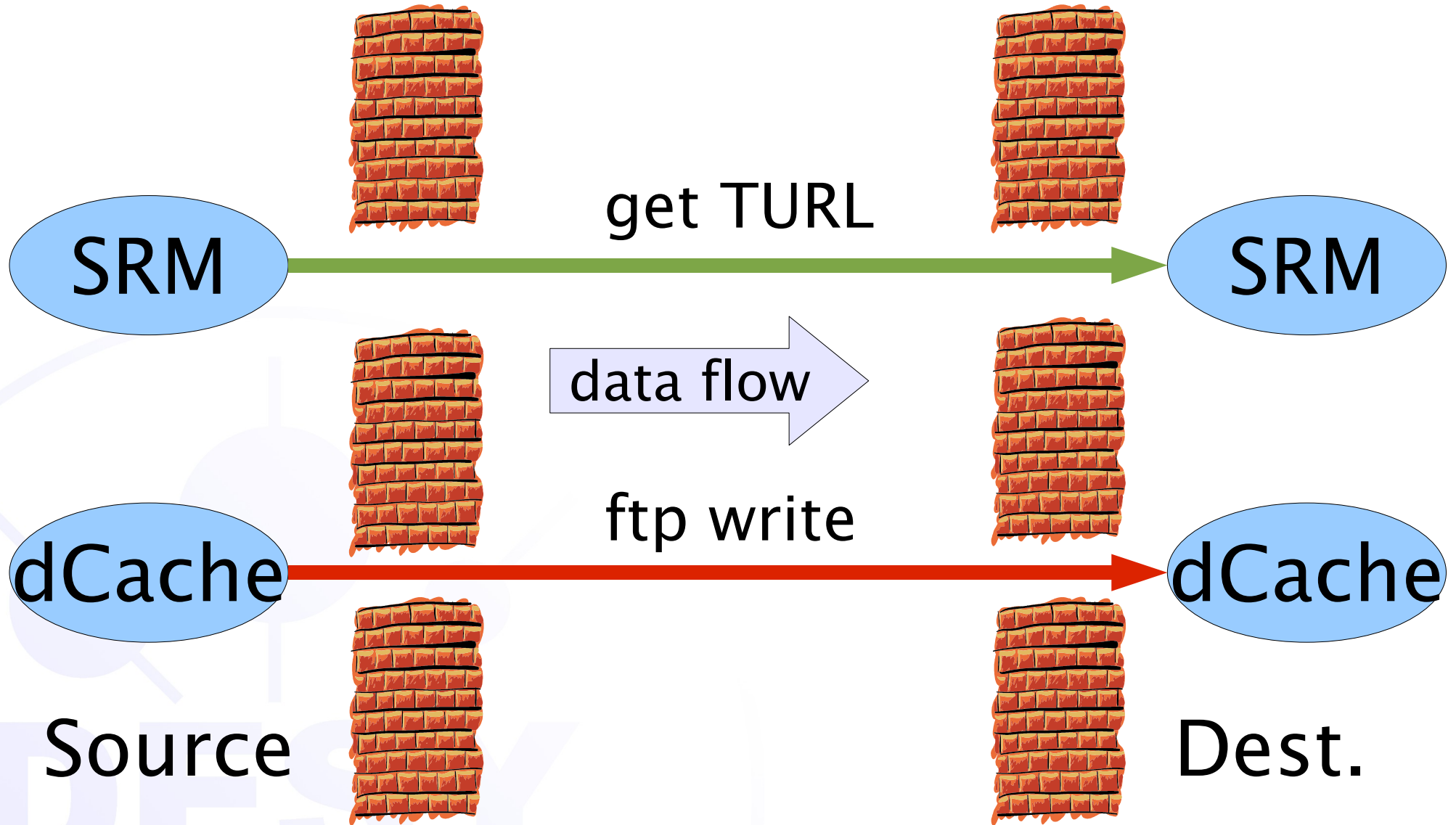




SRM COPY-PUSH (gsiFTP)

