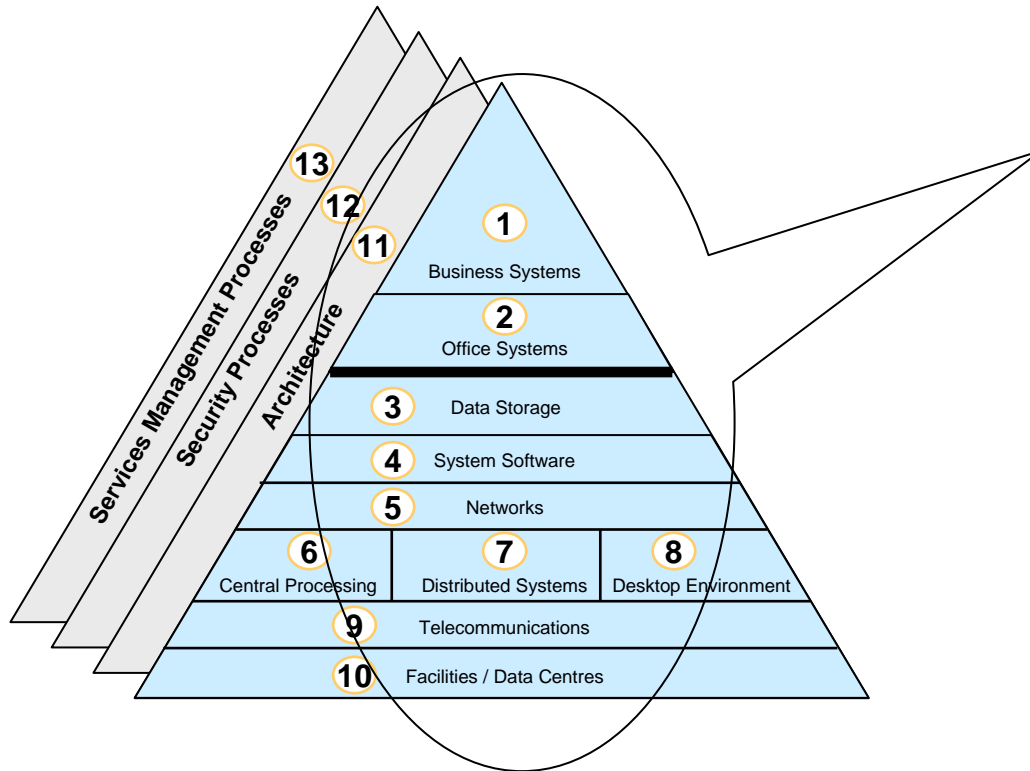




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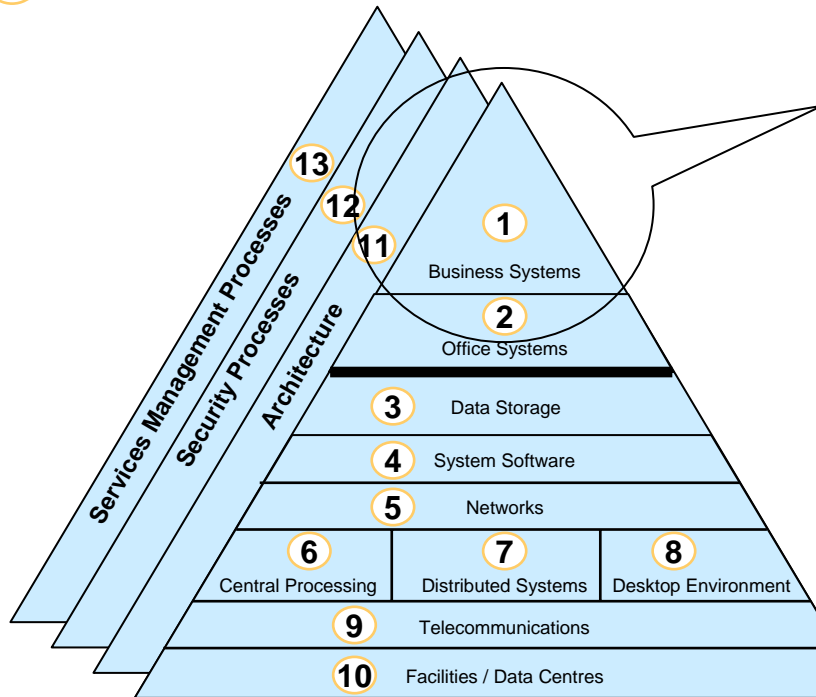
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Overview of Analysis Framework Layers 1 - 10



- These layers are generally regarded as comprising the *operational* layers of a Platform. Operational components are largely additive in their effect of enabling business systems, with lower layers generally being a prerequisite for the support of a higher layer
- The following sections cover the findings and recommendations for each operational layer in the analysis framework

1 Overview of Business Systems Platform Layer



Scope

- DIMA Centralised Business Application platforms (responsibility of central development groups)
- DIMA Distributed Business Application platforms (responsibility of a Business unit or external provider)
- Notes application platform
- Excludes application design or business purpose suitability

Characteristics

- The centralised applications are supported by a central team but are built on a variety of technology platforms, operating systems, and database management systems
- Several centralised applications run on near end-of-life platform technology e.g. IRIS, eBusiness
- While the platforms for distributed applications are effective, the environment is largely driven by localised needs and local development without consideration of enterprise platform needs
- Notes application infrastructure is in good condition and operates relatively reliably. Applications are supported by a small development team
- An enterprise application architecture is not yet fully implemented
- Demand for business systems is such that applications platform maintenance activities are given lower priority than developing new

Who provides it

- DIMA development groups
- DIMA business units
- External providers: CPS (Border Systems and SITA), GSL (Detention Centre Provider, detention management application)



1 What We Found

Summary of Interview and Document Reviews

Area	As-Is State	As-Planned State	Future State Vision
DIMA Centralised Business Applications	<ul style="list-style-type: none"> • Most applications are maintained and enhanced on current platforms • A variety of different development platform approaches and technologies are used 	<ul style="list-style-type: none"> • Some work is in progress to standardise some aspects of the application platform suite • Move towards an SOA platform approach to applications architecture and development 	<ul style="list-style-type: none"> • Back end data engine platforms feeding front ends built on a base of orchestrated business services
DIMA Distributed Business Applications	<ul style="list-style-type: none"> • Condition of the application platform varies widely • These applications are generally not under active management 	<ul style="list-style-type: none"> • A few have forward planned states, most have none 	<ul style="list-style-type: none"> • Undefined
Lotus Notes applications	<ul style="list-style-type: none"> • These applications are mostly simply maintained and enhanced on present platform 	<ul style="list-style-type: none"> • Undefined 	<ul style="list-style-type: none"> • Undefined

1 What We Found

Some Key Centralised Application Platform

Application Name	Year Installed	Hardware Platform	<SECURITY REMOVED>	DBMS	<SECURITY REMOVED>	COTS?	<SECURITY REMOVED>	Development Tools
DIMAnet (Current version)	2002	Sun				No		
DIMAnet (Planned version)	2005?	Wintel		Oracle		No		Mysource Matrix Content Management System
eBusiness	2001	Sun		Oracle		No		JBuilder, Eclipse and IntelliJ
ICSE	1999	Mainframe		DB2		No		AppBuilder
IMIRS		Intel		Oracle		No		IBM Ascential Data Stage
IRIS	1989	RS6000		Oracle		No		
SAP	2003	Intel		Oracle		Yes		
TRIM	1999	Intel		Oracle		Yes		
TRIPS	1990	Mainframe		ADABAS		No		Natural

Characteristics

- There are a wide variety of systems of differing ages, technology platforms, development approaches etc
- Relatively little of the business application suite is based on current mainstream application technologies
- The development of the overall application platform is not currently strongly coordinated, or aligned to an enterprise architecture
- There are a variety of different approaches employed in developing, maintaining and enhancing the applications
- Some significant applications are on platforms that are either rapidly approaching, or at the end of what would normally be considered their natural lifecycle e.g. eBusiness

1 What We Found

Some Key Distributed Application Platforms

Application Name	Year Installed	Hardware Platform	Runtime OS	DBMS	Client	Programming Language	Development Tools
JESSICA (Victoria)	2000			Oracle	J2EE	Java	Java
GPS (Adelaide)	2002	Wintel	Windows	Access	Office	Access	Access

Characteristics

- Generally developed to meet a localised need, that could not be accommodated by central development groups
- Very wide variety of approaches, ranging from good to poor application platform practice
- Utilised local resources, usually from the business unit, to develop and support the application
- Development decisions, including platform technology choice, made largely on the basis of local and immediate scope/needs/skills
- Enterprise application platform needs and impacts are often not considered
- Continuity is a significant problem in terms of local maintenance of small system application platforms, due to churn in business roles

1 What We Found

Lotus Notes Applications

Notes Application	<SECURITY REMOVED>	Web Based?	# Users	<SECURITY REMOVED>
ADaM		No	<10	
AdviceTrack		No	<10	
BSG Briefs		No	10-50	
BSG Calendar		No	>50	
Client Survey		No	<10	
DIMAnotes		No	All staff	
Family Visitor Network		No	<10	
Feedback Database		No	<10	
GRAS Setup		No	>50	
IECN Calendar		No	10-50	
IHSS		No	<10	
Mail Link				
Mara Mail Processing		No	<10	
National Appointments System		No	>50	
NewsRoom		No	All staff	
Notes SAP Directory Interface		No	<10	
PALS (no longer used)		No	All Staff	
PMO Calendar				
Remote Access Locations				
RHI Calendars\		No	10-50	
WIFS		No	All staff	

Characteristics

- Apart from email, Lotus Notes supports 18+ applications, which have varying degrees of importance
- If a future change is made in the email platform, a plan would be necessary for the migration of the Notes mounted applications to another application platform technology

* Never implemented

** To be decommissioned



1 Health Check – Overall Business Systems Platform Layer

Area	Scalability	Capacity	Agility	Manageability	Service responsiveness	Reliability	Performance	Cost effectiveness	Resource availability	Security	Overall	Comments on Platform
Centralised Application Platforms	M	M	L	M	L	H	M	L	L	M		The current centralised application platform aging overall and the rating is trending downward. It will need substantial work to meet the likely future need
Distributed Application Platforms	L	M	H	L		M	H	M	L	L		The overall application platform is currently effective. While a few distributed application platforms are actively managed, in general they are largely unmanaged, and as such represent business risk
Lotus Notes Application Platform	M	M	M	M		H	M			M		Notes application infrastructure is in reasonable condition and generally operates reliably as a platform. A number of applications are supported by a small development team
Overall												The current overall application platform is effective for current purposes, but has issues which require active management

