CIA STRATEGIC INTENT FOR COLLABORATION



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Good afternoon. My name is Calvin Andrus. I work in the CIA's Office of Advanced Analytic Tools. One of my duties is to be the Agency's Technology Officer for Collaborative Tools. A major function of this duty is to help formulate the Agency's strategic plans for collaboration, as well as, monitor the execution of these plans.

The presentation I will give today is the result of the hard work and critical thinking of many bright people inside my Agency. I want to acknowledge my debt to them. But, I will take any credit you want to give me!

Let me also add that this presentation is off-the-record and not-for-attribution. By this I mean that members of the press or people acting in a press-like fashion, should not report my name, my affiliation, nor the contents of this talk in any medium. This talk is intended for the benefit of the people here today, in this audience. An official position for wider distribution on these matters may be obtained through our Office of Public affairs.

In spite of these caveats, this speech is, to the best of my knowledge, an accurate representation of where my Agency sees itself going in the future.

Strategic Intent

"Let me now turn to all-source analysis. . . To keep our edge in the rapidly changing world I described, we must do three things: one - maintain and deepen our expertise.

Two: be better connected outside the Agency. And three: deal with the dilemmas of speed and volume."

-- DCI Speech, 05 May 1998

The Director of Central Intelligence (DCI) gave a speech on 5 May 1998 to the employees of the Central Intelligence Agency. In that speech he addressed a number of areas in which the CIA must make marked improvement over the next several years. Items Two and Three on this chart are collectively known as Connectivity, Speed, and Volume, or CSV, for short. I have underlined in this slide the part of the DCI speech that is relevant for my area of responsibility.

One result of this speech was that a number of us got together and and addressed ourselves to the issue of what exactly does it mean to be better connected and how could we make it happen.

Collaboration Vision

By the year 2005, provide the ability to communicate, coordinate, and share requirements, expertise, products, and feedback among consumers, collectors, analysts, and private sector experts across time and distance, 24 hours a day, 7 days a week.

-- CSV Task Force, 17 June 1998

We articulated a vision of where we wanted the Agency to be in the year 2005.

By then, we want any Agency officer to be able to connect to anybody else, at any time, from anywhere, to anywhere, on any network, about any subject, at any security level.

You technologists in the audience will immediately recognize how easy this will be to accomplish. (joke)

Collaboration Goals

- Provide ready access to expertise and knowledge regardless of location, origin, or time
- Tailor intelligence products based on automated consumer feedback and direct consumer access
- Facilitate virtual communities
- Drive a robust, secure, cross-platform information sharing architecture

We translated the vision for the year 2005 into four specific goals. These goals treat the issues of gathering information and sharing intelligence products. The goals also recognize the business process of creating dispersed teams that persist in time, as well as the need for some serious engineering work at several levels in the architecture.

Collaboration Capabilities

- Collaborative work platform
- Collaborative product creation and review
- Streamlined tasking and feedback
- Smart Delivery (push/pull)

In order to achieve the goals I have just listed, we believe there are four general capabilities that must be enabled.

One is providing an IT environment that has the capacity and tools to perform collaborative work.

A second builds on the IT environment and puts into place an internal collaborative work flow to create our products.

The third capability engages our customers in a work flow that brings in requirements and provides customer evaluations about how well our products meet the needs.

Finally, we want to get ahead of the game. Rather than wait for a customer to ask for something, we need to anticipate what they want and give it to them.

Now let me define in a little more detail what comprised each of these four capabilities.

Capability #1 - Platform

Capabilities

- Virtual teaming on demand
- Electronic Fora across multiple security levels
- Expert Discovery across organizations and into the private sector
- Collaborative toolbox
- Interoperability with non-USG networks / tools

Technologies

- E-mail, chat, discussion
- Shared workspaces (e.g., whiteboards, audio/video teleconferencing)
- Personnel knowledgebases
- Cross organizational directory services
- Mobile computing
- Multi-level operating environment

I've partitioned this slide into a list of the things we want to do--Capabilities-and list of what we think will let us do the things we want to do--Technologies.

