

Panel Discussion — Transcript

AI-Enabled C2 Backbone

Speaker Key

Mr. Ellison — Moderator
Gen. Flynn — Panelist
Mr. Richman — Panelist
Mr. Strausbaugh — Panelist

Mr. Ellison 00:11:32

A month ago, to understand why we screwed up at SACOM, why we screwed up on our basis, and why we were not able to share data correctly across our systems. And I am just giving you the army perspective. And the four-star CDNIU who was not.

Briefed or informed prior to to Epic Fury, which is crazy because Ukraine was there. Second, I'm going to meet with this team to put in the GOAT and be able to bring in new capabilities faster than our own systems can do, including that C two They set up bases. In east side, where we were most vulnerable to move new capability into a network and deploy it to fight. And we created a hub in Jordan with 401 to set all that up, to move it in. So I'm just giving you.

How important. This is because of the issues that we have with the services on this mission set. They had to withdraw those systems from Pisa and go to an army base where it would be easier to do. But this was built up so creation. Of the jailbreak, The jailbreak is driven, not by anything else. It is driven to get an open seat into the army as fast as possible. That's what that was, And I think Sanders going to talk about it or you were talking about it. But from my perspective, independent perspective, it wasn't that.

It was the U.S. Army forcing everybody to play within a role, and that's not the resolution. I will stand up and tell you that right now. But, we had the Go Team there as the only war fighters that were in that room, and so we're not. The U.S. Is not competing for a C2 system. It goes beyond a C2 system. It's an AI layer.

And transformation of the network. All the C2 systems fit into that. We'll have a chance to talk about that. I, just wanted to give you guys a perspective before we go into our panel discussion that we're going to talk about. So I'm just giving you, the old dome, giving you the FCI, These are kind of current initiatives, which is what Federated Architecture is, which is going right now in the Baltics. And today, they're doing a TTX right now with Lithuania during Valiant Pollen hit. That's how we're going to fight. And it's not just defense, guys. It's offense, it's joint fires, it's H2AD, it's maneuver force, the squad force. And that I believe I'm going to try to highlight, but I believe that's the driver of all the outcomes with the trust of the allies that we have, because the trust of the allies to be able to put those systems in and share data is critical. So so that's that.

And I do want to point out, And Derek's going to talk to this on the bigger picture of the next generation of press, which is another whole big C two position really with MDA pushing into. So,

we'll have I don't know how much time we have, but we'll have an opportunity to look at bottom up and top down on the C two and uh and have a debate. Conflict of discussion or whatever you want, But I am really thankful that we can air out some of this stuff with people with the industry. So, thank you for letting us do it. So, I'd like to bring up General Charlie Flynn, and he was the former Army Pacific Commander. He's a snake eater; he is in the business. Man, nice one! Nice one!

And I'd like to bring up Derek Schuster. He is Microsoft's defensive expert and former CTO of the business unit at Microsoft. Former and current, and Sam Ristowen who was just up here, and Sam was at the jailbreak on that escape from the jailbreak. So, um, I'm going to start off. Jared, would you like to go first on the big picture? Or do you want. I don't know. Sam, You've got your opening and to be able to kind of recap what we said and where's the direction of what you think is going on. Same with going Andrew also. You can let me know about that. Ricky is in the microphone behind you there. You're sitting on it too.

Gen. Flynn

So I'll speak to the microphone. Yeah, it was interesting that you put that because I think you are not wrong. I mean, the five-meter target was integrate with Android. However, I think the larger goal was integrate with anything that's possibly coming in the future. And so, in the absence of some other sensing platform, I think at very least, getting that muscle memory and getting that momentum to get people to open their APIs. While the initial target was, I do think it's still a good thing get people talking, Get people interacting from the program of record folks all the way down to small vendors who are just creating new things. So, I agree, perhaps myopically. We shouldn't target one particular platform for some of these reasons. But let me ask you:

Mr. Ellison 00:18:19

Did those sixty companies open their APIs to? Supposedly they did.

Mr. Strausbaugh 00:18:25

Their goal was by Friday, Friday noon to have their documentation uploaded to the software factory and by noon on Saturday to have their APIs published. I didn't work through every single vendor, but the folks I was at the table with, I saw them demonstrating to Andre, demonstrating to the Army what they were able to produce. And. So that was the product of this is at least have a documented API that can at least publish it today. Sam,

Mr. Ellison 00:18:51

But is Andre deployed operational anywhere? Have they deployed any product? Operational with the warfighting.

Mr. Strausbaugh 00:18:58

Honestly, I don't have that perspective. I would lean on some other folks here, but yeah.

Mr. Richman 00:19:04

And I think the macro issue here, and I think Sam makes a great point is it's something. Uh and you know, bottom line is our title here is AI enabled C two backbone, right? And I think George in his uh talk earlier and a couple other folks, Sam, as well as when he was up here

previously, talked about open architectures. The only way you get to an open architecture is to actually do the push-ups. You can't theoretically establish what might work together, unless take a dependency on something and then figure out what breaks once you take a dependency. So rather it's Andro or it's somebody else, at least we're making progress on trying something. And I think, you know.

I am a big believer in like, you know, the three P's: like practice it, prove it, and put it through its paces. I guess that was four P's. But, you know, the bottom line is where we need to move. And again, kind of the nature of the conflict is taking us. There is to this notion of.

Sort of centralized definition of what C two looks like with distributed control, right? Because at the end of the day, Um you know, battle management from the Pentagon or battle management from higher headquarters is is not a thing anymore. As I think we've seen prove itself out over the last. However, many years now that we've watched these kind of uh you know, quasi regional conflicts grow into these things that do have these larger global and strategic implications. So anyway, my.

Point being, rather it's Andrel or rather it's somebody else. You need to have more of these kind of engagements where architectures are forced to, like get down on the floor and break. Appreciate this, sit there and do pushups until they collapse or.

Mr. Ellison 00:21:11

And good dear Greg, Dear, we've had four months in our ask here because we don't have this C two, why why why are we still up? Why don't we have capability? To be able to move quick, be able to put in new innovation in there fast, better than our stuff that we've got now, cheaper. Why is it still taking forever? And, are we going to go down the same process of death, valley and DOD and R and D? And the whole thing of that time killer?

Mr. Richman 00:21:43

Yeah, I mean I think some of this was also discussed a little bit earlier, too, where I've been here talk as well Sam, where.

