Regaining Decision Advantage: Overhauling JADC2 To Bolster US Deterrence

TRANSCRIPT

Discussion

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A video of the event is available: https://www.hudson.org/events/2120-virtual-event-regaining-decision-advantage-overhauling-jadc2-to-bolster-us-deterrence62022

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Bryan Clark:
Welcome to the Hudson Institute. I'm Bryan Clark, a senior fellow at the Institute, and director of the Hudson Center for Defense Concepts and Technology. We are really honored today to have a great discussion on the Joint All-Domain Command and Control Initiative that the Department of Defense is undertaking.

JADC2 as everybody calls it, is a series of programs, concepts, and efforts, and experiments going on within the Pentagon right now, in an effort to try to connect the U.S. Military in ways that might give it a decision-making advantage going forward. To have this discussion with us today, we've got a terrific panel of experts.

We've got Dr. Dan Patt, our own senior fellow here at Hudson Institute. We also have though with us General Hawk Carlisle, who is currently the chair of the board of directors of the Stimson Center. He's a retired four star general, retired as commander of the Air Combat Command in the U.S. Air Force. Has commanded at all levels of the Air Force. And as a fighter pilot, served in multiple conflicts over his career.

Also with us is Admiral Scott Swift, who is the founder of the Swift Group, LLC. He served in the Navy for more than 40 years, retiring as the four-star commander of U.S. Pacific Fleet. And he has done a series of projects since then for the Department of Defense, including some work that him, and General Carlisle, and General Wesley have all done for DARPA on mosaic warfare.

Lieutenant General Eric Wesley is with us as well. He is a retired general. He's currently the executive vice president of the Strategic Planning for Flyer Defense LLC, which is a leading developer of electric combat vehicles. Lieutenant General Wesley joined Flyer after retiring as the deputy commander of Army Futures Command, and was also the director of the Future Concept Center at Army Futures Command. So, thank you very much gentlemen for being here, for this discussion of JADC2.

General Herbert “Hawk” Carlisle:
Thank you.

Admiral Scott Swift:
Thank you.

Bryan Clark:
So JADC2 is something that Dan Patt and I have been looking at for the last year or so, but really in earnest over the last several months. And we've published a couple of papers and a series of articles talking about JADC2. Those are all available on the Hudson website. We have a JADC2 webpage there where we've collected that research, and we're going to continue the analysis of the needs for JADC2 going forward.

Our research, including a paper that Dan and I published in February, highlights the changes that might be necessary to really make JADC2 deliver results in a period of time, that makes it relevant to confrontations with the U.S., most of the pacing competitor of the United States, China. So gentlemen, you are releasing a paper that the three of you have developed over the last six months or so, looking at JADC2 and offering some recommendations on how the department should move forward with this initiative.
And we'd like to talk about that today, if we could. It's a huge issue for the department, it's extremely important for the national defense, and we'd love to get into it. So an opening question to you all that ... To set the stage is, there's an expectation on the part of China, or the INDOPACOM, that China might be in a position to invade Taiwan within the decade. Obviously that creates some urgency for the department.

Do you see that the department is carrying through on that urgency, and where do you see the challenges as being in terms of restoring the ability of the department to operate in this multi domain way that gives its ... It forces a decision making advantage? And I'll start with you General Carlisle.

**General Herbert “Hawk” Carlisle:**

Yeah. Thanks. I appreciate it Bryan. And thanks for doing this. I think it's really important. Yeah, the department recognizes it, I think sometimes I'm not sure the American public does. I think education is a big part of it. China's pretty open, they write about what they want to do. They want to force us out, they want to replace us across the board as a power, both economically and certainly strategically in the Indo Pacific and even beyond that, and they talk about it.

And Xi Jinping has told his forces to be ready to invade Taiwan and take Taiwan by forces if required. So it's not a question mark, I think the department understands it but I think we have the force that we have, and we have a capacity challenge in an away game like that. And we know that the Chinese, the PRC, and the Chinese communist party have studied the American way of war for the last 30 years.

And they are doing everything in their power to counter it. And so they're looking at what we're doing, the famous quote of who won the global war on terrorism, China did. Because while we were spending trillions and trillions of dollars and spending a lot of time focused on the middle east as we needed to, they were studying what we were doing and trying to counter all of our capabilities.

So I think where we're at and the reason this paper is so important with my friends and partners here not so and Eric is, we got to do it fast. We don't have time, and the speed is an element. We have the force that we have, we'll bring on some new capabilities, but capacity and capability, it's not going to happen as fast as we need to.

