

Qualcomm

IMPROVED PRODUCTIVITY THROUGH LIGHTNING-FAST BUILDS



A global leader in wireless communications technology

Qualcomm, Inc. is a \$5 billion company that develops digital wireless telecommunications products and services for wireless device and infrastructure manufacturers.

The company's office in Boulder, Colorado provides pieces of modem and multimedia applications for cellular telephone software. This software is ultimately used by mobile phone manufacturers such as LGE, Motorola, and Samsung.

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Director of Software Development,
Qualcomm Boulder

SITUATION:

Complex product matrix results in hundreds of different builds.

There are multiple feature combinations that result in over 100 unique software builds for the Boulder office to support.

"Our build matrix is so complex, a traditional nightly build process simply won't do," said Glenn Salaman, Director of Software Development for Qualcomm Boulder. In addition to the sheer number of builds, the size of a typical build has also grown significantly over the last two years. Qualcomm has been driving new features into cell phones making software builds that used to take 20 minutes grow to over two hours.

BUSINESS ISSUE:

Lost engineering productivity due to large number of slow builds.

"We can't afford lots of builds and long build times in our fast-moving market," Salaman explained. "When we wait for builds, engineers are less productive and valuable testing and debugging time is lost."

In addition to the time and productivity lost on large builds, Qualcomm Boulder found that a solution to speed smaller builds would add significant business value. "Even 5- to 10-minute builds cost the team productivity. When switching context waiting for small builds we're not as productive. It takes time to regain thought and focus once a build is done."

"The sheer number of builds combined with growing build times caused the overall build time to grow exponentially over the last couple of years," said Salaman. "Something had to be done."

SOLUTION:

ElectricAccelerator® reduces Qualcomm's build times by 84%.

In the summer of 2004, Salaman and the Qualcomm Boulder team began a search for a solution to speed their builds. "We found ElectricAccelerator which promised to speed our builds by running them in parallel across a cluster of standard servers," said Salaman. Qualcomm Boulder installed a cluster of 10 servers running Electric Cloud 2.1.

In the Boulder office, over 50 programmers now conduct builds with the ElectricAccelerator cluster. Builds that used to take 90 minutes now complete in less than 15, and engineering is experiencing greater productivity. Salaman explains, "Even if we assume that each engineer only does one build per week, the money saved in lost productivity pays for the system inside of six months."

In addition, individual engineers are commenting on how ElectricAccelerator has made their work less frustrating. One stated, "Software builds used to be so frustrating that I had to leave the building. Now I can actually wait for my builds to complete."

Qualcomm engineers are also finding that they have the time to try more things during the development cycle. "Now we make incremental changes we might not have tried before simply because of the time needed to recompile," commented a Qualcomm Boulder software development engineer.

RESULTS:

Meeting growing productivity demands with ElectricAccelerator.

Qualcomm continues to lead the market by being extremely responsive to customers and delivering innovative new software features with their chipsets. As the phone production matrix continues to expand, Electric Cloud has enabled the group to speed their builds to keep up with their rapid growth.

"The big bang for your buck is in the build speedup and engineer productivity," commented Salaman, "but it also makes my life much easier to not have the team dread builds anymore."

ABOUT ELECTRIC CLOUD

Electric Cloud® is the leading provider of Software Production Management (SPM) solutions. Electric Cloud solutions automate, accelerate, and analyze software build-test-deploy processes to optimize both physical and virtual IT environments. The company's patented and award-winning products help development organizations to speed time to market, boost developer productivity, and improve software quality. Leading companies across a variety of industries, including semiconductors, enterprise IT, ISVs, mobile devices, and transactional web sites rely on Electric Cloud Software Production Management solutions to transform software production from a liability to a competitive advantage. To learn more please contact Electric Cloud at (408) 419-4300 or www.electric-cloud.com.

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