

Altair Control 2018.4

# Release Notes



 Altair | PBS Works™

PBS Works is a brand of  Altair

## Intellectual Property Rights Notice: Copyrights, Trademarks, Trade Secrets, Patents & Third Party Software Licenses

Updated: February 7, 2019.

### Altair® PBS Works® v.2018.4

Accelerating Innovation in the Cloud™

Copyright© 1994-2018 Altair Engineering Inc. All Rights Reserved.

Special Notice: Pre-release versions of Altair software are provided 'as is', without warranty of any kind. Usage is strictly limited to non-production purposes.

### PBS Works - Accelerating Innovation in the Cloud™

Altair PBS Professional® ©1994-2018  
Altair Control © 2008-2018; (formerly PBS Control)  
Altair Access © 2008- 2018; (formerly PBS Access)  
Altair Accelerator © 1995- 2018; (formerly NetworkComputer)  
Altair Accelerator plus © 1995- 2018; (formerly WorkloadXelerator)  
Altair FlowTracer © 1995- 2018; (formerly FlowTracer)  
Altair Allocator © 1995- 2018; (formerly LicenseAllocator)  
Altair Monitor © 1995- 2018; (formerly LicenseMonitor)  
Altair Hero © 1995- 2018; (formerly HERO)



#### Note:

Compute Manager™ ©2012-2017 is now part of Altair Access  
Display Manager™ ©2013-2017 is now part of Altair Access  
PBS Application Services ©2008-2017 is now part of Altair Access  
PBS Analytics ©2008-2017 is now part of Altair Control  
PBS Desktop ©2008-2012 is now part of Altair Access, specifically Altair Access desktop, which also has Altair Access web and Altair Access mobile  
e-Compute™ ©2000-2010 was replaced by “Compute Manager” which is now Altair Access

### Altair HyperWorks - A Platform for Innovation®

Altair AcuConsole ©2006-2018  
Altair AcuSolve ©1997-2018  
Altair ElectroFlo ©1992-2018  
Altair ESAComp ©1992-2018  
Altair Feko ©1999-2014 Altair Development S.A. (Pty) Ltd.; ©2014-2018 Altair Engineering Inc.  
Altair Flux ©1983-2018  
Altair FluxMotor ©2017-2018  
Altair HyperCrash ©2001-2018  
Altair HyperGraph ©1995-2018

Altair HyperMesh ©1990-2018  
Altair HyperStudy ©1999-2018  
Altair HyperView ©1999-2018  
Altair Virtual Wind Tunnel ©2012-2018  
Altair HyperXtrude ©1999-2018  
Altair MotionSolve ©2002-2018  
Altair MotionView ©1993-2018  
Altair Multiscale Designer ©2011-2018  
Altair OptiStruct ©1996-2018  
Altair Radioss ©1986-2018  
Altair SimLab ©2004-2018  
Altair nanoFluidX © 2013-2018 Fluidyna GmbH, © 2018 Altair Engineering Inc.  
Altair ultraFluidX © 2010-2018 Fluidyna GmbH, © 2018 Altair Engineering Inc.  
Altair WinProp ©2000-2018  
Altair ConnectMe ©2014-2018  
*Various other products including Altair solidThinking Platform software products.*

#### **Altair Packaged Solution Offerings (PSOs)**

Altair Automated Reporting Director ©2008-2018  
Altair GeoMechanics Director ©2011-2018  
Altair Impact Simulation Director ©2010-2018  
Altair Model Mesher Director ©2010-2018  
Altair NVH Director ©2010-2017  
Altair Squeak and Rattle Director ©2012-2018  
Altair Virtual Gauge Director ©2012-2018  
Altair Weight Analytics ©2013-2017  
Altair Weld Certification Director ©2014-2018  
Altair Multi-Disciplinary Optimization Director ©2012-2018

#### **solidThinking - Where Innovation Begins™**

Altair Inspire™ 2019 ©2009-2018 including Altair Inspire Motion and Altair Inspire Structures  
Altair Inspire Extrude-Metal 2019 ©1996-2018 (formerly Click2Extrude®-Metal)  
Altair Inspire Extrude-Polymer 2019 ©1996-2018 (formerly Click2Extrude®-Polymer)  
Altair Inspire Cast 2019 ©2011-2018 (formerly Click2Cast®)  
Altair Inspire Form 2019 ©1998-2018 (formerly Click2Form®)  
Altair Inspire Mold 2019 ©2009-2018  
Altair Compose™ 2019 ©2007-2018 (formerly solidThinking Compose®)  
Altair Activate™ 2019 ©1989-2018 (formerly solidThinking Activate®)  
Altair Embed™ 2019 ©1989-2018 (formerly solidThinking Embed®)  

- Altair Embed SE 2019 ©1989-2018 (formerly solidThinking Embed® SE)
- Altair Embed/Digital Power Designer 2019 ©2012-2018

Altair SimLab™ 2019 ©2004-2018

Altair Evolve™ 2017.3 ©1993-2018

Altair 365™ ©1994-2018

Altair intellectual property rights are protected under U.S. and international laws and treaties. Additionally, Altair software is protected under patent #6,859,792 and other patents pending. All other marks are the property of their respective owners.

