

CSPA Maturity Assessment



Introduction

The evaluation template on the next page is based on OSSIM ([Open Group Service Integration Maturing Model](#)). Part of the [assessment process](#) documented in OSSIM is to extend the “base model” to tailor it appropriately for the specific assessment and the outcomes sought through the assessment.

ABS took this approach in July 2014 when using OSSIM as the basis for an Enterprise Solutions Readiness Assessment. The assessment reviewed the readiness of ABS - across various architectural, and supporting, domains – to undertake enterprise level re-engineering. The re-engineering is to be based on foundations such as SOA, Metadata Driven Processes, sharing and re-use of solutions (across the organisation and more broadly within CSPA) and ability to integrate COTS.

The Modernisation Committee agreed the same extensions should be applied in the CSPA Maturity Assessment. Some questions have been updated, however, to ensure they focus on CSPA rather than ABS Enterprise Architecture.

The evaluation template contains links to the definition of each Dimension and Measure.

If you follow a link then pressing <Alt><Left Arrow>  +  will return you to the evaluation template once again.

Once you’ve completed the one page evaluation template the survey is complete – nothing else needs to be filled in. The last nine pages are reference documentation for the Measures and Dimensions.

Evaluation Template

| Dimension | <u>Current Maturity</u> | <u>Target Maturity</u> | <u>Key Steps/Requirements</u> |
|--|-------------------------|------------------------|-------------------------------|
| <u>Business Activity View</u> | | | |
| <u>Business Capability View</u> | | | |
| <u>Statistical Methodology</u> | | | |
| <u>Information</u> | | | |
| <u>Application</u> | | | |
| <u>Infrastructure & Management</u> | | | |
| <u>Governance & Organisation</u> | | | |
| <u>Design Practices</u> | | | |

Any additional comments

Measures

Current Maturity Level

Identify the Current Maturity Level for each dimension.

The [Description of Maturity Levels](#) should be used for reference.

The [Characterisation of Maturity Level by Dimension](#) should also be used for reference.

The level will be a number between 1 and 7 inclusive.

If a whole number is entered it will be interpreted as indicating the maturity level has been achieved more or less completely. It is possible to add a single decimal place.

Example:

| Assigned Level | Meaning |
|----------------|---|
| 2 | The organisation has achieved at least the “Integrated” level of maturity for this dimension consistently across all (or very nearly all) statistical production activities. (There may specific examples at a higher level of maturity.) |
| 2.1 | The organisation has started progressing toward achieving “Integrated” consistently. A number of key enablers are in place (eg senior management commitment, strategies, plans, policies, infrastructure) to ensure progress continues |
| 2.5 | The organisation is around half way to consistently achieving “Integrated” maturity and has key enablers in place to ensure progress continues. |

Target Maturity Level

Using the same definitional reference sources as Current Maturity Level, this represents the level of maturity sought in regard to the dimension in 5 years’ time.

ABS set a target of “5” across all dimensions by July 2019, with an intermediate target of 4 across all dimensions by July 2015. There is no requirement, however to set the same target for every dimension. It was observed in discussions at the ABS, however, that if some dimensions became advanced while others remained much less advanced then overall benefits realised for the ABS would remain significantly constrained by the less advanced dimensions.

ABS considered that consistent attainment of “4” across all dimensions would allow the organisation to make use of CSPA services, although the organisation would more benefit, and greater economy of implementation, once “5” was achieved.

Key steps / Requirements

List the first major 1 to 3 steps you expect your organisation would take to move maturity toward the target level. These could be steps the organisation would undertake on its own or they might be steps based on enablers from HLG/CSPA.

