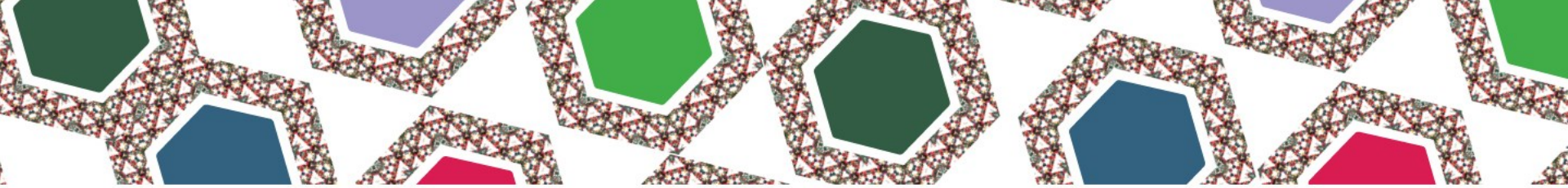

ITU Kaleidoscope 2013
Building Sustainable Communities

A Model for Creating and Sustaining Information Services Platform Communities: Lessons learnt from Open Source Software

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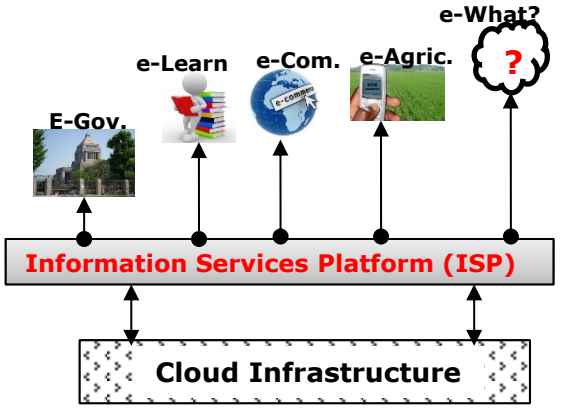
This Research in Brief

- Anything as a Service (XaaS)
  - Infrastructure as a Service (IaaS)
  - Software/Data as a service (SaaS/DaaS)
  - Platform as a Service (PaaS)



- Big Data and the Cloud:
  - Data deluge (2.5 x 10^{30} bytes of data/day!)
  - Public or Private or both (Hybrid).

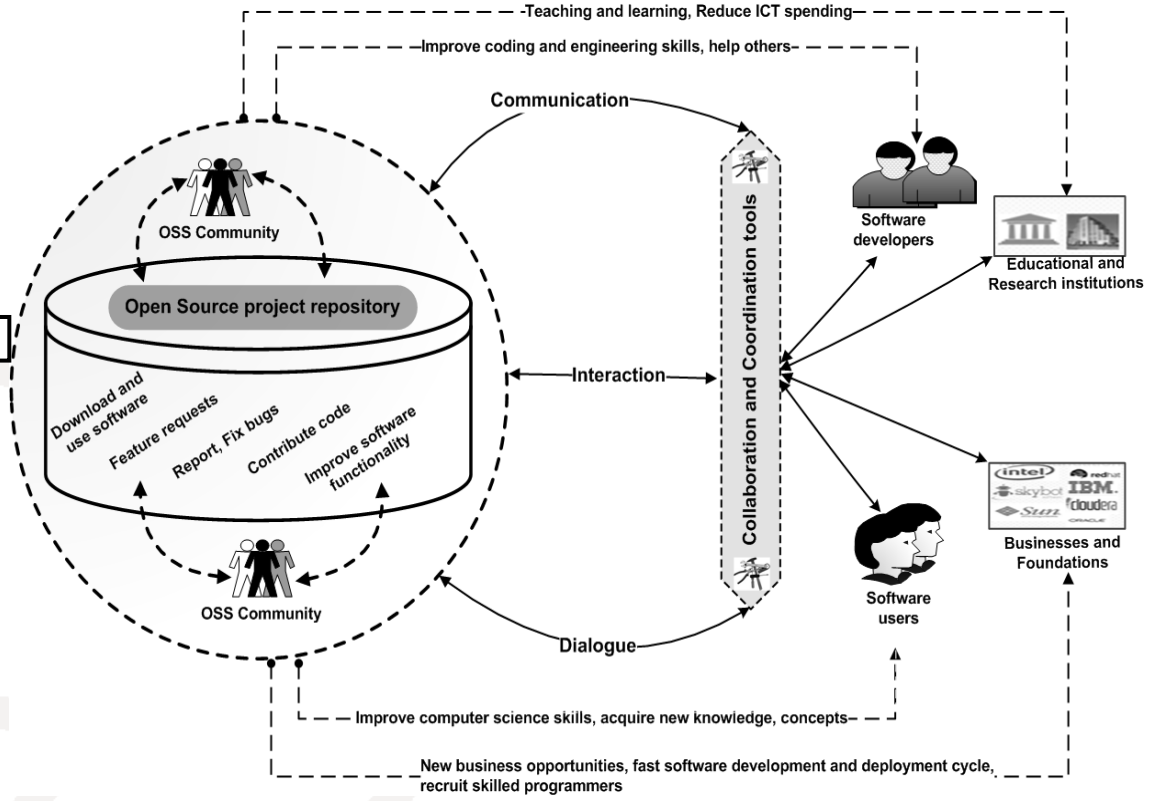
- Community dynamics in the cloud
  1. What lessons/best practice can we learn from Free and Open Source Software (FOSS) communities? *To help us*
  2. Create sustainable ISP communities?
  3. Support collaboration and experience sharing in ISPs?

