Critical Link is an electronics product-development company. They provide off-the-shelf building blocks and services to a broad range of industries, including scientific instrumentation, manufacturing instrumentation, test and measurement, communications, and defense.

Critical Link Uses GrammaTech to Ensure High Reliability of DSP Software

With a diverse code base and numerous service offerings, engineering services company Critical Link needs tools that are flexible. For the automated static analysis component of their company-wide quality control processes, they chose GrammaTech’s CodeSonar®.

At the heart of Critical Link’s offerings lies the company’s MityDSP digital signal processor platform, along with two camera models based on the MityDSP. These are deployed today in a wide range of applications, including DNA sequencing, unattended surveillance, and vibration measurement.

Customers select the level of engineering support that best suits their needs: anything from “last mile” configurable digital processing platforms to full-service bespoke development.

Critical Link’s flexible approach means that its software engineering activities are many and varied. At any given time, there are dozens of projects undergoing work. Some are small, others are huge. Some software is designed to be embedded into Critical Link hardware, and some to be part of PC applications. Additionally, some code has external origins because Critical Link regularly undertakes projects that involve working with clients’ code, whether troubleshooting, integrating, or updating.

“Critical Link has been looking to increase our software quality while adding to overall efficiency,” explains Vice President Tom Catalino.

But increasing software quality consistently across such a wide range of projects is a significant commitment that brings its own challenges. For instance, development tools must be powerful enough to support Critical Link’s standards, yet versatile enough to handle all the variations in software size and type.
At the heart of Critical Link’s offerings lies the company’s MityDSP digital signal processor platform, along with two camera models based on the MityDSP. These are deployed today in a wide range of applications, including DNA sequencing, unattended surveillance, and vibration measurement.

Customers select the level of engineering support that best suits their needs: anything from “last mile” configurable digital processing platforms to full-service bespoke development.

Critical Link’s flexible approach means that its software engineering activities are many and varied. At any given time, there are dozens of projects undergoing work. Some are small, others are huge. Some software is designed to be embedded into Critical Link hardware, and some to be part of PC applications. Additionally, some code has external origins because Critical Link regularly undertakes projects that involve working with clients’ code, whether troubleshooting, integrating, or updating.

“Critical Link has been looking to increase our software quality while adding to overall efficiency,” explains Vice President Tom Catalino.

But increasing software quality consistently across such a wide range of projects is a significant commitment that brings its own challenges. For instance, development tools must be powerful enough to support Critical Link’s standards, yet versatile enough to handle all the variations in software size and type.

“At first, I was skeptical, but once I looked at the results, I realized that this was a truly deep analysis.”

With these considerations, when Critical Link decided to add static analysis muscle to their development cycle, they chose CodeSonar.

As Critical Link staff became more familiar with CodeSonar and its potential, they requested additional custom analysis options. GrammaTech delivered an enhancement to provide those options.

As Catalino explained, “We wanted to treat certain constructs with extreme caution. GrammaTech gave us an extra degree of control so we could instruct the CodeSonar analysis to do just that. GrammaTech’s technical-support engineers are very knowledgeable and responsive.”

CodeSonar also won the developer approval that every software project manager knows is critical to the success of any initiative.

“At first, I was skeptical” acknowledges senior embedded programmer Dave Stehlik, “but once I looked at the results, I realized that this was a truly deep analysis and was able to catch issues that I could miss. In looking at the results, it was clear that if these issues had appeared in the field, I had no idea how long it would have taken to find them without CodeSonar.”

From the outset, CodeSonar has provided deeper static analysis than Critical Link staff have experienced with other static analysis tools. Developers can use analysis results to immediately improve code, rather than waiting for review or test phases. There are direct benefits to the bottom line, notes Catalino. “By using CodeSonar, the team is able to save time and money while maintaining the level of assurance our customers expect.”

For more information:
www.grammatech.com
Email: info@grammatech.com

GrammaTech Headquarters:
531 Esty Street
Ithaca, NY 14850
U.S. sales: 888-695-2668
International sales: +1-607-273-7340
Email: sales@grammatech.com

© 2014 GrammaTech, Inc. All rights reserved. CodeSonar is a registered trademark of GrammaTech, Inc.