



Divisions of General Practice

Information Management Maturity Framework (IMMF)

Toolkit – Inventory of IM technology
requirements for each stage of the ILC



Information Management Maturity Framework

Toolkit – Inventory of IM technology requirements for each stage of the ILC

Purpose

The purpose of the “Inventory of IM technology requirements for each stage of the ILC” is to assist Divisions address the action tasks below.

Action Tasks	Capacity Gap	IMMF Element
Specify the gap between current specialist IM technology/tools against the requirement for tools to support all the stages of the ILC for all the Division’s programs and services.	Reactive to Defined	Capabilities
Implement IM technology or tools to support all stages of the ILC integrated into all of the Division’s programs and services.	Defined to Managed	Capabilities
Specify the gap between current specialist IM technology / tools against the requirement for tools to support all the stages of the ILC for all the Division’s programs and services	Reactive to Defined	Records and ILC

This task should have been identified from the Information Management Maturity Framework (IMMF) gap analysis and toolkit specification.

This toolkit provides a comprehensive inventory of technology requirements aligned to each stage of the information life cycle (ILC). It will enable a Division to identify requirement gaps within their current environment and information Management (IM) capability. By utilising this toolkit, a Division can improve their IM capability / maturity and their processes for managing records and information.

The IMMF toolkits “Inventory of ‘off the shelf’ IM technology aligned to stages of the ILC” and “Checklist for incorporating the ILC into the Division’s programs and services” are prerequisites to this tool. The principles of the information lifecycle must be understood prior to implementing this tool.

Knowledge of IM technology requirements for each stage of the ILC will assist Divisions with other toolkits including:

- Technology solutions for data validation and cleansing tools.
- Guidelines and technology solutions for a Division’s shared file structure and records management system.

Explanatory Notes

This toolkit aims to build on the previous tools:

- Checklists for incorporating the ILC into the Division’s programs and services and
- Inventory of ‘off the shelf’ IM technology aligned to stages of the ILC

by providing an inventory of technology requirements that can be used at each stage of the ILC. It will enable Divisions to align IT tools to the ILC.



A Division can use this tool to identify the gaps between current specialist IM technology/tools and the requirement for tools to support all stages of the ILC. Once the gaps have been identified, appropriate technology can be implemented.

Understanding how the Division's requirements align to ILC will assist them in deciding what type of technology/tool should be implemented. General issues will be discussed such as technology standardisation, procurement practices and comparison of proprietary, open source and customised solutions. This tool will assist the Division by explaining the various requirements that should be considered for each stage of the ILC. This tool does not identify any technology or vendor. The IMMF toolkit element "Inventory of 'off the shelf' IM technology aligned to stages of the ILC" can assist with this.

The toolkit should be facilitated with assistance from State Based Organisations (SBOs). Division CEOs should provide support for their staff in utilising this toolkit as it will form part of the core information management principles within the Division.

A list of other references is documented at the end of this tool that provides useful information about technology requirements used within the information lifecycle.

Instructional Design

This tool consists of 2 Parts:

Part 1 – Overview of IM technology requirements

Part 2 – Inventory of IM technology requirements for each stage of the ILC

Part 1 – Overview of IM technology requirements

The process of making a decision to implement a technology or tool within a Division can be daunting as there are many issues to consider. This section of the toolkit will describe the issues faced by Divisions when considering what solutions should be implemented. The aim is to be aware of the implications of any technology choices from within a Division and across Divisions.

Part 2 – Inventory of IM technology requirements for each stage of the ILC

This section contains an inventory of requirements that are aligned to each stage of the ILC. Each requirement will be described and mapped to the stages of ILC defined in the IMMF.

Senior staff should use this tool as a guide to identify future technology requirements to ensure they align with the Division's ILC.

Summary of outcomes and resources

Workstreams	Outcomes	Resources
Skills or knowledge acquisition requirements for staff	Identify opportunities for technology improvement by comparing the requirements for specialist IM technology (based on the stages of the Division's ILC) against the Division's existing technology capability.	Facilitated by SBOs for the transfer of knowledge.



Part 1: Overview of IM Technology Requirements

Purpose of the inventory of IM technology requirements

This tool can be used to demonstrate a common set of IM technology requirements for all Divisions. Divisions may choose different strategies and technologies when implementing the requirements as their organisation size, staff skills and information management maturity will vary. The toolkit also provides a template that can be used to determine gaps in requirements and also as a checklist for new projects.