So JADC2 really is the answer to knit together our current force, our friends, partners, and allies force, with whatever new capabilities we bring on to really cause our potential adversary challenges and dilemmas that they can't handle.

**Bryan Clark:**

Thanks general. I mean, the idea of creating dilemmas for adversaries is going to be really important in a position where you don't necessarily have the firepower or the capacity advantage that we enjoyed in previous conflicts.

Admiral Swift, you commanded out in this region, in the Indo Pacific. Where do you think we stand in terms of being ready to deal with a China that might become belligerent towards Taiwan this decade?
Admiral Scott Swift:

So let me go a little bit back to beginning. And I guess the first thing is to start with a comment to point out that Hawk commanded out in the Pacific as well. When I was a J3, he was a PACAF commander, and Eric is also well versed on the challenges in the Indo Pacific. The first thing I would say is that describing this as a DOD issue or a national security issue, I think is too much of an understatement, which motivated all three of us to come together and share in this paper.

This is really a government issue. And I would agree with Hawk, the reason why it's such a challenge within the government, is because the man and woman on the street doesn't understand the implications of the competition from a national security perspective beyond just national defense. So this really transcends and expands beyond the U.S. government to include the civil sector.

A lot of people talk in terms of potential conflict with Taiwan the next 10 years. I think that's exactly right. I think to put a date specific on it, is a misnomer. My belief is that, should the Chinese communist party make a decision that it needs to move on Taiwan in its own best interest or in the PRC’s best interest, it will do so.

So this is a here and now problem that we face, which is why you hear the sense of urgency amongst the three of us. I would say that the paper I understand is now published on the website, so I would encourage all to read it and critique it and criticize it. There's not unanimity amongst the three of us of exactly the way forward, but the view that you read in the paper is a common view where we agree are the core issues that need to be focused on.

And Hawk mentioned this bottom up approach. So back to your question to me as a previous Pac Fleet Commander, I'm very concerned about service to the tactical ledge. And I think JADC2 can deliver on this. This paper's not a criticism of the work that has been done or is being done, but it's a call for a sense of urgency, not just speed, but the element of velocity being ... Bringing speed with a direction.

So the specifics of we, think there's a primary role for depths sec death to play in this, we think there's a primary role for device chairman to play in this, and that's to get better alignment which is needed now based on the discovery that has occurred already.

So it's not looking back with a criticism, or looking at what's happening now with criticism, it's looking forward with a sense of anticipation of how can we better align across DOD, across the government, to deliver relevant capabilities with the systems we have and near term systems to counter the threat that we face today.

Bryan Clark:

It's a good point about the fact that we're largely going to have the force that we have now when it comes to 2030. Very little of the force is going to have changed when it comes down to force structure. But a lot of what we can change is the way that they work together, maybe some of the mission systems or weapons that can be employed, some modifications possible there.

General Wesley, you work in the defense industry now. And at army futures command, a lot of what you had to think about was, how do you quickly evolve the force to be able to deliver new capabilities that could create dilemmas or uncertainty for an opponent?
Where do you think we are in terms of being able to do that for the Chinese? What's the opportunity space look like in terms of bringing new force structure versus mission systems and weapons?

**Lieutenant General Eric Wesley, USA (Ret.):**

Yeah. I think this question is fundamental, and thanks for proposing it from an army lens. When we drafted multi-domain operations as an army, one of the three legs or components that was fundamental was what we called convergence, but ultimately is joint all domain command and control. And there are two components to that. One is, to layer the different domains so that the total against your adversary is greater than some of the parts.

And the other one is this resilience in kill chains. We have experienced effective kill chains over the last 30 years, and we've watched the effects of them, but they're fairly brittle. When you've got an asymmetric adverse or an adversary with asymmetric capabilities, it can really shut down your kill chain very quickly. So I think if I were to address urgency, I would put it in three components.

One we've already addressed, in that programs of record take decades to replace. So you can't rely on that. Command and control is the one low hanging fruit that you can use to optimize all the capabilities legacy or future into one place. So that's point number one. Two is, command and control is uniquely to our advantage.

We're really good at that. The American way of war, the Western way of war, I think is very effective at initiative and the ability to synchronize combined warfare. Our adversaries are not good at that, so we should leverage our advantage. And when you contrast that with the fact that we can't replace programs of records very rapidly, this is the place to go.

