dCache.org

Storage Technologies

… or Managing Expectations

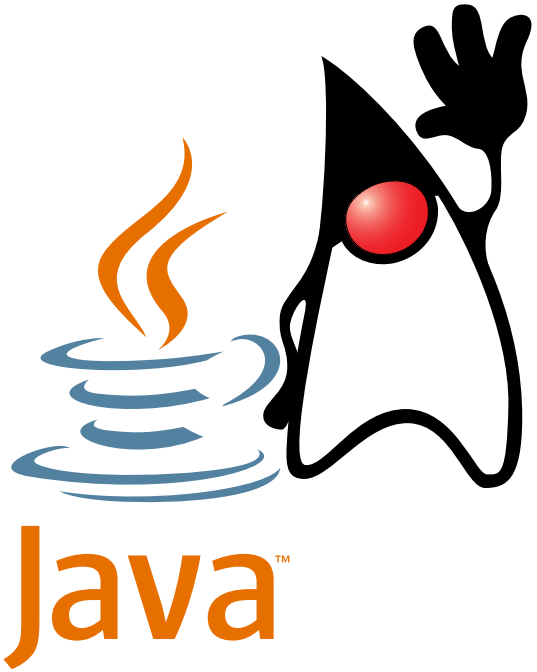
Paul Millar

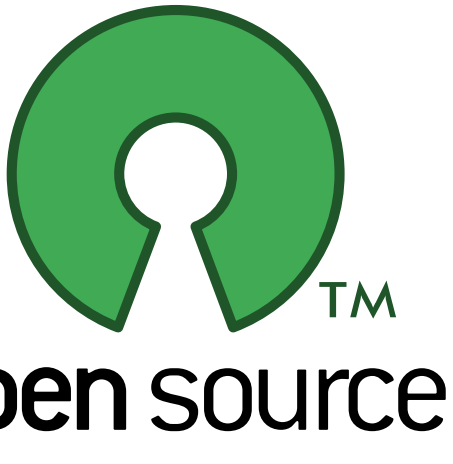
GridKa School 2015 (2015-09-07)

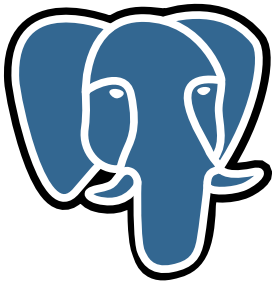
Fermilab NDGF Nordic DataGrid Facility DESY HELMHOLTZ ASSOCIATION LSDMA INDIGO DataCloud