Very Effective
 Effective
 Somewhat Effective
 Not Effective

1 Health Check – Selected Application Platforms

Area	Scalability	Capacity	Agility	Manageability	Service responsiveness	Reliability	Performance	Cost effectiveness	Resource availability	Security	Overall	Comments on Platform
DIMAnet	L	L	L	H	M	H	H		M	M		Platform requires consistent focus to ensure it is capable of delivering the breadth and depth of information required of a corporate intranet
eBusiness	H	M	H	M	M	H	H		H	M		Architecture needs to be closely aligned with that of other key applications in DIMA. Platforms currently supported however are rapidly approaching end of support life
ICSE	M	H	L	M	M	H	H		L	H		Platform resources are scarce and the technology may present difficulties in meeting likely future needs
IRIS	L	L	L			H	H		L	M		Platform is effective for supporting IRIS operations but is out of technology support and therefore represents significant business risk
SAP	M	M	M	M	M	H	M		M	M		Relatively new system platform, regional performance is an issue
TRIM	L	L	L	M	M	M	L		M	H		Constrained by delayed platform upgrade
TRIPS	M	H	M	H	L	H	H		L	H		Some of the platform technology is becoming harder to support

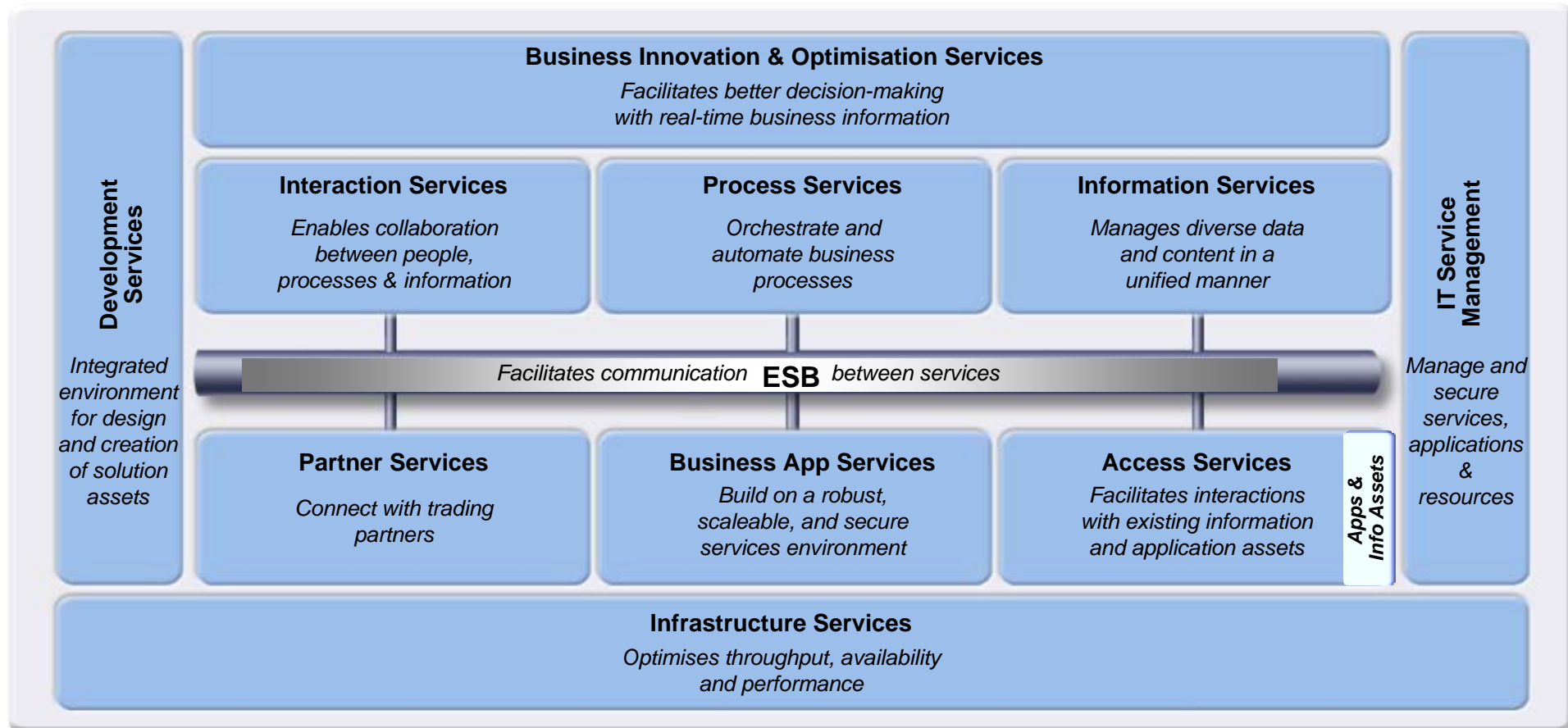
Very Effective
 Effective
 Somewhat Effective
 Not Effective



1 Best Practices

Area	Best Practice Description for Application Technology Platform
Centralised Application Platform	<ul style="list-style-type: none">• Applications are compliant with an enterprise architecture• Applications are mounted on commercial mainstream platforms• Applications are based around a business service based architecture, e.g. Services Oriented Architecture• Applications are actively managed over their entire lifecycle from initial design through to retirement
Distributed Application Platform	<ul style="list-style-type: none">• Applications are compliant with an enterprise architecture• Applications are mounted on commercial mainstream platforms• Applications are actively managed over their entire lifecycle from initial design through to retirement
Lotus Notes Application Platform	<ul style="list-style-type: none">• Applications are compliant with an enterprise architecture• Applications are mounted on a commercial mainstream platform• Applications are actively managed over their entire lifecycle from initial design through to retirement

1 Best Practices Example – An Enterprise Application Architecture 1



Please see the next slide for an explanation of this diagram in terms of the Business Systems Platform Layer



Best Practices Example – An Enterprise Application Architecture 2

- The Enterprise Application Architecture diagram on the previous slide is one possible arrangement for an application architecture, from a major industry source of good Application Architecture practices
- There are numerous major components that make up an overall Enterprise Application Architecture and that platform components support most of them
- Business Systems Platform Layer components of the architecture are found *primarily* in the Infrastructure Services, IT Service Management areas, but also *extend* into the aspects of most of the other “Services” areas and into the Enterprise Services Bus
- The design of the overall Enterprise Application Architecture has very strong implications for the platform components, so those components cannot be realistically selected in isolation from the overall application architecture
- When the Business Systems Platform Layer components are selected in compliance with an Enterprise Application Architecture and applications are also built in compliance with that architecture, appropriate and consistent alignment is maintained between the applications and the application platform across the whole enterprise

1 Gaps and Implications

Gap	Implications	What's needed
Application platform technologies are not aligned across business units	<ul style="list-style-type: none"> Higher platform costs due to unnecessary complexity 	<ul style="list-style-type: none"> Co-ordination of platform technologies at an enterprise level
No published Enterprise Architecture to align Application platform with	<ul style="list-style-type: none"> Agility, Manageability, Scalability, Robustness, Resilience etc are compromised through a lack of co-ordinated enterprise approach 	<ul style="list-style-type: none"> An agreed and published Enterprise Architecture
Wide variety of application development platforms in use	<ul style="list-style-type: none"> Lack of tool support for developers as tools are often not cost effective unless they can be widely applied 	<ul style="list-style-type: none"> A strategy for reducing the number of different application development platforms in concurrent use
Applications platforms at the end of their lifecycle	<ul style="list-style-type: none"> Business risk of some platform failure is significant 	<ul style="list-style-type: none"> A strategy and program for putting the required business functionality on a sustainable application platform
Gaps in applications cause users to develop small, one-off solutions on non-standard platforms	<ul style="list-style-type: none"> Business functions and data are performed on unmanageable application platforms, with risks to the reliability and availability of the business function, as well as for any locally stored data associated with it 	<ul style="list-style-type: none"> Strategy for support of small-scale development, with policies to minimise user motivation to develop small applications on their own, supported by capabilities to enable users to get needs met in an institution-friendly way



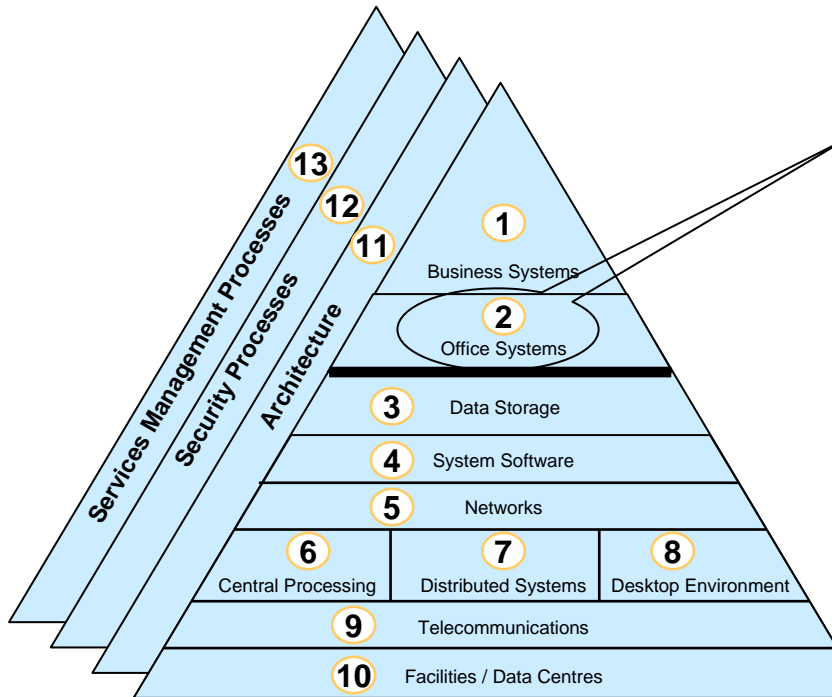
1 Business Systems Platform Layer

Area	Recommendations – Immediate	Health Check Initiative ¹	DIMA ¹	Recommendations – Longer Term	Health Check Initiative ¹	DIMA ¹
Centralised applications	<ul style="list-style-type: none"> 1.1 Perform IRIS platform risk review 1.2 Develop migration strategies and plans for all ageing application platforms 	6		<ul style="list-style-type: none"> 1.5 Develop, publish and use an enterprise application architecture that covers all application areas 	6	O5
Distributed applications	<ul style="list-style-type: none"> 1.3 Develop strategy for small application platforms 	Partially in 2 & 6				
Lotus Notes applications	<ul style="list-style-type: none"> 1.4 Evaluate Lotus Notes in context of strategy for small applications 	Partially in 2				

¹See list of initiatives following

Note: DIMA assumed responsibility for exploring certain recommendations in their development of the future IT vision

2 Overview of Office Systems Layer



Scope

- Interpersonal communications and collaboration
- Intranet and Internet
- Personal productivity
- Records management and archiving
- Desktop reporting