The third point I would make is, if we watch what is happening in Ukraine, you can see very easily the fact that technology, asymmetric technology, and interior lines poses a threat to an expeditionary force. And people won't like me saying this, but in this case, we are Russia. We are the expeditionary force that has to get to INDOPACOM. And so that makes us very vulnerable.

And so you can see that Russia has not optimized their ability to deliver command and control in combine arms warfare, and we must. So I think those three reasons, this idea of the low hanging fruit, the second that it's to our advantage, and third, that as an expeditionary force, asymmetric technology really poses a threat to you.

**Dan Patt:**

So I'd first like to commend the three of you on what I think is an excellent paper. One of the things I really liked about it is, so obviously the Department of Defense has been talking about JADC2 for some time. I found the paper had a really crisp view of what JADC2 is, or should be, right? The technical enabler for joint operations and in complex military environments.

And I thought how you link that to mission command, imposing operational dilemmas, was strong. I also found your recommendations very succinct. So again, I encourage people to check that out. One aspect of your paper that I'd like to explore is your emphasis on experimentation. And there seem to be a couple threads that come through in the paper.
One, again, an emphasis on needing to start a campaign of experimentation now, and maybe even more urgently than what the department’s talked about. And secondly how that links to things like new operational concepts. So let me start with ... Start back with you General Wesley. How do you think about the role of experimentation in making JADC2 real?

**Lieutenant General Eric Wesley, USA (Ret.):**

Well, the beauty of experimentation is it leverages the ingenuity of our soldiers, sailors, airmen, Marines in an ability to leverage a crowdsourcing approach to creativity at the place where the problem is most apparent. And so experimentation in this case, if we could do ... If we source experimentation in the Pacific, I think that you'll create ideas and capabilities that exceed what we've seen so far.

Second, again, to overemphasize the point at Ukraine, is you can see a force that has been successful in the first 100 days, because they were empowered to experiment. And we've seen fairly limited technology be leveraged against a superior force in an effective manner.

The third point I guess I would make is, this is what gives you ... When we talk about velocity, we're talking about direction and speed. It's the direction as we note in the paper, that you get from experimentation conducted by a commander who understands the problem in the field.

**Bryan Clark:**

Yeah. Admiral Swift, how will experimentation help the U.S. refine or develop operational concepts? And to what extent do you see operational concepts as being important to the balance in the Pacific?

**Admiral Scott Swift, USN (Ret.):**

Well, I think it's absolutely critical as part of a key pillar of the framework that you need to build around the development process. My visual is of experimentation being the description of the framework. And it's made up of four different elements. And we talk about this, at least acknowledge it in the paper. And that is. Modeling, simulating ... Simulations, exercises, and war gaming.

But you have to have a model to designed, to emulate if you will. And in the paper we make the recommendation. We do think that the pacing threat is the PRC. We acknowledge and use what's happening in Ukraine as an example. We won't go into all the arguments, I won't go into all arguments here about why I still consider to be ... PRC to be the pacing threat.

But I think now more than ever, in order to get after those organizational concepts, we should look to INDOPACOM and in particular, Admiral Aquilino as the lead to make sure that we take slack out of this development process, that both Eric and Hawk have spoken to. And in this structure of experimentation, you are able to move much faster, fail fast, and fail early, because there will be failures on this journey.

It is not going to be just a straight line from point A to point B. This is why we applaud the top down approach that's been taken so far, but all three of us are strong advocates for the bottom up approach being guided by that operational framework and operational context that is being faced by the INDOPACOM command.
And Admiral Aquilino particular to be the one to turn to, to suggest that are we on the right path? Are there ways that we could move more quickly and with more velocity?

**Bryan Clark:**

Yeah. General Carlisle, the paper calls out ... Mentions the fact that the department has now a JADC2 implementation plan that does call for some amount of experimentation. Your paper suggests though, that's neither enough in scale nor soon enough.

Can you talk a little bit about why experimentation should start soon and at scale, and why this is so important and why, and what department's doing isn't enough?

**General Herbert “Hawk” Carlisle, USAF (Ret.):**

A lot of it is reiterating what both Admiral Swift and General Wesley said. At the end of the day, I think it's important. I think the CFT that has been stood up under the J6 and the implementation, the cross-functional team and the implementation planner, are incredibly important. And you need those to help with the resourcing, and help with the guidance and the push from the top leaders.

We recommend DEPSECDEF and the vice chairman. But invariably, when we give capability to airman that we developed or soldiers, sailors, Marines, guardians, all of them, they do more with it than we ever thought possible. Well, let's move that up and do that in experimentation. Right?

