

TRANSCRIPT

## Defense Writers Group

A Project of the Center for Media & Security  
New York and Washington, D.C.

---

Vice Admiral Robert B. Murrett  
Director, National Geospatial-Intelligence Agency  
September 26, 2007

THIS IS A RUSH TRANSCRIPT AND MAY CONTAIN ERRORS. USERS ARE ADVISED TO CONSULT THEIR OWN TAPES OR NOTES OF THE SESSION IF ABSOLUTE VERIFICATION OF WORDING IS NEEDED.

Q: Welcome to Vice Admiral Robert B. Murrett, M-U-R-R-E-T-T. He's the Director of NGA. In case you don't know, the G is one word--Geospatial-Intelligence. That's how we get the acronym of NGA. The last Director of NGA that was here was General Clapper, I think lots of you remember when he was here. We opened the session asking him what NGA was doing for the warfighter in Iraq and Afghanistan, so let me start today with that same question.

A: It's a great question.

First, good morning to everybody. It's good to see you all here. I think about half of you are familiar faces, and it's good to see you again.

What NGA does for the warfighter I put in terms of really the global responsibilities that we've got, and certainly not in the least the supporting personnel and mission sets that we've got in Horn of Africa, the Philippines, Afghanistan, and Iraq. But it's really a worldwide mission.

We have personnel assigned from NGA for a variety of circumstances related to warfighting functions and others at more than 150 locations around the world, and specifically with respect to combat operations. During the end of General Clapper's time and during my time we have increased by a couple of orders of magnitude the number of externally assigned personnel that we have which provide the foundational data, the basic intelligence for combat operations in so many places around the world.

The way that is usually manifested is as part of an interagency team in a specific location in support of an operational commander in which we partner very closely with our counterparts in the intelligence community such as, and most specifically, NSA and DIA,

Central Intelligence Agency and so forth and work as part of a team to provide an overall picture for our soldiers, sailors, airmen and marines. That mission set, I would tell you two comments. One, it has expanded in terms of the level of effort, as I said over the past couple of years. And perhaps more importantly, the interagency and intelligence community aspect of it is more important than it's ever been. That's something that I think will continue to get emphasis for many years into the future.

Q: What about the borders? The border with Syria, the border with Iran. Are you having more success these days than you did in years past in monitoring that? Spotting infiltrations or infiltration defials? Is that a major focus of your agency?

A: I think all borders, they are an area of focus for our agency around the world, specifically the borders in all directions in Afghanistan and Iraq, but even in ungoverned and semi-governed areas such as the Horn of Africa or something that NGA brings a fair amount to the table on because of the responsibilities we're getting for mapping, charging and geodesy in addition to imagery and imagery intelligence. So those are things we work very closely with, not just operational commanders to your first question, Bob, but also with the State Department, for example, and others that are responsible for not just monitoring borders, but in some cases determining where they're located.

With reference to that, the organization really made a great name for itself during the Dayton talks for the disposition of former Yugoslavia, as an example, in determining what borders and lines were going to be. That is part of our mission set.

Q: Can you give us some examples of some success stories in the current conflict in Iraq on the border, things you've been able to detect or point forces in the direction that hey, this looks like a likely area of infiltration?

A: I would probably best describe that, Bob, as monitoring on a 24x7 basis using all the sensors that are available to us of a variety of types in specific high interest border sites, and providing the best analysis that we can of places where individuals and weapon systems, for example, are coming and going across borders in places where we need to monitor them. It has importance, for example, in Iraq, Bob, but it's as important because of proliferation on a broader scale in so many places overseas which may be coming from East Asia to the Middle East and so forth, and monitoring proliferation is a very very important, certainly one of our top mission sets.

And just as a data point, one of the people in the intelligence community that I work with most closely is Ambassador Ken Brill who is responsible for the National Counter-Proliferation Center out of the intelligence community. Most of what Ambassador Brill and I work on very closely in our two organizations has to do with things crossing borders that we don't necessarily want to cross borders. That's a big part of our mission set.

Q: One final part of that is, have you had some success in being able to automate that kind of search? I know when General Clapper was here the last time he said that was going to be a main focus area, to try to relieve the pressure on the human analyst or photo interpreter and put it more on machines and automation. Have you had any success there?

A: We have indeed, and the technology, both classified and unclassified in that area, Bob, has made great strides just I would say in the past three years of so.

I put that in the context of the fact that the sheer volumes of data that we are ingesting now in the area of geospatial intelligence continue to increase by a couple of orders of magnitude on an annual basis, and it comes in all kinds of forms, but the foundational data that we are responsible for processing, analyzing and disseminating grows pretty dramatically.

The flip side of that, Bob, the tools that we have to say, for example automated change detection which can be done by machines rather than by human interface, are getting better all the time, and the technology for handling what I would have to describe as vast quantities of data is getting better and better every year. Particularly by some US vendors. They're making some pretty dramatic progress just in the past 12 months or so.

Q: If a Global Hawk is staring for 72 hours at a hut somewhere, in the past you had to have someone actually watching that to detect a pickup truck driving up. You're saying now that can be automated? The change detection?

A: We have automated change detection tools that can use both full motion and still frame imagery from a variety of sources, and those are getting better all the time.

