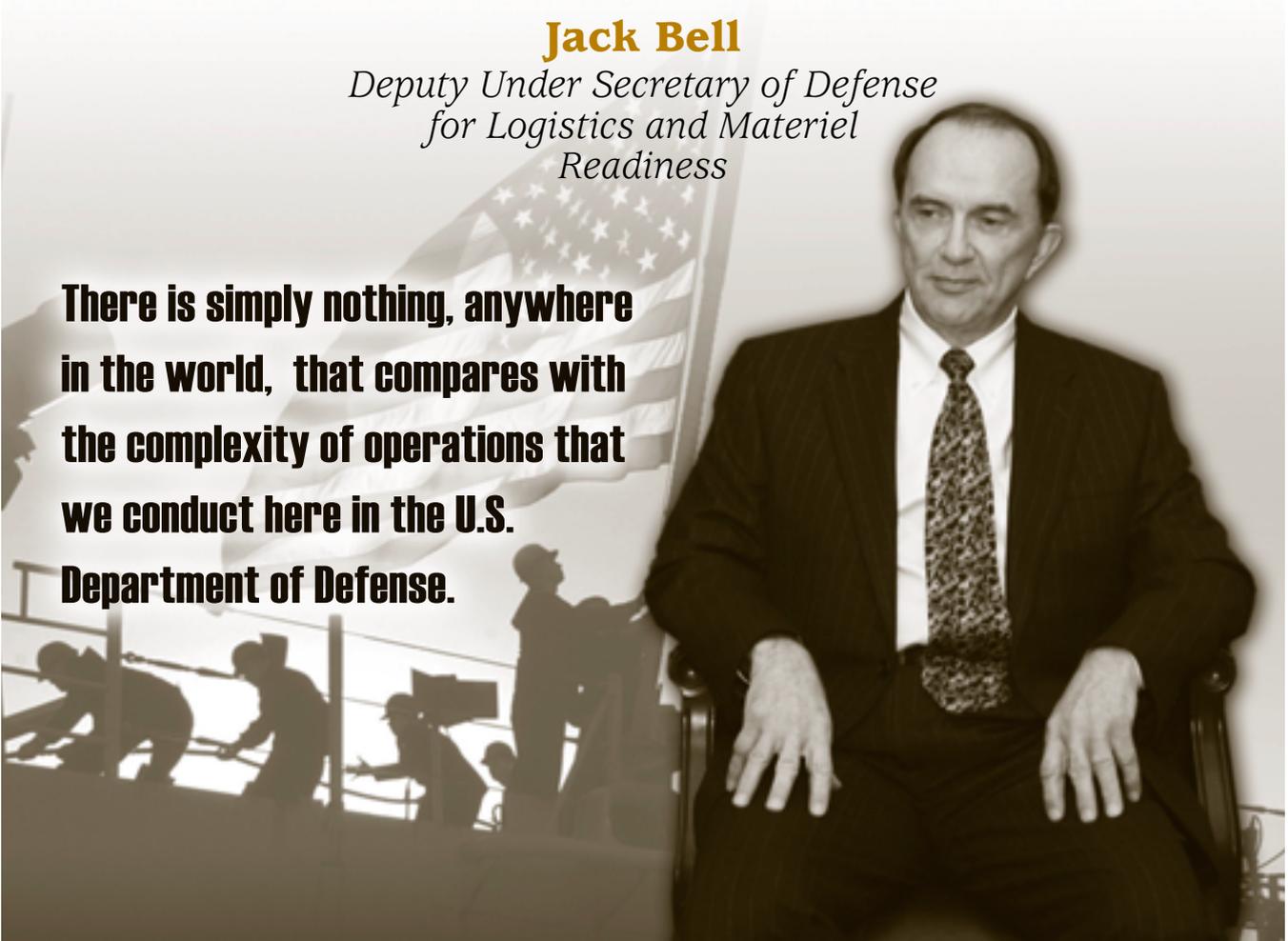


Cost-effective Joint Support for the Warfighter

Jack Bell

*Deputy Under Secretary of Defense
for Logistics and Materiel
Readiness*

There is simply nothing, anywhere in the world, that compares with the complexity of operations that we conduct here in the U.S. Department of Defense.