dCache.ORG

dCache.ORG

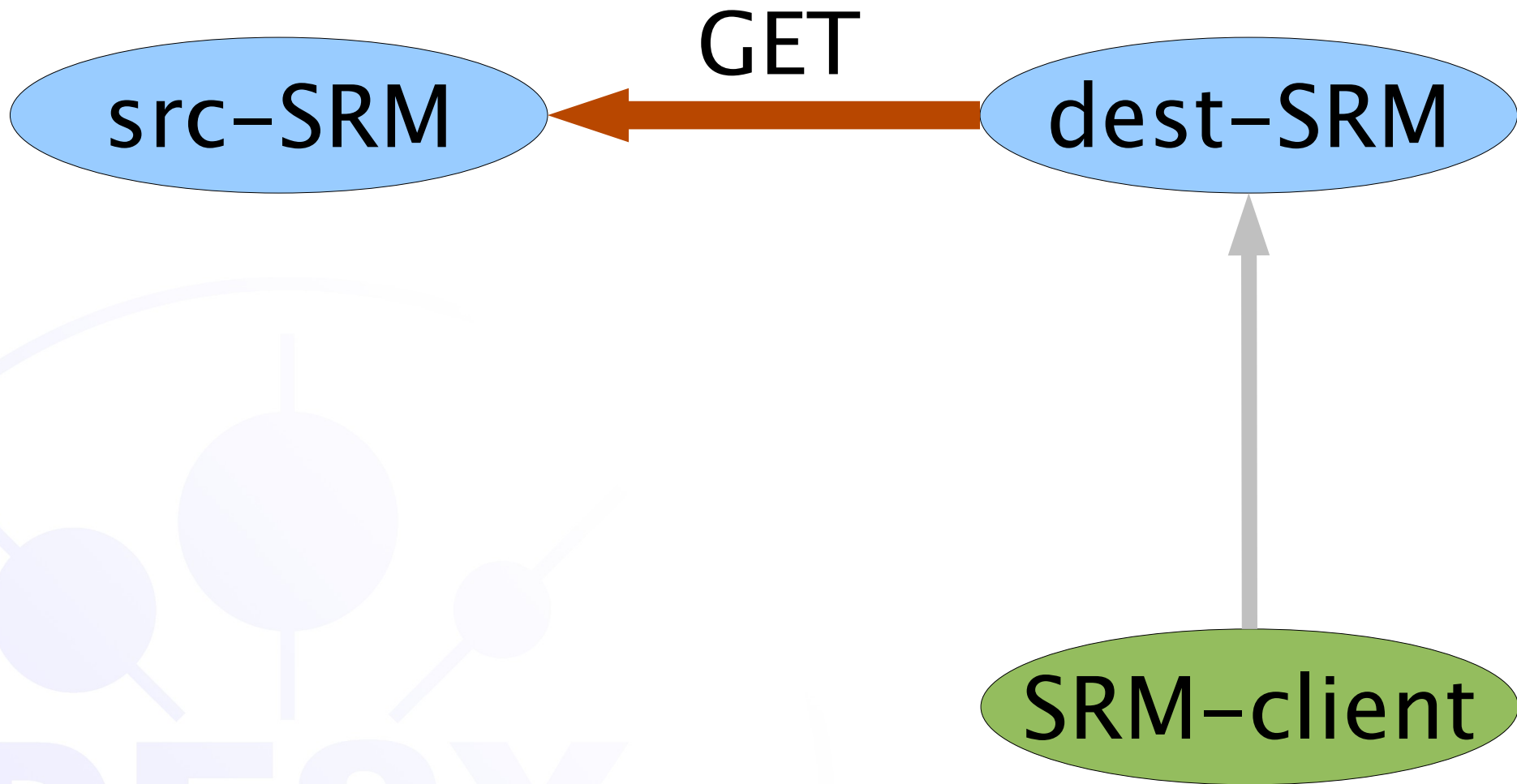




SRM COPY-PULL

