

Altair Control 2019.1

# Release Notes



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### Altair® PBS Works® v.2019.1

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# Altair Control™ Release Notes

These release notes describe the new features, bug fixes, and known issues for Control 2019.1. 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, 7.4, 7.5 and 7.6
- RHEL 7.2, 7.3, 7.4, 7.5 and 7.6
- 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
- IE11



For IE11 to render the Control web pages correctly, the Compatibility View mode in IE11 must be disabled.

## 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 |
|-------------------|-------------|---------|
| 18.2.x and 19.2.1 | 3.4 and 3.6 | 2019.1  |



To use the new Cloud bursting features available with Control 2019.1 requires PBS Professional 19.2.1 to be installed on the PBS Server.

## 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 Improvements](#)

[Configure Improvements](#)

[Cloud Improvements](#)

[Access Control Improvements](#)

[Platform Improvements](#)

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### Monitor Improvements

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- A refresh button is available to refresh the Dashboard charts data.
- Sorting of jobs has been extended to additional fields.
- Job and node information can be exported to a CSV file.
- Instances of Allocation Manager are accessible to:
  - view account balances.
  - credit and debit an account.
  - view a summary of credits and debits that have been made against an account.
  - view account transactions.

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### Configure Improvements

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The PBS Professional Server and Scheduler parameters are automatically refreshed every 5 minutes and also when changes are made on the PBS Server. You can also refresh the data manually by clicking a refresh button.

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### Cloud Improvements

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- Support for poly-cloud bursting.
- Support for AWS spot pricing.
- DNS configuration for cloud bursting is no longer required.
- Cloud account details can now be viewed by clicking on the name of the cloud account.
- The available PBSWorks burst node licenses is now viewable.
- Cloud nodes that have been burst for a bursting scenario are viewable.

- Access to a CloudFlow interface to follow the application workflows is now available through the Cloud tab.
- Log file monitoring through a Kibana interface is available through the Cloud tab.
- Docker container monitoring through a Grafana interface is available through the Cloud tab.

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### **Access Control Improvements**

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The following access control improvements have been made:

- Access controls are now available under the Configure tab.
- Managers can provide monitoring access to specific clusters for a role.
- Managers can revoke access to a cluster that has been added by a user via the Monitor tab.

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### **Platform Improvements**

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The following platform improvements have been made:

- Support for RHEL/CentOS 7.5 and 7.6 has been added.
- The CPU load required for Control has been significantly reduced.
- Support for IE11 has been added.

## Resolved Issues

This section provides information about issues that have been resolved for the Control 2019.1 release:

- [PC-2548 Data Collector hangs while executing pbsnodes -av](#)
- [PC-2566 Out of memory error while parsing a large accounting & scheduler log dataset](#)

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### **PC-2548 Data Collector hangs while executing pbsnodes -av**

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**Summary:** The Data Collector hangs while trying to execute the command `pbsnodes -av` and is not able to complete.

**Resolution:** The root cause was a buffering issue. This issue has been corrected.

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### **PC-2566 Out of memory error while parsing a large accounting & scheduler log dataset**

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**Summary:** While parsing a large accounting log and scheduler log dataset, the following exception occurs:

```
java.lang.OutOfMemoryError: GC overhead limit exceeded
```

**Resolution:** The default parser memory is insufficient to parse large accounting and scheduler log datasets. To increase the parser memory:

1. Edit the `PC_EXEC/pbsa/scripts/pbsworks-parser-start.sh` file.

Where **PC\_EXEC** is the Control Execution Directory chosen at the time of installation.

2. Increase the parser memory by changing `JAVA_OPTS="-Xms256m -Xmx1024m"` to `JAVA_OPTS="-Xms256m -Xmx12g"`.

3. Restart Control.

```
pbs-control-manager restart
```

## Known Issues

This section provides information about known issues with Control 2019.1:

- [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-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-2503 IE browser error when displaying charts in Analytics](#)
- [PC-2738 Stakeholder is not able to add the initial credit to an AM project through the UI](#)
- [PC-2771 Transaction record associated with a reconciliation is not displayed](#)

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

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**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.

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

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**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.

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### **PC-1556 Control installation should work with default system libraries**

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**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.

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### **PC-2166 Unable to run simulations on SLES 12 SP2**

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**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.
```

**Resolution:** 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**

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**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.

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## 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
```

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## PC-2503 IE browser error when displaying charts in Analytics

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**Summary:** After creating a chart, the following error is displayed:

```
Object doesn't support property or method 'startsWith'.
```

**Work Around:** An IE11 browser issue prevents the chart from being displayed in Analytics. Try switching to another browser such as Chrome or Firefox.

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### **PC-2738 Stakeholder is not able to add the initial credit to an AM project through the UI**

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**Summary:** Currently the Stakeholder is unable to add the initial credit to a new AM project through the Control UI. The project is displayed only after credit is added to the project through the AM CLI and then the project is visible in the Budgets tab.

**Work Around:** This is expected behavior for Control 2019.1. No workaround is available for adding the initial credit to a project except by using the AM CLI. An enhancement is planned for a future release of Control.

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### **PC-2771 Transaction record associated with a reconciliation is not displayed**

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**Summary:** When Allocation Manager accounts are reconciled after a job completes, the associated transaction record is not being displayed in the Control UI. However, the reconciliation is accounted for in the data displayed on the Accounts and Budget tabs.

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