As is always the case, Bob, they're never as good as we want them to be but they've made a lot of progress just in the last couple of years.

Q: I've got to try this. Have you had increased emphasis recently on ship traffic from North Korea to Syria?

A: I put that in the context of the fact that we work as a key element in the intelligence community on trafficking of WMD and high interest arms shipments any place that we think our own nation and our key coalition partners need to know about. And as the Director of National Intelligence and others would tell you, that's a key mission set for us and one that I think is going to be increasingly important in the future.

Q: Was there any indication that the North Koreans are doing something they shouldn't?

A: Is there any indication the North Koreans are doing something they shouldn't. [Laughter]. There are always indications that the North Koreans are--[Laughter].

In the context of the 6-Party talks and everything else we have going on relative to North Korea, they're a high priority for the intelligence community and we're intimately involved in that.

Q: Let me try something else. Tactically the need is often to get information within minutes, perhaps seconds. Are you solving that problem? Because as far as we know it's never been a particularly functional solution in there, in getting information into the cockpit in--

A: Sure. Actually I think one of the things we have made the most progress on in the last five years or so, and not just for myself, but for Keith Alexander at NSA and others, is the timeliness of the data. I think that is one of the key discriminators that we have in the intelligence community over other types of data that might be accessible for perhaps on the internet and so forth.

The biggest demand that I have, particularly from operational commanders, is they're not terribly interested, for example in imagery that may have been shot yesterday, the day before, two days ago. They want something that's five minutes old. Both in terms of still frame and full motion video. That is very much part and parcel of our DNA, I guess, and something that we're getting better at pretty--

Q: But how hard is it to access that? I was just in Misawa and the guys who are doing [FAC-A] there were using Google Earth, not your product.

A: They should have known better. [Laughter]. Is that part of USL?

Q: I'm sorry?

A: There was just a major exercise we conducted in East Asia--

Q: No, it's the way they practice for their [FAC-A] mission. They were just getting ready to go to the Middle East.

A: Just another comment I would make, we use Google Earth as one of the applications for NGA. It's one that we are licensed to. But it's not so much the application we use as the data behind it. And as you've said, the timeliness of the data is one of the most important factors.

Google Earth is one of many what I'll call user interfaces that we use. It's a pretty good one. In fact we had a key role in the development of Google Earth. We have several others that are more scientific and technical for our analysts, but at the end of the day it's really the data that underlies the interface you get, not so much what's there.

Q: But the question is still, how readily available is it? Is it something that's on call to

perhaps everyone? Or do you have to make special arrangements to get that information in that most timely way?

A: I'd say it's on call for the people that are most important, whether they're in the foxhole or to the national decision makers. That doesn't mean that we have absolute access for everybody around the world but we're certainly trying to get there.

We've made I think a lot of progress on that just in the last few years in terms of getting high bandwidth, near real time data to people at fairly remote locations in ways that weren't possible until fairly recently. It's always a challenge to try to get it to the people at the end of the fight.

Q: But to follow up on his question, the example, was it airmen out there that were--

Q: Yes, it was the F-16 Wild Weasel guys.

Q: How could it be at this point that they were not aware that they could key into what you have?

A: I think we'll always be able to find a location here or there where they don't have access to the things they should. I would tell you that we do the very best we can to make sure that our highest priority consumers of all types, all 24 time zones around the world, have as good access to our material as they can possibly have.

Obviously there's a pretty big emphasis now upon the Middle East, but we also do a lot of things in other parts of the world that are of equal importance.

Q: They consider themselves the front line in any Chinese or Korean threat, so--

A: Certainly. That's why I brought back this exercise that we just did in East Asia. I was just in Japan about a month ago and that part of the world is a key part of our mission set.

Q: Admiral, there's been a fight going on between the arms controllers at State and the intelligence community over the future of the START-I inspection regime and monitoring. The State Department [goes in] the lead. Some people don't believe it needs to be as intense as it has been. But the intelligence community is opposed to loosening up any kind of regime as it exists because, I'm told, of the stress that exists on your assets now because of the number of mission sets that you have compared to what you used to have during the Cold War.

You're basically overwhelmed by the requirements of keeping track of terrorists, keeping track of proliferation, and keeping track of right now what remains the greatest existential threat to the United States which is still the Russian nuclear fleet.

I wonder if you can talk about that, the stress that you have on your assets, and what you're doing in terms of trying to relieve that stress. I understand there was a cancellation of the new generation of satellites and you're trying to figure out how you replace what's up there now.

A: A great question. We're all in the business of prioritizing the level of effort across a lot of different mission sets. With respect, and I'll come back to the availability that we have. With respect to specific treaty monitoring and verification roles, a lot of that comes down to the details, but you can and we have been successful in the past of using national technical means, that's the expression that we use, using national technical means as a basis for treaty verification which in varying degrees calls for some level of cooperation by the party that's being verified. If you have the treaty put together in a proper means, which we have done in the past, you can do that. And we have, I would go on the record as saying that we have sufficient intelligence assets today with a partner that wants to legitimately participate in the verification regime, certainly in terms of large military equipment to monitor such a treaty.

The other broader part of the question you asked, I think it was a two-parter at least, has to do with the availability of assets to do pre-verifications and other missions in a competing environment.