For a very long time, relied on an industrial base that wasn't focused on agility, wasn't focused on reprogrammability, Wasn't focused on being able to adapt and evolve as the conditions in the battlefield evolve. And I think the key to being able to do that is to start to look at software as a warfighting asset. Start to look at software systems, everything from, The digital infrastructure on the very bottom, literally like computers sitting in cloud providers' data centers, All the way up to the most exquisite application built by whomever as assets to the warfighters. And if we all adopt that mindset, again, we all have to give our own respective ways on this topic as well. Industry in addition to government.

We all have our assets and our things we're trying to settle and our things and our contracts that we're trying to get the most value out of, et cetera. To answer your question directly, Ricky, I think it's flipping the mindset on. We either need to throw everything away or start over, or we're going to stick with what we've got. There is a middle ground. I think it's like I characterize it as the color gray, right? Because, there's sort of the black and white of the world that we have today, and then there's this gray area that's being frankly pushed into our faces, which is this adaptation of everybody around us while we've been sitting still. So your question is a great

one: how do we avoid it? I don't think anybody has a crystal ball to answer that question. But jailbreak.

Mr. Ellison 00:23:42

When did the momentum shift to get to this point? Was it was it Ukraine war three years ago or was it. Fury two months ago, what where is this?

Mr. Richman 00:23:53

I think we're continuing to learn. I would actually go even pre Ukraine to go back to COVID, Where we had to get out of our comfort zone for how we do public safety and citizen services, and look at again at and I did a bunch of work with the CDAO inside DoD at the time DoW. Now. Even in those days where it's like, I have no idea how to surface this data to get water to people or diapers to mothers, and you know this type of thing. So I think sort of software as an asset and sort of being able to like reprogram the government, whether it's citizen services or defense, has probably been, I don't know, Let's just call it about a six seven, eight year journey now at this point. But at least I've seen it firsthand.

Mr. Ellison 00:24:44

And does the defense department recognize how? Powerful the civilian part of this is in data collection. I think you saw it took a while.

Mr. Richman 00:24:53

I think you saw it just play out in like vivid technicolor during during COVID, honestly. And I think Ukraine has just simply reinforced that.

Gen. Flynn 00:25:01

Let me jump in a little bit here. There were a couple things, Sam, I thought that you said that were caught my eye of attention. So first of all, There's really no way out of this unless we create conditions for a multi vendor solution. You know, the wisdom is in the crowd. It's not in any one solution or one organization. So, you know, I applaud your comments for that. The other thing that caught my eye in your briefing, there was a slide you put up and said, "Well this slide hasn't changed in six years or seven years. " There's probably slides that have been retreaded for 15 or 20 years that I'm aware of that. We're still talking about the same damn thing.

So, uh, yeah. So so I I uh, if we just kind of zoom out a little bit, and part of the problem is authorities is that you know, so I'll use jailbreak. I applaud his effort but there really is no army kill chain. There's only one kill chain and it's called the joint kill chain. Um there's only, You know, Services are going to do their title, ten man, trade, equip, organize fund things that are important to them, I e jailbreak. But the reality of it is it doesn't matter until it's put into a joint command in a joint environment that enables the joint forces of all the services. I'll add.

Multinational environments where you actually have to have, you know, the ability to bring a coalition together to fight all these things. So the reason this is really hard is it's really complex. That's why it's really hard. Um, I guess the other point I'd make is I think a dimension that is it's sort of. It was coming, but it's now here. And. The reason maybe this is becoming more to the

fore is because of Midnight Hammer and Epic Fury, et cetera. Is that AGI or AI or agentic AI? That is changing how you organize the capabilities you bring to bear.

And then the technologies you have to integrate into those organizations and capabilities. By the way, some of these capabilities, we can't just throw things away that are in our inventory right now. They have to work. We can't just say, "Hey, We're going to go leap ahead and buy this new thing, and we're going to bet on that." No, The interceptors for the Patriot are expensive, but they're going to have to use Patriots for the time being. Same thing with that. We've got you know IFTTT, and there's other you know I could go on. Each of the services have their own new systems. The thing that uh I think frustrates me the most is that there's really you only develop, design, uh and implement new concepts by doing three things.

You have to create new organizations. You have to bring new capabilities and you have to bring or introduce new technologies. Now, I put technologies at the end, Actually, it ought to be right in the middle because the technologies in every one of the services and today, because the environment that we're in is moving much, much faster than the Army, Navy, Air Force, Marine Corps can change an organization or can change a capability.

So, because why we've got legacy capabilities, We're going to need to keep fighting with those organizations and fighting with those capabilities until new ones show up. And this is really an important part about technology companies, but also the defense apparatus because it's agencies, it's the services, it's the Department of War, it's Congress. Is that we have to decide how fast are we going to turn these new technologies into these organizations? And then how quickly can the services change an organization and change a capability. Since you brought up COVID, I'm the G3 of the Army during COVID. And when that happened, we could not see anything. We didn't know where our face masks were, ventilators were. Give you a quick story.

I went and did a briefing in the Pentagon. Before I went into the briefing, they told me we had sixteen field hospitals in the reserves. So I got asked a question, "This is what we're doing with these field hospitals." And they said, "Well, how many do you have in the Guard and Reserve?" I said, "Sixteen. " I went back to my office after the briefing was over and he'll go unnamed, but it was another three-star came in and told me, "Well, you know Charlie, we actually don't have sixteen hospitals." What we really have is, or thirty five percent man, They have no equipment, and we can't recall the other forty percent of those people that are on the books. Why? Because they're first responders. They're paramedics, they're nurses, they're docs, they're firemen and they're staying out in their local community to deal with COVID. And, you know, after getting really pissed off, I was like, okay. Well, I got to correct the record because I just told you know, the world that we have sixteen field hospitals in the inventory.

And and from I am telling that story because, The next thing we did was we essentially called up Palantir and said, hey, we got to figure out like how to see ourselves. And help us understand like where is all of our equipment, where are all of our people. And essentially that's what took us on an adventure in like nineteen to uh. To do what I'll say, like just see ourselves. There's three parts, I think, to at least my career is like see the enemy, see the environment, but see yourself. And actually don't worry about the enemy. Don't worry about the environment because if you can't see yourself it won't matter. You won't know how many systems you have, where your people are, what technologies are available, what munitions you have.

What's the location of them? I could go on and on and on. You're going to make a hell of a lot better decisions if you know, and you can see yourself. And I think that I'll use jailbreak. I think that jailbreak, while a good idea, is the Army's, I would say an extension of saying we need to see ourselves. Because if we're going to contribute to the joint fight. Ain't going to contribute to a multinational fight if we can't see ourselves, it won't matter. And so I give them credit for starting that. The other part of your briefing that I was waiting for, and you said it goes in the joint environment. Now, I. So I am a bit of an anomaly because most of my time as a flag officer was as in a component and in a combatant command.