Lessons and best-practice from FOSS

- FOSS communities (e.g. Apache) characteristics:
  - Mostly volunteer contributions, meritocratic, open collaboration, knowledge sharing, and peer-production of software products.

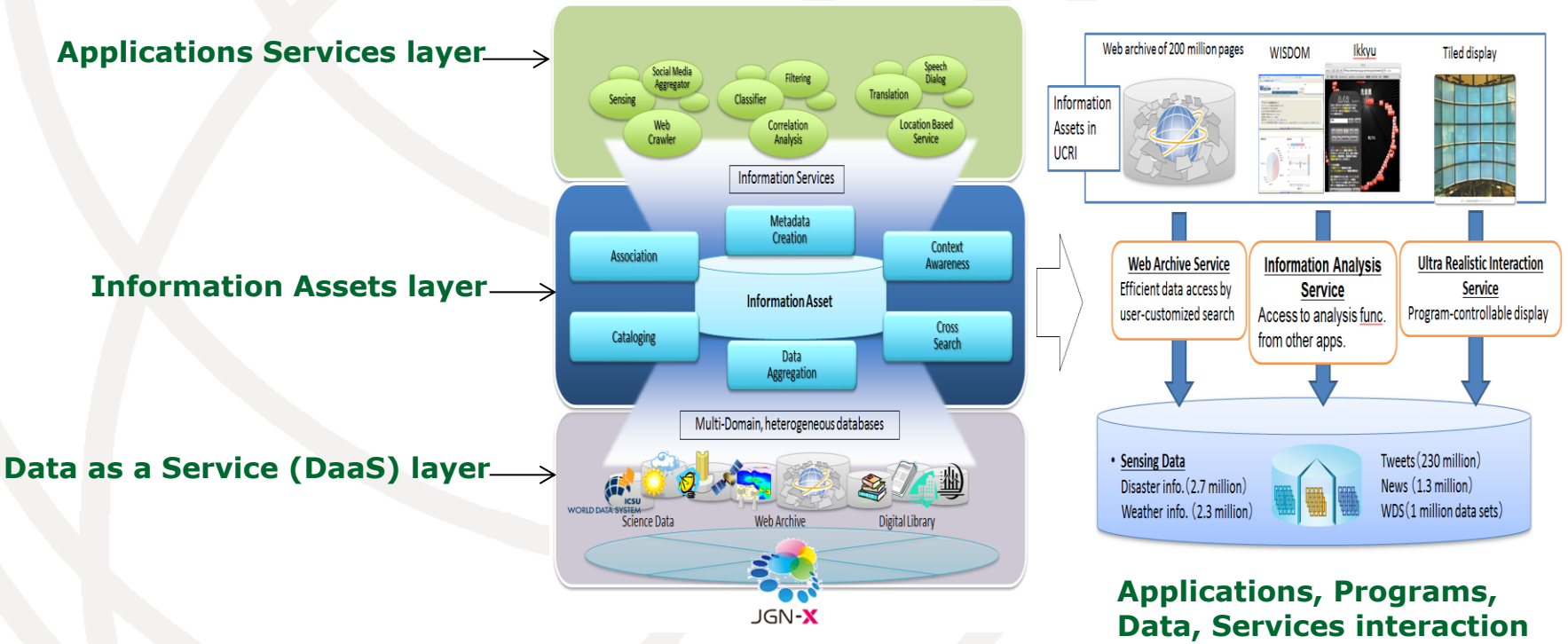
FOSS ecosystem

Collaboration and coordination in FOSS projects



Research Setting

- Information Services Platform (ISP) Laboratory of NICT, Japan.
- Infrastructure: Cloud and High Performance Grid Computing, Next Generation Network testbed (JGN-X), Virtualization technologies.
- Technology: Knowledge language Grid (KLG), Cyber-Physical Sensing System (CPSenS), Search and Data citation systems (WDS)
- Data and Metadata assets: Over 10^{21} (ZB) already archived.



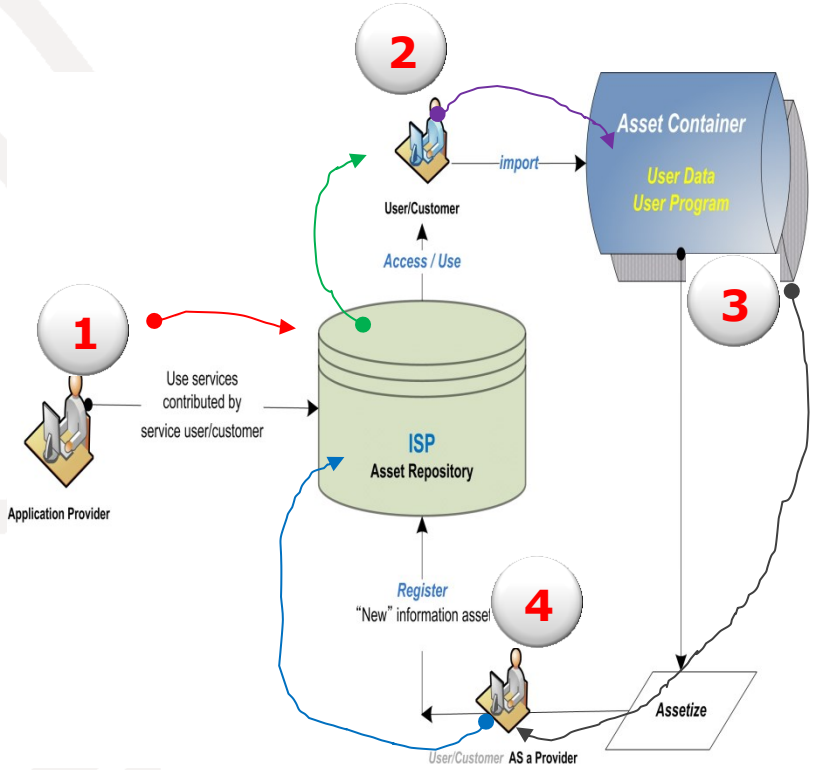
Applications, Programs, Data, Services interaction

Cloud Platform Community Vision

A sustainable information services platform community is one that creates and systematically archive information assets (data and services) so that the present and future members can find, utilize, share, and improve the assets with minimal effort.

The community assets cycle:

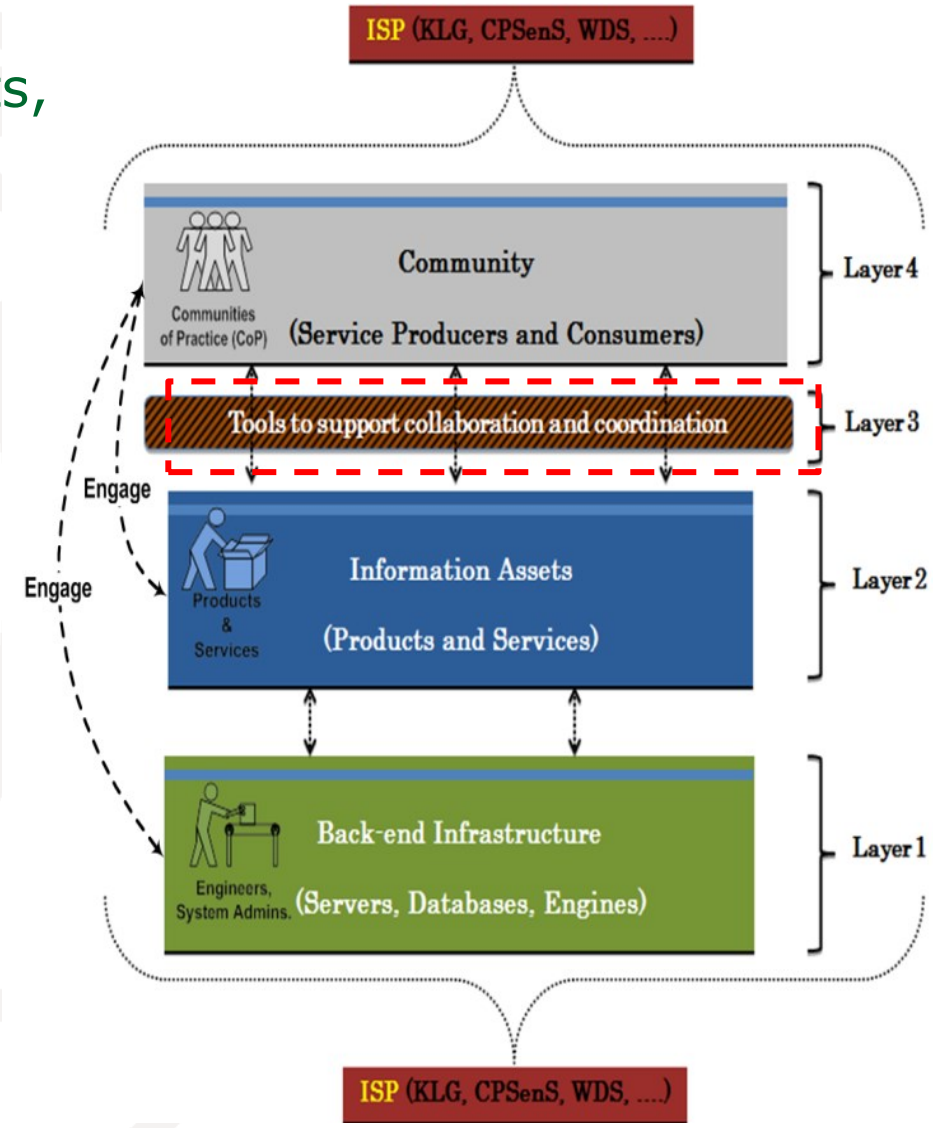
1. Application developer, data, or service provider contributes assets to the platform repository;
2. A consumer/user can search, bind, download, use the assets as is.
3. She/he can assetize available data using programs available on the platform.
4. He/she can register the assetized assets to the platform repository for others to use.