We can execute our mission today, and I have more confidence now than I had certainly say three years ago in terms of our future architecture in terms of our ability to do the things the nation needs to have done. And as you know, from the standpoint of NGA we use national technical means, we use commercial imagery, we use airborne imagery, we use foreign partners that we work closely with, so for us we're very much spread across several different sources.

If you look at, as I mentioned earlier, the proliferation of data that we have access to today, we're actually in a much richer environment than we were say two or three years ago. I'm confident that with the planning that we have worked closely with other elements of the intelligence community and not in the least the Director of National Intelligence over the past couple of years, that we've got a good plan for the future.

Q: Under the inspection regime, both sides are required not to hide or deceive the other's national technical means. Is there a concern that that in fact may become more, is there a concern that that could get harder as it gets passed down the road? People are going underground with things that perhaps they shouldn't be going underground with, or they could if the regime was loosened?

A: Kind of a hypothetical and more kind of a policy issue, really, than a monitoring and verification issue.

I guess the best answer that I can--good question. Probably the best answer I can give you is that we have the ability which is better than it used to be for doing treaty

monitoring and verification. In terms of the broader policy issue of how we ought to deal with people that are being as recalcitrant as they could potentially be sometime in the future, that's something I really probably shouldn't comment on.

Q: Sir, I just wondered, what are the plans to keep the US imagery companies active down the road. In fact one satellite just went up, one will go up next year, there's been talk of a follow-on to NextView 10, 15, 20 years out. How do you maintain this industry so that they can provide you with [inaudible]?

A: That's a great question, Jeff. We have a vigorous interest in the health of the commercial remote sensing industry. In fact just in the past couple of weeks I've had discussions with both Jill Smith and Matt Connell who are the CEOs of GeoEye and DigitalGlobe, as you may know, the two primary US commercial vendors. And as Jeff just alluded to, DigitalGlobe did a successful launch of the WorldView satellite just last week which is something we have a profound interest in.

The health of the commercial remote sensing industry is something of high interest to us and we are very closely, as you know, aligned with both the US commercial vendors, and moreover, the products and services that they provide at the unclassified level for use in a variety of applications to include disaster assistance, mapping and charting which is a big part of what we do at NGA. Not terribly glamorous and exciting, but very very important. It will be as important in the future as it is today.

I'm pretty confident that if we work closely with DigitalGlobe and GeoEye and other airborne vendors, that we'll be properly situated in the future. It's a growth industry and one that we've got a pretty lively interest in.

Q: Can I press you on the future imagery architecture, whatever it may be? Tell me what's happened. I know the EO portion of Thea was canceled in '05. What's going to replace that? The intel communities have both mentioned for the last few years their concern about a future capability gap. As you've said, you don't have, you're not unconfident that you can meet those. So is there a gap in the future? And how is it being closed?

A: I can't get into specifics on what our future satellite constellation is going to look like, but what I can tell you is that under the aegis of the Director of National Intelligence on an effort that was begun last year called the Integrated Collection Architecture, that steps have been taken over the course of the past year or so with our other key counterparts in the intelligence community to put together an architecture that makes sense and will enable us to execute our missions in the future, and one that I'd just go on record as saying we're very comfortable with.

The challenge for us is to execute the architecture and the plan that we have in place now and to work closely with the Congress and others in government to make sure that we can do that.

Q: Is there a gap? Both the House and Senate Intelligence Committees say that they're concerned about a future capability gap. I know they're getting briefed.

A: I don't know if I can get into specifics on that. I will say that if we do the things we need to do we'll have the capability that we need in the future without any significant gaps. That's probably all I can say.

Q: And does it use air-breathing and ground--

A: As I said earlier, and you'll get tired of me saying it. For us at NGA it's not just about NTM. It's about commercial, it's about airborne, it's about international partnerships which are increasingly important with commonwealth nations and others, because it's very much an international picture and also our national assets. And spreading all those across a common architecture, that's our biggest task and one that we've made a lot of progress on.

Q: I wanted to take another crack at this. You mentioned in your opening that proliferation of WMD from East Asia to the Middle East is becoming a concern and a particular mission for your agency. What countries are you most worried about? Do you believe the North Koreans are proliferating to Syria in particular? More generally to other countries in the Middle East? Are there any other countries besides North Korea in East Asia that you're particularly worried about?

A: Yeah, great question.

I guess the way I'd answer that is kind of in a general sense. In terms of rank order of types of proliferation that you are most concerned about, obviously WMD proliferation by state actors is pretty close to the top of the list. On the other hand we need to be equally familiar with and also track conventional arms shipments, for example, from a variety of countries as they transfer to what I describe as potential adversaries.

Today with all that we are doing we need to be concerned about the fight that we have today and the casualties we're taking and the combat operations we are conducting. At the same time, work needs to be done today to prepare us for potential future adversaries. You could go down the list as well as I could. The developments they're having both in terms of weapons of mass destruction, but also conventional forces which is something that we can't ignore.

We at NGA and we in the intelligence community work those proliferation issues which I can put it in two categories, I guess. WMD and conventional forces support. Very very carefully. It's a worldwide picture. You can come up with a top list of proliferators, and we all know who they are, but it's something that really gets down to a fairly mundane level just in terms of WMD associated technologies and also general purpose military equipment. That's something we track very carefully.

