

BINDING THE UNIVERSE TOGETHER

IWSG-A

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DIGITAL DISRUPTION

Education and research are increasingly **digitally facilitated and dependent**

- Research: Big data, instruments, sharing, collaboration, digital artifacts ...
- Education: Blended, online, MOOCs, virtual classrooms ...

Connectivity is the fundamental disruptor

- The Internet, mobility, international education

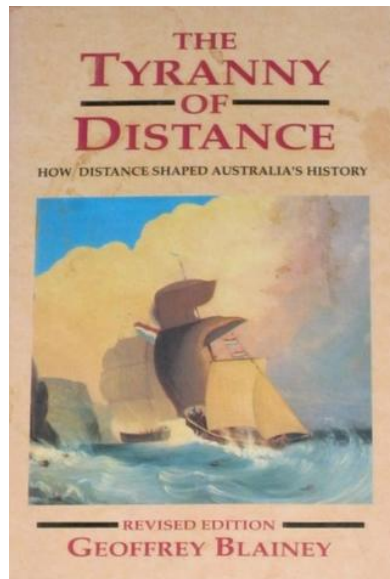
National Research and Education Networks are national assets that **remove technical and commercial barriers to innovation** in education and research

- Particularly for regional institutions, campuses and facilities

AARNet is Australia's NREN

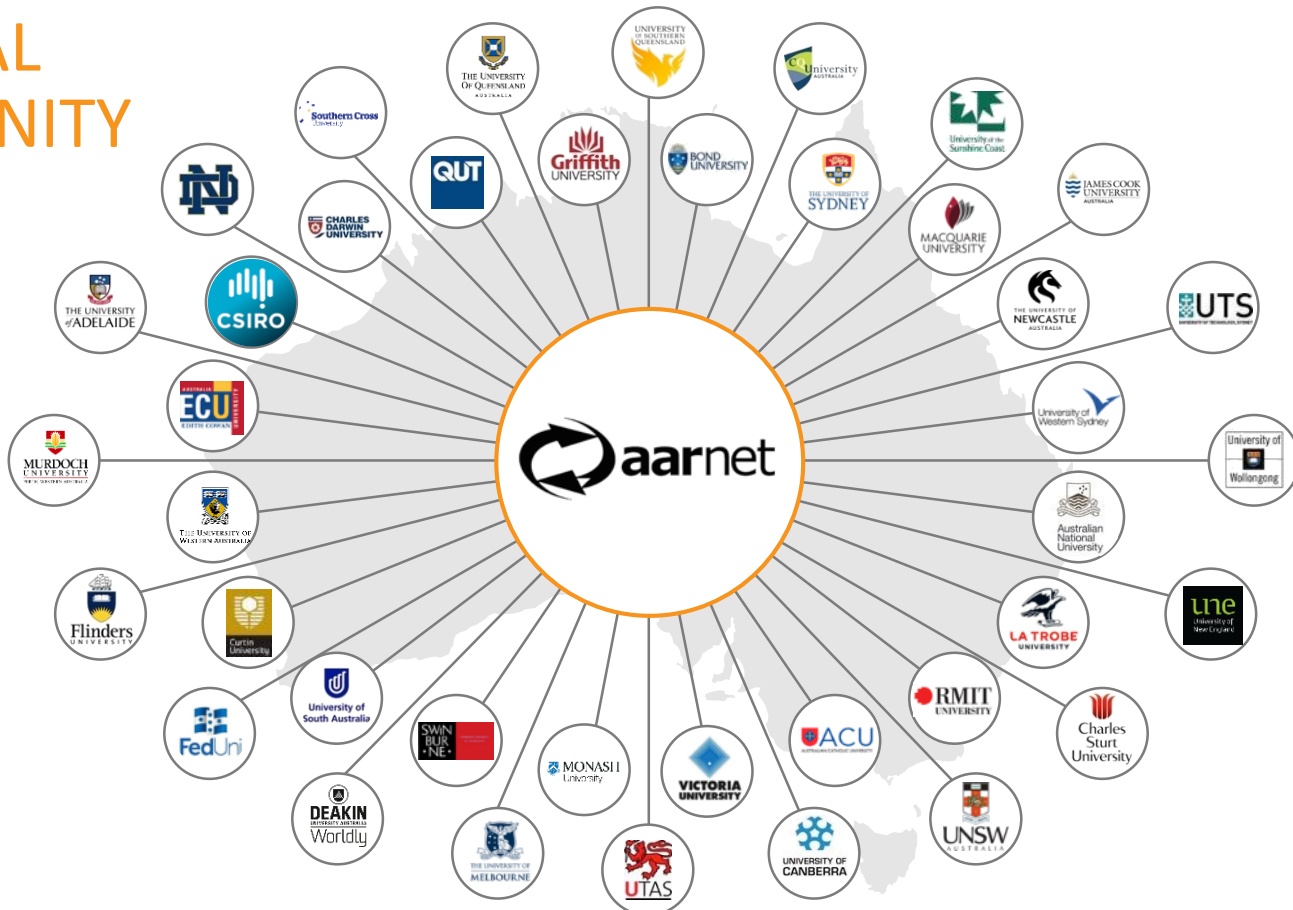
AARNET'S MISSION

**To provide
telecommunications
and related networked
services to the Australian
research and education
sector which the market does
not provide, or does not
provide at a reasonable price**

