Altair Control 2018.4

Release Notes

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Altair® PBS Works® v.2018.4
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Altair Control™ Release Notes

These release notes describe the new features, bug fixes, and known issues for Control. Please see the following sections:

About Control

Control is an easy-to-use web application for monitoring and managing jobs and nodes of an High-Performance Computing (HPC) cluster with advanced analytics to support data-driven planning and decision making. Also, administrators can perform what-if analysis for determining the most productive way to scale an HPC system's resources by running simulations and manage cloud appliances.

Features include:

- Single pane of glass: configure, deploy, monitor, burst, manage, troubleshoot, simulate, analyze, tune
- Real-time monitoring: simplify troubleshooting and maintenance
- Reporting: Analytics powered by Envision™
- Workload simulator: simulate and optimize infrastructure sizing
- Multi-cloud bursting: burst to any cloud for peak loads
- One-click appliance deployment: effortless for public, hybrid, and on-premise / private clouds
- Modern UX: drag-and-drop simplicity

To obtain the latest release package, contact your Altair sales representative by writing to sales@altair.com or support@altair.com. For more information, visit us at www.pbsworks.com.

System Requirements

Supported Platforms

Control is supported on the following Linux 64bit platforms:

- CentOS 7.2, 7.3, and 7.4
- RHEL 7.2, 7.3, and 7.4
- SLES 12 SP2
- OpenSUSE 42.2

Minor versions of the operating systems listed above can be installed. However, the installer will issue a warning message indicating that the unsupported operating system may not perform as expected. SLES 12 SP3 has not yet been tested.

Supported Browser

The latest version of the following browsers is supported:

- Chrome
- Firefox
- Safari

Hardware Requirements

Control requires a minimum hardware configuration:

Table 1. Hardware requirements for Control

Hardware	Minimum Requirement	Recommended
CPU	8 cores	8 cores
Memory (Physical)	16 GB	32 GB
Disk Space	80 GB	100 GB

Additional CPUs, memory, and disk space may be required depending upon the Control components installed and the size of your site's HPC cluster. Large environments may need more memory for the Analytics service.

Supported Product Configurations

The currently supported product configurations are:

PBS Professional	MongoDB	Control
14.2, and 18.2.x	3.4 and 3.6	2018.4

Prerequisites for Installation

Please read the *Altair Control Administrator's Guide* for information about deployment options, required ports, components that must be installed and the order in which they are installed, and any specific installation prerequisites.

New Features

Monitor Jobs by State Chart

A new Jobs by State chart is available on the Monitoring dashboard and is accessible via a toggle.

Monitoring Job Summary Page Includes CPUs Requested

The total number of CPUs requested by jobs has been added to the Monitoring Job Summary page.

Simulation Navigation Improvements

New navigation tabs improve the simulation workflow.

Cloud Bursting Improvements

The following cloud bursting improvements have been made:

- Improved workflow for creating cloud accounts.
- Creating busting quota, alerts, and tokens has been decoupled from cloud bursting scenario creation. Quotas, alerts, and tokens can be added by editing the cloud bursting scenario.
- Improved bursting speeds for some supported cloud providers.
- Improved error handling when a client loses connectivity to Cloud.

Access Control

Improved workflow for creating roles to restrict access to the various features of Control.

Data Collector FQDN

The Fully Qualified Domain Name (FQDN) for a Data Collector is set upon installation of the Data Collector, eliminating the need to update configuration files post-installation.

Node Details Configured for Historical Data

The initial pbsnodes -av sent from the Data Collector is used for historical accounting log data.

Resolved Issues

This section provides information about issues that have been resolved with Control 2018.4:

PC-1494 Simulate data appears in Analyze production charts

Summary: If you are performing simulations on HPC clusters that are different than the clusters that you are monitoring in Analytics, extra values like user names, node names, group names, etc. from those clusters appear without values in Analytics charts and are available as Measures and Dimensions.

Resolution: Simulation data is no longer being displayed when viewing Analytics reports for a PBS Professional complex (i.e., production data).

PC-2137 Incorrect memory details shown when snapshot has server_dyn_res supported

Summary: After adding a snapshot, the memory for the node classes is incorrect when the cluster from which the snapshot is created has enabled support for dynamic server-level resources (server_dyn_res).

Resolution: A Simulation snapshot parsing error was identified and corrected.

PC-2210 Subjobs are not moved when the move is performed on the job array parent

Summary: When the parent job of a job array is moved to a different queue via the Monitor tab, the subjobs are not moved.

Resolution: This issue has been corrected.

