The Public Services Network (PSN)
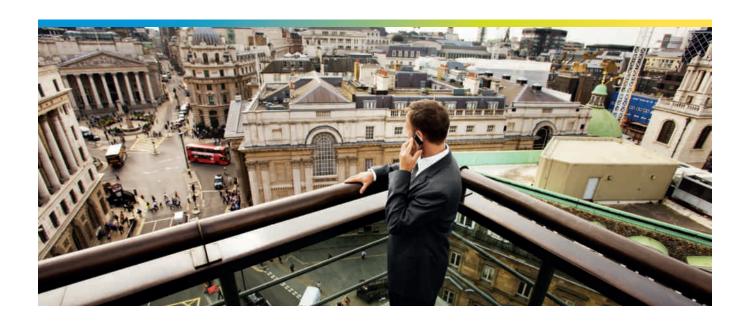
Is Your Business Ready?

Why a Public Services Network (PSN)?

The Public Services Network will create a 'network of networks' for the Public Sector from the existing commercial networks, and will develop a market place providing opportunities for industry, and savings for the Public Sector. The PSN will change the way Government Departments and Agencies, Local Authorities, and the Third Sector buy and use Voice and Data Networks. It will drive efficiencies in procurement, through a range of technical and service standards, which will lead to an open, collaborative environment for all UK Public Sector employees.

Contents

Introduction

The Public Services Network (PSN) programme is a key programme for delivery of Government ICT. By 2014, PSN should contribute up to £631 million per year in savings to the Government's efficiency and reform programme.

Senior Public Sector management are expected to understand the PSN programme and begin business planning now with the aim of capturing the full cost savings and other business benefits as quickly as possible.

This briefing gives you practical advice that will increase your understanding of the task ahead and help you save time and costs.

It has been developed in two parts for senior business and technical managers.

Part 1: Is Your Business Ready?

- Explains PSN
- Introduces the business benefits
- Suggests ways to approach business planning.

Part 2: Are you Technically Ready?

- Provides a technical overview
- Assists with achieving technical readiness
- Advises on developing a technical maturity model.

We would welcome the opportunity to discuss PSN with you and to review the contents and recommendations in this paper. Simply contact your Cisco Account Manager.

Business Summary

This paper shares key knowledge acquired from our contribution to the Cabinet Office PSN programme since 2008 and our involvement as a technology supplier to the first wave of regional PSN networks in Wales, Kent and Hampshire.

The Public Services Network – an Overview

The Government ICT Strategy offers a vision of driving down costs and transforming business in the Public Sector. Covering infrastructure, standards and capability, the strategy's ultimate aim is to create a shared ICT infrastructure for the whole of the Public Sector and use it to deliver shared data, voice and video services.

PSN is one of the key infrastructure deliverables and is described within the strategy in the following way:

The Public Services Network will be a single, holistic telecommunications infrastructure for the whole of the public sector. It would replace the existing approach where each public body designs, develops, installs and maintains its own network – an approach which has led to fragmented and expensive service delivery. As well as reducing operating costs and complexity, the Public Services Network opens up new opportunities for information sharing and increasing local and national participation.

PSN, however, is much more than just a network. It is a genuinely transformational programme that sets out to change how ICT infrastructure and services are specified, procured and operated by the Public Sector. Its success will meet the Government's number one objective – to drive down costs. PSN will also act as a powerful catalyst for cultural and process change across the Public Sector.

PSN Implementation

PSN will be implemented by individual Public Sector organisations and by 'aggregator organisations' with the mandate to implement on behalf of stakeholder partnerships.

New partnerships may need to be established to aggregate demand for shared infrastructure and shared services, for example on a regional basis.

PSN will be implemented as a set of PSN-compliant services, procured from PSN-compliant service providers, using approved PSN commercial and governance models.

PSN services fall into two main categories:

1. **Infrastructure services** – for example network, security, hosting and gateway services
2. **Application services** – for example voice, video, collaboration, email and messaging services.

These services are most likely to be supplied as managed services ready for implementation and operation. These services must meet the PSN technical, security and service management standards specified.

They will also need to be certified as PSN-compliant and be offered by PSN-compliant service providers.

Compliance is the Key to Success

Compliance criteria for services and providers are defined in a set of PSN Codes. Compliance certification is regulated by the PSN Authority.