Jack Bell had been working in the position of deputy under secretary of defense for logistics and materiel readiness (DUSD(L&MR)) for 18 months when Randy Fowler, DAU professor of logistics, interviewed him in December 2006. Bell talked about the many challenges and opportunities facing defense logistics, from supporting soldiers in some of the most difficult terrain on the planet to continuing to work transformational issues and drive materiel readiness into all aspects of the procurement process.



Mr. Bell, please tell us a little bit about your roles and responsibilities.



The deputy under secretary for logistics and materiel readiness has specific Title 10 responsibilities of two types.

The first is to advise the under secretary for acquisition, technology and logistics on logistics and materiel readiness issues and policy questions; and the second is to provide program oversight of all the logistics and materiel readiness and sustainment operations that go on in the military services, in the defense agencies, and in the COCOMs [*combatant commands*].



As a former executive in private industry, how do you compare the complexity and the breadth of challenge of this job with what you experienced as a leader in the private sector?



In the private sector, I worked in both the airline and railroad industries. I had considerable knowledge and experience in the logistics arena. There is simply nothing,

anywhere in the world, that compares with the complexity of operations that we conduct here in the U.S. Department of Defense. People talk about Wal-Mart or Dell, but Wal-Mart would never in their remotest imagination think about supporting stores in the mountains of Afghanistan or in the deserts of Iraq.

One of the things that we've learned from the global war on terror is that we have the ability to deploy and support soldiers anywhere in the world. Our people involved in logistics are doing an outstanding job.

Q
You have been heavily engaged with stability operations in Afghanistan and Iraq. What are the top logistics priorities arising from these operations?

A
Unlike most AT&L offices, L&MR also has a major mission supporting the current warfighting effort, working with the COCOMs and the military services. In this area, L&MR is responsible for updating policy guidance and providing program support in a dynamically changing warfighting environment. DLA—the Defense Logistics Agency—the major defense agency reporting to L&MR, is a key player in COCOM and military service support.

This aspect is really important in terms of defining who we are. For example, DLA is substantially focused on supporting warfighting needs at the same time it is working with L&MR, TRANSCOM [*the U.S. Transportation Command*], and the Services to integrate supply chain operations to improve its effectiveness and efficiency.

Our Transportation Policy Office is also focused in the same way, working with the Office of the Secretary of Defense offices, the Services, and the COCOMs on policy guidance and program support, addressing such issues as sealift policy, transportation of fallen comrades, emergency airlift needs, and finalization of the DoD instruction for TRANSCOM's distribution process owner role. In addition, they played a key role in negotiating a landmark memorandum of understanding between DoD and the Department of Transportation to allow TRANSCOM to participate in DoT's fitness reviews of actual and applicant civil reserve air fleet carriers.

We have established a new program support office in L&MR that focuses on providing direct support for the COCOMs and the military services in addressing urgent logistics and related issues in support of the global war on terror. Three major efforts are already under way in this area.

First, L&MR has deployed a team of consultants under L&MR leadership to assist the Multi-national Security and Transitional Command Iraq in accelerating the develop-

ment of logistics and sustainment capabilities of the Iraqi security forces, a key to their becoming self-supporting.

Second, L&MR is supporting a U.S. European Command request for assistance in integrating reconstruction and development efforts with more traditional military roles in support of the NATO transition into Afghanistan. In this effort we assembled a multinational reconstruction database and created a template for a provincial reconstruction team handbook to support transitions from outgoing military teams to their incoming successors. We also facilitated the assignment of a staff person to Brussels to monitor provincial reconstruction team activities in Afghanistan.

And we have recently organized an OSD materiel readiness committee to expedite decisions on urgent materiel readiness issues in the forward areas.

Q
I think these operational questions regarding Iraq and Afghanistan are of real interest to our readership. What are some of the logistics lessons learned from Operation Enduring Freedom and Operation Iraqi Freedom?

A
As I indicated earlier, we have demonstrated that we have the ability to effectively support warfighting efforts anywhere in the world. Our program support and oversight mission mandates that we also look at the efficiency and effectiveness of ongoing operations. We approach the task as a program-support mission. We are very oriented to field operations. I visited the theater about three times in 2006, meeting with the senior leadership to find out what we can do to more effectively support them.

