

Australian e-Infrastructure

Advancing discovery
in a technology and information rich world

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Australian National eResearch Infrastructure Development

The next decade

2002

2007

2013

Tools

Understand requirements

- research tools
- middleware
- authorisation

Support collaboration:

- software tools
- data sharing
- workflow

NEW Tools Infrastructure

- virtual laboratories
- research apps
- research cloud
- common authorisation

Data

Understand requirements

- data discovery
- data use and reuse
- data publishing

Support data:

- improve data quality
- establish a corpus of published research

NEW Data Infrastructure

- Support the data lifecycle
- capture, describe, use
 - publish, discover, cite
 - collect, store, reuse

Computation

Sustain computational resources at top 30 level
Develop a national grid

Sustain computational resources at top 30 level
Add smaller specialised resources, bio-data/imaging

NEW Two facilities able to house future supercomputers
NEW Install two "peta scale" supercomputers

Networks

NEW Research Network

- fibre backbone from Adelaide to Brisbane
- high bandwidth link to the USA, Asia and Europe
- Perth, Hobart, Townsville and Darwin connected
- metropolitan and regional access points provided

Extend fibre to Perth and to radio astronomy facilities
Increase regional access
Increase metropolitan access

\$182M to e-infrastructure from \$400M (2002-2006)

\$82M to e-infrastructure from \$540M (2006-2011)

\$312M for e-infrastructure from \$1100M (2009-2013)

