



Australian Government

Department of Finance and Deregulation



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# Australian Government Data Centre Strategy 2010 - 2025

Coordinated. Efficient. Sustainable.



## Foreword

Information and Communication Technology (ICT) plays a vital role in assisting the Australian Government to deliver its services to Australia and the world. The Australian Government is committed to improving the effectiveness and efficiency of the ICT on which Government business relies.

As the Minister for Finance and Deregulation, I am committed to delivering the Recommendations of The Review of the Australian Government's Use of ICT, (the ICT Review) undertaken by Sir Peter Gershon. Recommendation 5 of the ICT Review was to develop a whole-of-government approach to avoid \$1 billion of future data centre costs.

The Australian Government has endorsed the Data Centre Strategy as the whole-of-government approach to future data centre requirements. It contains initiatives and actions to achieve the recommendations of the ICT Review. For example, longer term leasing will provide surety for the data centre industry.

It also takes account of technology and market factors that affect how agencies use data centres. It has been informed by consultations with industry.

The measures in the Strategy will be very beneficial for longer term outcomes for the Australian community. A more efficient and effective use of data centre ICT will deliver better services and at lower costs than would otherwise have been the case.

**Lindsay Tanner**

**Minister for Finance and Deregulation**

## Introduction

Federal Government agencies operating under the *Financial Management and Accountability Act 1997* (FMA) spend an estimated \$4.3 billion per annum on Information and Communication Technology (ICT). Of that, around \$850 million per annum is on data centres. FMA agencies use about 30,000 square metres of data centre space.

For the purposes of this Strategy, government data centre sites are defined as purpose built, permanent, shared enterprise facilities that can house the full range of ICT equipment currently used or that will be used by agencies. The Strategy is applicable to any space that provides electricity, cooling, fire suppression and/or security to data centre ICT such as servers, networks and data storage.

The Review of the Australian Government's use of Information and Communication Technology, (the ICT Review) undertaken by Sir Peter Gershon recommended that the government develop a whole-of-government approach for future data centre requirements over the next 10 to 15 years in order to avoid a series of ad hoc investments which will, in total, cost significantly more than a coordinated approach. Sir Peter estimated that costs of \$1 billion could be avoided by developing a data centre strategy for the next 15 years.

This Strategy is the proposed whole-of-government approach to future data centre requirements. It contains initiatives and actions to achieve the recommendations of the Review including the avoidance of \$1 billion in costs.

## Critical Need for the Strategy

The Government's operations are dependent upon ICT. In turn, ICT is critically dependent upon the data centre in which it is housed. Agencies' ICT and data holdings are growing steadily. The rising demand for ICT to be available at all times increases the need for reliable and efficient data centres.

Most existing data centres used by government will not be able meet this demand for increased capacity and reliability. Agencies are already planning to move their data centres. In a September 2009 survey, fourteen FMA agencies advised they were considering a move within two years. Another ten agencies are considering a move in less than five years. This is a significant issue for Government, as the first group spends over 50 per cent of the total ICT operating expenses. The second group spends another 10 per cent of the total ICT operating expenses. All support major government programs that deliver services to citizens and business.

There is a growing shortage of available data centre space in Australia. If the current piecemeal approach is not replaced, agencies could begin competing against one another in a seller's market, forcing up costs. However, aggregating the agencies' demand for data centre space will achieve a better price. This effect has been demonstrated in the interim data centre panel that was established in 2009 in order to facilitate agencies obtaining short-term data centre space.

Government spends about \$170 million annually on electricity for its data centres, of which ICT uses only \$70 million. The cooling for the ICT and other data centre support systems uses the remainder. Modern data centres are more efficient in their use of electricity. It is estimated that using modern data centres would avoid \$35 million per annum in electricity costs alone.

Environmental sustainability matters are increasingly important. Government data centre operations currently generate around 300,000 tonnes of carbon annually. Modern data centre technology can reduce this carbon footprint by around 13 per cent or 40,000 tonnes per annum. Further reductions are possible by using data centres in the many locations in Australia that can exploit the free cooling available when the air temperature is below 16°C.

## Development of the Strategy

The Strategy was developed using a process of consultation, research and analysis. A cross-agency working group was formed December 2008. It received over 50 presentations from the ICT industry in March-April 2009. A cross-jurisdictional meeting was held in August 2009, with government attendees from all States and Territories except the ACT. Meetings were also conducted with the Australian Information Industry Association data centre working group and discussions were held with several overseas government data centre experts.

Three specialist research reports were commissioned:

- A Technology Trends report was completed by Gartner Group in August 2009, based on a compilation of their existing research sources;
- A Government Demand Analysis was provided by CPT Global in November 2009, based on CPT's research and a survey to FMA agencies. CPT also developed a demand forecasting tool; and
- An Australian Market Survey was completed by TPI in November 2009, based on a survey of industry suppliers and their internal resources.

Two sets of the ICT benchmarking data, provided by agencies, were used. The 2007/08 data set was available from May 2009, and the raw 2008/09 data became available in late October 2009.

## Objectives

The primary objective of the Strategy is to develop an ICT investment approach to avoid \$1 billion in data centre costs over 10 to 15 years. In achieving this, there are several additional objectives in accordance with other Government priorities including improving sustainability and promoting innovation in government as well as the local ICT industry.

