

Customer Story

Battlefield Ready with Surround SCM

by Allan McNaughton

The complexity of modern day warfare has increased the importance of situational awareness. For today's military leaders, information has become an essential weapon both on and off the battlefield. The ability to ascertain the location of both friendly and enemy forces has been an issue for military commanders since the beginning of conflict. Seeing through the fog of war is even more important given today's computer guided-weapons—lest one hits the wrong target, or worse yet, strikes friendly troops. To create clarity in battlefield situations, many parts of the military have turned to Tactical Office™ from Applied Data Trends™.

Real-World Complexity



Tactical Office is a suite of desktop applications that provides commanders with the tools they need to understand battlefield

dynamics and improve weapons systems performance. By facilitating the communication of data across leadership echelons, Tactical Office enables commanders to understand the battlefield as it changes and coordinate the movement of weapons supplies and the actions of thousands of troops and support personnel.

Achieving the level of information superiority needed to empower battlefield commanders is not an easy task. Tactical Office is an aggregate of toolkits and applications totaling more than one million lines of code. Developed initially for the PATRIOT Air Defense System, Tactical Office incorporates the knowledge gained from evolutionary development since 1988 and from operational experience in Desert Shield and Desert Storm.

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The real-world environment in which Tactical Office operates places unique demands on the Applied Data Trends technical team. Because it is not possible to simulate the ever-changing nature of battlefield conditions with 100 percent accuracy, the final step of testing and debugging Tactical Office occurs with live weapons systems during military field exercises.

Unusual Challenges

“Our developers sit side-by-side with combat personnel during field exercises,” said David Ramsden, chief software architect for Tactical Office. “They constantly evaluate the system as it processes live geospatial data feeds from myriad weapons systems used across the military. If we see a software anomaly, we must fix it in real time because the exercise cannot be interrupted.” The unique nature of this environment requires Applied Data Trends to take its software development tools into the field.

“A typical scenario places our developers at geographically dispersed sites, so using a configuration management system to coordinate activities is extremely important. With our previous tools, we found it difficult to support this requirement. We began with Microsoft® Visual SourceSafe™ but encountered difficulty because the client relies on Windows file sharing to communicate with the SourceSafe server. File sharing



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is not often enabled in classified military networks. We then deployed SourceOff-Site™ from SourceGear™, which provides a TCP/IP connection to SourceSafe. Neither of these solutions met our needs. They were challenging to administer and did not scale adequately.”

Faced with the pressing need to resolve configuration management issues, Applied Data Trends began an exhaustive nine-month evaluation process of more than a dozen configuration management products. “Our requirements that a tool be portable into the field, have a true client/server architecture, operate across platforms, and provide a flexible licensing model quickly shortened the list. From the remaining contenders, we selected Seapine Software’s Surround SCM™.”

Innovative Solutions

“Some products are so complex that they require a dedicated administrator just to set them up,” noted Ramsden. “With Surround SCM, it’s simple to snapshot the source tree, create a repository, and get a working configuration management system into the field. During military exercises, our developers find Surround SCM’s private workspaces especially useful. The developers are able to make a change at their remote locations and

request that it be promoted to an integration workspace. At a central site we have a ‘build sheriff’ who uses Surround SCM to preside over the integration of changes and to build and distribute updated bits.”

Previously the team experienced difficulties setting up configuration management in the field. “Surround SCM’s true client/server architecture is a real winner for us. The Surround SCM client uses a simple TCP/IP connection to communicate with the server, which drastically simplifies configuration: no more mucking around with virtual private networks and SAMBA file sharing. The connection is also encrypted, which gives us a secure connection to the main Surround SCM server back at the office. This is especially useful when we forget to grab something from the source tree before heading out.”

“Because our product is built for heterogeneous computing environments, we need a configuration management solution with similar capabilities. We are happy that Surround SCM was developed with multiple platforms in mind: Tactical Office runs on multiple variants of Windows, Linux, and Solaris. The majority of configuration management vendors do not offer this flexibility.

“Another problem we encountered was licensing. Many tool vendors offer only node-locked licenses. That works when your hardware base stays relatively static. However, in the field our hardware environment is different every time. The licensing model of Surround SCM is the most flexible we’ve encountered. The ability to choose between named and floating licenses allows us to use the right model in the field and in the office.”

About the Author

Allan McNaughton is a patent holding technologist and veteran writer with more than fifteen years of industry experience. He is the president of Technical Insight, LLC, a firm specializing in the composition of high-technology white papers. Mr. McNaughton is a frequent contributor to leading technology publications and can be reached at allan@technical-insight.com.

Lessons Learned

- Consider customer support. Says Ramsden, “When evaluating development tools, consider the company’s reputation for responsiveness. We once faced a problem on a holiday weekend. Before the weekend was over, a Seapine developer was corresponding with us regarding the issue.”
- Ensure flexible licensing. “It’s easy to gloss over licensing details when choosing a configuration management tool. Don’t make that mistake. Surround SCM’s support for named and floating licenses enables our developers to work in all sorts of environments.”
- Look for a true client/server architecture. “If you work remotely at customer sites, make sure the configuration management tool you select uses an encrypted TCP/IP connection to communicate with the repository. With this feature, you avoid the complexity of setting up virtual private networks.”

Close to the Customer

By adopting Surround SCM, Applied Data Trends not only solved a difficult configuration management problem, but it also added a capable partner to its development process. Ramsden concluded, “I am most impressed with Seapine’s responsiveness. When you ask a question or submit a problem, it doesn’t go into a void. Real people respond with real solutions. Every issue I have submitted has been addressed in a timely manner. The company is watching out for us.”

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