Tools are mission critical

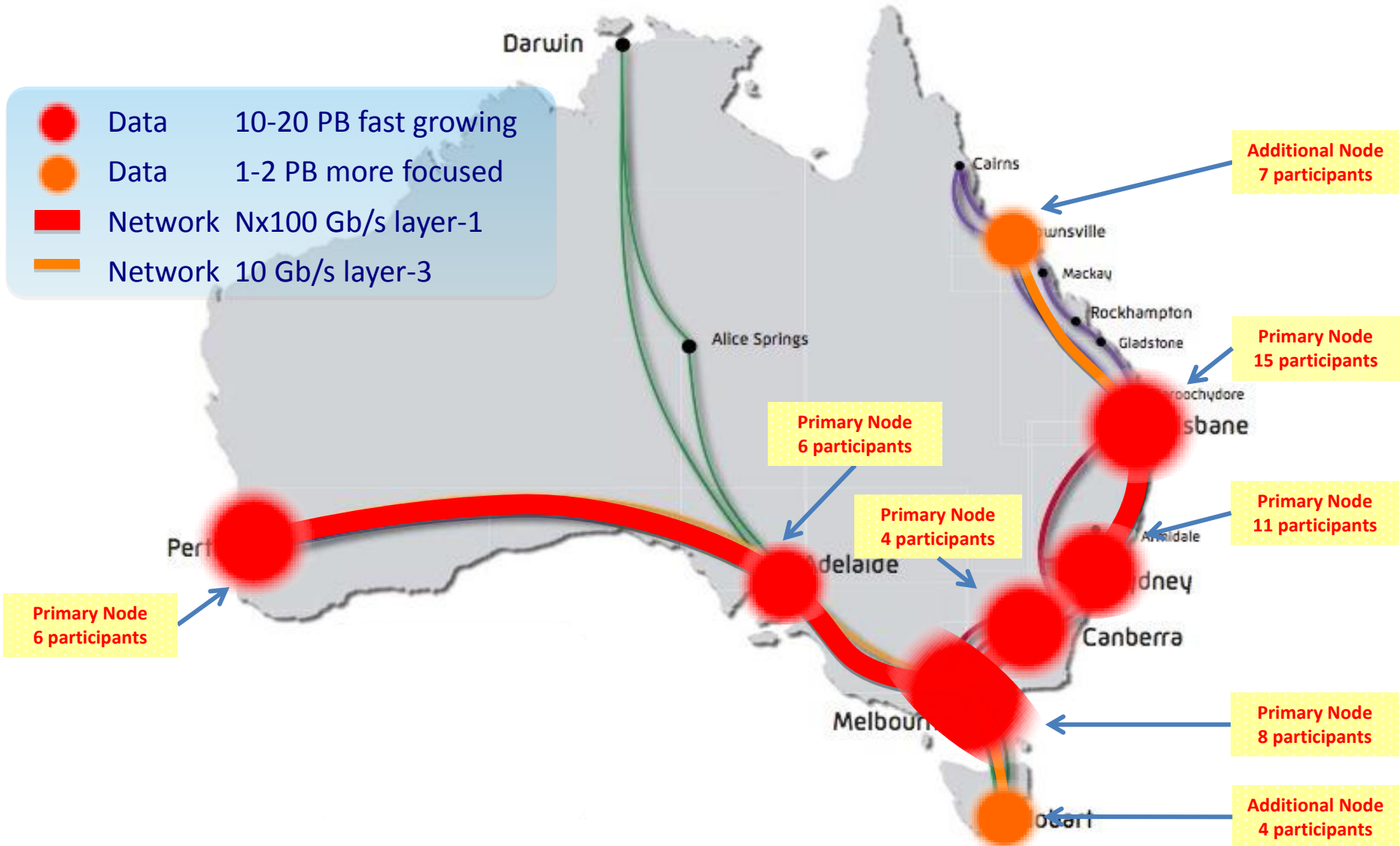
Data volumes explode

Systems grow to exascale

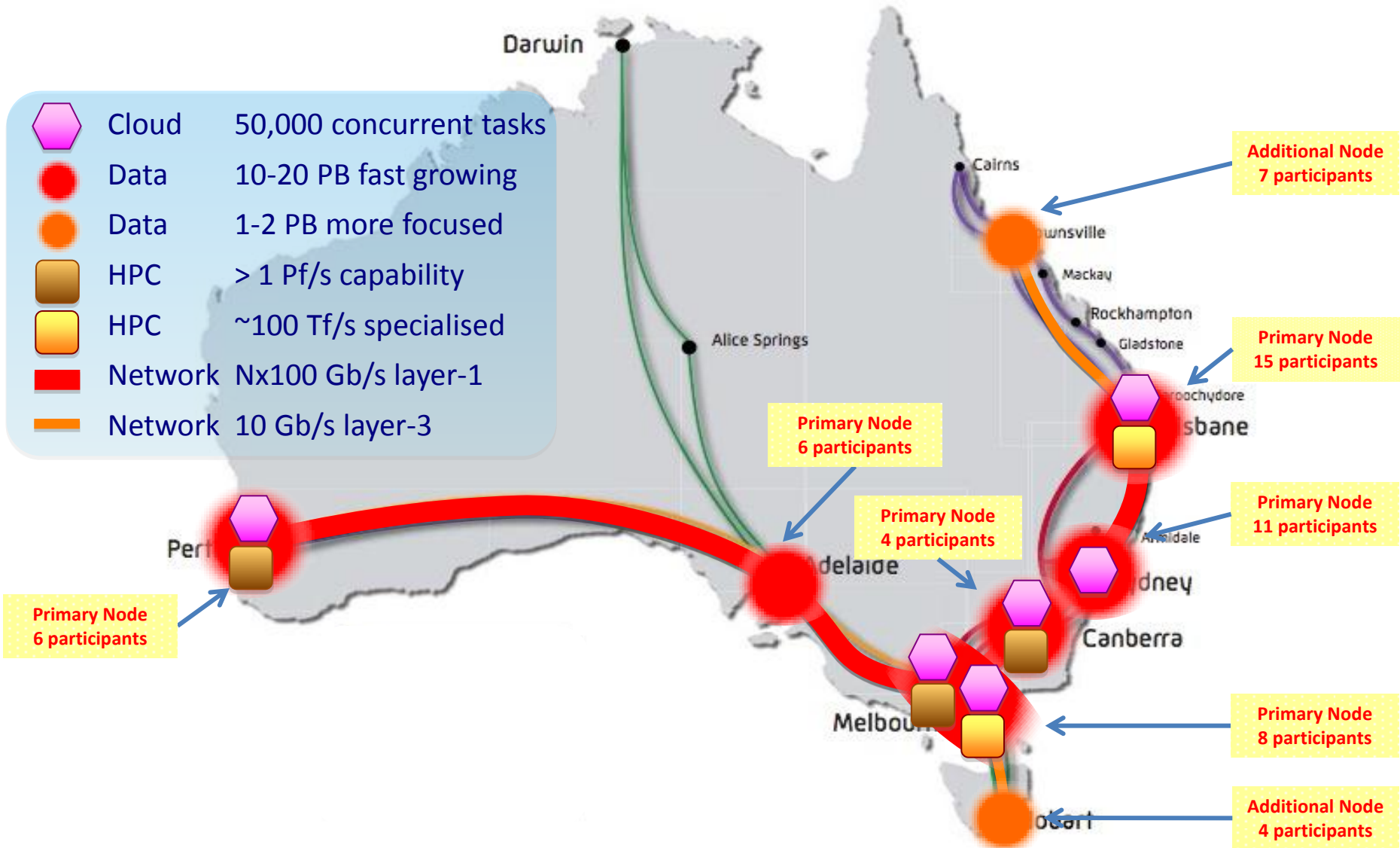
Global bandwidth scales-up

Further funding

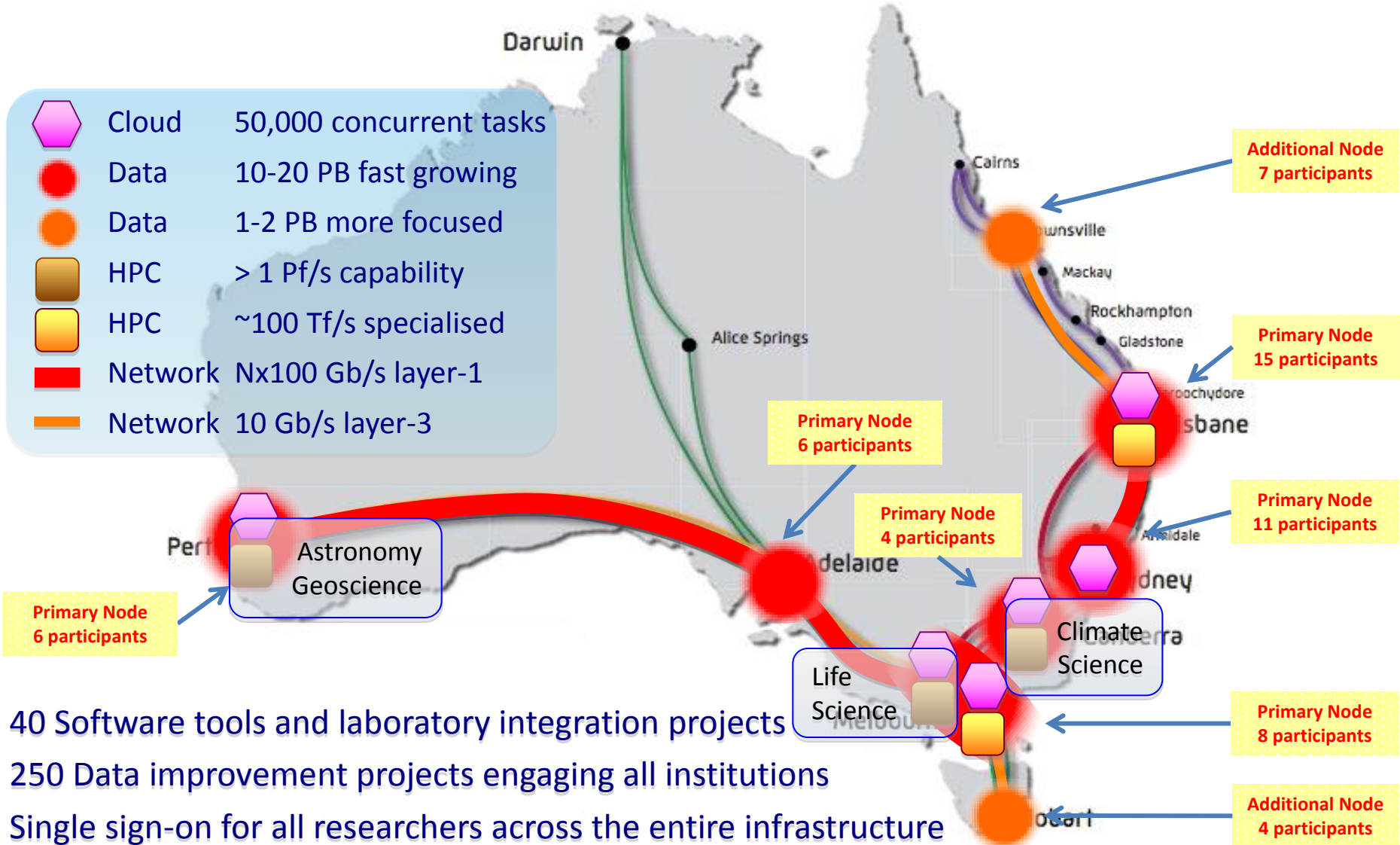
The Australian national e-infrastructure platform (2013)



The Australian national e-infrastructure platform (2013)



A national Research Data Commons of published and accessible research data



Three messages...

- MIND the GAP

vision of data use | *<gap>* | data reality

- Software as infrastructure

data => information products => people

- 4 things to Send to the Future:

(results + expertise) + (data + software)