

# Forget 2020

## Building an Integrated AARNet Cloud Ecosystem in 2021

Gavin Kennedy – Manager AARNet Cloud Services

Dr Carina Kemp – Director AARNet eResearch Services

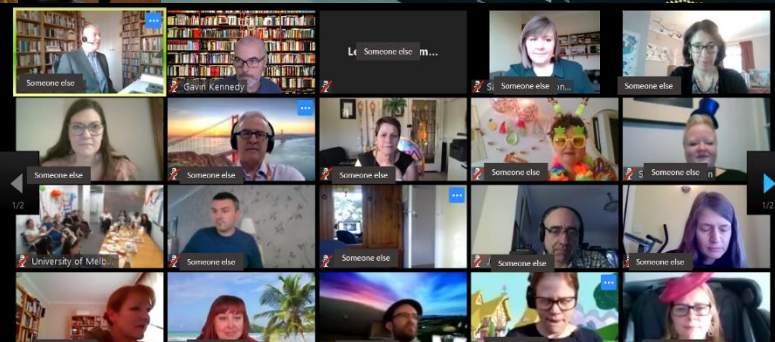
Brad Marshall – Technical Lead AARNet Cloud Services

26 January 2021

# AS THE MADNESS OF 2020 SWIRLED AROUND US



Research, education, communication and information have never been more important



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# AARNet CEO Chris Hancock honoured with Member of the Order of Australia (AM)

📅 JANUARY 26, 2021    📁 AARNET , MEDIA RELEASES    🏆 AUSTRALIA DAY HONOURS 2021

NEWS / AARNET / AARNET CEO CHRIS HANCOCK HONOURED WITH MEMBER OF THE ORDER OF AUSTRALIA (AM)

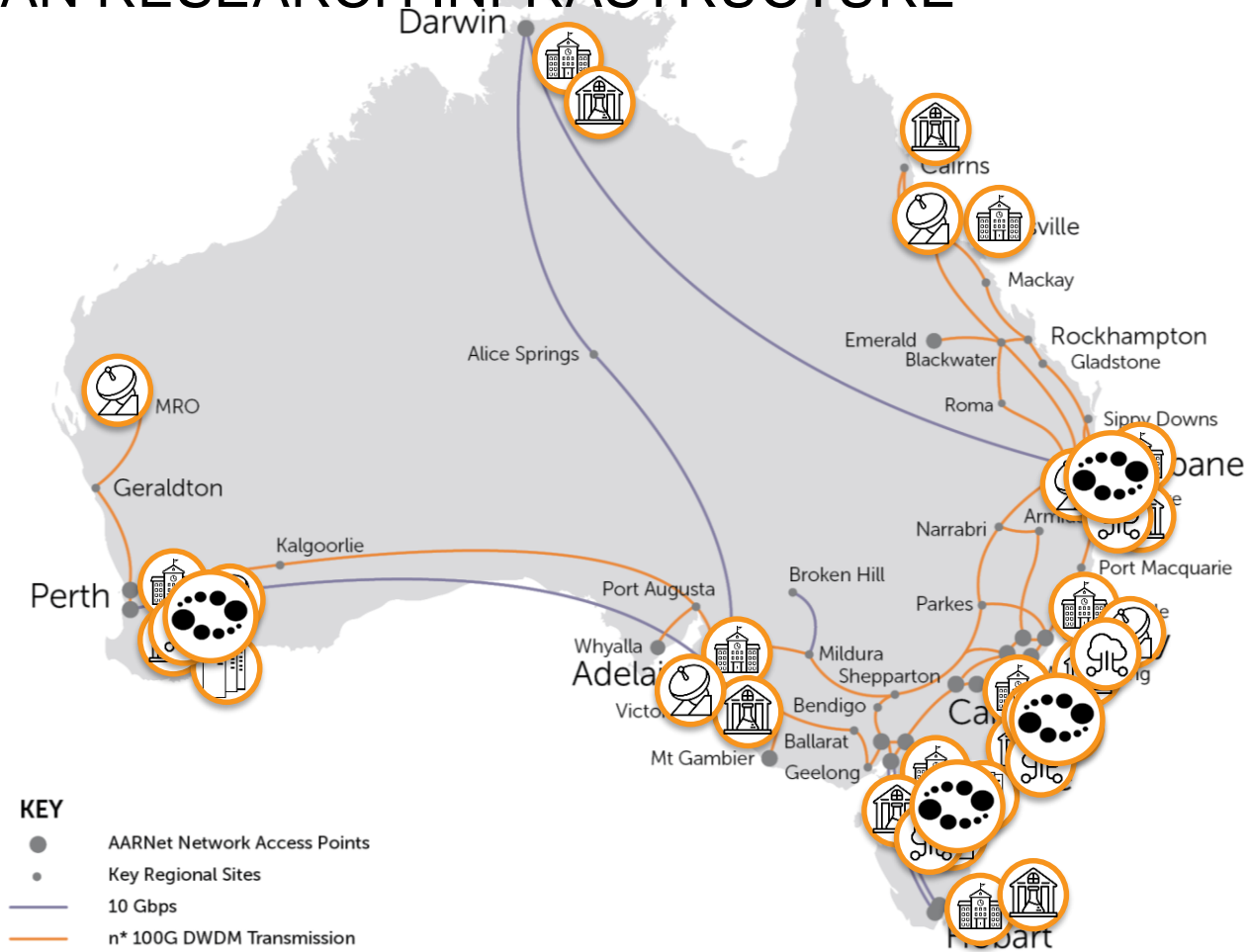
AARNet, Australia's Academic and Research Network, is proud to share the news that CEO Chris Hancock has been awarded a Member of the Order of Australia (AM) in the 2021 Australia Day Honours.