Fork me on GitHub

Storage software: Free, Open-Source







https://github.com/dCache/dCache

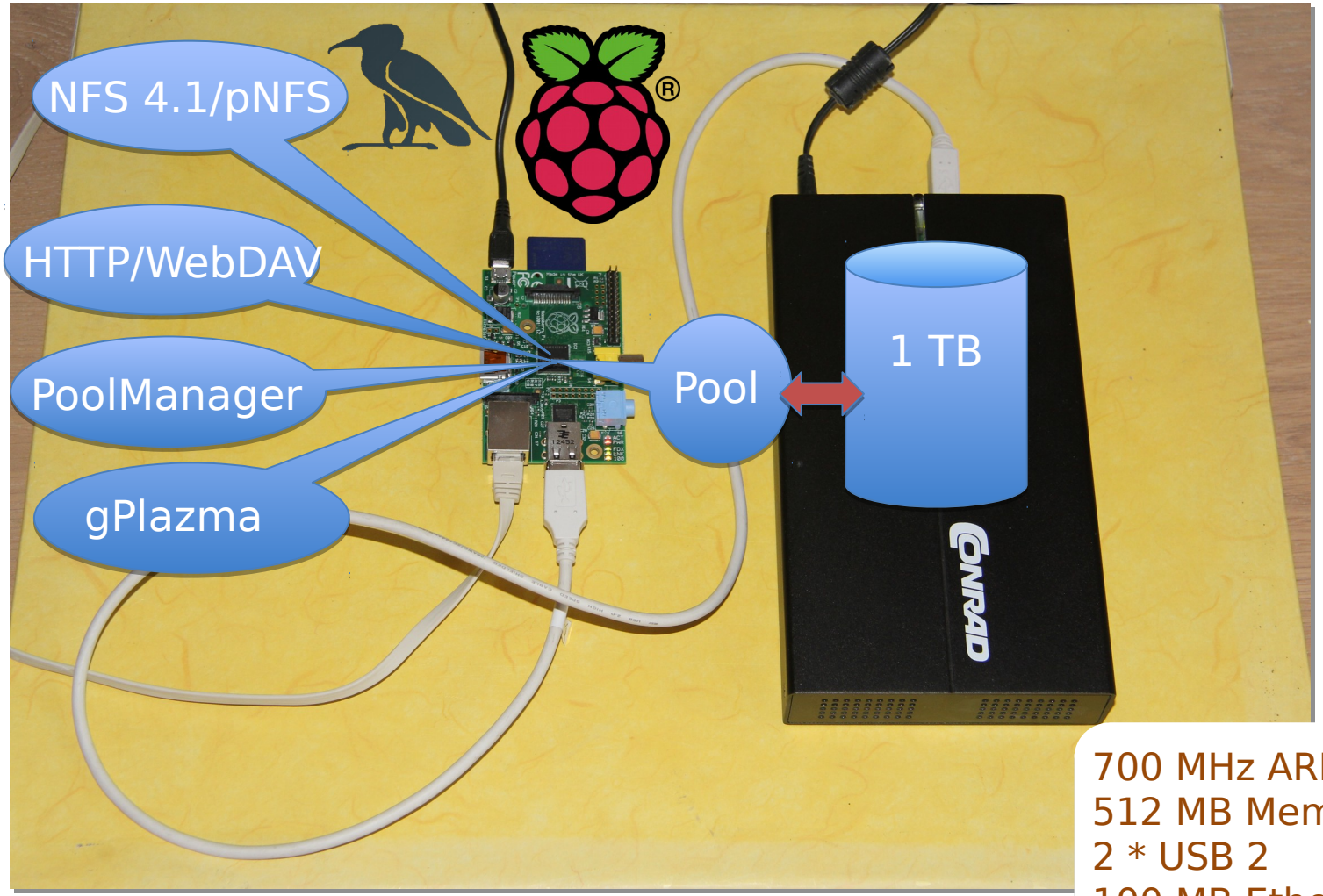
mailto:dev-subscribe@dcache.org

Software that scales up to tens of PiB

Fermilab

