

NCRIS

Platforms for Collaboration

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Platforms for Collaboration

- Data access and discovery, storage and management
- Grid enabled technologies and infrastructures
- Technical expertise
- High performance computing
- High capacity communication networks

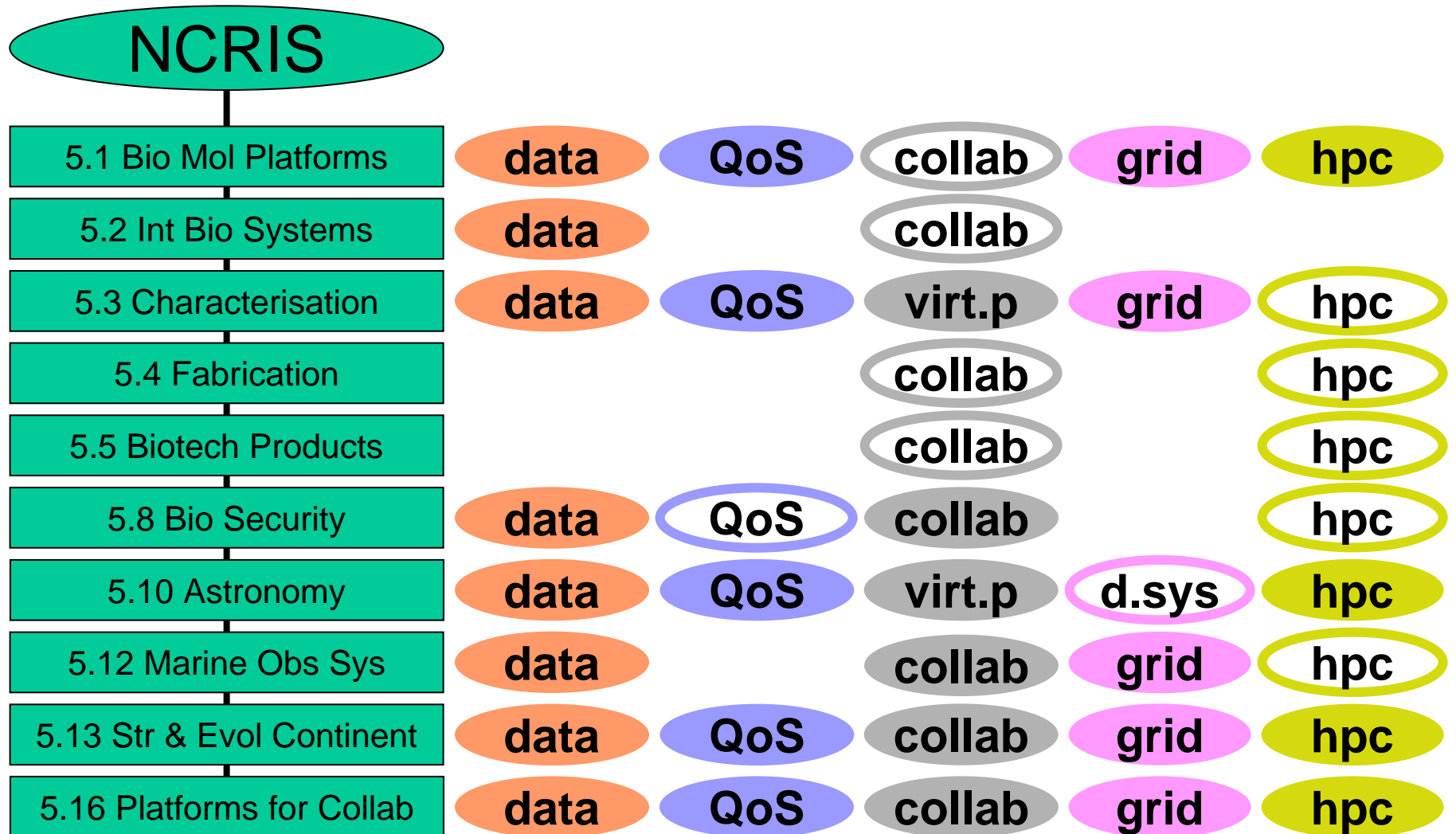


Related Issues

- Sharing resources and data
- Identifying researchers
- Empowering researchers
- Policy, policy, policy ... agreement
- Expanding the e-Research community



Lots of demand...



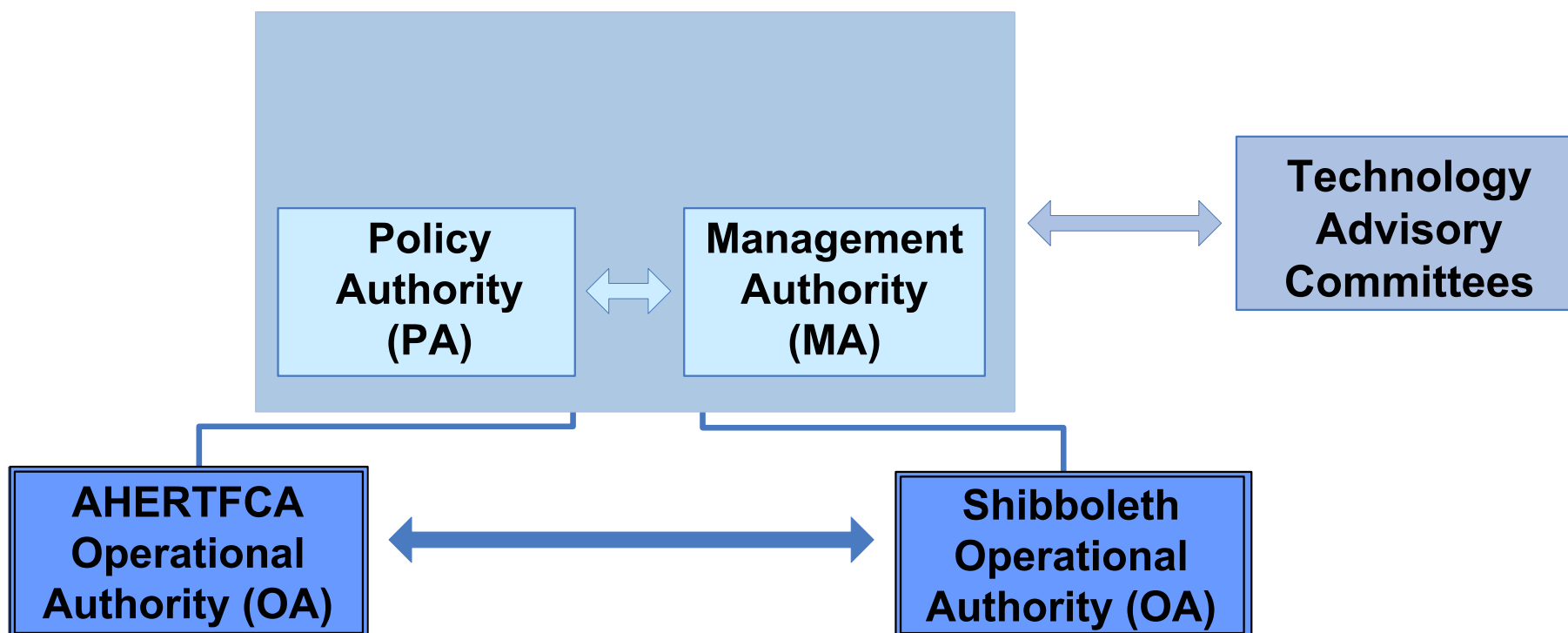
Two fundamental needs

- System wide networking
 - From desktop to national and global facilities
 - All desktops to all facilities
 - High speed
 - Subscription based (no volume charging)
- System wide access control
 - Home institution identification
 - Researcher controlled authorisation
 - Single sign on
 - Community wide roles and rights