Characteristics

- The e-mail platform provides basic e-mail functionality however requires functionality and performance improvements
- DIMAnet is promising as an intranet gateway, but limited in depth
- The Microsoft Office tool suite is widely used, standard across DIMA, robust, and up to date
- The corporate records management system, TRIM, is in place but with limited effectiveness. DIMA record keeping standards are awaiting executive approval
- Information and tools for desktop reporting include Crystal Reports and several data warehouses. Access to data for reporting is not easy

Who provides it

- CSC – on-shore desktop software provisioning, e-mail, Internet connectivity
- DFAT – off-shore desktop software provisioning, e-mail, Internet connectivity (out of scope)
- BSG – applications support (Web applications, TRIM)



2 What We Found

Summary of Interview and Document Reviews

Scope Area	As-Is State	As-Planned State	Future State Vision
Interpersonal communications and collaboration	<ul style="list-style-type: none"> E-Mail suffers periodic performance problems Limited functionality in the e-mail offering Limited server capacity causes peak period performance problems 	<ul style="list-style-type: none"> Upgrades planned to improve reliability and redundancy of Notes email and implement Domino archiving servers 	<ul style="list-style-type: none"> Possible review of email platform choice Possible widespread use of secure collaboration workspaces
Internet and intranet	<ul style="list-style-type: none"> DIMAnet is wide but not deep in terms of information and functions 	<ul style="list-style-type: none"> Re-design planned for all levels of immi.gov.au 	<ul style="list-style-type: none"> Possible enhanced Web portal
Personal productivity	<ul style="list-style-type: none"> Personal productivity tools are standard across DIMA and are widely used. These tools include MS Office XP Pro and several application clients 	<ul style="list-style-type: none"> Planned automatic distribution of desktop software Planned to implement packaged applications using WISE Packaging Studio 	<ul style="list-style-type: none"> Fully integrate personal productivity tools into role based business tool sets.



2 What We Found

Summary of Interview and Document Reviews (Cont'd)

Scope Area	As-Is State	As-Planned State	Future State Vision
Records management and archiving	<ul style="list-style-type: none"> Record keeping standards and guidelines are awaiting management approval TRIM Captura is considered ineffective by some users. E-mailed documents are not automatically retained or managed as part of a formal records management program (policy statements do exist for the storage of e-mail) Current version is not supported 	<ul style="list-style-type: none"> Planned formalisation of record keeping standards 	<ul style="list-style-type: none"> Substantial increase of percent of records stored in electronic form Improved file tracking using technology such as RFID Integrated into application processing "systems" TRIM Context will provide a zero footprint, web delivered client suitable for GSE program



2 What We Found

Summary of Interview and Document Reviews (Cont'd)

Scope Area	As-Is State	As-Planned State	Future State Vision
Desktop reporting	<ul style="list-style-type: none"> Crystal Reports are developed and published to Crystal Enterprise (CE). They are available through a portal to all DIMA staff. CE provides security, scheduling and WEB access to reports Users are generally unable to understand data relationships to adequately use ad hoc reporting, so it is not available to them Reports are available to external clients via systems such as ARMS, Skill Matching Crystal Analysis Professional reports (multi-dimensional OLAP reports) are published to Crystal Enterprise 	<ul style="list-style-type: none"> Upgrade Crystal Enterprise to Business Objects XI. Business Objects have bought Crystal 	<ul style="list-style-type: none"> Upgrade Business Objects licences to allow: <ul style="list-style-type: none"> –Reporting off SAP BW and SAP R/3 –Integrated reporting across SAP and IMIRS data –Additional Business Objects tools for ad-hoc reporting (WEBI), dash board reports and performance indicator reports <p>Possible improvements could include:</p> <ul style="list-style-type: none"> A single client view across ICSE, TRIPS, and other systems An accessible enterprise data model to assist in locating data so users can understand the data relationships required for effective desktop reporting Reporting off SAP BW and SAP R/3



2 What We Found

SECURITY REMOVED



2 What We Found

SECURITY REMOVED



2 What We Found

SECURITY REMOVED



2 Health Check – Office Systems Layer

Area	Scalability	Capacity	Agility	Manageability	Service responsiveness	Reliability	Performance	Cost effectiveness	Resource availability	Security	Overall	Comments
Interpersonal communications and collaboration	H	M	L	M	L	M	L	?		H		<ul style="list-style-type: none"> Notes email reliable, but with some configurable functionality and performance limits that frustrate users Collaboration tools, Web email not available
Intranet - Internet	L	M	L	L		M		H		M		<ul style="list-style-type: none"> DIMA intranet is promising, but not yet a robust portal integrated with enterprise applications
Personal productivity	H	H	H	H	M	H	H	H	H	M		<ul style="list-style-type: none"> DIMA uses an industry standard set of tools corporate-wide
Records management and archiving	M	M	L	L		M	M	?		M		<ul style="list-style-type: none"> TRIM considered inadequate by some users Corporate data often stored in e-mail not TRIM Email over-relied on to pass key records Records management program needed
Desktop reporting	L	L	M	L		M	L	M	L	L		<ul style="list-style-type: none"> Browser based available however users perform their own Excel or Access reports regularly
Overall												



Very Effective



Effective



Somewhat Effective



Not Effective



2 Best Practices

Area	Best Practice Description
Interpersonal communications and collaboration	<ul style="list-style-type: none"> • Collaborations tools are reliable, available 24x7, scalable and fully compatible across DIMA • Support of both synchronous (such as Lotus SameTime and SameTime Connect) and asynchronous (such as Lotus Notes e-mail) communications
Internet gateway – Web access	<ul style="list-style-type: none"> • Delivered through a centralised Portal Service with content management services
Personal productivity	<ul style="list-style-type: none"> • Personal productivity tools are reliable, available 24x7, scalable and fully compatible across DIMA • Based on open standards (example: XML for document exchange)
Records management and archiving	<ul style="list-style-type: none"> • Records management, formal records management program, is automated through building into all relevant tools and applications, and is reliable, available 24x7, scalable and fully compatible across DIMA
Desktop reporting	<ul style="list-style-type: none"> • A centralised query and reporting Portal Service is available for desktop users, with search and personalisation capabilities • Reporting tool is browser based • A powerful, consolidated data warehouse provides a reliable single point of access for data used in reports



2 Best Practices – Interpersonal Communication and Collaboration

Industry Commentary on Lotus Notes and Microsoft Exchange Feature Comparison

Feature	Notes	Exch
Messaging (email)	Yes	Yes
Replication	Yes	Option ¹
Calendar and scheduling	Yes	Yes
Workflow and collaboration	Yes	No
Web server included	Yes	No
Application development platform	Yes	Partial ¹
Application development language	Several	VB
Server types supported	Several ²	W200x
Vulnerability to security attack	Lower	Higher
Product share of email market (2003) ³	46%	44%

Some industry views

- Some developers say “if you want to just do email, then go with Exchange, otherwise go with Notes/Domino”
- Notes provides a fully endowed development environment, while Exchange supports “light customisation” only without introduction of other tools
- Notes desktop feels “different” to many users, Exchange clients are more familiar
- Email market share is roughly equivalent, but trend is toward Exchange
- Open source messaging systems (from Oracle, Sun, Novell) may be future options
- Once a company has an investment in a particular technology [Notes suite or Microsoft suite] and it’s working for them, does it make sense to heavily rock the boat?

¹ Requires other tools to achieve full functionality, such as IIS, SQL, Frontpage, BackOffice, 3rd party replication or distributed cluster

² Notes runs on OS390, UNIX, Windows 200x

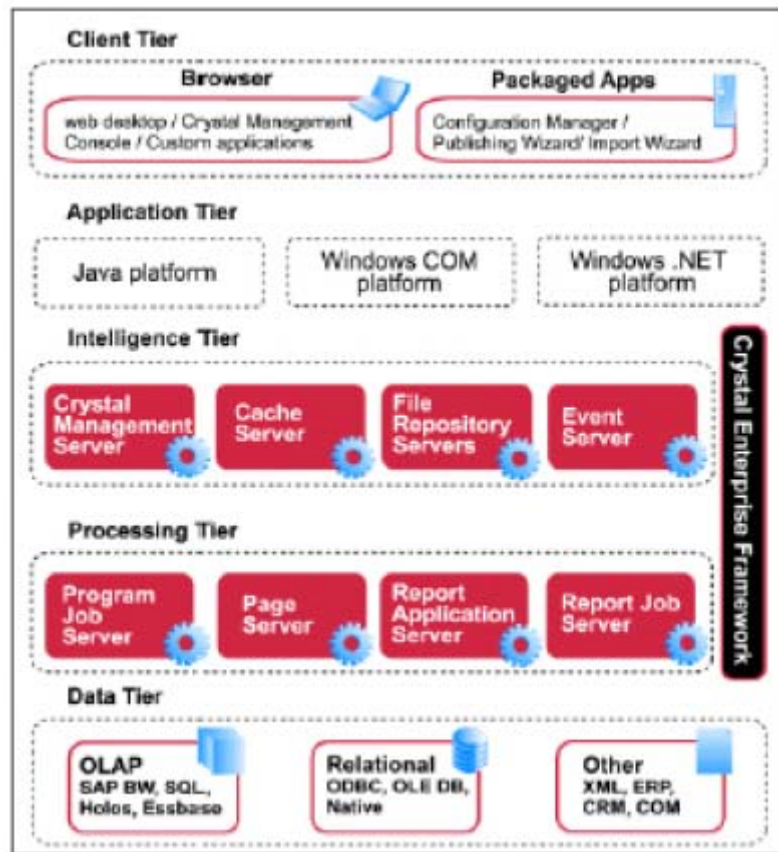
³ Gartner estimate. Other analyst estimates differ – IDC (US\$770M for Exchange, US\$709M for Notes), Ferris Research (60% of business email market for Exchange, 25% for Notes), Info-Tech Research Group (33% Exchange, 25% Notes for midsize companies)

Source: Myers, “A Guide For Comparing Notes/Domino And Exchange” (1998-2005, ZATZ Publishing), Lyons “IBM In Denial Over Lotus Notes” (2005, Forbes), Chutchian and Bulkeley, “Face-off: Domino vs Exchange” (2004, SearchNetworking.com)

2 Best Practice - Reporting

Industry Commentary on Crystal Reporting

Crystal Enterprise version 10 architecture



Some industry views

- BusinessObjects/Crystal, is a powerful, mature platform to build reporting and business intelligence solutions. It is one of four tier 1 BI products, also including Cognos, Hyperion Solutions and SAS
- Crystal has its own integrated development environment. It is relatively easy to learn for experienced users, being similar to other tools like MS Access reporting
- Crystal provides the option to build views and stored procedures in the database, or the latest version has a Command feature which allows SQL to built for the report
- Crystal doesn't lend itself to users building their own reports, mainly because each user would require his/her own license. Also users would need a level of knowledge of the database and the relationships which generally they won't have
- Crystal can be integrated into a web environment. Crystal Reports Server comes with a publishing wizard and a simple portal which allows publishing reports to the web

Source: Certia, "Feature comparison, Microsoft SQL Server 2000 Reporting Services vs Business Objects Crystal Reports / Crystal Enterprise (2004, rambla informatica s.1.), other industry sources

2 Best Practice – Reporting

Comparison of Crystal Enterprise / Crystal Reports to Microsoft Reports

Differentiating Features

Feature	CE	MR
Maturity and feature richness	More	Less
Databases supported	Many	One
Platforms	Many	One
Scalability	Higher	Lower
Support mobile client	Yes	No
Connectivity to ERMs	Yes	No
Linked reports	No	Yes
Number of graphic styles	More	Less
Maps	Yes	No
Graphics summaries	Yes	No
Direct printing	Yes	No

Key Features of Both Solutions

- Report development tools
- Report publishing onto Web
- Drill-down reports
- Cross-tab reports
- Multi-column reports
- Customisable graphics
- OLAP grids
- Hyperlinks supported
- Web viewer supported
- Security
- Report scheduling
- MS Office integration
- Open connectivity to data sources (OLEDB, ODBC, .net)

Crystal Enterprise has been rolled into the BusinessObjects XI product for nearly a year.

