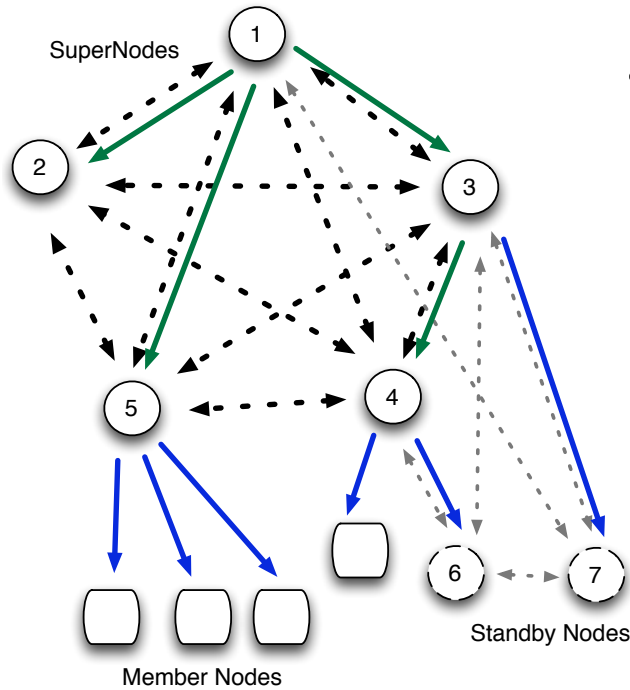# Node Manager and Services Working Team: Progress Update and Future Roadmap

Sasha Ames, Co-Lead (LLNL)
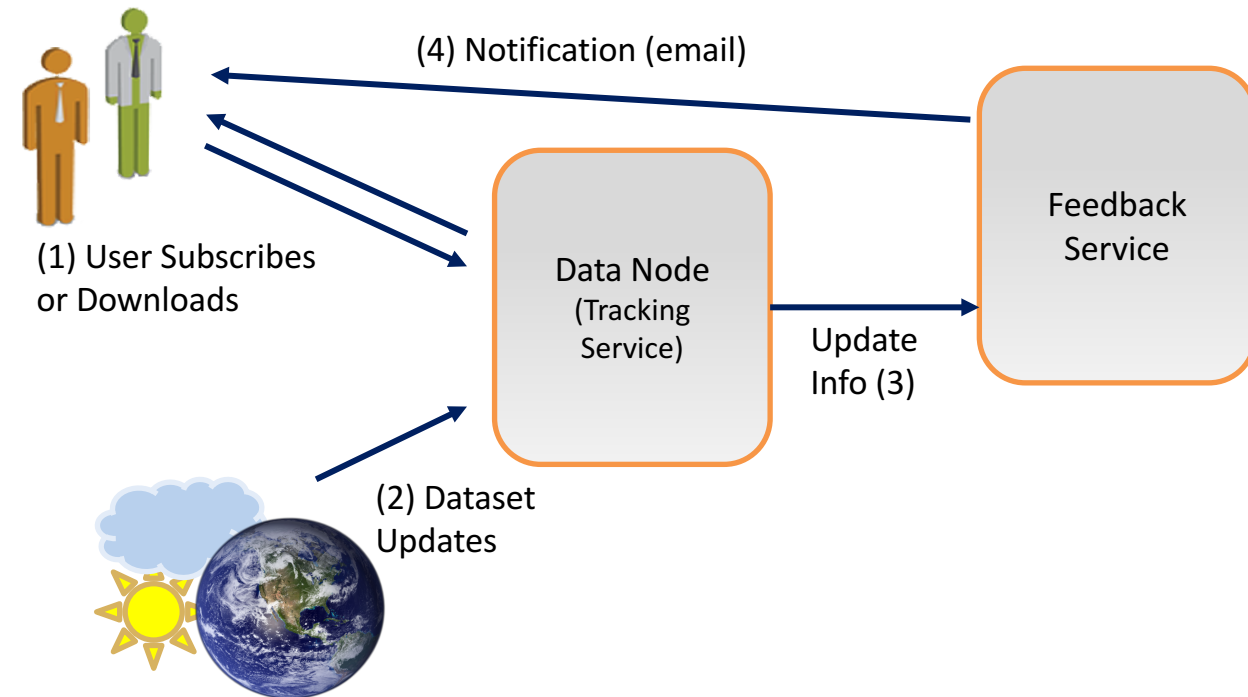
Tobias Weigel, Co-Lead, Katharina Berger (DKRZ), Mike Berkley (UVic/CCCma), Alessandra Nuzzo, Maria Mirto, Paula Nassisi, (CMCC), Luca C. (JPL)

SuperNodes

Member Nodes

Standby Nodes

- Node Manager:
  - Component to handle internode communication of configuration info
  - Uses a two-tier design: 1st tier P2P; 2nd tier clients
  - Maintain the node-component registry: registration.xml

(4) Notification (email)

(1) User Subscribes or Downloads

Data Node (Tracking Service)

Feedback Service

Update Info (3)

(2) Dataset Updates

- User Notification: goal to provide updates to data changes in the federation

- Node Manager 1.0 integrated into esg-node (installer)
  - Deployed to production in v2.5.9
  - Several upgraded sites registered
  - Recapture of upgraded sites in progress
- Credentials share API - requires signed public cert for verification of signed request
  - tested between LLNL and GFDL
- Team reformulation and kickoff discussions

Node Manager Release Report

esg.lasg.ac.cn	CoreyHaim	v2.5.17-master-release
aims3.llnl.gov	CoreyHaim	v2.5.17-master-release
esgf-node.jpl.nasa.gov	Helheim	v2.5.13-master-release
esgf-node.llnl.gov	CoreyHaim	v2.5.17-master-release
esgf1.dkrz.de	Helheim	v2.5.13-master-release
esgf-data.jpl.nasa.gov	Vanaheim	v2.5.14-master-release
esgf-node.cmcc.it	Service Error (500)	
esgf-data2.ceda.ac.uk	TIMEOUT	
esg-dn1.ru.ac.th	TIMEOUT	
esgfcog.cccma.ec.gc.ca	Alfheim	v2.5.16-master-release
esgf.nccs.nasa.gov	Samhain	v2.5.17-master-release
esgf-data.dkrz.de	Helheim	v2.5.13-master-release
esgf.anl.gov	Midgard	v2.5.9-master-release
esgf2.dkrz.de	Helheim	v2.5.13-master-release

All other nodes 2.5 not installed…

- Feedback service prototype
  - collects and collates individual user digests
  - Based on messages from tracking server
- Tracking service is subscription based
  - Periodic project query snapshots to SOLR
  - Takes delta vs previous snapshot
    - Datasets categories for updates: new, retracted, updated (version)

- Node Manager
  - Streamline config deployment
  - Authenticated communications – used signing protocol like the credentials share API
  - Future: replace with third party communication protocol library
- User notification
  - Complete subscription service
  - Testing phases
  - Deploy to production

- Beyond: consider download tracking
  - will user identity be captured somehow for unrestricted CMIP6 data?
  - Client side: alternatives to email notifications,
    - browser plug-in to "Notification centers"
    - smartphone notifications (SMS or other)?

- Big question – do we need a node manager – what is its useful purpose? Does anyone really use the registry? Its is "kind of nice to have" but that may not justify the effort
- Node map could be useful, but other services exist for monitoring. These are overarching architectural questions for ESGF
- OTOH – best, most accurate picture of state of federation via registry and node map
- How else could we use the node manager? Other configuration to be distributed?
- Notifications – helpful or distracting? If the latter then worth the effort?