Compliance will guarantee that all Public Sector ICT meets agreed

industry best practice, is implemented by compliant service providers with the right skills and is procured in the most efficient way.

A Look Ahead to the Benefits

PSN is expected to deliver significant direct and indirect benefits.

The main direct benefit is the reduced cost of infrastructure and shared services. This is estimated at up to £631 million across the whole of the Public Sector by 2014, a 20% reduction in total spend.

Direct Savings

These fall into two main categories:

1. Removing duplication in existing ICT provision, for example:

- Shared network infrastructure
- Shared data centres
- Shared business and application services.

2. Streamlining how ICT is specified, procured and operated, for example:

- Reduced costs in the procurement cycle
- Reduced ICT integration costs
- Reduced operating costs.

Indirect Savings

ICT accounts for just 3% of the budget of typical Public Sector organisations. The remaining 97% comprises the far greater costs of the workforce, the workplace, energy and resources.

PSN provides rich shared services that can create significant cost benefits across the remaining 97%, including:

- **Location-independent workforce –** saving costs and increasing productive time
- **Shared buildings and reduced size of estates –** saving on the cost of accommodation
- **Operational costs of buildings –** saving on the costs of security, building management and energy
- **Standard business applications and easy access to information –** saving costs for multi-disciplinary teams and joining-up service delivery
- **Effective project teams –** driving higher quality outcomes, increasing productive time and reducing expenses
- **Improved citizen contact –** improving the quality of services and contributing to national indicators such as 'Avoidable Contact' and initiatives such as 'Tell us Once'.

Business Planning for PSN

Many organisations find it difficult to plan effectively for PSN. We've seen three main reasons for this:

- PSN is complex and there has been uncertainty around dates for some aspects of the programme

- Each organisation or partnership faces a unique set of organisational, technical and financial challenges

- Cabinet Office guidance on business planning has not yet been widely distributed.

We believe, however, that the time for planning is now right and recommend an approach based on our work with other major strategic business projects. This is to break down the planning exercise into sequential steps that fit into three key stages of planning.

Our recommended steps are:

- **Vision and Strategy**
  1. Gather Information
  2. Establish Initial Stakeholder Partnerships
  3. Create the Vision and Strategy Document

- **Business Plans**
  4. Carry out ICT Infrastructure and Services Assessments
  5. Create a Technical Maturity Model
  6. Create a Business Maturity Model
  7. Develop Outline Business Plans

- **Executive Sponsorship**
  8. Establish Executive Sponsorship and Full Stakeholder Engagement.

The Business Maturity Model forms a key part of business planning and explains how a 'shared service' approach to ICT can be developed to drive greater commercial and business convergence and greater business benefits.

How Cisco Can Help

Cisco has contributed actively to the Cabinet Office PSN programme since 2008 and has been a major technology provider to the first wave of regional PSN networks in Wales, Kent and Hampshire.

We can support your business planning so you achieve results faster by:

- Assisting with development of PSN vision and strategy

- Carrying out infrastructure, security and services assessments

- Developing transition plans that make best use of existing Cisco infrastructure

- Supporting PSN business plan development

- Assisting with creation of a business maturity model.

Cisco is a major technology supplier to the service providers who will be offering PSN-compliant services. We can provide you with guidance on sourcing Cisco based PSN services to help maximise your investment in the skills of your workforce.

Strategic Context for PSN

Operational efficiency and cost saving are the highest priority for the current administration but can only be achieved through business transformation that delivers cultural and process change. ICT is now recognised as a key strategic enabler of that business transformation and the Public Sector has to build shared data centre and network infrastructure.

The Operational Efficiency Programme

The OEP Final Report was published in April 2009 by HM Treasury and examined five areas for potential cost savings; back office operations and IT, collaborative procurement, asset management and sales, property and local incentives and empowerment.

The report identified savings of £35 billion across the whole of the Public Sector, including £3.2 billion annual savings, in three years time, on Public Sector ICT. This represents savings of 20% on the Public Sector ICT budget derived primarily

from the use of shared infrastructure and shared services, and from streamlined Public Sector ICT procurement.

Since the Conservative – Liberal Democrat administration came to power the findings of the Operational Efficiency Programme have been retired to the National Archives. This area of work is now the responsibility of the Efficiency Board, co-chaired by the Minister for the Cabinet Office and the Chief Secretary to the Treasury. The board is responsible for the Efficiency and Reform Group within

Cabinet Office which has the operational mandate to tackle waste and improve cost accountability across Government.

