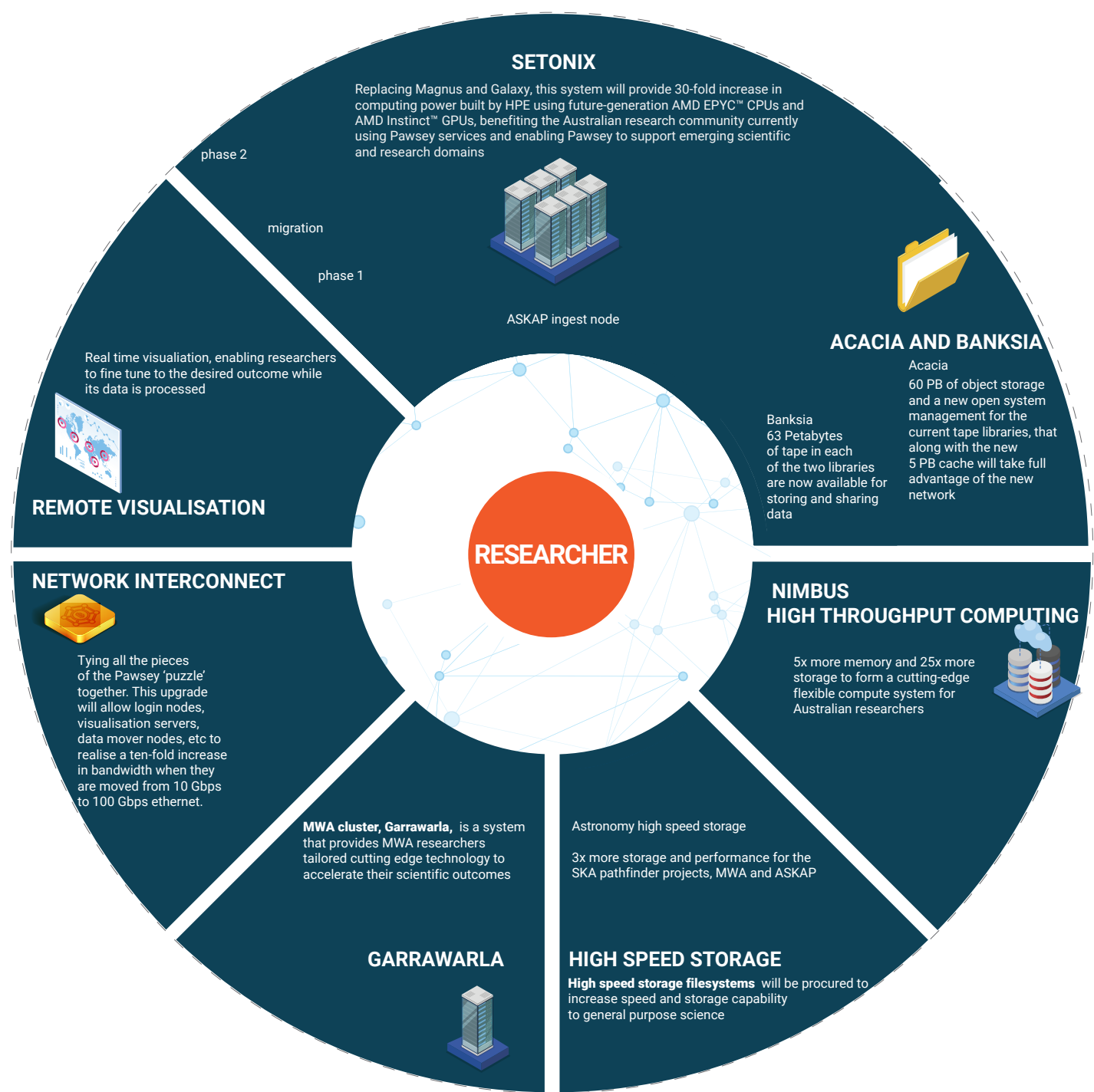


# PAWSEY CAPITAL REFRESH



## ACACIA AND BANKSIA

### Banksia - our tape library expansion

Additional tape storage has been procured to expand the existing tape libraries from 50 to 63 Petabytes in each library.

### Acacia object storage

Warm Tier – a disk-based system powered by Dell, named Acacia after Australia's national floral emblem the Golden Wattle – Acacia pycnantha, provides 60PB of high-speed object storage for hosting research data online. This multi-tiered cluster separates different types of data to improve data availability. Acacia will be fully integrated with Setonix, enabling a better experience when transferring data between Pawsey Centre systems.

## NIMBUS

Pawsey partnered with Dell EMC to expand its cloud system with 5x more memory and 25x more storage to form a cutting-edge flexible compute system. This expansion provides better service emerging research areas and communities who benefit more from a high throughput compute.

## HIGH SPEED STORAGE

**Astronomy high speed storage:** 3x more storage and performance. The existing **Astro filesystem** was expanded to service the MWA community. Powered by HPE, it has been upgraded to 2.7 PB of usable space and capable of reading/writing at 30 GB/s.

The New **buffer filesystem**, a dedicated resource for ASKAP researchers, provides 3.7 PB of usable space and is capable of reading/writing at 40 GB/s. It is manufactured by Dell.

**High speed storage filesystems:** Designed to deal with thousands of users accessing them at the same time. The Pawsey high speed filesystems will be procured as part of the main supercomputer system to increase speed and storage capability to general purpose science.

## MWA CLUSTER

Garrawarla, the **546 TeraFlops MWA cluster**, is a resource tuned to MWA's needs, powered by HPE. Procured ahead of the Main Supercomputer, this cluster allows ASKAP to use the full CPU partition of Galaxy.

Garrawarla provides:

- 156 of the latest generation of Intel CPUs
- 78 cutting edge GPUs with more high-bandwidth memory
- Internal high-speed storage
- More memory per node, which allows users to process larger datasets quicker.

## NETWORK INTERCONNECT

Pawsey is moving to a CISCO spine-leaf architecture with a 400Gbps backbone and 100 Gbps links to host endpoints. The network has been designed to be easily expandable to support the object storage platform being purchased as part of the Long-Term Storage procurement as well as integration with the Pawsey new supercomputer.

## REMOTE VISUALISATION

The remote visualisation capability has been procured as part of the main supercomputer. When the new capabilities become available, researchers will be able to visualise their science in real-time, while being processed.

This new capability will allow researchers to steer their visualisation while the data is processing and fine tuned to the desired outcome.

## SETONIX

Setonix will be built using HPE Cray EX supercomputer architecture, will deliver 30x more compute power than its predecessors and will be at least 10x more power efficient. It will be delivered in two phases, phase 1, currently available to researchers provides 45 percent increase in compute power in one-fifth of the size compare with Magnus and Galaxy. Phase 2 will become available in 2023, providing up to 50 petaFLOPS of raw compute power.

out in the market   evaluation   vendor selected   delivered

# PAWSEY DATA WORKFLOW

