

Force 2030 – The ICT Perspective



Mr Greg Farr, Chief Information Officer at the Australian Defence College on 20 April 2011

Mr Greg Farr, Chief Information Officer, Department of Defence spoke to The United Services Institute of the ACT on 20 April 2011 on the relationship between the Department of Defence and the Chief Information Officer Group (CIOG). He spoke of the evolution of CIOG's operations and how it mirrors the major reforms in Defence and the wider information and communications technology (ICT) industry over the last few years. Mr Farr's reforms have achieved dramatic improvements in productivity, quality and efficiency. He also provided a perspective on the major challenges currently facing Defence ICT and key strategies for maintaining the reform momentum and safeguarding the benefits reform has delivered.

Mr Farr's presentation in terms of his powerpoint slides and speaking notes are reproduced below.

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Defence's Broken Backbone

Mr Greg Farr - CIO

Speech by Nick Warner, Secretary of Defence, 2008

'Defence's information and communications technology network is one of the largest in the country. It's a highly complex enterprise, spanning deployed systems to standard desktops to Blackberrys.'

'If the system doesn't work properly, it affects not only productivity - a serious issue for any business - but also operational effectiveness.'

- 'Our deployed forces **operate on different systems** to those used in Australia'
- 'Most large corporations run three to five data centres. **We've got 200.'**
- 'We are one of the most technologically advanced militaries in the world – but the system we use to pay our Reserves **still uses 1980s-style Green Screen technology'**

'I believe that **of all the challenges we face, improving our information systems is the one that promises the greatest reward.'**

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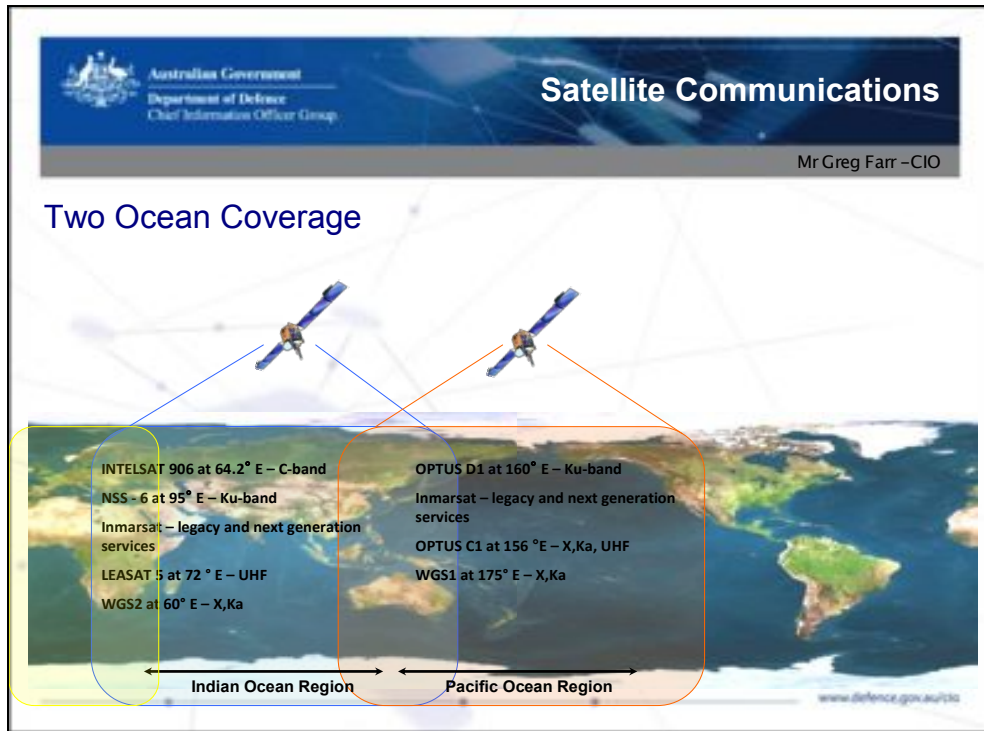
Scope and Scale