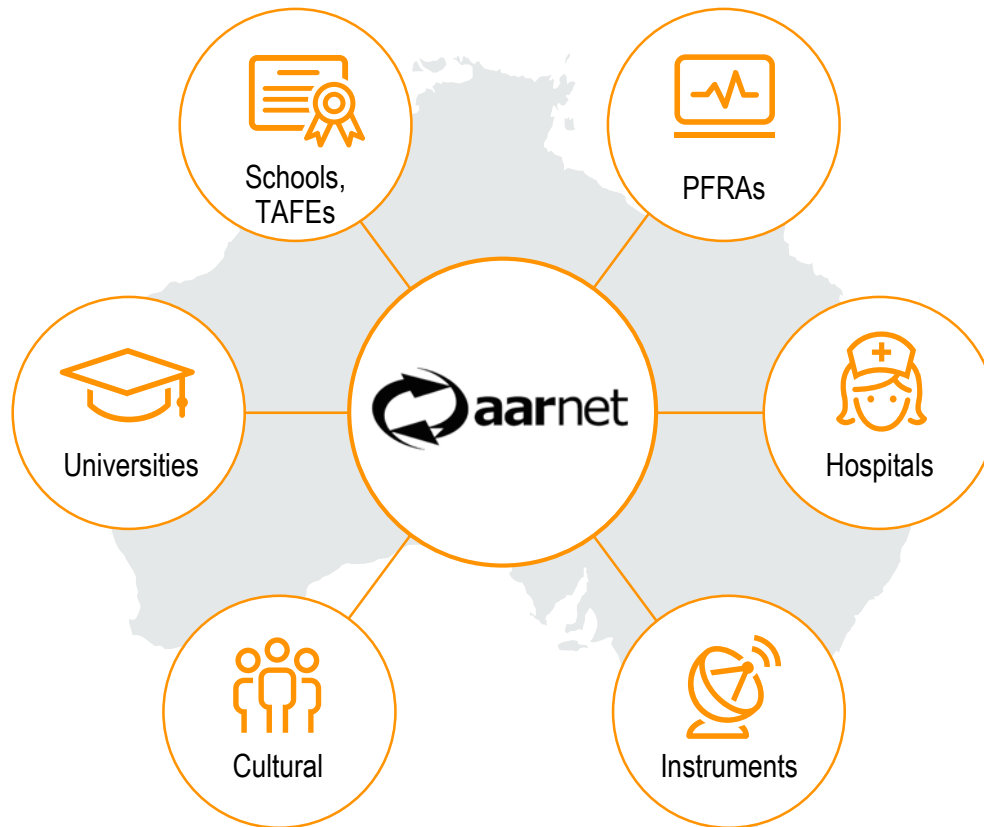


**Australia is critically
dependent on networking
because of both our location
and distributed population**

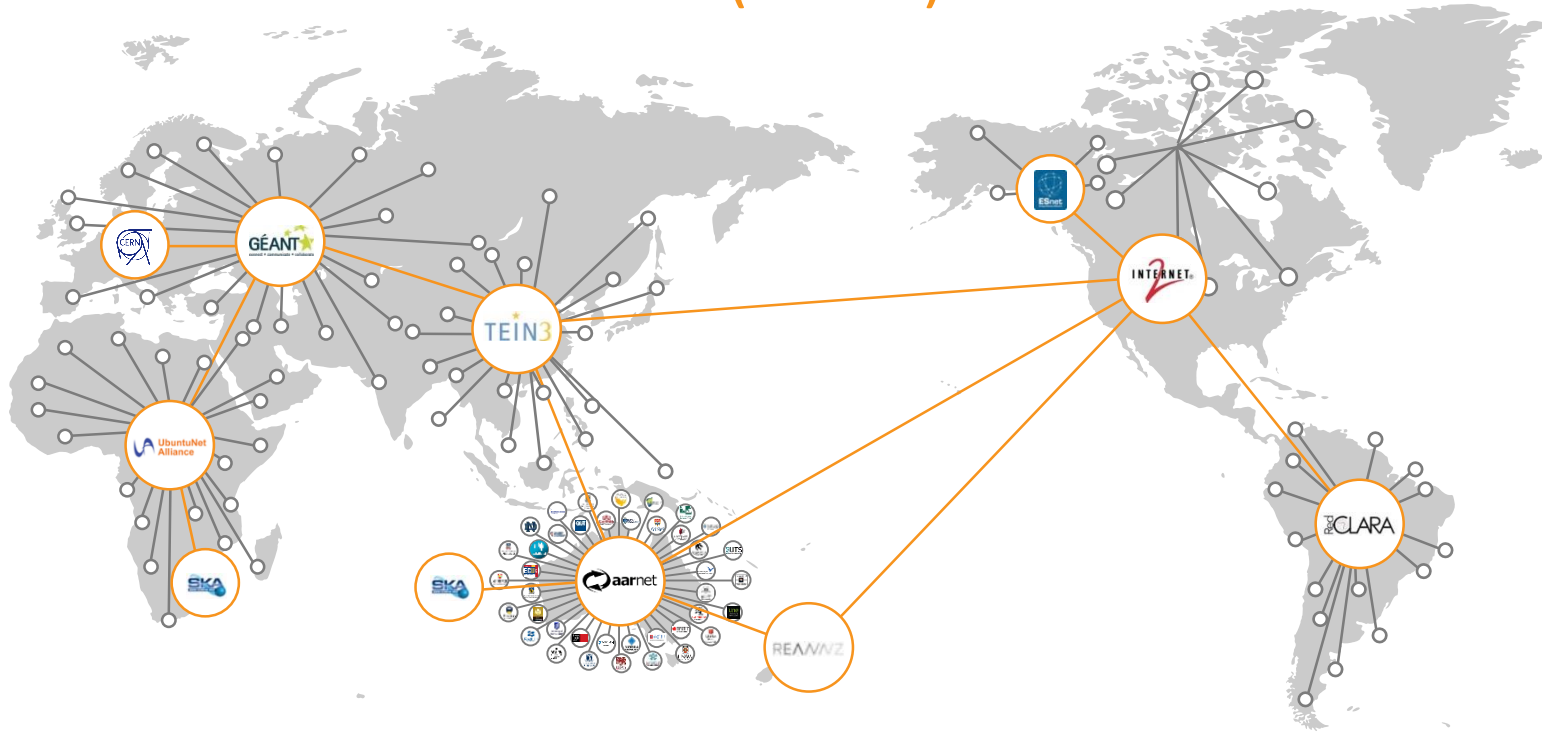
NATIONAL COMMUNITY



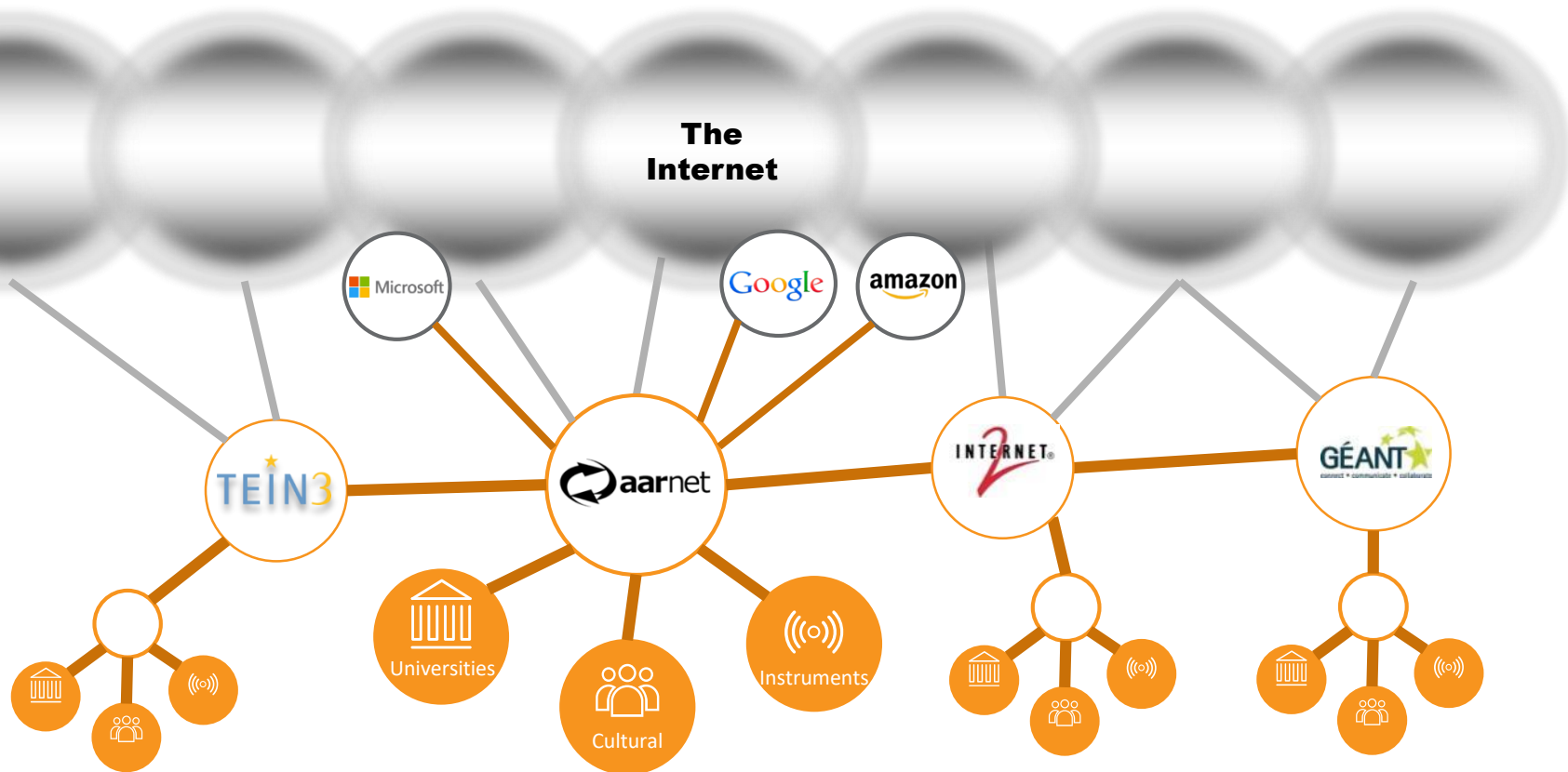
OF COMMUNITIES



INTERNATIONAL NATIONAL RESEARCH AND EDUCATION NETWORK (NREN) COMMUNITY