There is a range of technology and tools that can be implemented to enhance the Division's IM capabilities and include hardware, software, networking and communications. Software may comprise of 'Open Source' to commercial applications which have 'entry' to 'enterprise' level functionality. Hardware, network and communications are also discussed. This section of the tool describes some common issues that a Division will face when determining how to implement technology solutions that fit within the Division's information management framework. The IMMF Toolkit – "Inventory of 'off the shelf' IM technology aligned to stages of the ILC" should be used to view specific products.

Standardisation

Information is managed in a variety of ways within Divisions. The size, complexity, financial constraints and IM capabilities vary greatly and each Division will have their own challenges to address with respect to information management. By standardising the core IM technology requirements, benefits may be realised strategically across Divisions, IM processes and policies, IM technology solutions and in procurement practices.

Benefits of standardisation

The major benefits of standardisation are:

- Strategic significance – this ensures that all Divisions follow the same principles for information management. This applies to a Division that is at the *Unaware to Reactive* level, as well as those Divisions that are considered *Defined to Managed*. As the maturity of a Division increases, the principles do not change only their capability grows.
- Increase reliability – by defining standard policies and processes, the reliability of information will increase as the policies and processes are adopted and refined. It also means that tasks will become repeatable.
- Long term financial benefits – as tasks for managing information become routine for a Division, the amount of time required to complete tasks should decrease and the reliability increase, therefore requiring less time to fix problems. This enables staff to work more efficiently and enables them to perform other core activities.

Key components for standardisation

- Information management requirements and processes

Information management requirements and processes can be standardised as the Information Management Maturity model will form the framework for this process. Divisions all have the same core information management requirements. What differs is the level to which these requirements can be implemented.

- Information technology solutions

This addresses the implementation of technology solutions that are based on the information management requirements and processes. This component is the most complex to standardise due to the various levels of complexity between Divisions. It also includes technology standards such as database systems, office productivity suites, operating systems and software development languages.



Procurement practices

Cooperative procurement refers to procurement involving more than one Division as the purchaser. Divisions can approach the market together or join the contractual arrangement of another Division. When determining whether to procure cooperatively, the proposal should determine if it provides better value for money. The cooperative procurement process is still required to follow appropriate procurement guidelines. There are a number of benefits and risks that should be considered to determine whether the arrangement will meet the needs of the Division(s).

Benefits of cooperative of procurement

- Reduced procurement costs of running a shared tender process and from sharing administrative and contract management resources.
- Smaller Divisions can benefit from support and savings by accessing contracts from the larger Divisions.
- Product costs can be reduced due to economies of scale.

Risks of cooperative procurement

- Individual Divisions need to be satisfied that the product / service being procured will meet their requirements, i.e. the requirements may be compromised in order to get the product / service at a cheaper cost.
- Inadequate communication between Divisions could result in a poor contractual outcome.

Software licensing/development models

Software is usually distributed under a licence. The following list defines the types of licences that may be available.

- Commercial – a fee is paid to a company that has developed a software application. Customisation of the software may be performed in order to satisfy specific requirements of an individual organisation. The licence grants permission to use their product according to their terms and conditions. The licence fee may be paid annually or as a one off payment. There may also be an annual maintenance fee that includes support and upgrades.

The licence may be granted for the following:

1. Site – no restrictions on how many users may access the software or the number of installations of the software.
 2. Seat – the software can only be installed or used by one user. A number of “seats” can be purchased for each individual who needs to use the software.
 3. Floating (Concurrent Users) – this means that a licence may be installed on more than one PC but can only be accessed by a fixed number of users at any time.
- Customised – a Division may decide to engage a company to develop software to meet specific requirements. The Division will maintain control of the software licence and can distribute the software according to their needs. There may still be a need to pay the software development company a fee for maintaining the software and providing support.
 - Open Source – many developers (that may or may not be related) collaboratively produce software for the free distribution, improvement and use (including source code) of anyone willing to abide by the software license. There are a large number of Open Source license types, the most common being GNU General Public License.



Open Source versus Commercial Software

There has been a long standing debate on the software licensing models of “open source” and “commercial” software and which model is better. A number of considerations need to be made when determining which model to use for your organisation. It may not be a blanket decision to use all or nothing but will depend on the specific requirements for the application. The following points should be considered when making these decisions.

