Pool Management and Pool Selection
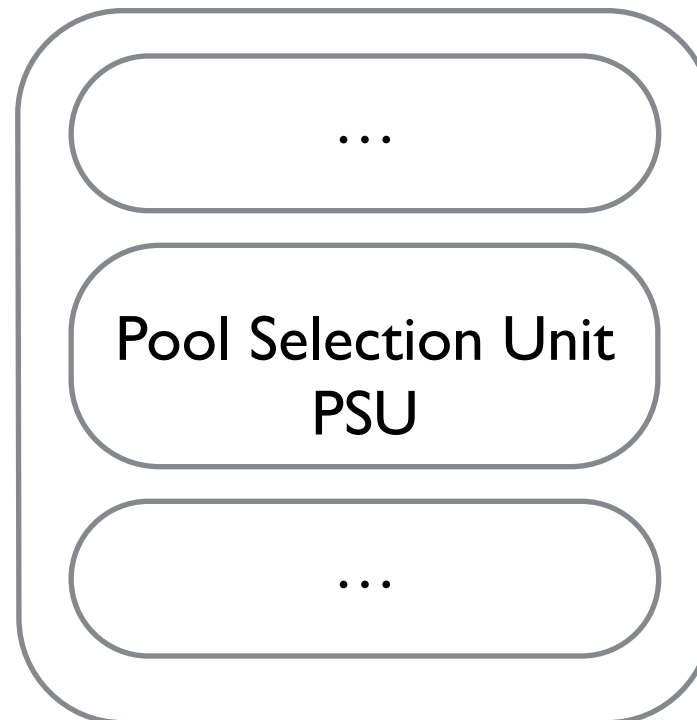
amespace vs File Location

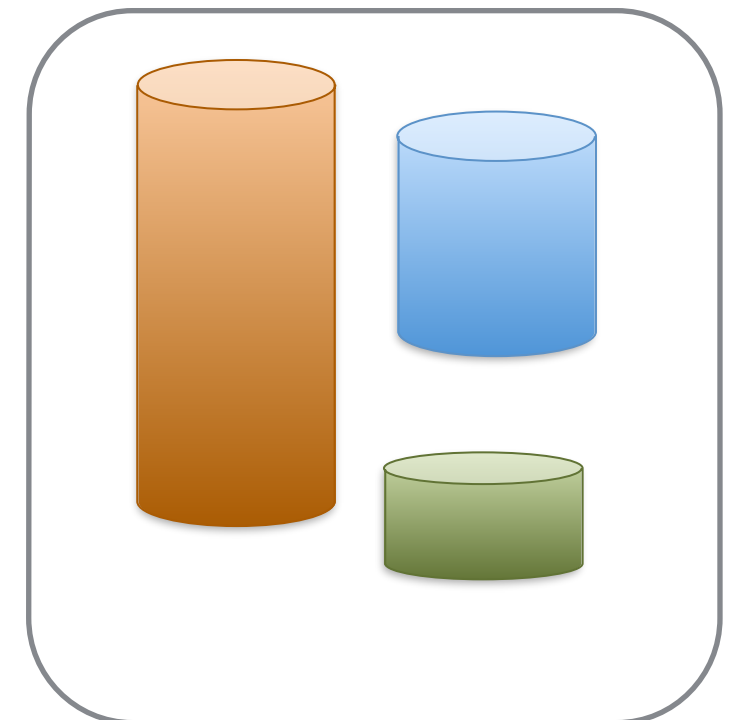## NameSpace

```
/data
    |- certBased
    |- kpwd
    |- noAccess
    |- world-writable
    |- …
```