The Iraq support issue addresses a fundamental challenge we have in the global war on terror: intervening in a host country to deal with transnational terrorist operations. We are in a country that is not developed or whose capabilities to provide their own security have been vastly undermined by the terrorist organizations. We have substantial capabilities within DoD to train, equip, and sustain these forces; but it requires a significant amount of effort and coordination. We have not only to train the people, but to furnish them with equipment that strategically aligns with us, and to enable them to provide their own logistics support organically.

In both Afghanistan and Iraq, the previous regimes did not pay any attention to considerations of sustainment and maintenance. So a significant effort for us at L&MR is to support the COCOMs in this effort.

Q
At DAU we train delegations—so far only Afghan delegations—mainly on the contracting process and sustain-

P. Jackson "Jack" Bell

Deputy Under Secretary of Defense for Logistics and Materiel Readiness

Jack Bell was sworn in as deputy under secretary of defense for logistics and materiel readiness on Aug. 8, 2005. In this role, he is the principal advisor on logistics and materiel readiness to the secretary of defense, the deputy secretary of defense, and the under secretary of defense for acquisition, technology and logistics. He is the principal logistics official within the senior management of the Department of Defense.



Prior to this appointment, Bell served as the deputy under secretary of the Army and earlier served as the first chief of staff of the State Department's Afghanistan Reconstruction Group in Kabul, advising the president's special envoy and ambassador to Afghanistan and ministers of the government of Afghanistan on efforts to accelerate political stability, reconstruction, and economic development, including private sector development.

Before that, Bell had a successful career in the private sector, specializing in transformation management in large complex organizations facing major challenges in their operational, market, and/or competitive environments. His work included service as chief financial officer and other senior management positions at US Airways, American Airlines, Burlington Northern Railroad, Adobe Systems, and Conner Peripherals. He also served as a venture advisor to, and board member of, startup information technology companies in Silicon Valley. Earlier, he was a consultant with McKinsey & Company, working on transformation challenges with such clients as the World Bank, Office of Management and Budget, and the Peace Corps.

Bell began his career as an officer in the United States Marine Corps. He served tours in Vietnam, Okinawa, and the Caribbean, rising to the rank of captain. He was awarded the Navy Commendation Medal with Combat "V," the Presidential Unit Citation, the National Defense Service Medal, the Armed Forces Expeditionary Medal, the Vietnam Service Medal, and the Republic of Vietnam Campaign Medal.

Bell earned a bachelor's degree in business administration from Northwestern University, and a master's degree in international relations from the University of South Carolina.

ment. Their questions are very fundamental. It is rewarding to work with those folks.

A When you get involved in sustainment issues in host countries that have no culture or experience in their own operations, the questions become incredibly basic—so basic that we often don't even teach them here in our logistics courses.

For example, a guy says, "I need to build a building. So I need some adobe bricks and some bags of cement." Here, because we are so used to having national stock numbers or local stock numbers on defined products, we could just order adobe bricks and bags of cement. But in different parts of the world, such standards are not enforced. Reconstruction agencies would order cement and get bags of cement marked "for export to Afghanistan ONLY" (for example) that could be as much as 50 percent dirt.

Many agencies were buying adobe bricks that were not kiln-fired, so within two or three seasons of snow and rainstorms, the building was gone. Even for procedures as simple as buying rebar, we need to provide basic training: What is the product being bought, and how do you specify it? Then we need to establish the principle of inspecting what is ordered, both at the factory and the warehouse. They can order a Kalashnikov AK-47 from anywhere, but without inspection, they might receive a new one that doesn't even work. These basics—defining your product, inspecting the product at the site, factory-inspecting the product when it is delivered—concepts that are so fundamental to procurement and logistics management in the developing world, have to be taught.

Q *What are some of the other key logistics opportunities or challenges that you have noticed in terms of stability operations in both Afghanistan and Iraq?*

A Both Afghanistan and Iraq represent severe tests of our logistics capabilities because of limited port access to forward areas, as well as the big three maintenance headaches: dust, heat, and in Afghanistan, high altitudes.

