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## Highlights

- Take cost out of the military's supporting infrastructure elements
  - Improve efficiency, responsiveness and flexibility, while maintaining or improving robust military capabilities
  - Build sharp analytic measurement systems to reveal insights and quantify results
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# Smarter defense and intelligence

## *Maintaining war-fighting capabilities in an era of reduced budgets*

The global economic malaise over the past several years, lack of confidence for sustained growth and ballooning government deficits are driving reductions in government budgets and, therefore, defense budgets, for the foreseeable future. Even countries with strong economies that are expected to weather the economic turbulence have set budgets that are at best flat, while most countries are planning reductions in defense expenditures over the next five years. At the same time, there has been no reduction in demand for militaries to perform operational missions in response to periodic flaring of regional tensions, as world events continue to validate.

The competing tensions of national security concerns and pressure to address structural fiscal issues are causing the militaries in many countries to search for efficiencies and cost-reduction approaches. These efforts are essential to sustain the operational forces, equipment and personnel defense organizations have worked assiduously to develop, with the additional goal of investing in modernization efforts and future capabilities.

## NATO view: Smart Defense

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*“I know that in an age of austerity, we cannot spend more. But neither should we spend less. So the answer is to spend better, and to get better value for money. To help nations to preserve capabilities and to deliver new ones. This means we must prioritize, we must specialize and we must seek multinational solutions. Taken together, this is what I call Smart Defense.”*

— NATO Secretary General Anders Fogh Rasmussen

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## Militaries are extensive and operate a complex infrastructure

IBM understands that military funding has significant impact on governments' plans, priorities and expenditures, with budgets equaling 1.5%–4.8% of gross domestic product (GDP). The US Department of Defense is the largest employer and integrated organization in the world. Its annual outlays of well over USD600,000,000,000 easily top those of the leading Fortune 500 company, Wal-Mart Stores, Inc., by more than USD200,000,000,000. The UK's defense budget of USD60,710,000,000 would rank at number 126. In essence, these militaries replicate an entire nation's infrastructure with cities (bases), shipping (naval vessels), airlines (airlift), truck fleets (army vehicles), education systems (training centers), pioneering research (research and development centers) and much more. Often, facilities and systems have been in place for many years, and sustainment efforts span many decades with the principal measure of value being military effectiveness, with only secondary importance being placed on cost-effectiveness.

A military organization's extensive scale, longevity and focus on mission effectiveness provide many opportunities for taking cost out of the supporting infrastructure elements and improving efficiency, responsiveness and flexibility. This can be done while maintaining or improving the robust military capabilities that today's rapidly evolving technologies can provide. One of the most important imperatives is to build sharp analytic measurement systems to reveal insights and quantify results. IBM believes that there are areas for optimization that can take cost out while maintaining the ability to perform the military mission—use more funds to enhance true military capabilities, not just support functions.

## Functional domain areas

There are four principal functional domains where most defense capabilities and efforts reside:

- *Mission systems.* These systems enable or provide direct military capabilities and include not only ships, aircraft, tanks and missiles but also mission planning, simulators, tactical communications and similar tools for military operations.
- *Business systems.* These are support systems that enable the “business of the military” to be conducted. These include but

are not limited to systems that function in areas such as enterprise resource planning (ERP), acquisition, program management, pay and personnel systems, data centers, financial reporting and records management.

- *Logistics.* These are systems that focus on sustainment of systems and infrastructure, which include supply chains, parts ordering, shipping, tracking and storage, depot maintenance activities, sustainability analysis, integrated logistic systems and obsolescence engineering.
- *Intelligence and cybersecurity.* This domain includes intelligence analysis systems, reconnaissance satellites, data reliability and protection, threat analysis, display and visualization tools and network protection efforts.

## Key challenges for defense organizations

The evolutionary and revolutionary changes that are continually occurring in the world's security environment require that defense and intelligence organizations cannot be static yet remain relevant. They must anticipate the direction of change and adjust their capabilities to be effective in maintaining their national security interests. There are a variety of trends that must be addressed, including:

- A challenging fiscal climate.
- The need to reduce operating costs for the backbone IT infrastructure.
- An increased operational tempo.
- The explosion in the amount of data—“big data,” including information velocity, variety and volume.
- Penetrating “silos of excellence”—connecting disparate data sources and systems to provide new insights from the combined information.
- The need to better extract relevant information from the mountain of assorted data sources through the use of analytics.
- The vulnerability of networked systems and the increasing dependence on those systems.
- The need for sophisticated systems to operate effectively and reduce the vulnerability of those systems to disruptive attack with attendant loss of military capability.

