Motivation

- Challenges for I/O on HPC resources
- File system/network bandwidth is not keeping up with computing power
- Data is difficult to organize and find from in a scientific campaign

Approach

- Optimize the I/O layer for Scidac Applications (Storage & I/O)
- Monitor and save the performance data (Performance Monitoring)
- Organize all of the data during a campaign and allow efficient queries (Knowledge Management)
- Allow synchronous and asynchronous (Code Coupling)

Focus Areas:

Storage and I/O
- Fast I/O to read/write to memory & storage layers
- Self-describing I/O formats
- Code coupling (couple I/O to scalers)
- Capture and understand I/O performance

Knowledge Management
- Provenance Capture
- Manage and query data across a campaign

Code Coupling (couple I/O to scalers)