dCache.ORG

dCache.ORG

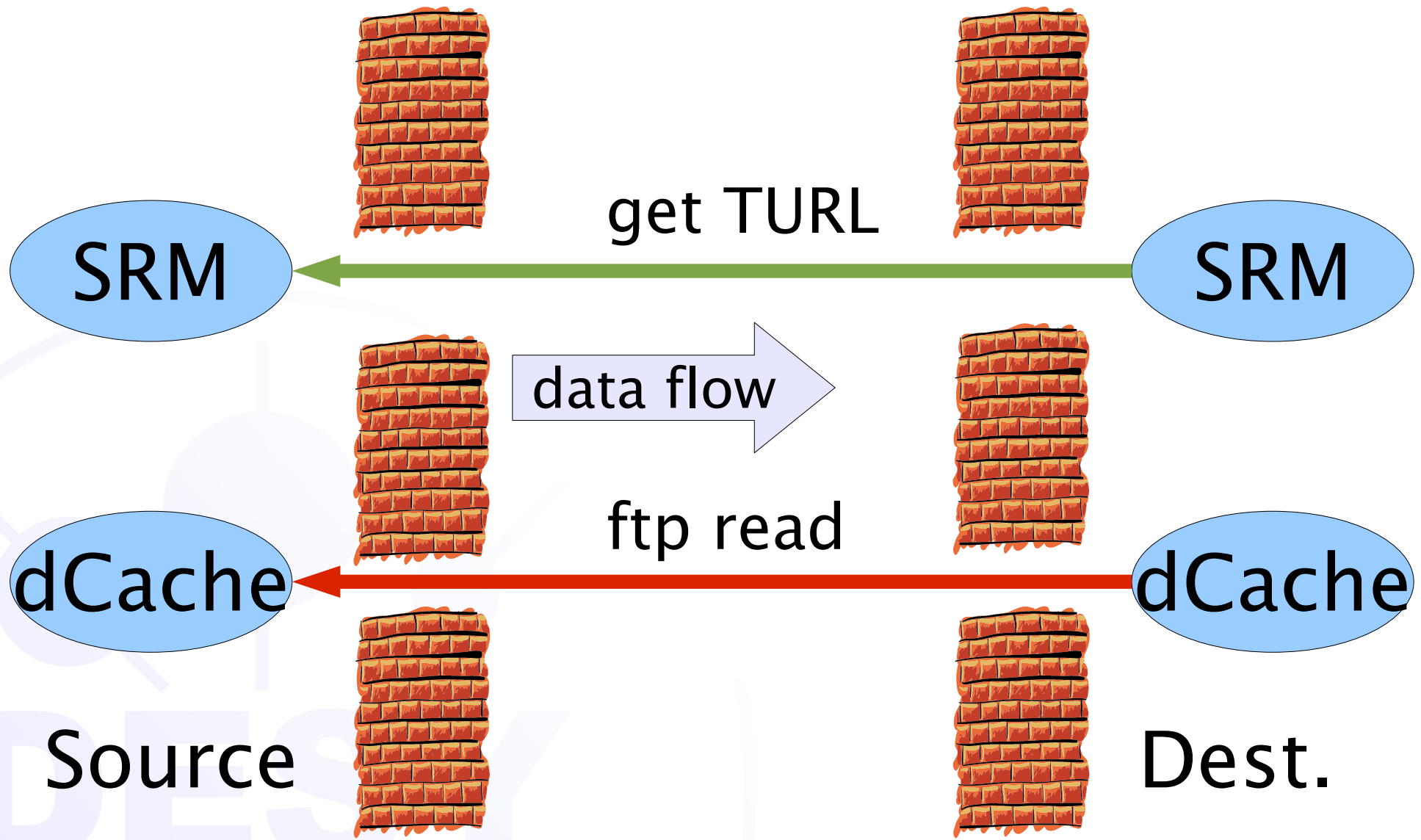




SRM COPY-PULL (gsiFTP)

