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Document History

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Purpose

The purpose of this document is to provide a reference source defining the Queensland Government's Information Domains in the form of the Queensland Government Information Portfolio Framework.

The goal of the Information Portfolio Framework is to allow for a common viewpoint and understanding of the Information Domains across the Queensland Government. This in turns aids standardisation as various stakeholders come to understand the possibilities for leveraging related domain activities in other departments.

Target Audience

This document is provided for agency staff involved in ICT planning or information architecture related activity. This may include Chief Information Officers (CIOs), information standard or policy officers, records managers, library managers, ICT managers and ICT architects (enterprise, information, application, technology and solution).

It is expected that staff reviewing the framework have had exposure to information management concepts such as use of classification schemes and information modelling.

Applicability

This document applies to the following segment(s) of the Queensland Government:

- All Agencies Listed Agencies Whole of Government
1. _____
2. _____
3. _____

Acknowledgments

The Information Portfolio Framework was developed by Sam Higgins, Peggy Hebblethwaite, Vanessa Freke, Ee-Kuan Low, and Alan Chapman of the Enterprise Architecture Unit in the Queensland Government Chief Information Office, Department of Public Works.

This framework would not have been realised without the input and support of David Wiebe from Queensland Transport's Office of the Chief Information Officer.

The Queensland Government Chief Information Office is also grateful for the support received during testing of the portfolio framework and development of this document from Jachson Ribeiro from Queensland Health's Data Services Unit.

Although this document is an original work, it makes use of a number of sources referenced throughout.

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Introduction

The Information Portfolio Framework defines the Queensland Government's generic classification scheme in terms of identifying the types of information assets required to meet organisational requirements.

It should be noted that not all information domains are applicable to all departments within the Queensland Government. Determining applicable domains is performed via the ICT Planning Methodology.

This document provides a background to the development of the Queensland Government Information Portfolio Framework, plus a short narrative describing the key information domains defined within the framework.

Understanding the framework

What is an Information Portfolio Framework?

The Queensland Government Information Portfolio Framework defines a composite view of the Queensland Government's information. The framework performs a similar classification role to that performed by the chart of accounts in managing finances, the organisational chart in managing human resources, or QKey for managing records. Having such a big picture view is essential for effectively managing any resource as it allows for consistent planning, reporting and use at the local or whole-of-Government level.

Queensland Government uses the term "Portfolio Framework" to describe the classification schemes of the Government Enterprise Architecture (GEA) - essentially taxonomies of the business, information, applications and technology layers. Specifically the Information Portfolio Framework provides a taxonomy for categorising information assets¹.

How is the Information Portfolio Framework used?

The Information Portfolio Framework will be used as an additional tool for designing information in a consistent manner across the Queensland Government. Some of the most important ways the model will be used are listed below.

Navigating the Information Layer of the GEA

Like the other portfolio frameworks of the GEA, the Information Portfolio Framework provides the means to identify the relevance, application and scope of GEA mechanisms and standards. Now when defining policies (currently known as Information Standards), standards and position papers relating to information, the Queensland Government Chief Information Office will use the Information Portfolio Framework's domains to identify/classify the types of information assets that apply to a particular mechanism or standard.

¹ It should not be used to categorise business processes or applications. However, information domains will have relationships to particular processes and applications. This is due to the fact that information assets naturally support business processes in the organisation and often applications, contain, comprise or are the repository for various information assets.

Identifying information management problems

As part of the ICT Planning Baseline and ICT Planning methodologies, the Information Portfolio Framework is used to identify where information gaps, duplication or integration problems exist in the current environment. Mapping existing information assets to the Information Portfolio Framework can help to highlight such issues at both a whole-of-Government level or within individual agencies.

Guiding the development of applications and collection of information

A major reason for integration problems between applications is the incompatibility of underlying schema definitions. The Information Portfolio Framework can be used as a structural “blueprint” for developing applications in an integrated manner. The information requirements of each new application or information collection activity (such as a survey) can be mapped to the Information Portfolio Framework to identify opportunities for sharing and ensure consistency of definitions and formats. (see also Developing consistent standards below).

Identifying single sources of truth for information

The Information Portfolio Framework assists identification of common information assets, and therefore common information needs. This in turn allows identification and standardisation of preferred or “authoritative” sources of information across the sector, such as an authoritative source for address information.

Developing consistent standards

The Information Portfolio Framework provides a basis for defining sector-wide standards for representing information, for example naming, data formats, coding schemes, definitions and derivation methods for key items. Use of consistent standards is important to enable comparison and consolidation of information, electronic interchange, and will also help to prevent information management problems. The Framework is also the cornerstone for the Queensland Government integration strategy in that, common formats and common technical standards negate the need for Enterprise Service Bus products.

Classifying and cataloguing Information Assets

The Information Portfolio Framework provides a taxonomy for classifying and cataloguing existing Information Assets. Each domain in the Information Portfolio Framework can be mapped to Information Assets about that subject – ultimately this mapping could include applications, information collections, manual records and external information services.

It should be noted that the Information Portfolio Framework is only one of many classification schemes that agencies may use to classify information assets, as in Figure 1.

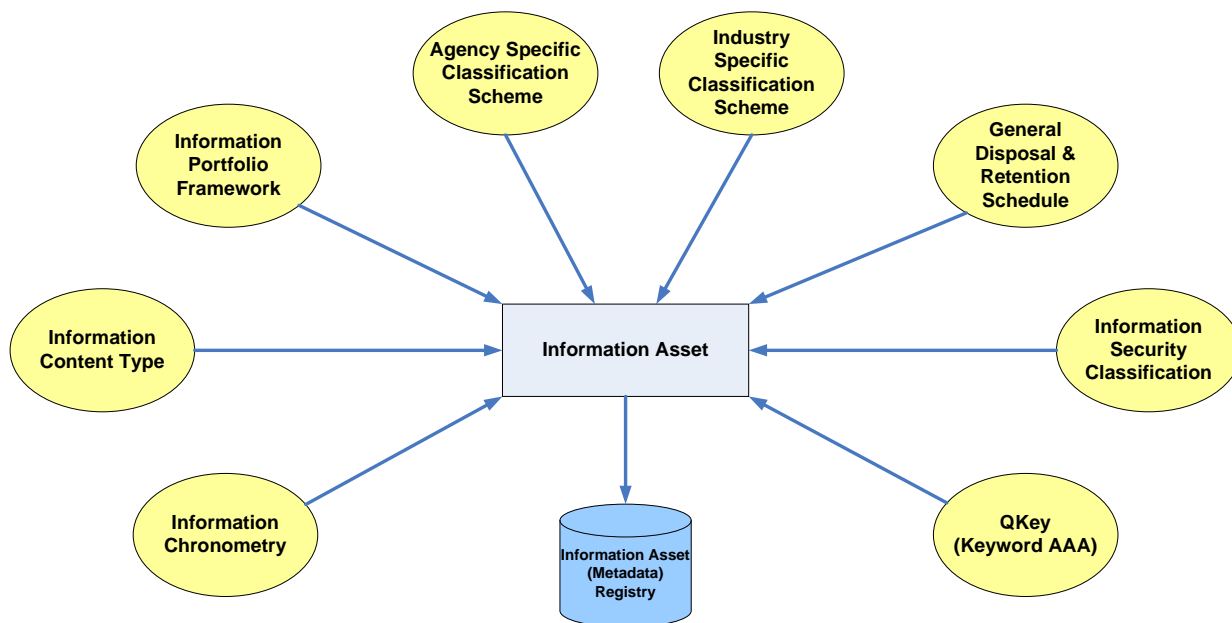


Figure 1: Information Portfolio Framework as one form of classification for Information Assets

Information Portfolio Framework and the Queensland Government Information Architecture Abstract Model?

Queensland Government Information Architecture Abstract Model provides, among other things, a meta-model for describing the many components of information architecture within Queensland Government. A key concept of the model is the ability to have multiple classification schemes to categorise information assets.

As shown above, the Information Portfolio Framework is one instance of a classification scheme within the Queensland Government Information Architecture Abstract Model.

Development and maintenance of the Information Portfolio Framework

A number of key concepts influenced the development of the Information Portfolio Framework. These concepts represent the principles or business rules for the ongoing evolution of the framework. To aid in comprehension of the Framework these concepts are outlined in the following sections.

Layout of the Framework

The Framework is a hierarchy of three domain levels, as shown graphically in Figure 2.

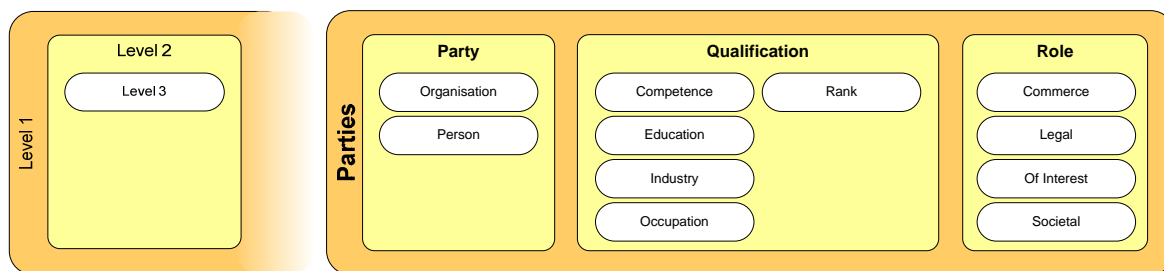


Figure 2: Model of three domain levels and example of the graphical representation of the Framework levels

The Framework categorises government information into three domain levels:

- Level 1 domains, the topmost structure, segments information into twelve subject areas, packages or concepts. For example, *Parties* in Figure 2
- Level 2 domains are sub-divisions of Level 1 domains, providing a second-level hierarchy as broad super classes² or entities. For example, *Party, Qualification and Role* in Figure 2.
- Level 3 domains break down Level 2 domains into sub-classes or entity sub-types. For example, *Organisation and Person* are level 3 domains within *Party* in Figure 2.

Framework Controls

In addition to the domains, the Framework includes two additional features to assist in classification of information assets – Controlled Value Lists (CVLs) and Indicative Value Lists (IVLs).

Controlled Value Lists (CVLs)

CVLs may be used to define standard decompositions within Level 2 or Level 3 Domains (Level 3 Domains have no lower-level domains). CVLs represent the only valid sub-classifications within a domain.

CVLs have been limited to domains where a high degree of standardisation of information assets exists, or is required, in order to improve information interoperability across government. This ensures the framework allows maximum flexibility for agencies.

For example, the Controlled Values for 1-9.2.2. Education are: Higher Education and School

Indicative Value Lists (IVLs).

An IVL provides a catalogue of common names which guide the user to preferred controlled terms, similar to a library catalogue. IVLs may be defined under a Level 2 or 3 domain, or under a CVL.

For example, in Figure 3, *1-9.2.2.1 Higher Education* is a Control Value as well as a level 4 domain and *Associate Diploma and Bachelor Degree* are Indicative Values.

² The use of the terms concept, object, entity and class here is as per the definitions within the ISO 11179-1:2005 Information technology—Metadata registries (MDR) Part 1: Framework

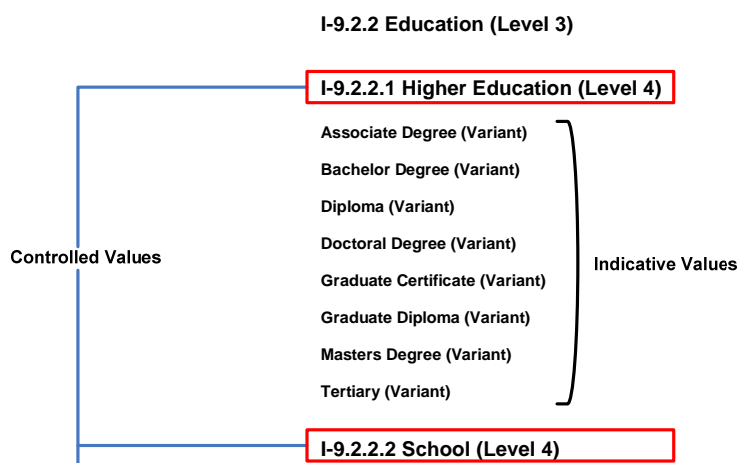


Figure 3: Example of CVLs and IVLs in the framework

Domain Definitions

For each of the Level 1 and Level 2 information domains shown in the graphical representation (See Figure 3), four textual items are provided:

- Domain descriptions;
- Variant terms observed;
- Controlled Value Lists; and
- Indicative Value Lists.

Domain descriptions

Each Level 1 and 2 domains includes a brief paragraph that explains the domain and its typical occurrences. In some cases the domain description will include, supporting material (such as sources) and examples.

Variant terms

The purpose of variants is to distinguish commonly used terms for the same domain (as opposed to descriptions of types within a domain). That is, variants are used where during the development of the IPF alternative domain names were available, but not used as the preferred primary term.