The accolade recognises Hancock's significant service to education and on-line research networks, and to Australia-USA relations.



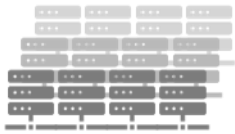
"I'm proud and humbled to receive this acknowledgment," said Hancock.

# AUSTRALIAN RESEARCH INFRASTRUCTURE



# Increased demand and technology improvements are leading to new eResearch infrastructure services

Growth in hyperscale cloud services



Multi cloud and hybrid cloud



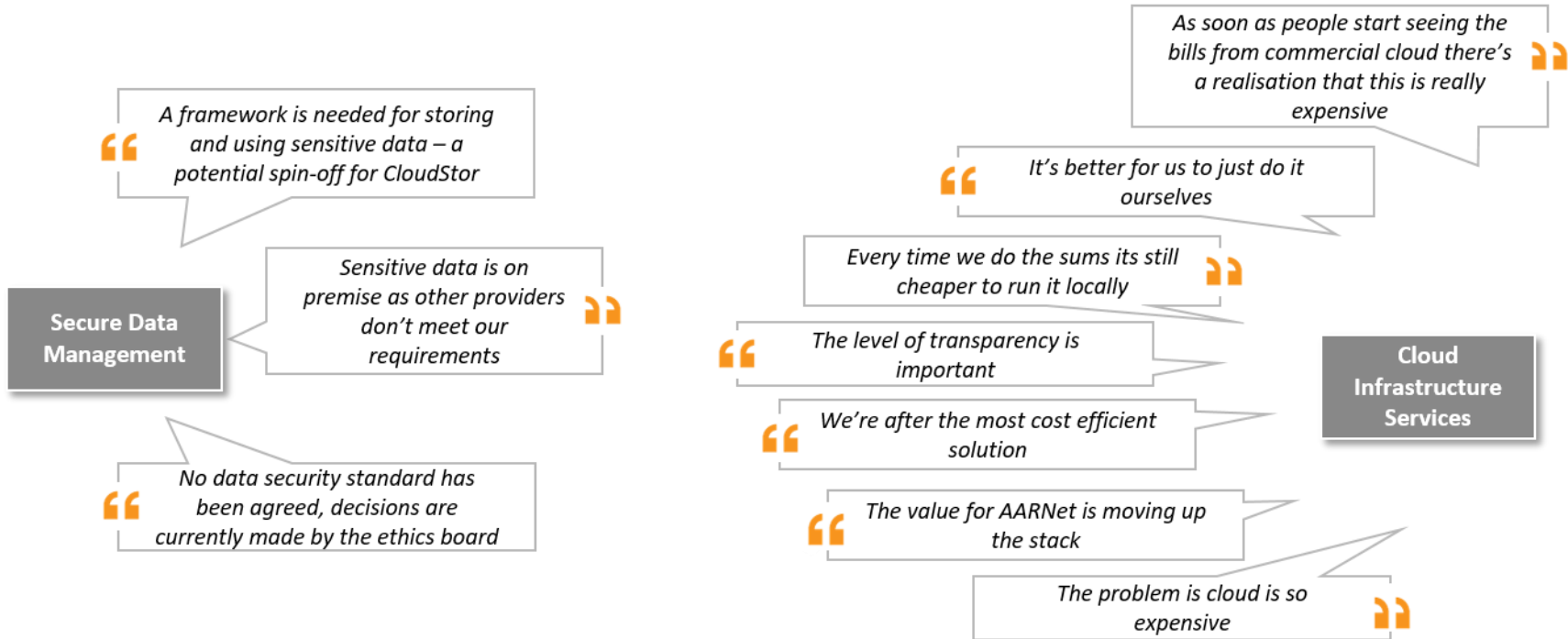
Increased uptake of Software & Platforms as a Service



