ElectricAccelerator

Release Notes

Version 11.0.1

Electric
Cloud

ElectricAccelerator version 11.0.1

Contents

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

New Features and Functionality

Improved Support for Embedded Linux Builds

`ebitbake` now provides control of build options not just for each package but also for each task of each package. This update replaces the existing whitelisting and blacklisting functionality with a configuration file named `package_options`.

This file has much broader capability than the existing functionality. The file is located in `$EMAKE_ASSET_BASE` (the same location as the custom blacklist file or custom whitelist file in the prior release, if you created either of those files).

BitBake support requires a JobCache license for the number of agents to be used in your builds and a Yocto version between 2.2.4 (Morty) and 2.6.0 (Thud) inclusive.

For more information about using `ebitbake`, see the *KBEA-00171 - Using eMake to Accelerate BitBake Builds Using ElectricAccelerator 11.0.1* KB article.

Other New Features and Functionality

- The **Cloud > Cloud Burst Status** page now has a refresh interval setting. You can set this page to refresh either manually or automatically (every 1, 2, or 5 minutes). (EC-13131)
- The http://docs.electric-cloud.com/accelerator_doc/AcceleratorIndex.html documentation home page is redesigned to be easier to navigate. (EC-11747)

Resolved Issues

- Step 3 in all sections that describe how to upgrade the Electric Agent/EFS on a single cluster host in the *ElectricAccelerator 11.0 Installation and Configuration Guide* is corrected. It now states that you copy the installer executable to the agent machine (not the Cluster Manager Machine). (EC-13168)
- eMake now accepts and ignores the GNU Make (`gmake`) `--jobserver-fds` option. (EC-13158)
- eMake no longer caches a parse result if the parse job did not read any makefiles. (EC-12977)

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 *x*86 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.

Backing Up Before You Upgrade

- The upgrade process does not preserve the existing files. Back up the `/opt/ecloud/<arch>/cloud` directory for Linux and Solaris or 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 11.0.1 Installation and Configuration Guide* at http://docs.electric-cloud.com/accelerator_doc/AcceleratorIndex.html.

Copying the execserver 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 11.0.1 Installation and Configuration Guide* at http://docs.electric-cloud.com/accelerator_doc/AcceleratorIndex.html. (EC-12095)

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.
- If the Cluster Manager goes down while agents are running on an Amazon EC2 instance, they will still connect but will not be associated with a resource. You must kill the corresponding instance manually.
- The cmtool `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)
- 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 Installation and Configuration Guide*
- *ElectricAccelerator Electric Make User Guide*
- *ElectricAccelerator cmtool 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.