However, our major challenge has been operating over non-secure lines of communication in the face of explosive growth in the use of improvised explosive devices. We have had to rethink the use of ground transportation and the integration of strategic and tactical airlift. We have also made significant advances in our capabilities for precision air-drops.

Q *How much do we spend annually on logistics? Are there any plans or strategies to get logistics costs down?*

A

The baseline information we have was in connection with the Quadrennial Defense Review and related to fiscal year 2005. It confirmed that out of the \$450 billion DoD budget, the logistics enterprise represents \$112 billion, or about 24 percent of that. It also involves slightly over one million personnel, both civilian and military, working for DoD.

Q

That's a shocking figure to a lot of people; they just don't think about the people component of logistics costs.

A

About 60 to 75 percent of the total cost of a weapons system or a major end item of equipment is in the sustainment logistics phase. Of that percentage, probably 40 percent is labor cost.

Q

Let's move into the strategic framework. For the last 10 years or better, logistics transformation has been an integral component of the Department's efforts to transform the entire enterprise. As we review the policy-making literature and Under Secretary Ken Krieg's objectives, we see an emphasis on things like knowledge-enabled logistics, achieving cost-effective joint logistics, and so forth. We'd like your comments on how those initiatives, among others, are really integral to our future logistics strategy.

A

Our overarching goal, as defined in the AT&L objectives, is to provide cost-effective, joint logistics support for the warfighting effort. Under that, we have three specific objectives that are transformational in nature.

One is to integrate what we call life-cycle management principles into both the "Big A" acquisition process and into all the follow-on sustainment activities, including legacy systems that are already deployed.

The second is to make sure we achieve what we call a seamless integrated operation within supply chain operations, which have many organizational boundaries to cross. It should be seamless from the time of procurement, when it enters into the system here at DoD, until it is delivered to the user.

The third goal is to strengthen the logistics management skills of the DoD staff, whether they are involved in acquisition, or logistics and sustainment, and whether they are in the Services or at the OSD level.

Those are all transformational in nature, and necessary. We now fight jointly, where formerly we fought in individual Services, each of which had its own supply lines. The cost of sustainment is a significant portion of the DoD

budget. And under the global war on terror, we have to have the capability to deploy and support our troops all over the world. That part of our global logistics process is very complicated and very expensive.

Q

You mentioned the importance of joint logistics. One of the key things in making joint logistics happen is getting cooperation and collaboration among the Services and agencies to move towards those joint staffs and joint logistics goals. Are you noticing a willingness to collaborate and get serious about being joint?

A

I don't have a whole lot of historical perspective, having arrived here only about two years ago; but what I hear and certainly observe at this time is that we have a team of senior leaders within DoD who really want to work more effectively on a joint basis. Part of that is personalities involved: many of our senior leaders think jointly and have served jointly under the global war on terror. Part of it is the fact that we all realize we have to wage war effectively and cost effectively, and that knowledge tends to overcome some of the resistance to change and some of the territorial issues that at one time apparently existed within the Services. As a result, there is much more of a collaborative approach with the Services at the joint level and with the COCOMs.

The cost of major weapons systems is driving us to joint solutions. We don't have the luxury of having a separate fighter or attack aircraft for the Navy or the Air Force. To a large extent, we are increasingly moving to joint concepts for rotary wing aircraft and we are already moving in that direction for armored and tactical vehicles.