Maturity Levels

Description of Maturity Levels

| Level | Name | Description |
|-------|-----------------------------|--|
| 1 | Silo | Individual parts of the organisation are developing their own capabilities and activities independently, with no integration of processes, data, standards or technologies. |
| 2 | Integrated | Processes and technologies have been put in place to communicate between the silos and to integrate the data and interconnections. However, integration does not extend to common standards in data or business processes. Connections may require bespoke code/adapters, leading to a difficult to manage and complex environment. It is not easy to develop or automate new business processes. The organisation is aware of what methods are being used, but there is little common use of methods across the organisation. |
| 3 | Componentised | Silos have been analysed and broken down into component parts, with a framework in which they can be developed into new processes and systems. Components interface through defined interfaces, but are not loosely coupled. Business and IT components are discrete and re-usable, but are often replicated and redundant. Common methods are used, but each statistical program (statistical survey, statistical domain, statistical line of business) implements them in their own processes (no central use, not controlled). |
| 4 | Services | Capabilities are exposed via loosely coupled services. Business capability has been analysed in detail and broken down into business services residing within a business architecture that ensures that services will inter-operate at the business level. Technical services use open standards and are independent of technology. At this stage composition of services and processes is still defined by writing bespoke code. Methods are singular purpose with clear separation of concerns and are expressed at a business level using canonical descriptions. |
| 5 | Composite | Services are highly standardised in terms of information model, application architecture and infrastructure use. It is now possible to construct a business process utilising services not by bespoke development, but by the use of a business process modelling language. This can be done at design-time with the support of BAs (business analysts), designers and developers. Methods are able to be tuned to client requirements. |
| 6 | Virtualised | At this stage business and IT services are now provided virtually - ie. the physical location of the service is hidden away and ceases to be of concern. This allows design-time Assemble to Order utilising services across organisations. |
| 7 | Dynamically Re-configurable | Prior to this level, the business process assembly, although agile, is performed at design time using suitable tooling. |

| | | |
|--|--|---|
| | | Now this assembly may be performed at runtime - ie. Plug n Play. This includes design and selection of methods. |
|--|--|---|

The above descriptions are based on the [description of Maturity Levels](#) in OSSIM (Open Group Service Integration Maturing Model) but have been shortened, simplified and generalised in places.

Characterisation of Maturity Level by Dimension

| | Silo | Integrated | Componentised | Services | Composite | Virtualised | Dynamically Re-configurable |
|---|--|---|---|--|---|--|--|
| Business Activity View ie. Collections | Isolated Collection Driven | Collection Business Process Defined | Componentised Business Activities | Business provides & consumes activities | Assemble to Order (design- time) | Provider- independent Assemble to Order | Plug n Play (run-time) BPM & BAM |
| Business Capability View | Isolated Business Line Driven | Collection Business Functions Defined | Componentised Business Functions | Business provides & consumes services | Formal, Standardised Business Services | Provider- independent Business Services | Business Capabilities via Run-time Configurable Services |
| Statistical Methodology | Isolated Business Line Driven | Collection Methods Defined | Common Methods | Service Oriented methods | Standardised, Configurable Methods | Standardised, Configurable Methods | Run-time Configurable Methods |
| Information | Application Specific Data Solution | Collection Specific - Data Subject Areas Established | Canonical Models | Information as a Service | Enterprise Business Data Dictionary & Repository | Virtualised Data Services | Semantic Information Representation |
| Application | Monolithic Solutions | Layered Solutions | Component Solutions | Emerging SOA | SOA | Cross Organisational SOA | Dynamically Re- Configurable (Plug n Play) Solutions |
| Infrastructure & Management | Solution Specific | Enterprise Standards | Common Reusable Infrastructure | Project Based SOA Environment | Common SOA Environment | Virtual SOA Environment: Sense & Respond | Real-time Event-based: Sense & Respond |
| Governance & Organisation | Adhoc Strategy & Governance | Defined governance processes | Common Governance Framework | Emerging business service governance | Business Service and IT Governance Aligned | Business Service and IT Governance Aligned | Governance via Embedded Policy |
| Design Practices | Isolated or Non-existent Design | Centralised, non-standard Design | Common Design Objects | Service Oriented Modelling | Business Process and Capability Modelling | Business Process & Capability Modelling for Infrastructure | Run-time Business Process & Capability Modelling |

Surrounding
influences

This table is based on the [OSSIM Maturity Matrix](#). The above table sought to simplify the terminology used in OSSIM. In places terminology more familiar and meaningful for the official statistics industry was added. Some wording was updated to help broaden some aspects beyond simply application architecture.

In addition, the above table adds wording for dimensions which are additional to, or have variations compared with, those in OSSIM.

Neither the OSSIM Maturity Matrix nor the above table are associated with more detailed explanations for each cell.

Where a dimension is consistent with OSSIM, and if the entry in the OSSIM Maturity Matrix is more meaningful for the reviewer, this can be used as the basis for the assessment.

Primary Dimensions

Business Activity View

This dimension focuses on the business activity domain ie. the organisation's core business activity practices and policies; how business processes are designed, structured, implemented and executed. It also considers how the business activity strategy is connected to capability architecture, as well as IT strategy and costs.