Microsoft Reports is a relatively new product and is not yet mature, Forrester estimates that it is at least ~18 months away from being a “credible and competitive reporting and analysis solution.”

Source: Certia, “Feature comparison, Microsoft SQL Server 2000 Reporting Services vs Business Objects Crystal Reports / Crystal Enterprise (2004, rambla informatica s.1.), CSC analysis

2 Best Practice – Records Management

Records Management Lessons Learned¹

Only 3 of these 12 lessons learned relate to technology

- Need for top & senior management support
- National records manager should set norms and standards for ERM and enforce legislation
- Responsibility for setting standards for procurement of ERM products and services and implementation strategies
- Need for clarification of roles of different players
- Need for co-operation with all relevant stakeholders
- • Need *proper* records management system to enable electronic system to work
- • Adequate technical support and infrastructure required before implementing an ERM
- Money, money, money! There must be a long-term budget in strategic plans
- Where learning has taken place there must be a change in behaviour by staff and managers to accept / understand their responsibilities
- Records managers with appropriate qualifications/experience must be appointed to all government bodies
- • E-records systems require greater skills for records clerks than current systems

Training is key

- Training required in records management (both paper and electronic)

Training Considerations

Records Management requires extensive training and change management support, and can take 3 – 5 years to fully implement

Typical training requires 10 days:

- One day of formal training centred on records management principles, how to use the thesaurus and a hands on TRIM session
- Three days of 1:1 sessions at individual's desks
- Three days floor walking to check on individual's needs and see if they required further assistance or training
- Two days of extra 1:1 sessions
- One day of phone support

¹ Government of South Africa

2 Best Practices Example – The Services-Oriented Desktop

Client Platforms

- Client Formats: Portable, Desktop, Tablet, Thin, Web, Personal
- Client Services: Security, Application Delivery & Connectivity, Integration with Peripherals

Common Tools

- Viewers, Office Suites, Communication, Collaboration, Personal Productivity

Naming & Locator Services

- Servers, Applications, Data, Yellow pages, (services), White pages, (people)

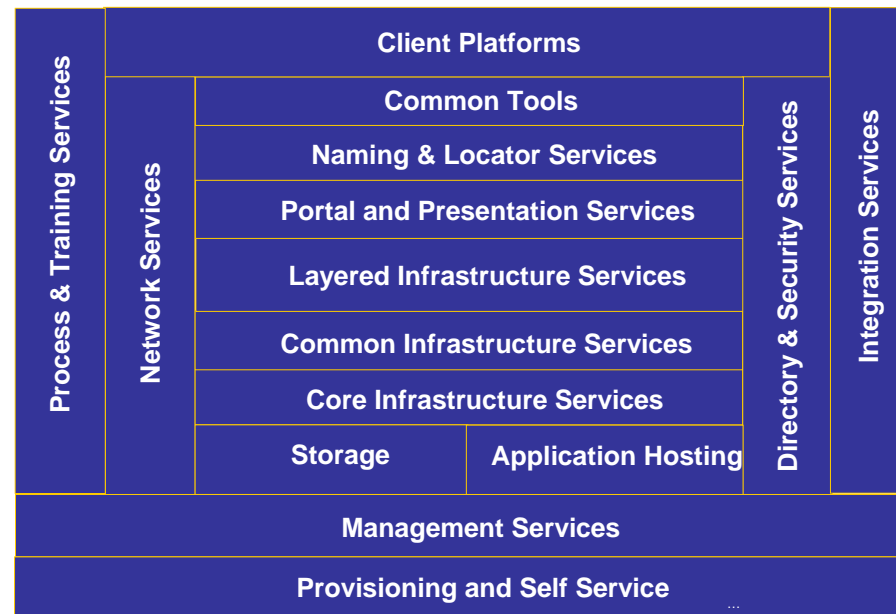
Portal and Presentation Services

- Navigation, Aggregation, Personalisation, Device Independence

Layered Infrastructure Services

- Streamed Video, Workflow, Search and Subscription, Document Management, Presence, Collaboration

Services-Oriented Desktop Components



Common Infrastructure Services

- Voice, Email, FAX, SMS, Instant

Core Infrastructure Services

- Web, File, Print

Storage

- Store, Backup, Archive,
- Storage management

Application Hosting

- Windows Terminal Services, Web Hosting
- Unix Terminal Services

Management Services

- Problem Resolution, Service Request, Service Monitoring, Asset, Server, Storage, Network and Security Management

Provisioning and Self Service

- Self Help, Self heal, New Device, Install Application, New User, New Group, New Team

Process & Training Services

- Team working, Virtual Team Working, Personal Effectiveness, On line and Classroom Training, Discoverability

Network Services

- Voice, Connectivity: LAN, WAN, Extranet, Wired and Wireless Firewall, Routing, VPN, QOS

Directory & Security Services

- Authenticate, Authorise, Sign, Encrypt, Roles, Organisation

Integration Services

- Workflow, Messaging, Meta Directory, Translation

2 Gaps and Implications

Interpersonal communications and collaboration

Gap	Implications	What's needed
Difficult to archive or track key e-mail information	Important corporate information may not be retrievable for analysis or evidentiary purposes	<ul style="list-style-type: none"> • Technology changes to automate enterprise-wide e-mail archiving • Records management policies and procedures that cover e-mail data • User training
Limited knowledge management capabilities	Institutional knowledge which impacts operational outcomes may not be accessible, now or in the future	<ul style="list-style-type: none"> • A knowledge management program • Portal or other technology to organise and provide access to knowledge
Limited use of collaboration tools	Information is not shared, so does not have the opportunity to become knowledge which has the ability to impacts corporate outcomes	<ul style="list-style-type: none"> • Collaboration technologies that are effective, cost-efficient, and can be invoked from any desktop
Lack of enterprise workflow technology	Business tasks may not be completed properly, or at all. Approvals may be overlooked and productivity may be impacted	<ul style="list-style-type: none"> • Business process redesign capability • Workflow capability which is effective across multiple application technologies



2 Gaps and Implications

Interpersonal communications and collaboration (Cont'd)

Gap	Implications	What's needed
Can't send useful information to offshore sites in a recordable fashion	<ul style="list-style-type: none"> Records management data is incomplete No ability to readily and reliably check that changes to procedure have been communicated to all off-shore staff 	<ul style="list-style-type: none"> DIMAnet off-shore needs to be integrated with a records management system for version control and database of record coverage for Web objects documents, pdf images, etc

Intranet - Internet

Gap	Implications	What's needed
DIMAnet deficiencies	<ul style="list-style-type: none"> The ability to share essential corporate and operational information is compromised 	<ul style="list-style-type: none"> A DIMAnet content management program Possible upgrades to DIMAnet development and support tools

Personal productivity

Gap	Implications	What's needed
Desktop tools are not fully integrated with enterprise applications	<ul style="list-style-type: none"> Functionality may be duplicated between personal productivity tools and applications, with additional training required for each 	<ul style="list-style-type: none"> Desktop tools fully and well integrated with enterprise applications Decoupled logic between presentation and business logic, where appropriate



2 Gaps and Implications

Records Management and Archiving

Gap	Implications	What's needed
Limited corporate records management program and tools	<ul style="list-style-type: none"> Important corporate information may not be retrievable for analysis or evidentiary purposes 	<ul style="list-style-type: none"> Records management capability Electronic document management and content management technology Automated location tracking for non-electronic records, i.e. RFID tracking of paper files
Information scattered in various databases, some not under enterprise management	<ul style="list-style-type: none"> The primary source of data may not be clear, leading to flawed analysis and/or outcomes. Data may not be adequately secured and protected from damage. 	<ul style="list-style-type: none"> Enterprise data management strategy Database consolidation program
Desktop tools are not well integrated with records management tools	<ul style="list-style-type: none"> Records generated from the use of desktop tools may not be adequately captured. 	<ul style="list-style-type: none"> Enterprise data management strategy Enterprise record management strategy



2 Gaps and Implications

Desktop Reporting

Gap	Implications	What's needed
Data is not easily accessible at the desktop	Business decision making and reporting is compromised due to lack of data or use of inappropriate data	<ul style="list-style-type: none"> • Institutional data management capability that includes <ul style="list-style-type: none"> – Uniform data standards – Physically or logically consolidated databases such as a single data warehouse or use of a common reporting tool to integrate the 2 data warehouses at the presentation layer – Powerful query, ad hoc search, and reporting tools • Expanded ad hoc search and reporting tools and more advanced reporting and analysis tools such as OLAP, Dash Boards, data mining, KPIs
Remote DIMA locations and non-desktop devices do not have full access to data	Operational decision making and business reporting is compromised due to lack of data	<ul style="list-style-type: none"> • Global accessibility to desktop systems and enterprise applications (such as data warehouses) • Support of variety of clients (personal digital assistant, interactive voice response, wireless, etc)



2 Office Systems Layer

Area	Recommendations – Immediate	Health Check Initiative ¹	DIMA ¹	Recommendations – Longer Term	Health Check Initiative ¹	DIMA ¹
Interpersonal communications and collaboration	<ul style="list-style-type: none"> 2.1 Fix Notes configuration problems 2.2 Enhance email archiving technology to be enterprise-wide and automated 2.3 Implement document collaboration software 	<p>1.1</p> <p>3</p>	S20	<ul style="list-style-type: none"> 2.6 Develop strategy for communication/collaboration, covering <ul style="list-style-type: none"> – Electronic communications – Knowledge management – Electronic collaboration tools Enterprise business process and workflow technology – Evaluate best long-term technology solution, including whether Lotus Notes should be replaced 	<p>3</p> <p>3</p>	S17
Internet and intranet	<ul style="list-style-type: none"> 2.4 Continue upgrade of DIMAnet as per current plan 			<ul style="list-style-type: none"> 2.7 Implement content management capabilities 		S17
End-user applications	<ul style="list-style-type: none"> 2.5 Develop strategy for end-user application development 	Partially in 2 & 6		<ul style="list-style-type: none"> 2.8 Provide global accessibility to desktop systems, including through various devices 2.9 Refresh application architecture to achieve integration of enterprise applications and desktops 	<p>1.2</p> <p>6</p>	