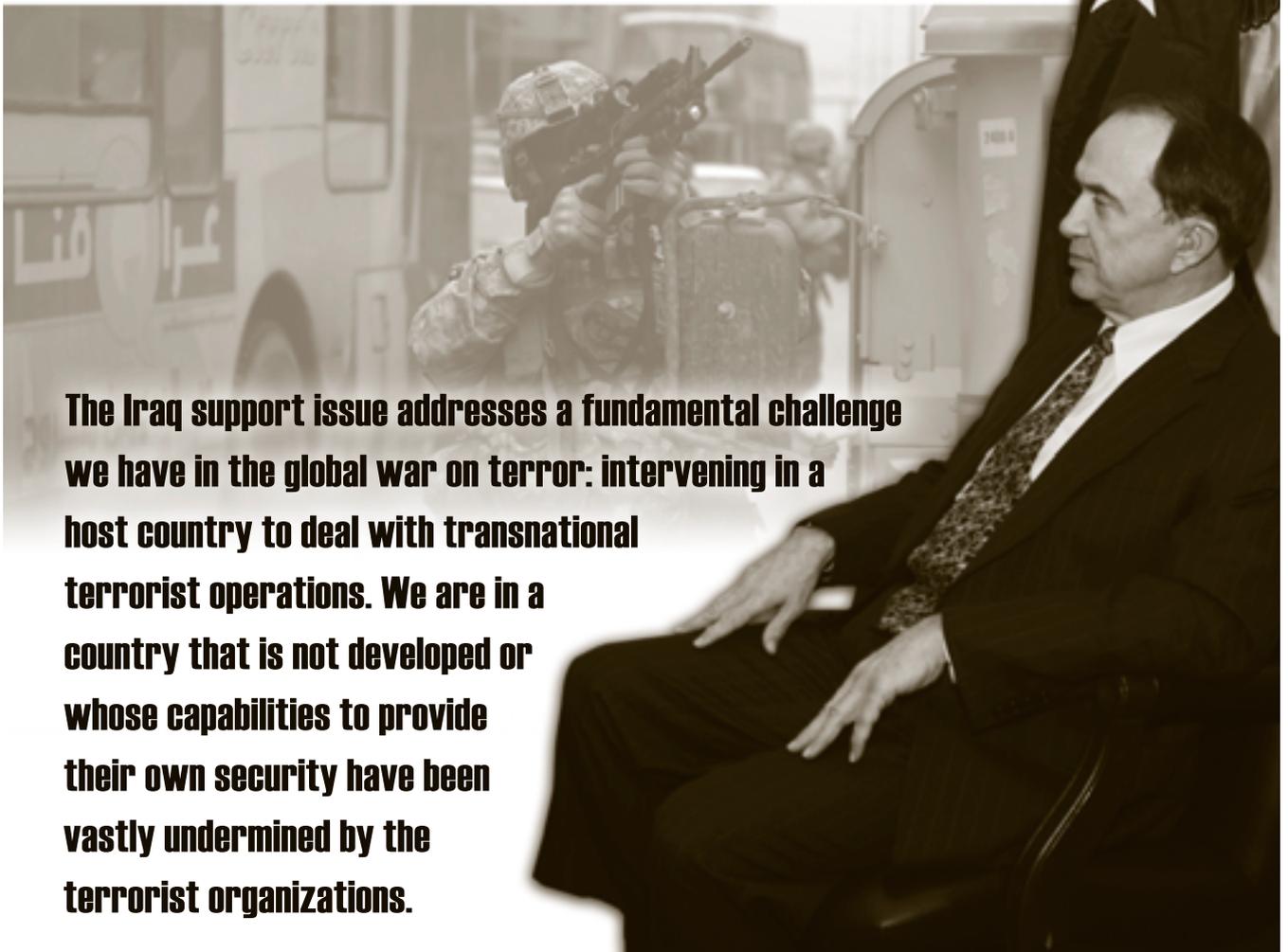
Q

At the The DoD Maintenance Conference and Symposium in October, you led a panel that addressed a lot of these strategic challenges. You also put a nice emphasis on the efforts occurring with reset. We'd appreciate some of your senior leader insights about how you think that it is going.

A

In both Iraq and Afghanistan, we've shifted from the expeditionary mode to a sustainment basis of operations. That involves some significant changes in our focus. Warfighter requirements become more predictable, and we can plan ahead more effectively. We also begin to gather up unused, excess materiel and redeploy it where it is needed in theater and elsewhere in the world to support our requirements. And we are moving equipment and weapons systems back to our depots to be reset.

We generate an enormous amount of scrap. We have more than 20 million pounds of clean metal scrap over in Iraq today. We are in the process of disposing of and



The Iraq support issue addresses a fundamental challenge we have in the global war on terror: intervening in a host country to deal with transnational terrorist operations. We are in a country that is not developed or whose capabilities to provide their own security have been vastly undermined by the terrorist organizations.

selling it off into the scrap markets so that as we draw down operations, we are not overwhelmed with a huge amount of materiel that has to be retrograded. Wars produce lots of junk, and excess materiel flows into forward areas as planned requirements do not materialize. We must address early what we are going to do with hazardous materials, scrap metal, and items that can't be returned to the United States, such as canvas tentage.