These structural changes have not seen a formal update to the above savings targets. However the Budget of June 2010, the Strategic Defence and Security Review and the Comprehensive Spending Review suggest that, while the overall strategic approach remains unchanged, specific savings targets have become more aggressive.

The Government ICT Strategy

The previous Government's ICT Strategy was published by the Cabinet Office in January 2010. It set out:

- A vision of the ICT required by the Public Sector to achieve the target savings of £3.2 billion defined within the OEP Final Report

- A strategy to realise it.

The vision was for 'shared infrastructure to deliver shared and cloud services' that would directly drive down costs and provide an

environment to 'join-up' up the Public Sector to deliver higher quality public services. That environment would be created by Public Sector organisations working in partnership to specify, procure and operate shared ICT infrastructure, applications and services.

The strategy to deliver that vision was based on a set of fourteen delivery threads, of which six 'Common Infrastructure' threads were to create the shared services environment and

contribute directly to cost savings;

- Data Centre Strategy (£300 million)

- Public Services Network (£500 million)

- Common Desktop (£400 million)

- Government Applications Store (£500 million)

- Shared Services (key enabler of overall efficiency)

- Government Cloud – G-Cloud (key enabler for the whole £3.2 billion savings).

These threads were to define best practice for Government shared ICT infrastructure – covering data centres, networks and common desktops. The Information Security and Assurance thread defined how best to secure that shared ICT infrastructure to accelerate the deployment of network-based shared services such as voice, video and collaboration.

The new administration is due to publish a revised ICT strategy very soon. At this point in time industry does not expect it to depart substantively from the previous vision – 'shared infrastructure to deliver shared and cloud services' – or to make any substantial changes to the fundamentals of the PSN programme.

The Public Services Network

PSN was one of the key threads of the previous administration's ICT Strategy and we believe it will continue as a strategic programme. Section 4.1 of that strategy summarised the purpose of PSN as follows:

The Public Services Network (PSN) will create a single, more secure telecommunications infrastructure. It opens up new opportunities for more efficient information sharing and will provide the operating environment for the Government Cloud.

The PSN will deliver at least £500 million savings per year and will allow voice and data services to be delivered seamlessly to any location via a private and secure version of the internet for the public sector.

This summary highlights the key principles behind the PSN programme:

1. Creation of a single network for the whole of the Public Sector – an 'Internet for Government'

2. Delivery of an environment for information and application sharing

3. Support for pervasive, location-independent access to voice and data services.

The PSN programme is run on behalf of Government by the Cabinet Office. The Cabinet Office – working with the Office of Government Commerce (OGC) and Buying Solutions – is developing a streamlined, framework-based procurement strategy.

What is the PSN Programme?

Overview

The formal PSN programme was established in 2008. It is co-ordinated by Cabinet Office with substantial contributions from a broad cross-section of Government and industry stakeholders.

The Cabinet Office adopted a work stream approach to the programme, partnering with industry to ensure alignment with current ICT best practice.

Four work streams – technical, security, service management and governance – were established to define best practice models for PSN. A fifth work stream – transition – was tasked with defining how best to migrate from legacy environments.

The five work streams have now largely completed their work, although there is still ongoing work on transition from legacy environments. They have developed five models that define the PSN and PSN services, how they can be procured and how they can be operated.

The five models are:

- **Technical** – how to build the PSN and PSN services

- **Security** – how to secure PSN

- **Service Management** – how to operate PSN

- **Commercial and Governance** – how service providers and customers can operate within a PSN 'marketplace'.

The PSN Operating Model, main document provides the best high-level description of these models and cross-references documentation for more detail on specific topics.

In July 2010 the PSN approach was mandated for all central Government departments, agencies and arms length bodies operating at Impact Level 3 (IL3) and below. In addition the CIO Council and the Local Government CIO Council have endorsed the PSN approach.

PSN Compliance

Although PSN specifies how to create shared network infrastructure and shared services, there will be no central procurement and implementation. PSN services procurement and implementation will be the responsibility of individual organisations and partnerships so it is essential that each individual implementation is compatible with other implementations.

For this approach to work it is critical that all PSN services are confirmed to have met the requirements of the PSN technical, operational and commercial models.