¹ See list of initiatives in a later section

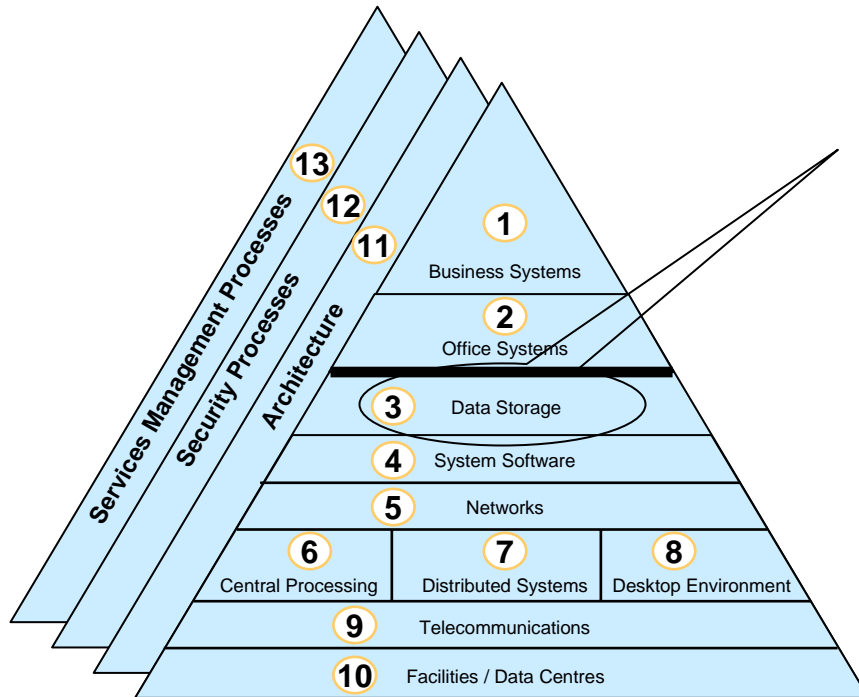


2 Recommendations continued

Area	Recommendations – Immediate	Health Check Initiative ¹	DIMA ¹	Recommendations – Longer Term	Health Check Initiative ¹	DIMA ¹
Records management and archiving	<ul style="list-style-type: none"> 2.10 Ratification of record keeping standard 		NAA	<ul style="list-style-type: none"> 2.12 Develop strategy for records management, covering <ul style="list-style-type: none"> – Electronic document management – Content management technology – Automated location tracking for non-electronic records – Integration of record management functions with business applications 2.13 Consolidate enterprise recordkeeping data stores 		NAA
Desktop reporting	<ul style="list-style-type: none"> 2.11 Provide powerful ad-hoc desktop query and ad-hoc reporting tools to the desktop, with associated training 		S9.1	<ul style="list-style-type: none"> 2.14 Implement an overall data management capability to ensure: <ul style="list-style-type: none"> – there are clearly defined primary sources for all data – the data warehouse/marts acquire data that reliably reflects the content of primary data sources 		S9.1

¹ See list of initiatives in a later section

3 Overview of Data Storage Layer



Scope

- Enterprise DBMS Platform
- Distributed and Personal DBMS Platform
- Data Warehouses / Datamarts Platform
- Data Classification, Standards, Metadata only to the level that they impact Platform choices

Characteristics

- DIMA data is stored in many places, under many different conditions, on many different technologies, with many different levels of security and with many different levels of access assurance
- The enterprise-level DBMS platform technologies include ADABAS, IBM DB2, MS SQL Server, and Oracle. All are mainstream DBMS platforms, however the number of different DBMS products exacerbates issues with organising and aggregating data
- Workgroups and individuals rely primarily on <SECURITY REMOVED> platforms for local data storage
- The IMIRS and SAP data warehouse platforms are a solid foundation but lack a strategy for increasing ease of data access

Who provides it

- DIMA
- External providers (such as Detention Centre Operator)
- External Government data sources (other Departments, Tribunals etc)

3 What We Found

Summary of Interview and Document Reviews

Scope Area	As-Is State	As-Planned State	Future State Vision
<ul style="list-style-type: none"> Enterprise DBMS Platforms 	<ul style="list-style-type: none"> DB2, Oracle, SQL Server, and ADABAS platforms used Multiple versions of Oracle within DIMA, well supported. IRIS is on unsupported version Many DB servers Takes a long time to generate reports 	<ul style="list-style-type: none"> Partial consolidated environment with metrics on the licence usage High availability implemented on some environments with / without clustering 	<ul style="list-style-type: none"> Consolidate Oracle instances (i.e. consolidate relevant instances in to schémas) Consolidate infrastructure to minimise license usage Provide high availability using industry standards Consolidate Oracle dB platforms to a single platform
<ul style="list-style-type: none"> Distributed and Personal DBMS Platforms 	<ul style="list-style-type: none"> Multiple Access Databases distributed within DIMA, no corporate support provided 	<ul style="list-style-type: none"> No plans for this environment 	<ul style="list-style-type: none"> Undefined
<ul style="list-style-type: none"> Data Warehouse / Data Mart Platforms 	<ul style="list-style-type: none"> Accessing data is difficult 2 different data warehouse architectures 	<ul style="list-style-type: none"> Additional end user data marts 	<ul style="list-style-type: none"> Undefined
<ul style="list-style-type: none"> Data Classification, Standards, Metadata 	<ul style="list-style-type: none"> Moderate control of reference data, naming conventions, etc Unclear ownership of data 	<ul style="list-style-type: none"> Undefined 	<ul style="list-style-type: none"> Undefined



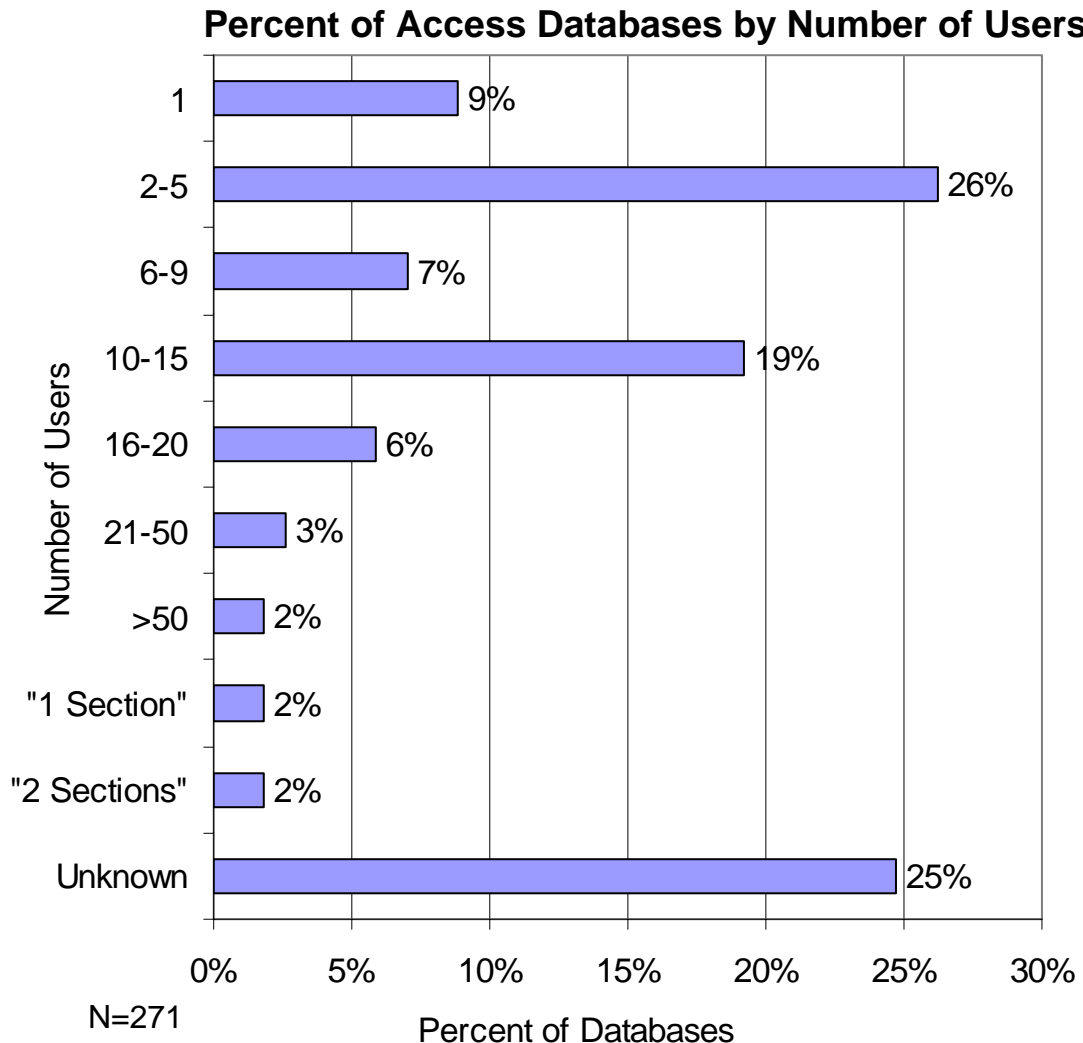
3 Current State – Enterprise DBMSs

Inventory of Database Management Systems

Type of Server	Number Servers	DB Name	Vendor	<SECURITY REMOVED>
Mainframe	2	DB2	IBM	
Mainframe	2	Adabas	Software AG	
RS6000	87	Oracle	Oracle	
RS6000	2	Oracle	Oracle	
RS6000	1	Oracle	Oracle	
Sun Enterprise	3	Oracle	Oracle	
Sun Enterprise	2	Oracle	Oracle	
Sun Enterprise	1	Oracle	Oracle	
Sunfire	2	Oracle	Oracle	
Wintel	1	Oracle	Oracle	
Wintel	8	Oracle	Oracle	
Wintel	6	SQL Server	Microsoft	
Wintel	2	DB2	IBM	

- DIMA has a variety of database system platforms, but all are mainstream
- ADABAS faces a potential end-of-life scenario
- Oracle runs on multiple server platform types (a plus) at various version levels (a minus)
- Upgrades have been made or are underway to standardise Oracle across all platforms
- The RS6000 Oracle V7 Database used for IRIS is at end of life

