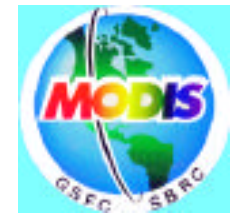# PGE FRAMEWORK

AND

STATUS OF AQUA DATA PROCESSING

Rich Hucek

December 17, 2001
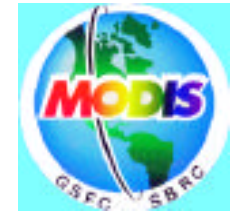
ATMOSPHERE PGEs
IN OPERATIONS
(Level 2)

PGE	VERSION	CHANGE
PGE03		
Cloud Mask/Profiles	v3.0.0/24 May 01	Collection 3
PGE04		
Aerosol/Water Vapor	v3.0.2/07 Nov 01	Linux compatibility
PGE06		
Cloud Product	v3.0.5/09 Nov 01	Enable cloud optical retrieval over snow and sea ice

ATMOSPHERE PGEs IN OPERATIONS
(Level 3)

PGE	VERSION	CHANGE
PGE69 Tiling	**v3.0.2/27 Nov 01**	**Production Rules (Ops efficiencies)**
PGE56 Daily	**v3.0.2/25 Oct 01**	**Linux compatibility**
PGE70 8-Day	**v3.0.2/25 Oct 01**	**Linux compatibility**
PGE57 Monthly	**v3.0.2/25 Oct 01**	**Linux compatibility**

CODE AND PGE UPDATE PLANS

- **Cloud Mask (PGE03 V3.1.0)**
  – shallow water; use 1-km cloud mask as ancillary input to 250-m mask; better use of saturated band 2 data

- **Cirrus Detection (PGE06 V3.1.0)**
  – water vapor transmittance above cirrus clouds is estimated using a single "slope" approach

- **Aerosol (PGE04 V3.l.0)**
  – new logic to eliminate cirrus over ocean; extend land retrievals in blue beyond 2.1 reflectance; shift range of "kept land pixels" percentiles above 10 - 40%

CODE AND PGE UPDATE PLANS CONTINUED

- **Aerosol (PGE04 V3.2.0)**
  - dust non-sphericity; add "median value" SDS; push ocean algorithm closer to glint

- **Profiles (PGE03 V3.2.0)**
  - update regression coefficients; Aqua compatibility

- **Cloud Top Properties (PGE06 V3.2.0)**
  - robust interpolation across NCEP dry layers; Aqua compatibility

AQUA CODE STATUS

- **Aqua metadata in place for all PGEs**

- **Single code version supports both Terra and Aqua for all PGEs**

- **UW Aqua algorithms in development**
  - code switches used to toggle between Terra and Aqua processing paths
  - code delivery to SDST expected first week of February 2002
 - Aqua MOSS-6 dry run 8-hour test successful

PORTING TO LINUX

- **Strategic Plan**
  - use less expensive Linux processors as a means of increasing processing capacity

  - PGEs with large CPU requirement or lengthy processing times to run on Linux. This includes L2 PGEs for all disciplines

- **Time Frame**
  - Level 2 PGEs Linux compatible by end of January 2002
  - V3 system ready by March 2002

Hybrid V3 System

1 TB Archive Disks

SGI Origin 3000

1 2 35

Gigabit Ethernet

1 2 32

1 1 1

Linux Minions
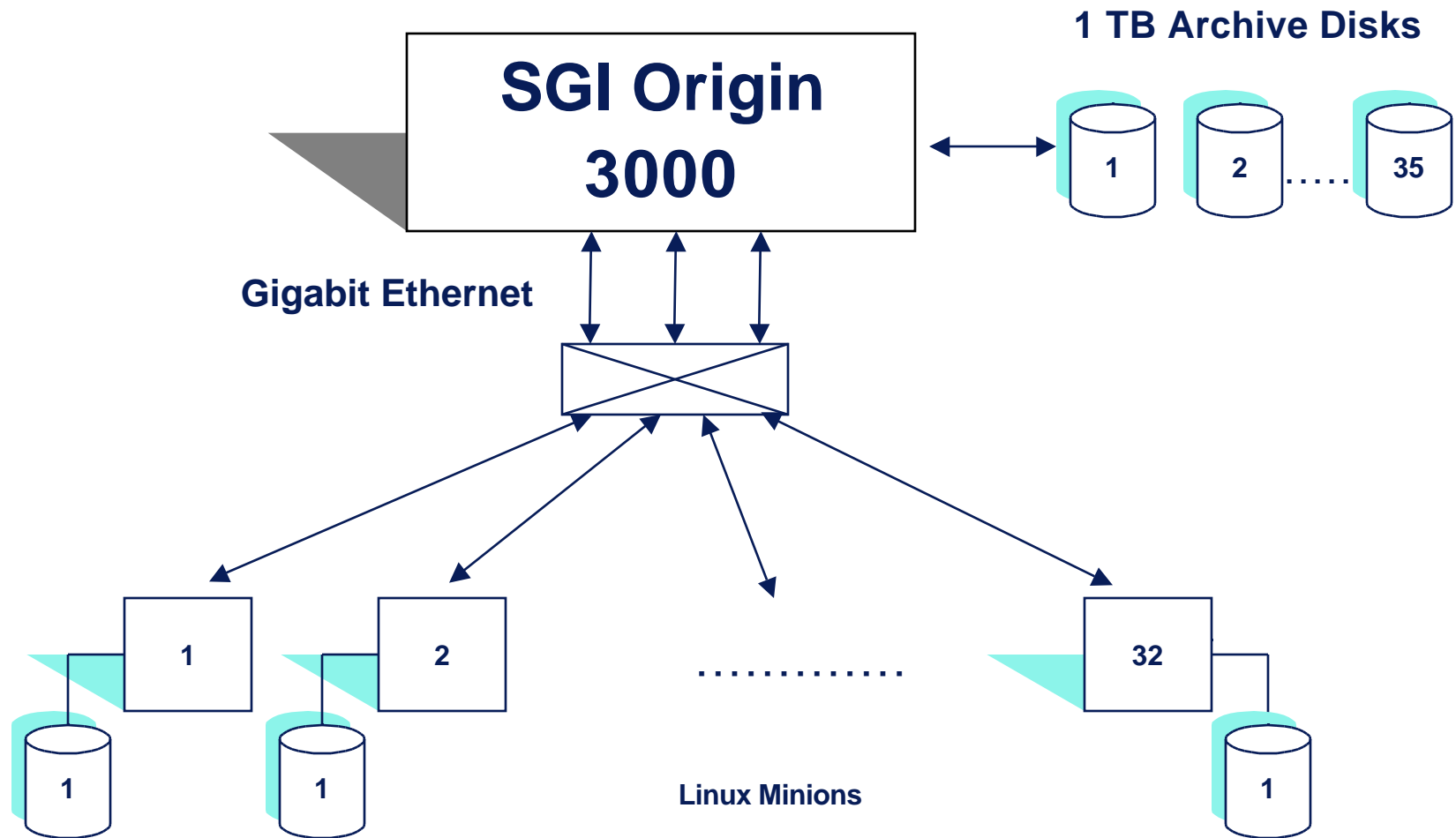
LINUX COMPARSION REPORTS

- **Ocean Aerosol**
  - differences in selection of aerosol model a concern

- **NIR Water Vapor**
  - differences within noise level

- **Cloud Top Properties**
  - small number of differences compared to number of no difference

- **Cirrus Detection**
  - a few scenes show spatial features above noise level