

***INCIDENTAL PAPER***

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**Seminar on Intelligence, Command,  
and Control**

**Restructuring the World of C<sup>3</sup>I  
Duane P. Andrews**

**Guest Presentations, Spring 1991**

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# Restructuring the World of C<sup>3</sup>I

Duane P. Andrews

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*Secretary Andrews has served as Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) since November 1989. He is the principal staff assistant and advisor to the Secretary of Defense for command, control, communications, and intelligence (C<sup>3</sup>I), related warning and reconnaissance activities, information management, counterintelligence and security countermeasures, and those national programs and intelligence-related activities for which the Secretary of Defense has execution authority. He chairs the National Security Council's Policy Coordinating Committee for National Security Telecommunications and Information Systems, the National Security Telecommunications and Information Systems Security Committee, and the DOD Major Automated Information System Review Council. Additionally, he serves as the principal staff assistant to the Secretary of Defense for the National Communications System and is the Director of the U.S. Nuclear Command and Control System Support Staff. Mr. Andrews holds a bachelor of science degree from the University of Florida and a master of arts degree from Central Michigan University. He served on active duty in the United States Air Force from 1967 to 1977. From 1977 to 1989, he served as a professional staff member with the House Permanent Select Committee on Intelligence.*

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**Oettinger:** We are delighted to welcome Secretary Andrews today. Thank you for taking time out from your Congressional testimony and multiplicity of responsibilities.

**Andrews:** Thank you. It's indeed a pleasure for me to be here today. I have a handout I will use as an outline to go through and talk a little bit about the subject. If you see me getting off in a different direction than you are interested in, I'd be happy to swing back into an area that's more comfortable.

**Oettinger:** Can you be interrupted with questions?

**Andrews:** Yes, certainly, I'm not really reading anything here.

I'm going to outline what an Assistant Secretary of Defense (ASD) for C<sup>3</sup>I is and what I see as the challenges that are facing us. These challenges are

what forms the basis of a couple of major management actions that we're taking to restructure this world of command, control, communications and intelligence. These actions are underway. I'll talk a little bit about our approach to information as a theme in the department and, specifically, what we're doing in information management and in our intelligence restructuring, which are the two major new initiatives that we have. And I'll give you some of my thoughts about the future.

I've handed out a statutory basis for the Assistant Secretary of Defense for command, control, communications, and intelligence (figure 1). The first one set forth in Title 10 is the principal duty of overall supervision, which nobody ever defines, and that's both an advantage and a disadvantage. That way I can define it in the way I'd like to define it. At the same time, it allows somebody to point to it and say, "Well,

**Title 10, USC** — Armed Forces, §136(3)(A) "One of the Assistant Secretaries shall be the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence. He shall have as his principle duty the overall supervision of command, control, communications, and intelligence affairs of the Department of Defense."

**Title 44, USC** — Paperwork Reduction Act of 1980, as amended by the Paperwork Reduction Reauthorization Act of 1986, Chapter 35 — Coordination of Federal Information Policy, §3506 Federal agency responsibilities. "(a)...shall be responsible for carrying out its information management activities in an efficient, effective, and economical manner... (b)...shall designate,...a senior official...who report(s) directly to the such agency head to carry out the responsibilities of the agency under this chapter."

**Figure 1**  
**Statutory Responsibilities of the ASD (C<sup>3</sup>I)**

but that doesn't cover what you're doing to me." Congress is sometimes helpful and sometimes not. In this particular case, they weren't particularly helpful since they didn't give me any authority along with all this responsibility, but that's the formal requirement in the statute. A second responsibility is contained in Title 44, which is the paperwork reduction act, which in effect sets up a senior information resource management official in every department and agency in the government and that ends up being the other statutory assignment that I'll have, and we'll talk about that because that's a new responsibility for this office.

I've also provided outlines of our basic directive, DOD directive 5137.1 (figure 2), which doesn't mean anything to you, but you can't operate in the Department of Defense without a directive and there are people that carry these around on little micro cards in their shirt pockets and if you step across the line they'll have that out on the table in a flash and tell you what you're doing that you're not supposed to be doing. It's a pretty broad charter for all of the reconnaissance, intelligence, command and control, and communication systems. It encompasses a lot of space systems that many people don't realize are under this command and control umbrella: things like the LANDSAT, the DOD is considering an even greater role in a future LANDSAT system,

also our warning systems, our tactical warning systems, those that warn us of ballistic missile launches, and their follow-on — an advanced warning system that we're in the process of developing; and the Global Positioning System — our major new navigation system that really proved itself in the Desert Storm operations. I wasn't planning to talk much about Desert Storm but if you have some questions in this C<sup>3</sup>I area, I'd be happy to address some of those.

Air traffic control and aerospace management fall in this office, as do mapping, charting and geodesy, which was another success story in our Desert Storm operation. A lot of people don't realize that the theater of operations — the Kuwait, Iraq, Persian Gulf theater of operations — is the largest theater of operations we've ever had to operate in and, as a result, we had significant challenges to our mapping and charting resources to support that operation.

We have authority direction and control, which is a code word in the Department for you're the supervisor of the head of the agency, over the Defense Intelligence Agency, the Defense Mapping Agency, and the Defense Communications Agency. We exercise what they call staff supervision, which is another one of these words in the Pentagon that nobody ever defines that means that you have a lot

**Duties outlined in DOD Directive 5137.1 include:**

- Defense-wide telecommunications
- Strategic & tactical C2 (conventional and nuclear) communications
- C3I-related space systems, e.g., MILSATR, LANDSAT
- Warning systems, e.g., Defense Support Project Office
- Identification, navigation and position fixing, e.g., GPS
- Air traffic control and airspace management
- Mapping, charting, and geodesy
- Intelligence programs, systems and equipment
- INFOSEC, Communications Security (COMSEC) and computer systems security
- Authority, direction and control of agencies and special staffs
- Staff supervision of National Security Agency (NSA)
- Oversee the National Communications System

**Responsible for all aspects of the PPBS cycle:**

- Planning — "How to provide National Security?"
- Programming — "What programs are necessary?"
- Budgeting — "How much budget authority is needed?"
- Oversight — "What is the status of budget execution?"

**Figure 2**

**Directed Responsibilities of the ASD (C3I)**

of responsibility and no authority. You're really supposed to give them guidance on day-to-day activities, but they don't work for you. And, on behalf of the Secretary of Defense, we oversee the whole national communication system.

**Oettinger:** Could I just break in because the agencies and special staffs — that sounds like delegated line authority, in that you're the boss, but it's done by delegation and they report to you. The director of NSA reports to the Secretary of Defense as the executive agent for that. Is that correct?

**Andrews:** That's correct.

**Oettinger:** Oversee then is somewhere between line and staff.

**Andrews:** Well, that's an interesting one, because an Executive Agent is not an organization. For example, the Secretary is the Executive Agent for the National Communication System. It isn't an entity, it is a system of systems, if you will, and while the Secretary has a charter, somebody has to provide day-to-day policy, guidance, and oversight of the manager. One way I refer to it is I'm the executive agent's agent. I use National Communication Systems stationery to tell the manager of the National Communication System what to do, and I will sign for the Secretary when they send most reports up to the President.

**Oettinger:** What nuance is there between staff supervision and line supervision in your responsibilities?

**Andrews:** You develop policy, you can issue instructions, you can issue guidance, you represent the Secretary in the review of their programs and budgets in those functional areas, that's your functional charter. In addition to functional charters, you have organizational responsibility.

**McLaughlin:** One other thing for the record. What is DSPO?

**Andrews:** Defense Support Project Office — that's the DOD element that participates in the development of certain kinds of reconnaissance systems. It's a funding mechanism and a small management office.

**Student:** Technical question. All these responsibilities. How many people do you have working for you to cover the policy instructions, guidance, all these different organizations?

**Andrews:** My Pentagon staff is about 225 people. But that's deceptive because you can draw on all of the agencies to provide additional support and you're talking many tens of thousands in the agencies that you can ask to support — for instance, task them to develop a policy document or instruction, or whatever, and forward it up. Then your immediate staff, your Pentagon staff, looks at that and puts it into the right Pentagon format, gets it coordinated in the building, and sends it up for signature. But you need an immediate staff and that's about an average size for this number of things. I've got to be careful not to cross over into the classified area.

Let me put it this way. A significant chunk of the Department's overall resources are managed here in this one area. Because all of the command, control, communications, and information systems are public, if you talk about total numbers then you've just divulged the intelligence budget. It turns out it's a significant portion of the budget, but as you look at the Office of the Secretary of Defense (OSD), which is not very big, this is a proportionate share of OSD staff. In other words, if you look at the amount of responsibility and the number of staff, it's about the right mix. There are never enough people to do the job though.

I assume you focus a lot on the Department of Defense in your seminar. Coming from the Hill, coming from Congress, I didn't have the appreciation that I do after 16 months on the job of why you have an Office of the Secretary of Defense. For those who haven't been in the department, it's just a constant battle to get the services even to talk to one another let alone develop programs that work across

the whole department. The OSD is the only place you can do that. If you ever let the services go without an OSD oversight function, nothing would ever look alike, and you would waste money in developing the same systems over and over again.

**Oettinger:** And the strength in Goldwater-Nichols and the Chairman of the Joint Chiefs is not adequate for dealing with that?

**Andrews:** The uniformed military are the kings on the mountain in the department. The Chairman has been added to that king pile, but the services have the budgets and buy the things. The Chairman approves requirements and his commanders have the requirements but they don't have money. So, Goldwater-Nichols strengthens the voice of the operational user and allows him to state his requirements and to influence the process but it didn't give him any money and, as a result, somebody has to take that requirement from the Chairman and he'll bring together the unified and specified commands very effectively. But somebody has to provide the leadership to make the services do it, and that's what an OSD staff does.

**Student:** Sir, could you talk a little bit more about your role in terms of acquisition? I noticed that in these duties and responsibilities you didn't speak specifically to that.

**Andrews:** I think I've got a chart coming up on that. We're going to jump ahead, but I'll cover it now because I think that's a good question.