3 Current State – Distributed and Personal DBMSs



- Access is in extensive use as a platform for workgroup and personal applications. 271 business critical Access databases have been inventoried as at June 2004
- A majority of distributed and personal database instances have 15 users or less. A small minority have more, but includes one database used by 100 users
- Limited proliferation of other DBMS types such as FoxPro
- No management of data in Access databases

3 Current State – Data Warehouses / Data Marts / Crystal Enterprise

Data Warehouse and Analysis Tools Components

Type of Server	Number Servers ¹	DB/DW Software Name
IMIRS (Wintel)	1	IMIRS Oracle DB
IMIRS (Wintel)	1	IMIRS Crystal Enterprise
IMIRS (Wintel)	1	IMIRS SQL Server/OLAP
IMIRS (Wintel)	4	IMIRS Crystal Enterprise / SQL
IMIRS (Wintel)	1	IMIRS Oracle DB / Crystal Enterprise
SAP (Wintel)	Unknown	SAP DW

- DIMA has implemented Crystal Enterprise and Oracle DW across several servers. Servers could be consolidated
- IMIRS and SAP DW platforms are separate, creating challenges in consolidating common data across these environments. Difficult to link SAP data to operational system data
- Users claim difficulties getting timely, quality information

IMIRS and Crystal Enterprise Application Diagram



3 Health Check – Data Storage Layer

Area	Scalability	Capacity	Agility	Manageability	Service responsiveness	Reliability	Performance	Cost effectiveness	Resource availability	Security	Overall	Comments
Enterprise DBMS Platforms	M	M	L	L	M	M	M	L	M	H		<ul style="list-style-type: none"> Mainstream DB software Scattered, duplicated data Multiple versions of Oracle spread across many servers
Distributed and Personal DBMS Platforms	L	L	H	L	L	M	M	M	H	L		<ul style="list-style-type: none"> MS Access and Excel are in extensive use Criteria needed for when a database is of enterprise scope rather than distributed/personal scope
Data warehouse / Data mart Platforms	H	M	L	M	M	M	L	M	M	L		<ul style="list-style-type: none"> Good technical foundation 2 different data warehouses may make data harder to access and manage
Data Classification , standards, Metadata												<ul style="list-style-type: none"> A set of standards and metadata would make data easier to find and manage
Overall												

Very Effective
 Effective
 Somewhat Effective
 Not Effective

3 Best Practices

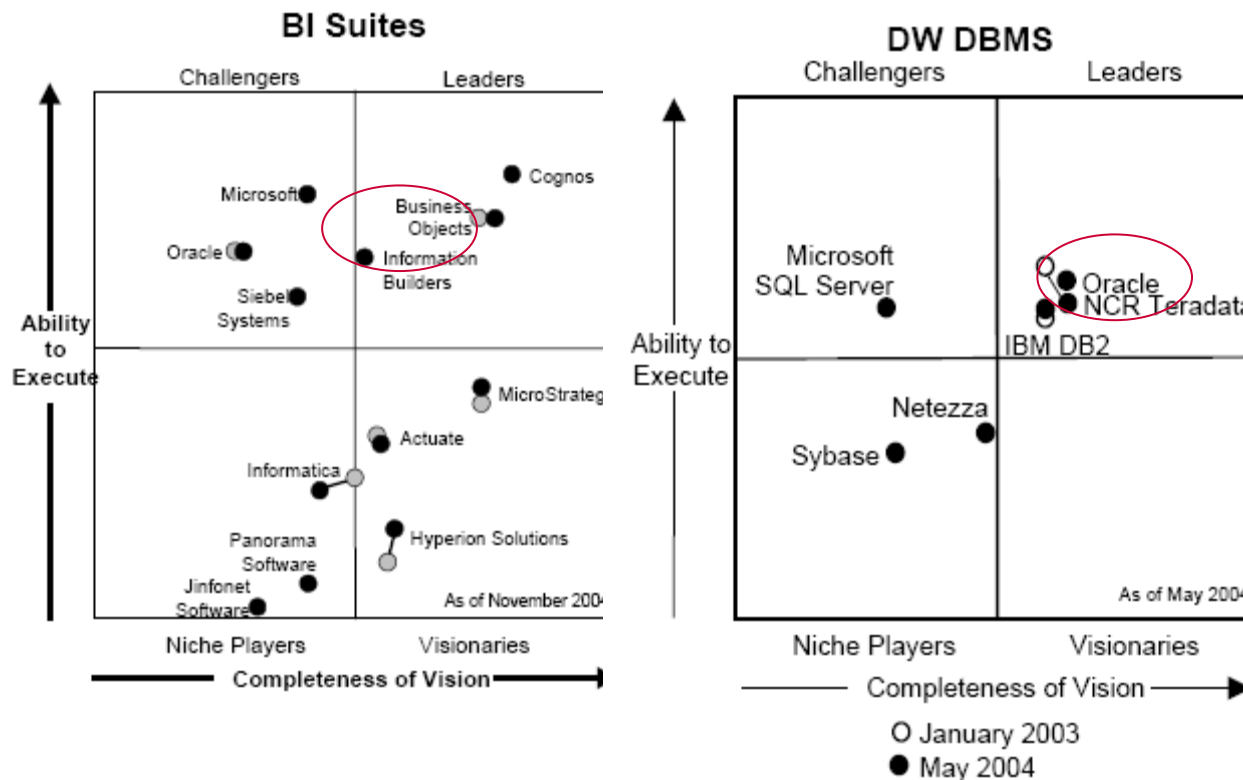
Dimension	Best Practice Description
Enterprise DBMS Platforms	<ul style="list-style-type: none"> • DBMSs consolidated to a common release version of each DBMS platform • Individual databases consolidated where feasible on a single DBMS platform • ADABAS – “The useful life of pre-relational mainframe database management system engines is coming to an end because of a diminishing application and skills base, and increasing costs. Develop a five-year plan, at minimum, to migrate to other DBMS engines.” (Gartner, 2005)¹
Distributed and Personal DBMS Platforms	<ul style="list-style-type: none"> • General purpose end user DBMS platforms such as Microsoft Access limited to specific fit for purpose implementations
Data Warehouse / Data mart / Reporting Platforms	<ul style="list-style-type: none"> • Dashboards • Data mining • Analytics • Forecasting • Business modelling • Linked to Enterprise search engine capability
Data Classification , Standards, Metadata	<ul style="list-style-type: none"> • A Database and Business Intelligence architecture in place and used enterprise-wide, to consistently drive DBMS platform selection and deployment

¹ Gartner, "Pre-Relational Mainframe DBMS Market Continues to Decline", August 2005

3 Best Practice – Data Warehouses / Business Intelligence

Industry Commentary on Business Intelligence and Data Warehouse Platform Technology

Gartner “Magic Quadrants”



Some industry views

- Gartner Research rates Business Objects Business Intelligence tool suite and Oracle Data Warehouse in the “Leaders” quadrants
- Industry trend – technology changing to make reporting tools usable as business services (through APIs), so applications can create reports directly
- Traditional reporting tool design strategy has been to build a metadata view within the tool – this makes the tool easy to use on a stand-alone basis for end users, but difficult to integrate within business systems
- Recently, reporting tool design strategy has changed to favour making the tool easier to integrate into business systems as the reporting service for the system. However this implies that end users will require more understanding of the underlying data, when using the tool on a stand-alone basis

3 Best Practices Example

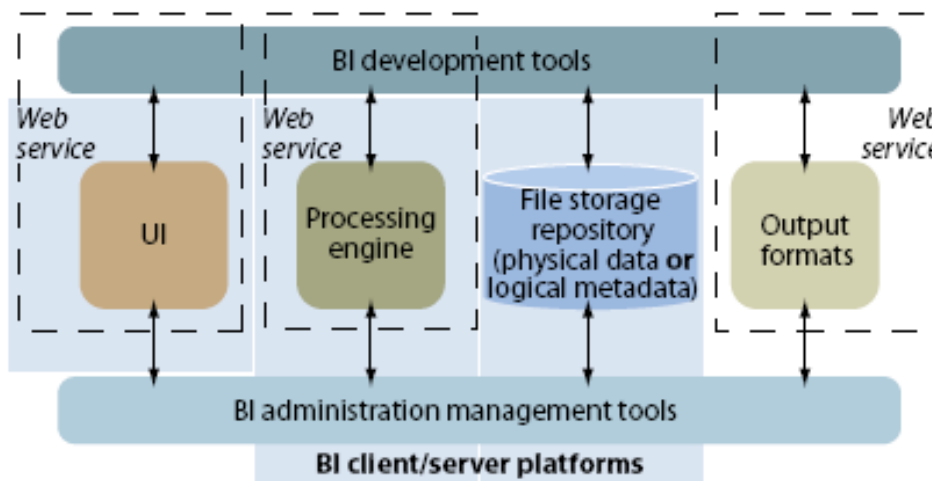
Components of Service-Based Database / Business Intelligence Platform Architecture

Service Name	Service Description
Data Base and Object Base	Methods for tabular and complex data management
Data Movement / File Transfer	Methods for data movement, replication, transformation and aggregation, plus file transfer
Data Quality	The assessment, cleansing, and monitoring of the consistency, reliability, and accuracy of business data
EDI	Methods and tools for electronically exchanging defined business documents and transactions with trading partners
Image Capture	The processing of paper documents to create digital images and metadata
Inquiry, Analysis & Information Discovery	Methods for querying and analyzing data
Metadata	Methods for definition, storage, and access of user and IT metadata
Report Creation and Distribution	Methods for automated execution, distribution, and storage of reports. Includes Document Archive and Retrieval Systems (DARS) and Computer Output to Laser Disk (COLD)
Synchronisation	Methods and tools for keeping related data fields in different repositories in sync

Source: Federal Reserve System, [FRS Technology Capabilities Framework](#) (2005, unpublished)

3 Best Practices Example

Business Intelligence Platform Architecture



- **Output formats: delivering the goods.** Output formats are the various mechanisms used to deliver resulting data to the end users, including graphs, tables, spreadsheets, dashboards, and plain or rich text. Many BI solutions maintain a proprietary file format for each text, graphic, and data file and allow for the conversion to standard file formats such as ASCII text, Adobe PDF, most graphics formats (e.g., JPEG or BMP), and Microsoft Excel spreadsheets

- **User interface: cosmetic appeal.** The user interface (UI) is the way in which humans provide input to the BI application, develop BI applications, manipulate objects and features within the product, and receive output in the proprietary format native to the BI solution
- **Processing engine: raw power.** The processing engine is the brains of the BI platform and acts as the administrative hub for running BI application logic, as well as the operations the BI application performs. These operations can include accessing and presenting data, performing calculations, drawing diagrams, sorting data, and converting results into the proprietary file storage format within the BI repository
- **File storage repository: organising data and results.** The file storage repository provides the physical storage location for all application, data, and output files. OLAP products such as Hyperion Essbase and Applix TM1, and reporting products such as Crystal Enterprise (now Business Objects XI) and Actuate e.Report Option, store the persistent, multidimensional cubes or the report templates in their respective repositories, along with some of the supporting metadata needed to manipulate and present the data to end users. Also stored in this repository are the users' desktops, application objects, and output files