The most important capability we need to enable is the formation of teams that are independent of geographic or organizational location. We need to move away from the physical team rooms to the electronic team rooms. These team rooms need to be available when the crisis happens. Thus the technology needs to be prepositioned, so that it can be switched on when the occasion arises.

These electronic team rooms should mirror the physical team rooms. For example, we need places to stack paper, we need walls to write on, we need places to post signs, we need to be able to carry-on conversations, we need to co-author papers, coordinate papers, and have our papers reviewed.

In the ideal world, we should be able to form virtual teams on any network--any of the flavors of Intelink, for example, or even the open internet to include uncleared industrial and academic experts.

Capability #2 - Product

Capabilities

- Multi-disciplinary, concurrent, team-based product creation in any media format
- Product reuse, hyperlinking, version control
- "Write once / Publish many" dissemination

Technologies

- Multiple media product creation tools
- Embedded security/rights protection at the document level
- Machine assisted, multilevel product creation
- Up/down electronic data transfer
- Application translators
- Workflow applications

When we move into the world of collaborative product creation and review, we also want to move into a (excuse the buzz-word) "object oriented" model of production. (Some of you here in the audience may know something about an object oriented view of the world!)

If we want to be able to store finished intelligence objects as text, charts, graphs, audio, video, images, etc.,

- -- so that they can be linked to each other,
- -- so they can be re-used,
- -- so they can be distributed at different levels of classification,
- -- so they can exist on the several classified networks
- -- so they can be received by customers using different hardware platforms
- -- so they can be accessed from near universally available software platforms

Capability #3 - Feedback

Capabilities

- Accessible, shared knowledgebases
- Direct on-line communication between producers and consumers
- Captured consumer preferences/requirements
- Just in time production based on consumer driven demand
- Captured feedback

Technologies

- Tasking workflow tools
- Interactive knowledgebases
- Repositories for captured feedback
- Activity capture and smart audit analysis tools (consumer usage patterns)

In our view, an important aspect of collaboration is streamlined tasking and feedback. One problem we have today is that when we publish an intelligence paper and send it out, we often do not get any feedback, good or bad, on the paper. If we knew how well our analysis did or did not hit the mark, we could better calibrate our intelligence so that it hits the target the next time we send it out. We hope that publishing our product electronically with built in feedback mechanisms will go a long way to solving this problem.

Electronic feedback is the beginning of a collaborative discussion about the substance of a paper that could easily turn into more focused tasking from the customer.

As we accumulate the feedback we get from customers, we believe we will get smarter about how to anticipate the intelligence needs of our customers that will lead us to "just-in-time" and "just-enough" intelligence.

Capability #4 - Delivery

Capabilities

- Proactive delivery of intelligence in anticipation of consumer need
- Automated capture of consumer activity
- Self protecting data
- Product delivery filtered in accordance with the data's overriding controls and the consumer's access level

Technologies

- Intelligent software agents
- Activity capture and smart audit analysis tools (consumer usage patterns)
- Security protections embedded at the document level
- Delivery mechanisms for desktop and mobile computing devices

The next logical step flowing out of collaborative tasking and feedback is what we call Smart Delivery. What we mean by that is getting ahead of the curve by anticipating customer need and delivering product just as they need it, without them having to ask for it.

We look at Amazon.com as an initial model we would like to emulate. Amazon remembers the books I have purchased, and when I return, Amazon suggests to me the new books they have received in which I might be interested. When I am looking for a particular book, Amazon alerts me to books purchased by other people who were also interested my book.

One feature I like about Amazon is that it reports for each book its rank order in terms of sales. I can also look up the most purchased books, within particular categories to see what's hot. If I want, Amazon will also send me email alerting me to new and interesting books that have come out.

As a consumer of books, I really like Amazon. I image the consumers of our Intelligence would like us to provide them with similar levels of service.

Technology Challenges, Part 1

- Robust set of <u>Browser</u>-based Collaborative COTS Tools
- Multi-level Operating Environment
- Bandwidth, Bandwidth, Bandwidth

Now that I have described in general terms what we would like to accomplish over the next several years, the question is what do we need out of the application, middle-ware, and hardware environments.