This corresponds closely with the [Business Dimension](#) in OSIMM but with a particular focus on business activity (for which [GSBPM](#) and/or [GAMSO](#) can be used as a reference model) as an aspect of business architecture.

Questions include

- Has the organisation adopted a Business Activity Model that is either GSBPM or mappable to GSBPM?
- Do statistical production, and other, staff within the organisation understand the Business Activity Model?
- Do staff refer to the Business Activity Model as a point of reference in discussions, general documentation, process descriptions and requirement specifications?
- Do staff describe their business activities using terminology which is specific to their local area or based on the tools used currently (eg “And then we run <System Name>” rather than “And then we apply disclosure control”)?

The 19 questions for the Business Dimension in OSSIM are also broadly appropriate.

Business Capability View

This dimension focuses on the capability domain ie. the organisation's core business capability practices and policies; how business capabilities are designed, structured, implemented and executed. It also considers the business services which make these capabilities available to consumers. It consider how all dimensions of a capability are brought together to deliver business services.

Capability is defined by Open Group as “an ability that an organization, person, or system possesses”.

Successfully performing a particular business activity may require many capabilities (eg related to trained staff, appropriate statistical methods, a range of IT capabilities that allow the business activity to be performed.) Similarly a single capability may be used in several activities (eg an automated data validation capability might be used

- as providers are entering responses in a survey form (an activity in the Collect phase)
- as part of a Validation activity during the Process phase
- as part of a Validate Outputs activity during the Analyse phase

If solutions are designed and built based only on specific business activities

- a common business capability may be “reinvented” different ways for different activities
- it becomes hard to harness a new, improved, service for a capability because support for a particular business activity will have been built as a “block” rather than an assembly of capability based services
- opportunities may be lost for achieving efficiencies of scale from providing functionally specialised business services in a manner that supports the common needs of a range of different business activities

Questions include

- Is the concept of Business Capability (separate from, but related to, Business Activity) recognised within the organisation’s enterprise architecture?
- Does the organisation use a reference model for Business Capability
- Do statistical production, and other, staff within the organisation understand the concept of Business Capability?
- Do staff think and speak in terms of Business Capability as separate from, but related to, Business Activity?
- Do staff understand and apply the organisation’s reference model for business capability (if one exists)?
- Does the organisation have, and apply, a general mapping between Business Activities and the Business Capabilities required for each activity?
- Does the organisation have a mapping between Business Capabilities and IT services that exist – or are required by the organisation – to deliver the capability?
- Has the organisation assessed, and planned for, other factors required to deliver each Business Capability (eg staff training, business processes, statistical methods, relevant standards and frameworks)?

Statistical Methodology

This dimension focuses on the management of methods ie. how methods are designed, structured, implemented and executed. It also considers how these methods will be integrated with business capabilities, as well as applications.

While OSSIM includes a dimension for Methods, the dimension in OSSIM primarily relates to IT and related methods (eg software development lifecycle, project management). Most of these considerations are now addressed under Design Practices.

In the case of the Official Statistics industry, however, Statistical Methodology is an essential dimension to consider.

Questions include

- Are methods designed and managed as reusable organisational assets?
- Do methodologists view methods as one of a number of interrelated enablers for Business Capability (as opposed to thinking of methodology more or less independently of other capability considerations)?
- Are methodologists familiar with, and supportive of, service oriented approaches to putting methods into effect (as opposed to, eg, authoring bespoke code in languages such as SAS and R, and relying on customised data and metadata structures, in order to apply methods)?
- Is “[Not Invented Here](#)” a barrier when
 - evaluating, and potentially implementing, new methods
 - considering adoption of CSPA services that support statistical methods which differ from current practice without being manifestly inferior to current practice?
- Do methodologists tend to be thought leaders and champions within the organisation when it comes to achieving business architecture and applications architecture consistent with CSPA and promoting modernisation of statistical production and services more generally?

Information

This dimension focuses on how information is structured, how information is modelled, the method of access to enterprise data, abstraction of the data access from the functional aspects, data characteristics, data transformation capabilities, service and process definitions, handling of identifiers and the business information model.

The definition is largely as per the [Information Dimension](#) in OSSIM, but with a specific focus on structured information (eg data and metadata) used and produced by services and reduced focus on knowledge management. The 13 questions in OSSIM for the Information dimension can be used.