Controlled Value and Indicative Value Lists

Within each domain definition is an optional list showing Controlled Value Lists and Indicative Value Lists. Controlled Value Lists are shown as Level 4 domains. Indicative Value Lists are shown beneath the description in the form of variants (or synonyms).

For example, the Level 3 Domain of Education Qualifications for Parties has the following CVLs and IVLs:

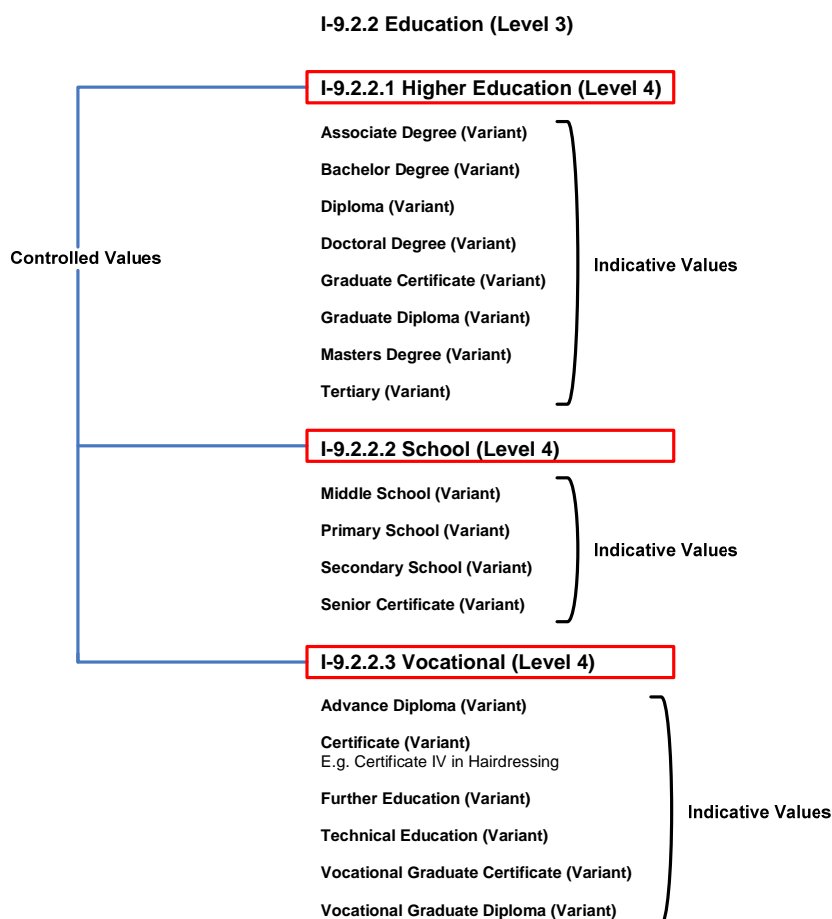


Figure 4: Further example of CVL's and IVL's

The purpose of CVLs and IVLs is to assist with the correct classification of information assets within the framework in cases where the CVLs or IVLs more closely match the common vocabulary of the agency. In the case of CVLs they can also provide agencies with the option of more granular classification of information assets³. IVLs are not considered to be exhaustive lists and represent only common cases or cases encountered by QGCIO during development of the Framework. However, the list of IVLs may be enhanced in future versions of the framework based on agency feedback.

See also Appendix C – Information archetypes within the IPF for further details regarding Controlled Value Lists and Indicative Value Lists.

Scope constraints within the Framework

The Information Portfolio Framework is not intended to address (directly) the structural aspects of Information Assets, rather to provide a contextual view of Information Assets from a Queensland **Government** focus.

As a result of this scoping constraint the framework deals with structural elements of information in different ways as follows:

- Domains that are considered to be classification of properties or property types are excluded. For example, various classes of speed (kilometres per hour) or distance (metres) are “types” of properties or attributes of other information classes.
- Relationships are not explicitly recognised between various Information Assets. However, some default associations can be derived from the existence of Level 2 domains within the same Level 1

³ At the time of writing it is unlikely that classification beyond the Level 3 domain will be required by the Office of Government ICT as part of any GEA related process.

domain. For example, information about a *Person* (Level 2) will almost always be associated with one or more *Roles* (Level 2) and one or more *Qualifications* (Level 2) within the *Parties* (Level 1).

- Groupings (characteristics) or counts are not considered to be information domains as this representation can obscure the actual underlying source of information. Instead, these groups and counts are treated as an arrangement of the underlying information domains. For example, a count of Persons is merely multiple instances of the Person information domain. Or in a more complex case configuration items (like inventory items) in a Configuration Management Database (CMDB) are treated as groupings of instances from the Level 2 Technology information domain. The CMDB (or inventory) is not considered a separate information domain in its own right.

Content classification approach

All classification schemes require a clear purpose and scope. Once the purpose of the scheme is understood, then the most appropriate choice of content (subject) or activity (creation and use) oriented classification can be determined.

A key objective of the Information Portfolio Framework is to identify the common holdings of information assets across potentially different functional areas or business processes. As a result the Framework employs a content, rather than activity, based approach.

Content based classification will identify the use of the same information by different processes, which in turn provides a better basis for improved information sharing through common sourcing, storage and retrieval of information - independent of the process that creates or consumes it.

The use of a content based approach also allows the Framework to identify similarities and assist to resolve differences between industry data schemes that agencies may already employ as illustrated in Figure 5

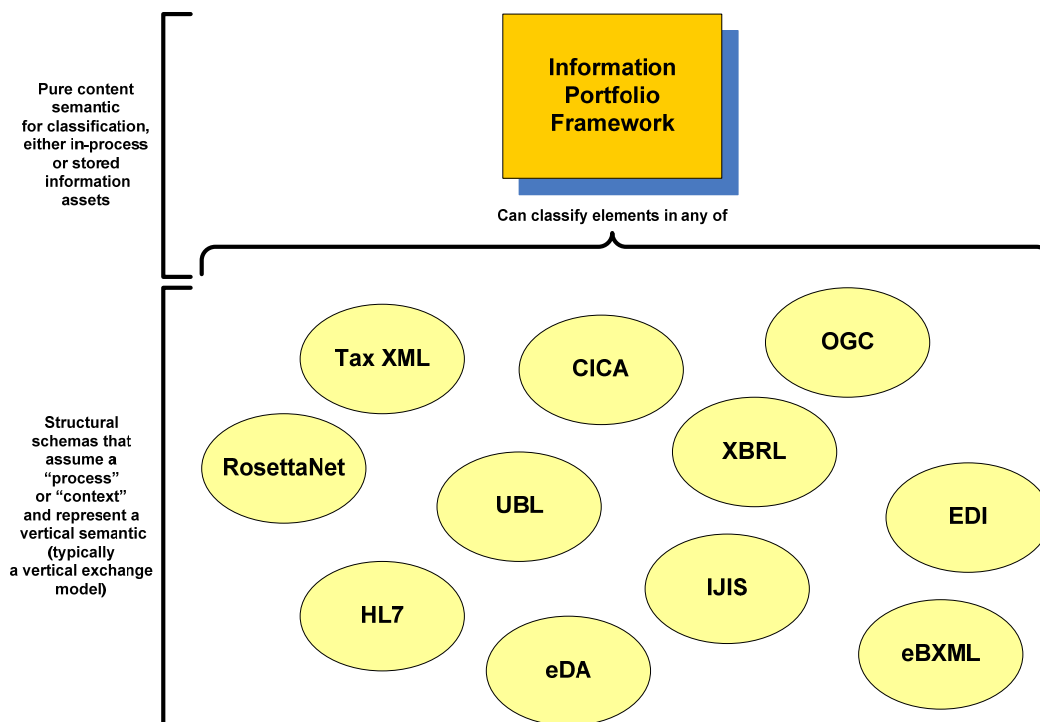


Figure 5: Information Portfolio Framework classification of structural scheme examples

In contrast, an activity based classification has greatest success when the purpose is to locate or identify information as evidence of a process execution. Activity based approaches are particularly useful in records management where functions performed by an organisation are often more stable than

classifications based on organisation structure and are more meaningful to business users than just subject classification⁴.

Effective information architecture requires both content and activity classifications to be applied in the right circumstances. As previously outlined, the Information Portfolio Framework is intended to facilitate outcomes more aligned with the general characteristics of content classification. For this reason, unlike QKey and the GEA's Business Portfolio Framework which are activity based, the Information Portfolio Framework provides a pure content view of information across the Queensland Government.

Use of Object / Entity Relationship Modelling Concepts

The Information Portfolio Framework, as a content based classification, uses the principles of information decomposition from Object or Entity Relationship (ER) modelling⁵. As a result, the techniques and approaches used for traditional class and data modelling have been applied to generate the domains within the framework.

However, unlike Object or ER models that define the structure using classes/entities, relationships and attributes/properties, the Information Portfolio Framework only uses classes and entities based on common information patterns (see below *Information patterns as the basis for the Framework* for further discussion).

The use of relationships and attributes/properties is only required when the structure within Information Assets is needed to de-normalise classes and entities into a form suitable for physical implementation. From a GEA perspective, or more specifically the ICT Planning Baseline and ICT Planning Methodology, the structure of an Information Asset is not required. Instead, only a well formed logical view of classes or entities is needed to allow for classification of Information Assets, and other requirements of the Framework to be met. That is, only techniques relating to the identification of classes or entities have been applied. In turn this gives rise to a model intended to be a logical normalisation of major information types. This process is further described in Appendix A – Modelling concepts within the IPF.

Agencies wishing to apply the classes and entities from the Information Portfolio Framework to schema development for applications or information exchange may wish to explore Appendix D – Classification of properties. This provides details on the use of property classification schemes that can form the basis for attribution of the classes and entities within the Framework.

Information patterns as the basis for the Framework

Modern approaches to modelling information gained prominence in the mid-1970s with the publication of Peter Chen's "The Entity Relationship Model – Toward a unified view of data"⁶. This seminal paper became the foundation for much of the current knowledge regarding the structure of data, and hence information. In particular, by using a modelling technique that incorporated "important semantic information about the real world", practitioners began to identify a high degree of universality across the information needs of organisations.

It is these areas of universality or information pattern recognition that formed the basis of the Information Portfolio Framework. An alternative approach would have been to undertake an extensive analysis of each agency, and using this analysis identify information patterns to produce a single logical view of the information domains across government. Unfortunately such an approach is resource intensive and unlikely to have identified patterns which have not already been encountered in the research.

⁴ Specifically information assets classified by process are impacted less by changes to administrative structures (a common occurrence in government) - as the information can be identified and transferred along with the processes which are redeployed. For further discussion of contextual classification in records management refer to National Archives of Australia's Overview of Classification Tools for Records Management, July 2003 at <http://www.naa.gov.au/recordkeeping/control/tools.pdf>

⁵ Readers unfamiliar with the basics of data modelling (either ER or Object Oriented) should review these useful web based resources: http://www.cio.gov.bc.ca/other/daf/Data_Modeling_Overview.pdf#search=%22%22data%20modelling%22%20basics%22 , <http://www.cch.kcl.ac.uk/legacy/teaching/av1000/course.html#relational> and http://en.wikipedia.org/wiki/Object-Oriented_Modeling

⁶ See http://en.wikipedia.org/wiki/Peter_Chen

Given time and resource constraints, the Queensland Government Chief Information Office primarily investigated information patterns available from the marketplace, academia and other government bodies with a view to take an “adopt and adapt”⁷ approach for the definition of the information domains for Queensland Government.

Unfortunately an existing government wide information pattern standard focused on content classification was not identified. Instead, a series of generic (horizontal) as well as agency or industry specific (vertical) universal data models, domain neutral components and information patterns was uncovered.

It was a combination of these models, outlined in detail in Appendix B – Information patterns within the IPF, which ultimately formed the basis of the domains within the Information Portfolio Framework.

Information archetypes within the Framework

Further analysis reveals that, as a result of basing the Information Portfolio Framework on information patterns, broad commonality in terms of the purpose of key domains emerges within the classification scheme. This commonality within information models has been previously identified by both the Object and ER modelling community, such as the classic set of four class archetypes suggested by Peter Coad⁸ or the Business Concept Classification scheme proposed by Terry Moriarty⁹.

Using the Coad and Moriarty approaches as a basis, the Queensland Government Chief Information Office identified five information archetypes within the framework, namely:

- Motivators – domains related to motivation or reasoning;
- Moments – domains that track or monitor moments, period or events that occur over time;
- Roles (Usages) – domains that define the way in which some “thing” participates or is utilised, often representing specific responsibilities;
- Entities – domains that relate to instances of entities or things. That is, tangible items that the business must know about; and
- Descriptions – catalogue-like descriptors that further classify or labels instances of information within a domain.

Recognising these information archetypes ensures that the subjects identified within the framework cover the totality of subject variations that one would expect to encounter in terms of information assets. In addition, some of the information archetypes have been used to divide the graphical representation into bands intended to aid in comprehension of the framework itself.