So let's give it to them sooner, let's give them some ... As Admiral Swift says, let's give them the opportunity to fail fast, learn from it, and do even more with what we give them. So the top down's important, but invariably we find solutions when we go out and put it into practice. We find better ways to do things we put in practice, and we know how to do this.

When Admiral Swift was a J3 and I was out of PACAF, we decided we needed to take advantage of two stealth platforms, submarines and F22s. And you could use F22 targeting data to launch a TLAM from a submarine. We didn't figure that out because that's why it was designed, we had airman and sailors figure that out. So that's really what we need to do, and we need to experiment and move that process up and not wait until we're game time.

We need to start it as early as we can, and that's where experimentation comes in sooner, more often, and put it in the hands of those young women and men out there that are doing that mission every single day and actually are responsible for the execution of those missions.

**Bryan Clark:**

General Carlisle, that resonates quite a bit with me and that's something that Dan and I have been looking at in the JADC2 work we've been doing. There's challenges with that. So Admiral Swift, we want to expand the experimentation program and try to get more concept development to be done at the edge.

Do we need to allocate forces for that function? It seems like that's something we need to think about as being a demand signal for deployments, as opposed to just doing that as catches catch can.
Admiral Scott Swift, USN (Ret.):

I think that's exactly right Bryan, that's got to be done. And this is the challenge I think that those in leadership positions are facing. I think this is why we advocate for the roles that we suggest for DEPSECDEF and the vice chairman.

Forward operations are critically important across all the services, whether they're deploying from the United States, or if they're former deployed already. But we have to take a balance view about the necessity to develop the capability, to defeat a peer competitor at scale and on timelines of our choosing. As Eric spoke to, this is an away game. We will be the expeditionary force.

So this is a wicked difficult problem, and we have to prioritize the development of this capability, the ability to both control and command joint forces deployed in support of INDOPACOM plans and direction. It won't just happen overnight, we have to get after this now, and it has to be done in a structured way.

Which may mean, reducing operations in some areas, reducing either the frequency of the operations, the scale of the operations, or the number of forces involved, or the kinds of forces involved, to make sure that we get after this critical problem. Look, what we're really talking about is the ability to win in a phase three war fight. This is core to deterrence that there are multiple coins in the deterrence jar, but a key coin is relevancy.

And there's two sides of that coin is, are the deterrent mechanisms that we are proposing to deter a opponent, are they relevant in the eyes of on one side of the coin with the opponent that we're trying to deter, and are they relevant in the eyes of our allies, partners and friends that we are trying to reinforce and encourage, and have faith and confidence in our way forward as a joint force?

I don't want to steal a question if this is on your mind going forward, but this is why we think that this should be U.S. focused effort, but to be absolutely inclusive of allies, partners, and friends, because we're going to have to work with them. And this is back to my belief of why we should be focused on the third and the triad of the Dep Sec Def and the vice chairman.

And my view is the INDOPACOM commander to help make sure that the trades that are being made in order to ensure this experimentation process is successful, in order to ensure that it's appropriately resourced with manpower and time, that he is able to make those risk trades necessary to get after this problem set in a meaningful way.

Bryan Clark:

Yeah. Admiral, it's an interesting viewpoint because it makes it much more of a threat focused process of capability discovery and development, rather than trying to just run the industrial model where we produce things and they go out to the field, and then the field figures out how to employ them best.

And so, one of the opportunities there General Wesley might be thinking about deterrents, not just in terms of the capabilities that we're delivering for the phase three war fight as Admiral Swift said. But also, how much does our experimentation effort influence adversary decision making in the nearer term?
Can we use this experimentation both to develop our own capabilities for the future, as well as drive decision making in the near term as to what dilemmas that an opponent like China might face?

**Lieutenant General Eric Wesley, USA (Ret.):**

This is a really important question, and it relates to the first. That is, why the urgency, and then what is the role in deterrence? If we look back at airline battle, airline battle was largely a phase three construct, and it was focused on deterring against echelons and formations.

What's unique about multi-domain operations and all domain operations, is it starts left of conflict in competition, and it targets nodes and systems very early. It's difficult to portray deterents just by forced presence. You have to be there to deter, but the presence would require a scale of deployment that we can't afford and nor would we support.

So the real question is, how do you deter in a multi-domain operations or all domain operations environment? You have to have a very effective C2 mechanism that's actively employed every single day. We talk about the ability to stimulate nodes and systems, see them, and then strike them. Stimulate, see, strike. That's something that has to happen every single day.