THE INTERNET AND NRENS



WHY THIS MATTERS



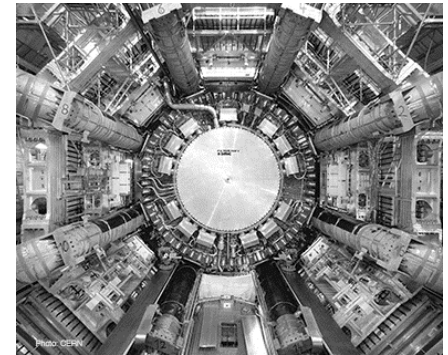
Genomic sequencing
transforming lives

Modelling the
impact of climate
change



Building the square
kilometre array

Facilitating high energy
physics experiments on
a global scale

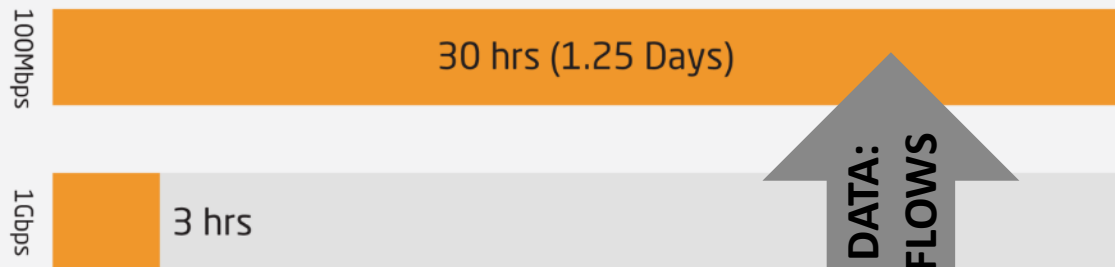


NOONE WANTS TO TALK NETWORK ... DATA, DATA, DATA

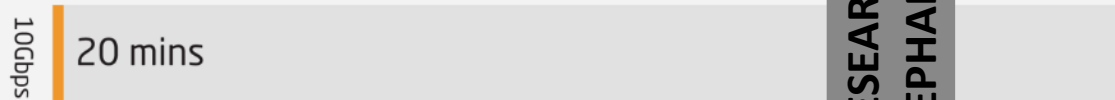
How long does it take to transfer 1 Terabyte of data across various speed networks?



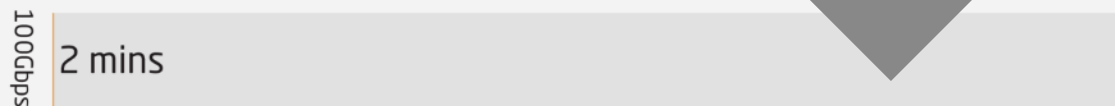
Campus connections
to researchers and
instruments



AARNet Connection
to University



AARNet Backbone



(Note: Actual speeds may vary for a range of infrastructure reasons)

