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The Supercomputer Company

PBS Pro Tutorial

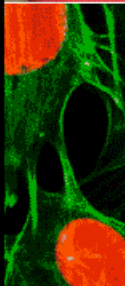
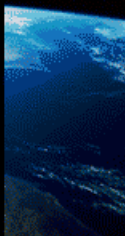
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This Presentation May Contain Preliminary Information That Is Subject To Change



Overview

- PBS Pro releases for Cray systems
- Cray platform implementations
- PBS Pro schedulers
 - Default
 - CSCS
 - MOAB
- PBS Pro Administration Tutorial

PBS Pro Releases

	2001	2002	2003	2004	2005	2006	2007
Altair	5.3.3		5.4.0		7.0	7.1	8.0
X1	5.3.1c	5.3.3c		5.3.4c	5.3.6c		
XD1				5.4.3c	5.4.5c	7.1c	8.0c
XT3				5.3.3xt	5.3.4xt		8.0c (CNL)

Cray Platform Implementations

- X1/X1E
 - mppe (MSP), mppssp (SSP)
 - psched_fit
- XT3
 - size=N
 - CPA integration
- XD1
 - Mostly stock
 - Scalability enhancement
 - Active Manager integration

PBS Pro 8.0 Features

- GRUNT
- Scheduler enhancements
- Kerberos
- ALPS integration

Moving Forward

- PBS Pro 5.3.X fixes for X1/X1E
- Support 8.X for XD1
- Support 8.X for XT3 running Compute Node Linux
- Stay current with future product lines
- ALPS will help accomplish this

PBS Pro Default Scheduler

- Features
 - Fairshare
 - Preemption
 - Static Backfill (pre 8.0)
 - Dynamic Backfill (8.0)
 - Reservations
 - ALPS integration (8.0)
 - Dynamic resources
- Active support and development
- Altair and Cray provide enhancements

CSCS Tcl Scheduler

- Utilizes extensible Tcl scheduler interface
- Enhanced Tcl command set for CPA
- Priority Based Scheduling
 - $P_{Job} = T_{Queued} - P_{User} - P_{Group} - Job_{Size}$
 - Smaller priority wins
 - Favors larger jobs
 - Weighting factors
- Dynamic Backfill
- Advanced Reservations
- Custom work in collaboration with CSCS

MOAB Scheduler

- Offers many features
- Technical Session 4C @ 3:30 in room B3

PBS Pro Administration Tutorial

- Please refer to Altair slides.