



# Electric Cloud ElectricAccelerator

version 7.2.1

## Release Notes

May 2, 2014

These Release Notes contain supplemental information about ElectricAccelerator, version 7.2.1.

Topics include:

Product Description .....	1
What's New for Version 7.2.1 .....	2
Release Notes for Previous 7.2 Versions .....	2
Installation and Upgrade Notes .....	2
Known Issues .....	4
Documentation .....	5
Troubleshooting and Getting Help .....	6

## 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 uses a patented dependency-management system to identify and fix 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 lets individual developers leverage the multiple cores in a personal workstation. Instead of running a build sequentially on a single core, ElectricAccelerator Developer Edition runs the build's entire 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 (a component of ElectricAccelerator)
- Electrify

## What's New for Version 7.2.1

### Resolved Issues

- The OpenSSL library included in ElectricAccelerator contained the TLS heartbeat buffer overread ("Heartbleed") vulnerability. The library is upgraded to version 1.0.1g, certificates are replaced, and new private keys are generated to fix this issue. For more information, see OpenSSL Security Advisory CVE-2014-0160 at [https://www.openssl.org/news/secadv\\_20140407.txt](https://www.openssl.org/news/secadv_20140407.txt). (EC-10683 and EC-10697)
- (Windows platforms) The following eMake assertion failure has been fixed: `virtualizedagent.cpp (538): !name->isDeferred()` (EC-10747)
- (Linux platforms) eMake no longer crashes when trying to find pattern-specific variable assignments that apply to a specific target. Because this issue occurred during remote parse, you must install version 7.2.1 on all agent hosts. (EC-10725)
- (Windows platforms) ElectricAccelerator now supports volume junctions on NetApp devices. (EC-9248)

## Release Notes for Previous 7.2 Versions

- [Version 7.2](#)

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

## Installation and Upgrade Notes

### *Before You Upgrade*

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

For additional security, perform a database backup following the recommended procedure from your database vendor.

### *Hardware Requirements*

ElectricAccelerator version 7.2 and newer versions require a Pentium 4 or newer processor when running in a 32-bit Solaris x86 environment.

### *Cluster Manager Fresh Installations*

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

### *MariaDB Replaces MySQL as Default Local Database*

Electric Cloud no longer bundles MySQL as the default local database for ElectricAccelerator. Electric Cloud now bundles MariaDB and installs it as the default local database on the Cluster Manager. When you upgrade the Cluster Manager, 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. Because it is open-source software, MariaDB has no enterprise license support model. If using an open-source database is of concern to your organization, you can still use the MySQL, Oracle, or SQL Server databases instead. See the online help topic “Database Configuration” for information about configuring Accelerator to use an external database.

### **JDBC Driver for the MySQL Database**

Electric Cloud no longer distributes the JDBC driver for MySQL (Connector/J). If you want to use a MySQL database, you must obtain the driver directly from the MySQL website and place it in the appropriate directory on the ElectricAccelerator Cluster Manager server. To do so:

1. Download the latest version of Connector/J for your platform from <https://dev.mysql.com/downloads/connector/j/> and install it.
2. Locate the `mysql-connector-java-<version>-bin.jar` file among the files that were installed. For example, on Windows: `C:\Program Files (x86)\MySQL\MySQL Connector J\mysql-connector-java-5.1.30-bin.jar`.
3. Copy the file to `<ECloud install>/<arch>/lib/mysql-connector.jar`.
4. Restart the ElectricAccelerator Cluster Manager service.

### **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 Linux versions 2.6.31, 32, 33, and 34

#### **Symptoms**

Affected systems might encounter reduced performance on both ext3 and ext4 filesystems. 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 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 another version of the pre-compiled 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 newer.

To install the upstream kernel, use the example below (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 might require you to reinstall 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**

The `eclock ECLOCK_TIMEOUT_DELAY` environment variable 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 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 who 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/bb897553.aspx>) to eliminate the need to log in and log out multiple times. Using this tool is more efficient, because applications such as Visual Studio or Excel store user settings in the registry and create files in the My Documents folder.

If you install Visual Studio after installing ElectricAccelerator, you must 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 newer, you should reduce the number of parallel builds that Visual Studio performs. To do so:

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

## **Known Issues**

- Options in the `emake.conf` configuration file override options that are set using ElectricAccelerator environment variables (such as `EMAKE_CM`). (EC-10272)
- Because of a Linux kernel compatibility issue with LOFS, Accelerator agents cannot be installed on Ubuntu 12.10.

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

Workaround: If a build fails because a prerequisite project was not 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 this web site if any documents are updated after the 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 (also available in online help topics)
- *ElectricAccelerator Release Notes*

## Troubleshooting and Getting Help

Before you contact our technical support staff, 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:** 9 A.M.–5 P.M. PT Monday–Friday, except holidays

**Phone:** 408.419.4300, option 2

**Email:** [support@electric-cloud.com](mailto:support@electric-cloud.com)

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