So, I do not believe that all wisdom comes from the Pentagon. I also believe that not all wisdom comes from Fort Carson, Colorado, or Fort Riley, or whatever. Or you know San Diego Naval Base. The point I am making is God help us if we're having a fight there. But guess what? That electromagnetic spectrum is not the same as out on the Philippines. All right? It's not the same in Korea. Not the same in Japan. Not the same. Pick another country, Europe, the Middle East. So I am I am four service experimentations, But we ought to do about ten percent of that. And then we need to get our ass out into the cocomps where the joint forces where our multinational partners is where we don't own the spectrum because that's sovereign territory for another country. And we have to figure out how.

How to work as a joint force in their code comps. And oh, by the way, that's where title fifty title ten and every other title comes together, because the Indo-Pacific commander may say I want this system's integration. I want this as my C two backbone, and then EUCOM says, I want this, and CENTCOM says I want this, and then SOCOM shows up says, well, we got to do it this way, you see where I'm going. So in some respects. Like this is part of a broader problem, And I am taking a little bit of a filibuster here to say that I am actually, I applaud what the defense or Department of War is doing right now to say, change the acquisition cycles, change how we're going to look at programs of record because.

If it's a program of record, It just gets this sustainment stream and everybody just gets on the treadmill and says, "Well, we have to defend this program of record." By the way, There is plenty of acquisition officers that have made a career out of making sure that their program got across the finish line, even though the damn thing didn't work. When they're sitting a material solution that meets the requirement, it's available but because it's not a program of record. Nobody puts it in play. And my point is that we ought to be going, It ought to be all material solutions and sweep the leg on all programs of record and say, if you've taken too long, you cost too much, You're delaying and you don't meet the full requirement for whatever it's asking it to do, then we ought to say your program of record status is removed. Therefore here's the material solution. Keep moving. Last point I'll make.

I could care less what a program acquisition executive says. I could care less, what a um, what a PM says. I really could care less. I believe that the voice for systems integration and for capabilities, technology and new organizations should be commanders. Commanders in the field. And I am happy to see that what they're doing is they're putting forward like the G TEDs right out into the theaters that actually work for theater commanders. Last point, and I'll shove it up a little bit. In one person, in one person there resides Title fifty and Title ten, and that is Secretary Hegseth. And then you go to the COCOMs; they have Title fifty.

Warfighting capability, right? Below them, what I was, I had ten and fifty. So the secretary of my service delegated Title Ten authorities to me to man, train, equip and organize the forces that were assigned to me. And then they follow with resources to help me do that. The other thing that a component commander gets is guess what? Gets Title Fifty authorities from the combatant commander because you are operating out in their regions. So.

The COCOM commander has great say, But a COCOM commander really doesn't have a lot of authority by way of man, train, and equip. He can say, "Here's my IPOL," here is what I want you to do: Army, Navy, Air Force, Marine Corps change this change that change whatever. But sometimes they're like very appreciate your input but not today. And, so my point is that component commanders where man train equip organize and dollars come.

To do those things, And then they also have campaigning capabilities and resources and authorities from the combatant commander. That's where those commanders are the ones we ought to be paying attention to, and the COCOM commanders, and back into Washington D C. To say okay, what are the needs of those commanders? Because the needs of the commanders in Europe are going to be a little bit different. Why? Because the environment is different. The threats are different in each one of these regions. So, anyways, long way of saying I applaud the effort of Jailbreak. However, I think like again, I think about ten percent of our time should be spent on service centric kill chains, whatever you want to call it. And ninety percent of our time should be spent on joint kill chains, multinational integration and interoperability. And then I think that almost all experimentation.

Because, we already have a exercise background to do it or backbone to do it, should be out in the COGOS. Period. Full stop. Like I am not against what they're doing at Fort Carson, Not against what we do at Fort Bliss or pick another lab in the continental United States, depending on what service I just rattled off one that come to mind. But all that experimentation and all that exercising should be done in theater by last comment on this, you also get. There's a deterrent value you get by doing those out there. That the adversaries see what we're doing, like, "Holy shit, these guys are changing their organizations. They're changing their capabilities. They're bringing new technologies and they're integrating with the partners. " Like that has a whole deterrent value that you know they could give a shit what we're doing at Fort Carson. Hell, they're collecting it. They're taking away all our stuff and going home and going, "This is what they're working on."

When my point is, do it in Japan, do it in the Philippines, do it in Poland, do it in Romania. Go out there and do it. Don't do it here. Small stuff here. The big stuff needs to be done out there. I'll shut up. I.

Mr. Strausbaugh 00:40:00

Was going to say I completely agree and what I hope. Phase one was accelerated and cut short. Phase one point five was accelerated again, but I hope that means is what you recommended is that things are now moving into phase two where actually does get out into the theater. And be proven in joint and in the actual fight. So I hope that's what that means. I guess we'll see. Well,

Gen. Flynn 00:40:22

This is so this is a great point. Like, you know, so what COCOM is going to accept it? And will the COCOM commander say, "Well, here's what I want," and then is the service willing to pay for it? You know, oh I don't know. You know that's not really what I want to do. It doesn't matter what you want to do. What matters is the person that has the responsibility and the authority to actually execute his Title fifty authorities that are by law, his. You got to pay attention with what the combatant commander wants. Charlotte,

Mr. Ellison 00:41:05

Is the golden dome the answer? I want your perspective because that's what that's the DARPA, That is big money. Two hundred billion to be able to do what you are talking about. Services. Is that the answer? And the second question on this is the urgency. Still, the urgency is not here. It's not. It's not. Does it take China to hit a million drones on Taiwan for us to get our stuff together now? This is way too slow, even even so I am just asking those two questions. Yeah,

Gen. Flynn 00:41:40

I mean it's always it's I mean, On speed, it's always too slow. You know, but again, this is really complex. If it were simple, it'd be solved. So, it's just this It's extremely hard and you've got a lot of voices and what I'm, what I guess, what I'm communicating is the changes that are being made at the Department of War are long, long overdue. They're long overdue.

And more need to be made. But I, guess my what I am saying is that the weight of the feedback loop and the weight of the inputs has to come from the combatant commands and the component commands that are in those theaters. They wake up every day, and they have a real threat that is that they are in contact with. Okay, so a test at Indiantown Gap or like again, I know they have to happen. But they're not they're not the most important part of what we're doing. And what I am saying is. I'll just give you an example when I showed up in twenty twenty one, I had two hundred and twenty five million dollars to do um.