no idea where the
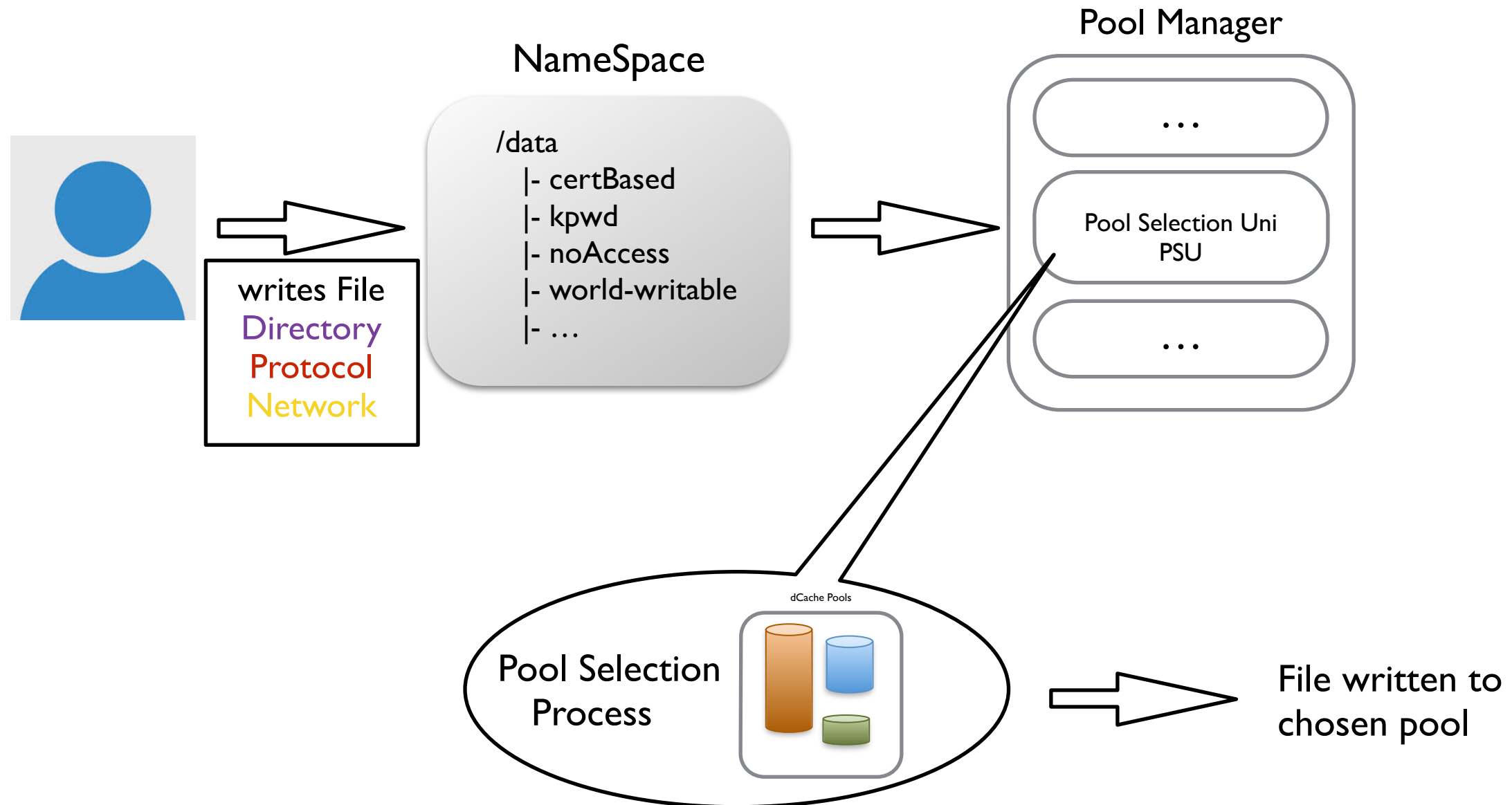file is stored

Pool Manager

…

Pool Selection Unit
PSU

…

selects the pool
where the physical
file gets stored

dCache Pools

has physical files
stored, is
otherwise dumm

Pool Selection Unit

NameSpace

Pool Manager

/data
    |- certBased
    |- kpwd
    |- noAccess
    |- world-writable
    |- …

. . .

Pool Selection Uni
PSU

. . .

writes File
Directory
Protocol
Network

Pool Selection
Process

dCache Pools

File written to
chosen pool

Pool Selection Process
some terminology

- Pools
- PoolGroups
- Units
- UnitsGroups
- Links
- Links = PoolGroup + UnitGroup(s)

store
protocol
network

store 1
store 2
or

protocol x
protocol y
or

network A
network B
or

any(*@osm)
any(*/*)
any(0.0.0.0/0.0.0.0)
and

exp1:GENERATED
webdav/*
dcap/3
and
202.169.0.0/255.255.0.0
192.168.0.0/255.255.0.0

Unit store	Unit Protocol	Unit Network
any (*@osm)	any(*/*)	any(0.0.0.0/0.0.0.0)
foo:bar@osm	webdav/*	192.168.0.0/255.255.0.0
exp1:GENERATED@osm	dcap/3	202.169.0.0/255.255.0.0