## Set the vision for change

Most military organizations have a multitude of silos and competing internal interests for funding and control of the activities that are critical to their mission. This occurs because few organizations want to risk their ability to succeed in performing assigned tasks by depending on personnel, systems or responsiveness outside of their control. However, this leads to significant redundancies, inefficiencies and incompatible systems, even within a single service, let alone an entire defense organization. Program managers can only affect results within their span of control; therefore, optimization across a large organization can only be directed by the top leadership. Achieving a step change in efficiency and cost-effectiveness requires strategic vision and clear direction from senior leaders from the start. Consolidation, cross organization dependencies and support tasking must be assigned by those with the authority to be directive in those actions, both with policy and budget controls.

## Opportunities for cost efficiencies and mission enhancement

IBM has outlined measures that can be undertaken to reduce the cost of government operations and services. The report, *One Trillion Reasons*, by the Technology CEO Council, highlighted commercial best practices to maximize operational productivity across the entire US government to save over one trillion dollars by 2020.<sup>1</sup> This was amplified by the IBM Center for The Business of Government white paper, *Strategies to Cut Costs and Improve Performance*.<sup>2</sup> Chairman of the Board of IBM Sam Palmisano clearly articulated that there are tremendous opportunities for savings when driven from the top. While some of these initiatives are outside the defense and intelligence realms, many commercial best practices do have applicability.

In addition to addressing budget concerns, resource savings can allow reinvestment in advanced technologies, which would enhance the operational readiness and capability of the world's military forces.

## Approaches to achieve savings and enhance mission capabilities

The wide range and scope of running the business of the world's militaries provide numerous opportunities for cost reduction and improved efficiency. Some of the principal efforts should include:

- *Data center consolidation, cloud computing and IT optimization.* Consolidate and standardize IT across organizational boundaries, while retaining essential local control of functions where needed.<sup>3</sup>
- *Shared services and intelligent back office.* Leveraging economies of scale can reduce costs by providing shared services for common functions in which applications on legacy networks are migrated to a network-centric shared services environment. User self-service portals and moving from manual to streamlined business processes can reduce costs, improve responsiveness and user satisfaction.
- *Supply chain consolidation and optimization.* Eliminate duplication of multiple supply chains and optimize inventory by calculating optimal order quantities, safety quantities, availability and required service levels.
- *Smarter installations.* Improve energy efficiency, maintenance actions and building utilization for military organizations, using instrumentation and analysis to optimize facility management.
- *Single view of resources.* Use a service oriented architecture (SOA) to connect disparate data sources to provide an enterprise view of resources while minimizing investment costs.
- *User-centered view of mobility, knowledge management and collaboration.* Improve individual productivity by integrating communications and collaboration tools into a single unified user experience. Social computing software and presence technology enhancements present an opportunity to accelerate decision making, streamline business processes, simplify communications and enable effective collaboration.
- *Analytics and optimization.* Apply advanced analytics to identify new insights from data—make connections and make more-effective use of scarce resources. Financial improvement efforts will provide needed accountability and inject rigor into financial processes.

## Why IBM?

IBM underwent its own transformation, performing radical global consolidations in many parts of its business operations—information technology, supply chain, workforce mobility, real estate infrastructure—taking out billions of dollars in cost. The scale of IBM rivals many militaries, so the challenge of performing these consolidations at IBM is on a par with what would be experienced for large government entities.

IBM has worked with defense organizations, governments and commercial companies all over the world to help address their most difficult challenges. IBM's steadfast discipline in focusing on the client's needs, supported by USD6,000,000,000 invested annually in research, results in innovative solutions for difficult issues. The best practices identified in thousands of engagements are captured by IBM's subject matter experts to bring extensive, practical experience to ensure successful implementation of Smart Defense solutions.

A final quote from General Stéphane Abrial, Supreme Allied Commander Transformation for NATO, highlights the challenges militaries face:

“Smart Defense is a response to the increasingly austere economic environment. With more coordination amongst nations and NATO, smart defense will help ensure that we are able to have the right capabilities available to meet our objectives as described in the 2010 Strategic Concept. Let me be clear, smart defense is not designed to cut defense spending. It is to compensate for increasing pressure on nations' defense budgets. It is about spending better, together as an Alliance. Smart Defense aims to improve coordination within three coherent and interdependent perspectives—prioritization, specialization and cooperation.”

## For more information

To learn more about IBM solutions for smarter defense and intelligence, please contact your IBM representative or IBM Business Partner, or visit the following website:

[ibm.com/government](http://ibm.com/government)



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- 1 Technology CEO Council Report, *One Trillion Reasons*, October 2010 (<http://www.greenbiz.com/research/report/2010/10/25/one-trillion-reasons>)
- 2 Charles L. Prow, Debra Cammer Hines, Daniel B. Prieto, *Strategies to Cut Costs and Improve Performance*, IBM Center for The Business of Government, 2010 ([ibm.com/easyaccess3/files/serve?contentid=208534](http://ibm.com/easyaccess3/files/serve?contentid=208534))
- 3 David C. Wyld, Robert Maurin, *Moving to the Cloud: An Introduction to Cloud Computing in Government*, IBM Center for The Business of Government, 2009



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