I'll say campaigning all of our exercises okay. Um, and that was basically base budget. Okay, Now I kept asking for more dollars, like eight hundred million dollars to do campaigning why? Because when you are out campaigning, you can bring. And you can experiment with new capabilities, new technologies, change organizations. But, unless you have those kind of dollars to go into the theater and operate under using Title fifty authorities to do these things in foreign countries, it won't matter. I'll give you a really good example. We deployed the Typhoon mid range capability into the Philippines. Okay? It flew in in the middle of the night.

It landed, it offloaded, it set up, and it was in northern Luzon. When I went to visit it, this was like you know, it was just on the other side of a sand dune. Salt air. It's 97 degrees. And it's about 12 5 percent humidity to the point where like the lubricants are melting off of. Of the tubes where you know they had to unload, offload. And the point there is three D printers, right? That were three D printing UAVs and none of the shit's working. Right? So and you know and I'll just say the contractor masses they're going, "Wow." You know this I can't believe this is happening. Well no shit.

This not Yuma, Arizona. This not Fort Bliss, Texas. I know it gets hot in Texas, but it doesn't get Philippine hot. Okay? Or we go to another location. The reason we put the training center in Hawaii and Alaska was so we could operate in the Arctic. These systems at 40 degrees below

zero they operate differently. Okay? And then and then I get looked at Like, um, Like, what do you mean we want to set this training center up in the Arctic? Well, Have you looked at what the Chinese and the Russians are doing in the Arctic? Have you looked at what our equipment looks like? It's all desert colored. We didn't have any equipment to operate in the Arctic. None. Zero. We're like three or four years of regaining control of our ability to actually live and operate. Because if you can't live and you can't operate, guess what? You can't fight.

Same thing in the jungle. So, I mean, I could go on and on. The point I'm making is any experimentation in the continental United States is kind of it's nice, but it's totally insufficient and inadequate for what has to happen. It's got to happen out there because then you're going to get real conditions against a real adversary with real soldiers trying to turn wrenches, turn stuff on, make it work.

Mr. Strausbaugh 00:46:32

That's one reason I was in Norway for a month right? They were actually testing this stuff out.

Mr. Ellison 00:46:36

Derek, can you answer the golden question? You think that's the solution? You think that's the way we're going to lead the world in our joint force to be able to create cloud C two.

Mr. Richman 00:46:49

I mean, I think there is aspects of that effort that could be applied to any command and control discipline. That are trying to create right We're trying to integrate systems that were never meant for work together in a way that is different than the way they work together today.

Gen. Flynn 00:47:05

Let me ask you guys something since you're, you know, your companies you work for with Microsoft and Red Hat. So if we had a conversation like twelve fifteen years ago I'd say, "You got to get to the cloud as fast as you possibly can." Is that still true today? How how how secure are are the cloud environments? Or do we want? Or is it a little bit? Wait a minute? Maybe we need to have a bit of a hybrid here or not not just. All will get to the cloud.

Mr. Richman 00:47:35

You need just enough cloud, and frankly, you need to as the admiral said earlier, you need to redefine what the edge means.

Mr. Strausbaugh 00:47:44

There is no cloud on the battlefield.

Mr. Richman 00:47:45

Yeah, there is no cloud on the battlefield. Battlefield needs to look like a cloud.

Gen. Flynn 00:47:50

So what about power, edge processing, storage capacity and compute? How do you get that to forward units that need. Storage capacity, processing power, and compute power and energy to do all of this. I mean, This debate going on in the country about being able to have data centers and the power to do it energy. Think of uh uh think of an organization, the size of the people in

this room, and they're trying to command and control. They're trying to do maintenance. They're trying to plan, synchronize, coordinate, integrate.

Joint operations in all domains because this looks like about, you know, a battalion command control post. Okay. And a battalion command control post, maybe another twenty five people in here for brigade, one with three shifts or two shifts is going like twenty four, seven, three, sixty five, and they're having to pick up and move all the time. So where is that power going to come from? Where is that storage capacity? Where is the processing capacity that's needed at the edge to support them?

Mr. Richman 00:49:05

Bring what you need. Seems this road.

Mr. Strausbaugh 00:49:08

And I don't think it has to be as big as these. Oh, sorry,

Mr. Richman 00:49:11

Did we know? No, no, I'm just saying. I mean, again, I think you need the cloud is good for certain things. Should, you absolutely rely on the cloud for large scale capacity, compute storage things that you know you could never take enough with you to the battlefield or something like that? Earlier about the marines having to carry something in. You're not going to bring, you know, tens of thousands of GPUs in there with you. But I think also, we need to instill a little bit more discipline, too of understanding what it is. We do need to take and then using the tools that you can take with you even greater diminish what you need to take. So that, for example, filtering the data there at the edge so that we're not having to, you know, bring.

Ridiculous amounts of compute with us, and you know, Bring the applications that look like the applications from the enterprise as opposed to having to bring a whole new set of stuff with you every single time. We need to turn the edge into the enterprise, Be able to take the enterprise with us, but in a scaled down fashion that or not realistic. It's already there or exactly. And and that gets back to my whole thing about gray. And this whole idea of gray cloud, which is.

Use what's in theater. Use what's available to you rather than again, back to your question general about twelve fifteen years ago the conversation about cloud. Twelve fifteen years ago, Microsoft and our other competitive base in the industry would have said," Oh yeah, go use our air gap clouds." Now today I'd tell you go use the commercial cloud. But.

Mr. Strausbaugh 00:50:54

To your point about power cooling, so a lot of the things we're seeing commercial ensure are designed for these. Very large language model types of things. We don't need that on the battlefield. We need smaller, more if we're talking about models, AI models, probably don't use as much predictive modeling as probabilistic models, more deterministic traditional ML that run on much smaller form factors, much more dedicated hardware that doesn't need as much compute, as much storage or as much capability. And think of it again, as I said in my talk, think of it in aggregate to these individual pieces that they can interoperate.

Now you get a much bigger capability as a whole having centralized all this.

Gen. Flynn 00:51:32

I would say you need both, though. See, this is part of the it's not a one size fits all. I mean, Part of I think part of what we're there was a concept about fifteen years ago, when I was when I was a brand new one star Do. Any of you recall the just in time logistics? Remember that? That was a business prize. Well, it's a problem. It's a problem because the reason we are so short of depth in our magazines, and we don't have any manufacturing capacity is because we were going to have just-in-time logistics. Just-in-time for what? For a war, for a fight like just-in-time, you know I am.