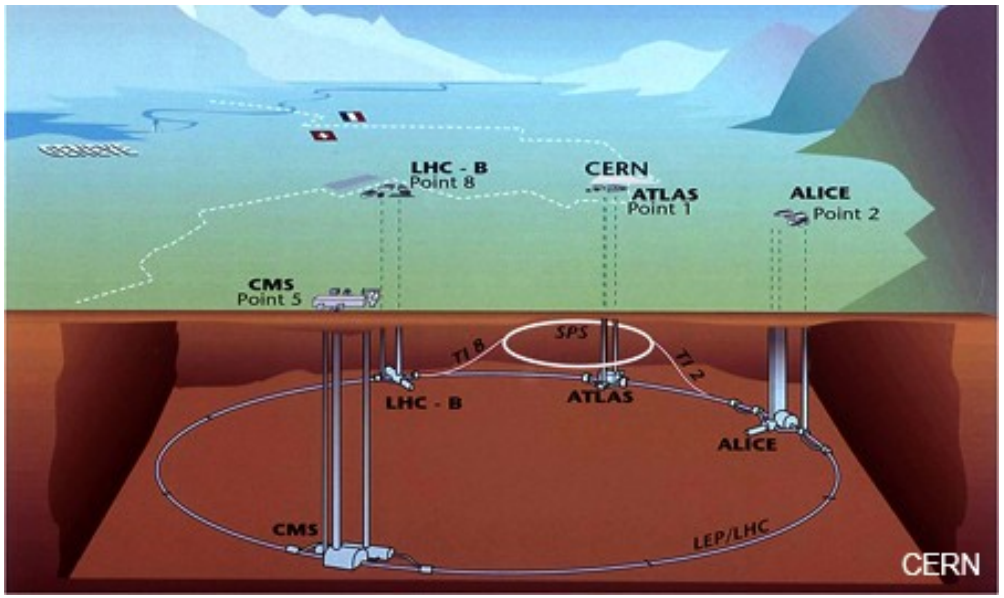
US CMS

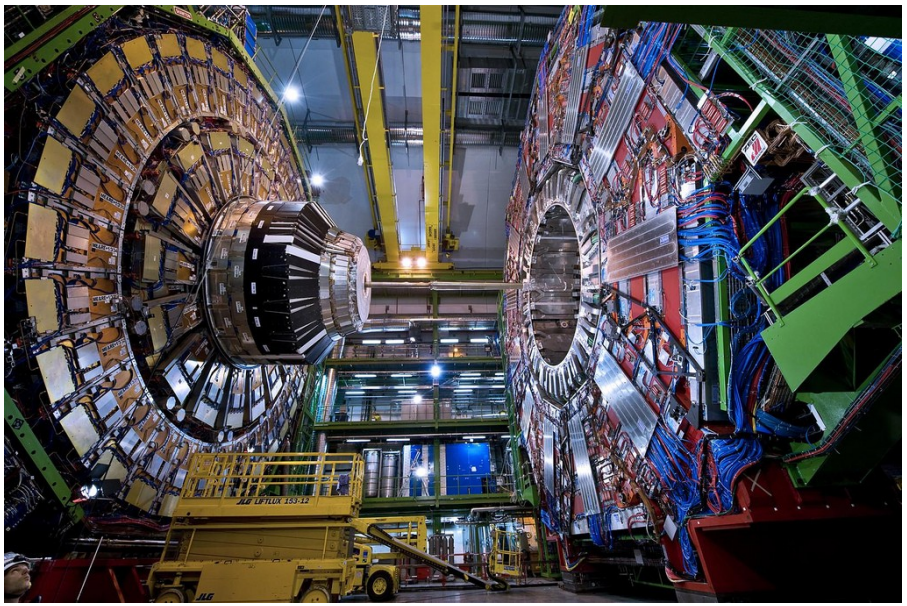
… and down to a single Raspberry Pi

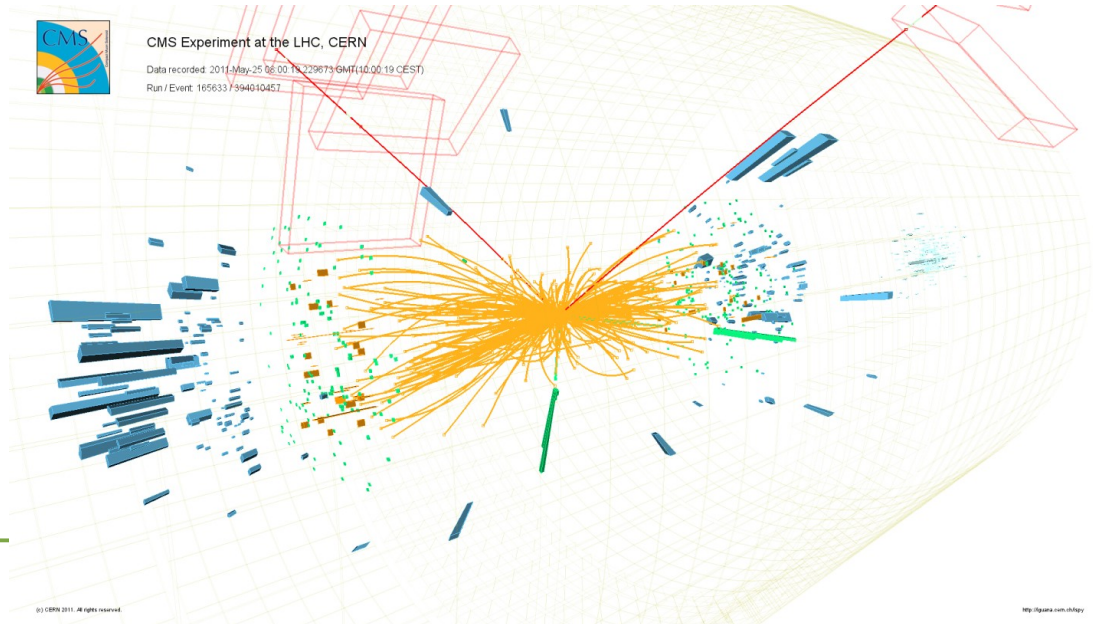


Software running throughout the world

Used to search for the Higgs boson







WLCG
