

Earth-System Data Middleware

Design Goals of the Earth-System Data Middleware

- 1 Relaxed access semantics, tailored to scientific data generation
 - ▶ Avoid false sharing (of data blocks) in the write-path
 - ▶ Understand application data structures and scientific metadata
 - ▶ Reduce penalties of **shared** file access
- 2 Site-specific (optimized) data layout schemes
 - ▶ Based on site-configuration and performance model
 - ▶ Site-admin/project group defines mapping
 - ▶ Flexible mapping of data to multiple storage backends
 - ▶ Exploiting backends in the storage landscape
- 3 Ease of use and deployment particularly configuration
- 4 Enable a configurable namespace based on scientific metadata