The emergence of these archetypes within the framework also provides a high degree of confidence that the domains cover not only subjects for “things”, but also subjects for other important Information Assets. For example, as previously outlined, the Framework is a content focused classification scheme. That is, it is the “subject” of the information asset that it is intended to be identified. At first this may suggest that Information Assets which themselves track activity would be lost, but this is not the case; rather, domains have emerged within the Framework that allow for the classification of Information Assets which represent content about activities, roles, or processes.

For a detailed discussion of the information archetypes see Appendix C – Information archetypes within the IPF.

Information about the enterprise versus the area of administration

An issue which faces any enterprise is to distinguish between information that relates to the enterprise versus information relating to the enterprise’s unique purpose or environment. In private enterprise, this

⁷ Essentially applying the principle of “buy before build” and “re-use before build” model of development.

⁸ For further information on Peter Coad’s work on Class Archetypes see http://en.wikipedia.org/wiki/UML_colors

⁹ For further information on Terry Moriarty’s work on Business Concept Classification see <http://www.tdan.com/i023ht02.htm>

information relates to the market and the elements that provide competitive advantage or differentiation. In the public sector, this information relates to the area of administration, charter or system of responsibility.

Often an Information Asset develops with either one or other of these purposes as their primary driver but when attempting to identify an Information Asset, it may relate to either the enterprise or its area of administration or both depending on the view or perspective taken. For example, an Information Asset about people may contain employee information (enterprise view) and client information (administrative view).

Another way to view this concept is from a department wide perspective; for example, the difference between information that relates to Queensland Transport (the department) versus information about the Transport System in Queensland (the system of responsibility). The same applies to Queensland Health versus Health of Queenslanders, etc.

This concept is shown in Figure 6 below which demonstrates the large degree of overlap.

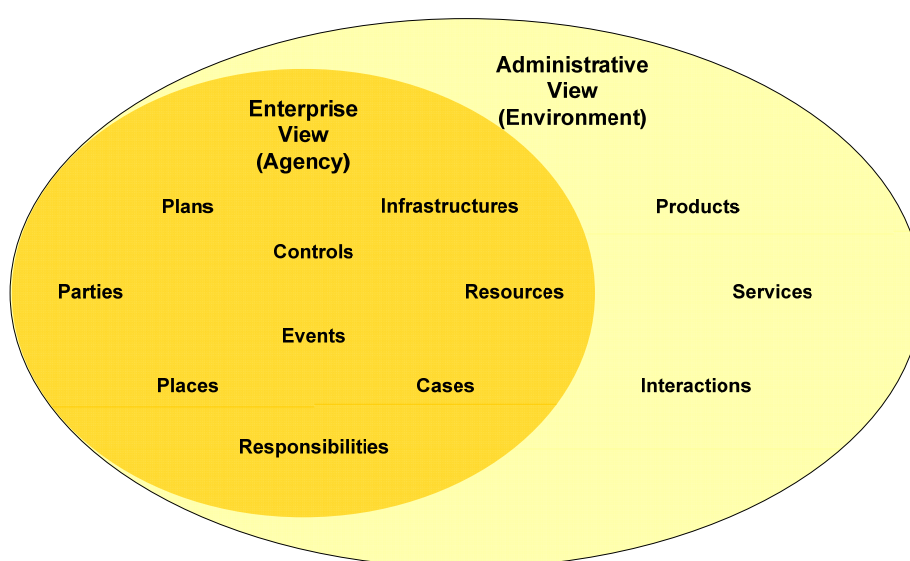


Figure 6: The dual information perspectives of the enterprise

What is important is that the various Information Assets which share the same underlying information domains are identified by agencies - whether these assets are collected to serve the enterprise itself, help the enterprise administer its charter, or both.

The Information Portfolio Framework's domains are intended to ensure adequate coverage of both perspectives. So through the use of a single Framework we ensure a consistent classification approach which in turn allows agencies to identify opportunities for Information Assets collected for one purpose to be re-used for another purpose. This may even extend across organisations with the Information Assets of one enterprise being useful for another. For example, Person details recorded by Births, Deaths and Marriages plus current Address details collected by Queensland Transport may become the basis for the creation of an employee record when a new employee joins the Department of Child Safety.

Using the Framework for classification of Information Assets

As outlined in *Understanding the framework* above the Information Portfolio Framework can be used for a variety of different purposes. Detailed discussion of how to apply the Framework is outlined in the specific methodology that utilises it. In the case of the GEA the specific use of this Framework will be beneficial when agencies undertake ICT Planning Baseline and ICT Planning Methodology.

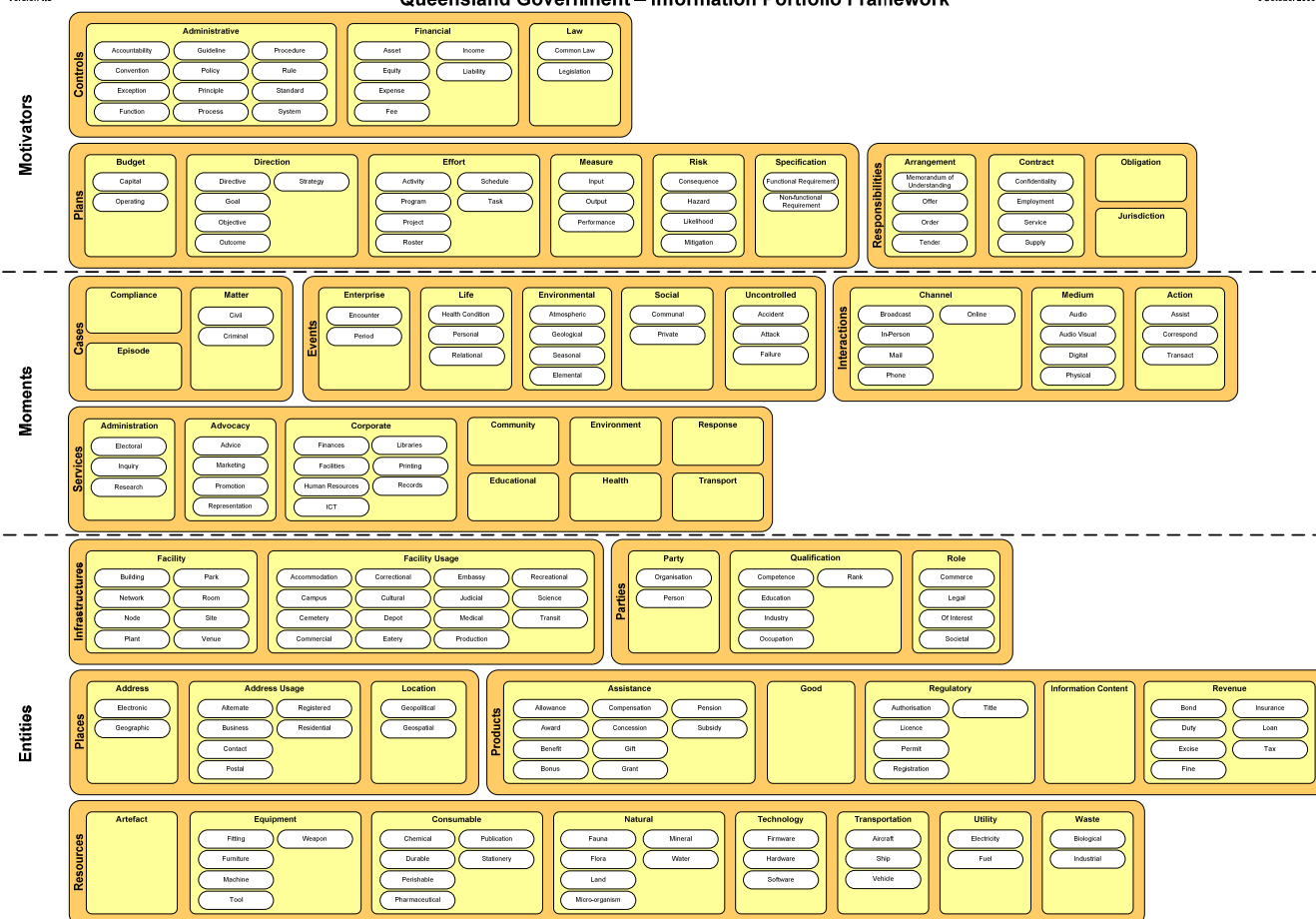
The ICT Planning Methodology has been specifically designed to enable agencies to collect information on their ICT investments and report those findings to the Queensland Government Chief Information Office for analysis and future use by the agency. The latest version of the ICT Planning Baseline and ICT Planning Methodology includes a requirement to gather basic information about all of the significant Information Assets used by the agency and map them to the relevant elements in the Business and Information Profiles. As part of this exercise agencies will be asked to classify their Information Assets using the Queensland Government Information Portfolio Framework, the graphical representation of which is illustrated below.

Queensland Government Information Portfolio Framework – Graphical Representation

Version 1.0

Queensland Government – Information Portfolio Framework

9 October 2006



Information Domain Descriptions

The Queensland Government Chief Information Office has identified *Also Know As (AKA)*, a Microsoft Access based classification scheme builder developed by Synercon Management Consulting as a tool for managing the extensive hierarchy of terms in the Information Portfolio Framework. AKA is accessible to agencies as part of the Queensland Government's Electronic Document Records management System (eDRMS).

AKA will also be used for the application and technology portfolio frameworks which had previously been maintained as Word documents or Excel spreadsheets. While the intention is still to make the Portfolio Frameworks available in Word or Excel, the adoption of AKA presents a number of other opportunities for the organisation:

- the ability to manage the integrity of relationships between domains such as linking parent to child domains, identification of variant terminology and linking related or associated domains;
- Capability of generating the content of the frameworks in various formats, such as Word, HTML, Excel, CSV etc from a single source; and
- Publish the frameworks direct to the internet/intranet including the tree and alphabetic navigation options plus full text searching of all terms.

In the following list, definitions have been provided for level 1 and level 2 domains only.

I-1 CONTROLS (Level 1)

The information that describes or documents the constraints on activities within the enterprise. Essentially the rules or policies that provide the basis for management or governance of the enterprise.

Legal Products (Variant)

Rules (Variant)

Rules support activities such as "establishing eligibility" for products and services.

I-1.1 Administrative (Level 2)

Information about controls that provide the foundation for administration of the enterprise, including concepts such as process, procedures and authority.

I-1.1.1 Accountability (Level 3)

I-1.1.2 Convention (Level 3)

I-1.1.3 Exception (Level 3)

I-1.1.4 Function (Level 3)**I-1.1.5 Guideline (Level 3)****I-1.1.6 Policy (Level 3)****I-1.1.7 Principle (Level 3)****I-1.1.8 Process (Level 3)****I-1.1.9 Procedure (Level 3)****I-1.1.10 Rule (Level 3)****I-1.1.11 Standard (Level 3)****I-1.1.12 System (Level 3)****I-1.2 Financial (Level 2)**

Information about the financial transactions that provide management and control over the economic resources of the enterprise.

Account (Variant)**I-1.2.1 Asset (Level 3)****I-1.2.2 Equity (Level 3)****I-1.2.3 Expense (Level 3)****Wages (Variant)**

Including the concept of salaries.

Work In Progress (Variant)

I-1.2.4 Fee (Level 3)

Discount (Variant)

One Time (Variant)

Recurring (Variant)

Subscription (Variant)

Surcharge (Variant)

Usage (Variant)

I-1.2.5 Income (Level 3)

Funding (Variant)

Receipt (Variant)

I-1.2.6 Liability (Level 3)**I-1.3 Law (Level 2)**

Information about controls in the form of legislation (statues, regulations, etc) enacted by Parliament, precedent arising from their interpretation or interpretation of prior case law by the Judiciary.

I-1.3.1 Common Law (Level 3)**I-1.3.2 Legislation (Level 3)****I-1.3.2.1 Act (Level 4)****I-1.3.2.2 Regulation (Level 4)****I-2 PLANS (Level 1)**

Information relating to courses of action created for the accomplishment of an direction.

Objectives (Variant)

I-2.1 Budget (Level 2)

Information relating to budget direction or processes.

I-2.1.1 Capital (Level 3)**I-2.1.2 Operating (Level 3)****I-2.2 Direction (Level 2)**

Directives, goals, strategies etc that provide guidance for the enterprise as a whole or the individual agency.

I-2.2.1 Directive (Level 3)

Imperative (Variant)

I-2.2.2 Goal (Level 3)

Key Learning Areas (Variant)

As in KLA.

Key Result Area (Variant)

As in KRA.

Target (Variant)

I-2.2.3 Objective (Level 3)

Key Performance Indicator (Variant)

As in KPI.

I-2.2.4 Outcome (Level 3)

Deliverable (Variant)

I-2.2.5 Strategy (Level 3)

Critical Success Factor (Variant)

As in CSF.

I-2.3 Effort (Level 2)

Information related to the required effort to achieve or fulfil a work related activity.

