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Delivering Public Service for the Future

Rapid, Iterative, Agile

Adapting Defense Technology Delivery for the Digital Age

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Many militaries procure enterprise defense technology in much the same way they purchase ships and aircraft: setting aside significant upfront capital and pouring years into each business case and implementation. But in today's fast-evolving digital environment, a high velocity approach is sometimes required – one that's more agile, iterative and rapid.

Imagine beginning an IT infrastructure project five years ago that was planned to reach completion in 2015. Back in 2010, cloud applications were barely on the radar for most organizations, 36 per cent of Australians had a smartphone[1] and the first iPad had just been released. Today around 90 per cent of organizations use some form of cloud computing platform[2], 89 per cent of Australians own a smartphone and 60 per cent own a tablet[3].

Indeed, in 2010, it would have been all-but-impossible to know the vast possibilities that technology could offer defense in 2015. Yet, because most defense technology projects are delivered using a "waterfall" model, many decisions had to be made to that end.

Waterfall still has a place, but...

The waterfall model that's traditionally favored for defense IT projects typically involves defining the end solution in great detail upfront – including the technology, processes and resources required – then delivering a system in a single release or series of major releases over a number of years.

For many defense technology projects, in their complex, interlocking environment, this can often be the most suitable approach, particularly where projects must deliver a 100% solution from the outset. The updating of integral core systems, such as payroll for example, is better delivered in a single release – it simply has to be fully functional from day one, as the stakes are too high[4]. Some finance and logistics projects may also fall into this category.

However, in the digital age, an increasing number of challenges with the waterfall approach are arising. A defense agency in Europe began a strategic ERP project in 2002 with the aim of completion by 2009. The project has still not been fully delivered and is more than 400% over budget. In another case, a recent eHealth implementation in Asia-Pacific ran 300% over budget due to difficulties in understanding and scoping the full requirement upfront. Broadly, the issues increasingly observed with the waterfall model include:

1) Missed capability – Most importantly, while waiting for the large technology release, defense organizations miss out on valuable efficiencies and mission-enhancing capabilities.

2) Obsolescence – With the current rate of technology development, there's a real risk of technology being obsolete before it's even put into service. For example, many defense organizations are still grappling with the challenges of mobile capabilities in classified Command, Control and Intelligence agencies; meanwhile, consumers are benefiting from the sixth version of the Samsung Galaxy S in five years and the ninth iteration of the iPhone.

3) Plugging the gap – While waiting for capability, what do defense organizations do in the interim to meet their requirements? Many look for workarounds, create home-grown solutions, or just leap forward and adopt the latest technology, causing a whole new set of problems.

4) Change management – Across all industries, managing the organizational and process changes associated with major IT projects is notoriously complex, time-consuming and expensive.

5) Sustainment – The lack of continuous enhancement through sustainment is a feature of many waterfall projects. A large percentage of total project funding is invested upfront then a small amount is invested each year thereafter. This typically results in the risk of defense organizations being equipped with dated technology that's allowed to deteriorate further over time.

A high velocity way forward

For a portion of defense technology projects, a more effective approach may be to take an iterative, modular approach: define the strategy and program plan upfront; deliver a core capability fast so it can provide benefits to the military immediately; and then continuously improve it throughout the sustainment process with regular, incremental capability uplifts to achieve the business outcomes of the defined strategy.

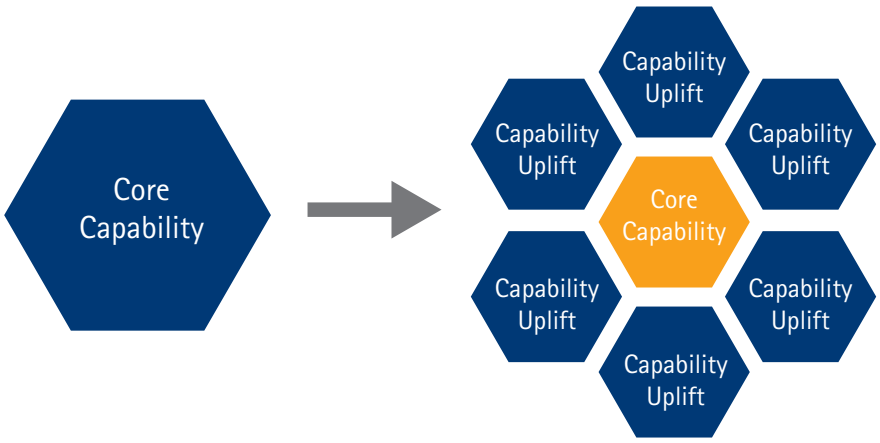
One of the most widely-used methodologies for iterative development is Agile, or variations thereof. Successful use of an agile approach fosters closer collaboration between stakeholders, improved transparency, earlier delivery, greater allowance for change and more focus on the business outcomes.