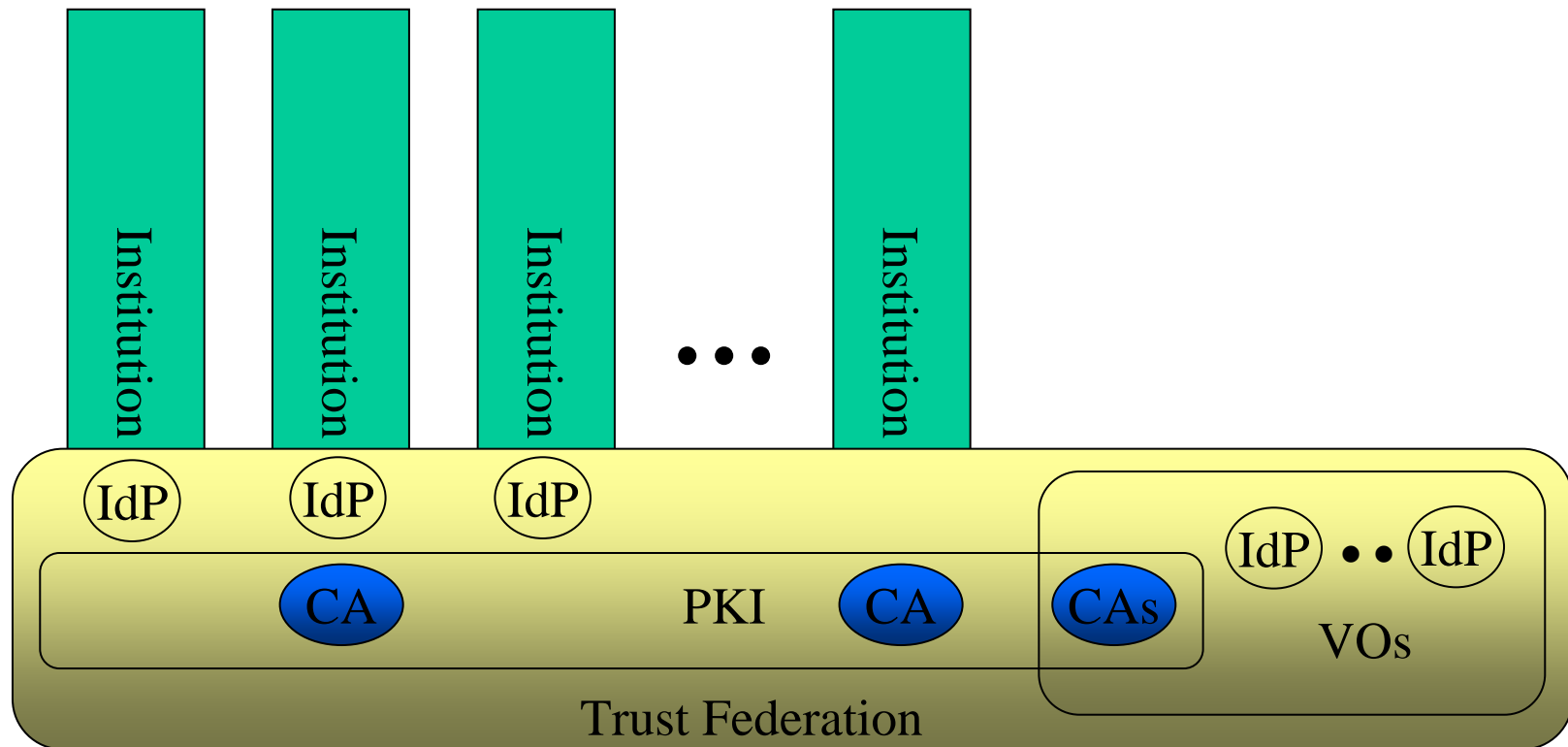


Australian Access Federation

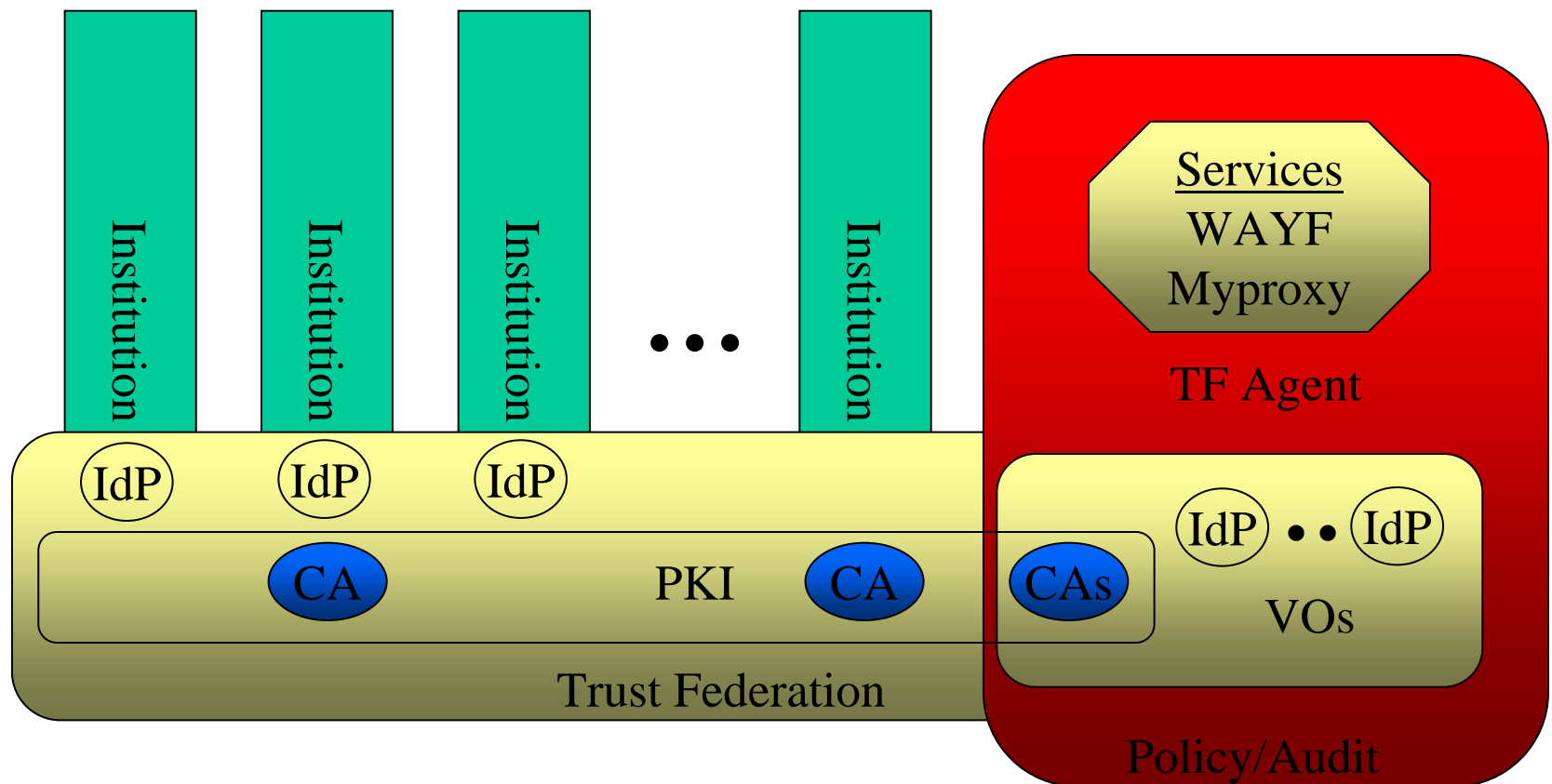
AHERTF's Governance Structure