I-2.3.1 Activity (Level 3)**I-2.3.2 Program (Level 3)****I-2.3.3 Project (Level 3)****I-2.3.4 Roster (Level 3)****I-2.3.5 Schedule (Level 3)****I-2.3.6 Task (Level 3)****I-2.4 Measure (Level 2)**

Information which tracks the effectiveness in relation to activities managed by the organisation (inputs/outputs) or employee performance.

I-2.4.1 Input (Level 3)**I-2.4.2 Output (Level 3)****I-2.4.3 Performance (Level 3)****Return On Investment (Variant)**

As in ROI.

I-2.5 Risk (Level 2)

Information about a person (s) or a thing (s) which relate to risk management with an organisation.

I-2.5.1 Consequence (Level 3)**I-2.5.2 Hazard (Level 3)**

I-2.5.3 Likelihood (Level 3)

I-2.5.4 Mitigation (Level 3)

I-2.6 Specification (Level 2)

Information dealing with properties and constraints that are specifically binding either on the organisation as a whole or individuals within the organisation. Specifications contain features and requirements that may have properties such as their desirability in the form of mandatory, optional, selectable, standard etc.

I-2.6.1 Functional Requirement (Level 3)

Feature (Variant)

I-2.6.2 Non-Functional Requirement (Level 3)

I-3 RESPONSIBILITIES (Level 1)

Information relating to the implicit and explicit agreements that describes the terms and conditions relating to a mutual understanding between parties or between parties and society that arise as a result of the existence of a Control. For example: The Financial Management Standard 1997 as a form of Legislation establishes a number of Obligations on the Chief Executive of an agency.

Agreements (Variant)

I-3.1 Arrangement (Level 2)

Information about contracts, agreements or other arrangements with other agencies, governments, public or private organizations. This information may or may not include the actual legal documents such as MOUs, tenders etc.

I-3.1.1 Memorandum Of Understanding (Level 3)

I-3.1.2 Offer (Level 3)

Proposal (Variant)

Quote (Variant)

I-3.1.3 Order (Level 3)

Purchase Order (Variant)

Sales Order (Variant)

Work Order (Variant)

I-3.1.4 Tender (Level 3)

Request for Offer (Variant)

As in RFO.

Request for Proposal (Variant)

As in RFP.

I-3.2 Contract (Level 2)

In legal terms, a written or spoken agreement or arrangement between two or more parties which is enforceable by law.

I-3.2.1 Confidentiality (Level 3)

Commercial-in-confidence (Variant)

Non-disclosure (Variant)

Privacy (Variant)

I-3.2.2 Employment (Level 3)

I-3.2.3 Service (Level 3)

I-3.2.4 Supply (Level 3)

I-3.3 Obligation (Level 2)

That information which is held by an organisation which relates to its obligations. This information could relate to statutory obligations, duty of care etc.

Duty of care (Variant)

Fitness for purpose (Variant)

Warranty (Variant)

I-3.4 Jurisdiction (Level 2)

Information about political and geographical areas in which an organisation operates.

Demographic (Variant)**Federal (Variant)****Foreign (Variant)****International (Variant)****Local (Variant)****Political (Variant)****Provincial (Variant)****State (Variant)****Territory (Variant)****Tribal (Variant)****I-4 CASE (Level 1)**

The information relating one or more Parties for the purpose of coordinating the various Events, Services and Products in order to achieve a successful outcome. Case information is more focused on Parties interactions over the long term, not merely the linking of Resources through Interactions to Products or Services on a once off or adhoc basis.

I-4.1 Compliance (Level 2)

Information about an occurrence by a person or organisation that is under official investigation.

Assessment (Variant)**Audit (Variant)****Inspection (Variant)****Investigation (Variant)****I-4.2 Episode (Level 2)**

Information focused on individuals interactions with an agency, organisation or enterprise, which could be once off or tacked as a sequence over a period of time. For example a health service which tracks a patient's episode(s) of care. Including concepts such as Service Episode (from Queensland Health).

Air Incident (Variant)**Defect (Variant)****Disaster (Variant)****Drought (Variant)**

Fault (Variant)

The actual issue that results from a Failure event.

History (Variant)

As in history of events, such as family history.

Issue (Variant)**Maritime Incident (Variant)****Medical Episode (Variant)****Outbreak (Variant)****Traffic Incident (Variant)****Trip (Variant)****I-4.3 Matter (Level 2)**

Information held by an organisation related to interpretation of the law. Could be civil or criminal in nature.

I-4.3.1 Civil (Level 3)**Breach (Variant)****Parking Fine (Variant)****Speeding Fine (Variant)****I-4.3.2 Criminal (Level 3)****Assault (Variant)****Fraud (Variant)****Manslaughter (Variant)****Murder (Variant)****Offence (Variant)****I-5 EVENTS (Level 1)**

Information relating to planned or spontaneous occurrences recognised by the enterprise that may demand a response.

I-5.1 Enterprise (Level 2)

A type of event relating to the business of the organisation.

I-5.1.1 Encounter (Level 3)

Appointment (Variant)

Communicate (Variant)

Conference (Variant)

Engagement (Variant)

Including walk-ins off the street to a counter.

Hearing (Variant)

Intercept (Variant)

A planned planned interception for the purposes of an inspection or audit or investigation. E.g. Interception of a vehicle by a transport inspector or police officer.

Interview (Variant)

Journey (Variant)

Meeting (Variant)

Presentation (Variant)

Protest (Variant)

Resign (Variant)

Sack (Variant)

Seminar (Variant)

Stay (Variant)

Surveillance (Variant)

Visit (Variant)

I-5.1.2 Period (Level 3)

End Period (Variant)

Start Period (Variant)

I-5.2 Life (Level 2)

Information about events that hold substantial meaning for an individual but which are tracked by an organisation such as birth, deaths, health condition etc.

I-5.2.1 Health Condition (Level 3)

Illness (Variant)

Pregnancy (Variant)

I-5.2.2 Personal (Level 3)

Baptism (Variant)

Birth (Variant)

Death (Variant)

Graduate (Variant)

Holy Orders (Variant)

Retire (Variant)

I-5.2.3 Relational (Level 3)

Co-habit (Variant)

Divorce (Variant)

Marry (Variant)

I-5.3 Environmental (Level 2)

Information held by an organisation about environmental activities such as atmospheric pressures, geological formations, rainfall etc.

I-5.3.1 Atmospheric (Level 3)

Cyclone (Variant)

Hail (Variant)

Hurricane (Variant)

Lightening (Variant)

Rain (Variant)

Snow (Variant)

Typhoon (Variant)

Wind (Variant)

I-5.3.2 Geological (Level 3)

Earthquake (Variant)

Eruption (Variant)

Such as volcanic eruption.

I-5.3.3 Seasonal (Level 3)

Autumn (Variant)

Spring (Variant)

Summer (Variant)

Winter (Variant)

I-5.3.4 Elemental (Level 3)

Avalanche (Variant)

Fire (Variant)

Flood (Variant)

Land Slide (Variant)

Land Slip (Variant)

Tsunami (Variant)

I-5.4 Social (Level 2)

Information relating to planned or spontaneous occurrences of a social nature that may require a response by an organisation.

I-5.4.1 Communal (Level 3)

Anniversary (Variant)

Bazaar (Variant)

Exhibition (Variant)

Fair (Variant)

Fete (Variant)

Fixture (Variant)

Function (Variant)

Game (Variant)

Marketplace (Variant)

Sometimes referred to simply as a "Market".

Race (Variant)

Show (Variant)

I-5.4.2 Private (Level 3)

BBQ (Variant)

Birthday (Variant)

Dinner Party (Variant)

I-5.5 Uncontrolled (Level 2)

Information about events that occur spontaneously, but to which the organisation is required to respond.

I-5.5.1 Accident (Level 3)

Crash (Variant)

Explosion (Variant)

Implosion (Variant)

Spill (Variant)

I-5.5.2 Attack (Level 3)

Arson (Variant)

Assault (Variant)

Biological Attack (Variant)

Bombing (Variant)

Coup (Takeover) (Variant)

Incursion (Variant)

Kidnapping (Variant)

Mental Assault (Variant)

Physical Assault (Variant)

Sexual Assault (Variant)

Terrorism (Variant)

Threat (Variant)

Which leads to an offence - specifically extortion.

Uprising (Variant)

Verbal Assault (Variant)

I-5.5.3 Failure (Level 3)

Blackout (Variant)

I-6 INTERACTIONS (Level 1)

Information about activity that describes a relevant process or action undertaken by the enterprise. Interactions may be undertaken in response to Events, the delivery of Products or provision of Services. It is important to understand that interactions happen in "response" as well as in "request". E.g. Request for a book via face to face, followed by an online e-mail confirmation of order, followed by physical delivery of book.

I-6.1 Channel (Level 2)

A channel or mode by which an interaction takes place. For example face-to-face, in-person or by mail etc. Derived from the AGIMO Managing Multiple Channels approach and other published Channel definitions from both the Access Queensland Initiative and Smart Service Queensland.

Mode (Variant)

I-6.1.1 Broadcast (Level 3)

Billboard Advertisement (Variant)

On Air (Variant)

Radio Transmission (Variant)

Television Transmission (Variant)**I-6.1.2 In Person (Level 3)****Face-to-face (Variant)**

NB: Over the counter is just the "description" of the relation between a Face-to-face interaction that occurs at a counter based facility in a particular location. The facility type and location may change, but the channel will remain constant. Hence the use of Face-to-face.

I-6.1.3 Mail (Level 3)**Courier (Variant)****Postal (Variant)****Walker (Variant)****I-6.1.4 Phone (Level 3)****Facsimile (Variant)**

As in Fax.

Interactive Voice Response (Variant)

As in IVR or IVRU.

Voice (Variant)

As in a call centre or IVR. NB: Contact Centre is considered to be the organisational unit.

I-6.1.5 Online (Level 3)**Electronic Message (Variant)****Email (Variant)****Extranet (Variant)****Instant Message (Variant)****Internet (Variant)****Intranet (Variant)****Short Message Service (Variant)**

As in SMS or Text message.

I-6.2 Medium (Level 2)

The format in which information content is supplied to others, provided internally to the organisation or purchased from an external provider.

I-6.2.1 Audio (Level 3)

I-6.2.2 Audio Visual (Level 3)

Film (Variant)

Streaming Media (Variant)

Initiated by an online user, not "broadcast" to a wide and unknown area or audience.

Theatre (Variant)

Web Content (Variant)

I-6.2.3 Digital (Level 3)

Graphical User Interface (Variant)

Human Computer Interface (Variant)

Machine to Machine (Variant)

I-6.2.4 Physical (Level 3)

Metal (Variant)

Paper (Variant)

Plastic (Variant)

I-6.3 Action (Level 2)

Actions represent the information about key interactions that occur. Concepts such as Operators Assisted and Self Service are just relationships from parties in their appropriate roles to an action.

I-6.3.1 Assist (Level 3)

Referral (Variant)

Support (Variant)

I-6.3.2 Correspond (Level 3)

Announce (Variant)

Declaration (Variant)

Disaster Declaration (Variant)

Invitation (Variant)

Notice (Variant)

Request (Variant)

Response (Variant)

State of Emergency Declaration (Variant)

I-6.3.3 Transact (Level 3)

Activate (Variant)

Admit (Variant)

Application (Variant)

Approve (Variant)

Arrest (Variant)

Assess (Variant)

Book(ed) (Variant)

Cancel (Variant)

Charge (Variant)

As in charged with an offence.

Close (Variant)

Consult (Variant)

Courier (Variant)

Delivery (Variant)

Diagnosis (Variant)

Of illness, disease, or injury.

Discharge (Variant)

Exam (Variant)

Examination (Variant)

Including physical as well as sitting an exam.

Extension (Variant)**Fulfillment (Variant)****Immunise (Variant)****Initiate (Variant)****Intercept (Variant)**

A planned interception for the purposes of an inspection or audit or investigation. E.g. Interception of a vehicle by a transport inspector or police officer.

Intervene (Variant)**Invoice (Variant)****Issuance (Variant)**

As in to "issue" a licence.

Journal (Variant)**Lodge (Variant)**

As in lodgment of taxes.

Medicate (Variant)**Monitor (Variant)****Move (Variant)**

As in to transport something from one place to another.

Observe (Variant)**Open (Variant)****Payment (Variant)****Prescribe (Variant)****Prescription (Variant)**

As in to prescribe.

Procure (Variant)**Quarantine (Variant)****Question (Variant)****Reinstatement (Variant)****Release (Variant)**

Renewal (Variant)

Report (Variant)

Review (Variant)

Sale (Variant)

Seclude (Variant)

Suspend (Variant)

Test (Variant)

Trade (Variant)

Treatment (Variant)

Triage (Variant)

Upgrade (Variant)

Vote (Variant)

I-7 SERVICES (Level 1)

Information about the expected, advertised or agreed duties, functions or activities which the enterprise offers to other Parties. Services can be thought of as intangible Products which are primarily comprised of the enterprises time and expertise.

