

## Geointeresting Podcast Transcript

### Episode 4: Justin Poole & Carter Christopher

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Welcome to Geointeresting! This week on the show we are celebrating the 2015 GEOINT Symposium with conversations with some of the most innovative and influential people within NGA. Today, I'm joined by Mr. Justin Poole, director of NGA's Xperience Directorate, and Dr. Carter Christopher to discuss GEOINT services, which promises to deliver GEOINT content. We are talking imagery intelligence and mission-specific data in context.

Mr. Justin Poole is the director of NGA's Xperience Directorate, where he is charged with enhancing the user's experience through online, on-demand GEOINT services that provide access to content, expertise and applications.

Dr. Christopher is currently part of the Core Leadership Team of the GEOINT Services Initiative — responsible for developing and executing the agency's GEOINT Services Strategy.

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**NGA:** This week NGA Director Robert Cardillo is highlighting the GEOINT Services Initiative at the 2015 GEOINT Symposium here in Washington, D.C. Given the audience and the attention paid to the director's keynote, you both are going to be answering this question quite a bit this week — what is GEOINT services?

**Justin:** I guess I can field that first question. I think it's important first to answer that — what is GEOINT services — and quite simply, think of GEOINT services as a program containing geospatial services, standards [and] governance; to move the intelligence community to a common enterprise with a geospatial baseline, something that we have needed for a long time. Some of the main components of GEOINT services like The Globe, the ICGS portal and Map of the World already exist and are being currently used. We're simply serving up the data content services standards and that supporting governance to a cloud environment called GEOINT Services. It's not simply rebranding a solution or a campaign, but enabling real visceral entities towards a common enterprise geospatial baseline. This common enterprise geospatial baseline will be rooted in web-services architecture that is open, secure [and] standards based. It will be scalable to both geospatial data and imagery; also, the big, massive geospatial mission data that we will be producing. It will be interoperable through practical implementation-level standards for geospatial platforms. So that's what really geospatial services is.

**NGA:** What was the catalyst for this initiative? Give me some of the backstory.

**Justin:** Quite frankly, it is something we've needed for a long time. We've always produced services and the data that underlies them, but we've never been a service provider. In 2014, the director of national intelligence designated NGA as the provider of services of common concern for geospatial and identified NGA as the responsible intelligence-community enabler to deliver a geospatial platform for the entire intelligence community. This geospatial platform is at its core GEOINT services and will enable the discovery, use and sharing of services and content. A simple explanation of what this geospatial platform will look like is an aggregation of integrated,



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interoperable and easy-to-use components. These include the data, the services, the processes, software and infrastructure. The geospatial platform will be modular-component-based architecture, leveraging the best of every components that provide interoperability, the key functionality that users will need, best value of course, ease of deployment, and management and flexibility. The geospatial platform and common services and therein will provide a consistent geospatial frame of reference upon which multi-INT data integration and geospatial big-data analytics will occur. Additionally, the platform will provide a range of data ingestion, indexing, referencing, conditioning and orchestration services to facilitate the transit and enrichment of data from open sources to repositories, to applications. This was a planned activity that the customer service portfolio manager responsible for this area had been focusing on in the past. But the DNI's designation and then the linkage to ICITE, in particular, elevated the importance and scope of GEOINT Services.

**NGA:** You mentioned that GEOINT Services will be in a cloud-based environment. How does that differ from the current operations throughout the intelligence community?

**Carter:** So right now, as an intelligence community, there is a lot of agencies using geospatial data. NGA, obviously, has a much bigger mission. I mean, our entire mission is to work with geospatial data, but we don't own geospatial data, and we don't intend to have a monopoly on that. Right now, the way the intelligence community works — the way many organizations and the rest of the world work — they work with geospatial data on their own infrastructure. What GEOINT services is going to allow us to do is to, as a community, work to put a shared infrastructure in the cloud. And that is not necessarily a single cloud. We have customers and partners, on all domains; from our perspective on many domains, and so we intend to build geospatial capabilities in the geospatial cloud from on all the domains that our partners and customers work on. As part of that platform and on those domains, we will have geospatial data services. We're going to have capabilities delivered as web services, sensor data services and packaged applications, software as a service that we can, as Justin said, that can get us to the common geospatial baseline to ensure we are all working much more efficiently and effectively together on geospatial data. What the DNI has asked us to do is to provide services of common concern. So to look at what the IC is doing from a geospatial-data perspective and a capability perspective; and as a functional manager, be the leader for providing those capabilities in the clouds.