Large scale collaboration across Agencies cannot occur until tools use a common, widely available user interface such as a browser. Our ability to dictate a particular client interface be used in other Agencies is non-existent. Similarly, the resources for us to install and maintain a particular client interface in other Agencies are non-existent.

If our Agency Officers are to collaborate with people on all flavors of Intelink and the open internet, we need a alternative to having 5 or 6 workstations in my office. We also need an ability to move data securely from one flavor of Intelink to another flavor.

And what more can I say about bandwidth, besides bandwidth, bandwidth, bandwidth.

Technology Challenges, Part 2

- Tools that are encryption-aware (SSL)
- Tools that are X.509v3 certificate-aware
- Synchronous tools that work through firewalls, or
- Firewalls that allow synchronous tools

Clearly, even on Secret and Top Secret networks we are interested in the privacy that encryption provides.

Moreover, even on Secret and Top Secret networks we must be able to securely and reliably identify and authenticate the people with whom we are collaborating. This authentication must persist throughout the collaborative session -- once at logon is just not good enough.

The firewall providers and the collaboration providers must start cooperating as they develop their products. We at the Agency can't be the only people who want to collaborate through firewalls.

The fact is, we cannot use much of the COTS collaborative software that is available today and assure ourselves that we have protected our sources and methods with the integrity we must have to fulfill our responsibilities under DCI directives.

Business Challenges, Part 1

- Interoperable, Community approach to managing data rights, user privileges, and data protection accountability
- Rewards and incentives for team performance
- Development of new command and control guidelines for a truly collaborative work environment with clear lines of authority and accountability.

As formidable as the technology challenges are, the business challenges are even more daunting.

Intelligence data provides our government with strategic and tactical advantages over our adversaries because we posses the intelligence and they don't know that we know. We maintain this advantage by controlling the distribution of the intelligence to those who have a need to know. Moving our Intelligence data to classified intranets requires us to clearly define data owner prerogatives and customer privileges, in a way that the "internet model" doesn't fully embrace.

In addition, trying to get Intelligence Analysts--who have built their careers by being the community expert on a particular topic--to start sharing their expertise in a team environment will be difficult. Rewarding teams, instead of individuals, is a very different work process that must be learned.

Moreover, we need to define rules of engagement for when a line Intelligence Officer begins to collaborate with customers or collectors directly without the mediation of middle management. We are concerned that the opinion of a single officer could be interpreted as an Agency position. You can see the consequences to the Agency if a policymaker or warfighter takes action based on personal opinions expressed in collaborative sessions, rather than on a vetted Agency position.

Business Challenges, Part 2

- Work schedules that accommodate collaboration across time and geography
- Product creation with multiple levels of access anticipated
- Greater integration of consumer into the intelligence process
- Mobile workforce operating in a non-secure environment
- Technology savvy workforce and consumer base

The traditional government work day of 8am to 4:30pm is just not adequate for a team that is composed of officers in Bosnia, Frankfurt, Washington, and San Diego. Alternative work schedules must become the norm, not the exception.

This kind of work will rely heavily on capture features built into collaborative sessions, not just for asynchronous but also for sychronous collaborative sessions.

We need to institute a production process that recognizes from the start that Intelligence will be distributed at different levels of classification. This is where you can help us with object oriented production systems that maintain the safety and integrity of intelligence objects.

We need to let our officers to travel and still retain access to the data and people they have at their home office, which is a major security challenge.

While we think that the workforce will become technologically savvy through training. In reality, over the next 6 or 7 years, retirements and hiring will take care of much of this problem. The management infrastructure must adjust accordingly.

What's Next?

- Create a more formal Strategic Plan
- Write an implementation plan for 00-05
- Coordinate efforts with other IC Agencies
- Partner with Industry to make it happen

So where do we go from here? We've got a great vision, with most of the work before us.

We will be writing an more detailed strategic plan and a specific implementation plan over the next few months, and will begin in earnest in FY 2000.

We will spend a fair amount of time coordinating with other IC Agencies.

We will also look to the commercial market to see how our industrial partners can help us achieve our vision.

Thank you all very much for your time.

(END OF PRESENTATION)