I'm a fan, not the P's that you used. I'm I'm a fan of P for plenty. Like, you need a lot of it, and you need it stored or brought or at least accessible and available. And I can tell you at least, I don't know what's, although the the tone of this has changed pretty dramatically right now. I can tell you we were screaming for more ammunition in our EPLs. Now and in our request for Congress, but nobody wants to pay for that kind of stuff because it's shell inventory. And what automotive factory or what artillery plant or what precision munition line is going to turn on and say, we need to do this seven days a week, three hundred sixty five days a year? They're not going to turn it on because they're not going to.

They're not going to retool their factory and then hire people to do that unless they've got some cash up front that says, "Hey, we need this amount volume wise every year for the next five years." Then they can do things. Just in case we need to use it. Just in case. I mean, and now we're at that point. Now we're at that point. We're at that point because we've you know, we've given a number of, Things to allies and partners that were in a fight because they needed it, and then we're using our own. I.

Mr. Ellison 00:54:04

Still haven't got my golden dome question.

Gen. Flynn 00:54:08

I am not sure you are the question is: Is golden dome the answer? I mean, the president said we need a golden dome to protect the United States, so the answer is. Yes, we got a four star in charge of it. I think maybe to put a finer column on this is that, you know, what what does that architecture look like? What is the terrestrial layer? What is the aerial layer? What is the space layer? Where where is the priority going to be? Are, we going to do this fight in space? Or are we going to do this, you know, between space and the terrestrial layer.

I don't know. I mean, I don't think the aerial layer. I don't think we're going to put fighters up against hypersonic ballistic missiles coming out.

Mr. Ellison 00:54:55

We're putting fighters on drones. Yes, I mean, And that's again, the cost equation with that is ridiculous too, to do that because we're not putting new innovation in there fast enough, and we're not being able to put them into an integrated C two That's, what slows everything down because you got to go through two years of processing to get into that C. Two.

Mr. Richman 00:55:16

I'll answer it. It's the thing if it represents an investment that breaks the logjam here, that gets us to look at sort of software plus hardware, And by hardware I mean literally the physical platforms that we use to fight with as a combined asset, As opposed to the way it is today where we build a platform. And yeah, maybe it has some software on it. Build on a second platform, yeah maybe it has some software on. Third thing, then we figure out later how to put it all together. And again, I think this is what gets back to the open architecture side of things. And a point General Flynn made is like we don't have the time. It's not on our side, nor are the resources on our side to throw all this stuff away. So, The reality is we need to use that. We need to use G and D. We need to use Patriot, et cetera, et cetera. But. We need to build an architecture on top of that that can command and control all those things together because they were never meant.

To do some of the things that we may need to do with them in the future. I don't know if you agree with that, sir.

Gen. Flynn 00:56:21

I mean, I uh, I think thatum, I think a look at every I am going to say, every layer uh needs to be analyzed to say, okay, what is what is the, what are the systems that we need in the terrestrial layer in order to support a golden dome? What are the systems in the aerial layer that, Are needed to support. What does the space layer look like? And then decide, you know, where are we going to prioritize our identification, IDing and characterizing the threats? And then where are we going to kill? Like where's our where's going to be just using a simple infantry term. You know, where is my kill zone for these threats that we're going to be.

Faced with hypersonic, intercontinental, any type of ballistic missile. And I, if you don't get consensus on where you are going to kill and what those layers look like, we're just going to be talking in circles until some decisions are made. And I don't know what my suspicion is or hope that you know is the program manager forward with Mike that that's what they're doing.

Mr. Ellison 00:57:44

You think, And I am putting what you just said on layers, like you say with the services and thinking on the jailbreak. Is it the same thing? And if that is somewhat true, You would think that the innovation happening at the front over there with Ukraine and over in Epic, Fury would drive this faster than what the Golden Domes do, because it's operational and it's combat.

Gen. Flynn 00:58:13

There is a lot of good insights from Epic Fury and Ukraine Russia, but not all of those insights and lessons are transferable to the Pacific. So it's just it's different. I think the thing about space is and terrestrial, I'll just say terrestrial systems that I know are out there and being used. Do the COCOMs talk to one another about what they're seeing? Because there are no geographic boundaries in space. So, what's actually happening in some of these areas, some of these theaters, even though they have a COCOM geographical boundary, sometimes that crosstalk is not necessarily happening. But you know it needs to. So.

Again, I, you know, we either we only have things available to us in the terrestrial layer, the aerial layer, and the space layer. There's obviously aspects of this that are happening in the cyber domain, in the space domain, and I would say in the information environment. But I don't I don't know if we've agreed. I don't know because I don't know. You know, I don't know if there's

agreement on. Here's the systems integration we're going to do with terrestrial, here's the systems integration we're going to do with aerial, here's the systems integration we plan to do in the space layer. And then how do we tie those together? Architecturally so that um we can see, understand the environment, detect, characterize intercept and do some type of assessment of whether that worked or not.

I mean, I just I think there's. I also think, no, I don't think. I know that there are low cost systems out there today. Very low cost that don't fire an interceptor. They don't fire a thing. They they are in the electromagnetic spectrum, They do space counter, space, electronic warfare, and they can spoof attack counter defeat disrupt. Threats, And we ought to be paying a hell of a lot more attention to that because that's not having to buy a two, three, five million dollar SM six SM three SM. Pick up acronym that you want to throw at it. Because we're we're we already know we're on the wrong side of that. And by the way, because we're so short of critical minerals, we can't even make the damn things or going gonna have difficulty doing it.

Mr. Ellison 01:01:08

Derek, could you just give an overview of the next generation enterprise? That's another big C two and does that swallow gold domes? Does that swallow just help everybody understand what that C two is?

Mr. Richman 01:01:24

Sure. So, Next generation enterprise is really an MDA initiative that is part of their R and E responsibilities. And I think they're put, If you will, I think it's also important in the spirit of what General Flynn said and what Sam said, In that it is an environment for experimentation as to how they choose, to use it and use it as a sandbox, an integration lab. I still think, and I couldn't agree with General more on this, like getting out of the lab and getting into the wild.

Is still the thing that matters the most. You can set up environments from here to Montgomery County and further, and it doesn't prove things out in the wild. So, I applaud NDA for setting it up. Somebody needed to move in that direction and create an environment where it's kind of offering everything from edge to cloud integration opportunities between the industrial base and kind of the defense tech. Emerging community, Giving you know space for the C two consortium that's working under General Gutlines to work on their work on their use case and you know, their demonstrative capability for the event with the president later. All of that is is great stuff. But again, I think it's all about practicing out in the wild, and to some extent exactly what General Flynn said.

Showing others what we're doing as opposed to keeping it, you know, behind the curtain in a laboratory.