Up until November, this office has been under the acquisition cluster. In other words, when they created the Under Secretary for Acquisition they moved command, control, communications, and intelligence under his office. For intelligence, there always was a direct reporting line to the Secretary. But, for command, control, and communications, the line went through the Undersecretary for Acquisition. Well, when I came on board that was a very confused system — most people had a perception that everything was under the Under Secretary for Acquisition, only a few recognized that there was a direct reporting chain, and even though it turned out that about 70 percent of what the office did was intelligence and reported directly, or command and control policies that the Under Secretary for Acquisition didn't have, all he had was acquisition responsibilities. The whole organization was perceived to be parceled to acquisition. When you have 200 people who you're trying to get promoted, get awarded bonuses, and other kinds of things, and

most of what they're doing is not acquisition, but all of those decisions are made by acquisition, you create some severe morale problems — not to mention problems in dealing with the bureaucracy, because they say, "Well, you don't work for me, I don't have to listen to you because I'm going to go up through this other chain." In November, the Secretary said, "This C<sup>3</sup>I area, particularly with this new information manager responsibility, is too important to leave in this confused state and we're going to pull the whole thing out and have it report directly. But, in doing it we want to ensure that acquisition activities report through the acquisition chain."

On figure 3, you'll see up there to the right of my box, the Chairman of the C<sup>3</sup>I Systems Committee. That is the committee that supports the Defense Acquisition Board and supports and monitors the acquisition of things — programs — in the Department. I used to chair that. When I assumed these broader responsibilities then I assigned that chair to a full-time deputy who has one foot in my office and one foot in the Under Secretary for Acquisition's office and he reports through the Under Secretary for Acquisition. That's our link back into acquisition. All our acquisition programs are funneled through that mechanism. So, if I have a line manager down here overseeing development of a command and control system for Strategic Air Command, he will carry that system through the C<sup>3</sup>I Systems Committee of the Defense Acquisition Board to the Undersecretary for Acquisition. I sit on the Defense Acquisition Board and I'll make my input directly there, and, of course, I can influence my own staff, but that's a clean chain. If the Under Secretary for Acquisition wants to ask us to do something, he asks that individual. He doesn't task me, he tasks that individual. So that was our link back into acquisition. So far it's worked all right, but it's a matter of dealing with personalities and setting up new procedures.

**Student:** Yes, sir. You mentioned something earlier about duplicative programs or at least programs that don't seem to match each other when they come up through the services and they get to you for bringing together. Do the service secretaries play any role in this or have they just become advocates for their respective services?

**Andrews:** The services are very parochial. Now, that isn't to say that service secretaries always fall into that trap, but you can pretty well count on service interest being represented by the service

secretary. And, while they're all part of this administration, and they're all trying to do a good job, you can't expect them to come to the table and say, "Well, I'll give up my airplane program because I can buy one of those Navy planes." It's not going to happen. I mean, we would all probably die of instant cardiac arrest if any one of them ever did that. Do they agree at times to give up things? Yeah. When we began talking about the implementation of corporate information management in the Department, they all agreed. They all agreed that we could appoint executive agents for major information technology programs, and that they would support that, even if that executive agent wasn't in their department. So, sometimes they'll think jointly even if they were doing it with a gun cocked to their head, they still did it.

**Student:** They don't have any sort of executive support system where they could sit and work all that out before they come to you for resolution?

**Andrews:** Yes, they all have management staffs below them that are working all of these subjects, and they're dealing directly with my staffs. Seldom do we have to work things out at the Assistant Secretary or Secretary of Defense level.

**Student:** No, I was thinking more in terms of the automated, the computer-assisted executives, support systems, where you can take some of the emotionalism out of the issues and just look at straight values.

**Andrews:** We haven't evolved to that yet. As we look at this world of information management, I know that the Secretary and the Deputy Secretary of Defense are interested in having tools developed to assist them in better management of the Department, and we're going to have to look at the full range of options. Probably industry is already 20 years ahead of us in some areas and in some areas they're behind us. But, in many areas they're ahead of us and we're trying to catch up. The Deputy Secretary thinks, depending on technology, we're anywhere from 5 to 20 years behind some elements of industry in adopting new techniques to the management of large organizations, and we're setting out to try to fix that. That's a real tough task.

**Student:** That was kind of unfair. What brought that on was we just got through with some information management classes, reading about such systems that are in place, like Egypt and Finland, where they assist the Parliament.

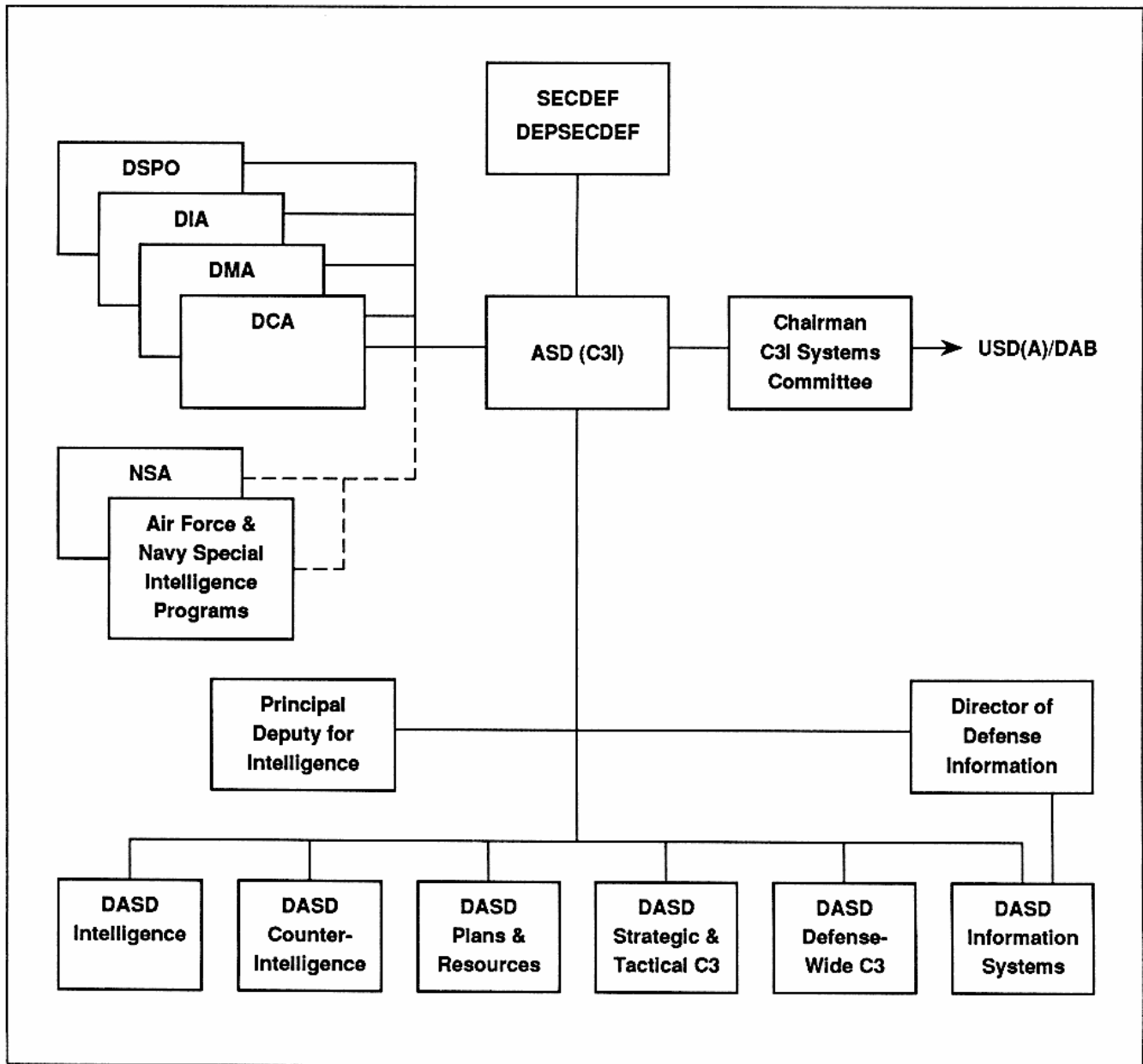


Figure 3  
Organization

**Oettinger:** My sense is that, thank God, there aren't any because the notion of taking an area that is as rapidly moving as this area and trying to reduce it to computerized algorithms for the management of anything is frightening. It's fine for Egypt, harmless, and perhaps one should encourage them to keep them out of harm's way.

**Andrews:** I agree with that. We hoped to be able to get executive support systems to be able to help screen, filter, format, and present information to the decision maker, not make decisions on what goes to the decision maker. The decision maker has to say what information he wants. What they can do is help screen out the unnecessary components of that.

**Oettinger:** But that implies there is a baseline of stable budgetary line items, stable something or other, that stay put long enough so you can massage them meaningfully and do aggregations in some such system, and that it happens by the time you've got that system in place, fielded and so on. By and large, the things that lend themselves to that, in a

non-Mickey Mouse fashion, are transactional, not managerial.

**Andrews:** We'll mention some more things along those lines. I'll give you an example of one of the worst situations, and supporting executive decisions without having adequate information. Well, I'll talk about it now.

**Duties are as provided in DOD Directive 5137.1 plus:**

"Because of the crucial importance to the Department of [his] functions...the Assistant Secretary shall report directly to the Secretary and the Deputy Secretary of Defense in the performance of all his functions."

- "The Assistant Secretary shall have the authority, duties and responsibilities provided in [the Deputy Secretary] memorandum entitled 'Implementation of Corporate Information Management Principles' "
  - Have authority to establish and implement information management policies, processes, programs and standards to govern the development, acquisition, and operation of automated data processing equipment by the Department of Defense
  - Chair the Major Automated Information System Review Committee
  - Serve as the Department's information management official under Section 3506(b) of Title 44 of the the United States Code
- "The Assistant Secretary shall exercise authority, direction and control over the Defense Communications Agency, the Defense Mapping Agency, and the General Defense Intelligence Program Staff"
- "The acquisition-related activities of the Assistant Secretary shall by subject to review by the Defense Acquisition Board"
- "Effective immediately, assume OSD staff responsibility for...the counterintelligence activities of the Department of Defense....[and] integrate and align these functions with intelligence and information security"

**Figure 4**  
**New Responsibilities of the ASD (C3I)**



One of the problems that we have in the planning cycle that we just completed was there wasn't sufficient visibility of the Secretaries of the departments to what was happening with the budget summit agreement, what was happening to the department's top line, and what was happening to each of the service's top line, as we went through that budget process because it was changing all summer and into the fall. There was confusion, they didn't have any idea what their real numbers were at times. The comptrollers were all running around behind the scenes whispering into the boss' ears, but they didn't really have a clear picture until after all the decisions were made, and then a clear picture managed to materialize. Well, that's the kind of thing that if we had an executive support system we should have been able to deal with it. It was straightforward, there wasn't anything hidden there, it's just that nobody had a common database, common framework to work from. Things like that would help us in making decisions, but I'm not sure how far we'd be able to take that, because it's so complex.