Q: Are the North Koreans believed to be proliferating any kind of nuclear technology? Let alone material, actual technology or equipment?

A: I can't comment on any specifics regarding North Korea.

Q: On September 6th the Israeli Air Force attacked a specific spot on the earth in Syria. On or about that time was NGA looking at that spot of earth?

A: I can't comment on that at all. [Laughter].

Q: Can you just tell us--[Laughter].

Q: Stu Magnison, you're up.

Q: Can you tell us about your agency's involvement in the National Applications Office and how that's going to work exactly? How you're going to task assets. Some people suggest that you're overwhelmed, you say you're not, but how are you going to make a priority out of domestic versus international tasking orders or [inaudible].

A: I thought that question was going to come up this morning so I'm going to pass out a photograph. [Laughter]. I think the visual was important. That is what we do, if you want to pass that around the table, and you're free to make copies of it.

That is a photograph of Admiral Thad Allen in New Orleans in the wake of Hurricane Katrina looking at an NGA chart of the flooding in New Orleans that we provided which was up to date as of that morning.

I show that to you because I think the optic is important. That is what our associated mission set is for the Department of Homeland Security, for FEMA, and in this case the Coast Guard Commander that was on scene during Hurricane Katrina.

We have an important mission set which you see reflected in this photograph which is to provide for any domestic crisis a geospatial depiction of the local area which is as up to date as possible. The vast majority of the way we do that is completely unclassified and not terribly interesting, to be honest with you, but vitally, vitally important. That is the mission set that we have which is related to DHS.

Any time we do that, as is clearly evidenced in this photograph that I'm passing around the table, we do in support of a lead federal agency. In this case it was FEMA because they had primary responsibility for disaster assistance. Sometimes it's the FBI. It depends on the circumstance, but we always act in support of a lead federal agency and we've got an important responsibility that the nation wants us to do to provide unclassified data in support of a variety of evolutions to include this and national security special events and other contingencies.

Q: When you said the other guys, so that would be law enforcement applications? I know that's temporarily on hold, but can you give us an example?

A: The preponderance of the stuff we do is more akin to what you see here which are larger events.

Work that we would do, for example, with any law enforcement entity would have to do with something probably larger in scale where they just needed some mapping and charting support for a specific evolution.

Q: This is the kind of problem that, Americans really don't know what our spy satellites do, and we have this domestic, what some people are calling domestic spy satellite program. So most Americans have these images of Hollywood where a spy satellite can do about anything. On the other hand, you can't really tell us what spy satellites can really do. So don't you kind of have a public relations issue here?

A: What I can tell you is probably the most granular data that we have which you can all find with Microsoft Virtual Earth or Google Earth or other applications on the internet, there is I would tell you, commercially available, very very refined data of the United States collected by aircraft at fairly low altitude which is available to all of you and to all the rest of us.

I won't get into the detail about what our national technical means can provide. I would tell you that is probably of as much interest as anything else that's out there. It can be used for a lot of purposes, good and bad. It's all, as I said, commercially available.

Q: Admiral, you spoke about recent talks with DigitalGlobe and GeoEye chief executives. What were you discussing?

A: Discussing the future, as Jeff alluded to earlier, of their own efforts in terms of follow-on to the NextView constellation which is in progress already and throughout next spring in the case of GeoEye with their launch. And making sure that we partner closely with them so that we have a commercial architecture in the future that complements our airborne, our international programs, and our national means. That's kind of the overarching thing. Then we get into some specifics in terms of what our future contractual arrangements will look like with both DigitalGlobe and GeoEye which is something that we talk about all the time.

Q: Could you give us a general idea of what those issues involve, the contractual arrangements?

A: I know we do specific press releases that talk about the RFPs and I'll defer you to our OCR team in terms of how much we're able to say in terms of specifics in our contractual arrangements with both those organizations. But I would tell you we have an interest, as

I think I said earlier, in the continued health and welfare of the commercial remote sensing industry and that's something we'll be vigorously engaged in for the foreseeable future.

Q: Let me try another one on North Korea, and try to divorce it from recent events because that seems to be the sensitive issue here. We had Admiral Fallon here I guess about a year and a half ago when he was still at PACOM and we talked about the proliferation problem in North Korea. His major concern was he seemed to be able to track ships pretty well. You can see them, follow them. He was very concerned overland and airspace because that relied on China and Russia and he expressed some concerns that things went dark when they started going north in that direction.

I'm wondering if you could just talk a bit about your relative success in filling in that gap, and how confident you are that we are indeed able to track stuff that is leaving North Korea.

A: Great question. I'll try to give you as specific an answer as I can, and it has to do with North Korea, but really has to do with the broader dimensions of counter-proliferation.

There are certain types of proliferation that are fairly easy to track. The things that are fairly easy to track had to do with larger equipments, and that includes not just equipments that are shipped over the oceans, but also things that take a train, large trucks, or even larger aircraft to move around the world. This is again not specifically about North Korea, although it could be.

Those kinds of things you can track fairly successfully I would say, without getting into specific sources and methods.

