ElectricAccelerator version 10.1.2

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Product Description

ElectricAccelerator® is a software build accelerator that dramatically reduces build times by distributing the build over a large cluster of inexpensive servers. ElectricAccelerator ("Accelerator") uses a patented dependency-management system to identify and fix problems in real time that break traditional parallel builds. Accelerator plugs seamlessly into existing software development environments and includes web-based management and reporting tools.

Accelerator includes the following components:

- Electric Make® ("eMake")
- Electric File System (EFS)
- ElectricAccelerator Agents ("Agents")
- Cluster Manager
- Electrify

What’s New or Modified

Resolved Issues

- Aborting a build (via the Cluster Manager UI or cmttool) that is waiting for a concurrent build license no longer causes the loss of a license from the available license pool. (EC-12912)
- Accelerator agents no longer generate excessive log messages such as Session::doLoadLocalFile unable to move <path1> to <path2>: new file already in disk cache when running a build that uses local agents. (EC-12696)
- (Linux and UNIX platforms only) Intermittent eMake assertion failures with the message currPos <= notePos no longer occur when JobCache cache hits happen in conjunction with variations in the amount of uncached output text. (EC-11475)

Installation and Upgrade Notes

Hardware Requirements

- Accelerator 7.2 and newer versions require a Pentium 4 or newer processor when running in a 32-bit Solaris x86 environment.
- The recommended total amount of RAM for an agent host is 2 GB per agent plus the amount of RAM normally needed to execute your build. For example, if you are running four agents, and your build normally needs 16 GB, you will need ((2 * 4) + 16) = 24 GB.
Back up the existing files. For Linux and Solaris, back up the `/opt/ecloud/<arch>/cloud` directory. For Windows systems, back up the `C:\ECloud\<arch>` folder for Windows to a safe location.

For additional security, back up the database by following the recommended procedure from your database vendor.

### Installing JDBC Drivers for MySQL or Oracle Databases

Electric Cloud no longer distributes the JDBC drivers for MySQL or Oracle databases. To use one of these databases, you must download its driver directly from the Oracle website, then copy it to the appropriate directory on the Cluster Manager server, and then restart the Cluster Manager service. For details, see the “Installing JDBC Database Drivers” section in the “Installing ElectricAccelerator” chapter of the ElectricAccelerator 10.1 Installation and Configuration Guide at [http://docs.electric-cloud.com/accelerator_doc/AcceleratorIndex.html](http://docs.electric-cloud.com/accelerator_doc/AcceleratorIndex.html).

### Copying the Executable to a New Location if You Relocate eMake

If you copy the `emake` executable to a new location, you must also copy the `execserver` executable to that location. By default, the path to the `execserver` executable is `/opt/ecloud/i686_Linux/32/bin/execserver` (for 32-bit `emake`) or `/opt/ecloud/i686_Linux/64/bin/execserver` (for 64-bit `emake`).

### Regenerating History Files After an Upgrade

The identifier that is used to find certain types of jobs in the `emake` history file changed in version 8.0. After an upgrade from version 7.2.2 or older versions to version 8.0 or newer versions, users should regenerate their history files by running their first build with the `--emake-history=create` option to avoid unnecessary serializations. This build might have more conflicts than normal (but subsequent builds should return to normal).

### Concurrent Build Licensing

As of version 9.1, for new Accelerator subscription licenses, the number of builds that you can run concurrently is license-limited. The `nolicenseWaitTime` performance metric indicates the amount of time that a build spent waiting for a concurrent build license because the number of concurrent builds reached the license limit. Also, as of version 9.1, JobCache is not separately licensed and is now included with the concurrent build license.

Customers using pre-9.1 Accelerator licenses may continue to use those licenses, including the licenses for the JobCache add-on.

For details about licensing for concurrent builds, see the ElectricAccelerator 10.1 Installation and Configuration Guide at [http://docs.electric-cloud.com/accelerator_doc/AcceleratorIndex.html](http://docs.electric-cloud.com/accelerator_doc/AcceleratorIndex.html). (EC-12095)

### Updating the Resource Manager Type If You Are Using LSF

During a Cluster Manager upgrade to Accelerator 10.0 or later, the installer changes the “cloud” resource manager type to "none." This means that if you are using LSF, you must move the scripts from the `<InstallDir>/<arch>/cloud/` directory to the `<InstallDir>/<arch>/cloud/lsf` directory.
<InstallDir> is /opt/ecloud by default on Linux and C:\ECloud by default on Windows. <arch> is either i686_Linux or i686_win32.