Gen. Flynn 01:03:11

This is the whole idea behind, revealing and concealing things was, you know, decide what you want to show and decide what you don't want to show. I, don't Ricky. We got about twenty minutes left. Maybe we could get some questions from crowd fire away. Yeah there she yells at us it's fine.

Audience Member 1 01:03:32

So one of the things I saw with uh trying to, Modernization on NC three was we had, you know, like on the order of one hundred programs, right? Yeah, try and get one hundred program managers to talk to each other and collaborate have fun with that. So one of the things that we were trying to drive uh and so I am now not quite five years out of the game specifically, was this notion that part of speeding this up and being able to address this issue of modernizing when you can't throw everything away, I got to kind of take what I had and continue to modernize is I do need to have some better.

Modeling basis where people can actually bring in good ideas and demonstrate short of having to build a bunch of hardware as your only way to demonstrate. I could potentially come in and say, here, here's an idea. Let me plug my model into your, I'll say overarching model. Demonstrate its value and from there move on, move forward whatever. Are, we seeing that happening in your opinion as far as where we're headed with? I mean even frankly Golden Dome I think has been a challenge.

Mr. Richman 01:04:29

I think to some extent take this real quick. I think that's the intent, And GEDs to give them a place to plug in good ideas, for lack of a better way of saying it. But again, like plug them in, See if it works in with everything else and then take it out and make it do push-ups.

Gen. Flynn 01:04:45

Yeah, I mean I think there is some better emphasis on modeling. I am not sure if it's reaching out to inform. Again, I think you know the loudest voice here ought to be commanders. So, I don't know if that modeling is getting from the modeling body to you know where no modeling goes on. It's just that this is what I am getting from my units out in the theater that are operating, and this is what we need for them forward. So, I think t.

Mr. Richman 01:05:22

Here is a real opportunity to just get modeling, holistically and redo how we're doing modeling. I had a dollar for every time I've heard, " Yeah, We're still doing this on with pen and paper, and you know sand table on steroids." I'd be wealthy and not be sitting here right now. Butum you know, and I do think that's a great use case actually for the cloud.

Mr. Ellison 01:05:49

Yeah. I just want to point out on the modeling how well Aegis has done with the defense of their ships in the Red Sea. And be able to go from a turnaround cycle of two years, a year with software to do it within weeks. Why is that a model? And then our army with Patriot and that take six months, a year still to get data from the field, model it, and get the solution back out to the fighter. And then why is Ukraine doing it in hours? Minutes.

It's, just it's ridiculous that we're not adjusting to fight this the way our lead is. I'm sorry.

Audience Member 1 01:06:41

Well, I was just going to say, I mean, I agree with you. There's a bunch of challenges to the whole issue. I guess what I am trying to get at is one again, use NC three as the example. I had a bunch of really old systems. There were no models for those systems, right? So, the first thing you got to do is figure out who's going to help me build those models. So I can actually put that

together. And you know, The first thing I ran into there was like I had plenty of contractors who are willing to build those models, and then they wanted to own the darn models. It's like, sorry, that's not going to help me out. So, we've got to kind of figure out this environment where the industry is incentivized legitimately for the work that we need them to do. That isn't the same as being totally connected to forever.

Once I do that design, I now you know, I'll say own it indefinitely for the production because that's where the money gets made. Right? So, I think we've got some incentivization processes that need to be changed on how we bring industry to bear. But to the modeling then, You've got to say how do I open up that environment to allow that to happen very, very rapidly? And and I appreciate, there might be some things that are just like so quick, so dirty, so to speak, but are good because they're credible. You just do it. I'm not trying to get in the way of that yeah, But for some of these more complex systems, the complexity is tremendous. We don't have some method to be able to rapidly validate further than you got to build a bunch of hardware and find out it doesn't work. We're simply not going to be able to move at the speed we need to move, in my opinion. I think there was a.

Audience Member 2 01:08:06

Question here. General Flynn, an observation: this might drift into the next hour's discussion, but that framework you outlined— the commander and a component commander— the, Combatant and component commander as the central integrator. That's it's not the way we're doing it now, but that doesn't mean it couldn't be redesigned that way. So I'm just throwing that out. It's like it's nice.

Gen. Flynn 01:08:35

I would say my experience was, I mean, that's what I was trying to do. I obviously ran into roadblocks in some places, but, You know, I use this framework all the time with my team.: was that every experiment has an exercise, and every exercise has an experiment. So if went forward into the theater, were taking new capabilities, new technologies. And I basically would tell commanders: if you have to change your organization in order to support these new things, then change your organization. Don't.

Don't wait for the force management people back in the Pentagon to say, "Oh, you know, A platoon now needs to look like this or a brigade needs to look like that. " And so I think that at least that's what we were trying to do. I'll go back to the earlier. The gentleman just asked the question. One of the things. Now I'm going to go to like them again. I'm a victim of my own experience. Experiences. The multi-domain task forces were designed out of modeling. They were designed through modeling and wargaming over about five or six years. And I, again, I am sitting in the Pentagon as a three-star and again, I'll leave people unnamed. They're like, "We can't explain this to anybody." Nobody even knows what the hell we're doing.

And we need to get an organization built. So we built one, and we put a one star in charge of it. We put at Joint Base Lewis McChord because the Pacific was the theater that were going to employ this thing in, and off it went. And we had a uh, we didn't have a table of organization equipment. We had what's called an experiment. It was an E T D A, so it is just an experiment table of distribution and allowances of people and equipment.

That decision alone was three years. The organization was three years in advance of the new capabilities that were being built, Like the Hades program or the mid range capability or Titan or uh uh Prism for high Mars, et cetera. My point is, Had we not put the organization out there in advance of the new capabilities and the technology that was changing all the time? We would have done what I was a victim of in the Middle East during the Global War on Terror, Where you would get this piece of kit and you were completely unorganized for it. You weren't trained to use it and it sat in a conics. You just put it over there until really some creative soldier came out and goes, "Hey, actually this shit works. Let's use it." But you weren't you didn't have you were giving.

You were giving a new capability to a legacy organization, they didn't know what to do with it. So, the point was, And I actually think this is a great news story of the multi domain task force.: is that the organization was three years, the organizational change was three years in front of the hardware, the things that were coming. And it proved to be really valuable. So, to your question. That's why it was like every experiment needs an exercise and every exercise needs an experiment. That's my way of saying the combatant commander has joint exercises, and I have army exercises in this theater. He provides me Title fifty authorities to go operate in a foreign country. I am going to take my Title ten assets, merge these things together, and experiment, exercise, train, integrate.