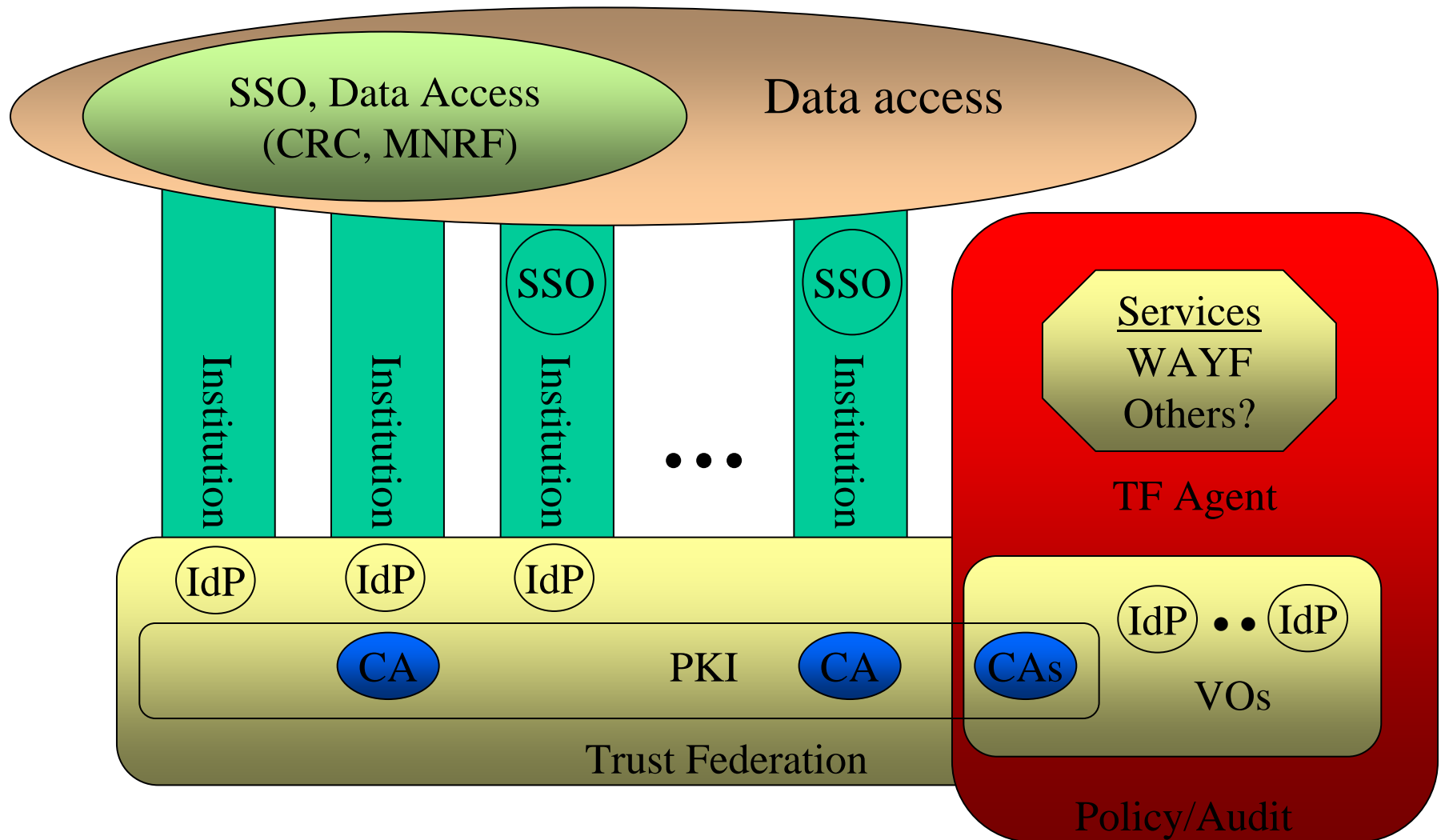
AAF - functional view



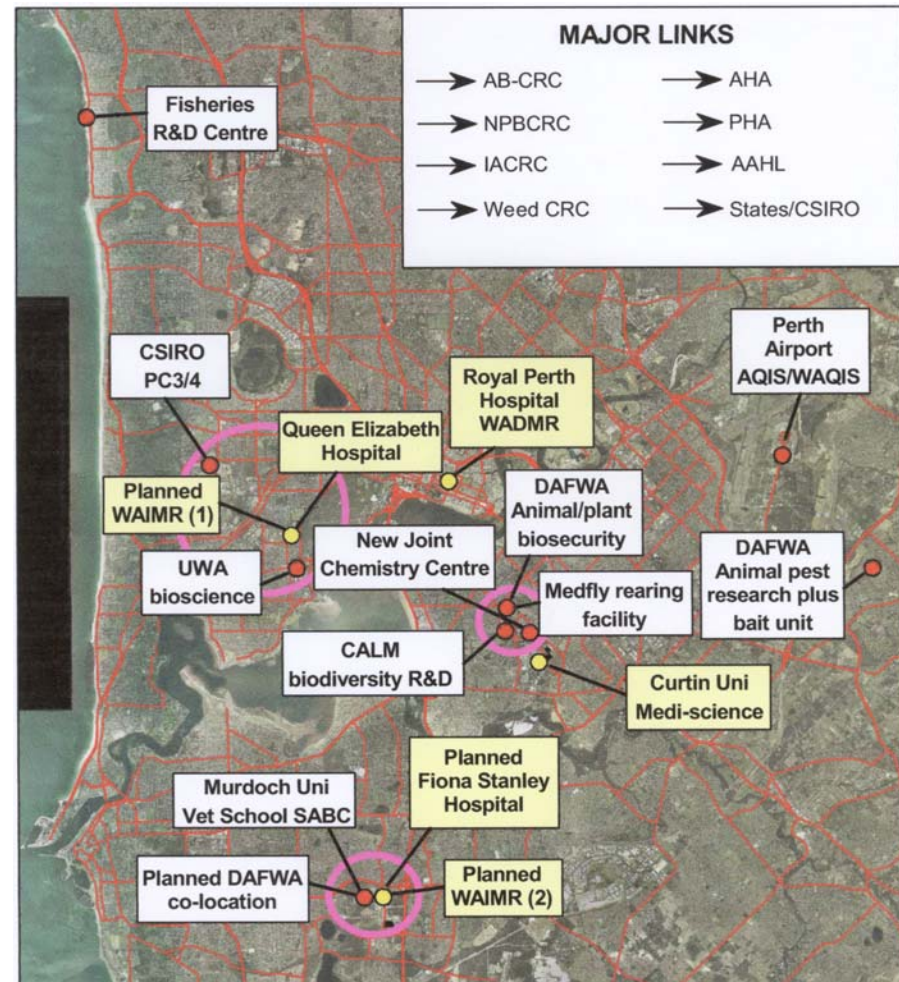
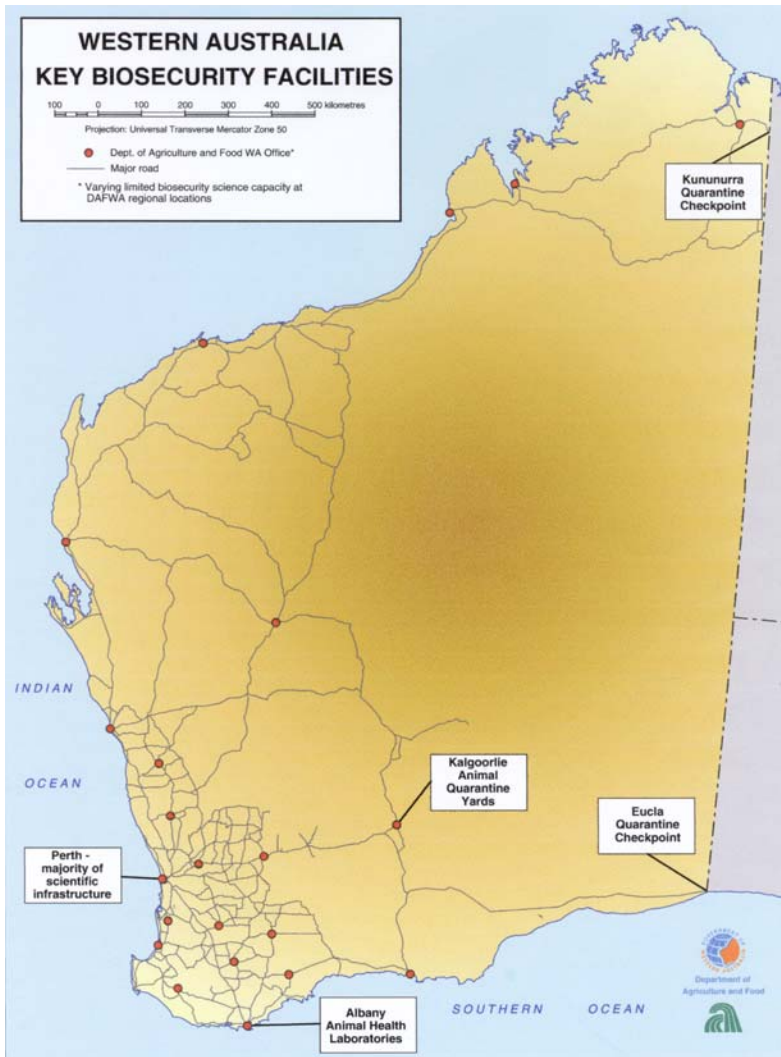
AAF - functional view