Worldwide LHC Computing Grid

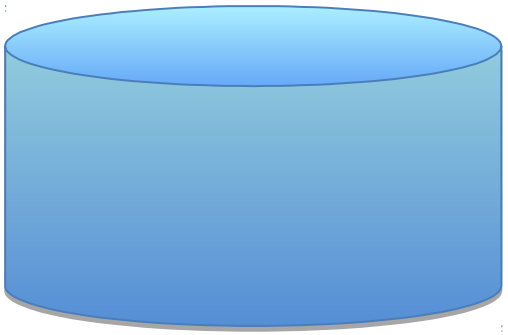
Feed data for HPC applications

UNICORE

HPC jobs on supercomputer

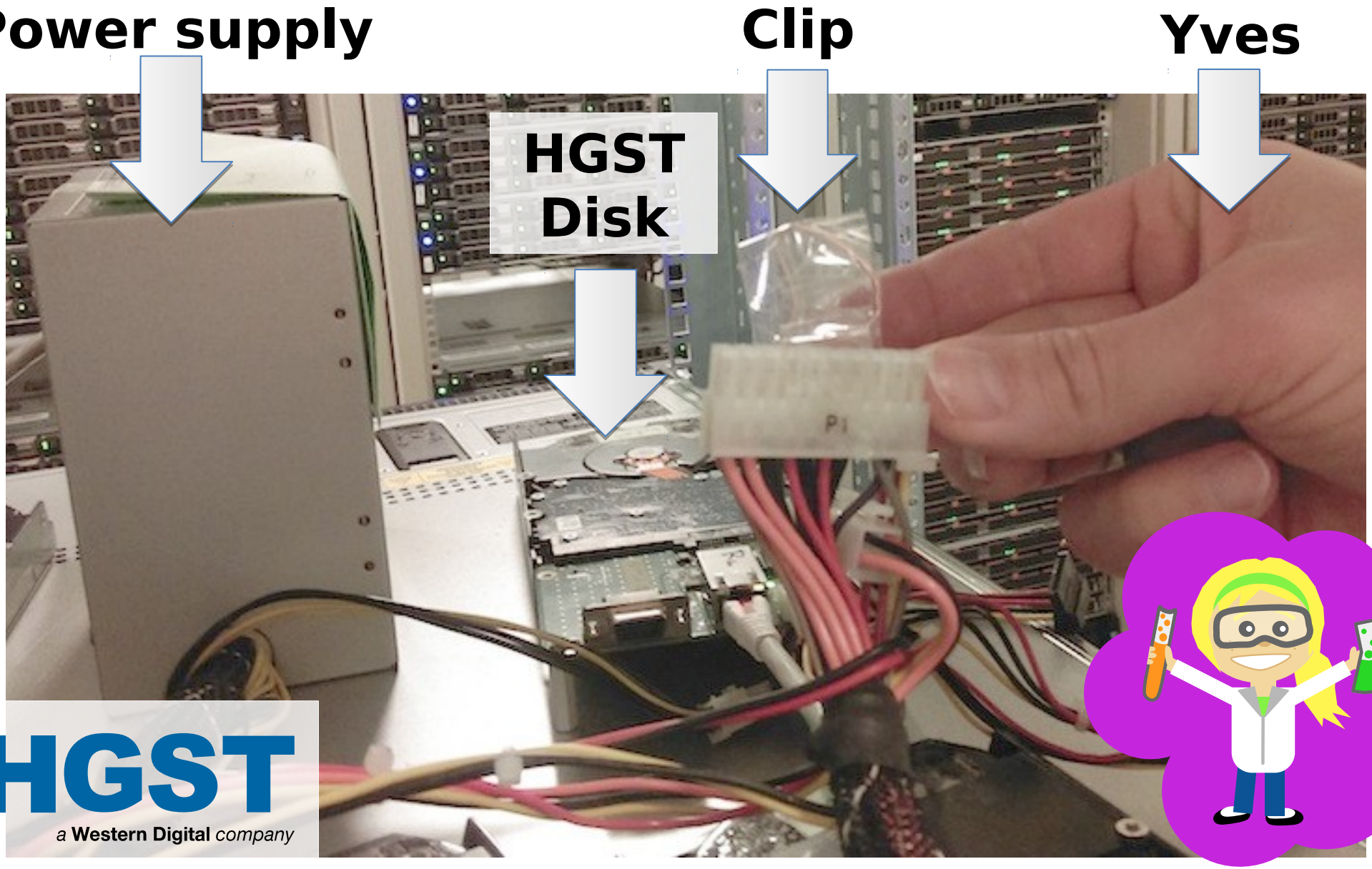
VAVID

MoSGrid



HPC jobs get access to dCache storage.