dCache.ORG

dCache.ORG

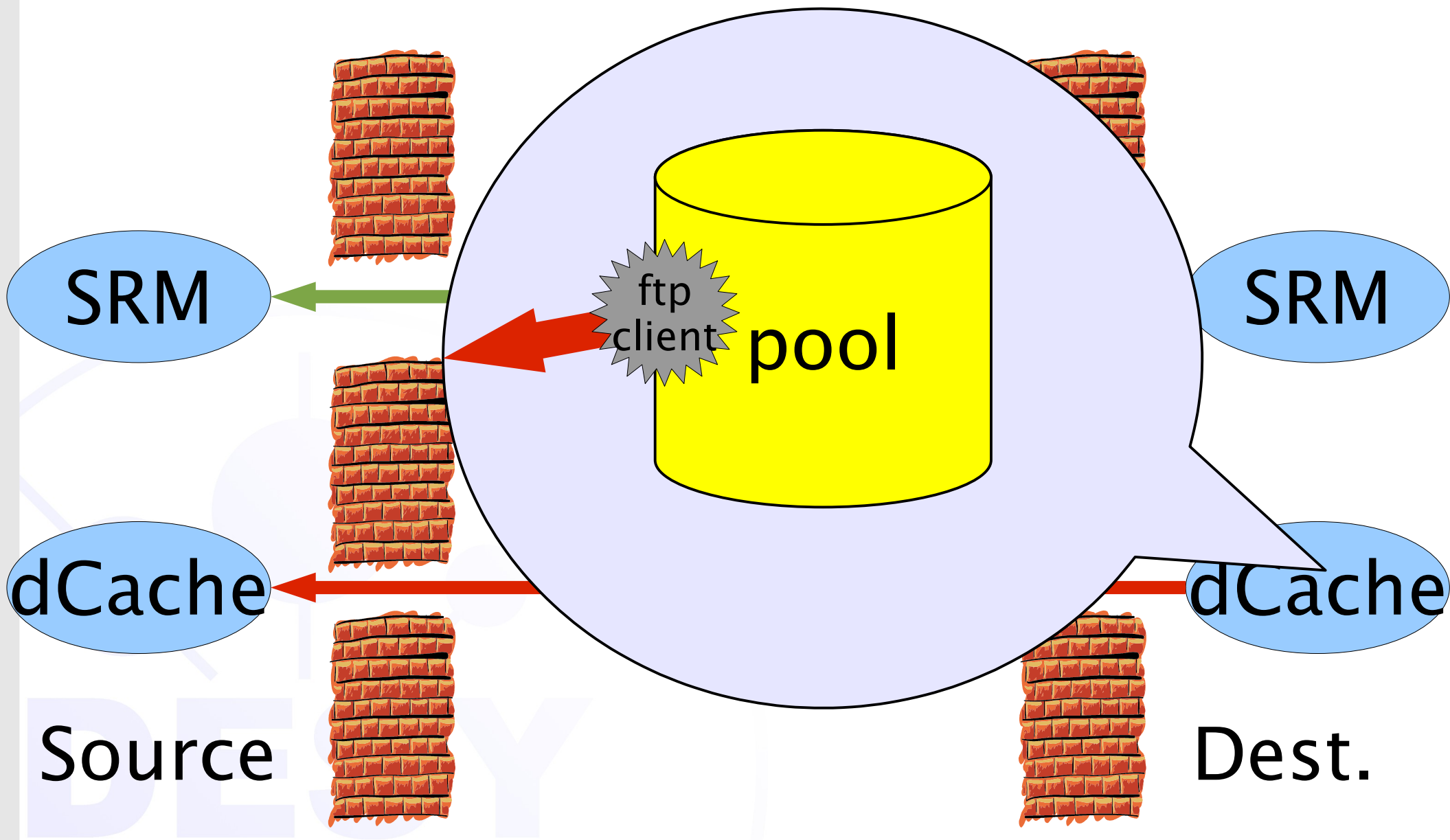




SRM COPY (gsiFTP)