This "high velocity" approach is logical for many defense technology projects, as it will enable militaries to deploy new capability faster while being more responsive to future needs and opportunities.

Foundations remain the same

Increasingly, advanced defense forces are refocusing on the need to establish a single end-to-end capability development function to deliver military systems efficiently and effectively[5]. With the high velocity approach, the pre-requisite building blocks for capability development remain a well-defined strategy and an aligned enterprise operating model. With this in place, projects can be delivered against a single program plan in rapid-fire, bite-size modules that provide capability against the strategic roadmap quickly – always with clear focus on the target business outcomes.

Waterfall compared to High Velocity approach



Impact on procurement

Currently, many tenders for defense technology projects focus on detailed technical requirements statements that potentially miss the business mark and can take months or even years to progress. Under the high velocity approach, tendering becomes a more rapid, outcomes-based discussion, conducted collaboratively with private sector partners.

To maximize pace, consistency of delivery and integration between each iterative capability uplift, procurement should consist of single or small number of strategy-to-sustainment contracts with industry partners. High velocity delivery is at its best when each module works together to deliver ever more capability against the defined strategy. This outcome cannot be achieved with the diluted accountabilities and knowledge-base that a large number of disconnected vendors and teams generate.

Taking more calculated risks with technology

Alongside these delivery and procurement approaches, militaries will need to increase their rate of technology adoption to avoid being saddled with outdated and potentially obsolete capabilities.

There's traditionally been a tendency for militaries to manage risk by selecting "proven solutions" ahead of the latest generation IT. The unique security considerations that defense organizations face make this outlook understandable. However, in today's environment, there's rarely a "proven solution" anymore. Technology is rapidly superseded by the next generation, and this cycle is only accelerating. In fact, as technology capabilities evolve, retention of legacy infrastructure may actually result in higher security risks when faced with more modern equivalents.

Militaries must become earlier adopters, build hardware and software for flexibility to allow for iterative capability upgrades, and should be willing to accept calculated risks in their technology investments to realize the benefits available.

Becoming a high velocity enterprise

To facilitate the best capabilities for the front line, militaries will also need to become high velocity enterprises – embracing the digital era with enterprise resource planning (ERP) as the bedrock. While the traditional ERP remains in place as a consolidated, central pillar of the IT landscape, it must also be adapted to allow new operations-focused, continuous improvement to support the strategy.

An organizational and cultural shift

While far from widespread, adoption of this high velocity approach is gathering pace in defense. The US Department of Defense has created a 10-point plan for IT modernization that aims to deliver faster, more responsive capabilities[6]. It has devised new rules for the acquisition of IT that entail multiple, rapidly executed releases of capability and early, successive prototyping to support an evolutionary approach.

The UK Ministry of Defense has used an iterative approach to deliver large mission critical technology solutions, successfully developing an improved battlefield system in the space of 18 months by using the Dynamic Systems Development Method (DSDM), a process that makes use of continuous user involvement[7].

As more defense organizations and a greater number of defense technology projects adopt the high velocity approach, the shift will require not just establishing new processes for procurement and implementation, but also investing in new talent and reshaping the culture, embedding a more responsive mind-set throughout. This investment is worthwhile and necessary to ensure militaries stay at the leading edge and deliver public service for the future.

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About Delivering Public Service for the Future

What does it take to deliver public service for the future? Public service leaders must embrace four structural shifts—advancing toward personalized services, insight-driven operations, a public entrepreneurship mindset and a cross-agency commitment to mission productivity. By making these shifts, leaders can support flourishing societies, safe, secure nations and economic vitality for citizens in a digital world—delivering public service for the future.

About Accenture

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Its home page is www.accenture.com.

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