The following questions, based on, OSSIM are considered particularly relevant

- Is there difficulty in moving data from one application to another? For all applications?
For only some applications?
- Does your organization have a common data model, (or mappings between multiple data models)?
- Are the data models in the form of Business Object Models, understandable to and owned by, the business, or as IT object models, understandable only to, and owned by, the IT teams?

- If there are mapping rules across different models, are these understandable to and maintained by the business or by IT staff? Are such mapping rules performed by the infrastructure?
- If your organisation has a common data model, is it consistent with [GSIM](#) as a conceptual model?
- Does your organization have or are you developing a Business Information Model to standardize data and message formats and concepts across the enterprise?
- If so, do you expect it will be consistent/interoperable with [CSPA conceptual, logical and physical models](#) (summarised in Figure 1 in the linked resource)

Application

This dimension focuses on the application domain which includes physical structures, integration techniques, standards and policies, web services adoption level, experience in SOA implementation, SOA compliance criteria and typical artefacts produced.

This definition of this dimension essentially spans the [Application Dimension](#) and the [Architecture Dimensions](#) in OSSIM. The 11 questions in OSSIM for each of these dimension can be used.

The following questions, based on OSSIM, are considered particularly relevant:

- What is your current application development style?
- What types of re-use do you engage in and how is re-usability measured?
- Are SOA-enabling technologies, such as ESB, shared data environment, or registry, being used?
- How is integration achieved in your architecture?
- How mature are your services implementations?
- How are architectural decisions made in your organization?
- Does your organization use reference architectures

Infrastructure & Management

Focused on the organisation's infrastructure capability, service management, IT operations, IT management and IT administration, how SLAs are met, how monitoring is performed, and what types of integration platforms are provided.

This dimension corresponds to the [Infrastructure & Management Dimension](#) in OSSIM. The 12 questions for the OSSIM dimension can be used.

The following questions, based on OSSIM, are considered particularly relevant:

- How are your IT SLAs derived from the business SLAs?
- What platforms are currently in use for integration?

- Which assets are placed under version control?
- What tools are used for configuration management?
- What are considered as your organization's IT assets (excluding human resource)? How are these assets managed?
- How does your operational architecture support the non-functional requirements for applications and services?

Supporting Dimensions

Governance & Organisation

This dimension focuses on the structure and design of the organisation itself and the measures of organisational effectiveness. Organisation considers structure, relationship, roles and the empowerment to make decisions. It includes the skills, training and education available. Governance is associated with formal management processes to keep activities, capabilities and solutions aligned with the needs of the business. It also guides any aspects of the other maturity dimensions, including how management is structured and costs are allocated.

The dimension is similar to the [Organization and Governance Dimension](#) in OSSIM. The latter dimension, however, appears specifically focused on IT and SOA governance where the former dimension is intended to span organisational governance (and culture) more generally.

The following, broader, questions are recommended:

- Is the importance of modernisation, and the value of a collaborative, service oriented approach, broadly agreed across the organisation or only advocated by certain parts?
- How well do different lines of business, methodologists and IT staff work together to define shared goals and expectations for each modernisation project / innovation and then work together to establish a solution that includes both IT and non IT aspects?
- To what extent are senior management committed to establish solutions that align with enterprise (and industry) architecture standards, and are “adequate for purpose”, rather than committed to solutions tailored to closely fit preferences of individual parts of the organisation?
- Does the organisation have an approach to governing and managing projects, and programs of work, that would facilitate due consideration of
 - adopting CSPA services rather than investing in local solutions
 - developing services that were CSPA compliant and sharable
- Is “[Not Invented Here](#)” a barrier when evaluating and potentially implementing solutions (new processes, statistical methods, IT capabilities) from other parts of the organisation or from outside the organisation?

Design Practices

The dimension is focused on the practices and processes employed by the organisation for its business and IT transformation. This includes items such as requirements management, design methodologies/techniques and tools for designing solutions.

This dimension is closely aligned with the [Method Dimension](#) in OSSIM. The dimension was renamed to avoid confusion between “IT” methods and statistical methods. The 10 questions for the Method Dimension in OSSIM can be used.

The following questions, based on OSSIM, are considered particularly relevant:

- What design methodologies and best practices are you currently adopting?
- Do you practice any SOA design techniques?
- What design tools are in practice today?
- What is the current practice for service development and management?
- Do you have an active community that works to evolve your SOA methods and practices?
- Has your organization developed a repository for best practices and asset re-use?