The Army got \$17.1 billion in its appropriation from Congress and I believe that the Marine Corps got \$5.5 billion for the reset of their materiel. The funding triggers the beginning of major retrograde movement of equipment that is in need of reset and that has been left in theater until funding was available to move it and induct it into the maintenance depots. Right now, we have major muscle movements in our distribution processes within Iraq and Afghanistan, getting items to major points for retrograde. In most cases, these are surface retrograde points and they come out of ports. That involves a huge amount of sealift capability that we have to coordinate as well as some airlift on high priority items that have to be inducted.

That effort will go on; it is funded for the current fiscal year at the levels I just described, but that effort of reset-

ting our equipment to meet future needs will probably continue for about two years after the end of our active combat operations over there.

Q

We read a lot about network-centric operations and network-centric logistics, and it seems that in the area of logistics that has manifested itself in a kind of a bumper-sticker program called "Sense and Respond." Do you see sense and respond logistics changing the way our processes work within the big logistics enterprise?

A

The term "sense and respond" covers a lot of aspects of what we are doing. Part of sense and respond is knowing where our inventory is within the distribution process so that when it's needed, it can be most efficiently expedited and put in the distribution process to get there. A lot of what we are doing now is reclaiming excess materials that got shipped into theater that are now in the wrong locations and need to be brought back into the system. We call that real-time asset visibility.

What we are working for in the future perspective is to make RFID [radio frequency identification] tagging uni-

versal, so we have real-time asset visibility, which is a key part of the sense and respond. What we now have is thousands of containers of materiel that we need to inspect and then reposition elsewhere to support those efforts.

Sense and respond is more often referred to in connection with predictive onboard diagnostics for major weapons systems and equipment. We are in a steep learning curve in installing those onboard diagnostics and in building the database of experience that will give it predictive value. I would say this will be one of the more significant efforts that will, in the future, contribute greatly to a decrease in logistics and maintenance costs.

The final area is to get all the various systems tied together in a net-centric way that allows us to see the materiel and be able to quickly move it wherever it's needed across the organizations involved in supply chain operations. TRANSCOM and the Defense Logistics Agency have undertaken a significant effort to integrate their systems to talk to each other. We now have to interface that combined system with the efforts that are under way with the Air Force, Army, Navy, and Marines Corps systems as they track their own assets so we can get a total global visibility. Network-centric operations are key to effective operations and reducing costs, mainly in reducing the required inventory.

Q
Let's turn to the acquisition domain. How do you perceive the effectiveness over time of logistics and particularly the emphasis on designing for supportability?

A
Some time ago, there was much more emphasis in major weapons development in dealing with the unholy triad of acquisition cost, delivery schedule, and operating performance in the acquisition system; and if one or more of those ends up getting out of whack, sacrifices were often made, sometimes in the long-term sustainability of the weapons system.

We've been effective in raising awareness on the importance of life cycle sustainment within the acquisition community. Just the simple knowledge that the total system life cycle costs are 60 to 75 percent in the sustainment phase begins to put more emphasis on looking at sustainment implication of design and cost proposals. As you know, we are on the cusp of getting some really serious traction and integrating life cycle management into procurement in a couple of ways.

One is that the Joint Requirements Oversight Council has approved a new KPP—key performance parameter—"materiel availability." It has a cost component, and it has materiel readiness and materiel availability as a reliability component. Putting those in the concept

during the periods prior to Milestone A and Milestone B and having to demonstrate before the commitment to production in Milestone C, create the groundwork for integration of life cycle maintenance into acquisition processes.

The real test will come as we make the decisions about allowing weapons systems to advance through those milestones if they have not adequately addressed those requirements. There are some basics that have to be included in that concept of maintainability and reliability. For example, getting government-use intellectual property rights to sophisticated weapons systems and components is critical for us. In almost every case, DoD has to sustain a major weapons system far beyond the time that the vendor and its subcontractors are manufacturing the components or even have interest in manufacturing components to support the weapons systems.