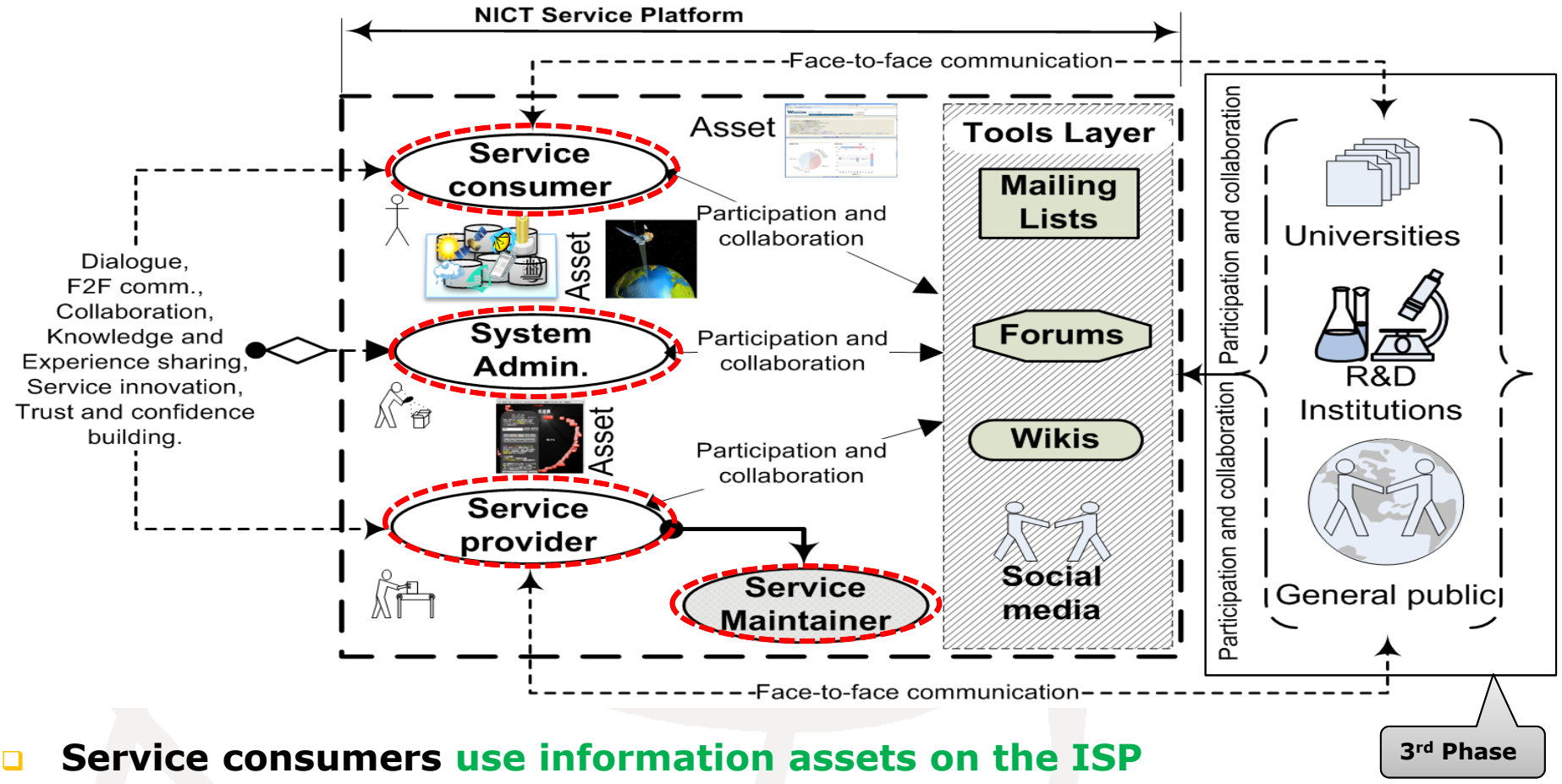
Conceptualizing the ISP community

Collaboration and coordination in the ISP community

- Community
  - use infrastructure, products, services on platform;
  - use tools (forums, wikis, mailing lists, etc.) to coordinate activities;
  - provide feedback to engineers to improve infrastructure;
  - provide feedback to improve products and services.