AAF - functional view



AREN – network reach



AREN – overlay services

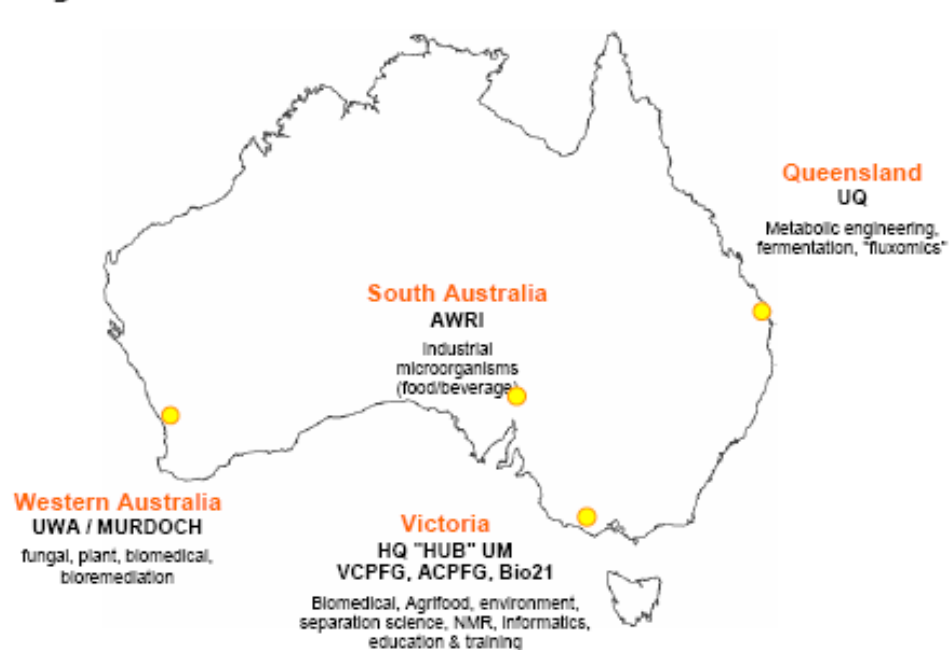
Figure 2. Genomics in BioPlatforms Australia



Figure 3. Proteomics in BioPlatforms Australia



Figure 4. Metabolomics in BioPlatforms Australia



Further development

- “On-net” needs to reach to an increasing range of organisations (Government agencies, medical institutes, ...)
- Some institutions will have higher bandwidth onto campus, some backbone links and tails may have to be upgraded
- On-campus infrastructure and access is becoming a limitation
- Policy conflicts have appeared between intentions and implementation



Three further needs

- A distributed compute infrastructure
 - Relatively tightly integrated (SSO)
 - Able to include shared and dedicated facilities
- A federated data environment
 - National reach (location independence)
 - Inter-operating authentication/authorisation
- Data source integration
 - Large instruments
 - Sensor networks

And able to expand over time (the hard bit)



Finally - the builders & the users

- Perhaps where e-Research happens now ...
Builders = Users
- So the challenge for e-Research uptake is to separate them
 - Services, Tools, Environments, Components, Software for the builders
 - Services and Tools for the users
- Expertise building
 - Training for the builders
 - User and consulting support for the users