The PSN Authority is responsible for confirming that these requirements have been met and for issuing PSN Compliance Certificates for PSN services, PSN service providers and customer environments.

PSN compliance certification is issued on the basis of commitments made by service providers and customers against the requirements set out in the three PSN Codes:

1. **The Code of Interconnection (ColCo)** sets out the requirements for PSN networks to connect directly to the GCN – the PSN backbone

2. **The Code of Practice (CoP)** sets out the requirements for other PSN networks and network services

3. **The Code of Connection (CoCo)** sets out the requirements for customer environments to connect to the PSN. The PSN CoCo is based on the existing GSi and GCSx codes of connection.

A PSN Compliance document sets out the obligations on service providers and customers and defines the governance arrangements for compliance. A PSN Code Template – based on the above codes – has been created to allow the PSN Authority to assess whether PSN service providers and customers are compliant.

In addition, PSN services and customer environments must both pass a security accreditation and be designated 'fit-for-consumption.' While this work will be carried out by a PSN panel, working on behalf of Government Senior Information Risk Owners (SIROs), individual SIROs will still retain full responsibility for managing their own local information risk.

PSN Procurement

A PSN procurement strategy has been defined jointly by Cabinet Office, OGC and Buying Solutions and is published on the Buying Solutions website.

Public Sector organisations will be able to procure PSN-compliant services in one of two ways:
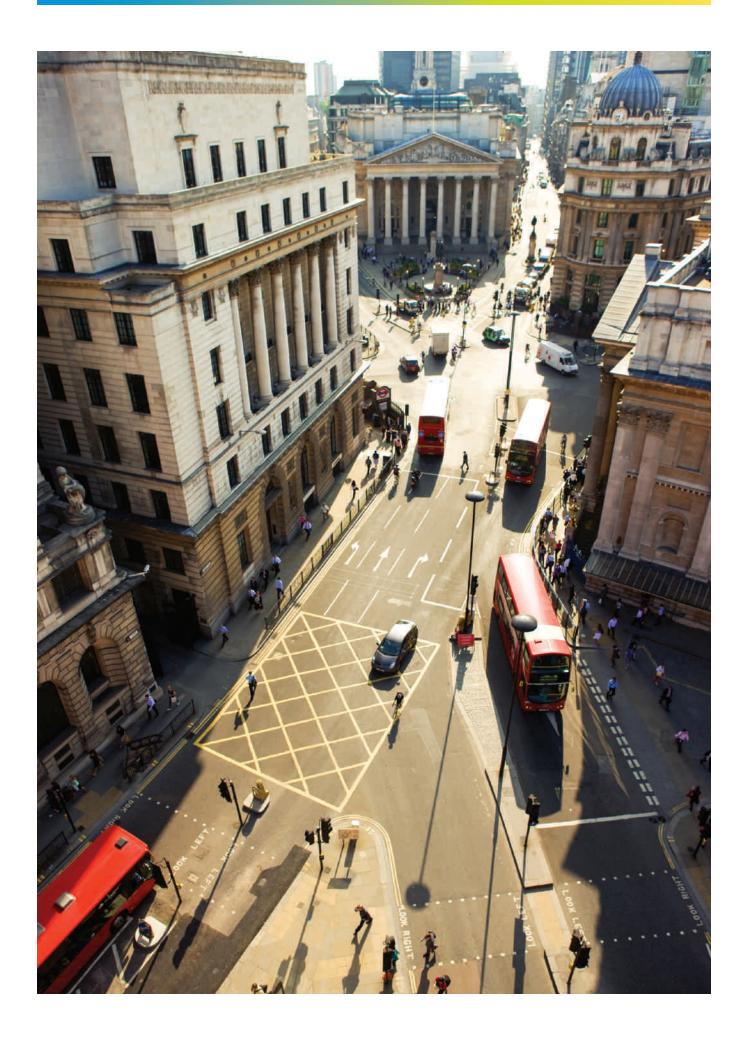
- Same as today, either using OJEU or existing frameworks

- Using a streamlined process based on two, new PSN frameworks that are to be established and administered by Buying Solutions.

The second option is preferred because you don't have to create your own requirements specifications and resource your own bespoke procurements. However, there is no indication, at this stage, that the PSN frameworks will be mandated for procurement.

The current proposal is to create two new frameworks, each listing PSN-services along with PSN-compliant service providers best able to provide them.