The kind of challenge that we have for proliferation which I think is tougher is, for example, transfer of individual scientists from country A to country B who carry with them expertise, subject matter knowledge, and are able to develop, for example, biological weapons which you can do on a fairly modest scale and a fairly modest physical footprint. I think that is the one that is more of a challenge, but what it underscores really for me, and I think for my counterparts in the intelligence community is the importance of having the closest possible relationship with NSA, with CIA, NGA, the National Reconnaissance Office, DIA, and so forth. Because that's the real answer for those kinds of challenges. That is something that, I brought a copy of DNI's 100 Day Plan with me to read in the car this morning. The real answer to effectively countering those kinds of proliferation challenges from countries such as North Korea is for us to work as closely as we possibly can across the intelligence community and that is something that I will tell you is probably working as well today as it ever has. I think we're going to take it to the next level.

Q: This may be a little bit out of your lane, but again dealing with the fact that the Chinese and the Russians have the airspace in that area, have you gotten cooperation at

all from--again, it's not necessarily your agency, but the intelligence community. Have you gotten cooperation from the Chinese or Russians on the issue of North Korean proliferation?

A: You know, in the intelligence business you have engagement with just about every country on the globe of one type or another and it ranges all the way from the United Kingdom and Australia and Canada where we're almost completely, and other people that are current or potential adversaries that we still have conversations with. I can't get into specifics there, but I would tell you that across the intelligence community we have cooperative arrangements with just about every country on the globe in areas of common interest.

Q: You have a big stake in networks, the military networks. You receive data over the networks, you move it around over the networks, you disseminate it over the networks. So you could have a big problem with cyber war. Correct?

A: Absolutely.

Q: Who's protecting you? What role specifically does NSA play in encryption, that sort of thing? Who's protecting you, and give me an assessment of what you think the threat is.

A: The threat is real, it is significant, it is one that we need to take with an increasing sense of urgency which I've seen reflected by Admiral McConnell and others. And before his time, Ambassador Negroponte. So I think we recognize the threat.

In terms of who is protecting us, it's really more of a question for Lieutenant General Charlie Crume than for me, who is the Commanding General of DISA and responsible for our national and military networks and also Keith Alexander because of the sensitive roles that he has in terms of monitoring networks as the Director of the National Security Agency.

At this point I would tell you in the aggregate we do have protection across the variety of networks that we have in our system which is definitely classified to Cybernet and higher levels. But the sophistication of the adversaries that are coming after all of our networks increases every single minute of every single day. Our national strategy to contend with that is something that I see taking increasing attention, just recently actually in the last couple of months, and one that DISA and others will be moving out on as they have already, even more aggressively in the future.

Q: Have you at NGA been hit?

A: Everybody's been hit one way or another. A lot of it is just minor things, you know, youngsters wanting to see what you've got inside your network. It's a shades of gray thing. Everybody has been hit. Some have been more sinister, attempted penetrations by fairly sophisticated adversaries overseas; others are just curious youngsters that want to

find out things about the intelligence community. Those things are happening all the time. So everybody has been hit.

Q: I'm talking about a premeditated, professional, dedicated, possibly national sponsored intrusion into your databanks or networks. Has that happened?

A: That was a lot of caveats. [Laughter].

People are attempting to do those kinds of things I guess is the short answer I would give you.

Q: But not succeeding.

A: Let's see. I wouldn't want to go on record as saying no foreign actors have been successful in penetrating our network. It gets fairly arcane and detailed.

Q: Admiral, you talked a little about START-1 and verification. You also said you've got a much richer data environment than two or three years ago. Why is that?

A: The sheer volumes of data that we have to absorb now because of the proliferation of collection platforms of all types in those categories that I gave you earlier. And to give you another example of dramatic growth we've had, full motion video from manned and unmanned vehicles, primarily unmanned. International partnerships, increasing sophistication of other sensors we have that just generate much more data than they used to.

The good news, the flip side of that is that the technology to deal with it in three primary categories in terms of storage media, in terms of processing technology, and in terms of transmission across boundaries is getting better and better all the time, specifically storage media which has gone several orders of magnitude beyond what it was just actually 18 months ago.

So it's kind of a two-edged sword. The sheer volumes of data are increasing dramatically, but the technology to deal with it is also kind of marching pretty much in lock step.

Q: What's the next step in order to be able to process all of it?

A: As I said, I think it's in technology. I think, well two things. It's in absorbing the technology as fast as we can, and the other thing is what I call data triage, and that is focusing on the data which is most important, dealing with other parts of it on a non-time sensitive basis, and some portion of it you're just going to leave on the cutting room floor. Making those decisions are increasingly important, especially as it applies to full motion video.

Q: You mentioned you had tried proliferation both of conventional arms and WMD material. There's some talk in Syria that perhaps [inaudible] missiles [inaudible]. But can you give us an idea of how much, the balance of your tracking of conventional arms and missile proliferation versus WMD type proliferation, [inaudible] China, something that--

A: Sure.

Q: How much more frequently are you looking at conventional stuff versus WMD?

A: Just a minor asterisk, typically in our business you refer to the missile delivery mechanisms as WMD-related, so they kind of fall into the same category as chem, bio and nuke. But for example, if country X has a medium range ballistic missile that's capable of delivering chem, bio or nuke warheads, it kind of falls in the same category. So just for the record, we pay about as much attention to those kinds of things as we do to the WMD that can find itself under a warhead.