3 Gaps and Implications

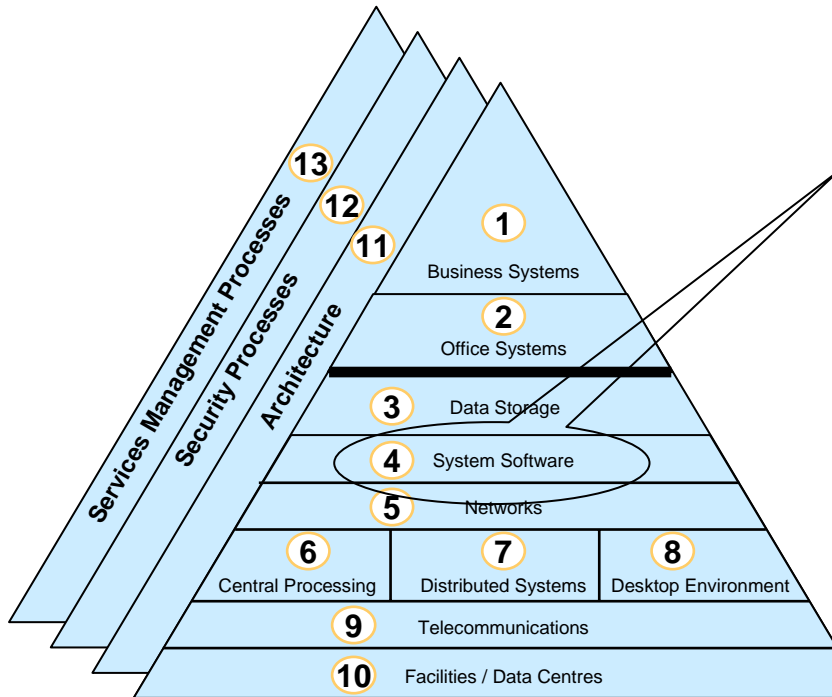
Gap	Implications	What's needed
Enterprise databases fragmented and on variety of DBMS platforms	<ul style="list-style-type: none"> • Difficulty in becoming a scalable, agile and cost effective IT environment • Increased risk through having critical data on inappropriate database platform architecture 	<ul style="list-style-type: none"> • A comprehensive DIMA data strategy that will enable the most efficient use of the DIMA Infrastructure, that considers <ul style="list-style-type: none"> – DBMS platform standardisation – Consolidation of databases where appropriate on platforms
Distributed and personal databases platforms that should be managed as enterprise asset	<ul style="list-style-type: none"> • Key data not available for use throughout the enterprise • Challenges managing critical datasets in non-standard distributed/personal DB platform environments 	<ul style="list-style-type: none"> • A review of data held in MS Access databases platforms and issue (or re-issue) of policy on distributed and personal databases
Data warehouses, management-level data hard to access	<ul style="list-style-type: none"> • Decisions on what level of investment is appropriate for various areas of the DIMA IT Platform area may be made on a flawed basis, particularly in terms of being able to search and retrieve data efficiently and effectively 	<ul style="list-style-type: none"> • A comprehensive DIMA data strategy and inventory that considers the role of a data warehouse platform and information it needs to contain
Standards for data not institutionalised	<ul style="list-style-type: none"> • Duplication of data in various areas • Difficulties in finding data 	<ul style="list-style-type: none"> • Enterprise Data standards in place

3 Data Storage Layer

Area	Recommendations – Immediate	Health Check Initiative ¹	DIMA ¹	Recommendations – Longer Term	Health Check Initiative ¹	DIMA ¹
Enterprise DBMS platforms	<ul style="list-style-type: none"> 3.1 Develop a comprehensive DIMA data strategy and inventory that includes a strategy for managing the integrity of data for both short term and long term retrieval needs 		O3	<ul style="list-style-type: none"> 3.4 Manage data, information, records and knowledge as a related and holistic area across DIMA, in terms of both horizontal and vertical views through the organisation 		
Distributed and end-user DBMS platforms	<ul style="list-style-type: none"> 3.2 Review data held in MS Access database platform and current policy related to this data 	Partially in 2		<ul style="list-style-type: none"> 3.5 Develop a clear database platform strategy which will enable the most efficient use of the DIMA infrastructure 		T8/A2
Data warehouses, data marts platform	<ul style="list-style-type: none"> 3.3 Include data warehouse / data mart considerations in a comprehensive DIMA data strategy and inventory 		T8			

¹ See list of initiatives in a later section

4 Overview of System Software Layer



Scope

- Operating Systems
 - IBM z/OS,
 - IBM AIX,
 - SUN Solaris,
 - Windows
 - Integration / Middleware – predominantly MQ Series

Characteristics

- Mainframe OS well positioned for future needs
- Proliferation of instances of servers within the environment
- Integration layer lacks a strategy for future requirements IRIS AIX versions are well out of supported levels

Who provides it

- CSC provide operating system support on key DIMA platforms
- DIMA predominantly provide application level support
- Middleware supported by different groups depending on system, i.e., CSC on mainframe, DIMA on apps servers, 3rd parties on their systems

4 What We Found

Summary of Interview and Document Reviews

Area		As-Is State	As-Planned State	Future State Vision
Operating systems	IBM z/OS	<ul style="list-style-type: none"> Recently upgraded, versions of IBM z/OS 	<ul style="list-style-type: none"> No plans for this environment 	<ul style="list-style-type: none"> Undefined
	Sun Solaris	<ul style="list-style-type: none"> SUN Solaris on supported OS revisions 	<ul style="list-style-type: none"> No plans in this environment 	<ul style="list-style-type: none"> Consolidated / standardised / centralised mid-range platform
	IBM AIX	<ul style="list-style-type: none"> IRIS on unsupported version 5 AIX systems remain on supported versions 	<ul style="list-style-type: none"> No plans in this environment 	<ul style="list-style-type: none"> Address IRIS support issues (upgrade or remove platform) Consolidated / standardised / centralised mid-range platform
	Wintel	<ul style="list-style-type: none"> Infrastructure servers on Windows 2003 Application servers on mix of current and legacy OS 	<ul style="list-style-type: none"> Project to upgrade application servers (XTRAC) 	<ul style="list-style-type: none"> Consolidated / standardised / centralised mid-range platform
Integration / Middleware		<ul style="list-style-type: none"> MQ Series is the standard middleware within DIMA. Support provided by a range of different groups 	<ul style="list-style-type: none"> Integration architecture planned by BSA GSE to introduce web services through SOA 	<ul style="list-style-type: none"> Robust / scalable / manageable integration architecture



4 Current State – Operating Systems

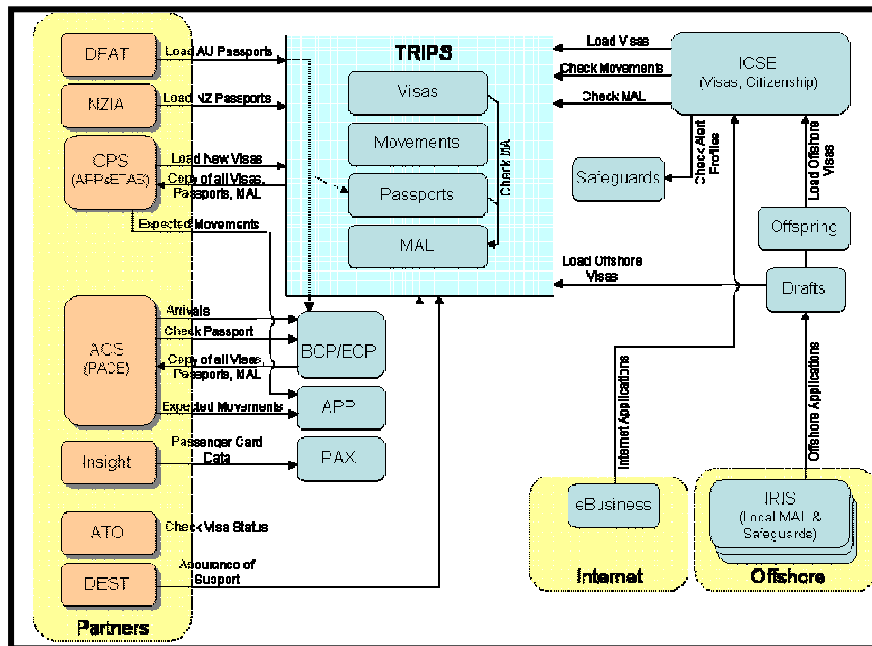
OS Name	Number of Servers	Vendor	<SECURITY REMOVED>	End of Service Life	Comments
IBM z/OS	2	IBM		2007	<SECURITY REMOVED>
SUN Solaris	23	SUN Microsystems		2006	Technology needs to be reviewed and actioned coming 12 months
Microsoft Windows	15	Microsoft		2003	Progress made on this (reduced from 39 servers 6 months ago), however continuing focus required
Microsoft Windows	47	Microsoft		2005	Progress made on this (reduced from 52 servers 6 months ago), however further focus required. Less urgency than NT4.0
Microsoft Windows	118	Microsoft		2008	Progress made – increased from 87 servers 6 months ago – This is the standard DIMA Platform
IBM AIX (IRIS)	80	IBM		2006	All IRIS platforms – un-supported versions of operating system
IBM AIX	5	IBM		2006 (to be revised)	Support extended to to 12/06, however this strategy needs to be reviewed

4 Current State analysis – System Integration

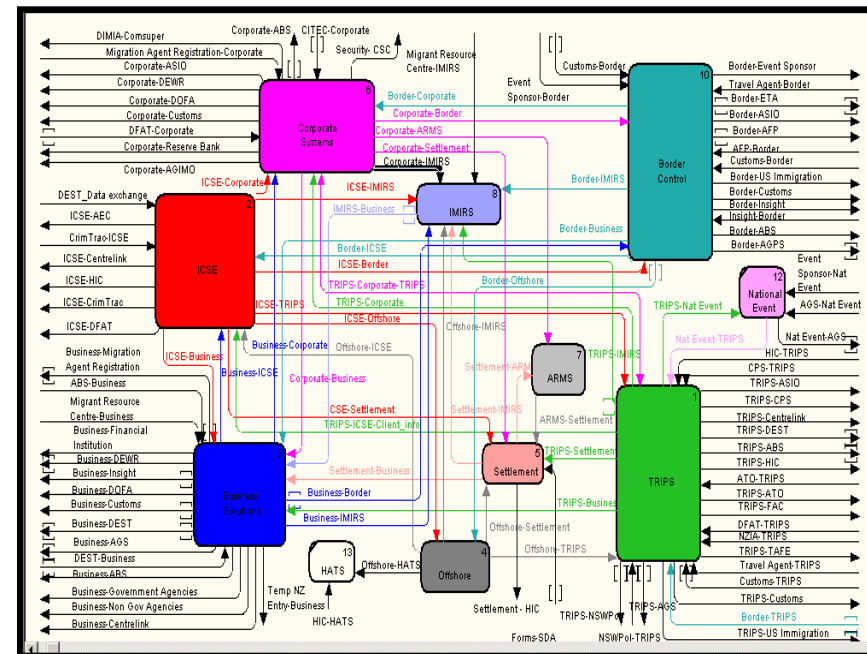
- Point to point integration (MQ Series)
- Limited visibility / management of end to end message flows
- Current state is complex, and will become more so without intervention