It's not something you can ramp up for phase three, it's got to be happening every day so that you can target those systems. So allocating forces and experimentation all go to achieving deterrence, because what it will illustrate is not just our capability to target, but our intent to do so.

**Bryan Clark:**

Which is a great point on having the multiple purposes that are being served by the experimentation effort that would support JADC2. And General Carlisle, one of the opportunities here is obviously experimentation is going to reveal new capabilities that might offer a greater decision space for the U.S. commanders relative to opponents.

Or a new capability that if introduced would close off the decision space that might be available to the Chinese. You talked about the need for the DEPSECDEF to be intimately involved in this and lead it. How does that feedback loop work in which we experiment?

We look at new ways to neat the force together, but there's either glue or tools or weapons that we think could really be low hanging fruit game changers. How are we going to make that happen in this bottom up process, or how could we?

**General Herbert “Hawk” Carlisle, USAF (Ret.):**

Well, I'd go back to what we said earlier. That's a great question, but it's both. And it's actually top down bottoms up and middle enforced. Right? So I think it's all three of them. So having the vice chairman and the Dep Sec Def with the leadership and the push to get this done with help with the resourcing, which really comes from the top down in most cases.

And then you have those incredible young women and men out there, that are going to take that experimentation and go out and solve operational problems. That'll scope it because you'll get those
soldiers, sailors, airman, Marines, and guardians out there that go, "Hey, we got this problem. We've got to stop DF21s. We've got to stop attacks on the second island chain."

Whatever that problem is, and they'll scope it. And then you have the work that DARPA is doing, the work that the FFRDCs like Mitre are doing in SCO. You have the national labs and the UARCs (University-Affiliated Research Centers) that are producing some capability with current systems, that allow you to reinforce and to help answer the problems of what those experimentation is doing with those young folks out there doing it.

Now, the feedback loop's going to go all the way through. Right? It's going to be down from on top, from the vice chairman of the DEPSECDEF going, "We need to do this." You get reinforcement from all those parties that have the capability to help. And then you get feedback with the success of those going back from the experimentation, through the combatant commands and the services, back to inside the building.

So it's all three phases and we can't ... No one of them can do it by themselves. Right? Bottoms up doesn't work if you don't have the resources. Top down doesn't work if you don't have the bottom set of the kids out there trying to solve the operational problems. And you need the DARPAs and the Miter's and the UARCs to support and provide capability. So I think it's from all three phases.

Bryan Clark:

How much would we ... Should industry be involved in this, or should we be bringing industry into the JADC2 experimentation campaign at this bottom up effort? Or is this something that really the government should be reaching out when they need something new? But maybe a lot of this is already resident and what we're developing between DARPA and SCO, et cetera.

General Herbert "Hawk" Carlisle, USAF (Ret.):

No, I think industry has got to be part of it. And I think DARPA would tell you the same thing, I think Mitre would tell you the same thing. SCO is obviously Strategic Capabilities Office. And frankly, a lot of the innovation, a lot of the ability to command and control in a challenging complex environments, is developed in the commercial world.

I mean, look at some of the things that are going on out there in the commercial world. So industry has got to be part of it, and frankly, we got to bring them closer into the fold. I mean, there's trusted capital, there's firm and CFIUS. We have to make sure it's all those things that keep adversaries from stealing our technology.

But industry has got to be part of the solution, because there's tons of innovation out there. And when you start talking to producing at scale, the Department of Defense doesn't produce anything industry does. So you really have to get industry engaged across the board in my opinion.

Bryan Clark:

But I want to pivot off of that. Right? The paper states that JADC2 represents the single most important near term investment for deterrents. But DOD doesn't have a funding arm, doesn't have a program element in the budget, doesn't have an organization that's responsible for joint command and control.
General Carlisle, you've spoken about this before challenges in joint T2, what does the department need to do? How do we get from just talking about this to budgeting, executing, making progress here?

General Herbert “Hawk” Carlisle, USAF (Ret.):

Yeah. And I'd love to hear Admiral Swift and General Wesley's input. You're right, and the problem is we got rid of joint forces command a long time ago, and we ... All three of us lived through it. But there's no natural home for the DARPA work. We talk about that in our paper. There's no natural place where industry can go, "Hey, what are you doing?"

Because right now industry goes in the army, and [inaudible] does some great work, but has one approach. The Air Force and Advanced Battle Management System has another approach, and project overmatch in the Navy has a bit of a different approach. So industry needs someplace to go to really sink their teeth into what this is going to be.