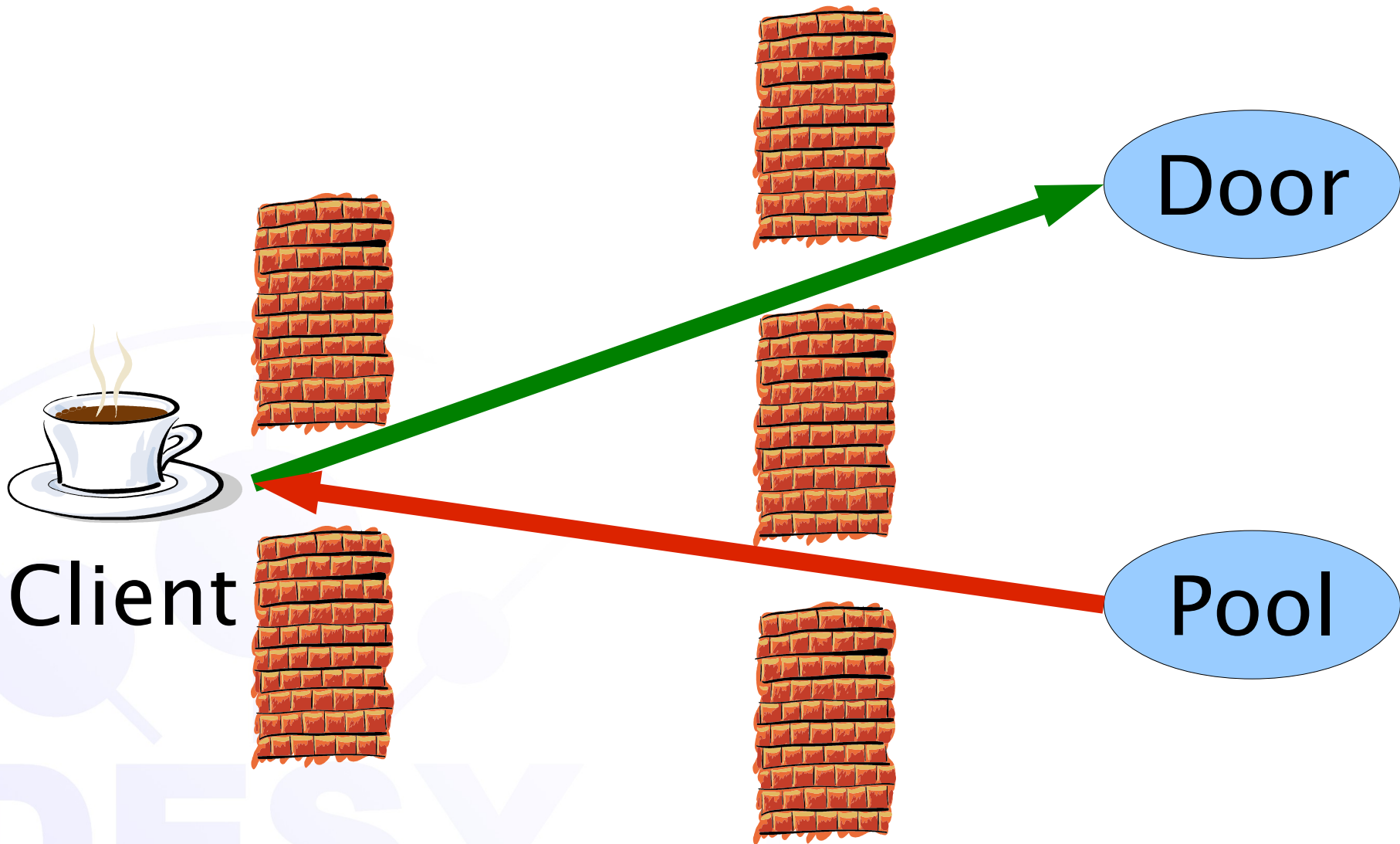
dCache.ORG

dCache.ORG



