



Electric Cloud
ElectricAccelerator
version 7.0.2

Release Notes

August 30, 2013

These Release Notes contain supplemental information about ElectricAccelerator, version 7.0.2.

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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 7.0.2

Features and Functionality

- Updated ElectricAccelerator's Visual Studio integration capabilities:
 - Visual Studio Converter Add-in (VS Converter Add-in) v4.0 allows you to use a configuration file to set add-in options and `ecdevenv` can now build solutions directly from the command-line. The VS Converter Add-in is installed with ElectricAccelerator v7.0.2.
 - Visual Studio IDE Add-in (VS IDE Add-in) v4.0 contains many enhancements such as redesigned settings dialogs, allowing conversions to NMAKE makefile to be done locally, a virtualized Visual Studio toolchain, and improved default settings to obtain the best performance. VS IDE Add-in v4.0 **requires Accelerator v7.0.2 or later**. The VS IDE Add-in is available through a separate installer.

The *ElectricAccelerator Visual Studio Integration Guide* contains detailed information about both Visual Studio add-ins.

Resolved Issues

- Fixed a performance problem introduced in version 7.0.1, which affected processes running outside the context of an Accelerator build on systems that had Accelerator agents installed. (EC-10091)
- Removed Wow64 registry key redirection. (EC-10050)

Release Notes for Previous 7.0 Versions

- [Version 7.0.1](#)
- [Version 7.0](#)

All Accelerator documentation is available on the [Electric Cloud Support web site](#).

Installation/Upgrade Notes

Before You Upgrade

Before upgrading the Cluster Manager...

Ensure you back up this directory: `/opt/ecloud/<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.

Linux Platforms Require Additional Libraries to Run MySQL on the Cluster Manager

If you are upgrading from an Accelerator version earlier than 6.2, be advised that the toolchain now includes MySQL 5.5.16 (updated from MySQL 5.0). To run MySQL 5.5.16, the **Cluster Manager must have the 32-bit version of the following libraries:**

- `libaio.so.1`
- `libncurses.so.5`

You may need to add those libraries to the Cluster Manager machine.

RHEL example using a package manager:

```
yum install libaio.i686
yum install ncurses-libs.i686
```

RHEL example without a package manager:

```
up2date --nox --arch=i386 libaio
up2date --nox --arch=i386 ncurses
```

Ubuntu example using a package manager:

```
apt-get install libaio1
```

The installer will notify you if the libraries are missing but will complete the installation process with a message similar to the following: The upgrade of MySQL to 5.5 had problems. Please contact customer support for additional help. The install log will also contain a message similar to the following: FATAL ERROR: Can't execute '/opt/ecloud/i686_Linux/mysql/bin/mysql'

If you attempt to start the Cluster Manager without the required libraries, the UI may display a Server Startup Status page with a Server State of databaseConnection.

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.

Cluster Manager Installs

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

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.

Clarification - 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

This version of ElectricAccelerator has the following known issues :

- For Visual Studio 2012, the project build order under eMake may be different from 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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