You balance it. The weapons that are capable of inflicting large casualty attacks are a higher priority than conventional, but we pay a lot of attention to conventional as well. You have to have both. The sheer maintenance of basic order of battle for potential adversaries is an important mission set. The other aspect of it, it's not something you can make up for later on. If some nation five years ago, we have a dust-up with them in a conventional sense and they start coming after us with their aircraft and tanks and ships and so forth, we can't start the analysis of their general purposes forces then. You've got to have it today. So that kind of prioritization consistent with our national security strategy and our national intelligence priorities framework under the aegis of the Director of National Intelligence is something that we pay a lot of attention to and prioritize very carefully.

Q: I was asking more sort of, how much, when you look at missiles versus, I realize missiles are WMD related, how much more frequently are you tracking shipments of missiles versus shipments of components of a WMD program to create either fissile material or biological or chemical weapons?

A: They are both top priorities and we look after them at the expense of most other things.

To answer the question another way which I think is one of the most important conversations that we have all the time with people like me and Keith Alexander and General Hayden and others, is how to balance that with the warfight support we're doing today. And that is one of the biggest challenges that we have. Support for combat operations because of the casualties that we're taking around the world, and balancing that with the things we have to do today for potential future conflicts which are just what you have described, tracking medium range ballistic missile shipments, proliferation, weapons that are crossing borders to potential adversaries, balancing that with our

current combat operations is one of the biggest challenges that all of us have in a day in/day out basis.

Q: You talked about the mushrooming volume of data that's available to you. In terms of moving that around, this is a bandwidth question here. The silver bullet for the bandwidth problems for the department for several years has been on transformational satellites. If that pony doesn't come home soon, is there a point out there in the timeframe of interest of people in this room where that gets to be a problem in terms of your ability to vacuum stuff in, process it, disseminate it? What do you to work with--

A: Mostly for the third category is the challenge. The vacuum in, the processing are pretty much okay and I think they will be. Dissemination of large file content to people at remote locations as we alluded to earlier tends to be the biggest challenge.

We are making a lot of progress on that still with a variety of mechanisms to include microwave architecture in combat zones and a lot of things we do to make large volumes of data available not quite down to the foxhole, but pretty close to it. That's our biggest challenge. And we do that through a variety of means. And part of it is connectivity. Part of it is also for things that maybe you can deal with that are perhaps even three days old. You disseminate terabyte size hard drives and physically disseminate them. That's a key part of the architecture, managing that fairly dynamic dissemination is something that gets a tremendous amount of attention to us, but it's not always about putting things through an RF link of one type. A lot of it is, for some of our consumers they can afford to have something that's a week old. For them we have a pretty active dissemination through distribution points of hard drives of large volume datasets.

Q: I wanted to get back to the domestic side of what might be going on now [inaudible], including the disaster work and those kinds of things that you've been involved with now for a number of years. I'm more interested in intelligence-related kinds of things. There's been talk about using it to monitor, using various either national technical means or airborne or other things to monitor the border with Mexico, monitor the border with Canada, do a lot of other kinds of intelligence. Can you talk at all about what is going on now and more particularly what's envisioned, what kinds of operations, what category operations, those kinds of things?

A: To put it in context, I guess I'd be glad to be quoted on this. We at NGA don't spend time, quite frankly, thinking about what are additional mission sets that we can grow domestically. We really don't. We're pretty busy. We have a lot going on overseas. We are an externally focused organization internationally. We do deal with a variety of people in our government in DHS and outside of DHS, Justice and other entities, that come to us and ask us if they can be helped with a specific mission set they are doing. Again, the one most important take-away is that any time we do anything domestically it is in support of a lead federal agency.

The way this works is they will come to us and say hey, we've got this typically non-time-

sensitive situation developing at this place. Is there something you guys can do to help us out with it? Then we take a look at it. If we can, we do; if we can't, we don't. There are lots and lots of lawyers involved, I would tell you. But we don't get up in the morning trying to think okay, what can we--We're real busy overseas. We're part of the intelligence community. As I said earlier, our single greatest challenge is balancing time sensitive combat support which is drawing a lot of resources for us with non-time-sensitive missions that we need to prepare today.

We also have a domestic side, as I've given evidence of here, which is very important for humanitarian, disaster assistance and other missions, but that's not something that we are seeking to over-achieve that.

Q: There must be, obviously, a fair number of different kinds of requests coming in from different people. People are exploring what else you could be doing. Can you give us one or two examples of the kind of areas that are more intelligence related than say disaster related, but that are very possible future kinds of goals?

A: Without getting in trouble with the Secret Service or anything, one of the products which is commonly requested is what I would call line of sight analysis of structures in urban areas. Just as an example, they ask us to do analysis of view points and visual access of particular points on the earth from another point. We get requests for those kind of things, just as an example, and we provide those. They're things that are done primarily with, in fact they are done using data derived from airborne sources which are commercially available. There's nothing mysterious about it.

Q: Admiral, a famous person once said we don't know what we don't know. [Laughter]. You've twice alluded to the fact that you're under pressure to serve the warfighter and other stuff might be missed because of your devotion to the instant campaign.