Mr Greg Farr - CIO

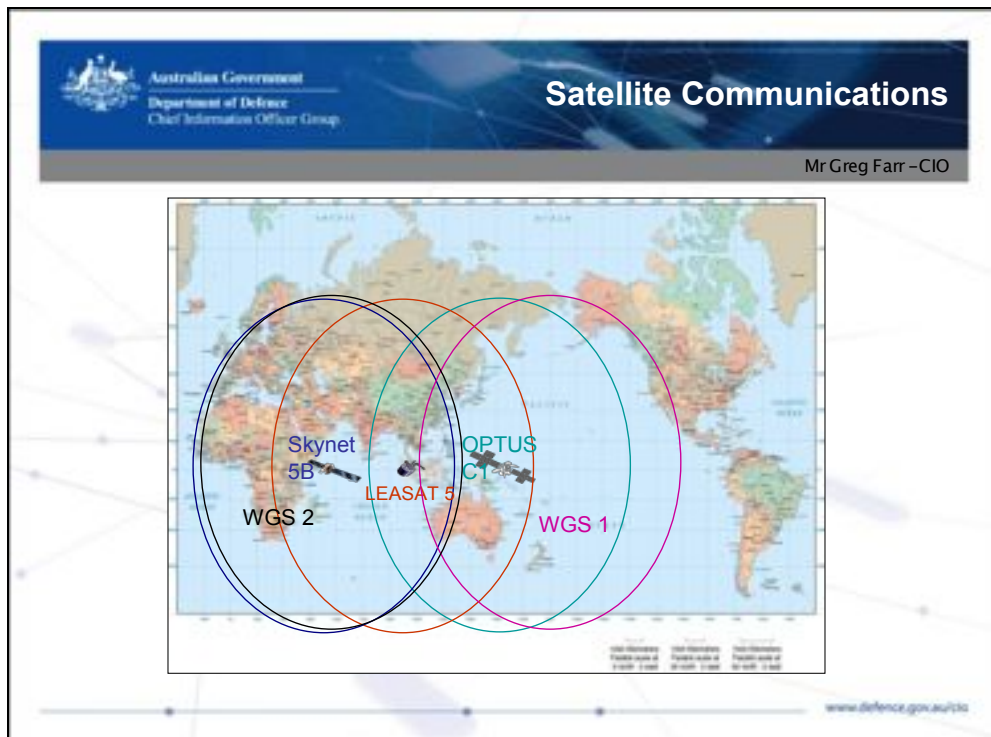
Scope and Scale of our ICT Environment

- Among the largest networks in Australia
- ~\$1.3B spent on Defence ICT in FY09/10
(CIOG budget of \$845M)
- 8 satellite constellations
- 6,000 servers
- 107,000 work stations
- Three primary domains
- Three primary data centres, 200+ server rooms
- 3086 Applications

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This image depicts the ADF’s intent for satellite coverage. The ADF aim, as described in capability documents, is to provide “two ocean coverage”.



This diagram shows reasonable approximations of the major satellites AS is using, not including the L-Band constellations such as INMARSAT and IRIDIUM (which can be considered to provide global coverage) and is a good approximation of our aim to provide “two ocean coverage”, being the Indian and Pacific oceans, as these footprints comprise our area’ of operation for the last 15 years.

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ICT Reform

Mr Greg Farr – CIO

What's the problem?

Infrastructure:

- A significant proportion of assets beyond their effective life resulting in instability
- Many assets outside warranty, resulting in too many dollars spent on maintenance

Architecture:

- A lack of consistent and enforced reference models
- Too many proprietary standards
- Lack of compatibility and interconnectivity with partners
- Insufficient reuse of components

Organisation and culture:

- Organisational stovepipes mitigating against end-to-end service deadlines
- Lack of transparency

Contracting and Procurement:

- Too many small, inefficient contracts
- Slow time to market
- Poor use of buying power

and the list goes on....

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What will success look like?

Mr Greg Farr – CIO

Success would be:

- By 2012 Defence ICT reform program will deliver a **secure and robust ICT capability that supports war fighting and business requirements**
- All Defence personal - regardless of location - will be able to **access and share information and collaborate with their counterparts in Defence, Government, industry and other allied or coalition partners.**
- Much higher levels of **consolidation and standardisation** of equipment will drive down cost. ICT services will be procured through more centralised frameworks and processes via strategic and enduring arrangements with fewer number of vendors.
- There will be only **one service provider for ICT services** such as network, email, search, geospatial display, personnel, finance and payroll.
- The **governance framework** will ensure that all ICT investment across Defence is aligned with the priorities of the CDF and Secretary articulated through a single portfolio of work.

CIOG is delivering on these commitments

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Our strategy for fixing IT focuses on four key areas –

- improving service delivery;
- improving governance of the whole IT enterprise;
- reducing the time it takes to deliver new IT capabilities; and
- reviewing our sourcing strategies.