**Student:** If nothing else, at least it would enable you to handle the routine, as routine, and thereby minimize the number of nonroutines or routines that become emergencies.

**Andrews:** Back to figure 4. These are the other duties we have that have just been added to our charter. One I mentioned — reporting directly to the Secretary, and then the assignment of the information management responsibilities — we'll talk about that a little bit more in a minute. The whole goal here is to try to clean up the confusion, the fuzzy lines, the fogged areas in the management of information across the department — to hold one person responsible so that the various elements of the department, particularly the services, aren't able to hide behind the confusion in order to escape a comprehensive approach to the management of our systems — not comprehensive integrated systems as we talked about at lunch but a common approach framework.

**Oettinger:** Thinking back to your days in the Congress, isn't there a danger in this, I mean these things that used to be under the comptroller, and so on, are also the ones that are under the Brooks Bill, whereas the embedded, etc., are not data processing. Isn't there some danger that this might extend the boundary?

**Andrews:** There's definitely that danger. The problem was that they were already pushing into this area. If you look at recent congressional action, in fact the last two years, you have statements from the congressional committees that they want all command and control systems that use general purpose computers, reviewed by the MAISRC (Major Automated Information Systems Review Council). We've been fighting that. We were having a hard time with Congress; they thought that we didn't want to review them because some were under my authority, some were under the comptroller — we have at least cleaned up the responsibilities. I can go to the committees and testify that, "Look, if there's a reason to review them, we'll review them. If there isn't a reason, we won't." We're hoping that will work. But you're right, the danger is there. Fortunately, the Warner exemption to the Brooks Bill is going to be tough for them to rescind and that gives us the authority we need to keep that distinction.

**Oettinger:** So this becomes checks and balances — in one direction or the other.

**Andrews:** In fact, this is my first year with information management and we testify next week. We have two days of testimony on the House side with different committees on information management; and, the theme I'm going to carry forward to them is: We want them to start looking at the management of information as a resource, not as just the aggregation of a bunch of little computer systems. They have the whole focus wrong and, as a result, we're having to do things that are extremely inefficient in the department. We're having to review things that take a lot of management time that have absolutely no business being reviewed, instead of looking at the business areas and how we can improve them. So we want to try to focus them and say, "Look, we'll improve the efficiency and effectiveness of this business whether it's logistics, or finance, or personnel, or whatever, and measure us by that, don't try to count the number of main-frame computers and the number of PCs that we're trying to lash into the system. If we can demonstrate real and significant savings in managing our business better, that should be your focus."

**Oettinger:** Is that the answer to the question that Rick started at lunch about the difference between the directives or between the information management and the information resource management? I think you've essentially answered that.

**Andrews:** At lunch, I was making a distinction between information resource management and information management as we were implementing it in the department. You can see some of that on the organization chart (figure 3). As part of information management, we are creating a director of defense information, and he will have a staff of professionals that will be looking at how to manage the information of the department better, not the computers in the department. How do we manage information? They'll focus on business practices, on improving those business practices, and on making a business case for automation, not focus on the computer.

I have a Deputy Assistant Secretary for Information Systems, who is the information resource manager. Her job will be to implement the paper-work reduction act and all of this bureaucracy that was created by the Congress to manage computers. My goal is to put her out of business. I will continue to have an IRM function because Congress and the law require me to do it, and we will review ADP systems and will provide oversight, and we'll provide reports, and we'll look at every computer system the department is going to implement, but I would like to have them say some day that we can wipe that box off and focus on information management. What they need to hold us accountable for is our budget for each business or functional area, and command and control is a business, too — whether it's finance, logistics, or command and control — and not on the system itself.

The focus in this office for defense information is in the functional areas. We will have deputy directors for personnel, finance, logistics — right now we have three planned. We're trying to group things because we can't afford to have Deputy Directors for each functional area; but we're going to group personnel/finance/administrative kind of functions into one group. Logistics/material management into another group, and mission essential/command, control, communications, intelligence systems into a third group. The focus of these deputy directors is not going to be on how many PCs were bought in that function, but how can I make the function better — how can I apply the techniques of information management to improve the business practices; and, if I can use information technology as leverage to improve those practices, I will do that. But the focus won't be on the information technology.

**Oettinger:** In other words, if you can eliminate some information, that would be part of their function.

**Andrews:** Absolutely. We saw in Desert Storm that we were data rich and information poor, which shouldn't be a surprise to any of you. We were choking ourselves at various entry points. We exceeded our communications capabilities, although we were able to manage it because we really had some professionals working the problem, and we had the advantage of time, and a lot of availability of commercial assets to assist us in introducing communications. But, even then, we saturated every line that we had, just about, and the commander still didn't get some of the information he needed. It was going to ground in certain nodes over in the Desert Storm theater of operations and not getting to the commander, that's an information management problem. And, if we can deal with information all the way through the chain, from the generator, collection processor of that data, all the way to the presentation to the commander, then I think we can really make some money in cutting down and making it more efficient. Cutting down on the cost of moving that information and handling it, but also making it more efficient and effective in answering his questions. The commander doesn't want to have to pick up the phone and call across the country to three or four different places, to get an answer that somebody right there at his command post should be able to give him. We should be able to do that. We have the communications, we have the technology, we just don't have the management structure to make that work. So that's going to be our focus.

Now that I've gotten past most of the discussion I'm really getting into the challenges that started all this. I still think it's worthwhile to talk a little bit about what drove us to some of these things. I think it was pretty obvious what drove us to information management, but what's driving us to organization or reorganization and restructuring, particularly in our intelligence areas, is listed in figure 5.

You're all aware of the changes in the world and we're feeling that as much as any other department in the government. I see the challenges coming across my desk every day for new information on parts of the world that we currently don't have databases on or haven't been focusing on. Or, new communications systems to establish an infrastructure in parts of the world that we weren't previously worrying about. We've got to start looking at this global dimension a lot more than we had been. The whole focus of the department had been on the Warsaw Pact in Eastern Europe, and on Korea. Every once in a while we get a little concerned with some other small part of the world, but we weren't

### **New World Order**

- Global information
- Global power projection

### **Soviet Union**

- Remains a nuclear power
- Period of instability

### **Defense Restructuring**

- Atlantic, Pacific, strategic, and contingency force packages
- Transportation, space, reconstitution and R&D support capabilities
- Smaller active force structure with more mobile forces

### **Budget Realities**

**Figure 5**  
**Challenges**

designing our force for that. Our force was sized, structured, and equipped to fight a war in Central Europe and, when we went to Southwest Asia to fight a war, we found that some of our systems weren't well-suited for that area, although everything worked a lot better than we ever expected it to. We didn't have an in-place infrastructure other than airfields and some port facilities, which was a big help (we may not have this in the next war), but we didn't have a communications infrastructure in place. We didn't have an intelligence infrastructure and we had to try and put that in place. We had five and a half months to do that before the shooting war started. If we hadn't had that luxury, it would have been a different outcome. Although the ingenuity of the various units was such that it's hard to predict how bad it would have been if we hadn't had the time, but you know it would have been worse than what we had.

Everybody says, "Now you can shut down your analysis of the Soviet Union." Well, as you can read in the paper, we are probably entering a period of even more uncertainty. Many in the department,

particularly in the intelligence community, long for that predictable enemy that we had during the Cold War. We now have an unpredictable, powerful enemy with a lot of nuclear capability, plus a lot of the rest of the world is now becoming equipped with weapons of mass destruction and the means to deliver those weapons, and we have to be able to defend against it, but first, we have to know about it.

The Secretary and the Chairman are restructuring defense and my structure — command, control, communications and intelligence — has to be able to support this new restructure. They didn't come to me and say, "What would be nice for you to do, and we'll structure the forces that way." They basically said, "Here's how we're going to structure the forces," and they're still doing it, and you've got to catch up.

The key to force packages is they're going to be smaller in the active force and they're going to be a lot more mobile than in the past. We are also going to have regular target area assignments that are more far-reaching than we've ever had in the past and, as a result, we're going to have to carry that intelli-

gence and communications infrastructure with us as we move forward into a new area.

In Europe, we're all set. Take communications, for an example; we are always counted on moving our active forces into an existing communications structure and plugging in. When we went to Desert Storm, the communication units that supported our active air wings were in the Reserves, the National Guard. They weren't even activated until the month we sent the air wings over. So we had to rush around and find communicators that we could detail over to these units until that reserve unit got called up to provide them with their backbone communications.

Secure communications has always been critical. We found that we didn't have a single communications plan that included the STU-III in the plan — I don't know if you're familiar with the the STU-III, Secure Telephone Unit 3, which is a very effective system. Now, smart pilots and ground operators when they move from their CONUS bases over there, packed their STU-IIIs up and carried them with them. Even though it didn't say in the plan that they were supposed to take STU-IIIs, they did and, as a result, they were able to plug in to the defense switched network we had installed there. In some cases, they even used the data port in the STU-III to go computer-to-computer to bring information into the theater that otherwise we wouldn't have had until those communication units had finally been deployed. It was months before we got all that fully deployed. Now we're learning that everything worked very well. There wasn't a commander over there who couldn't get a dial tone when he needed to call his headquarters, up or down — at least that we've had any real screaming about. I'm sure somebody had a problem, but for the most part there weren't any problems. I'll tell you, Schwarzkopf didn't have a problem. It was very costly to install that system, but we're learning lessons for the future. Supporting the mobile force is going to be one of our biggest challenges as we restructure.

**Student:** It appears to me that all of these things translate to, using the STU-III as an example, designing equipment that can use a variety of existing infrastructures. One of the nice things about it is that it will work on European targets, as well as targets from a lot of other places, although we don't want to sell it to those people. And if you're going to go more mobile you either need a lot more communicators or must know a lot more about everybody else's infrastructure, and be able to use

that. I wonder which of the two directions one is going.