Create interoperability. I'll give you a great example. If somebody told me that Japan was going to have a Type eighty eight land based anti ship missile or a Type twelve land based hypersonic missile in twenty twenty one, I would have told you, "You are crazy. " If somebody would have told me in twenty one that the Philippines was going to buy BrahMos missiles from India, I've told you, "You are crazy." But that's what they're doing right now. And so, this is the advantage that we get by actually taking systems into the region. Back to the very you know name of this thing, where like resilient AI enabled C two backbone. The only way to get this stuff done is to do it out in the theaters. Period. That's the only way. So, to your question on Golden Dome, I hope they're doing it in these other theaters because it's not going to work unless you can do it in the other theaters.

Mr. Ellison 01:13:30

I Just want to I want to go back to Sam and Charlie might be able to help me with this. Again, you were exposed to the GUP, which is a government owned developed created. And that's something the U S government does not like to do. They wants to push out the contractors to do it. They've gotten out of that. Is that from your point viable? I know Charles, you have some comments on this, but let's start with you because you saw what they were doing. With a government-owned, government-driven data layer— not a C 2, a data layer. Go ahead.

Mr. Strausbaugh 01:14:03

I mean, I don't know if this point answers your question, But to your point about again about how do you get things into theater out of experimentation— the problem when we compare things to U krai ne— and hopefully, this will kind of address your question— is we're not Ukraine. But Ukraine was invaded in their homeland by an invader. I know Ukrainians; Ukrainians don't play. They are motivated existentially to solve this problem. Their experimentation is their field, right? We are working in Carson because we needed to bring people there. It's a short flight. We can't

send everybody over to wherever there is because it's the same theater. So I don't know how Ukraine is doing it, Whether they've completely consumed all of the commercial contracting stuff to keep it within government. I don't know how they're doing it. Um, we're sure China does something like that.

And. So do we need to move evolve to that kind of a model? Maybe I just think there needs to be more influence from government into contracting and vice versa. I'm not a procurement person. I don't know if I can answer that question fully, but but that's what's different like we should move quickly, but we're not existentially threatened at our homeland where we can pull the levers like Ukraine is doing. So we should learn from them but also realize that their goal is, I don't know if we can attain that because our forward bases are getting hit.

It's Not existential. My neighbor is not afraid of their life being at risk because of what's happening over there, Ukraine. They are they are all moving so it's different. It is different anyway. I don't know if that answers your question,

Gen. Flynn 01:15:39

But I was I'll just say, I was at a meeting earlier today. The day is if it's not here, it's coming where a refinery, nuclear reactor, grid, Telecommunications terminal. I mean, when you think about critical infrastructure and protection of critical infrastructure, it's happening. Or, you know, we have what the Olympics coming up. We have the World Cup. Any any you know pick a Sunday for you know the football season. We've got massive vulnerabilities that we need to.

Start looking at and putting non-lethal, you know, we're not going to be able to put, you know, A Patriot and a THAAD, and you know, an IFPC, or you know, a BMD ship off the uh uh, you know, off the coast of every, but we can put systems out there that are they're in the electromagnetic spectrum. They're looking at links. They're reading. They're spoofing. They're reacting. They're countering um And they're preventing these attacks from happening. And we had better start right now. We should have started weeks ago, but well, we better do that right now.

Mr. Strausbaugh 01:17:02

So and that'll make six essential, I agree.

Gen. Flynn 01:17:05

Yeah, I mean, you know, but you know, in typical fashion, what you know, we we wake up after we get knocked out. So sometimes trying.

Mr. Ellison 01:17:15

To talk to the government owning.

Gen. Flynn 01:17:17

Well, I'm a little. I actually think that there's a lot of good government-owned software. There's a lot of good government-owned systems that what it gives you, It gives you the flexibility to take things off the shelf and plug it into it and you own it. Therefore, you know, you can adjust to it. So now. Scale is a different question. Scaling it is something that Microsoft, Red Hat, you know other companies can scale very quickly. The U.S. government doesn't do that very well. And by the way, Scale to the Navy might be different than scale is to the Army Air You get the point. So

you know, and then at the end of the day, it turns into a pitchfork battle for well who's paying for it.

And everybody wants, you know, a DoD agency or the department to pay for it. When then they say, " Well, you are the executive agent; you know, service; you pay for it." It's like oh shit. You know. I am sorry; there was a question there.

Audience Member 3 01:18:29

Well, just when you talk about existential threats, I worked the recovery teams on both sets of world trade buildings on both what on both sets of World Trade buildings, okay, on the ground for both of them. And when you look at when we had an existential threat in nine eleven. We created an entirely new department quickly. We spent almost sixteen trillion dollars flattening three countries, depending on how you count them. Did we move fast? We changed the way we did set up entire new counterterrorism operations, both on the military side and on the civilian side. Yeah, because we faced at that moment a visceral existential threat. But, when you look at what as Benedictine we have to do is if we say, oh, we've got something cool then we get faced with.

Oh, you got to go through six months RFPs, RFIs. You've got, you've got to oh, then you get a contract to build something that, by the way we want agile, but we want it entirely specified up front. And you can't touch anything else. You can't change the spec outside of the contract, and this is what you have to deliver. So, then you get it to them, and then they said they wanted an inventory as you brought up. But then it has to change quickly. So the inventory goes stale. So how do we give both flexible inventory, rapid delivery and not a spec that Old by the time you actually get awarded something. We can't do something because then we were doing something for free. We need a grant letter. We can't do something until we get a contract, but then it takes us a year to get a contract. So and you know outside of a research project, but if we want to get something actually deployed with you guys, uh I work primarily with veterans groups. Love helping veterans, but you can't again, you can't do something for free when you want to help them. But then you can't, but then you have to wait forever for our contract to actually execute something.

To get it to which, by the time it gets through the whole procurement project, which says at the front agile, But in delivery, they want the entire specification in the contract and don't vary from the contract. Then it's old.

Gen. Flynn 01:20:25

This is, but this is what's changing right now and I applaud that they're trying to change. What you just described is why we're in, the mess that we're in. So and, They're trying to change it, but like everything in this town is freaking hard. I mean, you know, it's just hard and it's not going to change overnight. I mean, that's why I think you know again, I applaud Jailbreak, and I I applaud these new organizations going out to the theaters. But I I am I am against uh.

You know, It's not that I am against Yuma or White Sands, Missile, Range or Nellis or any of the, I'll say, CONUS-based labs. I know there is work that has to go on there, But we should spend ten percent of our time there and ninety percent of our time out out where there is real threats in real foreign countries, and real operations are happening every day. And you are

going to, The greatest R and D investment will be into those organizations because you will get the greatest return.