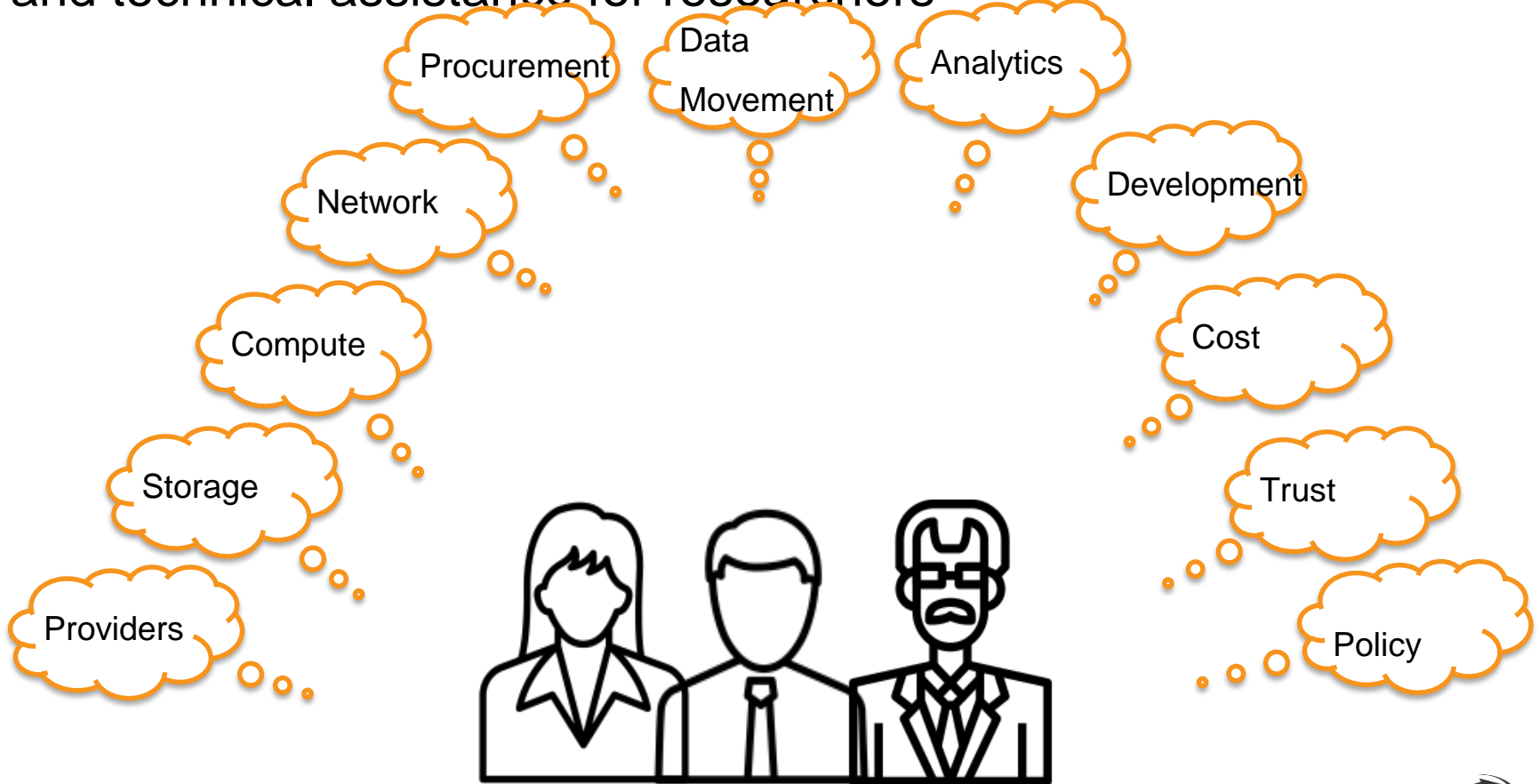
Exponential growth in storage requirements