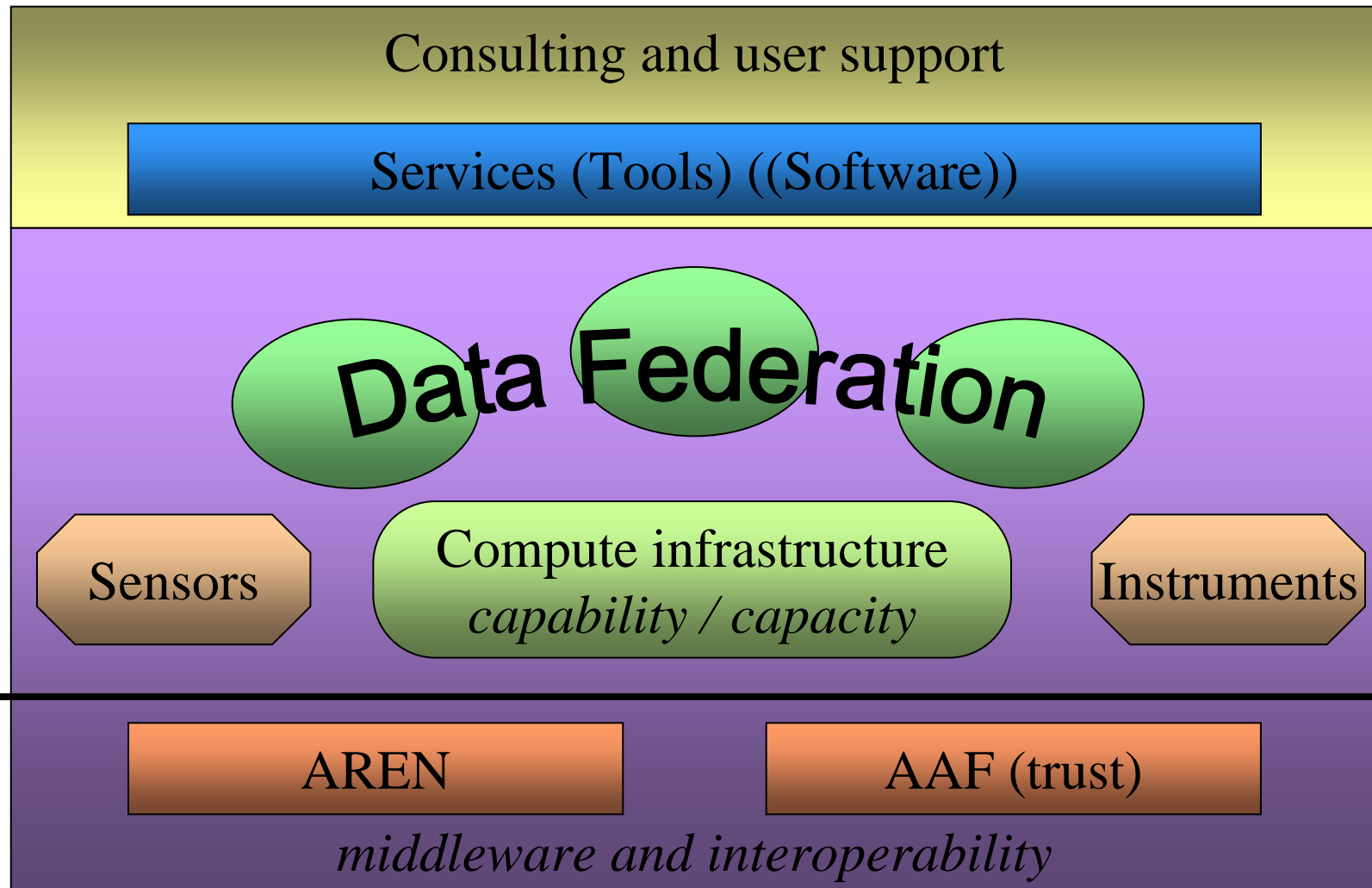
5.16 initial thoughts

eResearch Infrastructure

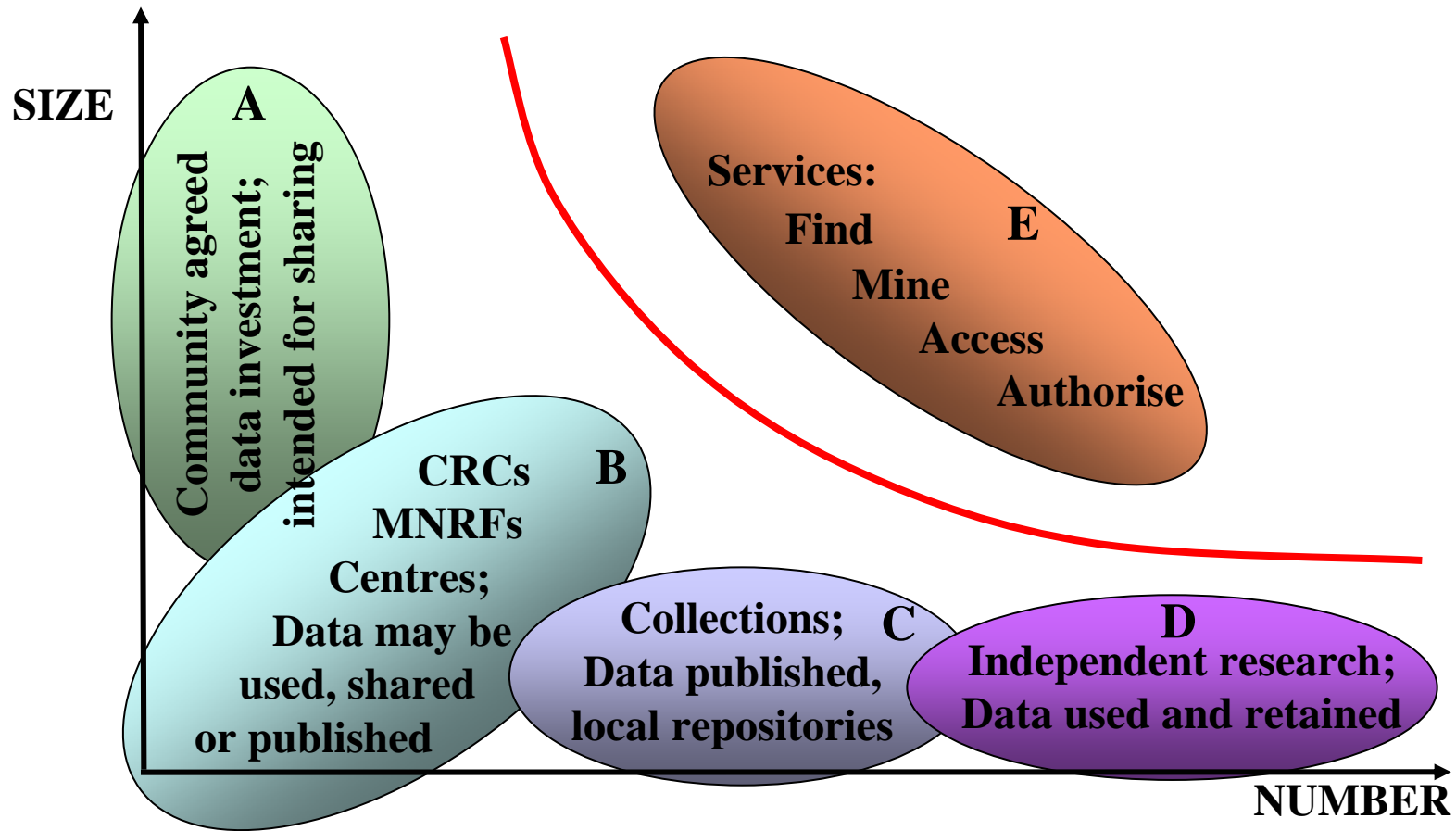
- eResearch Consulting
- The eResearch Trust Federation
- The National Data Collections Service
- The National Grid
- The National (Computing) Facility
- The Australian Earth Systems Science Facility
- Australian R&E Network



