Plot Your Course

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2020 A.D. The United States of America takes on another police action in Latin America and bombs the Chibcharian Embassy, killing several Chibcharian diplomats. Angered, the Chibcharians imprison thousands of Americans in retaliation. The President sends a carrier group and issues a demand to the Chibcharian Premier.

President: "Unless all U.S. prisoners are immediately released, we will begin to destroy your military installations."

Premier: ""Mr. President. I assume you are aware of the massive power outage that has just occurred in the Northeastern United States. All telephone service to the Southeast has been cut. The floodgates in the West have been opened. This is a demonstration of our capabilities. We are confident that many of your weapons systems will not function as a result of the hidden disabling code we have embedded in them. Our demands are simple. Recall your carrier group or we will signal your weapons to self-destruct. We demand a public apology and 5 billion dollars to compensate the family members affected. In addition, we demand the entire production of your Midwestern farmland in perpetuity."

The president reviews this threat with his technical advisors and discovers that the Department of Defense (DoD) has relied heavily upon commercial-off-the-shelf (COTS) components.

Early warnings were given. As Will Tracz writes in his article on architectural issues and other lessons learned in component-based software development (see page 4), it is important to know what COTS can do to you and beware of how you reconfigure your processes to meet COTS component capabilities. However, the real threat began when COTS development moved offshore because the United States only educated 17,000 software professionals per year, and the DoD's need for software far exceeded internal production capability. This exportation of software development had begun in the early 1990s, beginning with the country of Aidinia.

Aidinia was a model of off-shore development with production costs 1/10th of those in the United States. Aidinia applied disciplined software development concepts like the Capability Maturity Model (CMM) that the Software Engineering Institute developed. Its number of CMM Level 5 companies grew from five to 20 in 15 years before Chibcharia began capturing the market.

Following Aidinia's example, Chibcharia educated more than 10,000 software professionals the first year of its program, and produced more software developers than the Aidinians by 2005. Five years later, all major corporations were doing business with Chibcharia, and nearly all DoD contractors purchased their COTS components from them. Contractors were rewarded for saving money, and COTS developed there at 1/20 the cost was the proven way to do it.

The security topics captured by Bryan C. Critenton in this issue (see page 27) are critical and will take a great deal of effort to resolve; however, they are only the beginning of DoD software challenges if core software development moves to foreign countries. This is a lesson we do not want to learn.

The Capability Maturity Model for Software and SW-CMM are registered in the U.S. Patent and Trademark Office.

On the cover

acrylic painting by Alex Nabaum

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