PC-2227 Simulation fails when the count for a node class is set to zero

Summary: Simulations fail when the count for a node class is set to zero. The error that is logged is:

```
PBSSimFileStorageException: Error while updating node classes: list index out of
range
```

Work Around: Error has been corrected.

Known Issues

This section provides information about known issues with Control 2018.4:

PC-106 Analyze tab is slow to load

Summary: The lag in load time is due to the loading of Envision.

Work Around: No workaround is available for this issue. A fix is planned for a future release of Control.

PC-821 Charts are not correct when preemption is enabled in PBS

Summary: Preemption is not taken into consideration in the chart calculations.

Work Around: No workaround is available for this issue. A fix is planned for a future release of Control.

PC-1013 Wait time of rerun jobs is reported wrong in PBSA

Summary: Wait time for jobs that have been rerun is being calculated incorrectly.

Work Around: No workaround is available for this issue. A fix is planned for a future release of Control.

PC-1053 Parameter values are not updated when user updates the values on PBS server

Summary: The PBS Professional Server and Scheduler parameters available on the Configure tab are not updated when a change is made on the PBS Server using `qmgr` or by updating a configuration file.

Work Around: All attributes of the PBS Server are updated upon each interaction with or operation on the Server. Therefore, two options are available for accessing changes made directly on the PBS Server:

- Make a change to a parameter via the Configure tab.
- Remove and re-add the cluster via the Configure tab.

PC-1181 Analytics data for nonexistent simulations persists after reinstalling PC

Summary: Simulation data from a previous install persists in Analytics after Control is reinstalled.

Work Around: No workaround is available for this issue. A fix is planned for a future release of Control.

PC-1556 Control installation should work with default system libraries

Summary: For some RHEL 7.4 or SLES 12 SP2 installations there may be incompatibilities with system libraries like OpenSSL that will be reported in the installer logs.

Work Around: Install the necessary system libraries needed for completing the installation.

PC-2166 Unable to run simulations on SLES 12 SP2

Summary: On SLES 12 SP2 platforms, after a simulation is submitted the following error is displayed:

```
Invalid state detected for simulation: SIM_FAILED. Redirecting to the simulation list page.
```

Work Around: PAS 13.2 packages a Python which was compiled without certain SSL libraries. A workaround is to recompile Python:

1. Verify that an up-to-date version of PyOpenSSL (17x+) is installed on the machine hosting Control.

   ```
   rpm -qa pyOpenSSL*
   ```

   You can find the release history of PyOpenSSL at https://pypi.org/project/pyOpenSSL/#history
2. Navigate to `/opt/altair/pas/13.2/pas/python`.
3. sudo to root.

   ```
   sudo su
   ```
4. Recompile python.

   ```
   make clean && ./configure --prefix=$PWD && make && make install
   ```
5. Restart PAS.

   ```
   /etc/init.d/pas restart
   ```

PC-2361 Bulk job run action on queued jobs removes the jobs from the Monitor view

Summary: Performing a bulk job run action on queued jobs removes the jobs from the Monitor view until the next state is achieved. For example, 100 queued jobs are selected and a request to move these jobs to a running state is performed. The jobs are not viewable until they are all in a running state.

Work Around: No workaround is available for this issue. A fix is planned for a future release of Control.

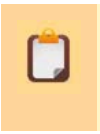
PC-2441 PAS 13.2 can fail to deploy properly on SUSE/SLES

Summary: Simulations fail and messages similar to the following error are logged:

```
xxx simulation failed stage 2, error retrieving results from PAS, no file xxx.results
exists
```

Work Around: On SLES/SUSE platforms, intermittently PAS 13.2 fails to deploy properly, such that the zip and unzip utilities are not placed in the correct location.

A workaround is to recompile the PAS included Python and replace zip/unzip with links to the system installed version:



The workaround assumes that zip and unzip are installed in `/usr/bin/`.

1. #Rebuild PAS python

   cd `/opt/altair/pas/13.2/pas/python`

   make clean && ./configure --prefix=`/opt/altair/pas/13.2/pas/python` && make && make install

2. #Link in working zip/unzip

   mv `/opt/altair/pas/13.2/pas/bin/Linux-x86_64/zip /opt/altair/pas/13.2/pas/bin/Linux-x86_64/PAS_packaged_zip`

   ln -s `/usr/bin/zip /opt/altair/pas/13.2/pas/bin/Linux-x86_64/zip`

   mv `/opt/altair/pas/13.2/pas/bin/Linux-x86_64/unzip /opt/altair/pas/13.2/pas/bin/Linux-x86_64/PAS_packaged_unzip`

   ln -s `/usr/bin/unzip /opt/altair/pas/13.2/pas/bin/Linux-x86_64/unzip`