The currently proposed contents of the two frameworks are as follows:

- **PSN Framework 1 –** will list national, regional and community of interest networks and encryption services along with six to eight service providers selected to provide them

- **PSN Framework 2 –** will list around twenty shared network services, in categories including voice, video, collaboration and hosting, along with a larger, but unspecified, number of service providers best able to provide them.

Buying Solutions' procurements will be run to create the lists of service providers on each of the two proposed frameworks.

Business Benefits of PSN

These will appear as direct and indirect benefits.

The main direct benefit is the reduced cost of infrastructure and shared services. This is estimated as up to £631 million across the whole of the Public Sector by 2014, a 20% reduction in total spend.

Direct cost savings fall into two main categories:

Removing duplication in existing ICT provision, for example:

- **Shared networks –** shared across Government departments and agencies, shared across regions

- **Shared data centres –** shared across Government departments and agencies, regions, the NHS, and higher and further education

- **Shared business and application services such as voice, video, collaboration, e-mail and messaging –** shared across Government departments and agencies, regions, the NHS, and higher and further education.

Streamlining how ICT is specified, procured and operated

- **Reduced costs for requirements gathering, for specification writing and for procurement –** through streamlined procurement from defined set of PSN-compliant services from PSN-compliant providers

- **Reduced ICT integration costs –** because ICT will be available as PSN services that require no bespoke integration

- **Reduced ICT operating costs –** as a result of efficient PSN service providers.

ICT, however, accounts for just 3% of the budget of typical Public Sector organisations and this limits direct cost savings. The remaining 97% of budgets comprises the far greater costs of the workforce, the workplace and energy and resources. Here, PSN provides rich shared services that can drive cultural and process change in businesses and create significant indirect benefits in the remaining 97% through:

- **Location-independent workforce –** ability of a modern, flexible workforce to work from any location and access applications and information; saving on expenses and increasing productive time

- **Shared buildings and reduced size of estates –** ability to share buildings and purpose estates to the needs of the workforce; saving on building costs

- **Operational costs of buildings –** ability to secure, manage and operate buildings under central policy control; saving on the costs of security and energy

- **Standard applications and access to information –** standardising on key business applications and on access to information; saving costs for multi-disciplinary teams and joining-up service delivery

- **Effective project teams –** unified communications, video and collaboration tools enable more effective teaming within and across stakeholder organisations; creating more effective teams, increasing productive time and reducing expenses

- **Improve citizen contact –** greater ability to share web, contact centre and face-to-face channels to join-up service delivery; improving the quality of service and contributing to national indicators such as 'Avoidable Contact' and initiatives such as 'Tell us Once'.

How to Plan for PSN

Many organisations have found it challenging to plan effectively for PSN. We've seen three main reasons for this:

- PSN is complex and there has been uncertainty around dates for some aspects of the programme

- Each organisation or partnership faces a unique set of organisational, technical and financial challenges

- Cabinet Office guidance on business planning has not been widely distributed.

We believe, however, that the time for planning is now right and recommend an approach based on our work with other major strategic business projects. This is to break down the planning exercise into sequential steps that fit within the three key planning outputs and provide a platform to move you directly into the implementation phase.

Our recommended steps are:

- Vision and Strategy

1. **Gather Information –** a clear understanding of the PSN programme and the business benefits it can deliver is critical. The PSN Operating Model provides a good summary of the technical, security, service management, commercial and governance models for PSN. It also provides references to other documents, many of which can be found on the Cabinet Office and Buying Solutions web sites (see references section).

2. **Establish Initial Stakeholder Partnerships –** the concepts of shared infrastructure and shared services are fundamental to PSN; this implies partnerships between stakeholder organisations. The next step for planning, therefore, is to determine where there is opportunity for partnership; it may lie with departments working with agencies; or with regional stakeholders working together; or with like organisations, such as police forces, working together. Partners must be identified, partnership discussions convened and agreements reached.

3. **Create the Vision and Strategy Document –** create a vision of how PSN will change ICT and business models; develop a strategy to realise that vision.

- Business Plans

4. **Carry out ICT Infrastructure and Services Assessments –** carry out assessments of all existing ICT infrastructure and services – networks, data centres, security provision, voice, video, collaboration, email etc. – to determine existing ('as-is') usage and current costs. Carry out a technical readiness assessment for PSN.