ALTAIR ENGINEERING INC. Proprietary and Confidential. Contains Trade Secret Information.

Not for use or disclosure outside of Altair and its licensed clients. Information contained in Altair software shall not be decompiled, disassembled, “unlocked”, reverse translated, reverse engineered, or publicly displayed or publicly performed in any manner. Usage of the software is only as explicitly permitted in the end user software license agreement. Copyright notice does not imply publication.

**Third party software licenses**

AcuConsole contains material licensed from Intelligent Light ([www.ilight.com](http://www.ilight.com)) and used by permission.

**Software Security Measures:**

Altair Engineering Inc. and its subsidiaries and affiliates reserve the right to embed software security mechanisms in the Software for the purpose of detecting the installation and/or use of illegal copies of the Software. The Software may collect and transmit non-proprietary data about those illegal copies. Data collected will not include any customer data created by or used in connection with the Software and will not be provided to any third party, except as may be required by law or legal process or to enforce our rights with respect to the use of any illegal copies of the Software. By using the Software, each user consents to such detection and collection of data, as well as its transmission and use if an illegal copy of the Software is detected. No steps may be taken to avoid or detect the purpose of any such security mechanisms.

## Technical Support

<b>Location</b>	<b>Telephone</b>	<b>e-mail</b>
Australia	+1 800 174 396	anz-pbssupport@india.altair.com
China	+86 (0)21 6117 1666	es@altair.com.cn
France	+33 (0)1 4133 0992	pbssupport@europe.altair.com
Germany	+49 (0)7031 6208 22	pbssupport@europe.altair.com
India	+91 80 66 29 4500 +1 800 425 0234 (Toll Free)	pbs-support@india.altair.com
Italy	+39 800 905595	pbssupport@europe.altair.com
Japan	+81 3 6225 5821	pbs@altairjp.co.jp
Korea	+82 70 4050 9200	support@altair.co.kr
Malaysia	+91 80 66 29 4500 +1 800 425 0234 (Toll Free)	pbs-support@india.altair.com
North America	+1 248 614 2425	pbssupport@altair.com
Russia	+49 7031 6208 22	pbssupport@europe.altair.com
Scandinavia	+46 (0) 46 460 2828	pbssupport@europe.altair.com
Singapore	+91 80 66 29 4500 +1 800 425 0234 (Toll Free)	pbs-support@india.altair.com
South Africa	+27 21 831 1500	pbssupport@europe.altair.com
South America	+55 11 3884 0414	br_support@altair.com
United Kingdom	+44 (0)1926 468 600	pbssupport@europe.altair.com

This document is proprietary information of Altair Engineering, Inc.

# 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](#)
- [System Requirements](#)
- [Supported Product Configurations](#)
- [Prerequisites for Installation](#)
- [New Features](#)
- [Resolved Issues](#)
- [Known Issues](#)

## 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](mailto:sales@altair.com) or [support@altair.com](mailto:support@altair.com). For more information, visit us at [www.pbsworks.com](http://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.

## Third-Party Software License Information

Third-party software license and copyright information can be found in the following files. These files are located wherever the Release Notes are available.

- ControlReleaseNotesAddendumCloudThirdPartyLicenses.pdf
- ControlReleaseNotesAddendumControlThirdPartyLicenses.pdf



## New Features

[Monitor Jobs by State Chart](#)

[Monitoring Job Summary Page Includes CPUs Requested](#)

[Simulation Navigation Improvements](#)

[Cloud Bursting Improvements](#)

[Access Control](#)

[Data Collector FQDN](#)

[Node Details Configured for Historical Data](#)

---

### **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 bursting 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](#)
- [PC-2137 Incorrect memory details shown when snapshot has server\\_dyn\\_res supported](#)
- [PC-2210 Subjobs are not moved when the move is performed on the job array parent](#)
- [PC-2227 Simulation fails when the count for a node class is set to zero](#)

---

### **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](#)
- [PC-821 Charts are not correct when preemption is enabled in PBS](#)
- [PC-1013 Wait time of rerun jobs is reported wrong in PBSA](#)
- [PC-1053 Parameter values are not updated when user updates the values on PBS server](#)
- [PC-1181 Analytics data for nonexistent simulations persists after reinstalling PC](#)
- [PC-1556 Control installation should work with default system libraries](#)
- [PC-2166 Unable to run simulations on SLES 12 SP2](#)
- [PC-2361 Bulk job run action on queued jobs removes the jobs from the Monitor view](#)
- [PC-2441 PAS 13.2 can fail to deploy properly on SUSE/SLES](#)

---

**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
```

