



Electric Cloud
ElectricAccelerator
version 7.1.1

Release Notes

December 6, 2013

These Release Notes contain supplemental information about ElectricAccelerator, version 7.1.1.

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Product Description

ElectricAccelerator® is a software build accelerator that dramatically reduces software build times by distributing the build over a large cluster of inexpensive servers. Using a patented dependency management system, ElectricAccelerator identifies and fixes problems in real time that would break traditional parallel builds. ElectricAccelerator plugs into existing software development environments seamlessly and includes web-based management and reporting tools.

Electric Cloud also offers ElectricAccelerator Developer Edition, which enables individual developers to leverage the multiple cores in a personal workstation. Instead of running a build sequentially on a single core, ElectricAccelerator Developer Edition runs all of the build's workload in parallel on multiple cores on the local developer desktop.

ElectricAccelerator and ElectricAccelerator Developer Edition include the following components:

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

Note: The Cluster Manager is a component of ElectricAccelerator only.

What's New for Version 7.1.1

Resolved Issues

- Eliminated the following error, which could be triggered by specifying `--emake-parse-avoidance-ignore-path=ecloud_tmp_%`:

ERROR EC1194: Operation caching error: bad NameId path: ...ecloud_tmp...

Another effect of the change is that you will never need to specify `--emake-parse-avoidance-ignore-path=ecloud_tmp_%. (EC-10321)`
- ElectricAccelerator is not intended to support the scenario where something other than the currently running build changes a file used by that build. In rare cases that scenario could cause an assertion failure in parse avoidance. That assertion failure no longer occurs. You should, however, still avoid any external edits to the files used by a running build because doing so may corrupt the data seen by build steps. (EC-10274)
- Fixed a database schema incompatibility issue that could occur when data was imported into MySQL. (EC-10213)
- Fixed a LOFS issue on Linux agents that could cause a crash. (EC-10155)

Release Notes for Previous 7.1 Versions

- [Version 7.1](#)

All ElectricAccelerator documentation is available from the Electric Cloud documentation server:
<http://docs.electric-cloud.com>.

Installation/Upgrade Notes

Before You Upgrade

Ensure you back up this directory: `/opt/eccloud/<arch>/cloud` for UNIX or `C:\ECloud\i686_win32` for Windows, to a safe location to preserve the existing files. The upgrade process does not preserve the existing files.

For additional security, perform a database backup following the recommended procedure for your respective database system.

Cluster Manager Fresh Installs

If Apache fails to start properly after a fresh Cluster Manager install, reboot the system.

MariaDB Replaces MySQL as Default Local Database

Electric Cloud no longer bundles MySQL as the default local database for ElectricAccelerator. Starting with ElectricAccelerator v7.1, Electric Cloud bundles MariaDB and installs it as the default local database on the Cluster Manager. When you perform a Cluster Manager upgrade, MariaDB replaces the local MySQL database (if applicable) and migrates all information from it.

MariaDB is an open-source database that is fully compatible with MySQL. As open-source software, there is no enterprise license support model available with MariaDB. If using an open-source database is of concern to your organization, you continue to have the option to use any of the following databases as a replacement: MySQL, Oracle, or SQL Server. See the online help topic “Database Configuration” for information about configuring Accelerator to use an external database.

Known Linux Kernel Issue and ElectricAccelerator Performance

Affected Kernel Versions

- RHEL versions later than 2.6.18-194.32 and earlier than 2.6.32-131.
- Ubuntu versions 2.6.31, 32, 33, and 34

Symptoms

Affected systems may encounter reduced performance on both ext3 and ext4 filesystems. Symptoms may 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 your environment has this kernel issue, run

```
dmesg | grep hung_task_timeout
```

If `hung_task_timeout` errors are present, this indicates that a known Linux kernel issue is present. Contact your kernel provider to obtain a different version of the precompiled kernel.

Corrective Actions

For Systems Running RHEL 5.6, 5.7, 5.8, and 6.0

Consider upgrading to 2.6.32-131 (RHEL 6.1), or downgrading to 2.6.18-194.32 (RHEL 5.5).

