you think about a hacking event of tying
technologies together, tying data streams together,
really building advanced analytics and then also all
the branches and sequels that happen in a cyber
event. So being able to tie those together, model
those, simulate those in many different
permutations over and over, I think is a key one. The
second one, I would argue is really all the
weapons system platforms across the Department
time to deliver. Right. And so you look at the T7 in
the Air Force, literally flew thousands of hours
before it was actually bent metal to actually build
that aircraft. And so you start to reduce the time,
reduce the cost and also reduce the overall program
risk that you see with these elements. The last
one, I would argue is logistics, which is across the
federal space, whether that's modeling a supply
chain. Again, the cybersecurity implications of that
or just the end end of how do I deliver a service and
all the components that go into that. There's a
resourcing implication. There's a call it just the data
trend of of getting those parts to the right place at
the right time, and then ultimately the best cost of
doing business that we can do and then being able
to push and pull on all those levers to to really
optimize the supply chain.

Chris Copeland [00:02:48] Yeah, that's great. Bill,
how mature are digital twins today?

Bill Marion [00:02:53] Great, great question, Chris. I
think at a technology level, we're pretty mature,
right? We've adopted cloud. People are moving out,
the digital platforms are moving out, data
frameworks are actually maturing. But I think there's
the softer dimensions to digital twins. That's really
key – that folks really need to focus down on the
user-centered design piece of it. It’s key, the digital upskilling of the workforce. So they understand all the dimensions of digital twins and all the components that need to come together. I think one thing that’s very big is if you look at digital twin, it’s all about the digital thread and sharing the data and bringing the ecosystem together. And so how do you work a shared services model? Let’s be frank, it’s been a challenge for the federal space. So how do you get everybody to swim in their lane, but then bring those pieces together to really accelerate that change? And it kind of brings to the last couple of points of organizational design. The federal acquisition process, we’ve talked about agile and software. Digital twin is no different. We ought to be able to build these repeatable, scrum like capabilities that bring twins together, tear them apart. But I absolutely don’t think we’re designed that way to really accelerate digital twins. And the last one is really that whole foundational piece around data. Again, we’ve progressed up the scale, but I think there’s so much work to be done of having the real data skill people, the engineering concepts and all the framework and construct behind that. To me, it’s the tech piece of it. But as we always know, it’s people, process, and technology. So that people and processes, I would argue, most folks need to really double down on and accelerate to make digital twins a success.

Chris Copeland [00:04:30] And again, like you mentioned, we’re really seeing this be pervasive across the federal market, whether that’s resources and energy or like you mentioned, cyber. The uptake of this and the advent of the technologies’ ability to really accelerate the adoption of digital twin is quite impressive. In that context, when you look at an agency or department or command who should lead that digital twin development? Who are the key players in making sure that it’s successful?

Bill Marion [00:04:58] Well, Chris, I’m going to give you a little bit of a nontraditional answer, and it’s almost like my analogy that I thought of it as a football team. And who’s the team captain of football team? So, yes, you’ll natively typically have a captain or a linebacker, much like in the in the department of the federal space, the CIO or the head of acquisition, are typically that quarterback and linebacker kind of equivalent, because it’s really about who can embrace the change, who can bring the technical skills and ability and frankly, who has those, the ability to bring together and.

ufndamentally redesign oftentimes how we acquire and deliver capabilities? So I do think there’s core players to that ecosystem. Again, the acquisition community, logistics community and CIO community. But I also believe it’s a best of breed discussion. I think you’ve got to put the one that’s best equipped because let’s be real digital twin is isn’t just about the technology, it’s about the digital upskilling. It’s about the organizational design. It’s about how you resource it and change the way you acquire and deliver capability. So somebody has got to work that that that quarterback has got to be that person that brings all of those elements together.

Chris Copeland [00:06:02] So you need skilled position players at every position to really be successful, take advantage. But any one player alone really can’t carry the carry the ball over the goal line. Well, thanks a lot, Bill. You were incredibly timely and very insightful, as usual. Thank you.

Bill Marion [00:06:17] Thanks, Chris.