**NGA:** This is a complex initiative — a lot of moving parts and implementation and execution. Is NGA alone in leading this development?

**Carter:** We absolutely have to do this as a community. We as NGA do things uniquely. But each of the other agencies does as well. And even beyond the intelligence community, obviously, we are very tightly integrated with the Department of Defense and the services. And we have a lot of non-IC and non-defense federal partners that we work with, and so we have to work with all those folks in tandem to make sure we deliver services that best meet their needs. And at the same time, it's not just about technology delivery, but it's about the policy, governance and the processes that allow us to all work together effectively and efficiently and ensure that the data they find and can use; that it is the right data for them. We all know that location is becoming inherent in everything that we do. From a technology standpoint, we are figuring that out, and there is so much data that is flooding all the geospatial-data users throughout the community. We are hoping to leverage the cloud, and the capabilities therein will allow us to get our hands

around that in a much more effective manner. And one of the things we are looking to GEOINT Services to do is to use that as a catalyst to shift how we build and deploy capabilities. We are really embracing a multi-domain approach, but starting low, building low and moving high, rather than architecting and building solutions unique to each customer and each domain we work with.

**NGA:** Where are we with the overall timeline? We are talking a lot about the end state, but what are we delivering today? Are the customers seeing that context today? What can we expect in the near future? What can we expect in a few years?

**Justin:** Yes, good question. The process for implementation has been very thought out. There are definite plans, milestones and goals that you have. And as we implement GEOINT Services, we certainly have them as well. The process for implementation will occur over the next two years, and it is definitely not a light-switch-on, light-switch-off kind of approach. As we discuss the future of GEOINT Services execution, it's important to note that the concept of services started long before the GEOINT Symposium this week. And the movement of NGA to become a service provider has been in work for about a year or so now.

**Carter:** In the fall of last year, we deployed our first cloud service, which is a consolidated GIS data portal in the Amazon Cloud. Since the fall, we have been working to align the data that is on multiple portals throughout the JWICS domain into that central cloud-based portal, and we are at a point now where we are decommissioning some duplicative capabilities to include duplicative data services that were being fed through those individual portals. And so NGA is going to turn off technology in favor of a cloud-based system, and DIA has been able to do so as well.

**Justin:** Yes, the main purpose behind GEOINT Services is to provide services to our customers and by being a service provider, eliminate the need for users and customers to develop their own. But from a customer-centric perspective at NGA, I think it is important to highlight for customers some of the end-state goals in GEOINT Services and how it will ultimately shape their environment within the intelligence community. First of all, as Carter mentioned, we are down to one platform, and that is all happening now. We are collapsing duplicative platforms into one. By the end of this year, GEOINT Services will have platform-application services providing on-demand geospatial software and applications via the cloud. We will also begin to identify unique and commodity services. At the beginning of 2016, we will begin intelligence community crowdsourcing of content where analysts across the intelligence community can contribute to geospatial foundation data. And we will also continue to expand on our services of common concern and commodity services. Through 2016 and beyond, the GEOINT Services platform itself, that was mentioned earlier, will be prominent on all three networks — JWICS, SPIR, NIPR and the triple W.

**Carter:** We've been working really closely with other members of the intelligence community to make sure we deliver solutions to them that are meaningful and have real mission impact. One of the things that we are working on, to streamline how we across the IC do business with vendor solutions, is for NGA to be the single-enterprise license-agreement negotiator for several major geospatial-vendor solutions. Rather than each individual agency negotiating for their needs, NGA, as a functional manager, can take on that, and we can really realize some cost savings from the economies of scale and making sure that the partners out there are getting the

solutions that they need from those geospatial-data vendors. The other thing that we are, from a business model perspective, with GEOINT Services; now Justin mentioned a platform in 2016 that we are going to be deploying across the major domains that we work on. And I mentioned earlier the services or capabilities of common concern that we are going to provide to the IC. From a business model perspective, we are moving forward with two broad categories of services that we will provide in the cloud: enterprise services, which are of the common things that the IC geospatial-data users use to do their missions from a geospatial perspective; but then there is also commodity services. These are services that may be provided by other intel agencies, by other DOD partners [and] even international partners that we can expose for the entire user base on each of these domains within the geospatial platform. One of the things that we expect over time is that by having this cloud-based platform, essentially a web-based platform — and we have these services being provisioned in the platform both from NGA and our partners — that we can monitor the usage and understand what capabilities [and] what data is most effective and most efficient, and that can afford future investment. And certain things that are provided as commodity services early on can evolve to enterprise services and vice versa. Enterprise services may evolve to be more niche applications and not be funded and invested in as enterprise services. GEOINT Services in the cloud-based environment that we are building upon here is really going to lay the foundation for us working in a geospatial big-data environment and is going to allow us to build upon that and really do some amazing things. So we have some grand visions of what we are going to be deploying and what we can expect out of the years in '17 and beyond. Right now, we are really focused on the early deliverables and quick wins to make sure that we as an IC are doing things in common that's commonly done.