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Capability Building Initiatives

Mr Greg Farr – CIO

Single Information Environment

- **End-to-end business processes** across the war fighter, intelligence, and corporate communities
- **Integrated information environment** across all security levels
- Enterprise-wide **information management**
- **ICT supporting converged sensors**, combat systems, engagement
- **ICT supporting 'safety of life'** situations
- **Persistent surveillance** across broad areas of operation
- **Seamless collaboration** across coalition OGO 's and industry

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The Defence White Paper 2009 provides Defence with strategic direction on information, information capability, information services, information systems and information technology.

Some of the objectives include:

- a networked Australian Defence Force (ADF) across the maritime, land, air and Intelligence, Surveillance and Reconnaissance (ISR) domains.
- pursuit of information superiority and shared situational awareness.
- using information technologies to enhance collaboration and information sharing with allies, coalition partners, industry and government agencies;
- a strategic commitment to the ADF being a joint, integrated, highly deployable and well equipped force - with the resulting need for integrated and interoperable information systems;
- improved information management with seamless, shared and timely access to critical data in a way that is secure.

Analysis for development of the Defence Information and Communications Technology Strategy 2009 concluded that meeting these higher-level objectives will require Defence to create a **single information environment** with an efficient standard for ICT support to all functions. By developing a SIE Defence will be able to better meet the demands of the strategic user as well as deployed and mobile users.

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The Goal

Mr Greg Farr – CIO

How are we going to do it?

- ICT Infrastructure Remediation
- Applications Reform
- Enterprise Architecture (Integrated Defence Architecture)
- JP2047 – Terrestrial Communications
- Distributed Computing
- Centralised Processing
- Next Generation Desktop
- IT Service Management Business Reform
- Skilling and Professionalisation

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This is a subset of the range of activities delivering capability enhancements and cost efficiencies across CIOG. Presently, there are over sixty projects on the Integrated Program of Work (IPW). Unless projects can demonstrate their contribution to the ICT Reform program, they are not included on the IPW and risk losing resourcing.

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Capability Building Initiatives

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ICT Remediation

- Addressing long-term underinvestment in infrastructure
- Update and replace infrastructure outside effective life
- Infrastructure sized to meet enterprise requirements

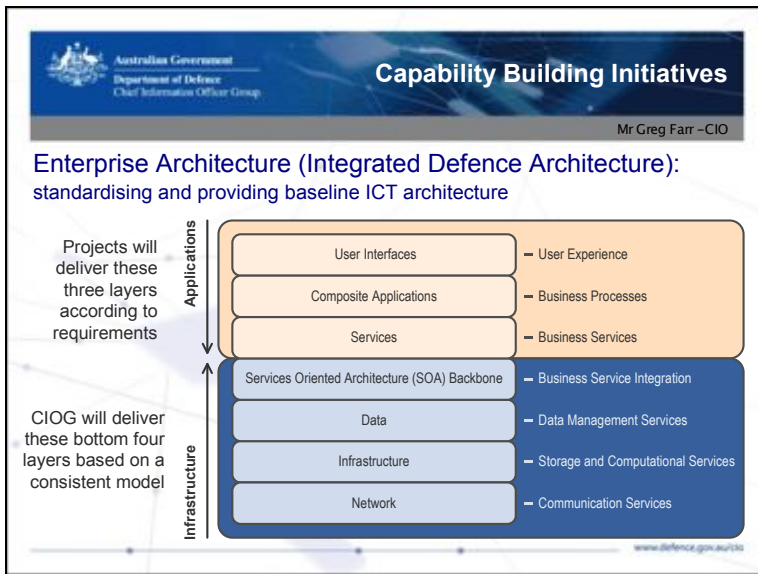
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Current work:

- Puckapunyal, Edinburgh and Enoggera Base Area Remediation
- Pilot projects to replace all active ICT equipment
- Puckapunyal 60% (due Jun 2011) , Enoggera 30% (due Dec 2011), Edinburgh 95% completed
- 20-30 sites will be remediated next year
- Industry briefs in April
- Contracts in June
- Depends on data supplied through JP2047
- Printer rationalisation project
- Campbell Park pilot complete
- Savings report demonstrates \$875,000 in capital savings
- \$40,000 – \$50,000 per annum saved in energy and consumables
- Intent to expand across Defence
- ICT hardware refresh
- Purchasing through AGIMO as WoG approach demonstrates 25% savings on monitors alone.
- Other benefits include significant energy savings through workstations and monitors
- Russell PABX upgrade completed

Defence personnel will directly benefit with improved availability and performance.

