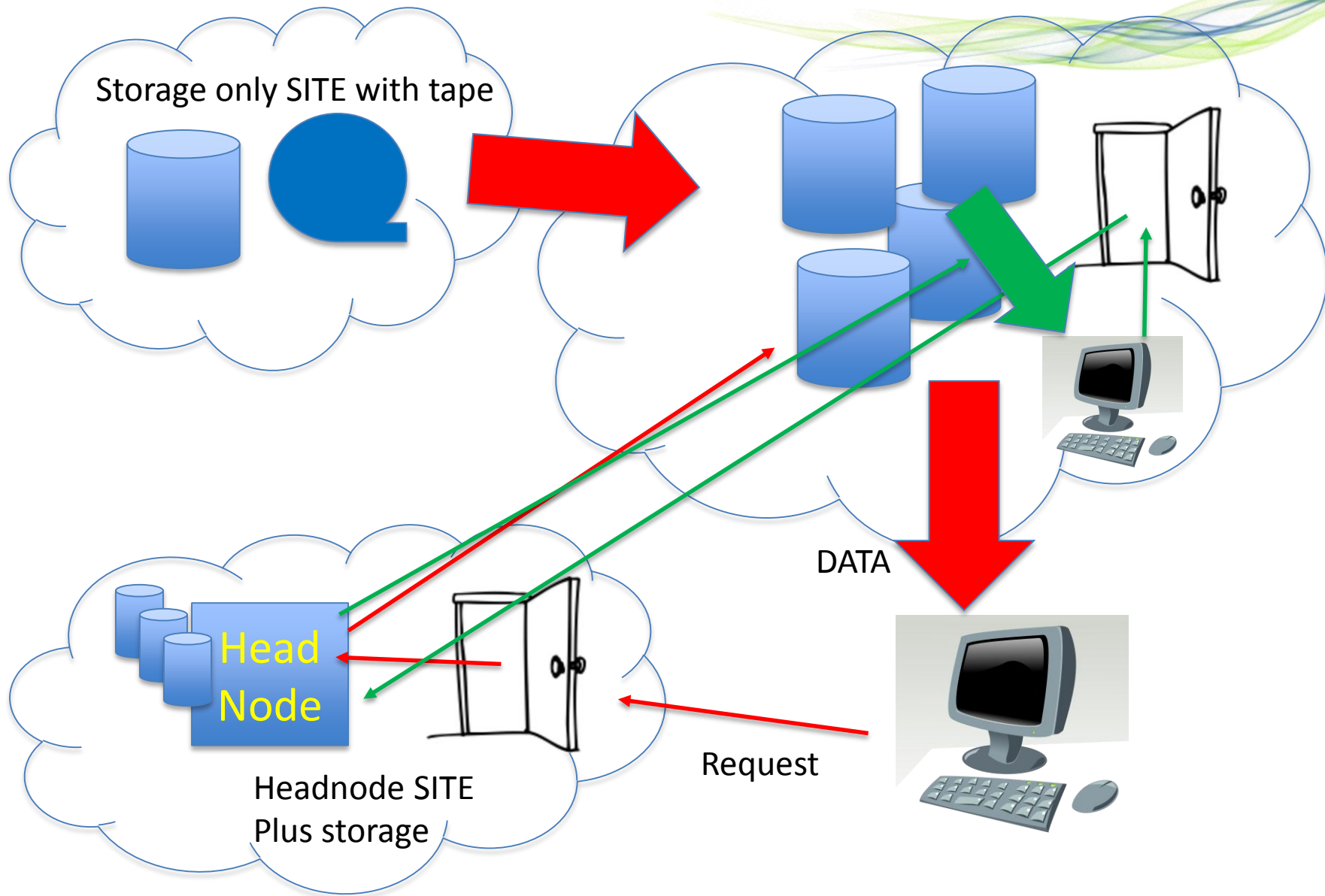


# dCache federation design



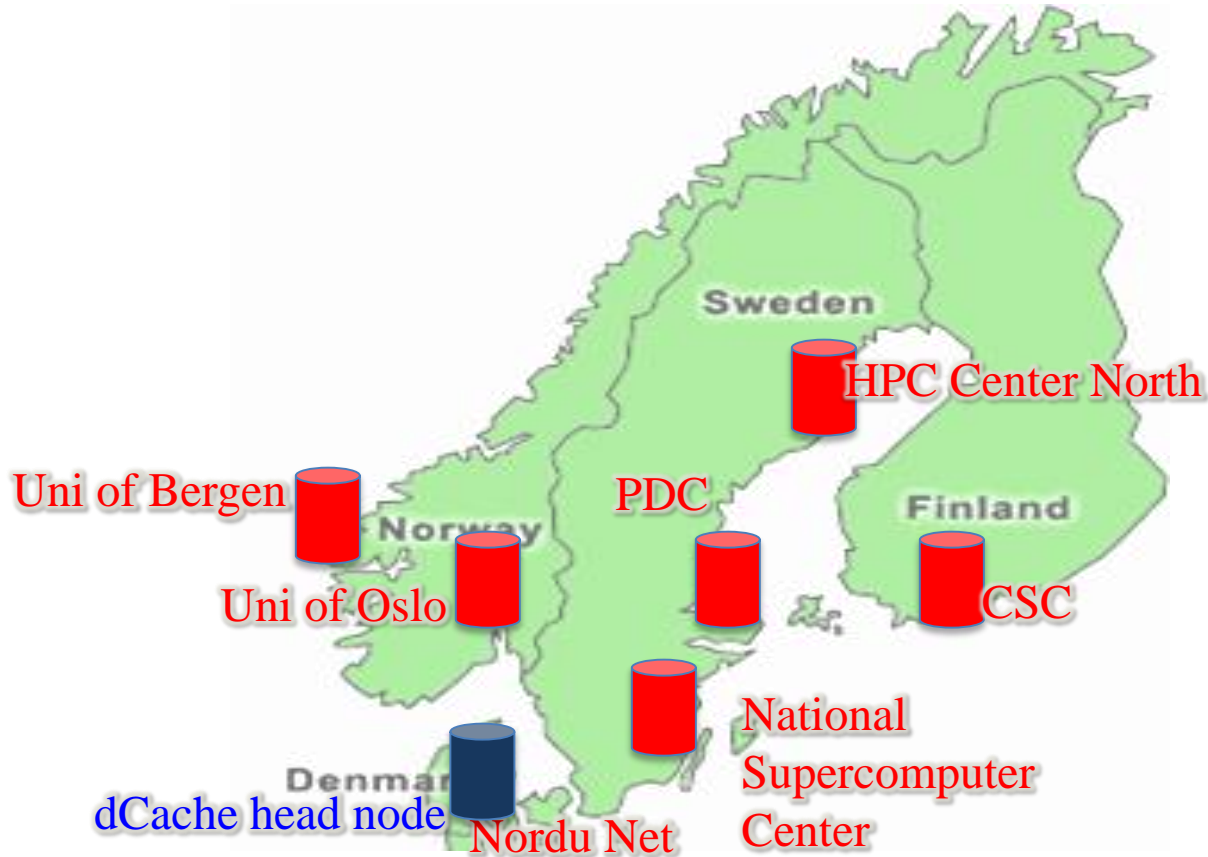
# Features available

- Federation works for essentially all protocols
  - http/WebDAV
  - gridFTP
  - NFS4.1 / pNFS
  - dCap/xrootd
- Preferred write location depending on IP (location) or directory path (if requested)
- Preferred ‘local’ read access if data is available
- Replication
  - Automatic replication on write (to remote site)
  - Automatic lazy replication with ‘n’ copies.
  - Permanent replication based on data type.
  - Manual ‘scheduled’ data transferred for improved data location or hardware component decommissioning

# Considerations

- Secure component communication between sites.
- Component upgrade compatibility within a major release.
- Trying the same between major releases but not always possible.
- Hot standby of headnodes possible.
- Upgrading headnode means ‘deadtime’ for the entire system.
- “Short downtime” mechanisms are possible but never tried out.

# NDGF Tier 1



4 Countries

One dCache

Slide stolen from Mattias Wadenstein, NDGF