



Electric Cloud ElectricAccelerator

version 7.1.2

Release Notes

September 17, 2014

These Release Notes contain supplemental information about ElectricAccelerator version 7.1.2.

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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 uses a patented dependency-management system to identify and fix problems in real time that would break traditional parallel builds. ElectricAccelerator seamlessly plugs into existing software development environments 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 7.1.2

Resolved Issues

- Fixed minor parsing behavior differences between eMake and gmake. (EC-10404 and EC-10397)
- Corrected eMake behavior that caused an assertion failure when checking directory existence while replaying from the cache. (EC-10376)
- Implemented a LOFS fix required for compatibility with OpenAFS 1.6.2. (EC-10303)

Release Notes for Previous 7.1 Versions

- [Version 7.1.1](#)
- [Version 7.1](#)

All ElectricAccelerator documentation is available at http://docs.electric-cloud.com/accelerator_doc/AcceleratorIndex.html.

Installation/Upgrade Notes

Backing Up Before an Upgrade

Make sure that you back up the directory `/opt/eccloud/<arch>/cloud` for Linux and Solaris or `C:\ECloud\<arch>` 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.

Microsoft Visual C++ 2005 Service Pack 1 Redistributable Package MFC Security Update

(Windows platforms) Before you install the Cluster Manager, install the Microsoft Visual C++ 2005 Service Pack 1 Redistributable Package MFC Security Update redistributables, which are available at <http://www.microsoft.com/en-us/download/details.aspx?id=26347>. You must install vcredist_x86.EXE and vcredist_x64.EXE. This ensures that the ElectricApache service (which runs the web server for the Cluster Manager web interface) starts. (EC-10200 and EC-10542)

Hardware Requirements

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.

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.

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 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 newer.

To install the upstream kernel, use the example below (replace `<version>` with the version that you want to install):

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

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, 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

- (Linux platforms) Because of a Linux kernel compatibility issue with LOFS, Accelerator agents cannot be installed on Ubuntu 12.10.
- (Windows platforms) 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 at http://docs.electric-cloud.com/accelerator_doc/AcceleratorIndex.html. Updated documentation will be available on this website 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 the Help link in the upper-right corner of any 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

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