We have not paid adequate attention to getting complete documentation of all components from the vendor. We also have to get life cycle management principles embedded into our acquisition programs, embedded into the contracts at the very beginning of the developmental phase.

The new KPP is going to be helpful. I think we've also learned enough through performance-based logistics to understand the importance of getting these costs under control during the design phase.

Q
That is a far-reaching, well-connected answer to a big issue: acquisition and logistics integration.

A
This is actually the number one priority in L&MR for the next two years: to achieve integration so that the life cycle management principles are embedded in our major acquisition programs and in our major sustainment programs going forward.

Q
I'd like to think that DAU would have a big part in helping you do that. It's not just a matter of reshaping logisticians' attitudes, but of reshaping PMs' and contractors' attitudes as well.

A
There are three components to staff development, if we're going to achieve this transformation state we're talking about. One is that we need state-of-the-art training for the acquisition professionals who have to begin integrating this thinking in their own experience and in their own analysis. Second, we have to provide professional development for our logisticians so they are sensitive to life cycle sustainment issues in their own logistics areas. Third,

we must develop continuing career development learning for our logistics and acquisition professionals. We need to keep them abreast of emerging concepts and technologies in logistics management.

We have established a requirement that all staff in the LM&R organization have a professional development plan that addresses their needs and that their supervisor agrees is the appropriate next step in their professional development.

Q
I'd like to follow up on the new KPP you mentioned. The Joint Requirements Oversight Council endorsed the implementation of a new materiel availability KPP with supporting KSAs—key system attributes—of materiel reliability and ownership cost for all major defense acquisition programs and select ACAT II and III programs. Is that policy already effective?

A
It is effective for all future weapons systems that have to come up through Milestones A, B, and C.

Q
Is there any way to back-fit that same kind of policy pressure with respects to an availability KPP on legacy programs as they come through the acquisition process with major milestone decisions?

A
Certainly to the extent that major components are being replaced—for example, engines for airframes—you could build that in. But at the same time, we have regular reviews of in each of the Services to see how their materiel readiness is affected by the cost and the reliability aspects of their own maintenance programs; so a significant part of our emphasis for the legacy systems is on looking at the ongoing sustainment operations and helping the Services to identify the issues they need to address.

Q
There has been a huge emphasis on bringing about acquisition/logistics integration through total life cycle systems management. It is a policy still today and as far as I know a lasting policy that will probably evolve. Have you been satisfied with what you perceive to be DoD's implementation of the total life cycle policy?

A
Let me back up and talk about the relationship of life cycle management principles to a lot of other things we are doing. As you think about the different terms, whether it is CPI [continuous performance improvement], CBM+ [condition-based maintenance plus], or PBL—they are really all parts of this much broader topic we call life cycle management principles.

What we have been doing in separate efforts like CPI or PBL is to attack different aspects of the logistics and sustainment requirements. What life cycle management is about is saying, let's look at all of those components. We can shoot for realignment for more effective CPI, which reduces cycle time, reduces inventory requirements, and usually results in improved quality—that's one dimension. And we can turn to CBM+, which shows we don't have to automatically replace the fan blades on this engine; the system will indicate when it is beginning to malfunction, so we don't throw away the flying hours prematurely. It's all going to significantly improve reliability and ultimately reduce cost.

Q
A little perspective before asking this question: The PMs I encounter in the classroom are largely saddled with the responsibility or accountability for implementing total life cycle systems management across the life cycle. They often say it's a bit of a flawed policy because the money doesn't follow their responsibility. They say that if we had control or at least more visibility of the money inputs and outputs, we could do a better job with total life cycle systems management. Do you think it is a reasonable policy evolution to perhaps invest more of that financial authority in the program manager, who is in some degree accountable for the life cycle systems management platform?

A
It's not a flaw in the policy—it's a flaw in program funding and accountability. Traditionally, acquisition executives rotate to other jobs or other programs before the sustainment implications of their acquisition decisions are fully understood. Establishing a KPP on materiel readiness and sustainment costs requires that the trade-offs at least be identified for assessment before the design is locked up and production begins.