- **Cost**

This is probably the point used most to promote open source products. The main point to be aware of here is that the cost of software should be taken across the life of the software. The purchase price is generally cheaper for open source than for commercial products. The recurring costs can in fact be more expensive for open source products in terms of support and maintenance. Other costs that need to be considered include staff retraining, data migration, consulting and less tangible costs such as productivity gains.

- **Skills**

Suitably skilled people are required to maintain the software. It may be more difficult to find professionals that can maintain and further develop an open source product. This need should be addressed by either an in-house expert or outsourced to a vendor.

- **Modifications**

The long term implications for non standard (i.e. customised) software should be factored into any purchasing decision. The recurrent costs and continuity of skills should be examined closely.

Categories of software

For a detailed list of software refer to the tool: “Inventory of off the shelf IM technology aligned to stages of the ILC”. Software can be open source or commercial. A brief list of software follows:

- Office Suites – include word processor, spreadsheet and presentation software.
- Databases – MS Access, MySQL, MS SQL Server, Oracle.
- Security:
 - Anti-virus/Anti-spyware used to protect servers and PC’s from virus’s and spyware.
 - Digital certificates – used to encrypt data that is being electronically transferred, e.g. secure email and websites.
 - Logins – used to identify and provide access to restricted resources for users of the network and various applications, is usually set up within the operating system and network environment.
 - Firewall – used to protect a LAN/WAN from attacks and breaches from the internet.
- Content Management / Document Management – provide functionality for managing information assets. Functionality may include document creation, security, retrieval, retention, archiving and workflow. These tools can be used to classify information assets.
- Diary – manage resources and provide reminders of important dates and times e.g. MS Outlook.
- Purpose built applications – examples include the Division Information System (DIS), Medical Director.
- Version Control – used to manage versions of information assets. Some office suites have limited version control capabilities. There are open source solutions such as CVS and its variations, or commercial products like MS Source Safe.
- Data Validation – examples include PCS Clinical Audit Tool and Medical Director.
- Data Cleansing – Canning data extraction tool used to extract data from the most commonly used GP desktop software. Spreadsheets and databases can also be used to assist in data cleansing activities with the use of programming languages like SQL, SAS or VBA.
- Reporting – tools such as MS Access, Crystal Reports, Excel, SAS and SPSS.
- Dissemination – Web sites, email and list servers (provide mailing list functionality).



- Accounting – used to manage accounts, budgets and payroll.
- Project Management – provides tools to manage projects e.g. create Gantt charts, resource allocation and project reporting. The most common project management tool is MS Project.
- Disposal – securely dispose of digital information assets. This software will erase all data on hard disks, USB thumb drives and floppy disks. Examples include Lenovo Secure Data Disposal and Darik's Nuke and Boot.
- Feedback – forums and bulletin boards.
- System Monitoring – used to monitor servers, databases, networks and other devices. Tools like SYSMON are included in the operating system while there are numerous commercial and open source third party software products, such as HP OpenView and Zenoss Core Enterprise System Monitoring. Enterprise database products also have management and monitoring tools like SQL Server Management Studio.

Hardware

There is a large range of hardware that can be used in the office environment to assist in managing information assets. The following list contains the most common hardware.

- Server – used in a network environment to store data that can be shared among users, connect multiple people to devices such as printers, scanners or multi-document centres and to connect to wide area networks and the internet. Servers may be used for specific purposes e.g. file sharing, database, email and applications hosting.
- Backup – the most common backup device is the tape backup unit. It provides a reliable, low cost way of backing up data. It utilises magnetic tapes to store the data. They come as single or multiple drive units. Tapes can be stored offsite as part of the disaster recovery plan.
- External/portable HDD – provide an easy way to backup data from local PC hard drives. The main issue to consider is about security. Unauthorised removal of the external portable hard drive can occur without being noticed. This issue is exacerbated when personal or identifying data is stored on the drive.
- Memory sticks/thumb drive – also provides an easy way to backup files from local PC hard drives or when sharing data. The main issue like external/portable hard drives is the security. It is even easier to hide or lose the memory stick.
- Uninterruptible Power Supplies (UPS) - the UPS is an essential component of any organisation's IT infrastructure. It provides battery backup and power conditioning to servers and network devices such as switches and routers. If a power failure occurs, the servers and network equipment can be shutdown properly, minimising the chance of data loss or corruption.
- Printers/scanners/faxes – used to reproduce, digitise and send documents. Can be shared by users in a network environment.
- Shredders – can be used to destroy floppy disks and CD/DVD.
- Switches/Routers/Hubs – used to connect devices on the network. Devices include servers, PC's and printers. These devices may use wired or wireless technology. See the section on networks for more information.
- Modem – is used to connect to the internet. Wired modems connect through the wired network infrastructure (ADSL or ISDN). Wireless modems can be used by laptops to connect to the internet while outside the office environment.