NB: That is not to say that a Party receiving a Service does not receive some tangibles as part of their Interaction. Merely that the major component of delivery is activity - not physical items.

I-7.1 Administration (Level 2)

Information about functions of an administrative nature such as performing electoral or research duties or commissions of inquiry.

I-7.1.1 Electoral (Level 3)

I-7.1.2 Inquiry (Level 3)

CMC Investigation / Inquiry (Variant)

Government Inquiry (Variant)

Police Investigation (Variant)

I-7.1.3 Research (Level 3)**I-7.2 Advocacy (Level 2)**

Information about a broad category of functions performed by special interest groups such as providing advice, marketing or promotional activities.

I-7.2.1 Advice (Level 3)**I-7.2.2 Marketing (Level 3)****I-7.2.3 Promotion (Level 3)****I-7.2.4 Representation (Level 3)****I-7.3 Corporate (Level 2)**

Functions and activities offered by an agency of a corporate nature such as finance, HR, library service or record management.

I-7.3.1 Finances (Level 3)**I-7.3.2 Facilities (Level 3)****I-7.3.3 Human Resources (Level 3)****I-7.3.4 Information and Communications Technology (Level 3)****I-7.3.5 Library (Level 3)****I-7.3.6 Printing (Level 3)****I-7.3.7 Records (Level 3)**

I-7.4 Community (Level 2)

Information relating to community resources and assistance programs to the Queensland public including but not limited to rural and regional communities, seniors, youths disability, Aboriginal and Torres Strait islanders etc.

Child Protection (Variant)

Foster Care (Variant)

Public Housing (Variant)

I-7.5 Educational (Level 2)

Functions and activities offered by an organisation relating to the provision of educational and training services.

Schooling (Variant)

Training (Variant)

I-7.6 Environment (Level 2)

Functions and activities offered by an organisation relating to environmental management.

Cleaning (Variant)

Disposal (Variant)

Recycling (Variant)

Rejuvenation (Variant)

As in the process of renewing the environment.

Valuation (Variant)

I-7.7 Health (Level 2)

Functions and activities offered by an organisation relating to the provision of health services.

General Practice (Variant)

Mental Health (Variant)

Obstetrics (Variant)

Oncology (Variant)

Physiotherapy (Variant)

Psychiatry (Variant)

Sexual Health (Variant)

Surgery (Variant)**I-7.8 Response (Level 2)**

Functions and activities offered by an organisation relating to the provision of emergency services.

Defence (Variant)**Enforcement (Variant)****Fire (Variant)****First Aid (Variant)**

Such as provided by an Ambulance service.

Protection (Variant)**Rescue (Variant)****Search (Variant)**

As in to search and locate somebody or thing that has been lost or missing.

I-7.9 Transport (Level 2)

Functions and activities offered by an organisation relating to the provision of Transport emergency services.

Freight (Variant)**Passenger (Variant)**

As in carriage of passengers.

I-8 INFRASTRUCTURES (Level 1)

Information about man made surroundings that provide the setting for activity of the enterprise, from large civic surroundings to the smallest personal place.

I-8.1 Facility (Level 2)

Information about the processes required within an organisation to maintain and develop facilities such as buildings, networks, plants etc which support and improve the effectiveness of its primary activities.

I-8.1.1 Building (Level 3)

NB: Floor is an attribute of a building or an address within location.

Complex (Variant)**Factory (Variant)**

Hanger (Variant)

House (Variant)

Shed (Variant)

Terminal (Variant)

Warehouse (Variant)

I-8.1.2 Network (Level 3)

Bridge (Variant)

Data (Variant)

Pathway (Variant)

Pipe (Variant)

Power (Variant)
As in electrical power.

Rail (Variant)

Road (Variant)

Telecommunications (Variant)

Tunnel (Variant)

Waterway (Variant)

I-8.1.3 Node (Level 3)

I-8.1.4 Plant (Level 3)

Air Conditioner (Variant)

Elevator (Variant)

Generator (Variant)

I-8.1.5 Park (Level 3)

Animal Park (Variant)

Council Park (Variant)

National Park (Variant)

State Forest (Variant)

I-8.1.6 Room (Level 3)

Auditorium (Variant)

Bathroom (Variant)

Booth (Variant)

Change Room (Variant)

Counter (Variant)

Emergency Room (Variant)

Office (Variant)

Operating Theatre (Variant)

Plant Room (Variant)

Toilet (Variant)

Waiting Room (Variant)

I-8.1.7 Site (Level 3)

Airstrip (Variant)

Bus Stop (Variant)

Construction (Variant)

Dam (Variant)

Historic (Variant)

Land Fill (Variant)

As in a Dump or Refuse Site.

Parking Space (Variant)

Pier (Variant)

Ramp (Variant)

Runway (Variant)

Sacred (Variant)

Stop (Variant)

Train Stop (Variant)

I-8.1.8 Venue (Level 3)

Ball court (Variant)

Course (Variant)

Field (Variant)

Ground (Variant)

As in a sporting ground, pitch or field.

Oval (Variant)

Pitch (Variant)

Playground (Variant)

Pool (Variant)

Racing Track (Variant)

Stadium (Variant)

I-8.2 Facility Usage (Level 2)

Policies, guidelines, manuals relating to appropriate usage of facilities which are managed by or for an organisation. Also includes information about the type of facility e.g.. School; medical facility, eatery etc.

I-8.2.1 Accommodation (Level 3)

Abode (Variant)

Aged care (Variant)

Barrack (Variant)

Bed & Breakfast (Variant)

Boarding House (Variant)

Caravan Park (Variant)

College (Variant)

Convent (Variant)

Hostel (Variant)

Hotel (Variant)

House Boat (Variant)

Motel (Variant)

Nursing Home (Variant)

Presbytery (Variant)

Quarters (Variant)

Residence (Variant)

Retirement village (Variant)

Seminary (Variant)

Vicarage (Variant)

I-8.2.2 Campus (Level 3)

Childcare Centre (Variant)

Preschool (Variant)

School (Variant)

TAFE (Variant)

University (Variant)

I-8.2.3 Cemetery (Level 3)

Crematorium (Variant)

I-8.2.4 Commercial (Level 3)

Office Complex (Variant)

Shopping Centre (Variant)

Technology Park (Variant)

I-8.2.5 Correctional (Level 3)

Correctional Centre (Variant)

Detention Centre (Variant)

Jail (Variant)

I-8.2.6 Cultural (Level 3)

Art Gallery (Variant)

Museum (Variant)

I-8.2.7 Depot (Level 3)

Ambulance Station (Variant)

Bus Depot (Variant)

Fire Station (Variant)

Transfer Station (Variant)

As in a refuse transfer station.

I-8.2.8 Eatery (Level 3)

Canteen (Variant)

Restaurant (Variant)

I-8.2.9 Embassy (Level 3)

Consulate (Variant)

High Commission (Variant)

I-8.2.10 Judicial (Level 3)

Court House (Variant)

I-8.2.11 Medical (Level 3)

I-8.2.12 Production (Level 3)

Abattoir (Variant)

Cattle Station (Variant)

I-8.2.13 Recreational (Level 3)

Entertainment (Variant)

Sporting (Variant)

I-8.2.14 Science (Level 3)

Clinic (Variant)

Hospital (Variant)

Laboratory (Variant)

Research Institute (Variant)

Surgery (Variant)

Ward (Variant)

I-8.2.15 Transit (Level 3)

Airfield (Variant)

Airport (Variant)

Bus Station (Variant)

Car Park (Variant)

Dock (Variant)

As in wharf or jetty.

Parking Station (Variant)

Port (Variant)

Taxi Rank (Variant)

Train Station (Variant)

Transit Centre (Variant)

I-9 PARTIES (Level 1)

Information dealing with the Persons and Organisations of importance to an enterprise, including their classification, the relationships between them and, in the case of Organisations, their unit structure.

Entities (Variant)

Involved Party (Variant)

I-9.1 Party (Level 2)

Information dealing with persons or organisations, particularly where an information asset has no requirement to address either of these party sub-types directly.

I-9.1.1 Organisation (Level 3)

I-9.1.1.1 Corporations (Level 4)

Information about true corporations as per AS 4590 1999, Australian Securities and Investment Commission (ASIC) and the Corporations Act 2001 (Cth) Division 7. It should be noted that the information about the status of an organisation in terms of charitable Institutions (Charities) and non-profit organisations is considered a "qualification" of an organisation. Information about Cooperative Societies, Social & Sports Clubs, Parents & Citizens (Friends) as well as Trade Unions should be classified using their relevant organisation type. Foreign companies are also classified under their relevant organisation type. The fact they are foreign is a function of their location as being outside Australia or a property status of the organisation not a type in and of itself.

Incorporated Association (Variant)

Managed Investment Scheme (Variant)

Partnership (Variant)

Proprietary Company (Variant)

As a privately held company.

Public Company (Variant)

Registered Business (Variant)

Trust (Variant)

Unincorporated Body (Variant)

I-9.1.1.2 Government (Level 4)

Information about government differentiated by their jurisdictional responsibility. Like with corporations, whether a government is domestic or international is either location information or some property of the organisation information.

Board (Variant)

Court (Variant)

As in the judiciary arm of government.

Cultural Institution (Variant)

Department (Variant)

Gallery (Variant)

Library (Variant)

Memorial (Variant)

Museum (Variant)

Parliament (Variant)

As in the legislature within government.

Statutory Authority (Variant)

Theatre (Variant)

I-9.1.1.3 Informal (Level 4)

Community (Variant)

Constituency (Variant)

Family (Variant)

As per Domestic Violence (Family Protection) Act 1989 (Qld), Section 12B

Household (Variant)

Market Segment (Variant)

Sometimes simply referred to as a "Market".

Non-Legal Organisation (Variant)

Subject Group (Variant)

A short term planned or arbitrary grouping of Persons or Organisations for the purpose of study or research activity.

I-9.1.1.4 Organisational Unit (Level 4)

Agency (Variant)

Branch (Variant)

Business Unit (Variant)

Includes grouping for units such as Office of, Contact Centres, Service Centres.

Cabinet (Variant)**Commission (Variant)**

As in a Royal or Parliamentary Commission on inquiry. A type of organisational unit established to managed and administer an investigation or inquiry (short or long term).

Committee (Variant)**Cost Centre (Variant)****Division (Variant)**

Includes Agency of and Region. Region is reserved for locations.

House (Variant)**Mission (Variant)**

As in a Trade or Diplomatic Mission.

Portfolio (Variant)

As in Ministerial Portfolio.

Position (Variant)

As in a Staff Member's position.

Reference Group (Variant)**Team (Variant)****Tribunal (Variant)****Working Party (Variant)****I-9.1.2 Person (Level 3)****I-9.2 Qualification (Level 2)**

Information which relates to persons or organisations of a qualifying nature. In terms of person this could be educational qualifications or competency levels whereas organisations may hold information relating to industry standards.

I-9.2.1 Competence (Level 3)

Experienced Based (Variant)

Professional (Variant)

I-9.2.2 Education (Level 3)

I-9.2.2.1 Higher Education (Level 4)

Associate Degree (Variant)

Bachelor Degree (Variant)

Diploma (Variant)

Doctoral Degree (Variant)

Graduate Certificate (Variant)

Graduate Diploma (Variant)

Masters Degree (Variant)

Tertiary (Variant)

I-9.2.2.2 School (Level 4)

Middle School (Variant)

Primary School (Variant)

Secondary School (Variant)

Senior Certificate (Variant)

I-9.2.2.3 Vocational (Level 4)

Advance Diploma (Variant)

Certificate (Variant)

E.g. Certificate IV in Hairdressing

Further Education (Variant)

Technical Education (Variant)

Vocational Graduate Certificate (Variant)

Vocational Graduate Diploma (Variant)

I-9.2.3 Industry (Level 3)

Charity (Variant)

Educational Institution (Variant)

Financial Institution (Variant)

Foundation (Variant)

Governance Body (Variant)

Insurer (Variant)

Manufacturer (Variant)

Media (Variant)

Non-profit (Variant)

Professional Society (Variant)

Underwriter (Variant)

Utilities (Variant)

I-9.2.4 Occupation (Level 3)

The various valid types of occupations can be found using the Name Title Abbreviations from AS 4590 or the Australian Standard Classification of Occupations (ASCO) from the Australian Bureau of Statistics (ABS).

Accountant (Variant)

Ambassador (Variant)

Artesian (Variant)

Auditor (Variant)

Clinician (Variant)

Commissioner (Variant)

Consultant (Variant)

Doctor (Variant)

Governor (Variant)

Health Professional (Variant)

Journalist (Variant)

Lawyer (Variant)

Mediator (Variant)

Member of the Armed Forces (Variant)
As in a soldier.