Infrastructure Remediation is expected to generate \$101 million in savings over the next 10 years



Below are listed key initiatives from the Defence ICT Reform Program that will be managed as components of the IDA Technology Stack. Each initiative is not only expected to make significant contributions to a single layer within the IDA Technology Stack, but also make moderate or minor contributions to other layers within the IDA Technology Stack. The CTO Division, through the Military, Intelligence and Corporate Stakeholder Engagement Teams (SETs), will influence the Defence Capability Development Process, principally during the requirements phase of defining future capability. Targeting this phase will maximise the potential utility of the IDA Technology Stack as options for the project are initially explored and costed.

- **AIR 5232 - Phase 1 Air Combat Officer Training System** - Provide a training system for air combat officers.
- **AIR 5276 - Cap 2 AP-3C Capability Assurance Program** - Treat data management system, electronic support measures and ground system obsolescence and investigate warfare system and data link upgrades.
- **AIR 5440 - Phase 1 C-130J Block Upgrade Program** - Fit capability to conduct Link 16 operations in C-130J.
- **AIR 9000 - Phase 8 Naval Aviation Combat System** - Provide organic combat aviation capability to Navy's surface combatant fleet, includes surface warfare strike and antisubmarine capabilities.
- **JP 2044 - Phase 4 Digital Topographical Systems (DTS) Upgrade** - Enhance interoperability with our allies and maintain relevance, effectiveness and efficiency within an arena of rapidly changing geospatial technologies.
- **JP 2065 - Phase 2 Integrated Broadcast System (IBS)** - Improve existing IBS which includes an information management centre that manages and bridges information between computer networks and satellite components with suitable gateways to real time tactical data links.
- **JP 2072 - Phase 2A Battlespace Communications System (Land)** - Align Land Communications Information Systems (CIS) projects and the provision of a digital communications backbone and other low risk communication capabilities to address key shortfalls.
- **JP 2090 - Phase 1C Combined Information Environment (CIE)** - System integration project utilising multinationally agreed designs, to upgrade and augment Defence's existing information exchange capabilities.
- **JP 2097 - Phase 1B REDFIN - Enhancements to Special Operations Capability** - Enhance two high priority Special Operations capabilities, Land Mobility and Networked Special Operations Capability, in order to maintain a capability edge over emerging threats to Australia's national interests.
- **SEA 1442 - Phase 4 Maritime Communications Modernisation** - Enhance the Maritime Tactical Wide Area Network (MTWAN) and integrate capabilities being delivered by other approved communication projects.

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Capability Building Initiatives

Mr Greg Farr –CIO

Major Projects

Terrestrial Communications

- Upgrade, replace, standardise and rationalise the Defence Terrestrial Communications Network

Centralised Processing

- Establish a single, integrated capability for the management and provision of Centralised Processing facilities, infrastructure and services at the UNCLASSIFIED, RESTRICTED and SECRET information security domain levels

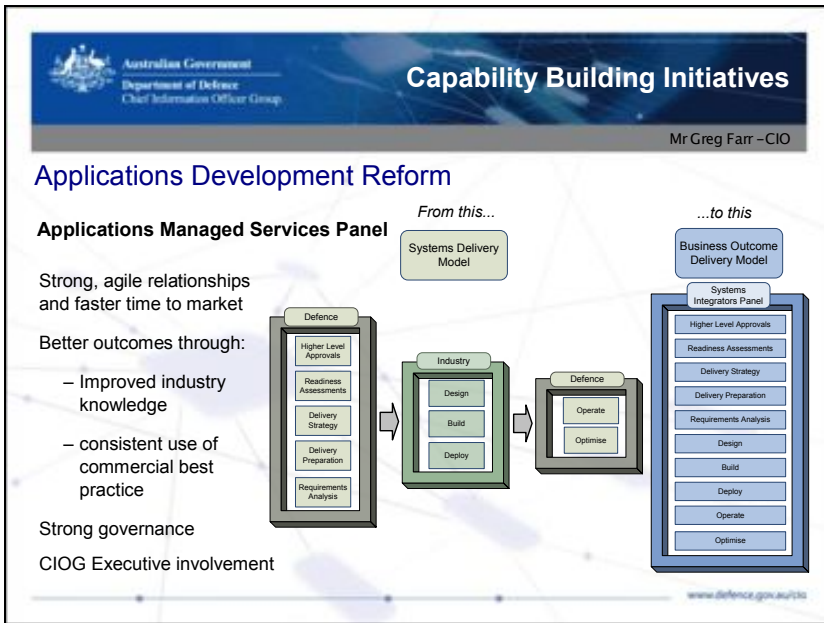
Next Generation Desktop

- Deliver a single desktop (thin client) supported by a consolidated and centralised data centre infrastructure environment.