Also, you must specify LSF as the resource manager to be used by the Cluster Manager. To do so, open the Cluster Manager web UI, then click Administration > Server Settings, then choose LSF from the Resource Manager Type menu, and then click OK. (EC-12579)

**Known Issues**

**Linux Kernel Issue That Affects Accelerator Performance**

**Affected Kernel Versions**
- RHEL kernel versions later than 2.6.18-194.32 and earlier than 2.6.32-131
- Ubuntu Linux kernel versions 2.6.31, 2.6.32, 2.6.33, and 2.6.34

**Symptoms**
Affected systems might encounter reduced performance on both ext3 and ext4 file systems. Symptoms might include
- hung_task_timeout_secs messages in system dmesg logs
- Widely variable agent availability (entering and exiting agent “penalty” status frequently)
- Contention over the ecagent.state file
- Slower builds (with unexplained variances)

To help determine if this issue exists, run the `dmesg | grep hung_task_timeout` command. hung_task_timeout errors show that this issue is present. Contact your kernel provider for another version of the precompiled kernel.

**Fixes for Systems Running RHEL 5.6, 5.7, 5.8, and 6.0**
You should consider upgrading to 2.6.32-131 (RHEL 6.1) or downgrading to 2.6.18-194.32 (RHEL 5.5).

**Other Known Issues**
- If you kill a build manually, and the agents running on an Amazon EC2 instance fail to connect, the instance will continue to run. You must kill the instance manually.
- The cmttool importData command does not import license properties (such as maxAgents). To work around this issue, re-import the license after using importData. (EC-12371)
- You cannot control breakpoints from the Cluster Manager. (EC-12322)
- Options in the `emake.conf` configuration file override options that are set using Accelerator environment variables (such as EMAKE_CM). (EC-10272)
- If Apache fails to start properly after a new Cluster Manager installation, reboot the system.
Documentation

Product Documentation

Accelerator documentation is available at http://docs.electric-cloud.com/accelerator_doc/AcceleratorIndex.html as follows:

- ElectricAccelerator Quick Start
- ElectricAccelerator Terms and Concepts
- ElectricAccelerator Installation and Configuration Guide
- ElectricAccelerator Electric Make User Guide
- ElectricAccelerator cmttool Reference Guide
- ElectricAccelerator Error Messages Guide
- ElectricAccelerator Visual Studio Integration Guide
- ElectricAccelerator Release Notes (this document)

- PDF, HTML, and mobile-optimized HTML versions of the online help that is also accessible from the Cluster Manager Help button.

Documentation on the website is updated periodically.

Cluster Manager Online Help and Tooltips

Built into the Cluster Manager are

- A complete, robust, context-sensitive online help system (click the Help button in any page of the Cluster Manager web UI). See the documentation website as described above for the latest updates to this information.
- Tooltips with information to help fill in form fields.

Troubleshooting and Getting Help

Technical Support

Contact Electric Cloud technical support:

- +1 408.419.4300, option 2. Hours are 9 A.M.–5 P.M. PT Monday–Friday (except holidays)
- support@electric-cloud.com
- https://helpcenter.electric-cloud.com/ and then click Submit a request to submit or see your support tickets

Be prepared to provide your:

- Name, title, company name, phone number, and email address
- Operating system and version number
- Product name and release version
- Problem description
Electric Cloud “Ask” Website

Go to http://ask.electric-cloud.com—a member-moderated community forum where you can:

- Ask and answer questions as well as comment on (and vote for) the questions of others and their answers
- Get help with installation and configuration
- Submit feedback

ElectricAccelerator Knowledge Base

Go to https://helpcenter.electric-cloud.com/hc/en-us/sections/200516893-Accelerator-KB to find in-depth explanations of specific topics and solutions for specific problems.