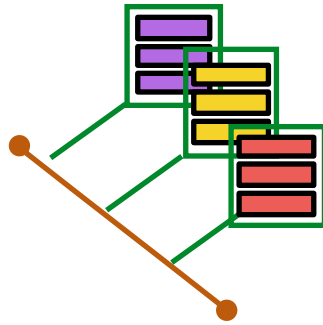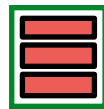combine pools | criteria | combine units | Links combine PoolGroups and UnitGroups
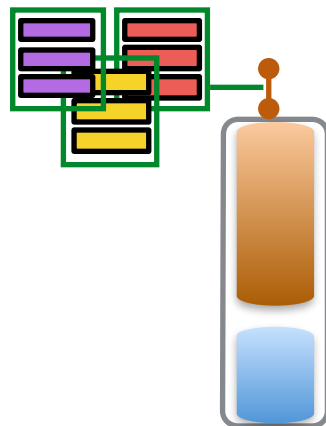
Pool Selection

some rules

- Links are chosen when all their UnitGroups are matched

- The unit group is matched if at least one of the units is matched

- All pools in the linked PoolGroup are chosen as a possible location to write

- Links have assigned preference values
  - readpref
  - writepref
  - cachepref
  - p2ppref
- Value 0 means NO
- Value > 0 means YES
- For different values >0 a set of lists of pools is created
- Pools with higher preference value are chosen first

dCache.org

```
$ cp /home/localFile /data/exp2/exp2_f5.tst
```
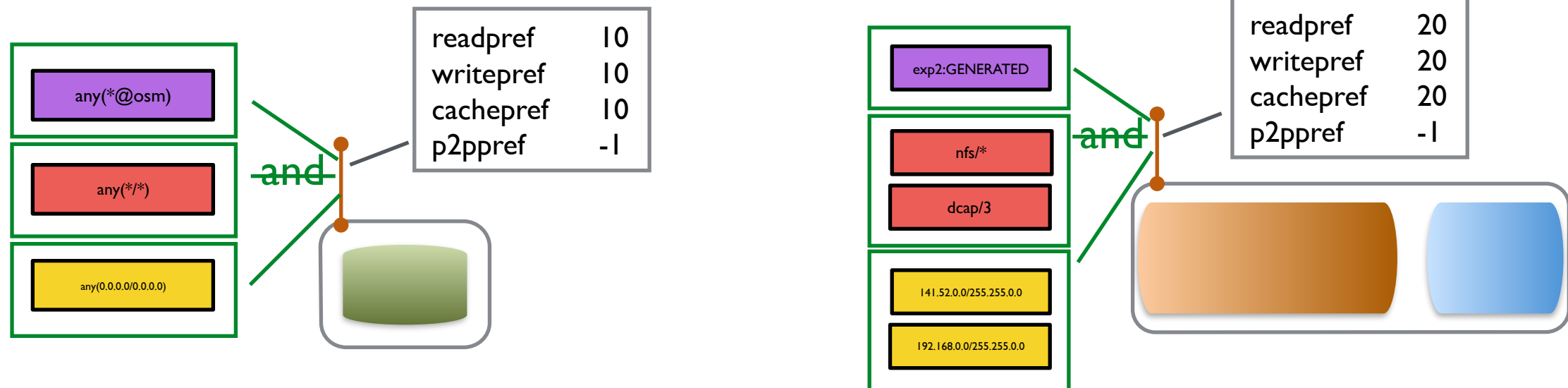
(write)
Transfer with

store	exp 2:GENERATED@osm
protocol	nfs
network	141.52.174.112

Looks at links

Pool Selection Uni
PSU

any(*@osm)

any(*/*)

any(0.0.0.0/0.0.0.0)

and

readpref	10
writepref	10
cachepref	10
p2ppref	-1

exp2:GENERATED

nfs/*

dcap/3

141.52.0.0/255.255.0.0

192.168.0.0/255.255.0.0

and

readpref	20
writepref	20
cachepref	20
p2ppref	-1

all possible pools
are chosen

writepref   20

writepref   10

selected first

Hands-on Content

What you will do in this part of the hands-on:

- reserve pools for storage

- assigning pools to a directory

- configure write and read pools