Altair Knows HPC

Altair is the only company that…

- makes HPC Tools
  - PBS Works™
- develops HPC Apps
  - HyperWorks®
- and uses HPC Apps!

500 Altair engineers worldwide use HPC every day for real-world modeling & simulation
Complete Simulation Lifecycle Management

- Compute Manager
- Display Manager
- Workload Analytics
- Simulation Manager
- Process Manager

Altair Enterprise Foundation

PBS Professional
HyperWorks
**PBS Professional**

**Scalability & Performance**
- Proven to ~100,000 cores on multiple vendor’s platforms

**Security & Reliability**
- Only globally EAL3+ security certified solution

**End-user Productivity**
- Compute Manager – Makes HPC services easy to use

**Policy-driven Scheduling**
- Scheduling formula enables any policy, simply
- ‘Top N Backfill’ ensures the most important jobs are not delayed by backfilling
- Dynamic OS Provisioning (based on workload)
- Advance reservations
- Topology-aware scheduling

**Enterprise Visibility**
- Estimated job start times and completed job history
- PBS Analytics

**Open Architecture Extensibility**
- New plug-in “hooks” architecture
PBS Professional

- Maximize System Utilization
- Minimize Time to Results
- Maximize Job Throughput
- Advanced Capabilities
  - Dynamic OS Provisioning
    - Based on Workload
  - Green Provisioning™
    - Configurable Power Management Policies
    - Potentially Significant Energy Savings
    - Comes with Professional Services
  - GPGPU Scheduling
- Policy based Workload Management
- Flexible, Customizable & Extendible
- Mature and Reliable Technology

Schedule  |  Prioritize  |  Scale
Compute Manager

Run, Monitor and Manage

- Makes HPC Services Easy to Use
- Application Aware Portal
- Job Submission
- Job Monitoring
- Remote File Access
  - During Job Execution
- Job Management
- Data Management
  - Upload Input Data
  - Download Results Files

Altair Enterprise
Increasing the pace of Product Innovation
Display Manager

Server Side Visualization

• **Access** to native HM and HV and interactive products **through the Web**!

• Build and analyze models/results **remotely** without transferring huge files

• **Collaborate** with team members by sharing models/results remotely

**Altair Enterprise**

*Increasing the pace of Product Innovation*
Simulation Manager

Manage
Projects, Simulations, Solver Jobs, Goals, Results

Evaluate
Goals against set targets

Compare
Versions and variants of Projects, Simulations, Process, Goals

Connect
Local, Remote, PDM Resources

Altair Enterprise
Increasing the pace of Product Innovation
Simulation Manager
Process Manager

Capture and Automate Enterprise Processes

• Aggregate and execute personal processes as a single task as part of a web-based Enterprise process

• Each enterprise task is data-aware and it can be defined as a micro-app w/ input and output

• Capture and re-use Knowledge
Web-based Accounting & Analytics Portal

PBS Analytics

- Visualize Historical Usage Data
  - Jobs, Applications, Users…
- Built in Report Library
  - Report Customisation
- Allocate Costs and Plan Ahead
- Capacity Planning
- Publish Reports
- Export to Customer’s Billing System

Altair Enterprise
Increasing the pace of Product Innovation
Thank You!

Altair Enterprise
Increasing the pace of Product Innovation

- Compute Manager
- Display Manager
- Simulation Manager
- Process Manager
- Workload Analytics

Dynamic
Affordable
Open
Easy
Scalable