Negotiator (Variant)

Nurse (Variant)

Police Officer (Variant)

Primary Producer (Variant)

Public Servant (Variant)

Researcher (Variant)

Student (Variant)

Teacher (Variant)

Technician (Variant)

Trainee (Variant)

I-9.2.5 Rank (Level 3)

Captain (Variant)

Constable (Variant)

Corporal (Variant)

General (Variant)

Lieutenant (Variant)

Private (Variant)

Sergeant (Variant)

I-9.3 Role (Level 2)

Role information which relates to persons or organisations. Persons or organisations may play any number of roles such as customer, supplier, employee etc.

I-9.3.1 Commerce (Level 3)

Advisor (Variant)

Affiliate (Variant)

Agent (Variant)

Board Member (Variant)

Candidate (Variant)

Carrier (Variant)

Client (Variant)

Company Officer (Variant)

Contact (Variant)

Contractor (Variant)

Customer (Variant)

Director (Variant)

Distributor (Variant)

Employee (Variant)

Employer (Variant)

Insured (Variant)

Operator (Variant)

Owner (Variant)

Partner (Variant)

Prospect (Variant)

Recipient (Variant)

As in the receiver of an award.

Regulator (Variant)

Service Provider (Variant)

Shareholder (Variant)

Sole Trader (Variant)

Stakeholder (Variant)

Subsidiary (Variant)

Supplier (Variant)

Trustee (Variant)

I-9.3.2 Legal (Level 3)

Commissioner For Declarations (Variant)

Counsel (Variant)

Defendant (Variant)

Investigator (Variant)

Justice Of The Peace (Variant)

Offender (Variant)

Plaintiff (Variant)

Source (Variant)

Suspect (Variant)

Witness (Variant)

I-9.3.3 Of Interest (Level 3)

Subject (Variant)

I-9.3.4 Societal (Level 3)

As per Family Law Act 1975 (Cth).

I-9.3.4.1 Familiar (Level 4)

Child (Variant)

As in offspring.

Daughter (Variant)

Father (Variant)

Foster-parent (Variant)

Grandfather (Variant)

Grandmother (Variant)

Grandparent (Variant)

Guardian (Variant)

Husband (Variant)

Mother (Variant)

Parent (Variant)

Son (Variant)

Step-parent (Variant)

Relative (Variant)

Widow (Variant)

Widower (Variant)

Wife (Variant)

I-9.3.4.1 Non-Familiar (Level 4)

Admitted Patient (Variant)

Advocate (Variant)

Citizen (Variant)

Constituent (Variant)

Non-admitted Patient (Variant)

Patient (Variant)

Victim (Variant)

Volunteer (Variant)

Ward (Variant)

I-10 PLACES (Level 1)

Information about the location, position or area of Resources, Infrastructures and other concepts, as well information about locating and communicating with Parties.

Areas (Variant)

Locations (Variant)

I-10.1 Address (Level 2)

An address takes the meaning of a unique location for 1) a physical or geographical location or 2) an internet or IP address.

I-10.1.1 Electronic (Level 3)

Domain (URL/ URI) (Variant)

Email Address (Variant)

Fixed Line (Variant)

Internet Protocol Address (Variant)

Mobile (Variant)

Network Address (Variant)

Simple Mail Transfer Protocol (Variant)

Telecommunication Number (Variant)

I-10.1.2 Geographic (Level 3)

Full Structured (Variant)

Semi-structured (Variant)

Unstructured (Variant)

I-10.2 Address Usage (Level 2)

Identifies the ways in which an organisation may use an address. For example, residential addresses, businesses addresses, postal addresses etc.

I-10.2.1 Alternate (Level 3)

I-10.2.2 Business (Level 3)

I-10.2.3 Contact (Level 3)

I-10.2.4 Postal (Level 3)

I-10.2.5 Registered (Level 3)

I-10.2.6 Residential (Level 3)

I-10.3 Location (Level 2)

Information of a geospatial or geopolitical nature held by an organisation. Not to be confused with "physical" things such as water, land and so on all of which are resources that have a geospatial location.

I-10.3.1 Geopolitical (Level 3)

Council (Variant)

Country (Variant)

Electorate (Variant)

Locality (Variant)

Nation (Variant)

Province (Variant)

Shire (Variant)

State (Variant)

I-10.3.2 Geospatial (Level 3)

Area (Variant)

Catchment (Variant)

City (Variant)

Corridor (Variant)

District (Variant)

Easement (Variant)

Lot (Variant)

Parish (Variant)

Region (Variant)

Statistical Area (Variant)

Suburb (Variant)

Town (Variant)

Village (Variant)

Zone (Variant)**I-11 PRODUCTS (Level 1)**

Information about the tangible outputs of processes which the enterprise then offers to other parties. Products are considered tangible as their primary composition is physical items or representation of items of value**.

NB: A Product is not always physical. Merely that Products have tangible, or more precisely measurable, ongoing value which is initially generated from the Interaction through which the Product was acquired.

**Representation of items of value addresses the concepts commonly found in financial products. For example: A loan is typically secured against real and tangible assets. Essentially a loan product enables the acquisition of tangible items or represents an agreed value of such items. For this reason the products are not in the strict sense tangible, but do not fit the agreed definition of a service.

I-11.1 Assistance (Level 2)

Assistance products are tangible products of a personal nature. Usually a qualifier applies before a person or organisation is eligible.

I-11.1.1 Allowance (Level 3)**I-11.1.2 Award (Level 3)****I-11.1.3 Benefit (Level 3)****I-11.1.4 Bonus (Level 3)****I-11.1.5 Compensation (Level 3)****I-11.1.6 Concession (Level 3)****I-11.1.7 Gift (Level 3)****I-11.1.8 Grant (Level 3)****I-11.1.9 Pension (Level 3)**

I-11.1.10 Subsidy (Level 3)

I-11.2 Good (Level 2)

Information about property or merchandise that are tangible in nature and that are acquired (products from suppliers); provided; or required by an organisation. Could include information about features such as description, category or features.

I-11.3 Regulatory (Level 2)

Information on regulatory products managed by an organisation. For example, camping permit, driver's licence, car registration, teacher registration etc.

I-11.3.1 Authorisation (Level 3)

I-11.3.2 Licence (Level 3)

I-11.3.3 Permit (Level 3)

I-11.3.4 Registration (Level 3)

I-11.3.5 Title (Level 3)

I-11.4 Information Content (Level 2)

Information content products offered or acquired by an organisation. For example, curriculum guidelines offered by educational service providers; or library databases acquired by organisations.

Campaign (Variant)

Curriculum (Variant)

Exam (Variant)

Survey (Variant)

I-11.5 Revenue (Level 2)

Information dealing with products and services of a financial nature such as bonds, loans, fines, insurance etc.

I-11.5.1 Bond (Level 3)

I-11.5.2 Duty (Level 3)**I-11.5.3 Excise (Level 3)****I-11.5.4 Fine (Level 3)****I-11.5.5 Insurance (Level 3)****I-11.5.6 Loan (Level 3)****I-11.5.7 Tax (Level 3)****I-12 RESOURCES (Level 1)**

Information about items (typically finite in nature) that are used, created, purchased, consumed or under the control of the enterprise. Resources are not kept or assigned to Parties except to accomplish an activity within the enterprise, typically during an Interaction during the supply of Products or delivery of Services.

NB: Human resources are considered Parties within the framework who undertake activity as opposed to being Resources.

Inventories (Variant)**I-12.1 Artefact (Level 2)**

An artefact is an item of values and manifests in a concrete form such as reports, documents, tables, books, instruction manuals, multimedia, evidence, specimens etc. Artefacts can take a wide variety of formats from realia to text or multimedia.

Antiquity (Variant)**Cadastre (Variant)****Document (Variant)**

As at the end of a process (like evidence). Document, as an artefact, represents an instance of record in the eDRMS sense. That is eDRMS is essentially "tracking" artefacts (be the documents, "completed" forms, e-mails etc. All of which are essentially artefacts that "contain", "hold" or are the "rendered representation" of other information domains.

Evidence (Variant)**Exhibit (Variant)****Model (Variant)****Music (Variant)**

Painting (Variant)

Photograph (Variant)

Pottery (Variant)

Result (Variant)

As in an exam result or result of an examination.

Sculpture (Variant)

Specimen (Variant)

Tapestry (Variant)

I-12.2 Equipment (Level 2)

Information relating to physical items such as furniture, fittings, machinery etc that are under the control of the organisation.

I-12.2.1 Fitting (Level 3)

Items that are “fixed” essentially “bolted down” and not easily moved without some impact on the underlying infrastructure.

Barrier (Variant)

Bench (Variant)

Bus Shelter (Variant)

J Pole (Variant)

Monument (Variant)

Sign (Variant)

I-12.2.2 Furniture (Level 3)

Bed (Variant)

Chair (Variant)

Cupboard (Variant)

Stall (Variant)

Table (Variant)

Temporary Road Barrier (Variant)

I-12.2.3 Machine (Level 3)**I-12.2.4 Tool (Level 3)****I-12.2.5 Weapon (Level 3)**

Canon (Variant)

Hand Gun (Variant)

Rifle (Variant)

I-12.3 Consumable (Level 2)

Information about a resource or the resource itself that is created or purchased that is intended for consumption. For example, stationery, hospital supplies etc.

I-12.3.1 Chemical (Level 3)**I-12.3.2 Durable (Level 3)**

Datacard (Variant)

Medical Supply (Variant)

Number Plate (Variant)

I-12.3.3 Perishable (Level 3)

Beverage (Variant)

Food (Variant)

I-12.3.4 Pharmaceutical (Level 3)

Drug (Variant)

Medication (Variant)

I-12.3.5 Publication (Level 3)

Book (Variant)

Brochure (Variant)

Form (Variant)

Letterhead (Variant)

Newsletter (Variant)

I-12.3.6 Stationery (Level 3)

Paper (Variant)

Pen (Variant)

I-12.4 Natural (Level 2)

Information held by organisation which relate to natural resources.

I-12.4.1 Fauna (Level 3)

I-12.4.2 Flora (Level 3)

I-12.4.3 Land (Level 3)

Continent (Variant)

Island (Variant)

Reef (Variant)

I-12.4.4 Micro-organism (Level 3)

I-12.4.5 Mineral (Level 3)

As in a naturally occurring mineral such as raw ores. Processed minerals are considered to be chemicals.

I-12.4.6 Water (Level 3)

Gulf (Variant)

Lake (Variant)

Ocean (Variant)

River (Variant)

Sea (Variant)

Strait (Variant)

I-12.5 Technology (Level 2)

Information related to the various technology resources used by the organisation, including software, hardware and firmware.

I-12.5.1 Firmware (Level 3)

I-12.5.2 Hardware (Level 3)

Fax Machine (Variant)

Kiosk (Variant)

Mobile Device (Variant)

Mobile Phone (Variant)

Personal Computer (Variant)

Personal Digital Assistant (Variant)

Portable Small Factor Devices (Variant)

Server (Variant)

I-12.5.3 Software (Level 3)

I-12.6 Transportation (Level 2)

Information related to the various transportation resources used or tracked by the organisation, including aircraft, ships and vehicles.

I-12.6.1 Aircraft (Level 3)

I-12.6.2 Ship (Level 3)

Cargo Ship (Variant)

Ferry (Variant)

I-12.6.3 Vehicle (Level 3)

Considered to include information about all manner of land based motorised and non-motorised vehicles including automobiles, trains and cycles (uni, bi, tri, quad).

Bus (Variant)

Passenger Car (Variant)

Train (Variant)

I-12.7 Utility (Level 2)

Information related to the utilities used or produced by the organisation.

I-12.7.1 Electricity (Level 3)**I-12.7.2 Fuel (Level 3)**

Diesel (Variant)

Gas (Variant)

Petrol (Variant)

I-12.8 Waste (Level 2)

Information related to the waste used, managed or produced by the organisation.

I-12.8.1 Biological (Level 3)**I-12.8.2 Industrial (Level 3)**

Appendix A – Modelling concepts within the IPF

In developing the Information Portfolio Framework the adoption of formal information modelling techniques was used to ascertain the relevant content or subject decompositions within the domains. Outlined below is a detailed explanation of the application of these techniques to the framework.

Packages or subject areas

A package or subject area is the mechanism for categorising or associating related concepts as seen from the perspective of the enterprise. These constructs can be applied when identifying the core business concepts of an organisation and the subsequent information needs to support those concepts. Packages or subject areas provide the framework for the logical arrangement of the detailed information domains - each domain should fit into one and only one of these categories.

In object modelling, packages are shown as a folder which contains the classes of interest. In ER modelling, subject areas are shown as a boundary (typically using a dashed or broken line) surrounding the entities that it owns. Packages or subject areas are supported by detailed definitions, but always lack any concrete implementation or attribution.