Research: pushing frontiers



dCache and INDIGO-DataCloud

European Commission

Developing two new features

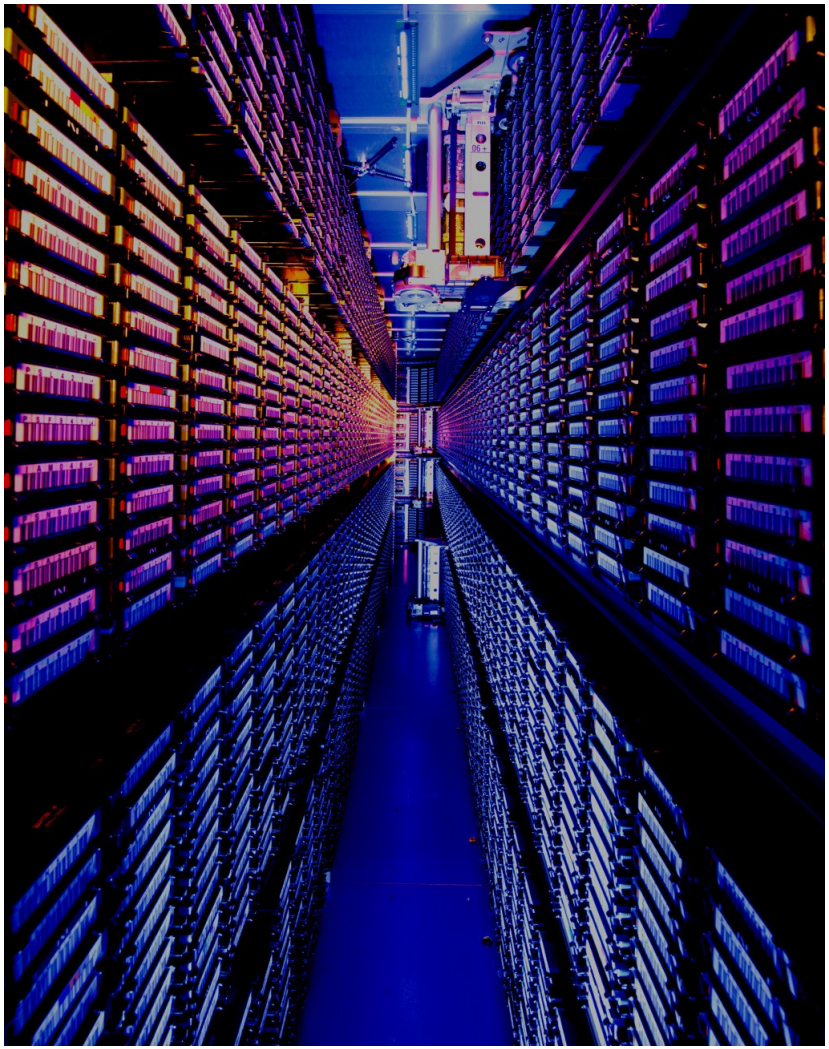
Quality of Service

and

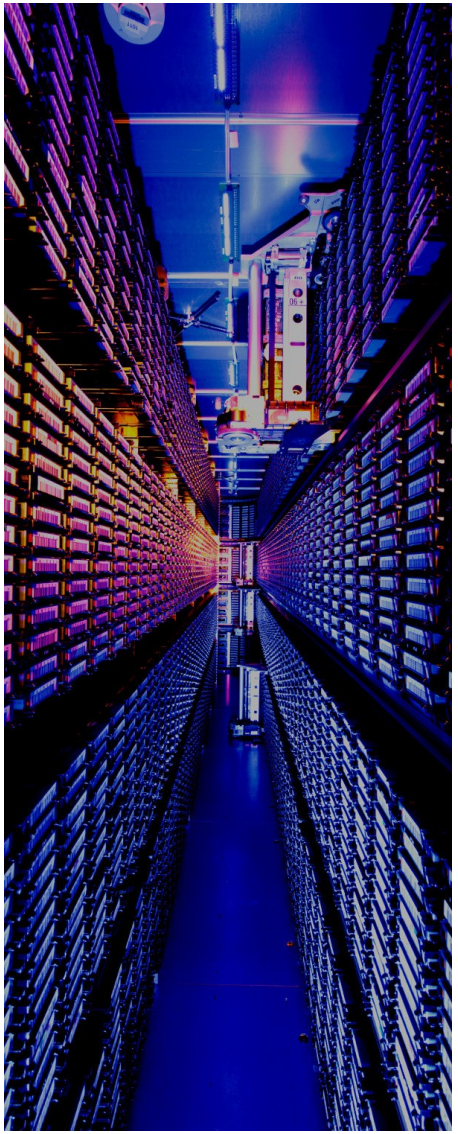
Data Life-Cycle

Quality of Service

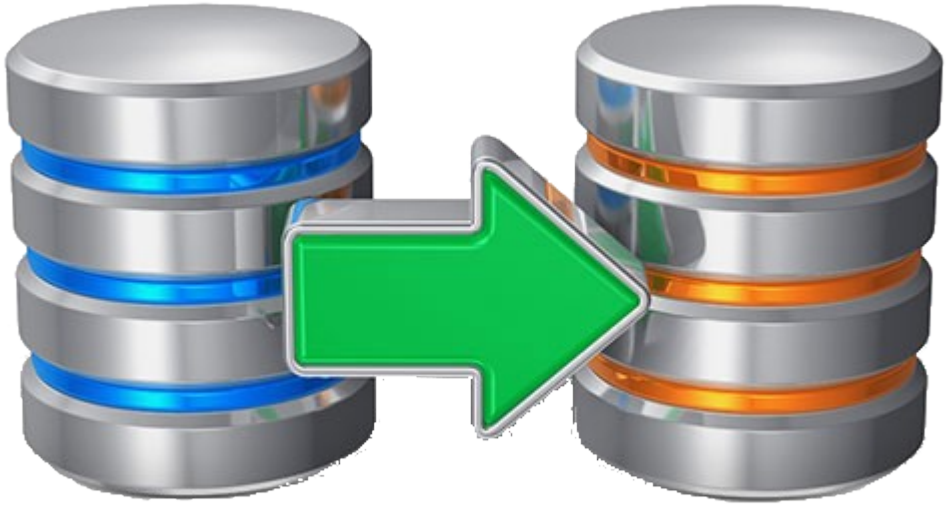
Store data on disk or tape?



Now we have more media options



Replicating data



How many copies? Where are they located?