**Andrews:** I think what, as a defense planner, I've got to assume that I'm not going to have fixed infrastructure to support our mobile force. In our future satellite communications architecture, we have two components: a core command and control component and a general purpose component. That core command and control component has got to be jam-resistant, secure, and has got to be owned and operated by the Department of Defense. The general purpose component can either be Department of Defense or commercial, and we're defining where the lines are in those areas. And what you're describing is: I've got to be able to carry my command and control component with me, or provide for it there, I can't expect to find it when I get there. I'm going to have to do that with satellites. It's the only way I can do it because I don't know where I'm going to have to operate, and I can't afford to wire the whole world with fiber optic cables, even though I think someday, commercially, it will be wired pretty much with fiber optic. We can't afford to do that. So we have to fund a core command and control support system that's going to have to be satellite based. I'm in the process of doing that and that will have to provide for secure, as well as for routine, kinds of command and control traffic. We're going to have to support wider bandwidth. The technology used to be you could get by with a 75-word-per-minute teletype. We found in Desert Storm that people wanted access to their computers, so they wanted some higher data rate access. Pick your number — 32 kilobytes, 64 kilobytes, whatever — but they wanted to be able to get back to that command and control center, that logistics computer, and even to their personal computers so that they could change their allotments to the bank when they were out in the field and had a problem. Those are new kinds of requirements that we have.

The air tasking order for operation Desert Storm. Do you know how many pages it was? It took something like three hours to transmit over the standard narrowband communication links — for one day's task orders. The lesson learned from that is that we need a medium data rate or wideband communication circuit supporting our command and control structure.

**Oettinger:** I heard elsewhere that folks used PCs and STU-IIIs, and so on, to essentially download only the portion of the tasking order that was

relevant to them and so that only rarely, if at all, did the whole thing get transmitted.

**Andrews:** That was at the lower echelons. To go to headquarters, to go from Riyadh to the fleet or Riyadh to CENTAF, ARCENT headquarters, they had to execute the whole task order, and the fleet was the big problem because it is generally supported with narrowband communications and the three hours specifically was to the fleet. Later we did install some terminals that allowed them to transmit the task order in minutes. People were having to strip off their unit, but one of the problems is when you do that then you don't have the ability to deconflict and the air wings that were starting to do that started running into time over target problems and a lot of other things because they had no flexibility. They had to be there at the time, and they had no way to know whether there was any window.

**Student:** But that should not have been a surprise because we found out as early as 1980, when the Air Force deployed some folks up to Norway for a North Atlantic exercise, when they send a frag order the Navy is on distribution and it takes hours to send that thing. They had to do a torn tape relay to get it more quickly to the fleet to send it to the operators.

**Oettinger:** The Navy has a tradition that you don't communicate with ships at sea.

**Student:** But, what I'm saying is I remember personally back then and I'm just amazed that since I've retired they still sat on their duff and never changed. The issue isn't the bigger pipe, the issue is different ways of generating sorties, and the business is to drop bombs on folks, right?

**Andrews:** That's the difference between the technology approach and information management. Information management is going to try to find a better way to do it at less expense. The technology approach is just to build more communications pathways.

Now, you will find that in modern warfare we are going to have to have wider band communications than 2.4 kilobytes. No matter what we do to try to streamline the task order, and the reason is that all our modern weapons require data, you just can't move the data over 2.4 kilobytes very efficiently — you tie up your lines for too long and they're too vulnerable while you're tying them up. We've got to get things over quickly. It takes me an hour to transmit a data package to support a cruise missile over a narrowband link; I generally have to transmit it two or three times to ensure that I have data

integrity by the time it gets there to the end. At any time during that period of transmission I can be interrupted, so I really have to open up that bandwidth. Now, it doesn't cost us very much to do that; it's a planning problem, it isn't a technology problem.

We just announced a new, restructured Milstar satellite system that is going to include a medium data rate payload, which will support that kind of activity. It will have multiple channels of various rates; generally, it'll go up to 1 1/2 megabytes, but most of them will be down in the 32-kilobytes, 64-kilobyte ranges, and that's going to support the modern warfare and the transmission of information in an efficient way. The cost of that is not much more than narrowband, it's just a matter of a different way to deal with the information. There's a big advantage that escaped me and my MILSAT communication planners, and that was if you could get medium data rate, reliable, survivable, jam-resistant communications, you could start connecting your data switches together through the satellite. I can now plug into the mobile subscriber equipment directly through a satellite and have everybody in the mobile subscriber equipment net — an extra few thousand terminals — be able with the proper password to access into satellite communications. So theoretically a commander in the frontline with a cellular telephone accessing a mobile subscriber equipment can dial back and call the Chairman of the Joint Chiefs if he had the authority to do that.

Now, you don't want all commanders to be calling the Chairman of Joint Chiefs, but you want to be able to allow the President and the Secretary of Defense and the Chairman to be able to reach out to various elements when they need to get information and bring that information back. You had to go to that next level of communications capacity in order to support that whole wide range of access. Same with the ship. You have a whole ship switchboard, it's a city. What you need is something to plug that whole switchboard into the rest of the world, or to the fleet headquarters, or the adjacent ship.

The last challenge is probably one of the biggest ones: budget realities. You've probably all been briefed about our budget decline — we dropped 11 percent in 1991 and we're going down about 3 percent in each of the years as we go out. So we're having to deal with some severe problems. How do we deal with more to do in a more challenging world with less money? We've got to get more efficient. We've got to organize to do that, and we have to improve our management resources, particularly information.



**Oettinger:** For those of us who have spoken of information resources for years and years, that's music.

**Andrews:** I wish the Department had been.

Let's talk about the major transitions underway. Under the defense management report, the Secretary had two major initiatives that affected me — information management and intelligence restructuring — and that's what I'm going to talk about, although we've been talking about that now for the last hour.

We've talked about information, and the key here to us is the distinction I pointed out earlier, which is our focus on information as a resource not the communications and computers that move that information or process it. What I inherited when I got this job was roughly 78 new people for OSD — of that 225, 70 of those are new. Twenty-six of those are the information resource management staff that was in with the comptroller, and this staff is going to do essentially the same thing. We're going to have to comply with the statutes and we're going to have to feed Congress, with the insatiable appetite they have for detail, on our computer systems. We can't get around it until I can convince them to change their approach.

The 52 people remaining are for this new function that we've never done before, information management — not focusing on computers, but focusing on the broader questions — those are the ones we're hiring now.

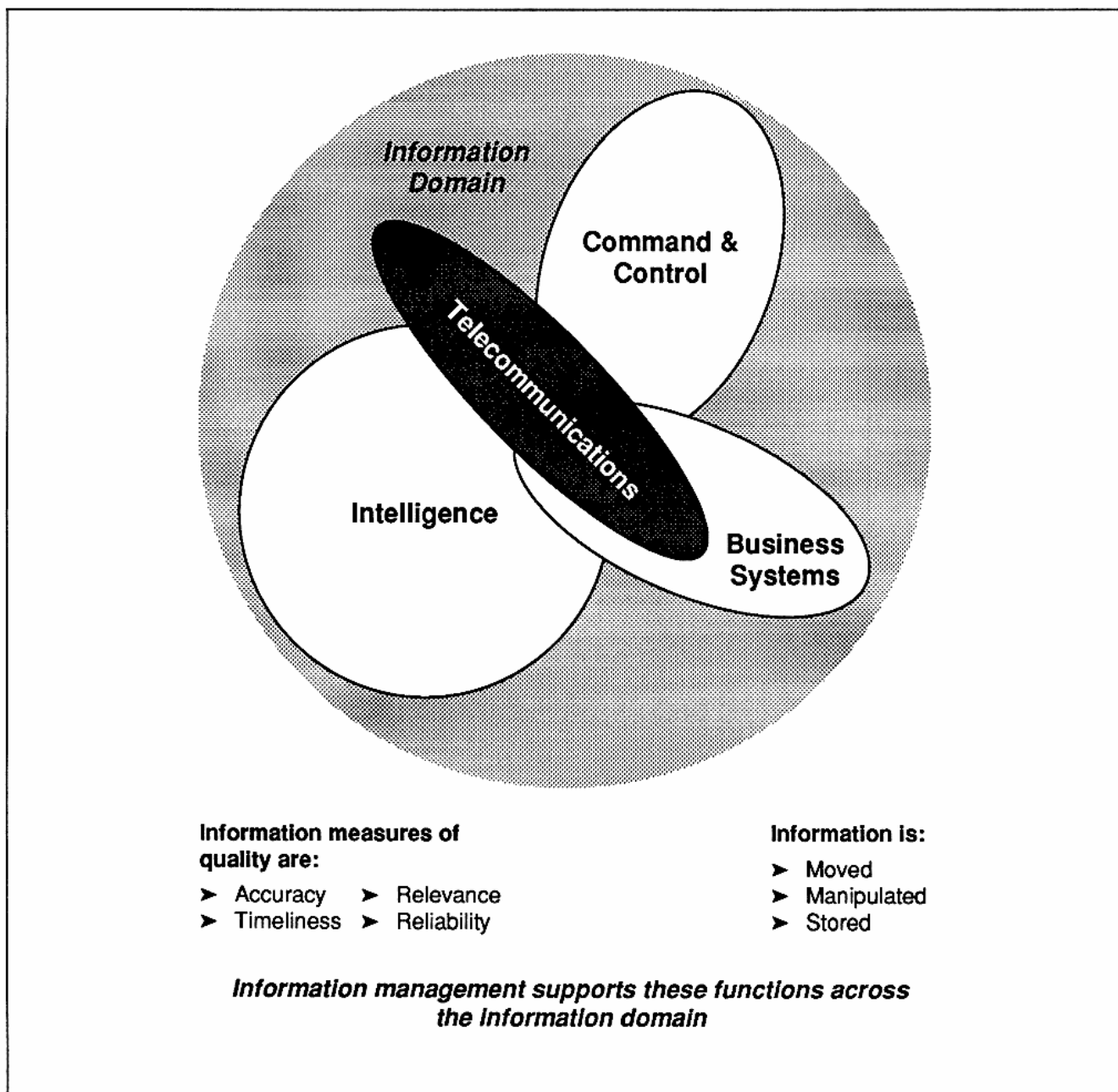
Let me move to figure 6. It summarizes my approach to how we look at this kingdom of information management. This is the conclusion Deputy Secretary Atwood reached when he was figuring out what to do with information management. It kept coming back; all of the arrows kept pointing back to the fact that what you really have to do is integrate command, control, communications, intelligence, and information resource management together. He knew we already had in the department a chief information officer, we just didn't have business information systems under him. What he needed to do was bring in business information and see if, by breaking down those barriers, we might be able to work a more efficient, effective system. We'll see, but our view is that all this ties together. I can't find the line sometimes between command, control, and business systems. They overlap in many areas; likewise, both business and command, control overlap with intelligence, and all of them depend on communications. One of the options that the Deputy Secretary looked at was pulling telecommunications

out of C<sup>3</sup>I and putting it with information resource management in some separate office. In my view, we would really break the system if we did that, so we just kept going through that decision tree until we reached the answer — the only place you could put it was in C<sup>3</sup>I. Now that's how I got stuck with this wonderful task.