What degree of concern do you have that the focus on Afghanistan and Iraq is keeping you from assembling the data or watching the borders elsewhere in the world?

A: I don't know if they're mutually exclusive. There's a lot of things happening. We are at war with al-Qaida. They're certainly at war with us. I don't know if you can draw a distinction. We're going to find this out in future years, between what we're doing today in combat support and other non-time-sensitive missions. There's a lot of overlap there so I wouldn't want to treat it as kind of an either/or posture.

This is a conflict certainly in terms of al-Qaida and their associated groups that's going to go on for many many years into the future through--

Q: So you're confident that you're not missing stuff happening elsewhere in the world because of your devotion to assets in the war zone?

A: I'm not confident that we're not missing something in the world. I wouldn't attribute

it to the support we're doing for warfighting operations.

One of the things that I'm particularly sensitive to, without throwing out specific dollar figures, is the amount of national treasure that's been invested in the intelligence community and specifically within NGA. We ought to be I think conscious within NGA of the growth in national resources that have been put into our organization in order to deal with just what you've described, essentially to look at the two primary mission sets. You can slice that up a lot of different ways.

Our KOA has gone up fairly significantly over the course of the past five or six years because of that and because of the recognition of the importance of our mission set and I think that it's not really appropriate for somebody like me to complain to the Congress or anybody else about not being able to execute our missions, because the Congress and our other overseers in defense and in the intelligence community with my reporting chain have really come to the table and provided additional resources to NGA and to the rest of the intelligence community to try to cope with it.

Q: I just wanted to follow up a little bit on what you were talking about earlier where you said that sort of the cyber security efforts were getting increasing attention in recent months. I was just wondering what you were referring to specifically.

A: I'm not the expert on this, but I know there have been discussions within the administration and certainly the Congress over the course of the past four or five months in terms of our overall national strategy on cyber security. I think that there is recognition, certainly of the importance of that mission set in ways that will probably be reflected over the next year or two certainly in terms of our overall national structure to contend with those kinds of mission sets.

Q: So you're expecting changes? I know there have been discussions about what some people call a cyber initiative--

A: Yeah, I've heard about that. To be honest with you, it's not something that I'm an expert on. There are others certainly at DISA and elsewhere that pay far closer attention to this than I do, but I know those discussions are taking place and I think they're appropriate based upon the, as I said earlier, the increasing sophistication of the attacks that we're seeing in our national networks. And it's not just an intelligence community issue. I think it's as important on Wall Street as it is any place else. It applies across a spectrum of our commercial and national interest.

Q: You spoke a bit earlier about the technological advantage you're looking at in terms of the process of transformation. What about the sensor itself? Both GeoEye and the other folks have said they've narrowed it to where GeoEye's gone multi-spectral. How much, the further down do you get, how much are you looking for from that and where do you get the diminishing returns?

A: I don't think you ever get to a law of diminishing returns in terms of the precision of the data that you're collecting. I think it's like calculus. You never quite get there.

I think we'll be getting better and better at that all the time through all the variety of sensors that we've talked about. I don't ever see a law of diminishing returns when it comes to precision of data, quite frankly, particularly for specific applications. An example I would give you of a specific application where you can never be too precise is targeting.

Q: In terms of cyber security, what danger is there that an adversary could fake or could compromise your data so when you bring a picture [inaudible] playground to somebody and it looks like there are no toys there, but it's a week old but you don't know that.

A: I'm confident the existing mechanisms we've got deal with a scenario such as the one you described. However, in cyber you don't know what you don't know, so I think that's something we need to pay close attention to.

There are a lot of other people you can talk to that are far better versed to discuss this specific topic than I am on cyber security. We have as much of a vested interest in the security of our networks at NGA as anybody else, but I would certainly recommend to this audience that, I'll give you some specific names of people that are full time experts on this.

Q: They won't talk. [Laughter]. We have you here.

A: It's an increasingly important mission set from a national security standpoint, but also from a US economic standpoint. I think you're going to see that reflected in the future.

Q: How is the Chinese anti-satellite practically impacted your business?

A: That's a great question. In January of this year the Chinese had an anti-satellite test they conducted which has certainly gotten a lot of attention and had some repercussions. I think it increased the awareness around the intelligence community of the potential vulnerability of a variety of space platforms. For us at NGA I think it just underlined what I've talked about earlier, and that is the importance of having a broader architecture that doesn't rely necessarily that heavily upon space architecture, but also includes airborne, commercial, a variety of other type of platforms. You can have a broader array of agnostic TPED is the technical expression that's used.

Q: Agnostic?

A: That means being neutral in terms of the sources of your data across the various elements that you have in your architecture.

Q: What is there besides airborne?

A: Airborne, space, commercial, foreign vendors are increasingly important, and the international partnerships that we have which are a key part of NGA, and what I describe as library functions which are just a variety of time-sensitive and non-time sensitive, primarily mapping resources that we've got around the world.

Q: You in 2003 I believe got live feeds from Global Hawk and Predator, plus everything else thatm you've used the term ingest, I guess that's the way you guys look at it, we ingest it. That stuff doesn't go away, does it? Those data reside somewhere?