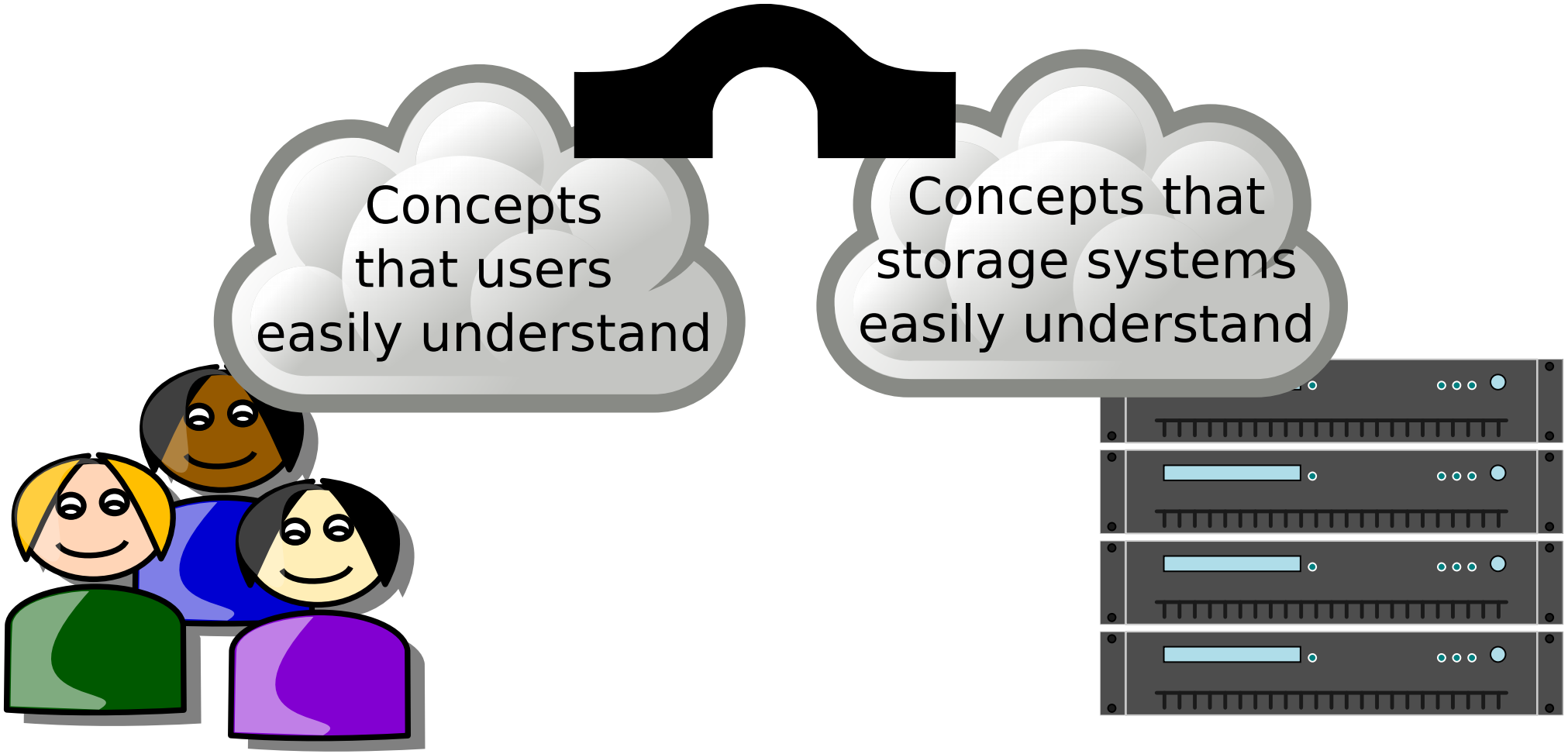
Motivation: budgets

How to make this a possibility

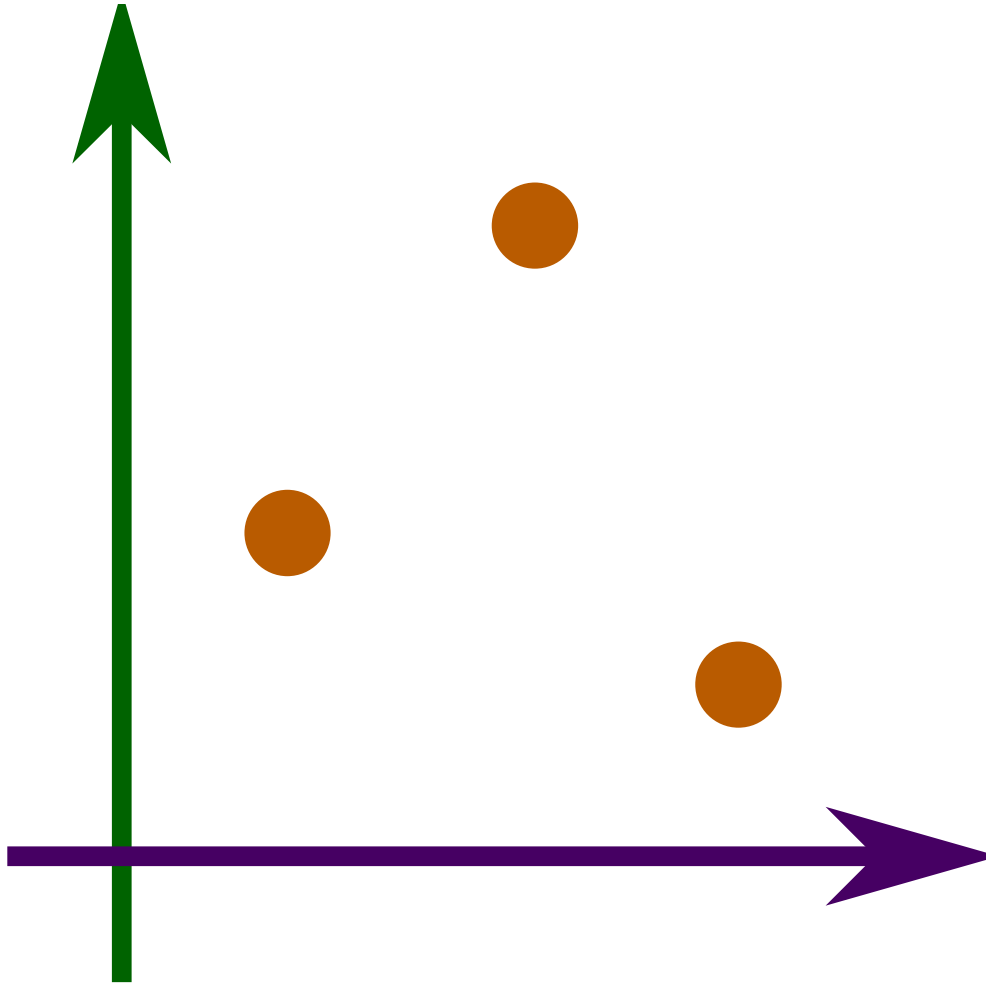
What are my options?

How do I choose?