And frankly it's not necessarily the next bright, shiny object. It's how to knit all those bright, shiny objects together in a way that you can work across domains, in a time ... And basically in relevant time, to create a kill chain and solve operational problems. So that's one of the reasons from Admiral Swift and General Wesley and myself, we really believe that the standing joint force headquarters out in INDOPACOM, is a place where you could do that.

Where you could really say, "Hey, this is the experimentation arm. This is a place we're going to bring these all together. All the services live on the island together by the way, so they're all standing right. Every component is within a half hour drive of each other." So you can force the folks to really work together. Industry can be part of that, they can be present, and you can get the good input from them as well.

You're right, there's no natural home and money belongs to the services. The palms are built inside the services, so having that forcing function of a standing joint force headquarters, doing the experimentation and in the most challenging environment and INDOPACOM, is a way to get after this and get industry engaged as well.

Bryan Clark:

Yeah. Admiral Swift, yeah, certainly one of the most striking recommendations in the paper is what General Carlisle just referred to, an organizational construct, perhaps a standing joint force headquarters aligned with INDOPACOM. Can you tell us a little bit about why that's important? Why is it important to stand that up now, and how would that work?

Admiral Scott Swift, USN (Ret.):

So there is some tilting at windmills in the paper that both Eric and Hawk have spoken to. And this has the risk of being one of those windmills. So full disclosure, I’m a big believer in the standing joint force headquarters based on my experiences at the J3. And we had an incredible staff when I was J3 there. But boy, we had an awful lot that we were looking after.

And kudos to another bias I have, the individual who I thought was the most informed, I couldn't say
across a joint force, but certainly on the Navy side from a command and control perspective was Admiral Willard, and I had the benefit of working directly for him.

We could not have done the series of exercises that we did at the command level, that exercised Admiral Willard's ability to command through the component commanders as a JFC or a JTF commander, down through that JTF structure without the standing joint force headquarters. I would not be surprised if some of the other combatant commanders are interested in having a piece, a bite at that apple.

But based on the sense of urgency, the three of us agree that the place for that standing joint force headquarters is under the C2 construct of INDOPACOM. They can go do other things over to the vice chairman, and for DEPSECDEF that decide how to do that. They'll be funding required. So money needs to be carved away from the services to do that. That will create antibodies as well.

A manning document needs to be developed, so this can't just be wished away. There needs to be structure here, which is why we advocate for those positions. But what's critical in this and direct answer to your question, is consistency. We are at a point of development with a top down approach that we require consistency and a way forward from here. We can't afford to just be focused on what's interesting.

We have to be focused on, what's fascinating. That that has the most probability of impact going forward. You get through that, you get to through this rubric of experimentation, modeling, simulating, exercising, and war gaming. And a standing joint force headquarters structure is the opportunity to have that C2 structure that's attached to but separate from the INDOPACOM command structure.

That can drive this process forward with velocity, deciding what developments are mature enough, that we can go experiment with them and or exercise with them in an exercise? Or there's more experimentation that needs to be done with them in a lab, or we need to do some modeling. The work that DARPAs done, Hawk mentioned this, is phenomenal. But where's the landing place for DARPAs projects?

It's almost, you have to generate the interest within DOD that some service is willing to take that on. This is not the problem set that advocates for an approach like that. We need to drive a landing space, we need to create that landing space. And I think the highest probability of determining the best landing space what that LZ looks like, is through a standing joint force headquarters under the C2 of INDOPACOM.

**Bryan Clark:**

General Wesley, a little bit earlier you spoke about what I thought was a really compelling vision of a set of people actively employing these C2 mechanisms every day. In your paper and in your comments, you also hinted at the role of technology. Things like, test beds and live virtual constructive, and enabling more ... Essentially more effective practice of tactics, and more effective practice of C2.

Can you speak a little bit about how you see either organizational construct, like a joint force headquarters or technology tools like LVC, helping service members who have presumably grown up in the culture of one service, be a part of a truly joint force facing down at a problem? Can you talk a little bit about how those pieces might come together?
Lieutenant General Eric Wesley, USA (Ret.):

Yeah. This is important because the speed of warfare has increased so significantly. And so, in order to aid the soldier, airman, Marine, sailor, there requires some JADC2 enablement from artificial intelligence and other machine learning technologies, so that we can keep up with the tempo of what we’re up against.