A: Great question. It gets back to the triage--

Q: Where?

A:--that I mentioned. At a variety of locations.

Q: YouTube. [Laughter].

A: YouTube is taking off.

Q: There's a lot of Predator footage. Are you--

A: There will be even more in the future. You can choke the internet if you tried to.

I will say this, for NGA our library architecture and our data handling architecture is something of high importance. I can tell you that it is located between the Eastern and the other sites of the Central United States. It is redundant and has significant backup in case any one of those sites were to come down, consistent with what you'd expect in an organization such as ours.

I would also just close by saying that the technology is just, for storage media in particular, is just really moving out. That's been a big help for us.

Q: Retrieval is a big part of this. So have you developed kind of a super Google that can extract information on demand?

A: We have. I would just say, on demand, it in some cases gets back to the triage that I talked about earlier. But certain types of full motion and still frame video for NGA you can get instantaneously. Others you might have to wait, in terms of library functions for a day or so, order in advance and then have it called up by our people that are responsible for that function. But as I said earlier, we increasingly have larger and larger volumes to deal with. The triage aspect of this is going to be more important.

We cannot, and you can easily talk to the networks about this I suppose, although for

them it's a lot easier.

If you wanted to store 100 percent of all Global Hawk, Predator, and other UAV-derived full motion video, your libraries would fill up pretty quickly. But so far we've been able to handle it pretty effectively.

Q: A couple of months ago you gave an interview to a colleague of mine and you talked about the possibility--maybe it was a year ago--the possibility of exerting some kind of shutter control on commercial imagery. Have you figured out what you're going to do on that?

A: I didn't say anything about shutter control. What I said, and I think the others can back me up on the exact quote, what I said is that if imagery was being used by a foreign adversary to kill Americans that we needed to respond. I didn't say specifically what we should do. I still believe that.

Q: [Inaudible].

A: We are in the national security business. We are sworn to uphold and protect American citizens and work with our allies. There are a lot of things you can do beyond shutter control. Just as a clear example, one of the key things you can do to avoid adversary use of geospatial data, imagery or whatever, is to for example move your forces around at a time when they can't protect you, and we do that. That's one of the things you can do.

You can also put Americans out of harm's way when you know others will be in a position to detect their whereabouts using a variety of imagery sources overseas. So there are different steps we can take.

I do believe strongly that if any means are being used to target and kill American citizens, that people like me have a responsibility to take a hard look at it and do the best we can to protect them. To some degree that may mean trying to restrict the ability of the open architecture to collect in ways to be used to attack American citizens and our allies.

Q: And if that's not shutter control, what is that?

A: It can be, as I said, doing things out of sight. It can be warning American in uniform and out of uniform citizens, State Department personnel, about places they might be more vulnerable than other places. That's probably the best example I'd give you.

Q: A stress question again. The surge in Baghdad obviously put a new premium on force protection and you play a big role in force protection. Could you talk about how much more of a burden, how much more demand you've been under due to the surge and whether or not that has diminished in any way your ability to pay attention to other

pressing issues, in particular the situation on the Afghan-Pakistan border with al-Qaida.

A: It's a great question. In the spirit of full disclosure we have plussed up the number of people that we had in Iraq because of the surge. We have additional NGA personnel on the ground over there and additional resources allocated to support the additional troops, the BCTs that we deploy to Iraq relative to the operations that General Patreaus is responsible for. Everything is connected.

We also are very very heavily focused and have deployed additional personnel to Afghanistan over the course of the past five months with a specific focus on the Afghan/Pak border region at a variety of different echelons of forces. We've also plussed that up.

I wouldn't depict it in terms of the efforts that we're doing in Iraq coming at the expense of things happening in Afghanistan. In fact as I've said they've actually gone up as well.

Q: Where have you had to, what kind of an impact has that had on other missions, other places where you have missions?

A: Everything is prioritized. As I look at it, the places that typically tend to be the bill payers when you're looking at priorities are lower priority, general purposes forces in countries that we're not as likely to have to deal with in the future as others.

Q: I want to ask you one final question about the storage of these data. Are you saying it's possible that if someone had a need for this, and I can't imagine who would have a need for it, but let's say certain coordinates in Waziristan, January 31, 2002. There was a Predator looking in that area taking full motion video. It came into NGA. Could you go to your version of a search engine and put in that information, those parameters, and get that video back?

A: Yes. [Laughter].

Q: So, you're in trouble if you're sitting in a car parked outside the Kit-Cat Club in Reston back in 2002. [Laughter].

A: I can't help you there. [Laughter].

Q: Is satellite imagery at all useful in the Pak border region? Is it yielding anything for you? Obviously the problem with the foreign terrorists is people, individual people.

A: The satellite imagery is useful in every dimension.

Q: What is maybe the most useful in that region, airborne?

A: Without commenting specifically about the Afghan/Pak border region, which I'm

familiar with, the different kinds of sensing, airborne, and orbital bring different kinds of advantages and disadvantages, but they're complementary. If you have any specific mission set there are different things across the visible spectrum and the non-visible spectrum that have advantages to include space sensing every place. I don't think there's any sensor we have that we don't exploit to the fullest, and that includes the area you described.

Q: We're out of time. Thank you very much.

END TEXT