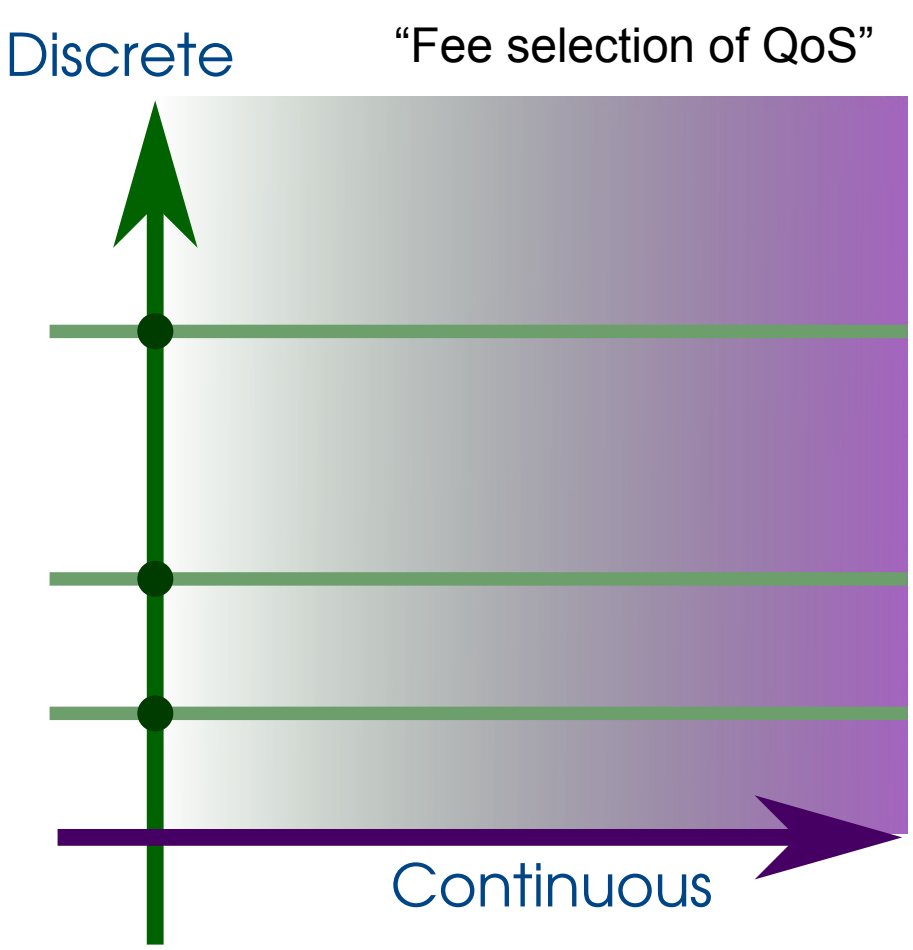
Bridging the gap



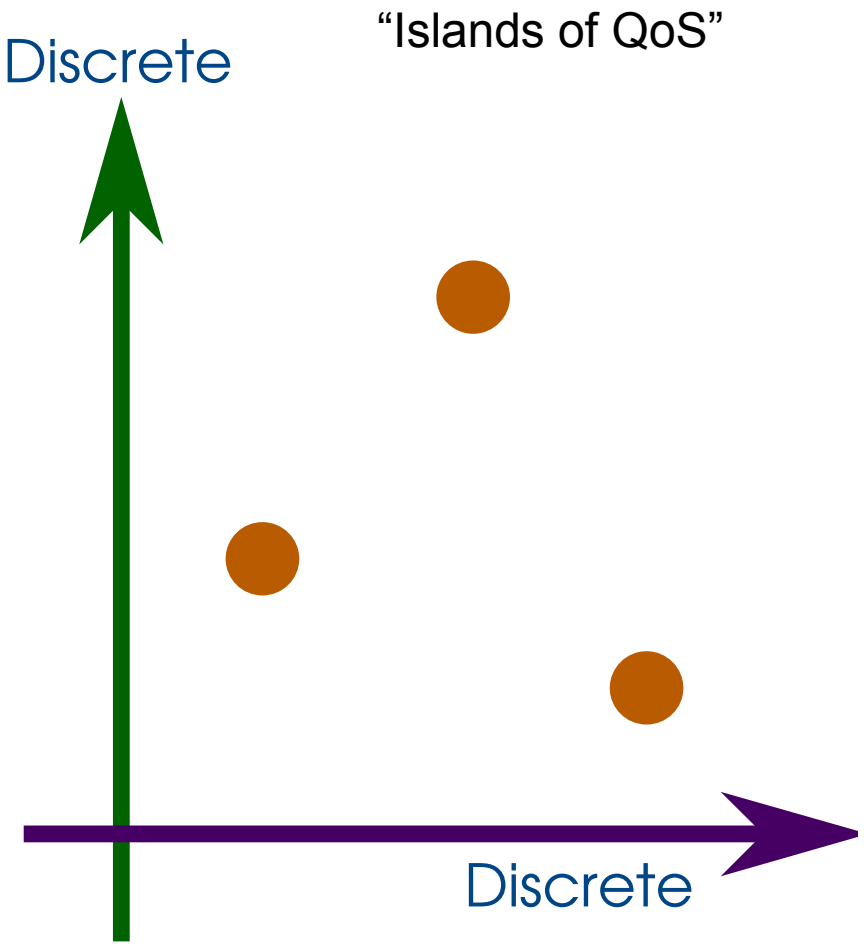
Attributes and islands



Combining QoS attributes

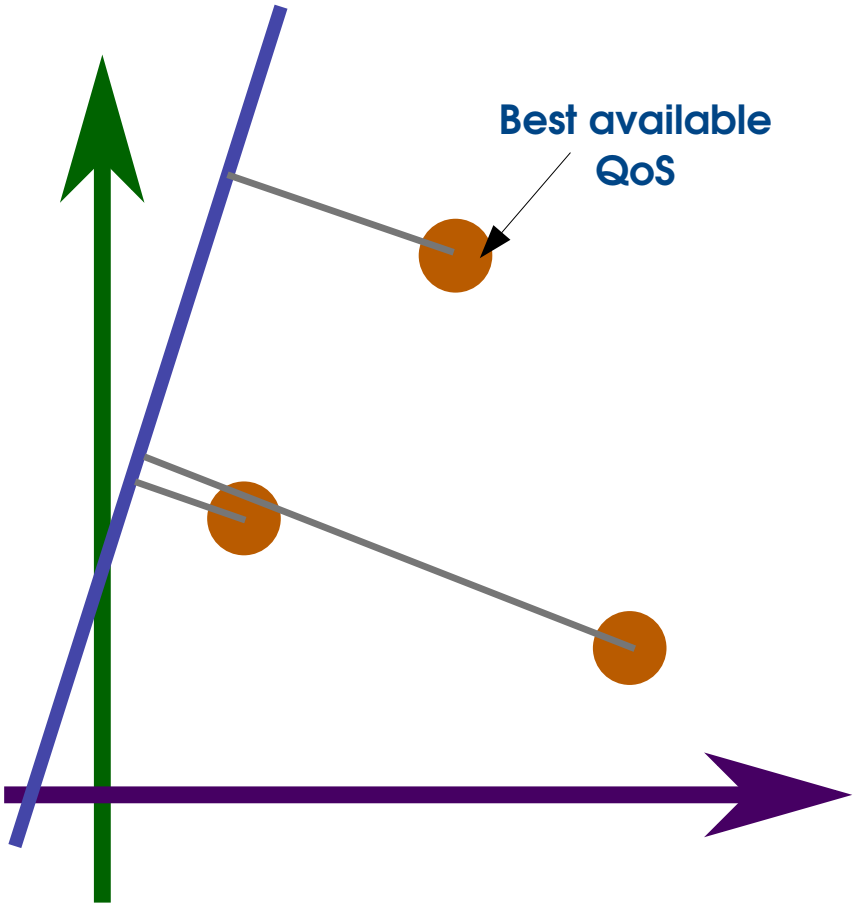


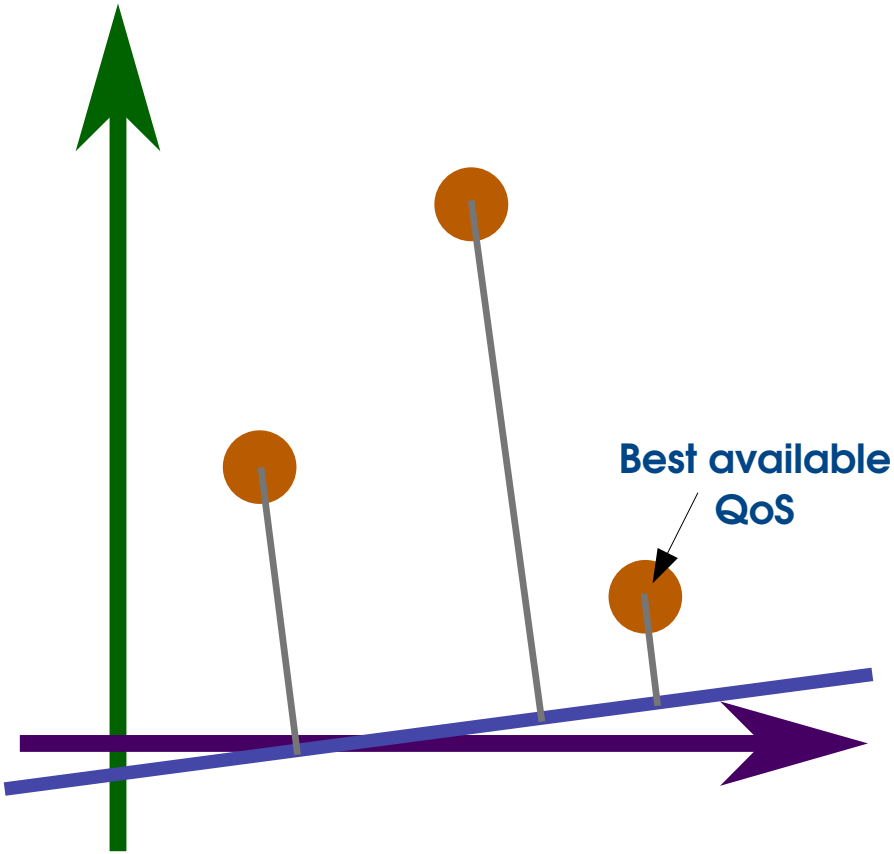
Independent



Dependent

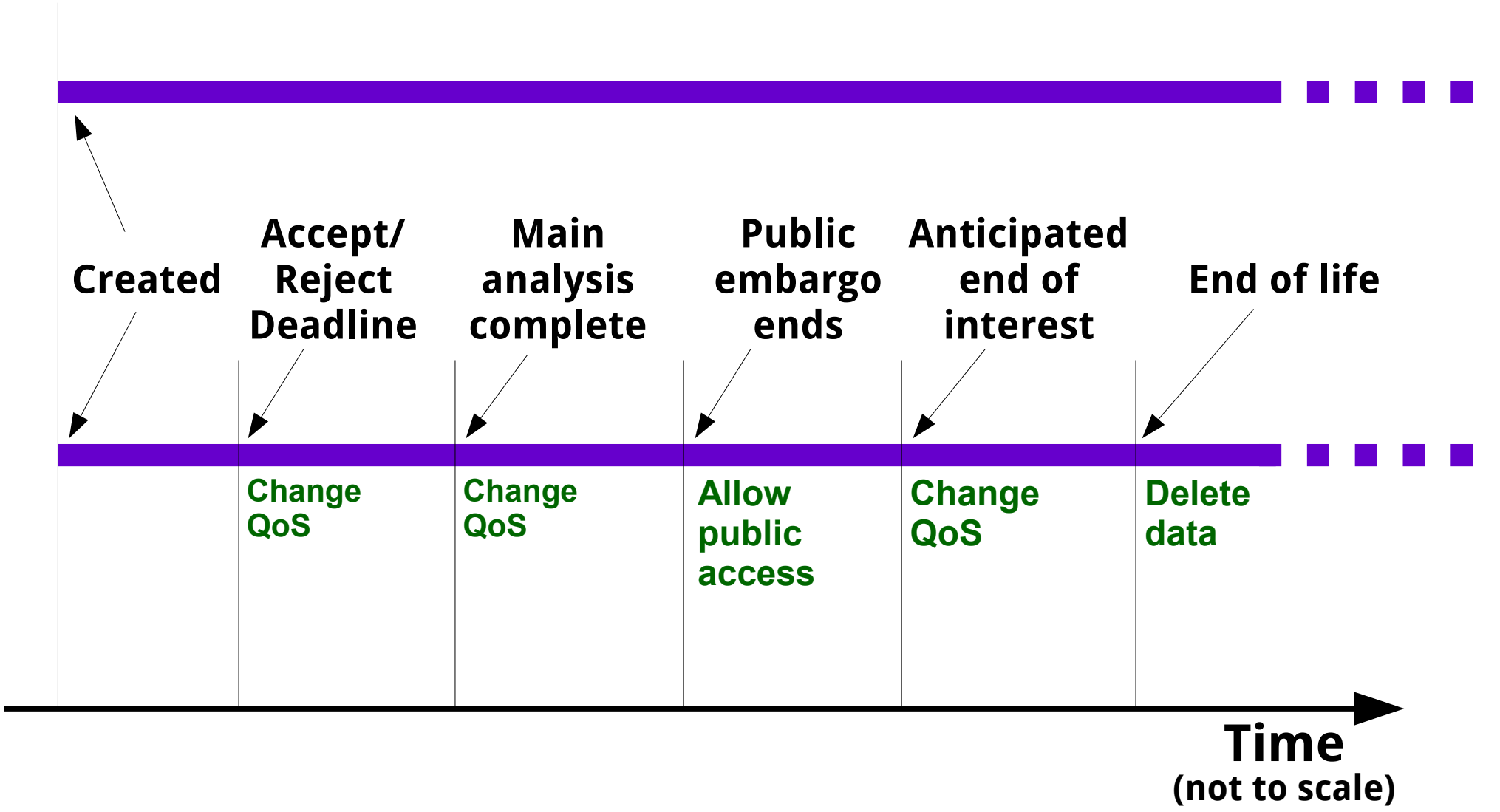
Figure-of-merit: how users choose





Data Life-Cycle

DLC use-cases: the story of a file



Format for DLC rules

<trigger> <action>

(e.g., <after 6 months> <add public-access ACE>)

The plan

Define abstract terms

Define network protocol

I LOVE IT WHEN
A PLAN COMES TOGETHER
memegenerator.net

Thanks for listening