Audience Member 3 01:21:38

When you look at what was doing in an F N or during a period, you had the grip kits, you had the fob in the box, and you had to be able to move. But then you had saying the information propriety problem. Well, if you've got J Wix and Centrix F KFN and Nipper and Zipper, No one knows who can talk to whom or what they can say to each other. One But did we want information sharing? But, then they had all these boundaries between what domain information you could supply to whom, in what language you were doing. If you need to adjust something, oh, you need to call into the of the NATO. Oh, major someone get help me show it.

Gen. Flynn 01:22:14

I mean this is authorities policy laws right? I mean yeah and then lawyers and you get, you know this is what happens. Yeah You get drowned in all these, you know in the over bureaucrat bureaucratization of all of it. And you regulate yourself out of actually doing anything. As a co-founder, or over-regulate? How do you get. That's a good question.

Audience Member 4 01:22:38

Yeah. Don't get involved with Mike, he'll take you to the back room. Sorry, I forgot it. But actually the question I have here is because we've got the word enterprise up there, Guy to my right here, transformed most of Wall Street when they had legacy systems down there across the board. At some point, you mentioned legacy earlier? At some point, you kept the lights on on Wall Street, but while they built this new up and coming more modern system. Microsoft was done. It's the same kind of equation. Like why can't we? It might be pouring gas on a problem, not have the answer. But, if you come up with a blueprint that could maintain to keep the lights on and it's different downtown Wall Street than it is Wall Street out in Philippines or with they trade down in different regions. So a little bit of the same enterprise characteristics, much different stakes.

But why can't they transform and modernize, keep the lights on, and then flip the switch when you need to keep the gear running? But at some point, flip. And everybody's making different decisions in all different offices. Similarly in France. So, why can't we borrow from some of these blueprints in financial services and other big enterprises that might lend a hand? I mean, I don't know the gentleman's experiences.

Gen. Flynn 01:23:54

I would say I think that we, We certainly tried to learn from other systems that have been, you know, modified, changed, modernized, upgraded. Um. Like. The problem is. You know again I don't know the problem that you were confronted with. Um I'm sure it was steep. Let me ask this: Were you were the single belly button in charge? In other words. Yeah.

Audience Member 4 01:24:27

No, not by no means, but you know we're a collective. We actually all three of us work together at one point. But I think the biggest issue is it's the return on investment. You know we're in a capitalist society. You know if you are a bank and you know are trading and whatever you are

doing for your clients or whomever, you know there is a risk and reward, right? When, when you get into politics and you get into different goals in your personal life and your constituents' life. It's a whole different equation, so I think I look at them differently. But, you need to take aspects out of both because it happens all the time. Just like the kid on the block, They're complaining there is no stop sign, and they write every month in the newspaper until a kid, unfortunately gets hit by a car. And then politicians are out there going," I am putting a light on this corner right now." I mean,

Gen. Flynn 01:25:16

I think one of the things that they're you know to your question earlier, and they are trying. You know, I mean you guys, I see it. Because I've been out now for eighteen months, is they're trying to say you need to bring capital up front. And we we recognize there is a bit of a soak on you, but you know we got skin in the game too. But if you could put some capital up front and compete, then you know we'll make this beneficial for you. Now that was not, Through the comment earlier, it was like, well, we're going to take a year or two years. Then we're going to get a contract.

And then all of a sudden, you compete to be a program of record. They make it a program of record, and the next thing you know, we can't get rid of you, even though your shit sucks. You know what I mean? And it's like it's a huge problem. And for a large bureaucracy and you can't. You know and then they'll just wait you out because you have people change. You know politics change leaders change priorities change and the next thing you know. You know, you're you're in trouble. And then you wake up 15 years later and like, why is this program a record still here? And we're paying for it yet it's not actually delivered. And the program executive officer. Uh he didn't get fired or she didn't get fired because they're like, well, this was my job. Yeah but it didn't work. You're supposed to go it doesn't work, it's not being fielded on time next.

And that just wasn't the case. And so we're living, we're living with that right now. That's what we're, that's that's we're in the middle of that. So again, I applaud what they're trying to do. It's, just this is not going to be easy, and it's not going to be quick. Um, but you know, I again, I think one of the things mentioned on Sam's slide, I think everybody in business and the military and Congress is they have to say we need. To find an environment and set conditions for multi-vendor solutions, Not you can't have a dominant thing, and then they and it's win at all cost, and then everybody else is on the sidelines. It's like that's not that's really not helping. And I think the companies that exhibit a multi-vendor attitude on a multi-vendor solution.

Are going to be the ones that are going to really help the country. They're going to really help the defense department, And they're going to help many of your questions get us get out of our own way. So we can see ourselves.

Mr. Ellison 01:27:57

Steve and I said," You, the golden dome," and what Mike Kubline is doing to keep the lights on and move the new system. You will see in twenty twenty eight that our underlayer will be in place with legacy systems, and the movement go into space based interceptors. Will be prototyped. So, they are doing it at a very high level and much longer time span than what we're talking about here for the forward operating bases and for our country. I just wanted to add.

Gen. Flynn 01:28:28

Let me let me I'm going to make one comment though about, because this is like I keep I have real life experience at this. Okay, and what Ricky just said about Golden Dome prior to Golden Dome, we did not expend, The interceptors that we have expended over the last six months, okay? So now we've got to retool factories, MSEs, Talon missiles you know SM six SM. That's money big money. That's money that's not going into Golden Dome. So those are legacy systems. You can't just say well, we're not buying those because Golden Dome is going to save our life. No, it's not the case I mean.

You know, it's like the you know we've had the Black Hawk, the M H four, The C H, forty seven and the Apache came into the army before I was commissioned. Okay. So now we're trying to get another helicopter to replace it. And they're pitching a fit like well we can't not fund the Black Hawk. Well I know but we need another helicopter. The thing is forty five years old at some point, You know, it's not going to work. And then I got a question the other day from a leave the service guy who says, "Why are you guys changing your rifle? Why are you guys doing. why is the army doing this?" And I am like, "Well, let me. " Story: I went into the Pentagon one day and I found out in The Washington Post that the Marines decided to turn all their tanks in, turn in seventy percent of their tube artillery and all their bridges. And I said, "That would have been nice to know."

Well, why? Because I said because you just gave us a mission. Because you know, if an enemy shows up with a tank, you better have a freaking tank. So the point I am making here is like we have to keep some money in legacy systems; otherwise, You can't just walk away from it and say we're going to get this new exquisite thing that's going to show up in twenty years. Well, what happens in twenty years? So you still need these other things.

Mr. Ellison 01:30:39

All right, thank you. We've had a great discussion. Appreciate the patience and time. Thank you, Sam.