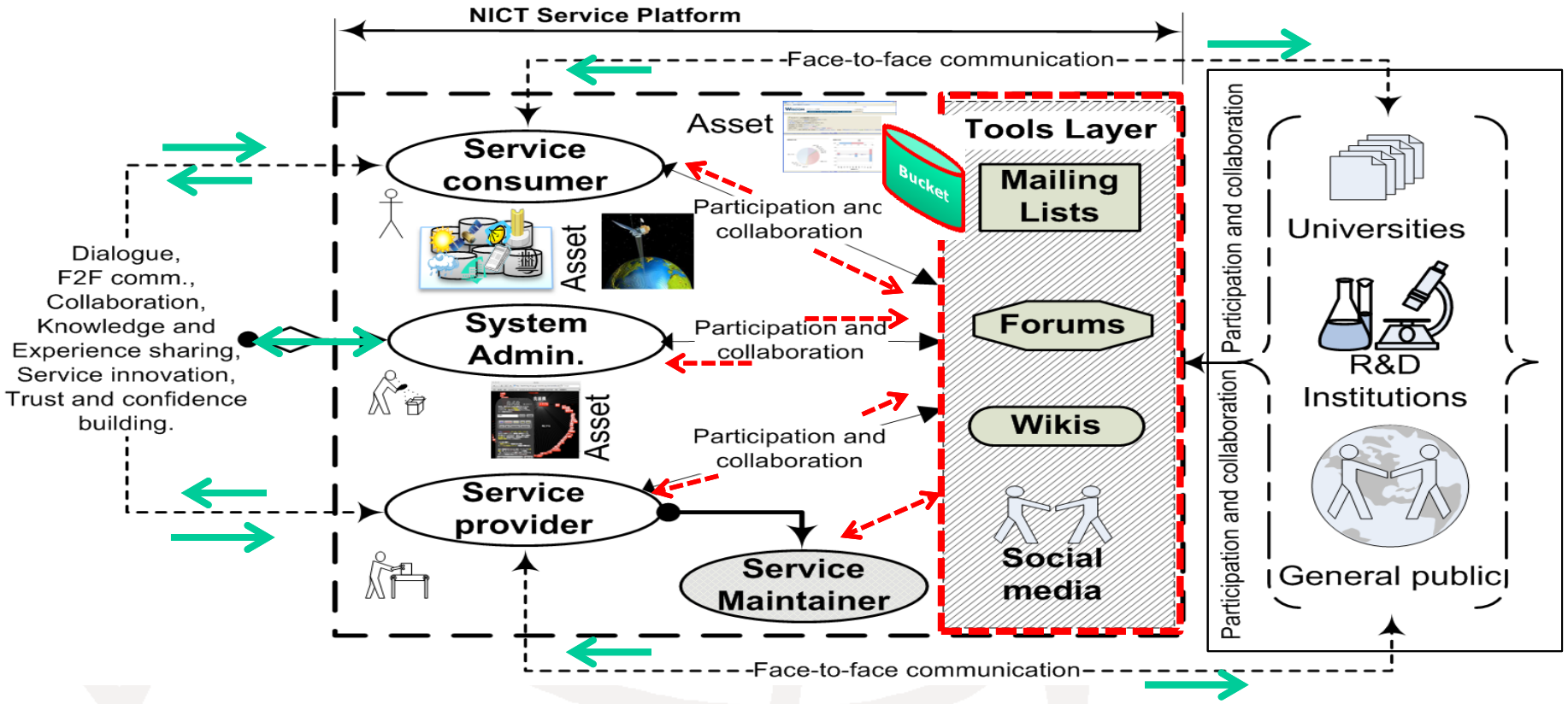


The ISP Community Model - Stakeholders



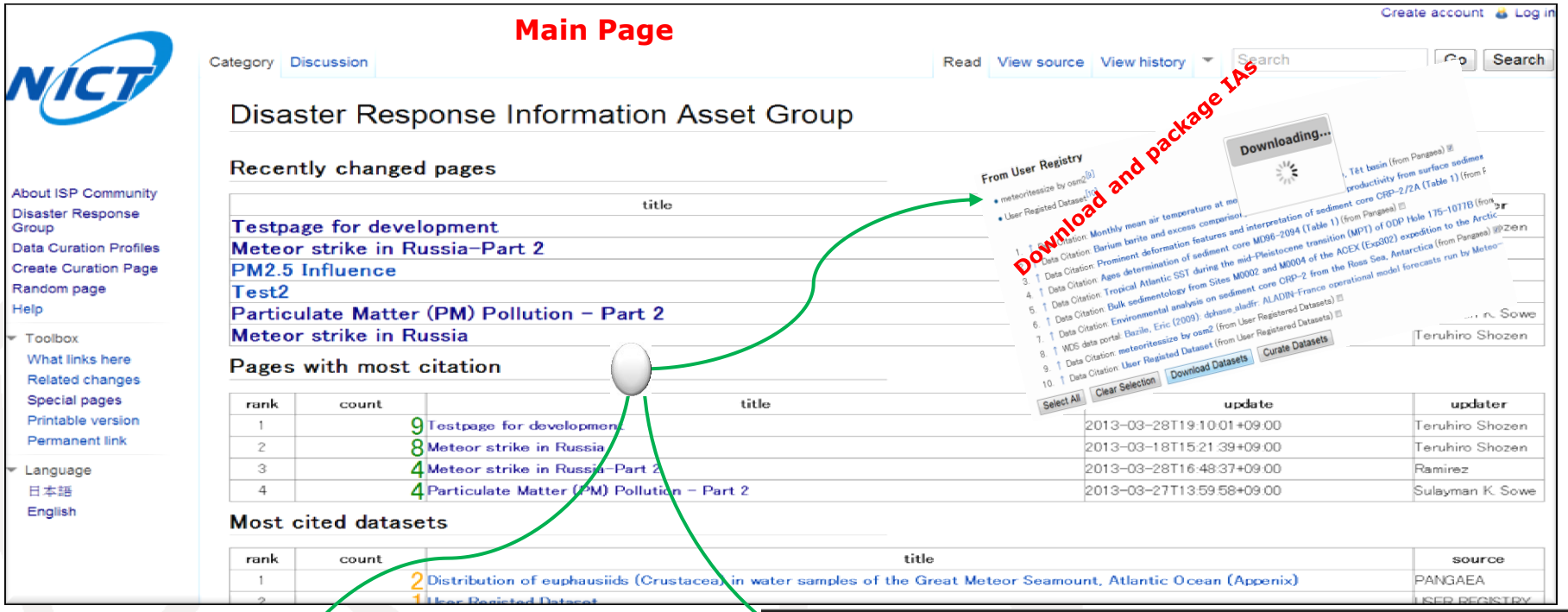
- **Service consumers** use information assets on the ISP
- **System administrators** administer services on the ISP
- **Service providers** provide, recombine services on/off the ISP
- **service maintainer** coordinate development, maintenance, and usage of a service on the ISP.