**NGA:** Let's dig a little deeper into crowdsourcing. I understand the importance to the private sector; how does crowdsourcing help the mission of an intelligence agency? And is this happening soon?

**Justin:** Yes, we are planning on launching a crowdsourcing pilot in the coming months to develop and help NGA and the intelligence community develop processes for incorporating intelligence community partner content contributions into our foundation data sets. We will be building off the technology and lessons learned from the MapEdit pilot, which is exploring crowdsourcing now within NGA. From the lessons learned, we looked to glean best practices and implement these concepts into future modeling and execution of GEOINT Services in respects to crowdsourcing and ultimately see the intelligence community benefit from that.

**NGA:** We are talking about this initiative with some pretty big goals. Namely, we are looking to change the culture of NGA and the IC as a whole. Is this doable? Is this something that GEOINT Services can do?

**Justin:** I believe so. GEOINT Services represents a fundamental shift in how NGA does business as a service provider; as a geospatial data provider and intelligence provider for the intelligence community and the NSG and ASG. I have mentioned before that we have had services in the past, but the construct of becoming a service provider is different, so that will require a bit of a cultural shift. But in short, GEOINT Services, through this effort, enables the delusion of geospatial data and application silos. As a service provider, NGA will provide a platform to enable the exchange and enrichment of geospatial content and services in a secure and open IT architecture. We will have best of breed geospatial capabilities and content

available on demand for any mission partner across all networks. As that geospatial data provider through services, NGA will adopt an open-first, web-first strategy. All content will be discoverable, accessible and integrateable by any mission partner across all networks. And key for many is as an intelligence provider using geospatial services. NGA will equally leverage and benefit from the discoverability and on-demand access to content and analytics and the analytic opportunities presented by an IC geospatial ecosystem. We will have richer GEOINT and participatory intelligence available through this multi-int data integration. So basically, the aperture will be expanded to available GEOINT arrayed spatially and temporally, enriching GEOINT analysis. And this is what the construct of services provides to the entire community.

**NGA:** Let's end with this: how does the GEOINT Services initiative create better intelligence?

**Carter:** I think, fundamentally, GEOINT Services enables the intelligence community to integrate. That is what we have been working towards since 9/11; understanding that we need to focus on intelligence integration and understanding that the common thread across all the intelligence that we as a community work with on a daily basis is location; it's geospatial. When NGA provides geospatial platform in the clouds that allows our partners — our IC partners, our DOD partners and our federal partners — to actually expose and georeference their information, be it intelligence [or] any information that is relevant to the missions of them and their users or their customers. In doing so they allow everyone else to find, get and use that information in a geospatial context. GEOINT Services is also really breaking the mold in how we develop and deploy capabilities for geospatial-data users; for analysts across the IC. Rather than building a monolithic system that owns everything in the technology stack from tooth to tail, we are really focusing on interoperability; focusing on, like Justin said, the best of breed components, so as technology evolves we can pull one thing out and put the new, the right, the best capability in and not have the system break or have to re-architect an entire system from the ground up to replace one component. Like Justin said, find, get, use and share is really the model of GEOINT Services, and our geospatial platform is going to enable not just NGA to get and use that data, our own data, but it is going to allow the entire IC to do the same; to get our data and for us to get their data and for us all to benefit from that.

**NGA:** I'd like to thank Mr. Poole and Dr. Christopher for joining me on the show today. For more information on GEOINT Services, you can visit our website at [www.nga.mil](http://www.nga.mil). We have a special GEOINT Symposium site with news and information, including a schedule of where, when and where Mr. Poole and Dr. Christopher will be speaking this week. For updated information on NGA, follow NGA on Twitter at [twitter.com/NGA\\_GEOINT](https://twitter.com/NGA_GEOINT) and like us on Facebook on [facebook.com/natlgeointagency](https://facebook.com/natlgeointagency). Never miss an episode of Geointeresting by subscribing to the podcast on iTunes and SoundCloud. Thanks for listening!