5. **Create a Technical Maturity Model –** to explain the series of steps to migrate legacy environments to the new PSN model. This maturity model is particularly important as it will explain how best to maximise the return on investment for existing infrastructure and skills.

6. **Create a Business Maturity Model –** to explain the series of steps by which PSN services can help transform businesses and drive cultural and process change. This maturity model should link directly into workforce, workplace and operating strategies.
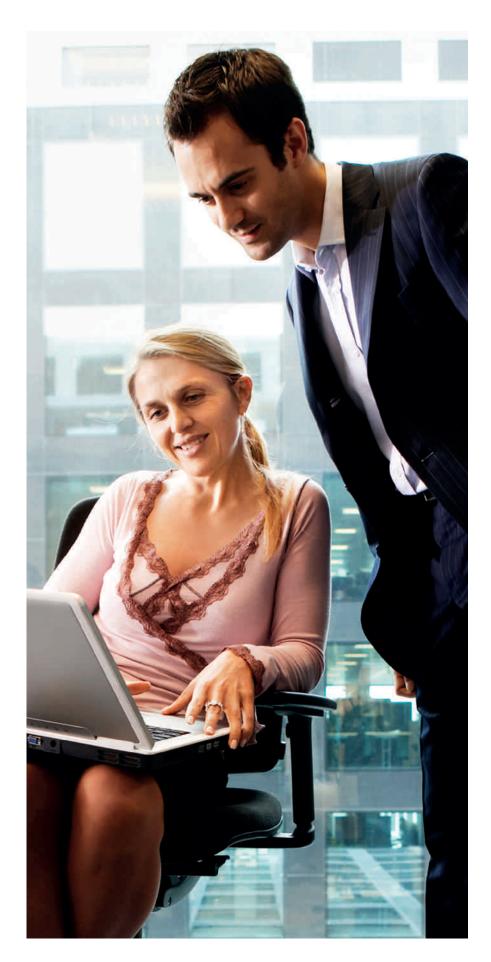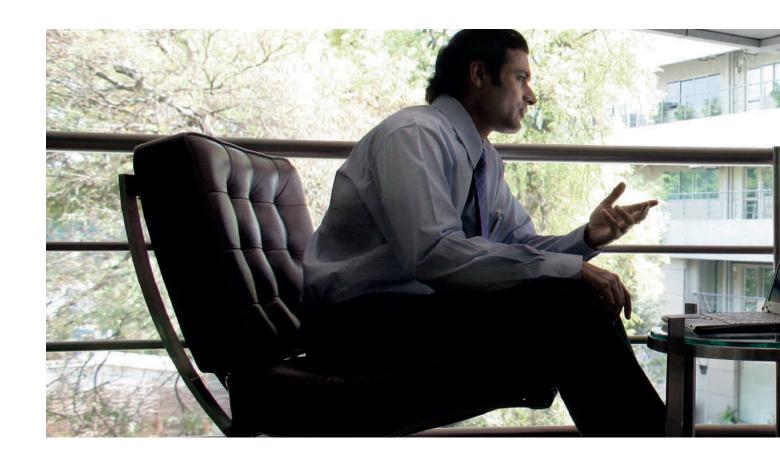
7. Develop Outline Business Plans – an outline business plan should be drawn up based on the assessment information of the 'as –is' environment, the initial view of the target ('to-be') environment and the expected business benefits for PSN. The outline business plan should be used to increase executive sponsorship and the level of stakeholder engagement. The business plan should be updated periodically.

- Executive Sponsorship

8. Establish Executive Sponsorship and Full Stakeholder Engagement – PSN will fundamentally change ICT and business models, acting as a major catalyst for business and service transformation. PSN, therefore, needs strong executive sponsorship and active stakeholder engagement from all partners. A steering group should be established to create and sustain the necessary project momentum.
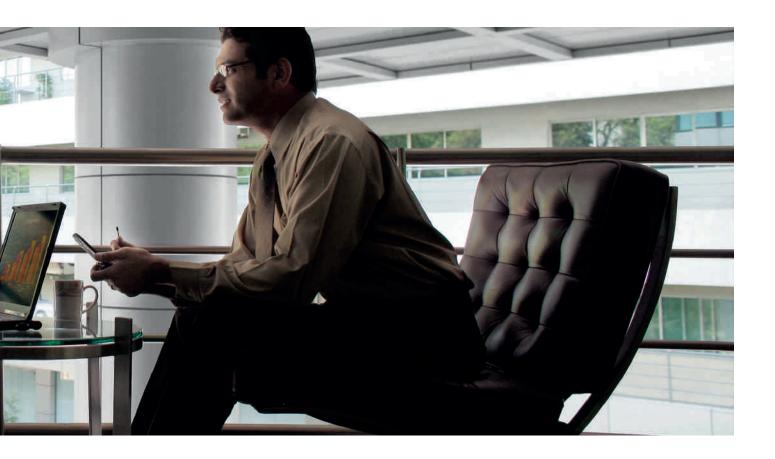
The Business Maturity Model