I've given you a copy of the Secretary's memorandum. I don't need to cover most of these items. We hired a bunch of outside experts and said, "How should the department get its information act together?" They issued the plan which I think you've seen. That resulted in the Secretary looking at these options I just talked about and making the decision that he would task me to put an implementation plan together on how the department would develop and implement an information management program. I sent that plan to him, he then approved it, and we are now underway to do that.

That plan we developed involved a number of actions to implement the corporate information management program; but, in general, the road map was this ELG (executive level group) plan of where we are today and where we need to get to in the next 10, 15, 20 years (figure 7). We're going to use that as a road map but we're having to detour every now and then from that road map. We're just now getting underway in trying to implement this program. The first thing I did, which you're often not able to do in the department, is go out and hire yourself an expert and hope that he will be able to lead that new culture into the department. We went out and got Paul Strassman, whom I think is certainly one of the experts. He's got a lot of good ideas. He seems to have adjusted to a whole new culture in the Department of Defense very well, he's been here now for a month, and so far they haven't killed him, and he's won a few victories. As Tony said, we've got to watch and see how that works because they're laying for him out there, but so far I'm optimistic.

To help do this we need some doers — OSD staff or planners, policy makers — we need somebody to go out and do the work. We're going to use the Defense Information Systems Agency, the former Defense Communications Agency. They will do the technology work for us — standards, architecture, information engineering, data administration and information services — for those things that are best done by a joint organization. Where we can, the rule is, we will get a service to do it as executive agent. Where it would be best to have someone other than a single service do it, we will do it at the Defense Information Systems Agency.



**Figure 6**  
**Information as a Theme**

We started with a core of 100 people. We're growing to 500, beginning in the next fiscal year, and we don't know where it will stop. It'll stop once it's not efficient to continue to absorb, and this is not adding new people, this is bringing existing people into the structure. The services have already eliminated 3,000 of their ADP personnel in the

creation of this center. We put 500 of them in the center. We're now trying to get this program started. We're sitting at about 50 people, so we've got a long way to go.

**Student:** In terms of your general funding strategy for those service common systems, do you intend to

#### **Director of Defense Information**

- Apply the principles of information management (IM)
  - IM Policy, IM Technology, and Functional area support

#### **DASD (Information Systems)**

- Oversight of the acquisition and operations of business and administrative information systems (IRM functions)

#### **Center for Information Management at the Defense Communications Agency (Defense Information Systems Agency)**

- Technology standardization (hardware, architecture, standards)
- Information engineering (process and data models)
- Data administration (data dictionary)
- Information services (utility function)

**Figure 7**

#### **Plan for Implementation of Corporate Information Management**

fence money at your level for those things or do you intend to direct that the services procure that and budget those?

**Andrews:** Congress would like us to fence money, and to the extent that we're going to review and approve the budgets, that's a partial fence. My approach, and we're going to see if we can make this work, is to have the services budget for it. You want them to have ownership. If you want them to execute the programs and you want the checks and balances to work, you want the user to specify his requirement, but not specify more than his requirement. You've got to set up a structure so that he has some competition. If all I did was budget for the money, I wouldn't have enough money in the whole defense budget to answer all of their information requirements that they would send forward. So, I've got to set up some checks and balances. I think the answer to that is, let the services budget for it and then control those budgets. In other words, oversee them, approve them, review them, hold them to a

very tight standard. But, having that user, having that customer provide his budget is a smart thing. We would like to move to a fee for service basis with our information systems. That may involve setting up industrial funds, and we're looking at how best to do that. I think we're going to end up doing it, at least, for some of the services. I'm trying to be cautious. The comptroller would like to go do that, just take everything and put it in an industrial fund and see how well it works. I'd like to test it and move cautiously into that area.

**Oettinger:** The critical element there, judging from some of our experience in looking at other areas, is who controls the pricing mechanism. Because any such schemes work wondrously as long as the right pricing mechanisms are there and the fights that otherwise take place in other forums just simply move over to where the pricing is done, or, worse yet, in some areas that we've looked at, people imagine there are costs which are given by God, and that the prices are then just related to cost which is



what economists, religious economists, believe and therefore Adam Smith will take care of it. Then, of course, all the homswoggling sort of disappears under the lid of cost determination and it is in the hands then of the lowest possible levels and it disappears from any scrutiny at policy making levels, so that handling that end of the game then becomes an excruciatingly difficult, serious problem.

**Andrews:** You're absolutely right and I'm very concerned about our approach to that; a lot of this is out of my control because we're trying to move to business operation funds in the department, and we're very nervous about who's going to control those and how they're going to be used. Are they really going to be used as a true industrial fund or are they going to be used as a funding source to pay bills? There's a real danger there. You bring up a very good point.

We start looking at how you improve your business practice, if you want to manage information by focusing on the improvement of business practices you have to have some metric to measure that by. And, as we looked at the department, in our functional areas we had no way to measure performance. The finance guys didn't know how much it cost to write a paycheck. The logistics guys didn't know how much it cost to process a request, a requisition. One of the first steps in this methodology we're going to overlay is we've got to develop metrics. We've got to develop some way to measure performance in the various functional areas. When you get to command and control, that's the hardest problem because in the command and control area the major performance is fighting the war, and you can't attach a metric to what does the commander need.

We talked earlier about the problem of the plan not getting in the command and control. The session that convinced me it was time to put the brakes on the ELG in the command and control area was when they had a full debate about using WWMCCS (worldwide military command and control system). The Chairman of the Joint Chiefs needed to know the status of the F-15 aircraft down on the flight line or whether his intermediate commander needed that. The budget counters were saying, "Well, it's too costly, we'll just tell him no, that he doesn't need that," and I said, "Wait a minute, it is costly but what we can do is tell him it's very costly, and are you sure you need it?" But when a commander says, "I have to have that to make a decision in the command and control area," then it isn't the com-

puter guy's job to tell him it's too costly, forget it. That was the time when I said, "Wait a minute, I think we've got a problem here and we better stop talking about command and control because we don't have the right culture here to discuss that," and they agreed.

**Oettinger:** In the command and control community there are whole vats of snake oil being filled now with nonfighting measures of effectiveness which fill reams and reams of learned tomes about measures of the command and control system effectiveness. It will be very easy to absorb everything under these measures and, of course, those folks will favor whichever measures put the money in their pocket; so that's another approach to that whole costing and pricing scheme which in that area will take the form of these vats of abstraction under which to hide measures of effectiveness.

**Andrews:** I have not found real measures of effectiveness for command and control systems. The major effectiveness for me is that the phone doesn't ring and the Secretary isn't telling me I just screwed up, that's a measure of effectiveness. Abstract measures, any real metrics — I can't find them for these mission-critical systems. Timeliness is one, but it's only in the context of does it get there in time for the commander to make his decision. It's a difficult one and we're going to be very cautious. I think we can do measures of effectiveness for payroll, logistics, and a lot of these other systems. When you get into the direct mission support functions, it's very hard.

**McLaughlin:** Let me ask you a question. Very simply, for half the public organizations I know, once they looked at how much it cost to cut a paycheck, they went to EDS or contracted to ADP to do payroll. I did it with a town out here in Massachusetts because there was no way that that town government could produce a check anywhere near the price of EDS or ADP in many cases. Has this issue been raised in these discussions?

**Andrews:** It's been raised but I'm not sure it's been resolved. The experts all told us that you don't want to set up monopolies, that you want to allow for competitive pricing of services. You want to be able to let the Air Force go out and shop for the cheapest check it can get written. In a practical sense, you now start bringing in that other dimension — what does it take to operate a military force and can you afford to have three military services operating on three different payroll systems with

three different levels of reliability in practice — potentially subjecting yourself to vagaries of the commercial marketplace for functions that are absolutely critical for your fighting force.

One of the biggest complaints we had from Desert Storm was about our financial system —they wanted it hooked up so that the 530,000 troops over there could change their bank allotments and so forth. I'm not sure that we're going to be ready for that. DFAS, this new Defense Finance and Accounting Service, the new civilian payroll agency which I think we're going to move to which will be a joint thing, are going to have to provide the services to the departments and agencies instead of going outside. We have to be very careful in that and we have to look at what we're doing. I'd like that competition, I'd like to have that option, but at a certain point you don't want to have four systems or three systems operating; you'd like to have one. The jury is out on that one. We're looking at options on that right now.

**Student:** The last tour I spent was at the Military Postal Service Agency. Army, Navy, and Air Force personnel overseas get paid electronically. Every 15 days we had this awful nightmare with the Army getting their paychecks to Germany and/or Korea because the makeshift arrangements that were set up with the postal service with people at JFK or SFO would invariably fall through. So we are, in fact, on three different ways of paying, and it was only the Army who, for whatever reason, isn't electronic whose commanders from overseas were screaming, "Where the hell are my paychecks?" "I don't know, I don't work for the comptroller."

**McLaughlin:** I asked the question at the Postal Service when the Central Management Information Service people came and said, "Oh, well, we're going to charge you \$50,000 dollars a quarter for this particular service," and I could have gone out and bought a \$5,000 PC that would perform the same function with an off-the-shelf software package. It wasn't until people started having that option that the old charge-back system had much of an impact on management information. You answered the question.