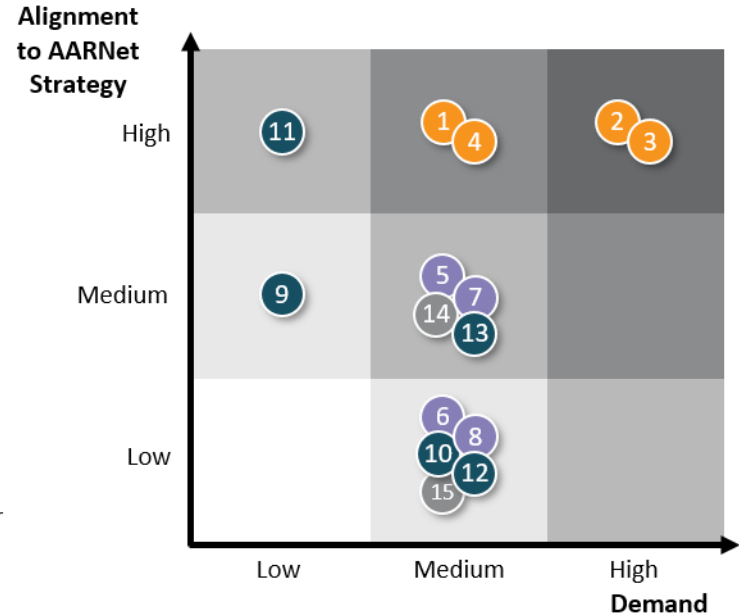
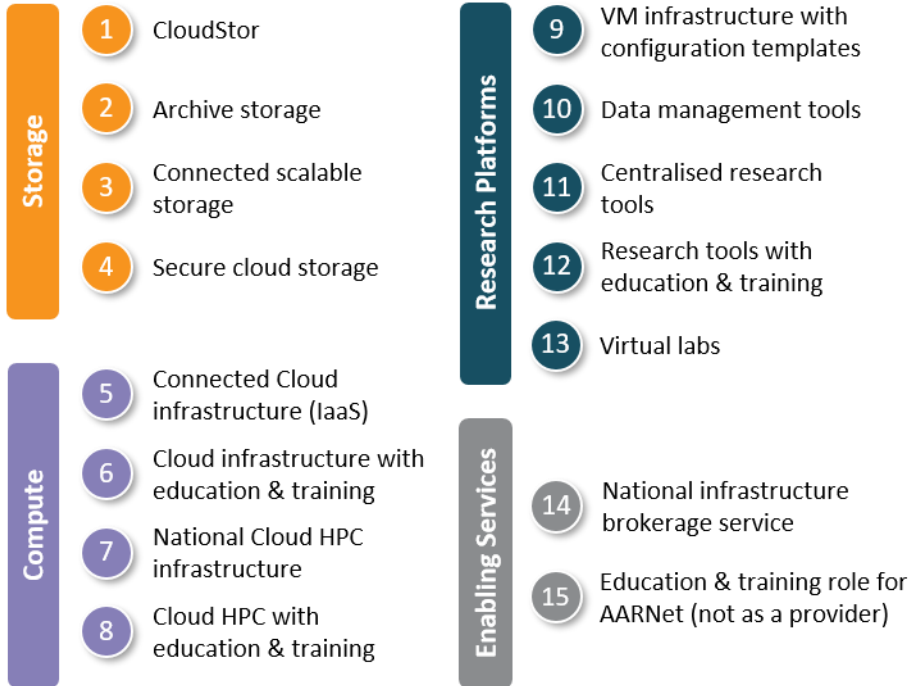
# Interviews with institutions identified similar research infrastructure issues and requirements



