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Open development delivers unexpected benefits

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Rob Vietmeyer has led the creation of SoftwareForge, a collaborative environment for shared development of open-source and Defense Department community software. Vietmeyer is director of the Defense Information Systems Agency's Forge.mil, a Web-based software collaboration tool. Through his advocacy of open technology, Vietmeyer is helping to streamline DOD's software development life cycle and provide more effective, less costly tools for warfighters. Editor-at-Large Wyatt Kash recently interviewed Vietmeyer about Forge.mil and the Rapid Access Computing Environment, a cloud computing platform that DISA uses to offer services through its Defense Enterprise Computing Center.

GCN: How have RACE and Forge.mil changed since each was launched?

Vietmeyer: Looking at what's changed, I think we have learned a lot about what it takes to run a business in this environment. What's been interesting is coming from traditional programs in the past to stepping forward and saying we're going to offer a service to DOD customers in trying to drive continuous innovation as well as supporting an expanding user base. And so, as opposed to traditional programs where we do development and someone else does operations, we've really been able to combine development and operations into one group, which means that we've had to really become experts in running a start-up business.

And did you recruit folks that specialized in this?

Yes, we have. We were able to bring in some government folks that we'd worked with that we knew had a particular skill, and we've contracted out for people that do this for a living. In terms of the community support on the Forge side, we found some folks that have done open-source communities in the past and were able to leverage their knowledge, and they've been invaluable to delivering the Forge capability — in keeping the customers engaged and making sure the customers really can fully utilize all the capabilities that are there.

What benefits are you seeing?

I think what we've learned is a change in our initial assumption of what the value proposition was. So originally, we thought that sort of a traditional model for cloud computing was the value proposition we were going after, which was lower cost, economy of scale and specialization, sort of the same thing you are seeing in the commercial cloud spaces. I think that when we look at Forge and RACE now and take an enterprise perspective, we're seeing a huge value proposition that's coming from the collaboration and the enterprise visibility into what's going on in the environment.

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So we are providing a development environment where people can come in and share best practices and lessons learned and share their software. What we are finding are DOD IT assets that were in the past completely hidden. We are starting to see a very powerful return on investment that is coming from being able to pull together developers that are working on a similar, or the same, problem but unaware of each other's efforts, as well as being able to drive collaboration into some of the core platforms that we in the department rely upon.

Can you point to any one software development or anything that is coming out that would reflect that?

Absolutely, actually the largest project on Forge.mil right now goes by the acronym DIB, and it stands for Defense Common Ground Station (DCGS) Integrated Backbone, an intelligence, surveillance and reconnaissance processing suite that puts together a common picture and then distributes it out to the Army, Navy and Air Force. Several years ago, they wanted to pull together a common infrastructure [that] they called the DIB that the Army, Navy and Air Force can all use. They put the Air Force in charge of it. In their first approach, everybody had to come with their own requirements, their own funding and pay the Air Force to prioritize how this should be delivered. And it turned out to be sort of a slow and cumbersome process.

What they've been able to do is move the DIB development into Forge and allow the Army, Navy and Air Force to directly contribute to the ongoing development and software baseline rather than just relying on a single developer. So each of the services is able to incorporate their own extensions and tailor it to their own environments, share that as part of this common baseline and then all collaboratively work together to continue to evolve this infrastructure rather than relying upon a single development effort to try to satisfy everyone's needs.

Within that, the teams have also adapted Forge for doing agile software development as a primary development methodology so they can keep innovation — rapid innovation — in their delivery processes. They've been one of the exemplars, and of course, they're the largest project that we are hosting right now.

Is there any discussion or sense of the dollars or time saved by going this approach versus what would have been the traditional model?

One of the numbers that we put together in terms of our ROI was focused solely on the costs savings from a start-up perspective. If I needed software development tools for my own use, I had to go off and do the acquisition and do the certification and then operate and maintain those. Looking at just the Forge users today, we're estimating that from a start-up perspective, we saved each program about $15 million overall.

Is that with everybody using it?

And that's sort of a conservative estimate. What we did was, we took from some of the larger programs and ignored the smaller ones. There's a bunch of small projects that are highly valuable from the reuse perspective, but it probably wouldn't have existed if they had to pay their start-up cost. So the fact that there is now an enterprisewide environment for people to share software is tremendously valuable. But we haven't tried to put a specific dollar value on that. That's more of a softer ROI. We are trying to come up with a metric to calculate that value of it.

We can certainly say, "This is the level of effort that a program would typically incur in terms of doing tools selection in acquisition and operations." So we estimate for an average project that turns out to be, very conservatively, between three months [and] six months, works out to between $200,000 and $500,000 per project. Then we took a look at one of the largest programs that would have done this themselves within the Forge environment and then we estimate there's somewhere around $15 million just in start-up costs alone that has been saved.

And collectively, are they doing it in a shorter period of time now?

That's just to get your start-up environment up and running. So if you come into the Forge environment, it's immediately available, you can start your development effort immediately.

These were calculations that were done for Forge.mil. RACE is similar, but I haven't seen any specific dollar value. Where we are seeing RACE used right now is primarily by smaller teams looking to rapidly prototype new capabilities. So with Forge, we are seeing both large programs as well as smaller efforts. We have folks developing software for mobile devices, iPhones and Android machines. RACE customers have been folks that will already have their own lab space and their own development machines, so the

capability hasn't been as attractive to them yet.

About the Author

Wyatt Kash is Director of Event Content Strategy and Editor-at-Large of 1105 Government Information Group.