Further thinking



Data missions

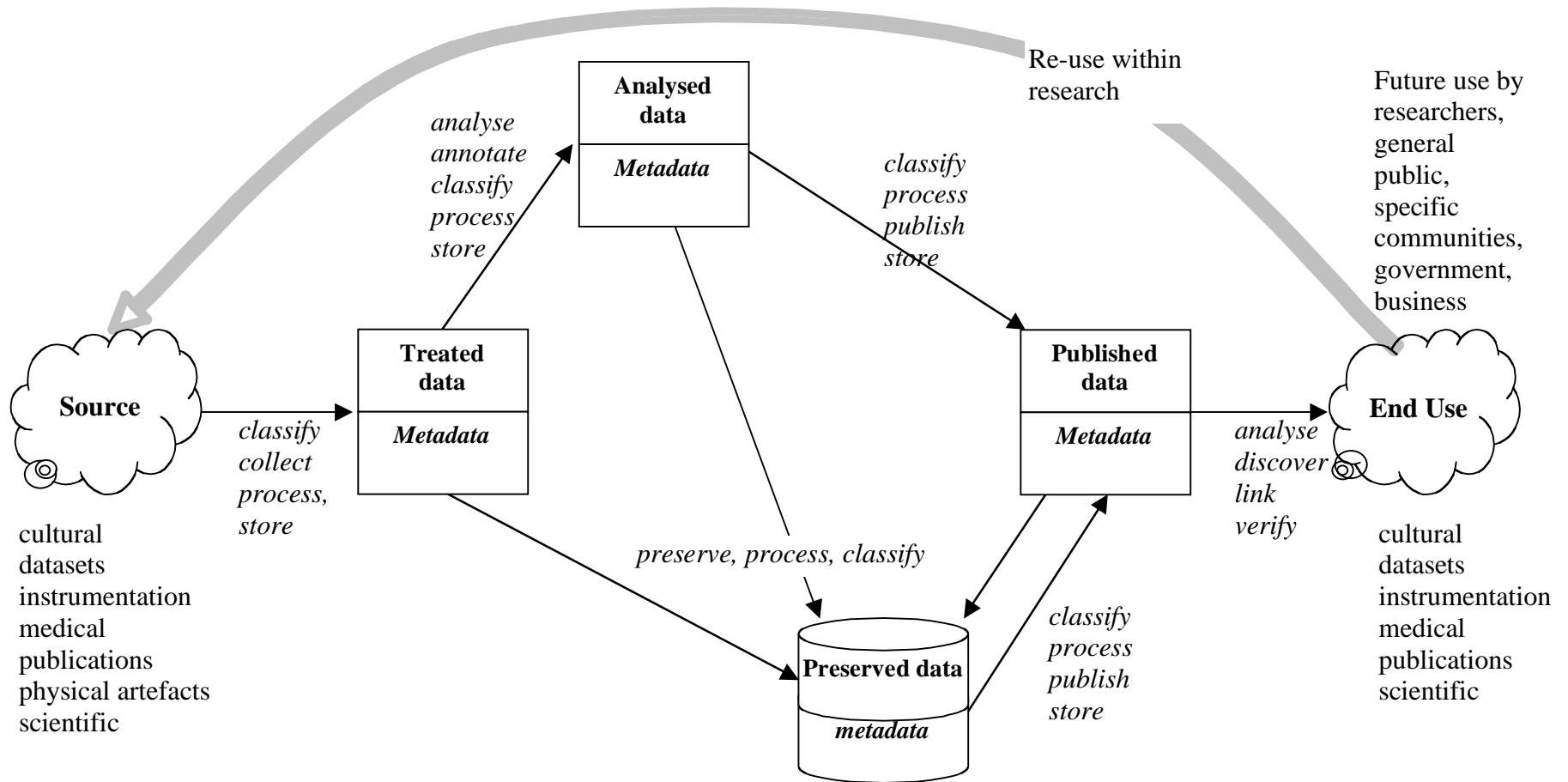


F Services: stores, repositories, tools, expertise

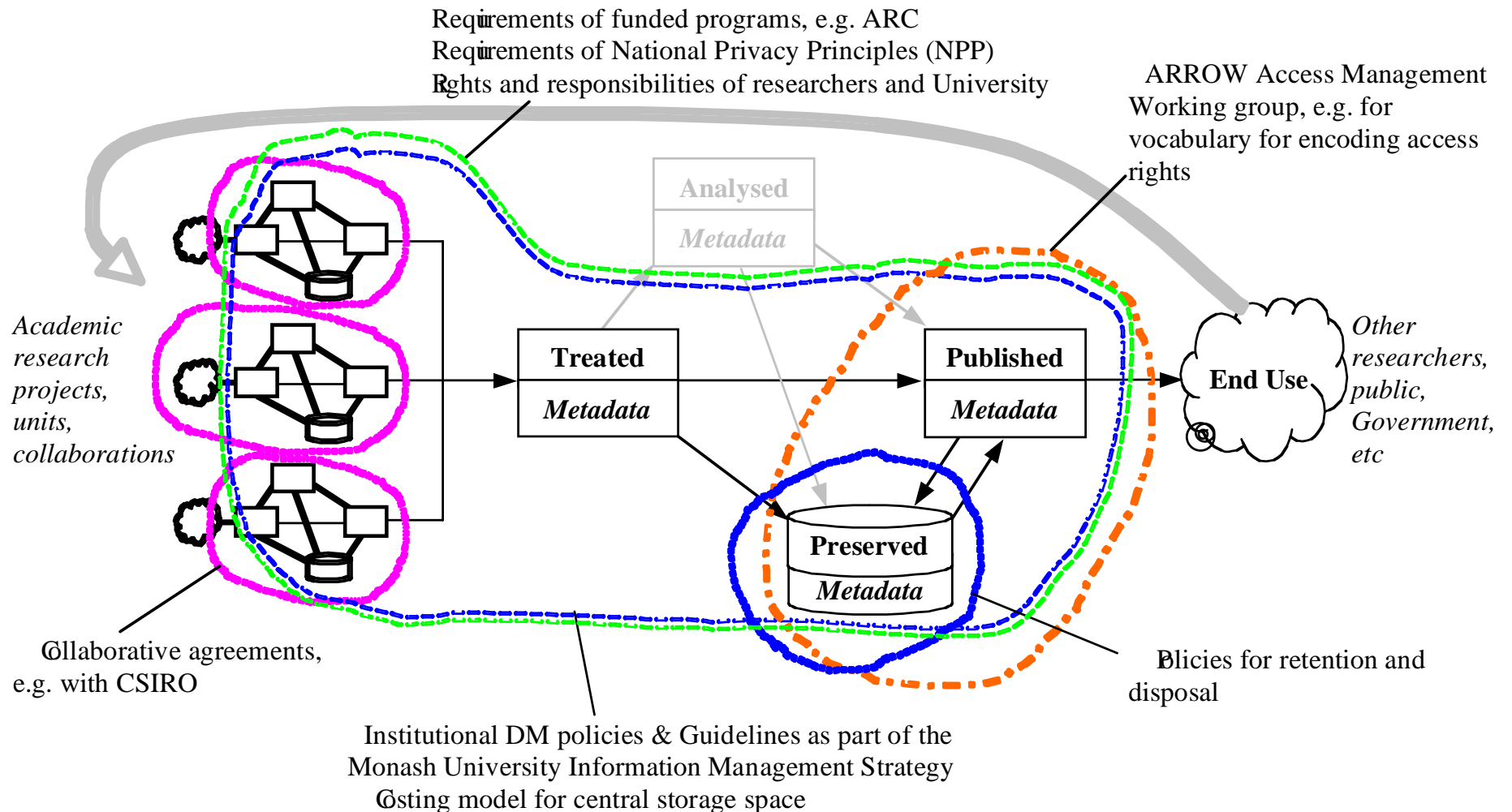
Data survey

Organisation/Project	ID
APAC National Facility	APACF
ATLAS Experiment	ATLAS
Australian Bureau of Statistics	ABS
Australian Science and Technology Heritage Centre, University of Melbourne	Austehc
BlueNet	BlueNet
Bureau of Meteorology	BOM
Centre for Cultural Research at the University of Western Sydney	CCR
Centre for Public Culture and Ideas, Griffith University	CPCI
Council of Australian University Librarians	CAUL
CSIRO	CSIRO
Geoscience Australia/Corporate Information Management and Access	GA
Institute of Molecular Bioscience – The University of Queensland	IMB
Melbourne Health – Molecular Medicine Informatics Model	MMIM
Molecular and Materials Structure Network	MMSN
Monash University	Monash
National Library of Australia	NLA
Radio and Optical Astronomy Research Capability	ROAR
Reserve Bank of Australia	RBA
Securities Industry Research Centre of Asia-Pacific	SIRCA
Sesame Scientific Data Management System, Bio21 Molecular Science and Biotechnology Institute	Sesame
Tasmanian Partnership for Advanced Computing	TPAC
The Australian Social Science Data Archive	ASSDA
University of Melbourne	MU
Victorian Partnership for Advanced Computing	VPAC