IT Service Management Reform Program

- Create an enterprise capability that makes it easier, quicker and more efficient to deliver consistent and quality ICT products and services

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Applications Development Reform

CIOG is reforming work take-on and forward planning to:

- remove difficulties in engaging external support
- reduce long lead times associated with many activities
- By restructuring the ICT Development Division business model and analysing our industry engagement model

We are moving away from a design/build deploy model to a ‘whole of lifecycle’ model that requires our industry partners to:

- deliver against Defence business requirements, including
- developing business processes to support solutions,
- operate the solution, and
- continue to optimise through to end of life

New approaches to contracting

- Flexible and scalable contracts
- Removing risk-loading from prices
- Outcomes based charging

Deeper relationships with fewer industry partners

- More agile workforce
- Greater economies of scale

The Applications Managed Services Panel will be a group of between two and five Tier One and Tier Two industry partners, selected to provide outcomes-based, whole of lifecycle business solutions to CIOG. The Applications Managed Services Panel members will be chosen for their ability to develop deep strategic relationships with Defence, capable of developing end-to-end solutions based on Defence business needs, rather than delivering discrete elements of prescribed work. The relationship with CIOG will be at the highest levels with regular updates between the CIOG Executive and the senior executive of the panel partners.

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Delivering Force 2030 ICT requirements

Mr Greg Farr - CIO

So, what does ICT need to look like to deliver Force 2030?

- Useable** - Designed with the end user in mind
- Appropriate** - Architected to the needs of CIOG's clients
- Dependable** - Limited outages with reliable contingencies
- Available** - Accessible when and where it is needed, regardless of platform
- Responsive** - Provide real-time information via optimised applications & networks
- Assured** - Providing secure, trusted services
- Compatible** - Interconnectivity within corporate, military & intelligence environments
- Scalable** - Able to rapidly meet changing demands
- Affordable** - Delivered cost effectively within the financial expectations of government

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What We Are Doing

Savings

We expect to make savings of \$1.9 billion over ten years and 250 million per year thereafter. For instance, Infrastructure Remediation is expected to generate \$101 million in savings over the next 10 years

Capability:

- 30% reduction in unplanned ICT outages
- Improved communications links to Middle East Area of Operations
- Commenced rollout of Amenities Internet Access on Australian warships
- Delivered telephony and video conferencing across Defence Secret domain
- ICT Services Charter and Services Catalogue better define ICT services, access and provisioning
- First phase of Enterprise architecture and reference models published and distributed throughout Government and industry

Major projects on track, eg:

- Next Generation Desktop,
- Data Centre Consolidation,
- IT Service Management Reform
- Infrastructure Remediation

Assisting and enabling other reform streams:

- Many of the high priority reform projects are enabling other reform activities.
- Centralised Processing reform depends on Data Centre Consolidation, which in turn, depends on success of the Next Generation Desktop initiative.
- IT Service Management Reform leveraged the outcomes of the DCCS contract reforms.
- JP2047 (Terrestrial communications) is enabling ICT Base area remediation activities
- Most Defence SRP activities have ICT dependencies - the reliance on CIOG and the expectation that we will deliver is high.

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Changing ourselves

Mr Greg Farr – CIO

Cultural Change

“Defence has to change—we can’t afford to stay still. Implementing the SRP will involve significant cultural change, and requires us to think differently about the way we do business.”

Dr Ian J Watt – Secretary of Defence
Address to the United Services Institute of the ACT, Feb 2010

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Biography:

Mr Greg Farr has occupied the position of CIO of the Department of Defence since November 2007. As the coordinating capability manager of the Australian Defence Information Environment he has responsibility for the architecture, integrity and evolution of all information and communication technology (ICT) systems within Defence other than those forming an integral part of specialist military equipment. Mr Farr is leading the whole of Defence ICT strategic change agenda, which seeks to radically reform ICT delivery to the Australian Defence Force (ADF) and simultaneously achieve \$1.9 billion in savings to reinvest in the Defence portfolio. Under the reforms, Defence will move to a Single Information Environment (SIE) where Defence's information services are stable, secure, consolidated, standardised and optimised and where information is quickly and universally available to decision makers including ADF Commanders.