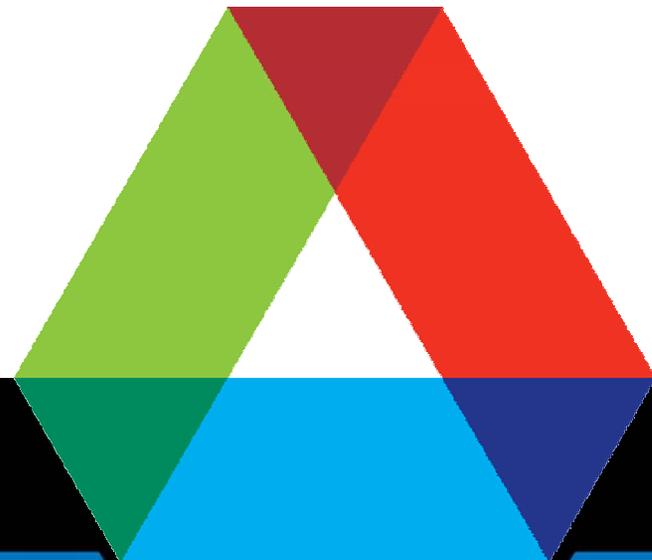


Data Acquisition at ATLAS

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What's new?

- A new network infrastructure – **Onenet**
- A new Linux cluster for data acquisition and analysis – **The Music Cluster**
- A new data acquisition system – **SCARLET**

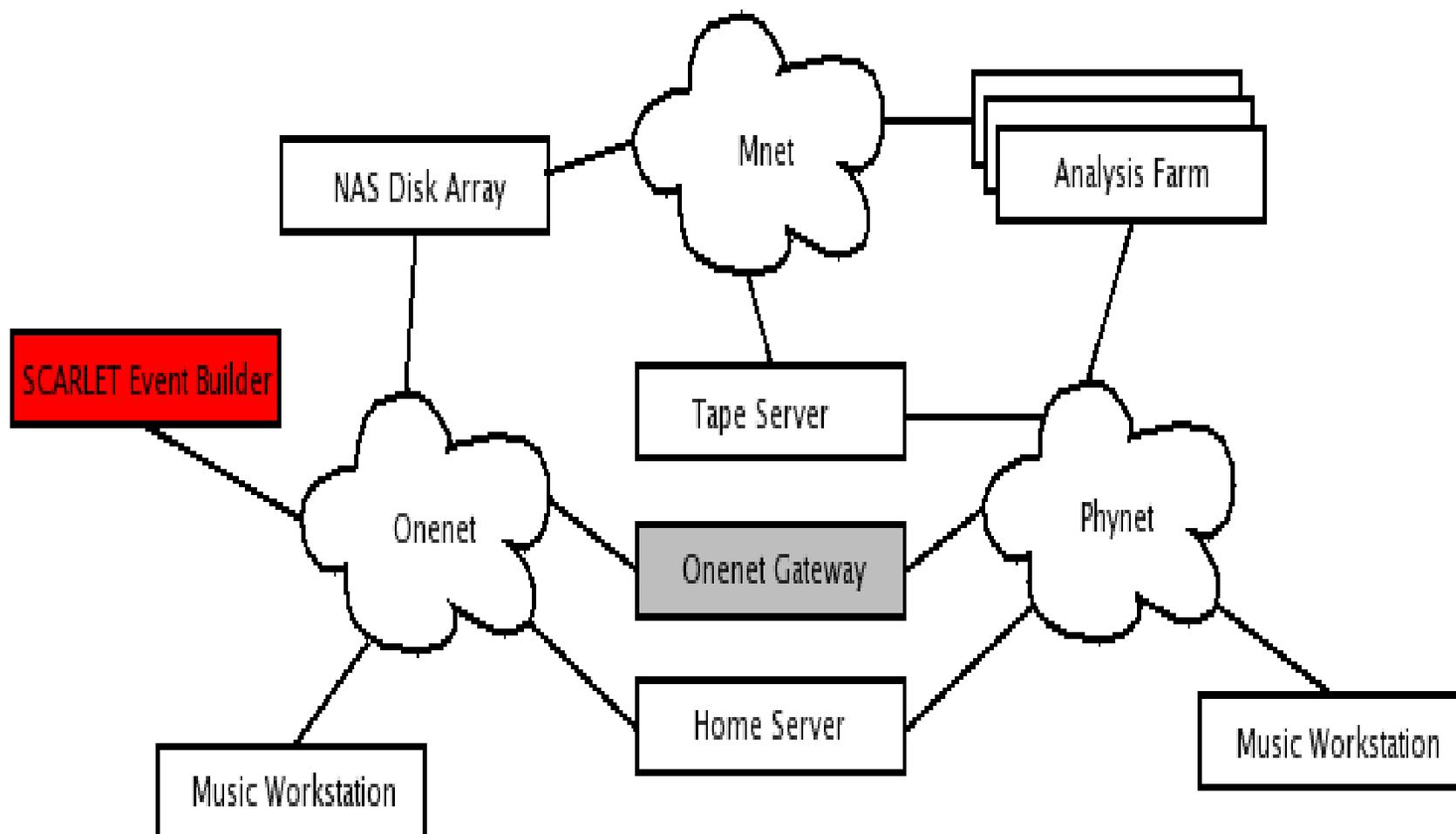


The SCARLET Data Acquisition System

- Linux-based acquisition system.
- Supports multi-crate CAMAC readout.
- Multi-crate readout is concurrent.
 - Each crate has a readout controller.
 - “Sub-events” from each readout controller are collected by an Event Builder which assembles them into events.
- A special trigger system, designed and built in-house, maintains event synchronization.
- Event Builder supplies data stream to “consumers” on request.
 - archive consumer writes data to disk files.
 - ROOT-based sort consumer for on-line monitoring.
- Nominally, 5 SCARLET DAQ systems.



SCARLET and the Music Cluster



Onenet

- New cabling infrastructure.
- Onenet is a private, non-routable LAN.
 - Non-routable means it is not reachable from the Internet.
 - Prevents Argonne's cyber-security scans from disrupting data acquisition.
- Machines on Onenet, however, can reach the Internet via the gateway.
- SCARLET DAQ systems are located on Onenet.
- Wireless access.



Music Cluster Resources and SCARLET

■ 6.4 TB NAS

- SCARLET DAQ writes data to this storage device.
- NAS is accessible via Mnet, a high-speed LAN, to the Music Cluster analysis farm.

■ Tape Server

- Attached to a 9-bay tape drive chassis.
- Users can save their data from the NAS to tape.
- Request users' suggestions for tape drive formats.