## Scope

This Strategy affects all Commonwealth agencies. There are currently 103 agencies under the FMA Act, which must follow the approach (with a limited exception for national security activity) and 91 under the *Commonwealth Authorities and Corporations Act 1997* (CAC), which may choose to adopt it.

The Strategy considers:

- Data centre construction, location and lifecycle costs;
- Current and future agency ICT data centre infrastructure, its management and operation;
- Implications for contracts involving data centres, from leasing to full managed services;
- Consolidation and standardisation facilitating cost avoidance in government data centre sites;
- Data centre supply and demand; and
- Governance, implementation, transition, risks, costs and benefits.

## Vision and Aims of the Strategy

### Vision

The vision for a whole-of-government approach to data centres is that the government's ICT infrastructure and data centre facilities match the wide range of agency business needs in an optimal manner with regard to cost, energy use and operations.

### Aim

There are three major aims of the Strategy:

- For agencies to adopt, as soon as is practicable, modern technologies and practices that will improve the effectiveness and efficiency of the data centre use;
- For government data centre sites and services to be shared in ways that reduce the duplication and un-necessary cost of base infrastructure; and
- For government data centre sites to optimally match the business needs and requirements of the agencies. Only those systems that have a genuine business need to operate on a 24/7 basis should be located in expensive, high-end data centres.

## The Model

Data centre requirements will be planned, procured and managed on a whole-of-government basis. Data centre facilities and services will be available via a whole-of-government panel. The panel will be set up in accordance with the normal practices of coordinated procurement policy.

Participation in the whole-of-government approach is mandatory for FMA agencies, subject to the established [opt-out process](#).<sup>1</sup> CAC agencies will be able to choose to participate, once the approach is established.

<sup>1</sup> [http://www.finance.gov.au/e-government/strategy-and-governance/docs/Process\\_for\\_administration\\_of\\_opt.pdf](http://www.finance.gov.au/e-government/strategy-and-governance/docs/Process_for_administration_of_opt.pdf)

FMA agencies will join the approach either by applying early or as their current data centre arrangements are nearing the first of a set of defined trigger points. These trigger points are lease expiry, outsourcing contract expiry, major asset replacement, building move, end of life of the data centre, or significant increase in data centre capacity.

Portfolios, groups of agencies and large agencies which have aggregated demand above a level of 500 square metres will use the panel arrangements to acquire government data centre sites facilities and services. Smaller agencies will participate in aggregated arrangements, coordinated by Finance, to enable them to achieve the required efficiency.

Data centre facilities and services will be acquired commercially using a whole-of-government process led by Finance. Data centre facilities and services will be sourced under the Commonwealth Procurement Guidelines in accordance with the value for money principles. Data centre facilities and service providers will become members of the panel upon meeting financial, contractual and technical conditions.

## ICT Infrastructure Policy

Standardisation of the data centre ICT equipment and services will extend the benefits of the coordinated procurement. Techniques, expertise and innovation will be able to be more easily shared among agencies sharing a data centre. For example, government can significantly improve on the utilisation levels achieved for ICT equipment. Benchmarking has shown that some agencies achieve up to 12 times more from their equipment than do others. Extending these techniques across government, where appropriate, will lead to considerably increased efficiency. The benefits are considerable, but agencies are often hampered by a lack of expertise when they work independently. The Strategy creates opportunities to share expertise and other resources.

## Cost Avoidance Measures

The cost avoidance accrued over the life of the Strategy will principally consist of:

- Increased efficiency in use of electricity;
- Reduced data centre floor space and associated costs;
- Increased efficiency of data centre ICT assets;
- Improved matching of data centre ICT facilities to business need; and
- Standardised ICT infrastructure architectures and earlier use of new technologies.

## Implementation

The implementation of the Strategy will use a phased approach. Agencies are constantly changing and evolving their information systems and underpinning technology. There are a number of trigger points such as asset refreshment cycles, end of outsourcing contract, end of life for data centre, or expanding data centre capacity, which provide opportunities for whole-of-government outcomes to be incorporated into agency planning and implementation cycles.

In addition, there are times when pressures or incentives to achieve common goals are present such as the current focus on sustainability. These are drivers for, and opportunities to introduce, changes in the data centre facilities or the data centre ICT.

The implementation of the Strategy takes advantage of these trigger points. Agencies will be required to include actions and outcomes in their individual strategic plans that are coordinated with, and conform to the endorsed whole-of-government approach.

In the first five years, the Government will:

- Aggregate the whole-of-government data centre demand and establish a panel for supply of government data centre facilities and services;
- Assist early adopters to move to shared resource solutions;
- Define the standards to be used in data centre equipment and operations so that maximum efficiencies can be achieved; and
- Work with the smaller 50 per cent of agencies to consolidate their requirements into common data centre facilities and ICT solutions where appropriate.

In the second five years, agencies will share solutions and technology to drive further cost avoidance. In the final five years, agencies will adopt new opportunities for cost avoidance that arise from changes in technology, processes or policy.

## Approaches to Market

The Government will release the first approach to market in the third and fourth quarters of 2010 via AusTender. The first approach will seek to procure data centre services both inside and outside the Australian Capital Territory. The minimum level of floor space required will be 500 square metres with a lease length of 10 years, plus optional extensions up to five years.

A second approach, planned for release in the fourth quarter of 2010, will seek the services necessary to assist agencies in moving to new data centre facilities.

The requirement for the use of the interim data centre panel is expected to cease by late 2010. No new approaches under this panel arrangement are contemplated after March 2010.