So I think it’s one thing we haven’t talked about yet, but the technology aspect of JADC2 is to align sensors with shooters, and C2 headquarters, and minutes or seconds. Because at the beginning when we said it could be very brittle, and once you lose that kill chain, then you’ve got a big problem. And you can’t take an hour or 72 hours, whatever the case it may be, to resynchronize your effects.

I think in order to enable a battle captain from becoming overwhelmed, the technology is fundamental here. The other thing I’d mention if I could Dan, back to the question we were just talking about in terms of, how we create movement both bottoms up and top down. We talk about a lot in the paper, but for this venue I think prioritization is fundamental.

I completely agree with Admiral Swift and General Carlisle in terms of the standing joint force headquarters, the experimentation effort. But prioritization, we use a phrase in the paper in not such a cliche manner. And that is, it’s got to be a Manhattan project like effort, and Korea, and receive resources from the Congress. It can’t be just done on the fly, it has to be resourced and it has to receive prioritization.

Bryan Clark:

On that note General, the idea that Congress and the DOD need to be allocating resources there, when you look at the amount of money that’s been put towards command and control overall, it’s not that large, if you separate out the communications investments and the network investments. So this clearly needs to be a priority.

Dan and I recently had a conversation with a senior Navy leader though, that complained that we’ve had ... We have dozens of decision support tools, and dozens of command and control tools. And this proliferation of these systems is now becoming difficult to manage, and they can’t figure out which ones are the right ones to do.

So to General Carlisle, would the standing joint task force headquarters give you a way to start sifting through the possibilities and really getting ... Making things earn their way onto the platform. Right? So make them earn their way onto the JADC2 portfolio through this experimentation effort. Is that what you’re thinking of? Is this like a gauntlet type approach?

General Herbert “Hawk” Carlisle, USAF (Ret.):

Yeah, that’s exactly right. So when you think about it, that’s ... I go back to, when you out to experimentation, you go from the bottoms up, you scope the problem. So you’re going to have operational problems that they’re going to face out there. There obviously are quite a few of logistics, contested logistics under fires, one that are commander control.

We talk about the kill chains a lot, but there’s a kill chain that goes along with the contested logistics in
an environment like that. So, yeah. And what it does is, the folks out there that are trying to do it, they'll look across those services, because right now if you think about it, the Air Force is trying to solve its challenges with the diversity of kill chains that they have, and the speed and the way they operate, and the pace at which they operate with respect to an AOC.

The Navy has their autonomous ops out there, the famous quote of the Navy is blue water ops, and how they operate out there and what that looks like and the connectivity. And you talk about the tactical edge that the Army's trying to get to, because there's so much out there to trying to get out to the tactical edge.

So if you go to the place like the standing joint force headquarters, where now you're exercising and experimenting and operation ... Solving operational problems, and solving gaps that you know exist out there, then you'll have soldiers, sailors, airman, Marines, and guardians all standing around next to each other going, "Hey, why don't we try this? Hey, why don't we try this? Hey, let's use this system. Hey, I got this. See if this works.

And what you invariably do is, you start seeing which ones paid the best dividends and are able to do those things in the relevant time. So that's exactly what it's going to do. It's going to allow you to put the services together, and try multiple ones with different industry and DARPA and FFRDC supplied capability, and find out which ones really pay dividends, and which ones get to what you're trying to do in solving operational problems.

Bryan Clark:

Right. Which makes a lot of sense. You need that forcing function to be able to identify the best of breed if you will, in terms of operational concepts, force compositions, tactics. General Wesley, you talked a little bit earlier about command and control processes. It seems like in the paper you argue for that JADC2 should be enabling us to connect and force in ways that drive dilemmas for opponents and create options for U.S. commanders.

Should the metric that we apply in terms of what gets on to JADC2, or what gets into the force posture of INDOPACOM, be designed around those ideas of creating dilemmas, and creating options? Is that the rubric we should be using to evaluate new capability or new force composition ideas?

Lieutenant General Eric Wesley, USA (Ret.):

Yeah, I think so. Sometimes we can overstate the dilemma piece, because really in end, what is the dilemma you want to create? You want to force them to recalculate. And the biggest dilemma that we want pose to them is that they wouldn't achieve their objectives in the event that they were to initiate some kind of activity.

And if we can demonstrate that it would cost heavily, then now you're starting to deter because you're creating a dilemma that we might not be successful in this venture. And so you want to steal that advantage away from them.