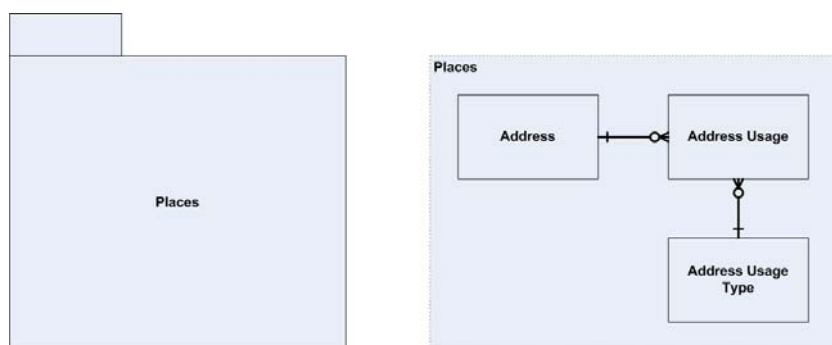


Figure 7: Example UML package and ER subject area

As previously outlined the Level 1 domains are the major conceptual elements of the Framework and are equivalent to the package or subject area of a traditional information model.

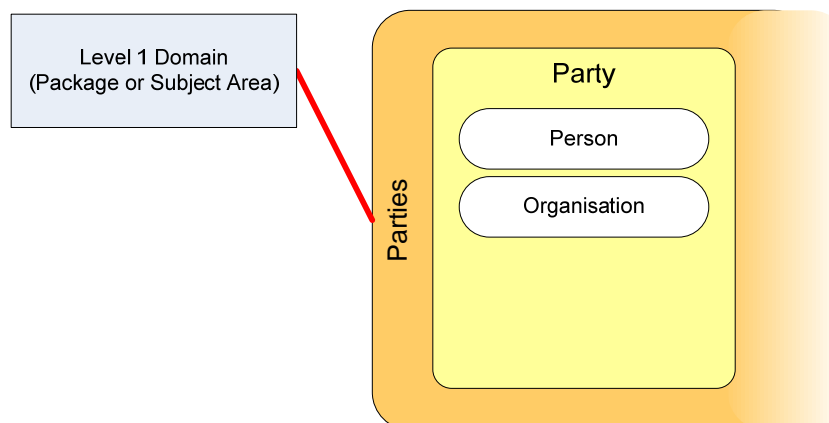


Figure 8: Example of the framework notation showing Level 1 domain

Class or Entity

A class or entity is something significant which the enterprise wishes to maintain information about or more correctly items which it wishes to capture the properties of. These may include various concepts, but importantly must not represent properties themselves. That is the class or entity must support some detail and cannot simply be a single attribute of data.

In object and ER modelling, classes and entities are shown as boxes and are supported by detailed definitions.

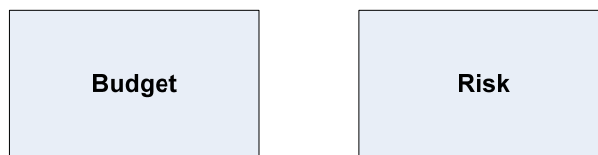


Figure 9: Example of UML class and ER entity

As previously outlined the Level 2 domains are equivalent to classes or entities.

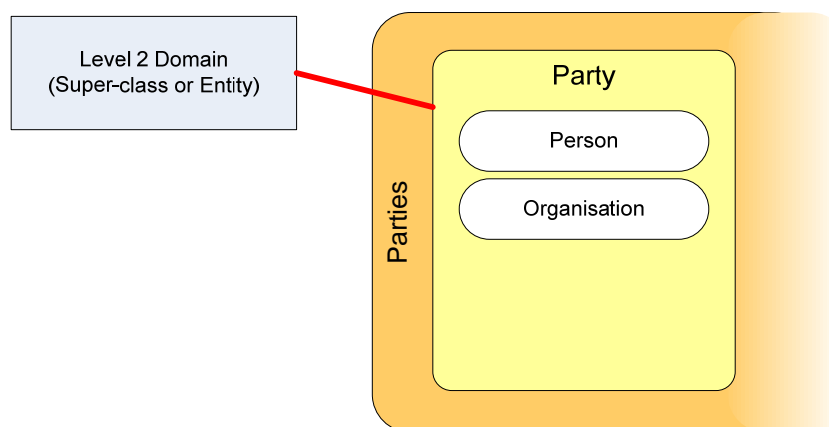


Figure 10: Example of the Framework notation showing Level 2 domain

Sub-class or Subtype

Another important concept in object and ER modelling, especially at the enterprise level, is that of subtypes. Subtypes are a way of showing subclasses of a class or an entity which, while sharing many of the same characteristics, may be dealt with and managed separately across different areas of the business. In the example below, Capital Budget and Operational Budget are shown as subtypes of Budget.

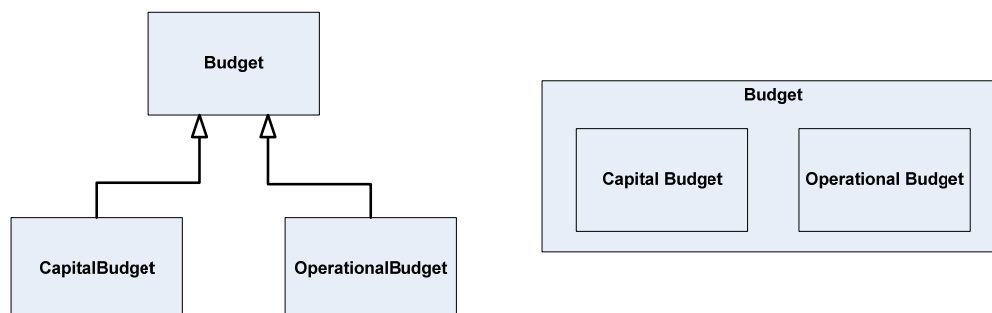


Figure 11: Examples of object inheritance (sub-classes) and ER sub-typing

In the above example Budget was the super type. Super types show the similarities between concepts (e.g. all parties have a name); while subtypes show differences between the concepts (e.g. a person has a date of birth, while organisations have a date of incorporation). By using sub and super typing this way, the need for integration between different concepts can be shown while preserving or acknowledging that there may be differences.

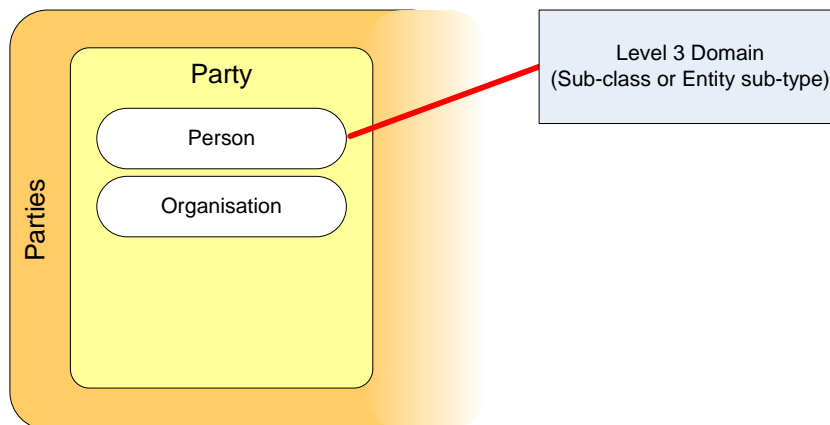


Figure 12: Example of the Framework notation showing Level 3 domain

Within the Information Portfolio Framework the use of subtypes is considered the most difficult technique to apply. Ideally sub-classes or entity subtypes should only exist if there is considered to be a significant characteristic (typically as outlined above a difference in form, structure or representation) between the different types of a particular super type. This rule has been applied as rigorously as possible during the Framework’s development.

Deep Sub-classes or Subtypes

As previously outlined in the section *Scope constraints within the Framework* above, CVLs are used to define standard decompositions within Level 2 or Level 3 Domains. This further “deep” sub-typing of the Level 2 or 3 domains is shown in the example in Figure 13 below, where Corporation and Government domains represent a controlled value list within the Level 3 domain of Organisation:

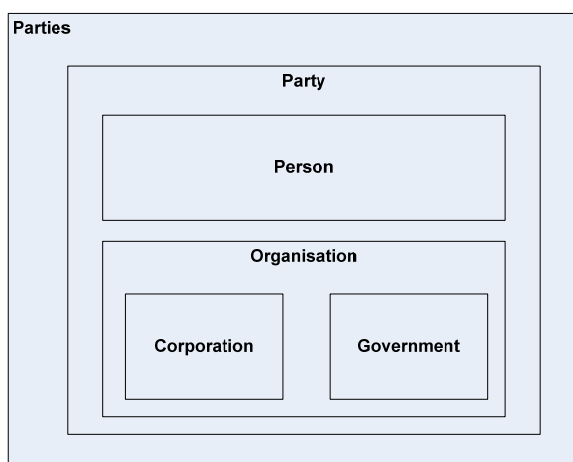


Figure 13: ER notation showing subtypes considered to be members of a Controlled Value List

While CVL decomposition is not shown on the graphical representation it may be used by Agencies to classify information assets at a more granular level. Alternatively CVLs can assist

with the correct classification of information assets within the portfolio in cases where the CVL domains more closely match the common vocabulary of the agency.

NB: CVLs represent the only valid sub-classifications within the Domain.

Indicative Value Lists can be defined for a Level 2, Level 3 Domain or under a Controlled Value List Sub-classification. However unlike Controlled Value Lists, an Indicative Value List only ever represents a list of potential common names of the information – i.e. Merely a differentiating type value of a class or entity or not an sub-class or entity sub-type - sometimes called a “descriptive” or “label”.

Conceptually IVLs are not entities or classes within the Framework in their own right. Instead they are merely naming variations of fundamentally the same business concept and hence Information Asset. This concept is best illustrated using Object or ER modelling notation to highlight the distinction in Figure 14 and Figure 15 below.

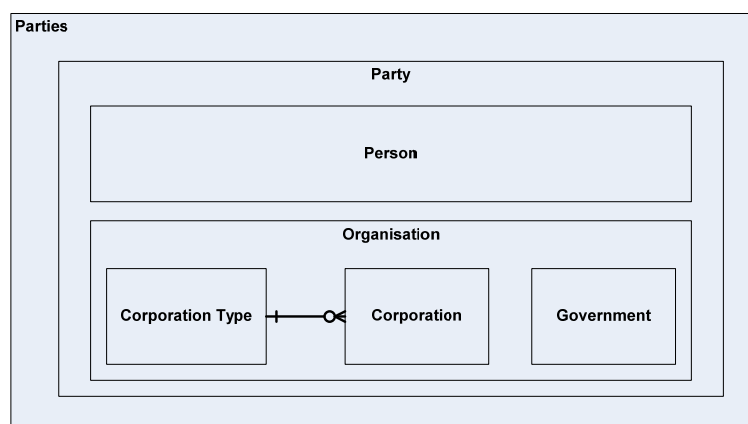


Figure 14: ER notation showing modelling of an Indicative Value List

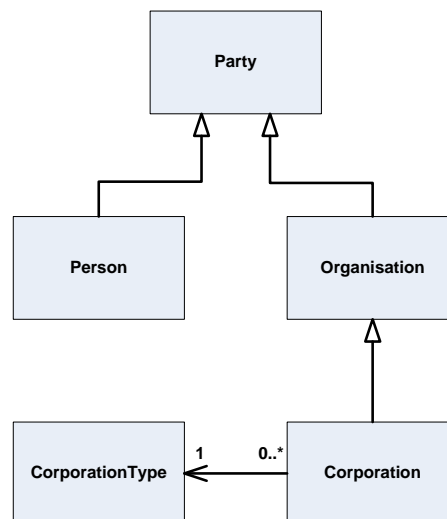


Figure 15: Object notation showing modelling of an Indicative Value List

In the above examples the IVL for Corporation Types¹⁰ would be:

- Incorporated Association

¹⁰ These types were derived from an analysis of AS 4590-1999, the Australian Securities and Investment Commission and the Corporations Act 2001 (Cth) Division 7.

- Managed Investment Scheme
- Partnership
- Proprietary Company (Private)
- Public Company
- Registered Business
- Trust
- Unincorporated Body

Unlike CVLs, IVLs are not used for classification. They are included only to assist agencies with the correct classification of information assets within the framework in cases where the IVL domains more closely match the common vocabulary of the agency.

Appendix B – Information patterns within the IPF

Outlined below are the main sources used for development of the Information Portfolio Framework domains.

