Video transcript

IBM Smart Products: Are Built with Rational Software

Avionic systems of today are very complex. They include collision avoidance systems, instrument landing systems, communications, and what we're trying to do these days is put it all in a single box which takes up less space, uses less power, and is lighter weight.

What our team is doing is using the IBM tool set to manage the requirements from start to finish in the program, so we're talking about capturing the requirements, consolidating using DOORS in a single set of requirements, managing the requirements with DOORS, Change and Synergy for change and config management.

So part of the challenge is managing the requirements from the different agencies and the customers. We have two customers that we're working with. We have the FAA and several other agencies that are mandating certain requirements that we have to satisfy. And they come in and audit us occasionally to make sure that the things that they're interested in satisfying are being satisfied with our tool set.

What they do is they come in and look at the requirements and they do spot checks to make sure that, for example, the low level requirements in the code link up to the higher end requirements that we're mandated by different agencies.

The biggest challenge that we face is, and this is true in every program I've worked on, is verification.
So the thing that we're doing that's unique in our program is actually capturing all the verification of our systems in DOORS. So it's easy to say, OK, we know what the customer wants. We know that we've built the product that the customer asked for. But actually being able to verify and capture the verification that we actually did build the product that the customer asked for is the biggest challenge. …

Getting it done quicker is part of it, but part of it is capturing all the different changes. Who made the change, when they made the change, was it an authorized change. For example. And they're — what the tools allow us to do, number one, is manage it, but what it allows us to do is, is capture a finished product in data before we actually go and try and build it.

So the benefit of that is wherever we are working, with whichever part of the team we're working with, we see the same tools, we see the same set of requirements, we see the same product. They do testing in Redmond on the hardware, and they have parts of the hardware in Shanghai, and they do the same testing, using the same test equipment, the same software. The benefit of that is that it doesn't matter where you're working or who you're working with, everything is the same, geographically doesn't matter.

So it basically cut the life cycle in half, so we get faster deliveries to the customer, we get more turns of the hardware, all the testing and everything. It happens twice as fast.