# Overall, institutions juggle high cost, infrastructure over solutions and technical assistance for researchers

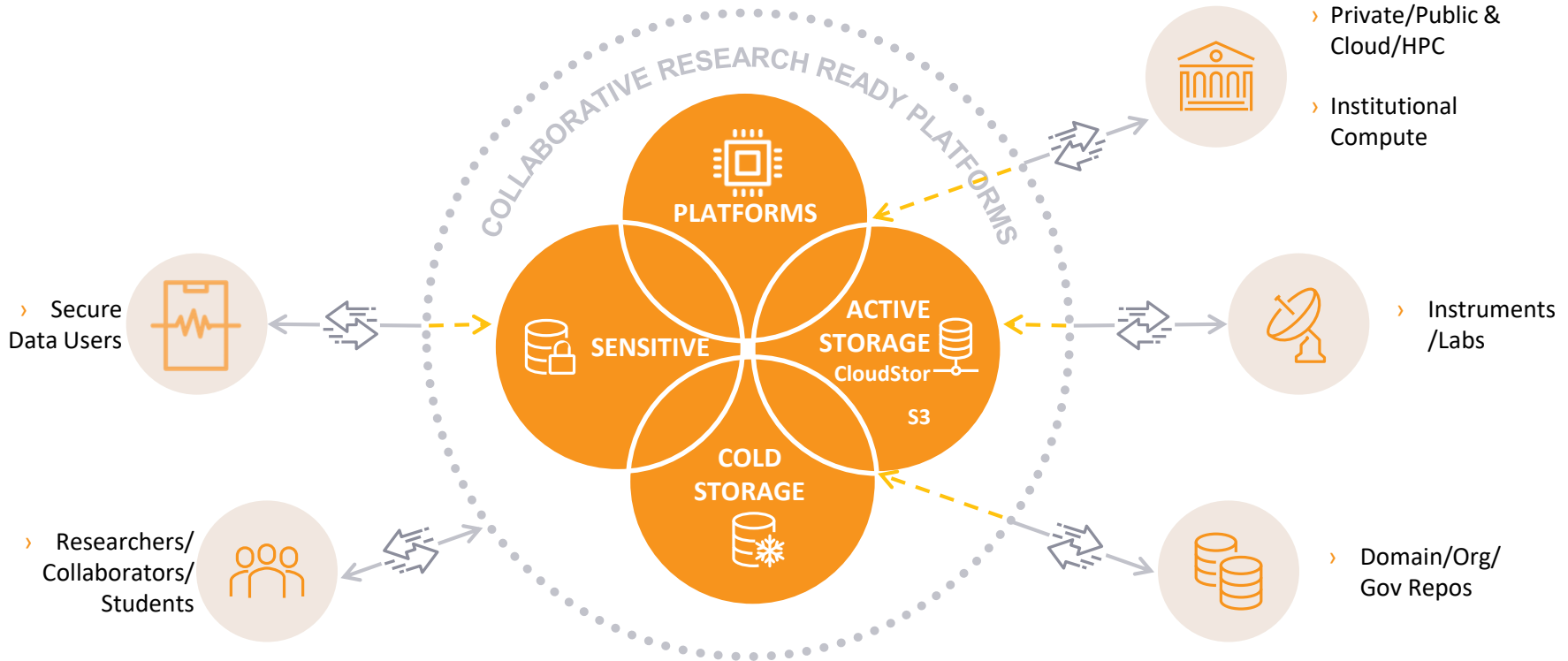


# 15 Potential services were identified and assessed based on demand and alignment to AARNet strategy



# AARNET CLOUD ECOSYSTEM

Evolving AARNet's Cloud Services to meet the needs of its community



# Delivery Targets

## Platforms

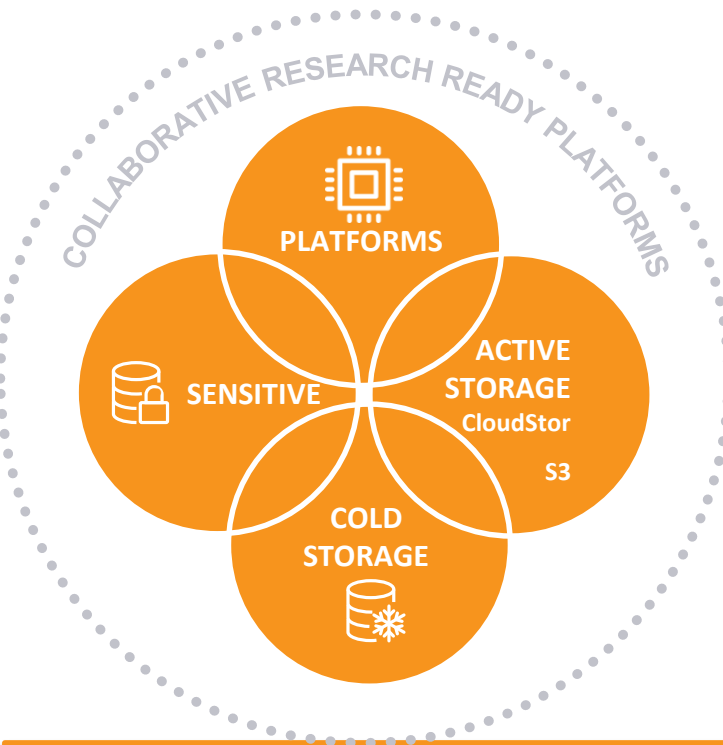
Partnering to deliver sustainable/robust Research Platforms on PaaS+

- › Cluster based PAAS infrastructure
- › Partner for research platform operation
- › Support: Research Community, Institutions, Facilities (bioinformatics, marine, HASS)
- › Value: Active partnership in Research Infrastructure Deliver

## Sensitive Data

A secure, data sharing and collaboration environment

- › EFSS based with “constraints” & increased security.
- › Independent infrastructure & networks, MFA, ISO-27001.
- › Support: Universities, Medical Research Institutions, Health Services
- › Value: Trusted, secure, reliable data collaboration service



## Data Mover

Moving user data where they need it, fast, reliably and securely

- › Pilot of Globus point to point with customers.
- › Investigate CloudStor integration.
- › Separate out FileSender as a stand alone service.
- › Support: Universities/institutions large data movement, sharing.
- › Value: Fast, reliable, secure, repeatable data flows.