For Systems Running Ubuntu 10.04

Consider upgrading to kernel version 2.6.35 or later.

To install the upstream kernel, do the following, for example (replace * with the version you want to install):

```
sudo add-apt-repository ppa:kernel-ppa/ppa
sudo aptitude update
sudo apt-get install linux-image-2.6.35-*-generic
sudo apt-get install linux-headers-2.6.35-*-generic
sudo apt-get install linux-maverick-source-2.6.35 linux-maverick-headers-2.6 (optional)
```

Upgrading the kernel may require you to reinstall various kernel modules such as video drivers, efs, and vm-tools. You can do so by running: `apt-get dist-upgrade` and then rebooting.

ECLOCK_TIMEOUT_DELAY

If you currently set the eclock `ECLOCK_TIMEOUT_DELAY` environment variable, it is no longer used and can be deleted. To replace the environment variable's behavior, divide the value of `ECLOCK_TIMEOUT_DELAY` by 100, and set `ECLOCK_BUSY_WAIT` to the resulting value. (The `ECLOCK_BUSY_WAIT` default value is 100, so you do not need to set it to that value explicitly.)

Linux Automounted Filesystems

If you previously implemented a workaround for automounted filesystems on Linux (such as hard mounting filesystems or manually changing the automounter configuration) you can undo those changes after you upgrade to the latest version of ElectricAccelerator.

Windows Application Setup

Any Windows applications that store user-specific data must be run [on all hosts] by the user who owns the agent processes on those hosts.

For example, if you plan to use Microsoft Visual Studio, you must log in to each agent host and run `devenv` as the user that owns the respective agent processes (usually `ECloudInternalUser1`, `ECloudInternalUser2`, and so on). You can use the `psexec` tool (downloadable from <http://technet.microsoft.com/en-us/sysinternals/bsb896649.aspx>) to eliminate the need to log in and log out multiple times. Using this tool is more efficient because some applications such as Visual Studio or Excel store user settings in the registry and create files in "My Documents."

If you install Visual Studio after installing ElectricAccelerator, register the add-in on the hosts by running `install_ecaddin<N>.bat` where `N` is 70, 71, 80, 90, 100, or 110 depending on your Visual Studio version.

If you are using Visual Studio 2005 or later, reduce the number of parallel builds Visual Studio performs:

1. In Visual Studio, select Tools > Options.
2. In the Options dialog, open Projects and Solutions > Build and Run.
3. Set maximum number of parallel project builds to 1.

When setting up Windows, be sure to initialize the Customer Experience Improvement Program setting.

Known Issues

- For Visual Studio 2012, the project build order under eMake may be different to Visual Studio if project dependencies are not fully defined.

Workaround: If a build fails because a prerequisite project has not been built, add an explicit project dependency in the solution.

Documentation

ElectricAccelerator documentation is available on the Electric Cloud Support web site at <https://electriccloud.zendesk.com/entries/22575906-electricaccelerator-documentation>. Updated documentation will be available on that page if any documents are updated post-release.

ElectricAccelerator provides the following product documentation:

- *ElectricAccelerator Installation and Configuration Guide* also available within the online help system
- *ElectricAccelerator Electric Make Users Guide* also available within the online help system
- *ElectricAccelerator cmtool Reference and Users Guide* also available within the online help system
- *ElectricAccelerator Visual Studio Integration Guide*
- A complete, robust online help system - click any Help link in the upper-right corner of each web page.
- Tooltips with information to help fill-in form fields (information also available in online help topics).
- *ElectricAccelerator Release Notes*

Troubleshooting and Getting Help

Contacting Technical Support:

Before you contact our technical support staff, please have the following information available.

- Your name, title, company name, phone number, fax number, and email address
- Operating system and version number
- Product name and release version
- Problem description

Hours: 8AM - 5PM PST (Monday-Friday, except Holidays)

Phone: 408-419-4300, Option #2

Email: support@electric-cloud.com

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