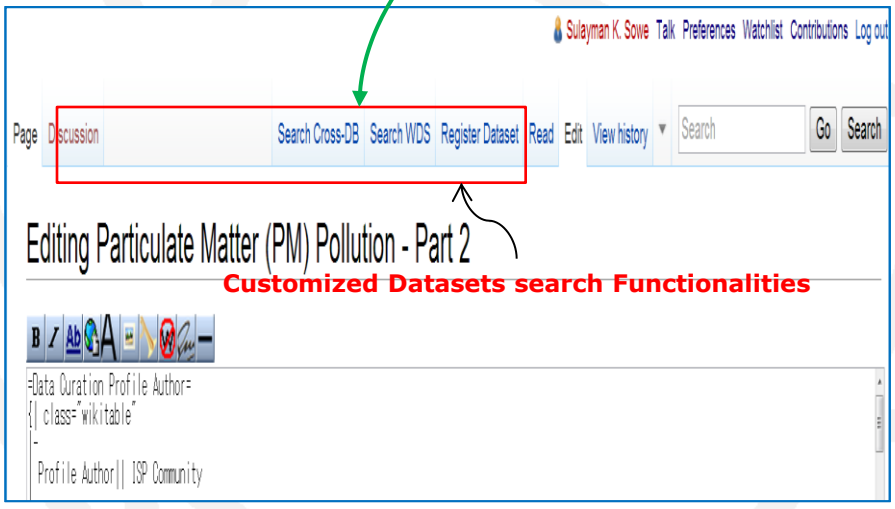
Enabling Participation & Collaboration

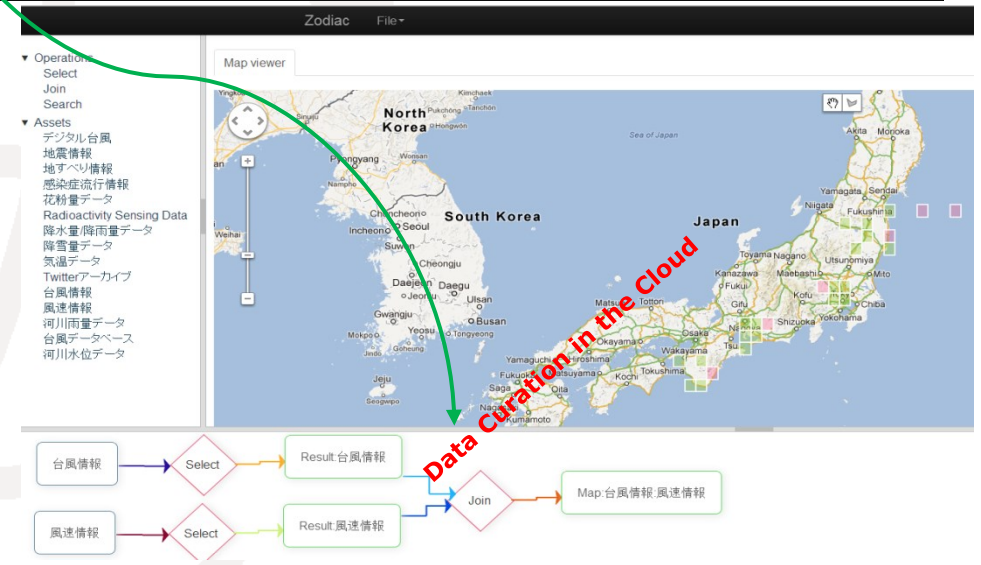


- Tools to
  - Enhance community participation and collaboration, support dialogue, trust, and confidence building.
  - Tool bucket stores user profiles and recommends community experts, alerts about available services, etc.

The ISP Platform Implementation: Demo at Event Showcase







Thank You for Your Attention

Questions & Comments welcome