## Active Storage

Delivering a scalable, high performance CloudStor

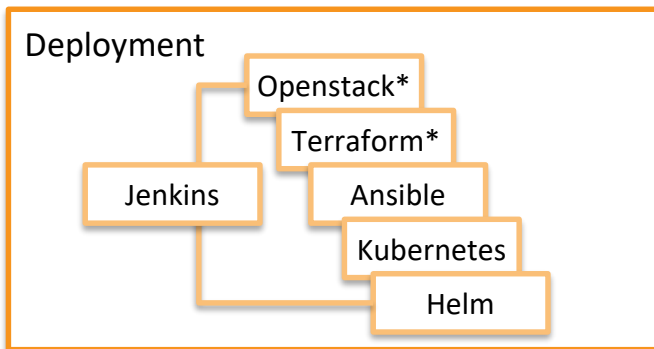
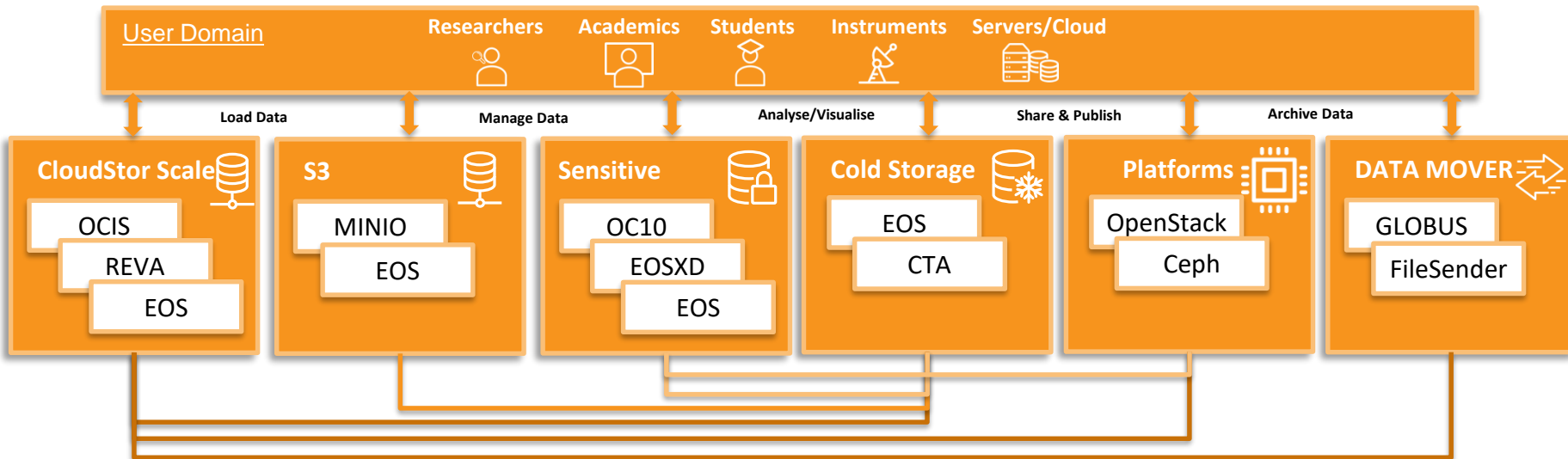
- › CloudStor re-engineered to OCIS (Phoenix-REVA-EOS) model
- › Incorporate new features/user feedback
- › Integrate with customer systems/NCI/Pawsey/ARDC/ARE
- › Support: Research Community, Institutions requiring large data stores, instrumentation.
- › Value: Quality of Service, scalability, integrations

## Cold Storage

A secure, long term and low cost data storage service for low usage research data

- › Deploy CTA with geographic replication, full encryption, ISO27001 certification
- › Implement customer facing gateways and integrate with CloudStor/SDS
- › Support: Universities/institutions for backup & archive AAS, legislative requirements.
- › Value: Secure, trusted, fixed cost, ease of access (FAIR)