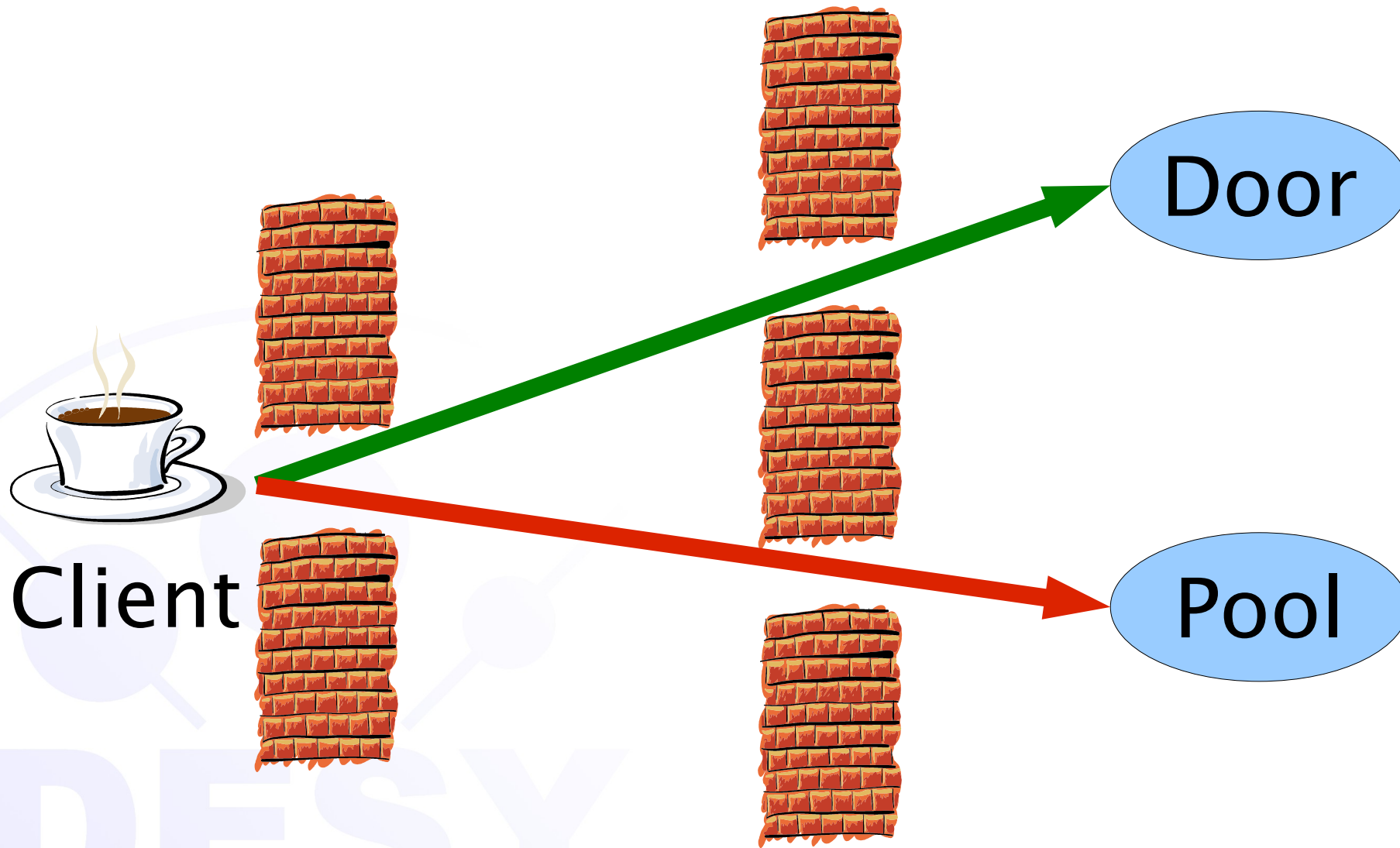


DCAP (read, write)