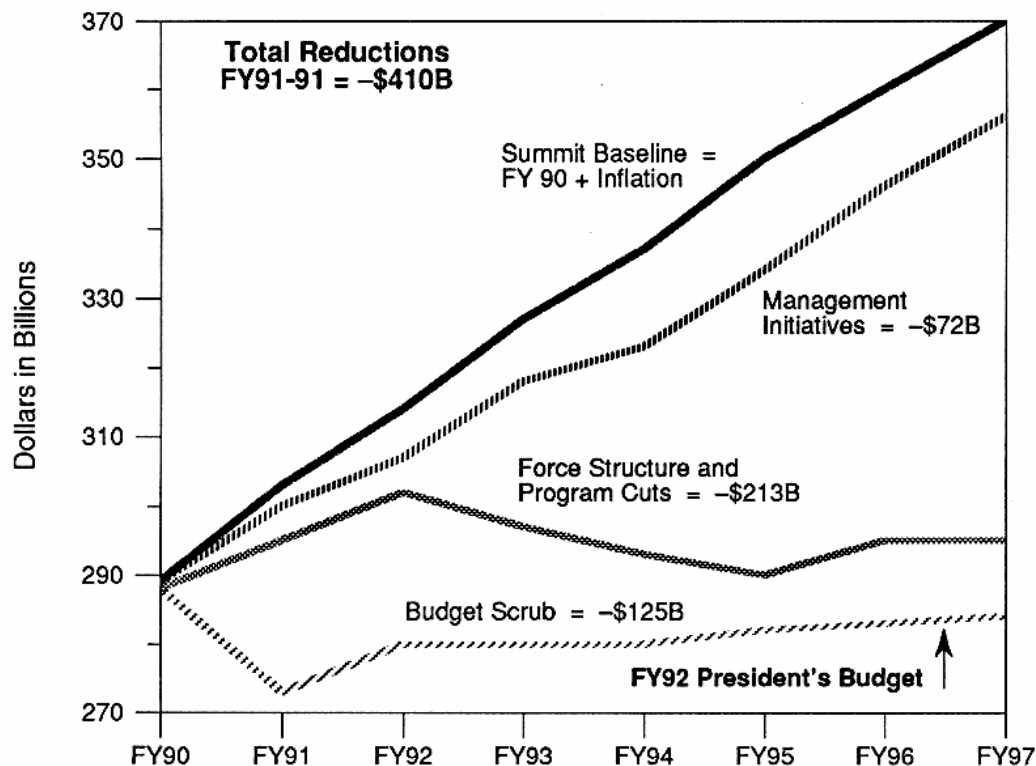
**Andrews:** That's a difficult one.

Continuing on, I'm on figure 8. The message here is that the challenge for information management is to help the department deal with a \$410 billion reduction by 1997 that we're going to have to eat — in particular, the \$72 billion that's part of the defense management report initiatives. Most of that

depends on information management in order to be effective.

Leaving information management, if I might, I'm going to talk a little bit about intelligence. Late December 1989, the Secretary brought me, as part of his defense management, into the office and said, "I think the world has changed, the defense department is restructuring. Everywhere I go I stumble over more intelligence activities, don't you think it's time that we looked at our whole intelligence structure and came up with a way to deal with it for the next decade and beyond?" And I said, "Yes, Sir. If that's what you want," and off I went to what we call defense intelligence in the 1990s. That process was one of the most frustrating and difficult tasks I have undertaken in my public career. I had almost no supporters. I had some people practicing outright guerilla warfare trying to do everything from getting me fired to getting me headed in a false direction just to waste time. However, I believe our process worked; what I tried to do was bring in all the intelligence seniors and intelligence managers down through the unified and specified commands to get ideas of what we should do to manage intelligence better in this changed world and with these new budget realities that we're dealing with. I was naive to think I might get a consensus, that didn't develop; and come June of last year, I finally concluded that not only was I not going to get a consensus, I wasn't going to get a lot of help with coming up with these ideas. So I took all the data that had been gathered over the six months and I came up with how I would do it because that was what the Secretary asked me.

Then I went back to the group and said, "All right, you weren't too helpful, now I'm going to tell you how I would do it. Now you tell me what's wrong with this." We went through three months of that give and take, still didn't get a consensus but I got some good ideas out of it. And I took to the Secretary in September of last year, a plan for a total restructuring of our defense activities. He said, "Looks good to me, now go back and talk to the other seniors in the department, the Chairman of the Joint Chiefs and the Under Secretaries, and the Service Secretaries, and see what kind of an agreement you can reach and then where you can't get agreement, come back to me and I'll make a decision." I then spent from September to December trying to get an agreement, and at least got an outline of the actions that I felt we had to take. He then said, "Go do this formally," and in March I submitted to him an implementation plan for the restructure. He signed that on March 15 and said, "Go implement."



**Figure 8**  
**The DMR IM Challenge**  
**Responding to Summit Realities (1991-1997)**  
**How We Got There**

I've outlined our plan for you (figure 9). First thing, we are going to streamline the management within the services by eliminating unnecessary management layers — by consolidating all of the departmental intelligence organizations in each service into a single focus intelligence command. I'll give you an example. The Air Force had many separate headquarters intelligence units: electronic security command, the Air Force intelligence agency, and the foreign technology division.

Each of them had their own IGs, and their own comptrollers, and their own headquarters staff, personnel officers, everything else. We're going to collapse all of those effective in October into a single intelligence command; it's going to be called Air Force Intelligence Command. It's going to eliminate much of that management layering, and we hope it'll make it more efficient. It looks like it will, but even if it doesn't make it more efficient, if it stays at the same efficiency, we've eliminated several hundred people and a fairly significant chunk of budget that can come out of unnecessary

layers instead of out of analytic and production capabilities in intelligence that were going to have to be reduced as part of this overall budget reduction.

**Student:** I'm just thinking of my former associates in the Navy.

**Andrews:** They were the hardest fighting us and, in fact, the only way to keep the Secretary of the Navy from slitting his wrists was to agree if they could document that there was going to be a severe or an adverse impact on the fleet in bringing naval intelligence command and cryptologic command together at that last step, after they brought all the other units together, that we would let them have two commands. Well they can't do that, and they've already said that, but that was the price to get them to agree.

The Army is facing the same kind of situation, we're going to eliminate a large number of subordinate headquarters to bring that up.

#### **A single intelligence command in each service**

- Consolidate functions, streamline management structures

#### **Joint Intelligence Centers at the U&S Combatant Commands**

- Consolidate functions, reduce duplication, improve "jointness"

#### **Strengthen DIA**

- Management of intelligence analysis, production and quality assurance
- Independent threat assessments for major programs

#### **Consolidate counterintelligence and information security functions**

#### **Strengthen the OSD role in the management of intelligence resources**

- Improved integration of national and tactical intelligence

**Figure 9**

#### **Plan for Restructuring Defense Intelligence**

Now, the next step was to deal with the unified/specified commands.

**Oettinger:** Before you leave the services, what about executive delegation and executive agents, something the Air Force is running as a separate national program remains.

**Andrews:** Well, the program management will go into this. Oh, you're talking about special activity kinds of things?

**Oettinger:** Or anything where the service is agent for national activity as opposed to a service.

**Andrews:** It depends on what you're talking about. If you're talking about individual programs that are defense programs, their executive agent for that would be folded into the command. If you're talking about the Air Force's responsibilities for what we call Air Force special activities, that's not an intelligence command. That's separate.

Now, all of this came about because over the last 10 years these intelligence agencies have increased

dramatically in the number of people. This was a build-up from the big drawdown after Vietnam. The budgets were no problem; in some cases the intelligence budget were going up 20 percent a year for several of those years in the mid-1980s. The number of personnel was going up significantly — in some cases over 50 percent. Whenever you do that in a rapid buildup period you're going to layer in management. You're going to layer in extra units. Everybody's going to have a representative in each of the theaters of operation, particularly any country that is a nice place to live. That's what we've got to try to reduce.

In the case of the unified and specified (U and S) commands, each component, each military component of the U and S commands developed its own production and analysis center for intelligence — I mean people that take raw intelligence information, exploit it, like you're going to have photo interpreters that take imagery, photographs, and derive intelligence from it. Other analysts are going to bring that together with SIGINT, HUMINT and turn

out products, in many cases all covering the same target, or the same country, or the same person even, in some cases.

In Hawaii, for example, during this period of build-up we formed three major intelligence centers. I won't talk about the numbers but there's well over a 1,000 people involved in these centers, all within a couple of miles of one another in Honolulu, or on the outskirts of Honolulu, all performing the same kind of intelligence functions. This is going to mandate that unified/specified commands will have single joint intelligence centers for the production and analysis functions. In the case of Hawaii, those three centers are being combined into one center. The people in this one example are being reduced by 25 percent because this is already underway. We're going to save about 20 percent of the operations and maintenance budget over this period of time and we'll get to a point where it's 20 percent less, ongoing. We're eliminating two photo labs, a printing plant, an ADP center, etc., combining these three centers into two buildings, but one center.

The same thing is happening in the Atlantic Command we're going to, and those changes are underway. We're still arm wrestling with the European Command — they're going to do it too. The secretary has issued direction on all of these. This is ultimately going to be a big dollar in resource savings, but is also going to improve the effectiveness of that joint command to operate because it'll all be under the CINC. He'll be able to manage that operation, and the components will still have intelligence staffs but they're going to be tailored to supporting that direct mission. They won't be producing general intelligence products. I think it's going to save us money, again, so that we don't have to cut into the muscle of those operating commands.

We need to strengthen DIA's ability to manage intelligence across the department. That's what we're talking now — production and analysis. They won't own those joint intelligence centers but they will coordinate their activities and manage their joint products. They will task them when it's a defense-wide product, when it's a unique CINC product, the CINC tasks them.

One thing Congress has insisted upon that we found is a shortfall, is the need to develop independent threat assessments. Each service obviously is going to provide a threat assessment that supports its program proposal. What was missing was some independent look at that threat — an ability to bring to the table in the defense acquisition board, and

ultimately to the Secretary, an independent view of how that particular system would meet the threat that it was designed to face. They aren't going to replace the services, the services are still going to bring a threat forward, but we're going to staff them with sufficient expertise to be able to make real judgments instead of just rubber stamping.

**Oettinger:** There was a period when the services counteracted that sort of thing by sending their dogs to DIA, and essentially rendering it impotent. Isn't there a danger that if you task either countermeasure to that move that you've just described it would be to try to either send dogs again or to send the loyalists.