The technology that we're talking about, the command and control capabilities that we're talking about, optimizes all the resources we have in play, which is less than they have for postured. So we have to be able to optimize what we do have and we'll refer it to be most effective.
Bryan Clark:

And along those lines, you had also mentioned, is China in particular vulnerable to this approach of giving our own commanders a lot of options, a lot of flexibility, more diversity of kill chains as General Carlisle said? Is China very more vulnerable than maybe another opponent might be to that approach?

Lieutenant General Eric Wesley, USA (Ret.):

I think I'd agree with both Admiral Swift and General Carlisle, that both of our near peer competitors are... Admire centralized control. Which then puts them in this position of having a very brittle effort, or a very brittle capability. Again, I said earlier on, one of our strengths in the Western way of fighting, the American way of fighting is initiative.

And if you can create resilience and redundancy in your kill chains or kill web, and you can adjust very quickly sensor shooters and headquarters in a matter of seconds and minutes, now you can really empower the Western way of fighting, which then I think makes them very vulnerable.

Bryan Clark:

Which makes a lot of sense. Admiral Swift, you've written about the art of command and control before, and this is something I know that you've focused on. So when we look at mission command, and how do we take advantage of the initiative, and the creativity of our war fighters and our individual commanders.

How should we be designing or building JADC2 to enable that? What are the attributes it needs to have to get the most out of mission command and the initiative of war fighters?

Admiral Scott Swift, USN (Ret.):

That is a great question. And it requires much more time than I have here to appropriately answer it. But let me say this, and this is something that Eric and Hawk and I have discussed at length. The power of the United States ability to deploy and employ a joint force, is the natural inclination that delegate authorities to act.

We do it better than any other country in the world, despite having countries that are absolutely pure in their contextual approach to war fighting, they may not have the resources we do. And it's antithetical, I can't remember whether Eric or Hawk mentioned this, but antithetical to the Soviet and the PRC way of fighting. But to get after this in a meaningful way, this mission command piece, there are a couple of points that I would make.

One is, we need to optimize what we have and what we will have. In the context of those that will employ it, that pull the lanyard, pull the trigger, or press the pickle. That is what this... The JADC2 focus needs to be. I get the importance of the strategic audience that it needs to address as well at the strategic level.

But that operational layer is critical where the decision makers, the war fighting decision makers are going to reside at the operational level. And ensuring that if we are disconnected by our links, that the
tactical level, it may not be as efficient but it has to be effective at getting after the commander’s intent of that supreme commander.

That's one point. The other point is from a technology perspective, I think too oftentimes we grab a piece of technology and then we look for a problem set that we can apply it to. We are not searching for problem sets, they're staring us in the face.

This is where I completely agree that we need to bring industry in, but don't bring me your product lines, bring me your ideas, bring me your capability, and then let's figure out together what technology makes the most sense for the problem set from the strategic level, through the operational layer to the tactical ledge.

The last piece I'll make is this point on dilemmas that Eric brought up, and that's absolutely critical. And it's connected with what I just mentioned. It's dilemmas defined by who? I suggest the one that is tasked with the authorities to create and produce those dilemmas.

That's why we're focused on the tactical edge on the broader context from the strategic level that Admiral Aquilino of INDOPACOM operates on. Maybe we shouldn't personalize this about INDOPACOM operates at, through his direct subordinate commanders down to the tactical edge that's actually creating those effects.

That's how I think we get after that problem set from a mission command perspective, ensuring that we have a process by which to pursue these initiatives in a meaningful way.

Bryan Clark:

And that's a way exploiting an advantage that the U.S. has, both culturally and militarily in terms of command and control, but also as the away team. I mean, there is one advantage of the away team, is that you've got that flexibility, you're not tied down to the internal lines of communication that a home team like China or Russia might be.

So there are ways to take advantage of those few advantages we are going to bring to the table, and really exploit those to try to deter China more effectively, and fight if necessary. Well, gentlemen, thank you very much for both the paper and for your time today. The paper which is posted on the Hudson Website on our JADC2 webpage, is Regaining Decision Advantage, revising JADC2 to buttress deterrents in our at window greatest need.

And the authors are General Hawk Carlisle, Admiral Scott swift, and General Eric Wesley. And we thank them very much for their effort on this paper and the work today, and also the work they're doing overall to try to make this very important initiative move in a direction and with a speed that it needs to be able to deliver capability this decade. So, gentlemen, thank you very much.

Lieutenant General Eric Wesley, USA (Ret.):

Thank you.
Admiral Scott Swift, USN (Ret.):

Thank you.

General Herbert “Hawk” Carlisle, USAF (Ret.):

Thank you.