Networks and Communications

There are a number of different types of networks, the three most common that an organisation may use are the Local Area Network (LAN), the Wide Area Network (WAN) and the internet (www).

- Local Area Network (LAN) – is a private network. It covers a small geographic area: for example, an office or building, and may include multiple floors. The LAN will connect the computers in the office/building to share common resources such as electronic files, email, databases and printers and provide a way to access the internet.
- Wide Area Network (WAN) – is a private network. It is generally implemented to connect two or more sites that may be geographically separated. Resources can then be shared across sites.



- Internet (www) – is a public network used to share resources. An organisation can connect to the internet through an Internet Service Provider (ISP). The internet is not as secure as a private network as the data can be seen by anyone. Security measures need to be put in place to protect data, such as digital certificates that are used to encrypt the data when it is transmitted.

Networks would commonly be implemented using a wired or a wireless infrastructure or a combination of both.

Wired Network

Physical cables are laid within a building or office. Devices such as servers, PC's and printers are connected to each other through distribution points called hubs, switches and routers.

- Installation – Ethernet cables must be run from each computer, printer and server to the hub/switch or router. Cabling can be time consuming and may be difficult.
- Cost – Ethernet cables and hubs/switches are not expensive.
- Reliability – this type of network is very reliable, the most common problem being a loose cable.
- Performance - These typically connect at 100Mb/sec with some now reaching 1000Mb/sec in data transfer rates.
- Security – connecting to the internet is the main security concern with a wired network. A firewall should be installed to protect the network from outside attack.

Wireless Network

A signal is transmitted from the wireless access point that allows devices such as PC's and printers to connect to the network without having to plug in cables. There will probably still be a wired connection between the server and the switch/hub/router or access point, but they will more than likely be located near to each other.

- Installation – a PC or printer that uses wireless networking needs to have a wireless network adapter installed on the device. A wireless access point sends a signal through the air and has a limited range. The range can also be affected by walls and floors. The range can vary from 30m to 50m for the newer models. The access point needs to be installed in a central location.
- Cost – wireless access points and wireless network adapters can cost three to four times as much as wired network equipment. Although this is the case now, these prices should fall as demand increases. Many laptop computers now come with a wireless network adapter built in.
- Reliability – the signal can suffer from interference from devices such as cordless telephones and microwave ovens.
- Performance – there are two main categories of signals that are currently used in wireless devices, 802.11g (54Mb) and the newer 802.11n (300Mb). Performance is distance sensitive, meaning that maximum performance degrades on computers the further they are away from the access point. Many wireless devices utilising the network simultaneously also degrades performance.
- Security – in theory wireless networks are less secure than wired networks as the signals are transmitted through the air. In practice, steps can be taken to make a wireless network secure.



Part 2: Inventory of IM Technology Requirements for Each Stage of the ILC

Each stage of the information lifecycle has a number of activities that can be addressed by a Division to assist them in aligning their programs and services with the ILC. Definitions for the IMMF Criteria can be found in the IMMF Glossary.

The following table maps the Division's IM, user and technical requirements with the stages of the ILC. It should be used to identify gaps in current IM practices, policies and technologies. It can also be used as a guide when initiating new projects to ensure all the requirements are appropriately met.

IM Requirement – a practical summary of information requirements for a Division.

User Requirements – the specific information requirements for a Division.

Technical Requirements – the technical solution that can be implemented to support the user requirements.

Stages of the ILC – maps the information management and technical requirements to the stages of the ILC.