Horizontal patterns

In particular the horizontal models used included, but are were limited to:

- Open Group's Universal Data Element Framework (UDEF)¹¹
- Len Silverston's A Library of Universal Data Models for All Enterprises¹²
- Terry Moriarty's Universal acceptance: the advantage of using a universal model¹³
- David Hay's Advanced Data Model Patterns¹⁴
- David Wiebe's Data Modelling for Integration Method¹⁵
- Promendo's Entity Business Objects from the Object Oriented Business Engineering (OOBE) Method¹⁶
- Martin Fowler's Analysis Patterns: Re-usable Object Models
- Peter Coad's Domain Neutral Component and Class Archetypes

Industry vertical patterns

Vertical models identified by the Queensland Government Office of Government ICT and used within the framework include, but were not limited to:

- UK Government's Integrated Public Sector Vocabulary (IPSV) and associated GovTalk schemas
- Health Level 7 (HL7) Health Care Information Standards
- Australian Standard 4590 Interchange of client information (AS4590-1999)
- Australian Institutes of Health and Welfare's National Health Information Model (NHIM)
- Australian Qualifications Framework
- United States Government National Information Exchange Model (and the Global Justice XML Data Model)
- United States Department of Health and Human Services Public Health Conceptual Data Model
- National eDA Project's Draft Information Model for the Electronic Development Assessment in Australia
- Open Distributed Processing – Reference Model Enterprise Language (ISO/IEC 15414)
- Ontario (Canada) Government's Office of the Corporate Chief Information Officer and Chief Strategist Common Elements and Information Taxonomy
- IBM's Information Framework (IFW) Financial Services Business Object Models
- Smart Service Queensland Service Cluster Model
- Queensland Health's Corporate Information Model
- Queensland Transport's Draft Contextual and Conceptual Information Models
- South African ActionIT Organisation's Conceptual Model of Projects in Government
- Various contributions made by the members of the UDEF Interested Parties Group¹⁷

¹¹ See <http://www.opengroup.org/udf/>

¹² See <http://www.univdata.com/>

¹³ Published by The Data Administration Newsletter see www.tdan.com

¹⁴ See footnote above.

¹⁵ As presented to the DAMA Conference 2005. See <http://www.dama.org.au/>

¹⁶ See <http://www.promendo.com/index.php?id=42>

¹⁷ The exact models used are considered commercial-in-confidence for members of the UDEF Interested Parties Group.

Appendix C – Information archetypes within the IPF

Outlined below is a detailed discussion of the information archetypes identified within and used to verify the completeness of the Information Portfolio Framework domains.

Motivators (Reasoning)

Many information assets that require classification are related to motivation or reasoning. That is, they contain information not in the form of an observation and measurement of a real world state, but information in the form of potential, imagined or desired states.

For example, risk management information is concerned with potential hazards, their likelihood and consequences. These may not be actual real world instances as they may never actually occur. Hence they are merely “imagined” or “scenario based” instances that may come to exist in certain circumstances based on experience of the people involved.

These types of information assets include information generated through the application of knowledge (experience), imagination and intellectual ideas (concepts). However, this does not make its classification any less critical. The framework therefore contains a number of domains which relate to Motivators. Specifically:

- Controls
- Responsibilities
- Plans

Moments (Events)

Information assets also arise in order to track or monitor moments, periods or events that occur over time. Essentially this type of information is focused on occurrences that must be tracked for business reasons or represent a specific point in the evolution of some “thing” of business significance.

For example: In order to enable business activity monitoring to assess conformance with performance measures an agency may capture information about the execution of key processes, such as the number of transactions performed.

The framework domains which relate to Moments are:

- Events
- Interactions
- Services
- Cases

Roles (Usages)

Information assets often need their role or usage context defined in order to be properly understood. For this reason the domains relating to role and usage are Level 2 domains that provide support for specific companion domains.

For example: Person-based Information Assets exist in almost every agency. As a result, knowing that an agency simply has person information is of limited value. However, the addition of the types of roles and qualifications that a person may have allows for much finer grained analysis, helping to distinguish one person-based information asset from another. In this case the Parties Level 1 domain contains both Party (Person), Role and Qualification domains.

To ensure an appropriate level of distinguishing between Information Assets, while still preserving their core information content, the Framework contains a number of domains which relate to roles or usages:

- Role and Qualifications support Party
- Address Usage supports Address
- Facility Usage supports Facility

There are also some less obvious usage / role relationships within the Framework which are worth noting:

- Resources are used in the creation of Products and the execution of Services
- Infrastructures are used in the creation of Products and the execution of Services

Entities (Things)

The most easily identifiable Information Assets are those that relate to instances of entities or things. That is, tangible items that the business must know about and for which different instances can be uniquely identified or distinguished from one another.

Not surprisingly the majority of domains within the Framework are related to information about entities:

- Infrastructures
- Parties
- Places
- Products
- Resources

Descriptors (Types)

In addition to role and usages, content of Information Assets often varies due to the idiosyncrasies of particular industries or communities. These catalogue-like descriptors further classify or label an object, but do not represent behaviour or activity or indeed indicate a true change to the underlying information.

Within the Framework, descriptors are included in the form of the Controlled Value and Indicative Value Lists. See *Domain Definitions* for further details.

Controlled Value and Indicative Value Lists represent standard descriptors within domains, but there are times when agencies may identify common descriptors that apply to one or more Level 2 or 3 domains. These common descriptors represent groupings (also known as “characteristics”) that may be applied from time to time. For example, certain Resources may be characterised by an agency as being either a dangerous good or not.

In some ways common descriptors are like properties in that they are an aspect or attribute of a particular Information Asset. However true properties manifest as an attribute of the object or entity type itself, often with unknown or an infinite number of variations. Common descriptors or “characteristics” can be modelled separately to the objects or entity types which they apply and often concepts, even when the underlying concepts may share few (if any) properties in common. In this sense the modelling of a common descriptor or characteristic is identical to the modelling of a CVL or IVL as shown in Use of Object / Entity Relationship Modelling Concepts above.

Due to the potential for characteristics to vary across agencies, even for characterising the same Information Assets, the Information Portfolio Framework does not include characteristics. However, understanding that such constructs do exist and can be applied to Information Assets can aid agencies wishing to apply the Framework for standardisation of modelling.

Indeed, over time it may be that certain characteristics that apply to some domains may themselves be able to be standardised through the adoption of the Framework and analysis of the various characteristics used by agencies to group key domains.

Appendix D – Classification of properties

The Information Portfolio Framework is primarily concerned with the types of information contained within an Information Asset. However, agencies can employ the Framework for schema development for applications or information exchange.

This is achieved by using existing property classification schemes as the basis for attribution of the classes and entities within the framework. That is, having identified the type of information being dealt with it is possible to use the property classification scheme to determine the required attributes of the type relevant to the particular agency context. This concept of combining two schemes is shown in Figure 16 below.

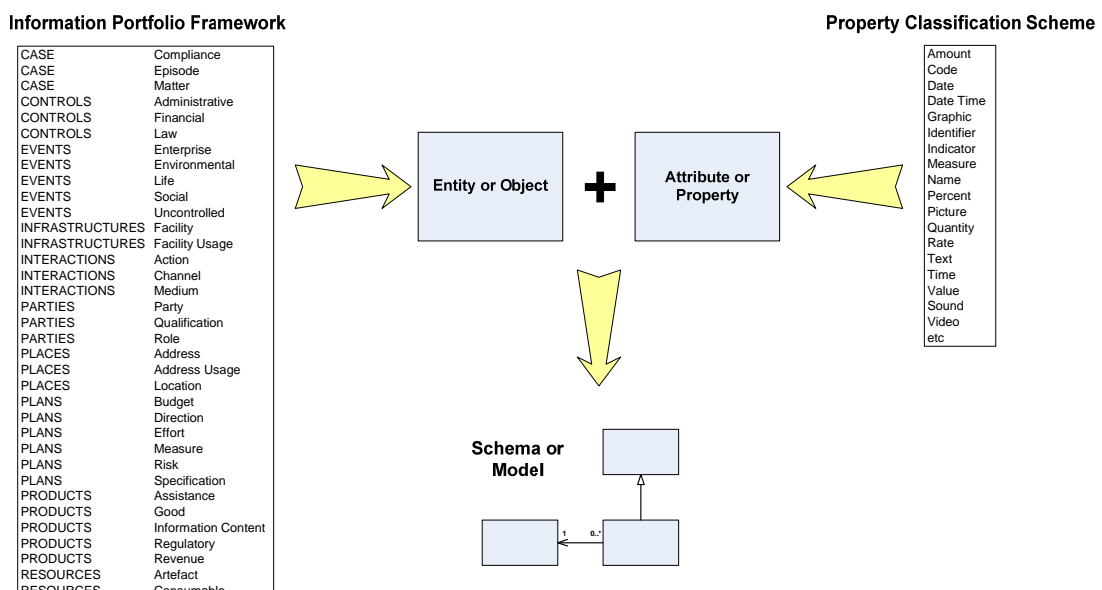


Figure 16: Attribution using the Information Portfolio Framework

Outlined below are two sources of potential property classification schemes that may be used by agencies when attributing the Information Portfolio Framework.

Excluded Property Types

During development of the Framework, a number of property types were identified and subsequently excluded from the Framework itself. However, these types were recorded (but never validated) and are provided below as a reference for agencies wishing to undertake attribution of models based on the Framework.

NB: This list is not meant to be exhaustive or complete and only attempts to identify those property types which may be of use to agencies based on the patterns reviewed by the OGCIO.

- 1.1. System of measure (Unit of measure)
 - 1.1.1. Binary
 - 1.1.2. Hexadecimal
 - 1.1.3. Decimal
- 1.2. Count
 - 1.2.1. Whole

- 1.2.2. Fractions
- 1.3. Denomination
- 1.4. Temperature
 - 1.4.1. Celsius
 - 1.4.2. Fahrenheit
 - 1.4.3. Kelvin
- 1.5. Pressure
 - 1.5.1. pounds per square inch
 - 1.5.2. millibar
 - 1.5.3. kilopascals
 - 1.5.4. hectopascals
- 1.6. Time
 - 1.6.1. Second
 - 1.6.2. Minute
 - 1.6.3. Hour
 - 1.6.4. Day
 - 1.6.5. Week
 - 1.6.6. Fortnight
 - 1.6.7. Month
 - 1.6.8. Quarter
 - 1.6.9. Year
 - 1.6.10. Decade
 - 1.6.11. Century
 - 1.6.12. Millennium
- 1.7. Weight
 - 1.7.1. Gram
 - 1.7.2. Kilogram
 - 1.7.3. Tonne
 - 1.7.4. Ounce
 - 1.7.5. Pounds
- 1.8. Volume
 - 1.8.1. mega litres
 - 1.8.2. litres
- 1.9. Spatial
 - 1.9.1. Longitude
 - 1.9.2. Latitude
 - 1.9.3. Altitude
 - 1.9.4. Depth
 - 1.9.5. Point
 - 1.9.6. Line
 - 1.9.7. Arc
 - 1.9.7.1. Curve Segment
 - 1.9.8. Polygon
 - 1.9.9. Edge
 - 1.9.10. Face
 - 1.9.11. Node
 - 1.9.12. Height
 - 1.9.13. Width
 - 1.9.14. Radius
 - 1.9.15. Circumference
- 1.10. Distance
 - 1.10.1. kilometres
 - 1.10.2. metres
 - 1.10.3. centimetres
 - 1.10.4. millimetres

- 1.10.5. mile
- 1.10.6. foot
- 1.10.7. inch
- 1.11. Sound
 - 1.11.1. Decibels
- 1.12. Speed (Assume metric alignment)
 - 1.12.1. km / hour
 - 1.12.2. metres / second
 - 1.12.3. Acceleration
 - 1.12.4. Deceleration
- 1.13. Area
 - 1.13.1. Acres
 - 1.13.2. Hectares
 - 1.13.3. Square metres
 - 1.13.4. Spatial¹⁸
 - 1.13.4.1. Geographic
 - 1.13.4.1.1.1. Geodetic
 - 1.13.4.2. Hydro graphic
 - 1.13.4.3. Topographic
- 1.14. Desire
 - 1.14.1. Mandatory
 - 1.14.2. Optional
 - 1.14.3. Critical
 - 1.14.4. Non-critical
- 1.15. Level
 - 1.15.1. High
 - 1.15.2. Medium
 - 1.15.3. Low

UDEF and ISO 15000-5:2005

The Information Portfolio Framework is based on various information pattern sources as outlined in *Appendix B – Information patterns within the IPF*. One of the major sources was the Open Group's Universal Data Element Framework (UDEF). The UDEF, while intended only as an indexing mechanism for individual elements independent of structure or layout also uses the concept of combining entity or object types with property types. The property types employed by the UDEF are the standard property types from the ebXML suite of standards. In particular UDEF utilises the standard set of property types from the ISO 15000-5:2005 ebXML Core Component Technical Specification (CCTS)¹⁹.

Agencies wishing to undertake attribution of models based on the Framework may also like to consider adoption of the ISO 15000-5:2005 standard (or similar) as the basis of property types.

¹⁸ Based on the definition of "spatial" information from Queensland Spatial Information Council

¹⁹ Further details on the ebXML CCTS can be found at http://www.unece.org/cefact/ebxml/CCTS_V2-01_Final.pdf and <http://www.ebxml.org/specs/index.htm>. The reader is also directed to consider the use of the CCTS within the Universal Business Language (UBL), see www.oasis-open.org/committees/ubl/