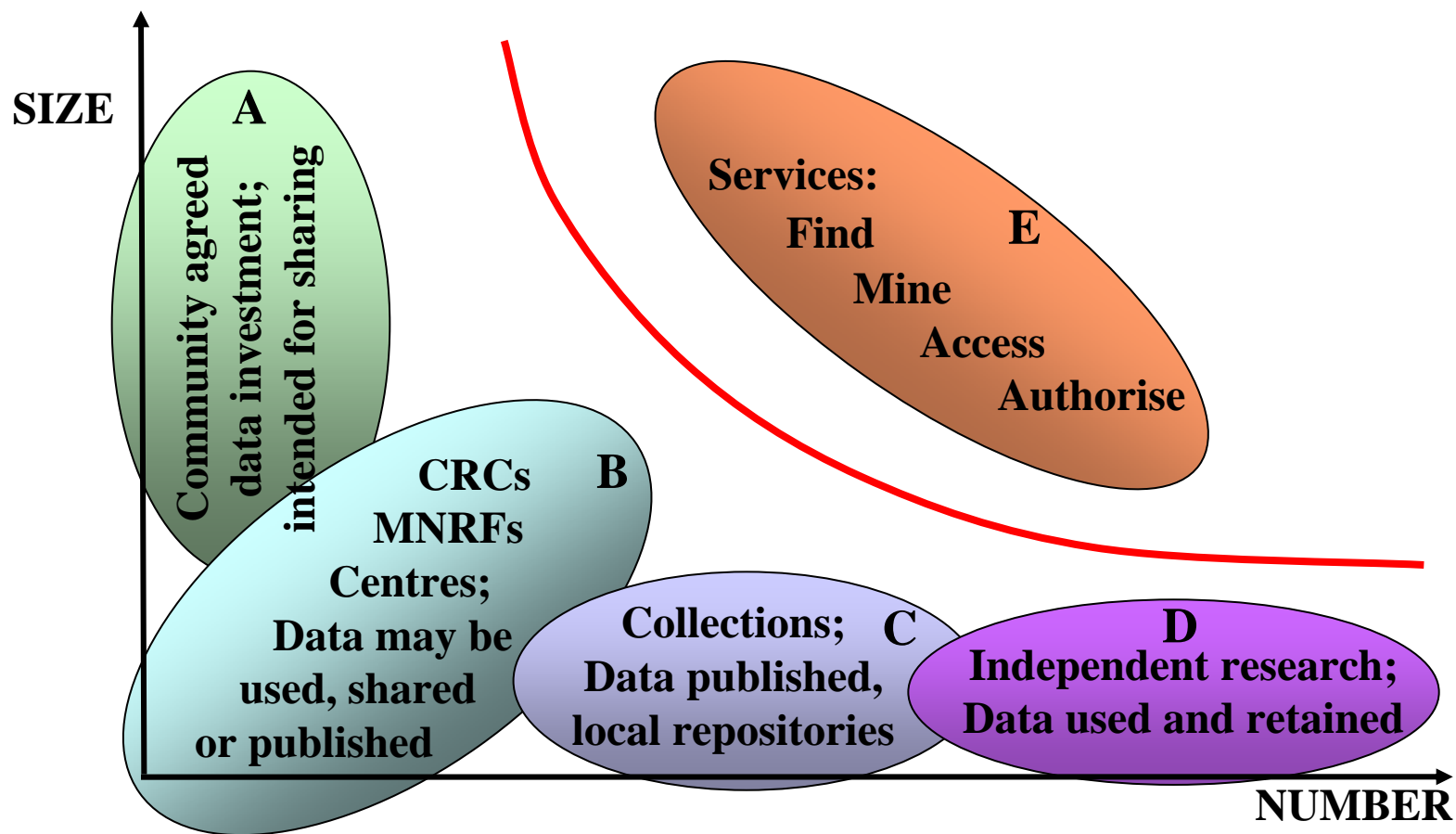
Life cycle model



Institutional model

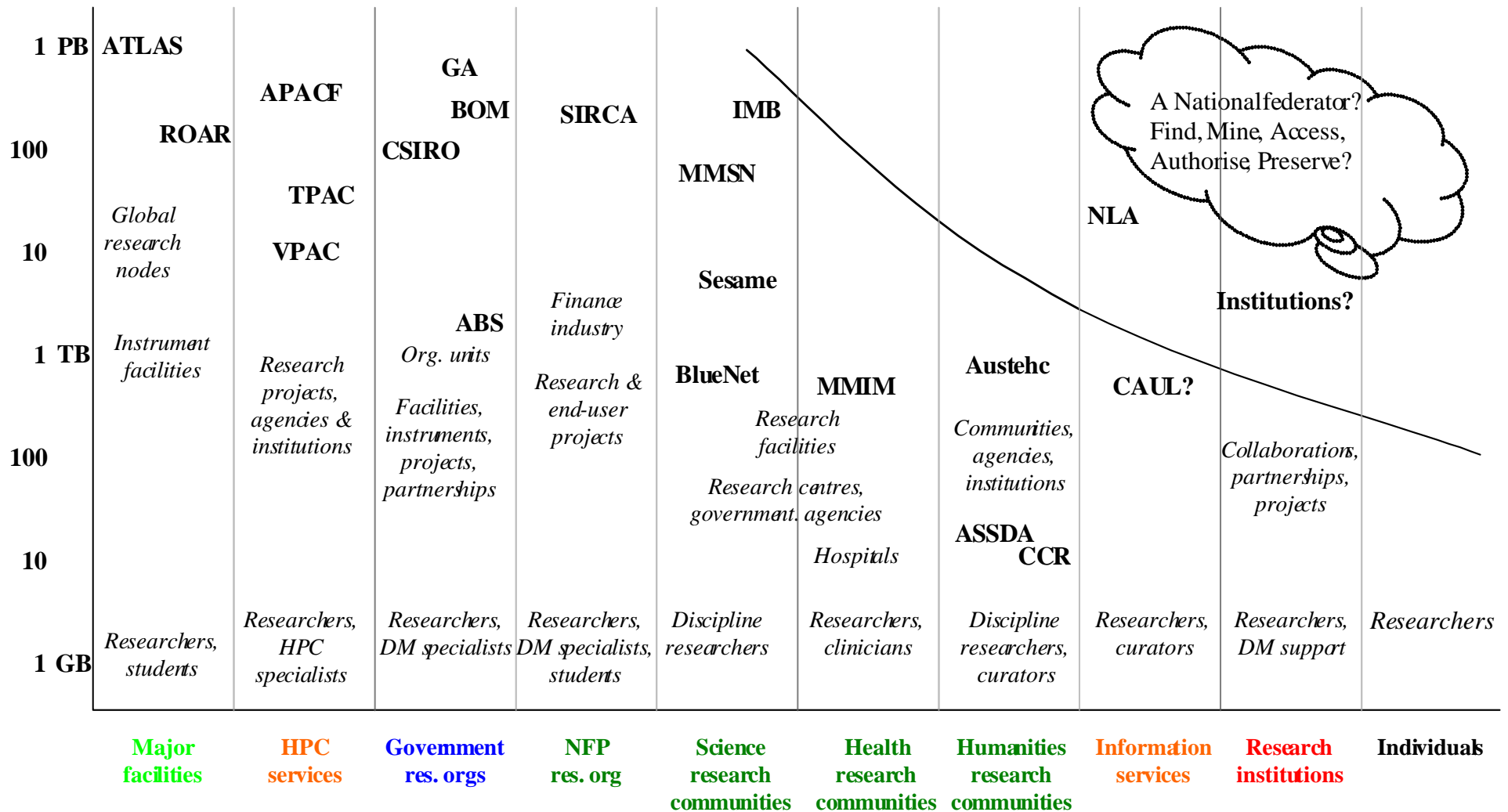


Data missions



F Services: stores, repositories, tools, expertise

Data management communities

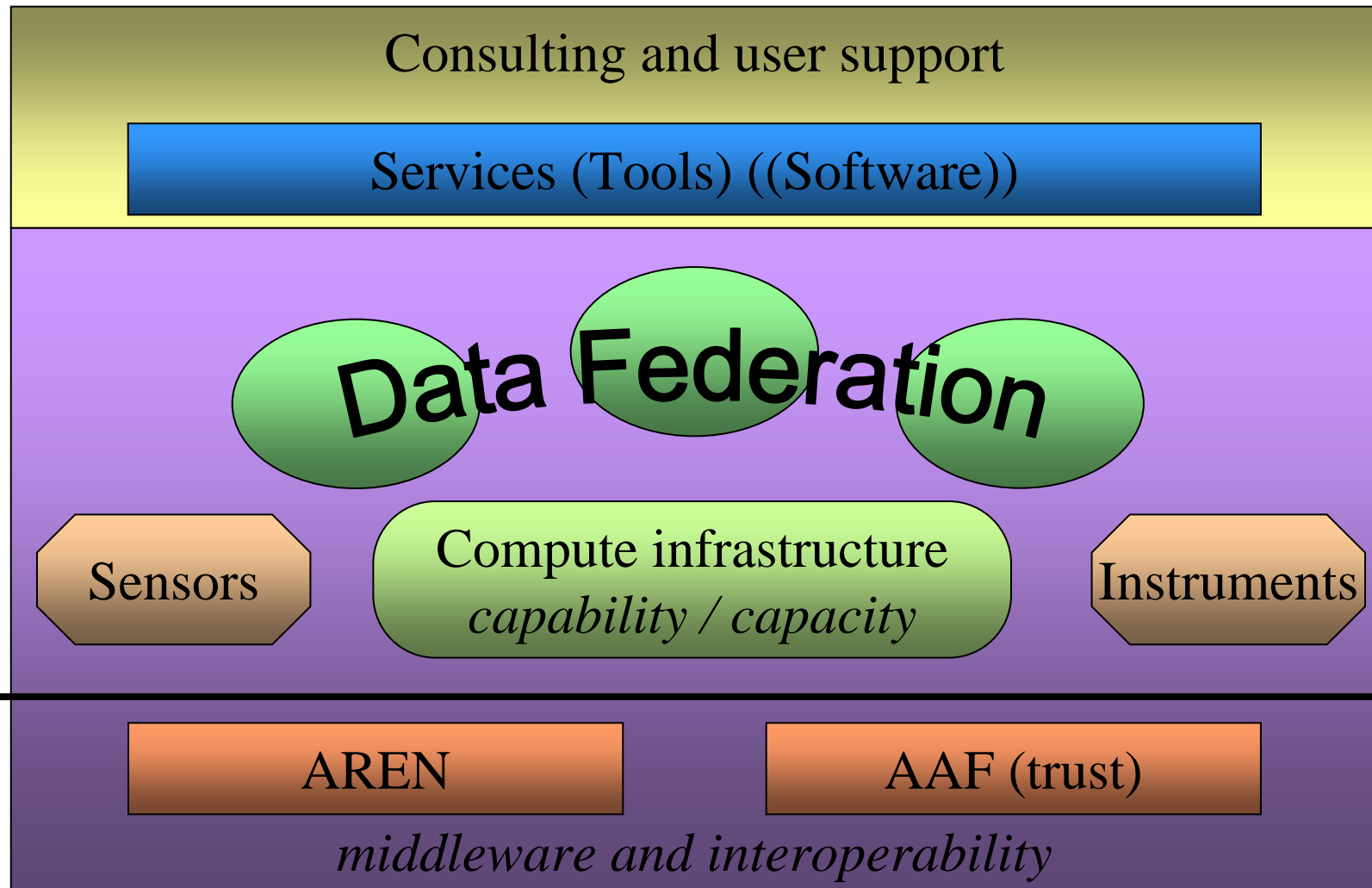


Possible data investments

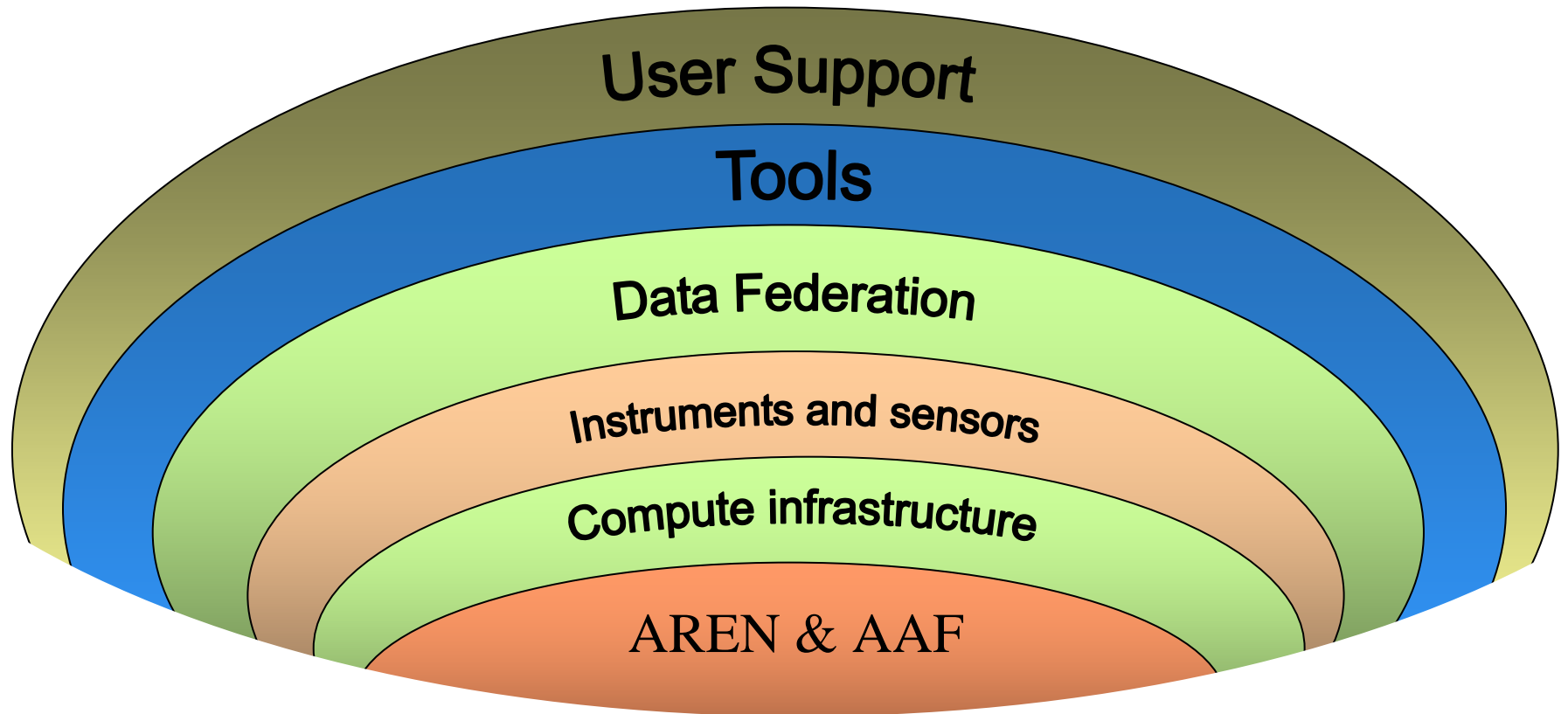
- Support on-going retention and access for important data sets (A,B)
- Support for collections by providing an enduring retention and access service for published data (C,D)
- Services that assist (all)
 - locating and linking data
 - moving and replicating data
 - data mining



Further thinking



5.16 and 5.13



Who supplies which part of what?
And what of the research institutions?





NCRIS

Platforms for Collaboration

Thank you!