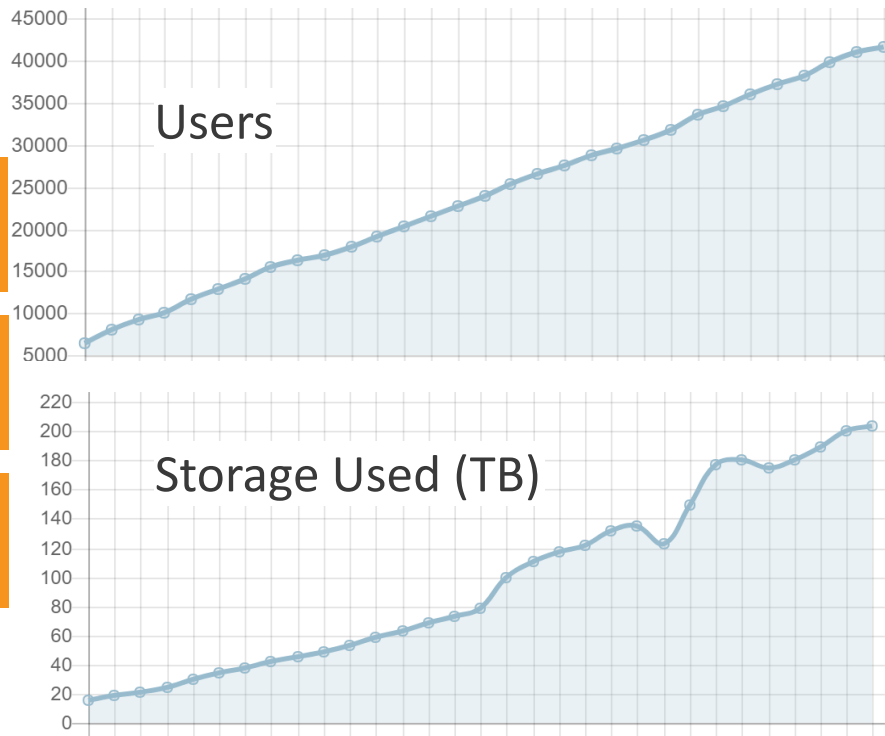
RESEARCH DATA:
ELEPHANT FLOWS

CLOUDSTOR

Users
41,500+

Domains
280+

Storage Used
203 TB

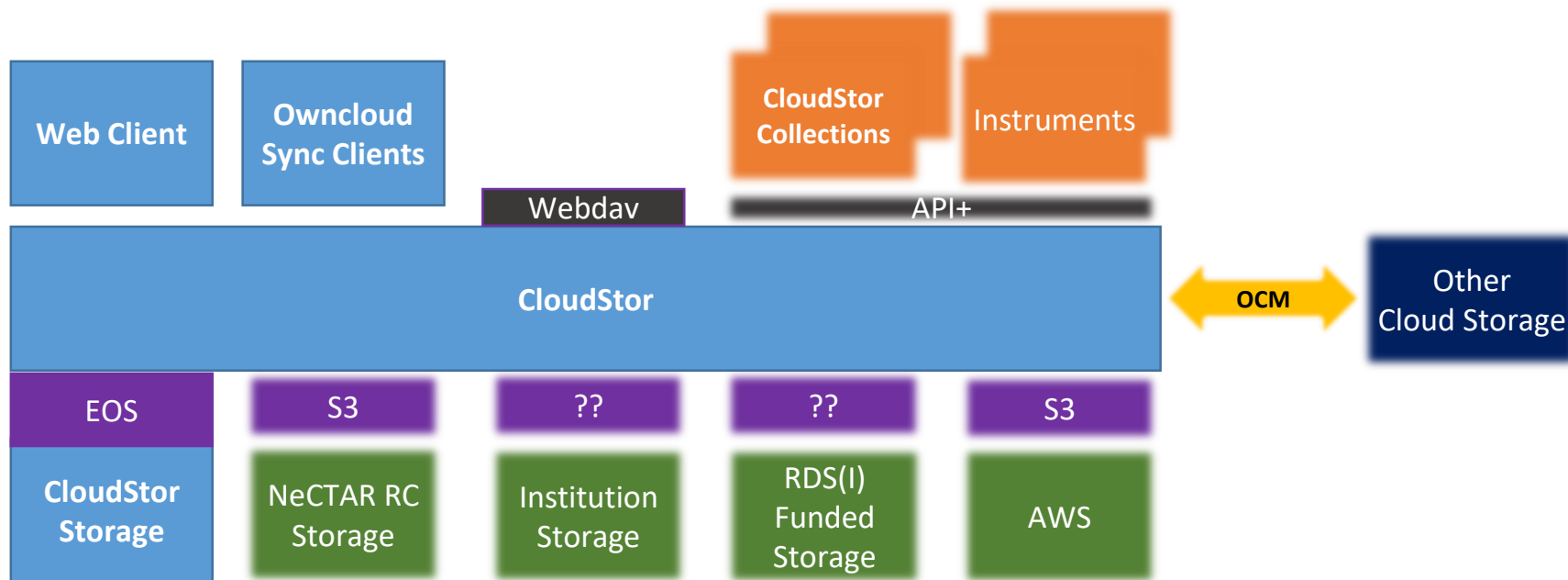


April, 2015

October, 2017

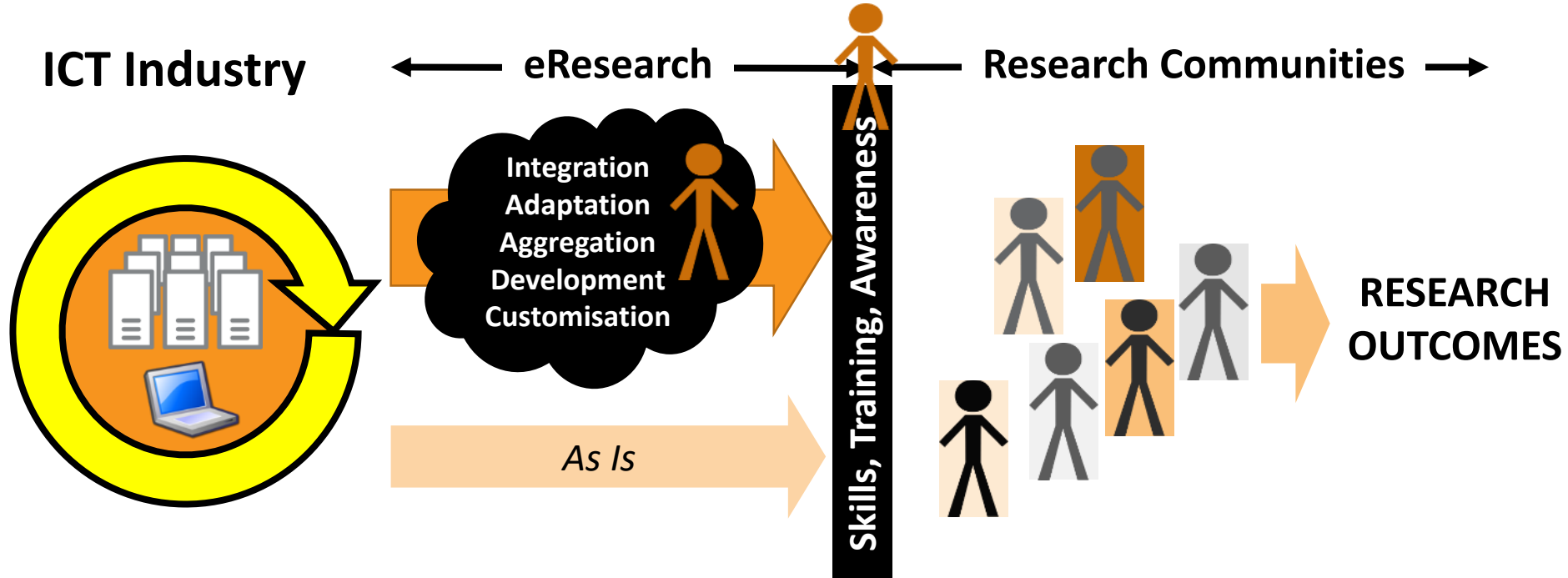
- Zero-barrier to entry
