

Managed Science DMZ

Big data transfer solution

The AARNet Managed Science DMZ service is an end-to-end solution to support the unique data transfer needs of data-intensive science at facilities connected to the AARNet network.

Science data transfer applications have unique network requirements that increasingly cannot be met by networks optimised for normal business operations like web browsing and business systems.

Developed by ESnet, the US Department of Energy research network, the Science DMZ architecture is a way of separating science traffic from day-to-day operational traffic, and allows for domain specific risk mitigation and security policy enforcement.

The AARNet Science DMZ Managed Service is an end-to-end solution, with our engineers managing the design, procurement, deployment and ongoing operation of this service for customers.

Why Science DMZ architecture?

- + Optimized network for geographically-distributed data-intensive resources
- + Mitigates impact of the exponential growth in scientific data volumes on institutional network performance
- + Dedicated 'science' network separate from an institution's general-purpose 'enterprise' network
- + Improves performance for both 'big data' science users and regular users of the network

Key Features

- + Heavy lifting of scientific networking no longer shares the same firewall as the rest of the network
- + Equipment and configuration of a Science DMZ ensures the network handles high-rate flows without dropping packets
- + Network security and access policies can be tailored for high-performance science purposes rather than general purpose business computing
- + Easily adaptable to incorporate emerging technologies such as 100 Gigabit ethernet services, virtual circuits, and software-defined networking capabilities
- + Network testing, network measurement, and performance analysis is incorporated, typically through the deployment of perfSONAR

The role of AARNet

AARNet is the high-performance network for the Australian research and education community. Our job is to build and operate the infrastructure to support scientists and their collaborators at universities and research institutes. AARNet is committed to investing in for-purpose infrastructure to enable data-intensive science.