**Andrews:** Well, the whole joint force structure concept has helped that, in that anybody in a joint assignment generally is not a dog, so at least you've got half the billets in the DIA that are joint assignment billets and you don't get dogs. For that other half, you have the chance of getting dogs. The only way you can deal with it is active management oversight and "civilianization." DIA is right now running about 60 percent civilian and I think in this area you have to be heavily civilian; you're going to need to get those Ph.Ds with a lot of experience in analysis, and then give them the research tools and the authority to get in, find out what the services are doing, and make some independent judgments. We don't have that today, we have some shining stars throughout DIA in some of these areas, but there's no doubt that in some areas we're not covered with an expert. We need to have that expertise and they need to have those skills to be able to make some sense out of this product that comes up. It's really been a shortfall that we have to deal with.

The one consensus I got out of all these leaders in the intelligence community was we needed to bring information security, counterintelligence, together with intelligence, because they felt that all the improvements we would make in intelligence would go for naught if we couldn't protect the information once we collected and processed it. So I carried that forward, the Secretary agreed, and he has assigned all the counterintelligence and what we call security countermeasures or information security activities to me, to integrate them. I already had all the information security, so this now brings, basically, information and the protection of information into one office.

And finally, we weren't going to get anywhere if we didn't strengthen the head of the organization. If I don't have the staff tools to oversee these intelli-

gence programs and to make resource allocation judgments and try to improve our performance, if I don't have those staff inputs, I can't operate. What I found was (what I had inherited) we had focused too narrowly on programs in kind of a stovepipe fashion. Tactical programs were looked at by one group, national programs were looked at by another group. We didn't have anybody bringing the two together and trying to harmonize the two efforts. We're going to create that capability, we're going to take people from DIA, from the OSD staff, who are doing those kinds of functions, we're going to bring them together in a single organization and we're going to try to look across all of these programs, national and tactical, to see how best to put together an intelligence picture. And it might be — spend more money in the tactical area, it might be — spend more money in the national area, but today we can't make those decisions. The Director of Central Intelligence in the national intelligence community doesn't make them either because he doesn't have visibility into the tactical programs. While I would like to have him do a better job of doing that, at least we can fix our defense act so that we can go to the table and say, "Look, we don't need to buy this because we're doing this job already," or we can go to the table and say, "This is a shortfall that we need to put more money on; we're even willing to help."

**Oettinger:** But, in theory, what you've just described is something that, to the best of my knowledge, was what the intelligence community staff was supposed to do. So could you address a little bit of why it hasn't worked there and why, what organization structures you might put in place that would be better.

**Andrews:** The DCI has kicked off somewhat late a reorganization study team, and that was the first question they asked me. We created the IC staff, 240 people at one time — I think it's closer to 200 now — and their task was to bring all this together to help the national intelligence community understand the Defense Department and do this harmonization. Why didn't they work? It's a good question. I think the principal reason they didn't work is that they lacked management attention at the highest level and an interest in making it work. Nobody really wanted to do that. The DCIs have not wanted to get into the Secretary's business and he, therefore, didn't drive his staff to ask those kinds of questions. We have an IC staff representative on my

staff. Does it really serve as a communication path? No. One, I don't have the information — that's what I need to create. I can't tell you what the weaknesses are in national support of the Department of Defense. I can give you some examples, but I don't have a comprehensive picture, so I'm not going to march forward and say we need to realign defense money to help pay for more national capability until I'm sure that's the right answer. The answer might be, I need to go to the DCI and say, "You're wasting money in this area, we already have the capability to do that job, you don't need to build it again over here in the national program."

What would it take to get the IC staff to do its job? I think you have to have management attention, you need to raise the stature of the Director of the IC staff, you need to give him a clear charter to ask those questions. Do I want that? No. I like the position we have, the weaker they are the stronger we are, but at the same time I wouldn't mind the challenge. I would rather have them be more powerful and participate in making things better than always have them be considered as a weak sister and have to drive them to just do their job. So, of the two choices I would rather they were stronger.

**Oettinger:** Let me just drive you a little bit further to speculating on that because that gets into an argument which we have not brought out this semester, which is that dual role. In part, my sense is that this comes from the fact that the incumbent, who is the Director of the CIA, has been for years the Director of Central Intelligence, meaning he is the fellow who is supposed to be overseeing all U.S. intelligence. What I hear Secretary Andrews say is that this incumbent, and every previous incumbent, has run the CIA but has not paid a hell of a lot of attention to the role of DCI, which is one reason why Senator Arlen Specter recently introduced a bill once again raising the question of divorcing the DCI position from the position of the Director of CIA so that the incumbent would have more of an incentive to watch over the whole community and not to push the interests of the Central Intelligence Agency exclusively. The counter argument for that is that such a position would be wonderful in theory, but since the incumbent would have no empire whatsoever he'd be sitting up there, or she, in wondrous isolation but knowing absolutely nothing, and there the argument rests. Can you tell me is that a reasonable summary of the argument? And what is a solution or a way of addressing this dilemma?



**Andrews:** I think that's a very good summary of the argument. In fact, the testimony that Senator David Boren's intelligence committee is receiving, suggests we should have a Director of National Intelligence. First of all, I'm all for strengthening the role of the DCI in the intelligence community; I really think it's overdue. I have great reservations about a Director of National Intelligence. The reason is very simple. If you separate the guy from substantive intelligence, participation in the intelligence community, and you make him just a resource head or a policy head, he's going to be ineffective. A good example is our narcotics czar. It has not worked, I can't see how it will work. He doesn't control any resources. Even if you gave him the checkbook and told him to write checks, he has no staff to support him, no ability to really get in and work that particular problem, and the DCI has the same difficulty. You give a 500-man staff to this Director of National Intelligence and you tell him, "You've got the checkbook, now go run intelligence," he's not going to participate. The President will start calling the Director of CIA to be his intelligence officer. DOD will participate through the Cabinet. This guy will stop getting invited to meetings. The answer is to make the Director of Central Intelligence be the Director of the Central Intelligence Agency, then he won't be a Director of Central Intelligence.

**Oettinger:** I hadn't thought of this before; but, as you were outlining this, it occurred to me that one of the reasons why, perhaps, the President never makes that sort of request is that there is a third player or set of players in this which is the National Security Advisor and folks from the National Security Council (NSC) who, if this function of the DCI were serious, would find themselves out in left field. Is there any way out of this or are we simply looking at another aspect of checks and balances in the U.S. government and how they should be because powers are divided and there are different power centers.

**Andrews:** Well, first of all, I happen to think that the NSC structure works very well for our government. I wouldn't want to upset that formula and we have to be careful not to do that, you're exactly right. I think the answer is that one makes it clear to the DCI what his role is and it doesn't mean the President has to call him in, there are ways to do it. Organizationally, one thing you could do is elevate the stature of your full-time Community Deputy. At least give him the same stature as the full time Deputy DCI and get an aggressive individual into that job.

I believe all of these things can be solved with the right people in the right organizational framework. Once they gave me a seat at the table, I had a charter to push the table along. The analogy I use is I walk alongside this Intelligence Community guy and link arms with him and I start walking faster and then start running. If he's going to stay on my arm he's going to have to keep up, and they're starting to do that. If we keep coming to the table with issues, pretty soon they start coming to the table with issues to counter our issues and the community gets better. Now, if you have a DDCI for the intelligence community that's a strong voice, well he'll get into my knickers; I would rather see the community have that strong voice.

Some of the proposals that are on the Hill would be disastrous. This idea of having this DDCI for the intelligence community would be dual; as a defense official, I think things like that are crazy. I have to work in the building. I have to glue those things together. I have to be able to work with the commanders and with the functional managers in that building; I have to be considered part of defense. If they ever start considering me an intelligence community guy, I would be locked out of those forums and, all of a sudden, there would be another whole group that would be developed that would work command, control, communications and intelligence and I would be an outsider. That would happen overnight. The advocates that want to create these positions don't realize how that bureaucracy works and it's the same problem the DCI had. As soon as you made that IC staff guy keep his office down at F street, not participate fully in the community activities and not participate in the CIA activities, he's an outsider. DCI doesn't think he's part of them. As far as the intelligence community is concerned, he's not part of them because he doesn't belong to any organization, he's just all by himself. The same thing would happen in Defense if you ever set up that head of intelligence in Defense as an intelligence community guy, the department would stop paying attention to him. When I go to a DPRB (Defense Policy Review Board) and need money, I generally will have half the room supporting me at least, if not more than half. If I was an intelligence guy, I'd be a lone voice, if they even invited me to the meeting.

**Oettinger:** Just to underscore the poignancy of this, over the years the Director of Central Intelligence in wearing that hat not only has been living on F street but in an office in the old Executive Office Building. I suppose if one made a serious

count of the degree of occupancy of that, it's got to be close to zero, for exactly the reasons that you heard Secretary Andrews state. That's not his power base. He'd be a nut to sit down there in the proximity of the White House but in offices that are clearly not the White House and yet are away from his power base. So these symbolisms and balances that you've heard are absolutely critical. And just to go back to your point, management aides that deal with this problem aren't invented yet, so bogus number generators do not help with what I think is the core of such matters.

**McLaughlin:** I think it also raises the issue of whether fixing this problem isn't worse than not fixing it. It hasn't gotten fixed because of the need for some competition, or some duality, or dual phenomenology, if you will, and they may not want the White House and the President solely dependent on one source of information. Maybe this is something that never gets fixed, improves maybe, but not fixed.

**Andrews:** I think that while you want to encourage multiple sources of information, you want the Secretary of Defense, and the DCI, and the National Security Advisor, and the Secretary of State to have an input, often on the same subject. You still have a management problem when you have an intelligence community as big as it is with a policy function vested in a DCI, if it isn't working as efficiently as it can work. I think that's the frustration and it's never worked real well but, it's working better now. Of course that's self-serving because I'm participating in that process, but I do think it's working better. It's the first time the National Foreign Intelligence Council, starting last December (when we insisted that they deal with a bunch of realities) has actually participated in making major resource allocation decisions.