IM Requirement	User Requirement	Planning	Collection	Organisation	Dissemination	Maintenance	Disposal	Technical Requirements
Document creation	<p>Documentation will be created in all stages of the ILC. Documents can be created using many tools and in various format or media. Documents include:</p> <ul style="list-style-type: none"> • Correspondence (email, formal letters, etc) • Briefs • Minutes of meetings • Policies and procedures <ul style="list-style-type: none"> - guidelines for use - collection and capture procedures - maintenance plans - disposal procedures • Business case 	X	X	X	X	X	X	<p>Software:</p> <ul style="list-style-type: none"> • Office suite (word processor, spreadsheet, presentation) • Project Management • Database <p>Hardware:</p> <ul style="list-style-type: none"> • Scanner to digitise hard copy documents

IM Requirement	User Requirement	Planning	Collection	Organisation	Dissemination	Maintenance	Disposal	Technical Requirements
	<ul style="list-style-type: none"> Needs analysis Project plan Reports 							
Document management	<p>Method to manage information assets to enable their efficient storage and retrieval.</p> <p>Information assets can be in various formats such as word processor, spreadsheet, PDF, sound file and html.</p> <p>Security of information assets.</p>	X	X	X	X	X	X	<p>Software:</p> <ul style="list-style-type: none"> File structure for storing information asset Document Management System Content Management System <p>Hardware:</p> <ul style="list-style-type: none"> Server or PC to host required software
Management	<p>Management requires technology support for processes such as finance, HR and clinical services.</p> <p>It also requires a means for communications for all of the Division's internal and external stakeholder groups.</p>	X						<p>Software:</p> <ul style="list-style-type: none"> Accounting Project tool Email List server <p>Communications/Network</p> <ul style="list-style-type: none"> Internet

IM Requirement	User Requirement	Planning	Collection	Organisation	Dissemination	Maintenance	Disposal	Technical Requirements
Planning	<p>Planning activities within a Division include strategy, risk management, resource management, program integration, policies and standards.</p> <p>Separate stages requiring technology support are: consultation, decision making, accountability and reporting, issues and change management.</p>	X	X	X	X	X	X	Software: <ul style="list-style-type: none"> • Word processor • Spreadsheet • Forum/bulletin board • Email • List server
Project management	<p>Planning, monitoring and signoff of tasks of a project.</p> <p>Identify tasks, milestones and decision points of a project.</p>	X						Software: <ul style="list-style-type: none"> • Project tool • Office suite • Diary
Scheduling/diary	Scheduling of Division resources as well as to remind them of important dates.	X	X	X	X	X	X	Software: <ul style="list-style-type: none"> • Diary
Finance	Manage Division and project budgets, expenses and funding.	X						Software: <ul style="list-style-type: none"> • Accounting
Education and Training	<p>Education and training must cover all aspects of the information lifecycle. Division staff and members must be aware of the appropriate information management guidelines and procedures for implementing projects. As part of the education and training program, staff and members will improve their IM culture and awareness.</p>	X	X	X	X	X	X	Software: <ul style="list-style-type: none"> • Office suite (word processing, presentation) • Web site

IM Requirement	User Requirement	Planning	Collection	Organisation	Dissemination	Maintenance	Disposal	Technical Requirements
Communication Internal Communication External	Communicate with Division staff, GP's, DoHA and other stakeholders both internal and external.	X	X	X	X	X	X	Software: <ul style="list-style-type: none"> • Email • List server Communication/Network: <ul style="list-style-type: none"> • LAN/WAN • Internet
Data storage	Online storage of information assets for efficient storage and retrieval of information assets. Offline storage of information assets. Archival storage for information assets that do not require fast retrieval.		X	X		X	X	Hardware: <ul style="list-style-type: none"> • Server hard disk drives • PC hard disk drives • Portable hard disk drives • Thumb drives • CD/DVD • Magnetic Tape
Data validation	Validate information/ data to ensure quality high quality. Produce data validation summary and detailed reports.			X				Software: <ul style="list-style-type: none"> • Data validation tools • Purpose built applications

IM Requirement	User Requirement	Planning	Collection	Organisation	Dissemination	Maintenance	Disposal	Technical Requirements
Data cleansing	<p>Ensure information is complete, accurate and reliable.</p> <p>Determine complexity of information being collected to enable selection of appropriate data cleansing tools (many Divisions only collect simple data such as gender and date of birth).</p>			X				<p>Software:</p> <ul style="list-style-type: none"> Data cleansing tools Database software Office suite
Version control	<p>Manage versions of information assets. Create, delete and update information assets in a controlled way.</p>	X	X	X	X	X	X	<p>Software:</p> <ul style="list-style-type: none"> Version control software for managing various types of information assets Word processor versioning
Classification system	<p>Create and maintain a classification system for a Division to enable information assets to be 'filed' in an appropriate way.</p> <p>Integrate the classification system with a document management system, content management system, folder structure or paper filing system.</p>			X				<p>Software:</p> <ul style="list-style-type: none"> Office suite to document classification scheme Content management/document management system
Reporting	<p>Create and maintain reports that provide relevant information to the appropriate audience.</p>				X			<p>Software:</p> <ul style="list-style-type: none"> Office suite Reporting tools e.g. Crystal Reports Web site