Shared infrastructure and shared services require stakeholder organisations to enter into partnerships. Here, strong executive-level sponsorship and full stakeholder engagement are essential to allow these partnerships to develop.

Shared services ICT partnerships can deliver many of the direct benefits of the PSN programme, however the even greater indirect business benefits can only be fully realised if PSN is allowed to act as a catalyst for more substantive commercial and business convergence.

That convergence may be applied to a range of different stakeholder partnerships including: Government departments, agencies and NDPBs; NHS Trusts; regional groupings including local authorities, NHS Trusts, Police Forces and Fire and Rescue Organisations. There are a number of well-established healthcare 'Community of Interest Networks' (COINs) where partner NHS Trusts have started to make this transition and these serve as good examples of best practice.

The Business Maturity Model forms part of business planning and explains how a shared service approach to ICT can be developed to drive greater commercial and business convergence and greater business benefits.

The maturity model also sets out a plan – to explain the steps and benefits for stakeholders as they make the transition from independent business, to collaborative business, to full business partner.

The plan might include the following:

- How shared networks and shared data centres will support location independence and shared buildings

- How shared services, such as video and collaboration, will drive cultural and process changes in the workforce

- How location independence and shared services will lead to back office functions being shared across organisations

- How shared infrastructure and services will allow applications and information to be shared across organisations – so services can be joined-up

- How location independence and ready access to citizen information will lead to front office – web, contact centre and face-to-face (F2F) – functions being shared across organisations.

The plan within the maturity model shows how to transition currently-independent stakeholders into a single delivery organisation. It is important that this is recognised by all executive sponsors and organisational stakeholders.

How Cisco Can Help

Cisco has contributed actively to the Cabinet Office PSN programme since 2008.

We believe there are a number of ways that Cisco teams could support you and accelerate the realisation of PSN business benefits:

- Assist with development of PSN vision and strategy

- Carry out infrastructure, security and services assessments

- Develop transition plans that make best use of existing Cisco infrastructure

- Support PSN business plan development

- Assist with creation of a business maturity model.

Cisco Services have a global consulting practice with the capability to provide advice and guidance on the business planning recommendations contained in this paper. They can advise on how best to execute them within your organisation or provide you with additional, skilled resources to take on specific planning tasks.

We would welcome the opportunity to discuss the contents of this paper and share our knowledge of the PSN programme directly with you. Please contact your Cisco Account Manager if you would like to discuss your requirements in more detail.

References and Reference Documents

Public Sector References

A considerable amount of reference information is now available on the Cabinet Office website at: http://www.cabinetoffice.gov.uk/resource-library/public-services-network

This has now been mirrored on the Buying Solutions website at: http://www.buyingsolutions.gov.uk/categories/ICT/psn/

The Buying Solutions website also provides an overview of the proposed procurement strategy for PSN at: http://www.buyingsolutions.gov.uk/categories/ICT/psn/psns/

Some of the key documents that define the technical, security, service management, commercial and governance models for PSN have been identified in this paper and they are available at the above websites.

The best single document for providing an overview of PSN in all its' facets is the PSN Operating Model, Main Document.

In addition Cabinet Office maintains an internal document repository – Huddle – for final and working PSN documents. A request for access to Huddle can be made through the Cabinet Office contacts on the above websites or through psn@cabinet-office.x.gsi.gov.uk

Cisco References

Cisco has created a website to provide customers and service providers with information on PSN and on related Cisco products, technologies, architectures and services. The website can be found at: http://www.cisco.co.uk/psn

This site will be updated frequently with new PSN information, PSN case studies and with product and technology announcements.