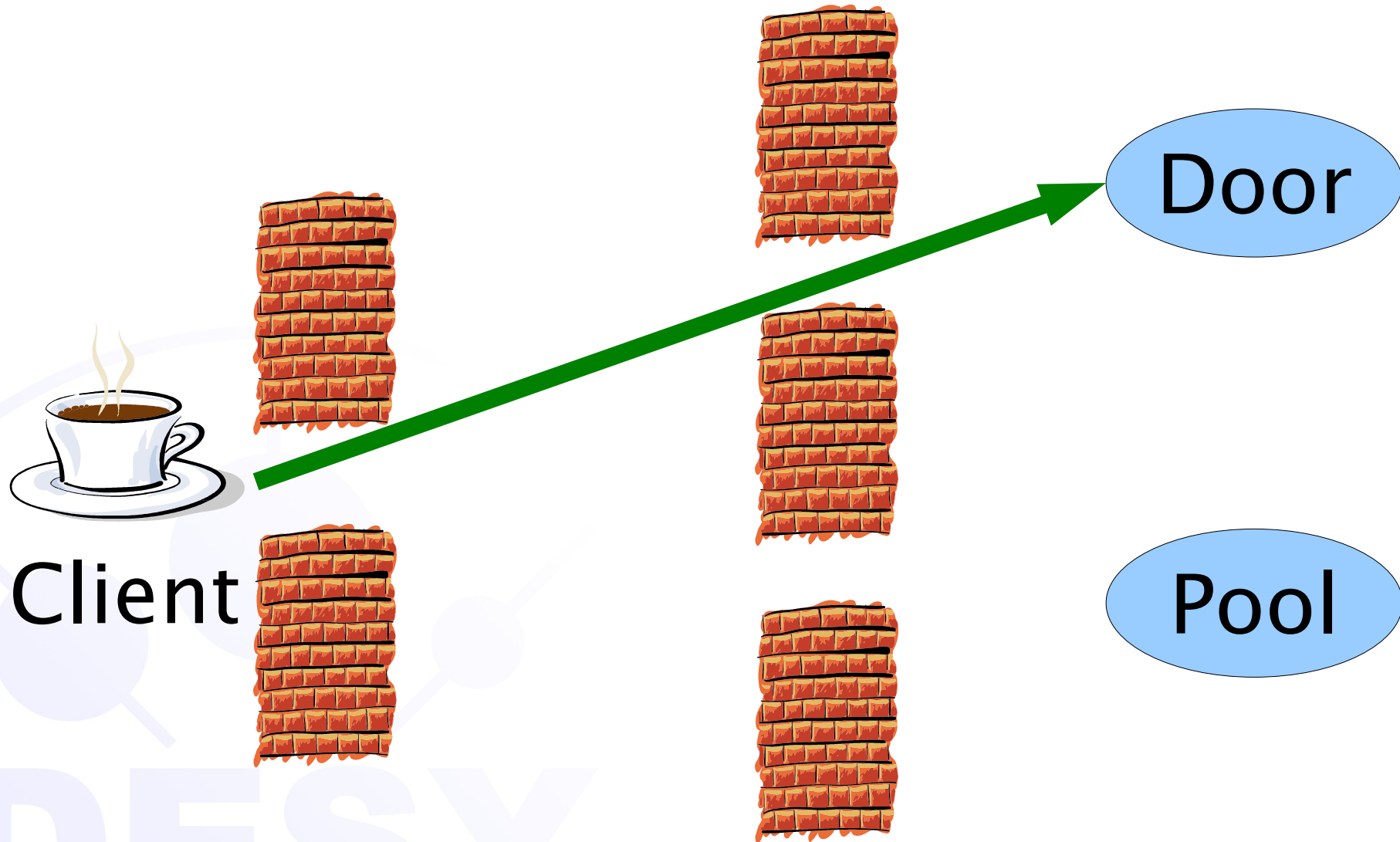


PASV. DCAP (read, write)





