Climate Change

C P 4 C D S

WP6 report (Philip Kershaw and Matt Pryor)
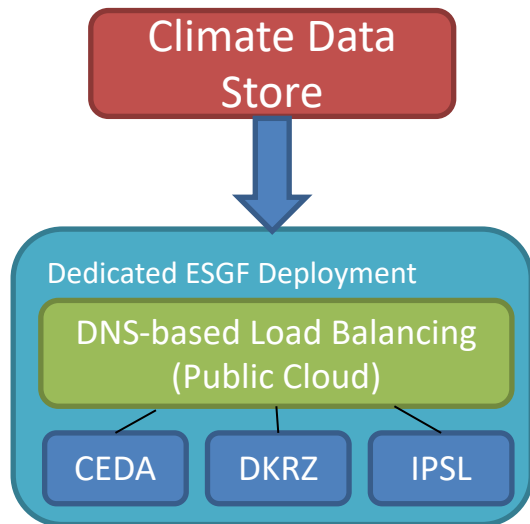
Final Workshop – 05 December 2019

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Change

Climate Data Store

Dedicated ESGF Deployment

DNS-based Load Balancing
(Public Cloud)

CEDA   DKRZ   IPSL

- Deliver CMIP5 data access to C3S with >= 98% uptime

- Solution developed which load balances services across three sites in order to provide a single access point for C3S with the aggregate uptime needed

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- Load balanced service across three sites provides required service resilience

- Synchronisation of search indexes (metadata) is straightforward because of existing technology in ESGF used for federating search content (Apache Solr NoSQL database)

- Synchronisation of data itself (CMIP5 data files) is more complex

  – Solution was devised and refined over the course of the project but nevertheless replication of CMIP5 data required close co-ordination between partners

  – Public cloud could provide an alternative obviating the need for management of three copies of the data. However, relative cost still high

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- Existing solution for CMIP5 can be leveraged

- Access control is not required – simpler interface for access to the data for C3S

- System architecture for ESGF is under review by the consortium of partners.

  - This may bring changes to interfaces (most likely to affect search)

  - But also improvements