IM Requirement	User Requirement	Planning	Collection	Organisation	Dissemination	Maintenance	Disposal	Technical Requirements
Feedback management	Manage feedback from people involved in specific tasks or projects (capture and report). E.g. an issues and risk register.				X			Software: <ul style="list-style-type: none"> Email List server Word processor
Information dissemination	Disseminate relevant information to the appropriate audience. Ensure security is maintained within the dissemination process.	X			X			Software: <ul style="list-style-type: none"> Email Web site List server
Information security	Ensure relevant security is maintained for all Division information assets.	X		X	X		X	Software: <ul style="list-style-type: none"> Anti virus/Anti spyware Firewall Digital certificates (encryption) Network security (login)

IM Requirement	User Requirement	Planning	Collection	Organisation	Dissemination	Maintenance	Disposal	Technical Requirements
Backup	<p>Ensure efficient reliable strategies and methods to backup the Division's information assets.</p> <ul style="list-style-type: none"> • Data files • Databases <p>The backup process should be capable of being scheduled to run at predetermined times.</p>	X		X		X		<p>Software:</p> <ul style="list-style-type: none"> • Backup software • Database management <p>Hardware:</p> <ul style="list-style-type: none"> • Tape drive • CD/DVD drive <p>Network:</p> <ul style="list-style-type: none"> • LAN • WAN
Archiving	<p>Ability to archive the Division's information assets if they are no longer accessed regularly.</p> <p>The information should still be accessible if required.</p>	X				X	X	<p>Software:</p> <ul style="list-style-type: none"> • Document Management System – archiving functionality • Content Management System – archiving functionality <p>Hardware:</p> <ul style="list-style-type: none"> • Magnetic tape • CD/DVD

IM Requirement	User Requirement	Planning	Collection	Organisation	Dissemination	Maintenance	Disposal	Technical Requirements
System monitoring	<p>Monitor servers and networks to ensure optimal performance and uptime. E.g. disk space, CPU, memory and network utilisation.</p> <p>Monitor databases to ensure automated maintenance and backups continue to run. E.g. reindexing, database consistency checks and backup processes.</p> <p>Send notification to administrator when thresholds are breached.</p>	X				X		<p>Software:</p> <ul style="list-style-type: none"> • Database management • Operating system monitoring • Network monitoring
Disaster recovery	<p>Business continuity plans should be developed and implemented. These plans will describe the processes to follow in the event of a major systems failure.</p>	X				X		<p>Software:</p> <ul style="list-style-type: none"> • Office suite for documenting • System management tools <p>Network:</p> <ul style="list-style-type: none"> • WAN to disaster recovery location <p>Hardware:</p> <ul style="list-style-type: none"> • Servers and backup devices at disaster recovery location • UPS

IM Requirement	User Requirement	Planning	Collection	Organisation	Dissemination	Maintenance	Disposal	Technical Requirements
Information disposal	<p>Dispose of information assets in accordance with relevant policies. This is especially true for information that contains identifiable data.</p> <p>Securely erase all data on a hard drive, USB thumb drive and floppy drives.</p> <p>Destroy CD/DVD's and floppy disks.</p>	X					X	<p>Software:</p> <ul style="list-style-type: none"> • Document Management System • Content Management System • Information disposal software <p>Hardware:</p> <ul style="list-style-type: none"> • Shredder – paper, CD/DVD



References

IMMF Glossary

IMMF Toolkit – Inventory of ‘off the shelf’ IM technology aligned to stages of the ILC

IMMF Toolkit – Checklist for incorporating the ILC into the Division’s programs and services

Department of Finance and Deregulation – Procurement. Available at <http://www.finance.gov.au/publications/good-procurement-practice/03-cooperative-agency-procurement.html>

Open Source Initiative.
Available at <http://www.opensource.org>

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