# The Ecosystem – In Context



\* Platforms & QA Cluster Only

# AARNET CLOUD SERVICES 2021 ROADMAP

## DELIVERY TIMETABLE FOR AARNET'S ECOSYSTEM OF RESEARCH CLOUD SERVICES

**AARNet is delivering a comprehensive cloud ecosystem - at the core of connecting Australia's research, academic and cultural data.**

**An extension of a university's IT infrastructure, ready to use, on their network.**

### Design Principles

- › Ease of Use
- › Consistent
- › Endurance
- › Reliability
- › Scalable
- › Performance
- › Trusted & Secure
- › Cost Effective
- › SUSTAINABILITY



#### CloudStor/s3

Easy data storage and research collaboration.

**Available Now**



#### Data Mover

Services to improve the reliability of large data transfers and leverage bandwidth.

**Available: Q2 2021**



#### Platforms

Managed vanilla VMs for IT and research community services.

**Available: Q2 2021**



#### Sensitive

Controls for managing and collaborating on sensitive data.

**Available: Q3 2021**



#### CloudStor Upgrade

Delivering a scalable, high performance CloudStor upgrade.

**Available: Q3 2021**



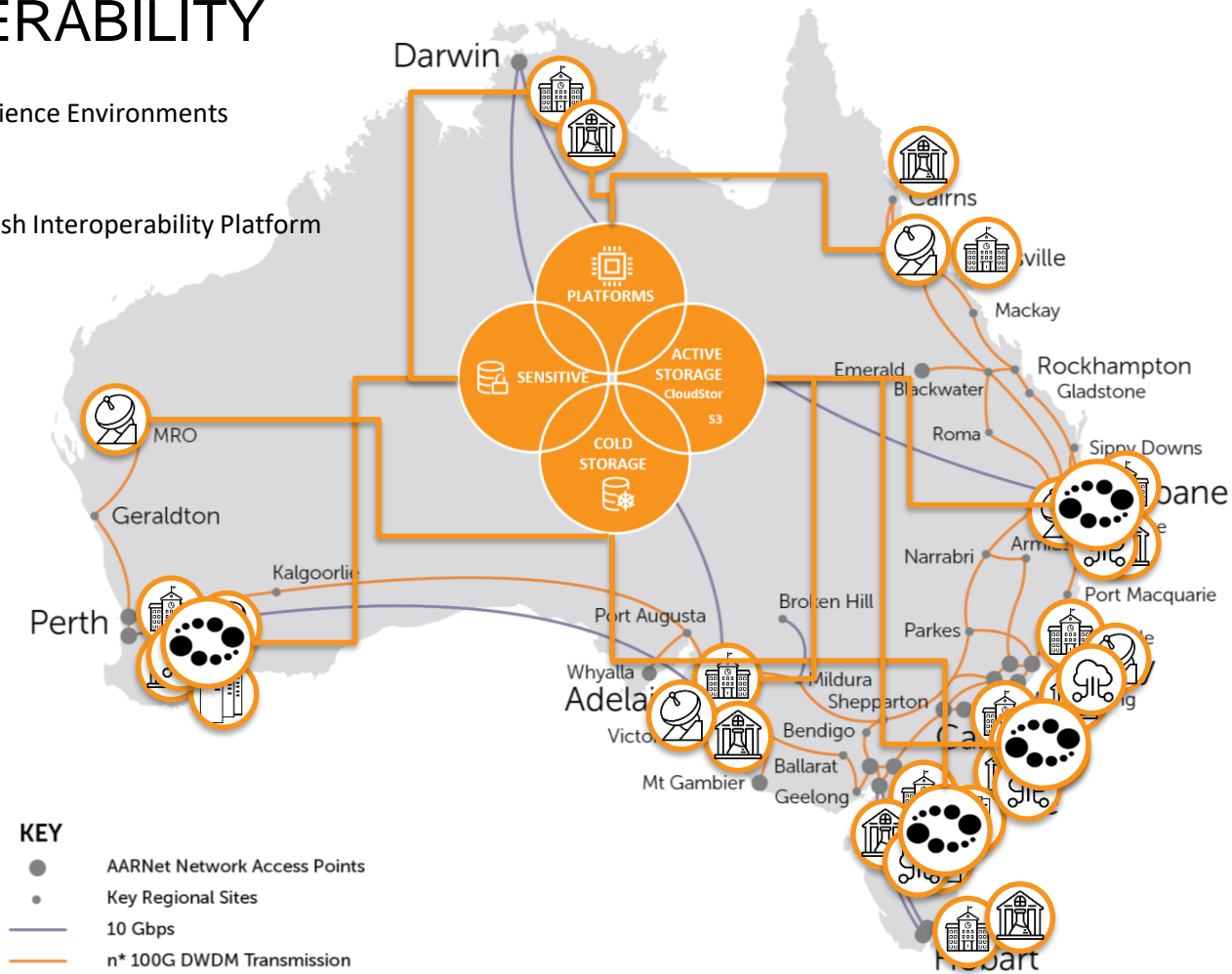
#### Cold Storage

Long term tape based cold storage for valuable data.