Current System Integration Infrastructure

Logical System Integration View



Physical System Integration View



Source: "DIMA IT Systems Overview" (2005, PowerPoint presentation)



4 Health Check – System Software Layer

Area	Scalability	Capacity	Agility	Manageability	Service responsiveness	Reliability	Performance	Cost effectiveness	Resource availability	Security	Overall	Comments
Operating System IBM z/OS	H	M	M	M	M	H	H	M	M	H		z/OS versions within vendor supported versions. Strategy for moving forward needed
Operating Systems Solaris	M	M	M	M	M	M	M	M	M	M		Solaris is the Operating Systems for the majority of the eBusiness environment. Some opportunities exist for rationalisation and consolidation of this environment
Operating Systems AIX	L	L	L	L	L	L	M	M	L	L		AIX is predominantly in place for continued operation of IRIS
Operating Systems Wintel	M	M	M	L	M	M	M	M	M	M		Some issues remain with decommissioning Windows NT4.0, however major progress has been made in the past 6 months
Integration / Middleware	L	L	L	L	L	M	M	L	L	L		Current environment is effective for current needs, but lacks manageability and is limited in capability for future requirements. DIMA have identified the need for an Integration Architecture
Overall												

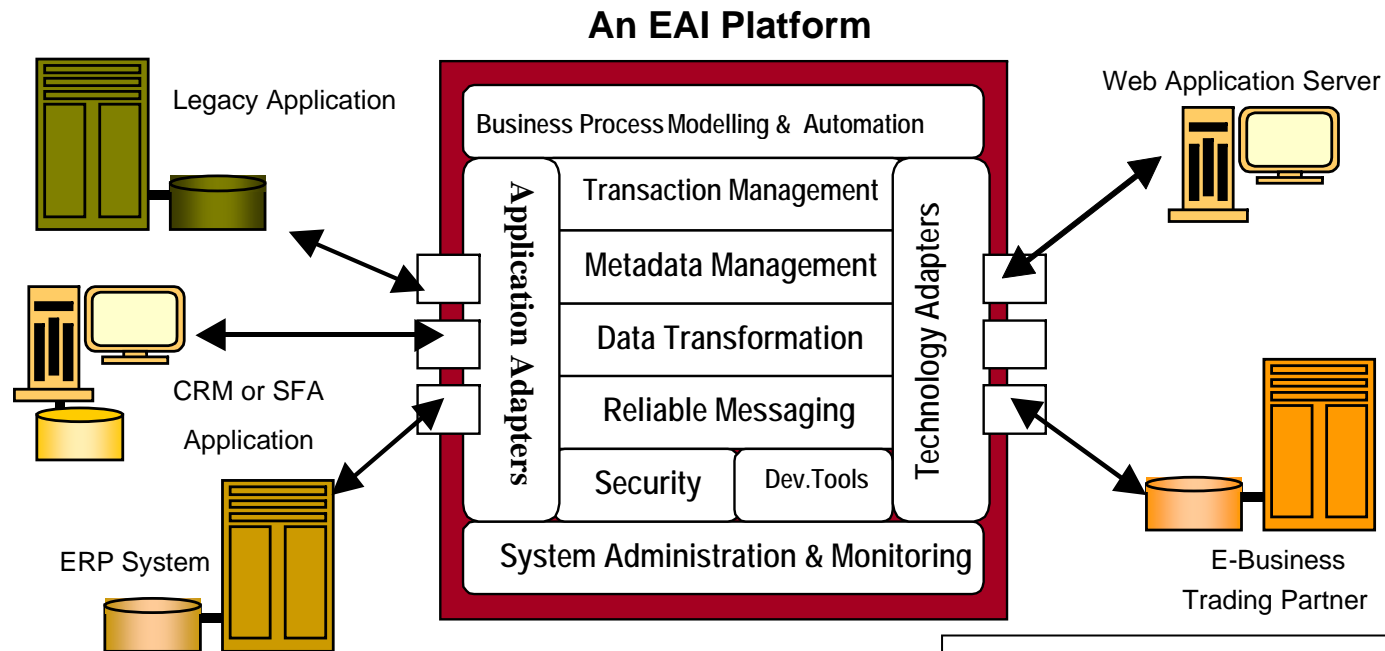
Very Effective
 Effective
 Somewhat Effective
 Not Effective



4 Best Practices

Scope Area	Best Practice Description
Operating Systems	<ul style="list-style-type: none">• A limited number of operating systems where possible• A standard operating environment across all platforms• Standardisation on a central version of each operating system• Virtual consolidation• Open source
Integration / Middleware	<ul style="list-style-type: none">• A clear integration architecture which enables internal and external parties to leverage it• Redundancy within the Integration layer of the network• Bus or hub & spoke type architectures to increase reliability and reduce complexity, although point to point links may be appropriate for small integration work• Components that track messages throughout the process, rather than simply when a message was sent or received

4 Best Practices – Enterprise Application Integration / Enterprise Service Bus

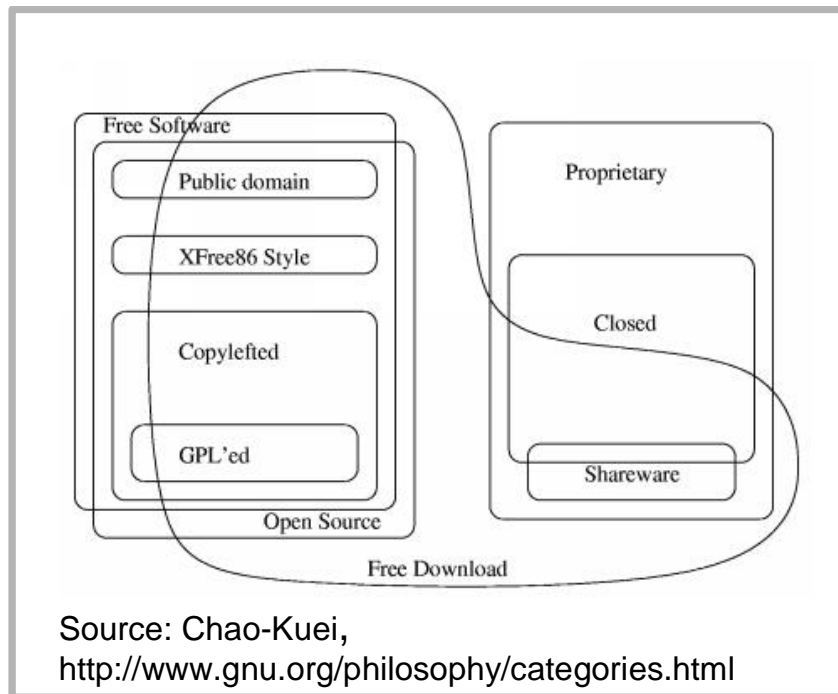


EAI / ESB products perform a variety of services, such as:

- Reformatting messages between diverse systems
- Routing messages based on content, called dynamic routing
- Storing messages in a message warehouse
- Managing business processes
- Managing connectivity to COTS Applications

4 Best Practices – Open Source

Open Source Domains



- “Open source software” is considered by many to be more or less interchangeable with “free software”
- Total cost of ownership is a major reason for adopting open source. Cost reductions may occur from:
 - Use of commodity hardware
 - Use of open source packages – e.g., Open office, Open SQL, Samba
- Current limitations with open source
 - Scalability – currently scales well up to 4 processors, but not beyond. Not suited well for vertical scalability
 - Availability – while open source environments can maintain high levels of availability, the ability to monitor/manage them may be limited
 - Independent Software Vendor (ISV) support – there is limited ISV support, but this is growing rapidly
- Key areas of use
 - In large clustering environments
 - As an Intel alternative to traditional UNIX
 - In simple edge servers, i.e. DNS, proxy
 - To achieve mainframe consolidation – LINUX apps on the mainframe

4 Gaps and Implications

Gap	Implications	What's Needed
Operating system strategy needed	<ul style="list-style-type: none"> • Difficult to make informed operating system decisions • Limits opportunities to achieve a scalable, flexible, agile and cost effective platform 	<ul style="list-style-type: none"> • Develop a clear operating system strategy which will enable the most efficient use of the DIMA infrastructure
IRIS decommissioning strategy needed	<ul style="list-style-type: none"> • Risk of system failure to the business 	<ul style="list-style-type: none"> • Re-visit IRIS risk review
Integration / middleware strategy needed	<ul style="list-style-type: none"> • Increased complexity and risk of failure in the middleware environment • Minimal scalability / manageability of reliability with current state 	<ul style="list-style-type: none"> • Continue to develop integration architecture • Ensure current systems development activities follow architecture • Roll integration architecture across existing systems (internal and external)
Windows NT4.0 exists within environment	<ul style="list-style-type: none"> • Increased risk with the distributed platforms 	<ul style="list-style-type: none"> • Strategy to complete the transition from windows NT4.0 to windows 2003

4 Data Storage Layer

Area	Recommendations – Immediate	Health Check Initiative ¹	DIMA ¹	Recommendations – Longer Term	Health Check Initiative ¹	DIMA ¹
Operating Systems	<ul style="list-style-type: none"> 4.1 Plan to retire AIX 4.2 Re-visit IRIS risk review 4.3 Conduct annual risk reviews of IRIS 	6		<ul style="list-style-type: none"> 4.7 Develop a clear operating system strategy which will enable the most efficient use of the DIMA infrastructure 	6	O5
Integration / middleware strategy	<ul style="list-style-type: none"> 4.4 Continue to develop integration architecture 	6	T7	<ul style="list-style-type: none"> 4.8 Roll integration architecture across existing systems (internal and external) 	6	
	<ul style="list-style-type: none"> 4.5 Ensure current systems development activities follow architecture 	6	O5			
	<ul style="list-style-type: none"> 4.6 Evaluate integration software evolutionary paths 	6	T7			

¹ See list of initiatives in a later section