Q
The cousin to total life cycle management is performance-based logistics. We're about seven or eight years into PBL implementation across the Services, with our industrial partners helping us with many of these strategies. How would you assess the progress and the success that we've had with PBL types of initiatives and strategies?

A
The PBLs have been surprisingly successful, particularly when the vendor is a PBL provider. It is the first time in weapons systems acquisition history that we have aligned the interest of the vendor and the customer to improve reliability in the system.

That has been a significant benefit. A second benefit, which is not as commonly recognized but is significant, is that the PBL contract often eases the problem of a

weapons system upgrade. The military services, as PBL customers, pay for equipment availability—an O&M cost. The PBL contractor has the flexibility to upgrade components to achieve better performance and/or reliability.

We are beginning to focus on the importance of conducting CPI processes on operations before we establish the baseline for contractor performance. If you have an inefficient operation that hasn't been leaned out or that hasn't applied CPI, then the vendor can often get target-cost performance improvements out of doing a lean event, not out of improving the real cost performance of a weapons system or its long-term cost. We need to think about how we position the processes we use as the vendor's benchmark for improvement.

One of the things we also recognize is that our private sector partners are often more effective at project and program management for sustainment programs than we are. They have the flexibility to adapt to changing requirements, changing behaviors, or changing performance of these weapons systems; and they have great experience in managing the systems they design and build.

Another area we need to consider is the structure of the initial PBL contracts. If the contractor has squeezed most of the operational efficiencies and reliability improvements out of the initial contract, they may have very limited appetite for being a contractor on the second or third generation, particularly as systems become obsolete. We need to think very carefully about how to structure the initial and subsequent terms to create the right balance of incentives for us and for our partners.

Q *When we invented the PBL policy in 1998-99, we realized that there was an issue in what we call the competitive base, in trying to understand how that base would remain competitive in the evolution of these strategies. Even at that time we were exploring options of 3PLs [third-party logistics] and 4PLs [fourth-party logistics] and organic depots to compete because—as you said—the Lockheed Martins and the Boeings will lose the appetite once they've got the margin out of tech-refresh. That issue—the competitive base, the financial enablers, and the length of time to contract on PBL—were the issues in 1999, and they are still largely the issues today.*

A Yes, it's a particularly difficult challenge when we look at the growing importance of electronics and chips and circuit boards in our weapons systems. At a certain point in time, no manufacturer of chips or sophisticated circuit boards or flash systems is going to be interested in supporting the relatively small volume necessary to meet our

requirement because it doesn't remotely meet the minimum scale of economic operations.

That is and will continue to be a significant challenge to us, requiring us to think very differently about component design. It will involve much more of an input-output mode in performance, not a structural design mode in which "it looks just like this." Otherwise, we waste the opportunity to take advantage of more advanced technology to create the same performance outcomes.

Q *I want to get your perspective on performance-driven outcomes and how you see PBL fitting within that architecture.*

A The performance-driven outcome is really talking about a shift in the way we think about providing weapons systems to the warfighter. Where we once measured the inputs by the number of aircraft on the line and/or fully mission-capable, the real question now is availability for tasking at a given moment in time.

We have thought more about how to integrate the COCOM requirements with changing technology. For example, a COCOM commander wants the ability to deliver bombs with a 100 percent success rate on four targets simultaneously. Technology has turned that requirement for aircraft on its head. Instead of needing four aircraft to ensure a hit on target with dumb bombs, today one aircraft can deliver four smart bombs effectively on four different targets.

Q *The PBL has always been driven by readiness platforms, but we knew that the next evolution was CBL—capability-based logistics—and that it doesn't matter whether you're talking tankers or missiles or whatever—the combatant commander has a certain capability he or she wants. That is what the PEO and the PDO architecture is going to do: embrace a whole lot more than just that platform-centric view that was really PBL in order to get that operational capability out there. I think that's the shift I hear you describing.*

A The difference is the PBL partner cannot make the geographic decision about the deployment of capability, so the Services, who have to make that decision, have to be very closely integrated with the PBL partner to know with a high degree of predictability what the aggregate stream of requirements is by location and how to support that with weapons availability for tasking.

Q *Mr. Bell, thank you for taking time to talk to Defense AT&L.*