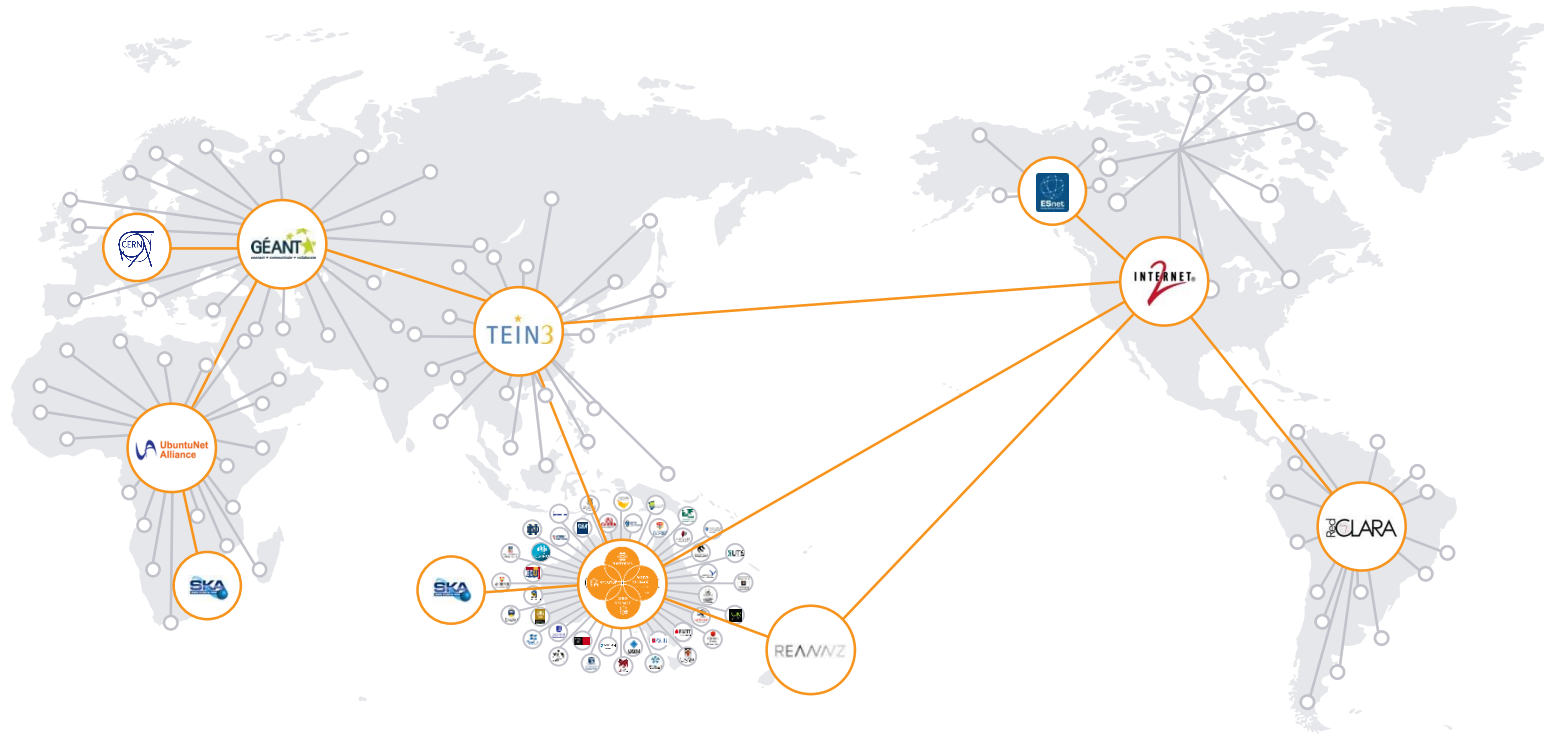
**Available: Q3 2021**

# INTEROPERABILITY

- Distributed Data Science Environments
- Via CS3APIs
- And the ScienceMesh Interoperability Platform



# International connectivity and interoperability





Thank you