 - Free (and on-net)
 - Pre-approved 100GB
 - Familiar
- Fast
- Australian
- Cross-institution collaboration
- Local “real” support
- AARNet brand

CLOUDSTOR AS THE DARK MATTER ...



OCM – Open Cloud Mesh

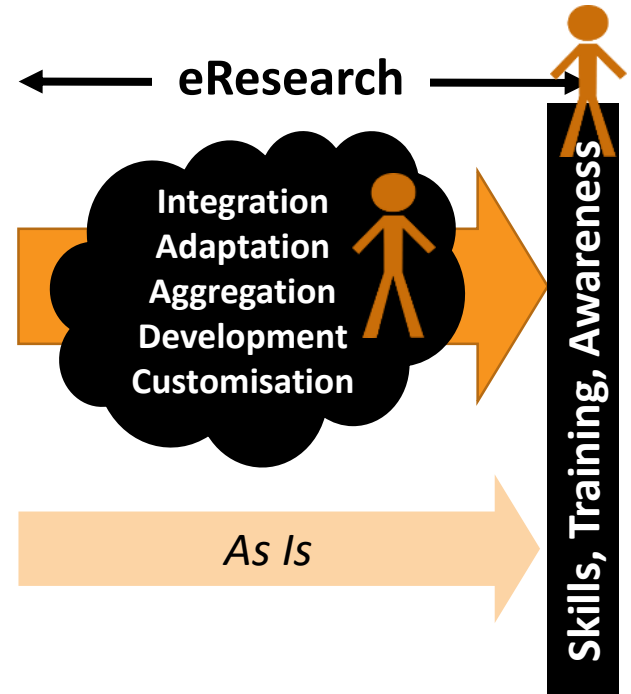
ERESEARCH ... E-INFRASTRUCTURE ...



BINDING THE UNIVERSE TOGETHER

Network Connectivity
Integration, Ease of Use
 Joined-Up (Federated) Services
 Platforms
 Standards
 Consumption Models
Skills

... less time doing ICT and
more time doing research



THANK YOU

**ANY
QUESTIONS?**