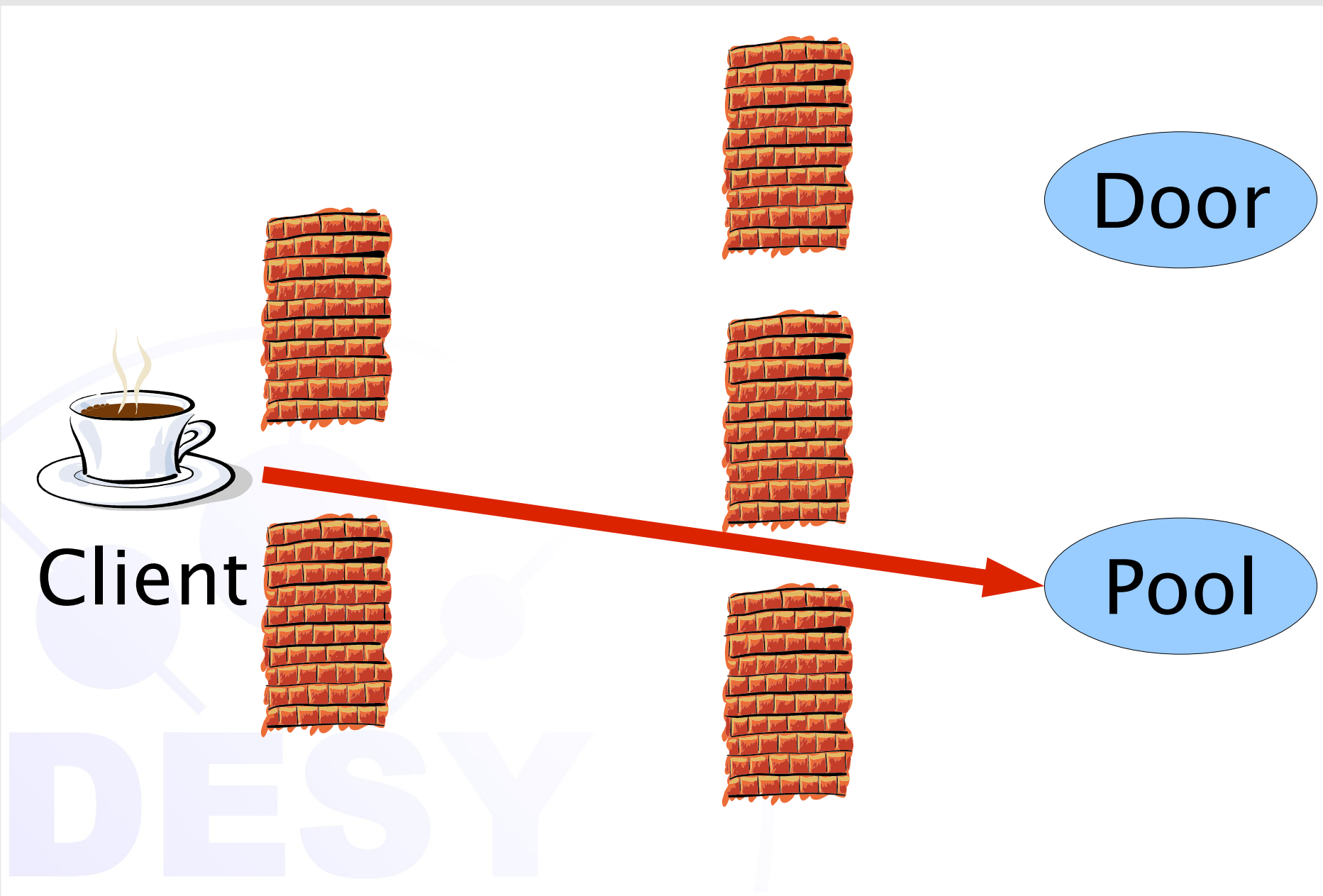
xROOT (read, write)





xROOTD (read, write)

dCache.ORG
dCache.ORG



DESY

GEFÖRDERT VOM



Tweaking

FTP data connections:

dCacheSetup file:

clientDataPortRange=20000:25000

java_options (dCacheSetup):

-Dorg.globus.tcp.port.range=20000,25000

DCAP and xROOTD:

java_options (dCacheSetup):

-Dorg.dcache.net.tcp.portrange=33115:33145



Tweaking (Im.config)

```
# Im.config  
#  
define dCacheDomain  
listen dCacheDomain -port=<port>  
#  
#  
define *  
defaultroute * dCacheDomain  
connect * dCacheDomain  
define ImDomain  
#
```




-listen <IP> option in the batch file allows to bind a door to an interface.

gsiftpAdapterInternalInterface parametr in dCacheSetup files defines the interface for pool <-> adapter communication.



There is no special support for multihomed pools.

This means, that there is no special effort to propagate network/firewall setup into dCache.

As a solution for complex setups, please use PoolManager's *network units* and *links*.