**Oettinger:** That's an interesting statement, self-serving though it may be.

**Andrews:** We found that there was a real benefit when the NFIC (National Foreign Intelligence Council) started participating in the decisions because we started building a constituency of support in the agencies that help sell the budget, both on the Hill and in the department. Before that, you really had nobody who felt that they were part of it. They basically worked over the summer, finished up their recommendations, shoved them out the door, and the IC staff did some magic behind the screen and all of a sudden the budget came out the

front end and the major issues weren't really debated. Sometimes the people would write issue papers but there really wasn't a give and take on major issues. People now come and say, "We reviewed that and I participated in that. Even though I didn't fully agree, this is what we decided to do."

**Student:** I understand that there's been a move to have someone do industrial espionage in the intelligence community.

**Andrews:** Industrial what?

**Student:** Industrial spying. There's a move afoot from the Congress to have industrial spying done, and I was just wondering how far along that is and how realistic the comment is. Was that really meant?

**Andrews:** In the last eight months, you've heard that in the press now and then. It is not really our policy to do that. What the intelligence community does do is collect economic intelligence and inform U.S. government negotiators at various economic summits and negotiators of various agreements; we do not pass intelligence information to business. It would be impossible to ever figure out who you'd give it to and what you'd give them. About the time you did that, you'd lose the security of your collection source. While it's been reviewed, unless somebody is doing something I'm not aware of, it isn't happening. We are trying to strengthen our collection of economic intelligence to deal with this new world order; that's a critical element of the future. You'd like the President to know when he walks into an economic summit what all the proposals are from the other members at the table, that's the goal. Well, sometimes we can do a lot of that or come close to that. But if we started leaving that meeting and passing it on to certain businesses, just the process of trying to decide who gets that, the whole system would break down. The policy has been, we don't even start that. We'd try if the President told us to do it, but I can't imagine it succeeding.

**Oettinger:** This discussion has a long history, and I think it's always come out the way that Secretary Andrews says, you're restricted to U.S. trade and government uses.

**Andrews:** Now it's frustrating when we see other governments aiding their businesses in big ways with intelligence. And the temptation is always there because, as you can imagine, we're constantly getting intelligence that would be of benefit to one



of our businesses. But, as a policy, this government just has not gotten into that.

**Oettinger:** That factor is one of the reasons why over the years it keeps getting studied over and over again because of the frustration. But it's getting worse in terms of inability to do it because the question, "What is a U.S. person?" is getting foggier rather than clearer. Therefore, everything that was a problem 10 or 20 years ago and was studied is a worse problem today.

**Andrews:** In figure 10, the entity you see there called Intelligence Programs Support Group is a group of people from my existing staff and from DIA. They're going to be moved into a single unit to look at developing architectures and developing program assessments across these barriers that have been placed, in the past, on tactical and national programs.

**Student:** What is GDIP?

**Andrews:** General Defense Intelligence program. The DOD part of the National Foreign Intelligence Program other than SIGINT is really the General Defense Intelligence program.

**Oettinger:** The Principal Deputy for Intelligence, is that the director of DIA?

**Andrews:** No, that's going to be a civilian. He'll bring these things together. He will coordinate the activities of our intelligence deputies, the counterintelligence and intelligence, and he will be the program manager of the GDIP. He'll also be the functional manager for what we call tactical intelligence and related activities, which is our tactical intelligence program, although it's not a defense program, it is an aggregation for management purposes.

**Oettinger:** What does the star at DIA refer to?

**Andrews:** That's another error on my chart. It was designed to show that the GDIP staff and the Intelligence Programs Support Group are really going to be field activities of the Defense Intelligence Agency. It's also to make DIA people nervous.

**Student:** Is that a manpower driven thing or an organizationally driven thing?

**Andrews:** It's actually both. There was a practicality and a reality. The reality was that we couldn't make the OSD staff bigger. These two staffs together are about 100 people. At the same time, since

most of these people were coming from DIA, they didn't want to leave the DIA personnel system, which is a unique personnel system, and move into the general civil service, because it would hurt them. It would have caused some loss of tenure and some loss of job security, so they were fighting that. The result was you had two choices: make it a separate field activity of the Office of the Secretary of Defense or put it as part of DIA and have it report directly to the Office of the Secretary of Defense. We chose to do the latter.

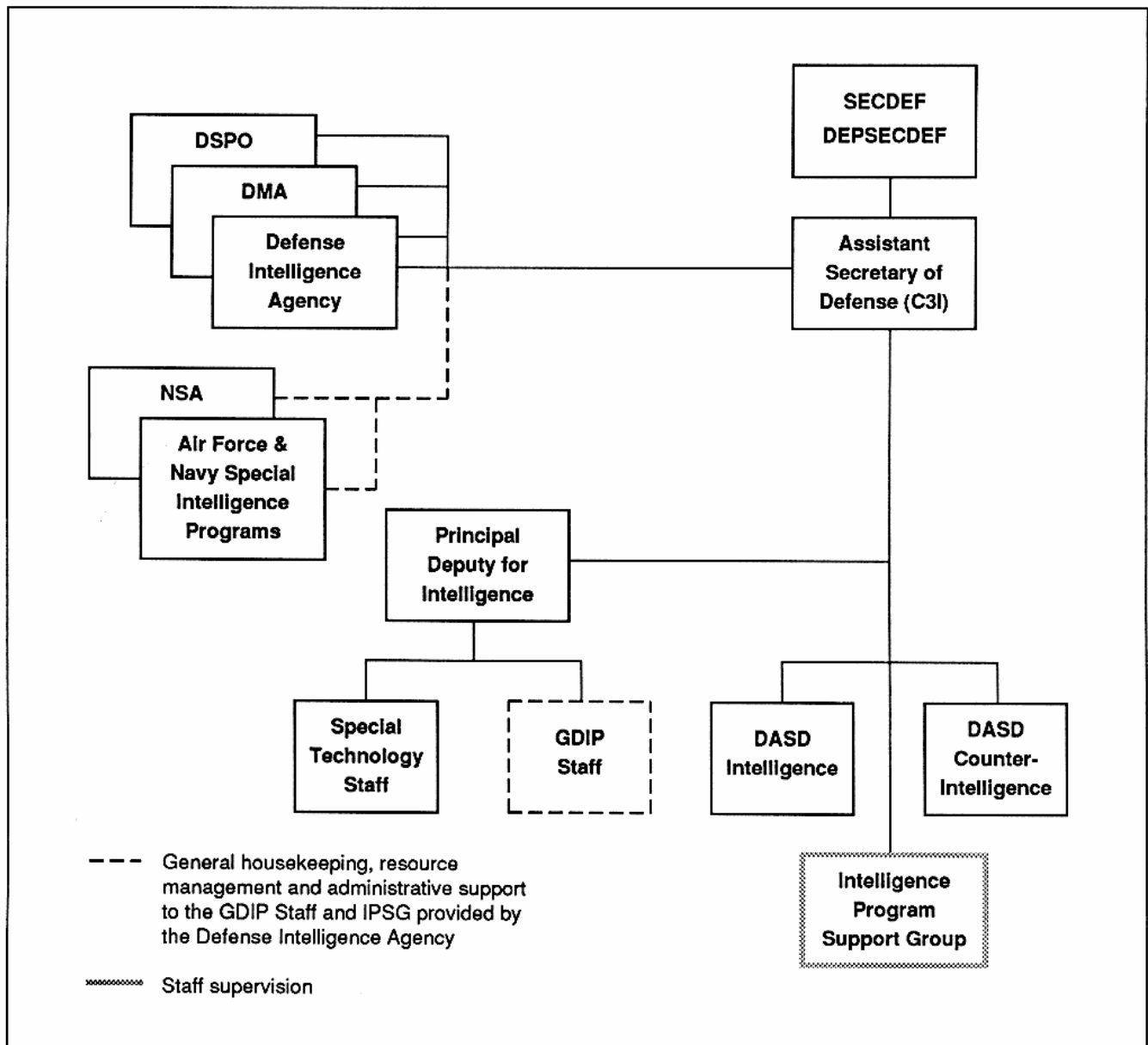
We are entering a period of great uncertainty. The world is expanding by large numbers. We talk about the population from 1950 to today, to 2025, and what its effect will be on the instability in the world in the areas that we may have to protect our national interests. We're looking at large armies, the proliferation of high technology, and weapons of mass destruction. When I say high technology, we revealed a lot of information in Desert Storm about our capabilities. The next enemy won't be as stupid. We've never fought a modern technology war before, we now have, and everybody saw us and you're now going to see on the battlefield a proliferation of more night vision goggles, laser designators, counter laser designators, etc. Hussein didn't fight an electronic war — or information war — we did. They're going to learn. The next thug that we're going to have to deal with is going to learn from this lesson, so we're going to have to respond to that and not just sit back and say, "Well, it worked for Iraq, it'll work for the next guy."

**McLaughlin:** One doesn't assume everyone encounters a large army. I think maybe Saddam Hussein showed that it's less important than one might think because of the increase in firepower or increase in accuracy. Everybody has been spreading out the density of armies for a 100 years now. If you have a really large army you can't field it.

**Andrews:** The motivation for the large army has changed, you're absolutely right. It isn't because it's more efficient or more effective, the large army is going to be driven by the large populations and the welfare states of these societies that are going to have armies just to employ people.

**Student:** Because the real drive it seems to me is for intelligent people — well trained and educated.

**Andrews:** But it affects our force planning because if you put the people out, you still have to contend with them. Even though we managed to destroy them in the end, through the air war and their own



**Figure 10**  
**ASD (C3I) Organization for Intelligence**

self-destruction — the desertions and so forth, that reduced their forces significantly — the fact that they were a huge Army means we then had to deploy larger forces than we otherwise might deploy. So, when we're having to deal with Nicaragua — not a problem. If we have to deal with a real large army, like on the order of a million men, or multiple millions of men, then we have to carry a lot

more force forward — logistics, transportation and so forth — just because you can't always count on being able to destroy them with that technology. If Saddam had kept coming instead of stopping with that large Army, and we had had to dislodge him from Eastern Saudi Arabia, if not all of Saudi Arabia, we would have lost a lot of people.

Those bases in Saudi Arabia — with a lot of pre-positioned parts, and fuel, and munitions, and just the ability to land and unload additional fuel and munitions and people — if we had lost those, if he had overrun those and we had had to go to Turkey

and other countries to mount the force forward, we would have had a real problem.

**Oettinger:** Sir, we thank you very much for coming up.



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