THE FIRSTBYTE ENTERPRISE MODEL

Firstbyte's generic data, function and application architecture model framework

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1. The Enterprise Model

1.1 Introduction

A framework for any enterprise. This is a defining data, process and application architecture for all businesses and enterprises.

1.2 Purpose of the Enterprise Model

The purpose of this model is to provide any enterprise, business or organisation with a template, or framework, within which their business can be modelled in its entirety where that business needs to be expressed in terms of data, functions/processes and applications. The resulting models will be consistent with traditional structured methods, including Information Engineering (IE) and the UML Object Oriented approach. The Enterprise Model has three components:

1. The Data Enterprise Model

2. The Functional Enterprise Model

3. The Application Enterprise Model

1.3 Method of Enterprise Model Construction

1.3.1 Data / Object Model

A three-tiered architecture has been used for the data / object model.

The first tier is called 'Level 0' and is an Entity Relationship Diagram (ERD) modelling the primary entity types or objects. This diagram can be easily read, and using some CASE tools, automatically, converted into a UML Class Diagram. The primary entities / objects at this level are universal and comprise the eight enterprise subject areas that any business will require. Level 0 can be printed readably on a single page of A4, and looks even better on A3. It is colour-coded, with one colour/shade for each enterprise subject area.

The second tier is called 'Level 1'. There are eight diagrams at this level, each one being the next-level expansion of the enterprise subject area in Level 0. Each subject area diagram's core entities are colour coded in the same colour as the parent subject area in Level 0. The Level 1 model resolves the many-to-many relationships from Level 0, explicitly shows the interfaces to the other subject areas and, where relevant or helpful, adds further entities/ objects to the diagrams.

The third tier, 'Level 2', will be the organisation-specific next step, hence not modelled as part of this generic framework . Level 2 may be regarded as 'project level'. At this level, subject area diagrams will lose their generic natures and the entities / objects in the Level 2 diagrams will be specific examples of their more generic parents from 'Level 1'. At this level, models will become meaningful for system and implementation purposes. Project level diagrams may be large or small, depending on the scope and detail required by the project brief. Small or simple models may be immediately implementable, others may be more complex, and even require further levels of decomposition and significant expansion.

By designing a multi-tiered system, a navigable framework within which any enterprise will be able to model its data is provided. This system has the following benefits:

- provision of an object and data, function and application structure which is consistent with both object oriented approaches and traditional structured methods, e.g. IE
- clearly defined business interfaces and boundaries
- logically grouped and meaningfully colour-coded enterprise subject areas encompass the whole of any enterprise or business
- consistency of modelling across the business
- enhanced control of business initiatives and project scopes which can be cross-referenced easily and clearly against the enterprise model
- encourages cohesive, consistent and modular system designs
- a comprehensive model partitioned into manageable bite-size chunks using levelled diagrams

1.3.2 Business Functions and Business Processes

A two-tiered approach has been used for the Enterprise Functional Decomposition (EFD). There is often confusion in industry generally with the use of the terms business 'function' and 'processes'. For example, it is often unclear whether an object is a business function or a business process or when does a business function become a business process? In order to obviate such confusion here, the following definitions for these two terms have been included in the Glossary of Terms and all references in this paper to these terms will be consistent with those definitions. I will also use the following rule:

> *A business function may be decomposed into further business functions or into business processes; a business process may be decomposed into further business processes and elementary business processes, but not into business functions. An elementary business process (EBP) is the lowest level of business process and may only decompose into process steps.*

The top level of the EFD is Level 0 and shows the eight primary enterprise functions. These functions are colour-coded in line with the colour-coding for the eight primary enterprise subject areas and belong to these subject areas. Business Processes do not feature at this level.

The second level of the EFD is Level 1 and shows a decomposition of the chief generic business functions and processes that belong to the parent primary enterprise function. There are 8 level 1 decompositions. From this level, all further business function and business process decompositions may be identified and may be considered 'Project Level'.

It should be noted at this juncture that UML does not yet, at the time of writing this paper, support functional or process modelling in decomposition form and is, therefore, unable to provide low level Use Cases and Business Use Cases with a full business or enterprise context. Hence it is recommended that a structured functional decomposition technique is used to decompose functions and processes down to the EBP level at which point the EBP can be identified, or comparable, with a Business Use Case (ref. Firstbyte Consulting paper on IE/UML where the integration of structured methods and UML/OO is covered)

1.3.3 End-to-end Business Processes (E2eBP)

We also need to consider the 'End-to-end Business Process' (E2eBP). While there is no generic pattern for these processes, if any process is allowed to be considered an enterprise

level process, it is the E2eBP. Typically, any business or enterprise will have a number of E2eBPs which are core to their operation. There may not be very many E2eBPs, perhaps only one or two for smaller businesses. These processes are the significant operations of the business and can be said to 'sum the business up'. They are 'what the business, or enterprise, is all about'. As part of its enterprise modelling initiative, each enterprise must identify and document these e2eBPs for universal reference and use. As mentioned earlier, due to the fact that E2eBPs do not lend themselves to taking on a generic form, there are no generic patterns for these in this paper. However some examples, which have been worded as generically as possible but retain a clear business meaning, have been included:

- Book passenger onto flight
- Receive payment (e.g. customer, supplier, bank account etc.)
- Bill customer for service/goods received
- Withdraw funds from bank account
- Process customer request (e.g. for goods, services, information etc.)
- Make train journey (from the business' aspect, not the customer's)
- Manufacture product line
- Distribute goods
- Sell asset (e.g. property etc.)
- Purchase asset
- Lease asset

Clearly the above examples are just a few E2eBPs, but it is clear, from their names alone, that they should define, or describe, significant reasons for an enterprise's 'reason for being'. An e2eBP needs to be business-specific specific if it is to serve its business meaningfully, for example, the UK Border Agency (UKBA) of the Civil Service, at generic level, processes customer requests, and while this sums its business up, it does not do so in a meaningful way, in fact, this generic process description is so far removed from the reality that it would be meaningless to most UKBA staff. A more meaningful set of e2eBPs would include 'Process Request for Leave to Remain', 'Process Request for Leave to Enter', each of which are huge parts of UKBA operations and break down into smaller and smaller process chains.

1.3.4 Application Model

This must be the most difficult generic model to produce, primarily due to the fact that businesses and enterprises need to ensure that their applications and their linkages are built in such a way as to ensure, or strive to achieve, a market edge which will provide an advantage over competitors. This means that it may be a business imperative that they should aim **not** to follow a common pattern. However, for the sake of completion, focus and context, this paper provides a single level Enterprise Application Model, which, not surprisingly, consists of eight application areas, each representing an enterprise subject area. The benefits of using this application framework are to:

- focus minds to think of each one of an enterprise's applications in terms of a meaningful component of a working whole
- rapidly identify the applications that will, or may, require development work in the event of changes or enhancements to business processes or applications
- facilitate impact analysis at all levels throughout the enterprise or business
- maintain consistency with the enterprise view of data, function and process

1.3.5 How will this approach help our Enterprise?

This approach will enable:
- ease of communication between the 'business' and project teams

- full navigation of business objects and data throughout the enterprise
- ease of understanding of the business and the way each business area functions in relation to other business areas and external parties
- maintenance of project and strategic focus
- control of project scope

1.3.6 How will this approach help IT and the 'Business'?

This approach will help your Business and its IT to function with optimum efficiency by providing:

- a springboard for greenfield enterprise architectures
- a useful cross-reference for existing architectures to confirm coverage
- flexibility to work with both 'OO' and traditional structured methods
- a streamlined transformation capability to 'OO'/Class notation from the ERD
- consistency, integrity & granularity of business objects
- data, object and process sharing across and down through the enterprise
- minimal development effort by facilitating data sharing and using consistent modelling approach
- solid framework for the identification of gaps (potential & actual)

1.4 The Enterprise Model and the Zachman Framework

The Zachman Framework for Enterprise Architecture, developed by John Zachman, provides a conceptual structure for describing complex enterprises and systems to progressive levels of detail. It organises and categorises those aspects of an enterprise that are essential to the management of the enterprise and the development of its information systems. It has now become the model around which major organizations worldwide view and communicate their enterprise information infrastructures.

The Zachman Framework is not a method, but rather, an important tool for organising the information that needs to be gathered about a business or enterprise and its systems. It is used to classify that information and the processes which manipulate that information, and for analysing the different parts of the enterprise which need to share that information and functionality.

The columns of the Zachman Framework specify the type of information to be captured - the who, what, why, when, where, and how of modelling a business and its systems. The rows of the Zachman Framework specify the stages of development - starting at Contextual, then Conceptual, then Logical, then Physical, then Implementation, and finally, Finished system.

I have attempted to align this model's subject areas with the Zachman Framework as follows:

What	**How**	**Who**	**Where**	**When**	**Why**
Assets	Activities	Parties	Locations	Events	Business Rules
Products/Services				Finance	Agreements

1.5 Customer Relationship Management

With the current emphasis of many enterprises towards the customer, this enterprise model facilitates efficient customer focus by providing clear delineation of enterprise subject areas. This delineation aids strategists, modellers and developers to focus on important aspects of the business.

1.6 Workflow

The delineation of subject areas, the controlled levelling of process and the organisation of data and applications into consistent subject areas and levels, aids clarity of thought processes. This, in turn, leads to the efficient construction of workflow systems.

1.7 Enterprise Subject Areas

All enterprises and businesses are composed of eight subject areas within which all data can be discretely modelled and into which business functions, processes and applications can be loaded. There is no aspect of any enterprise or business which cannot be modelled within one or more of these subject areas. These business areas have been colour-coded as follows:

- Financial Accounts - dark grey
- Locations - green
- Actors/Parties - light yellow
- Agreements - dark yellow
- Assets - orange
- Products & Services - blue
- Activities & Events - pink
- Business Rules - purple
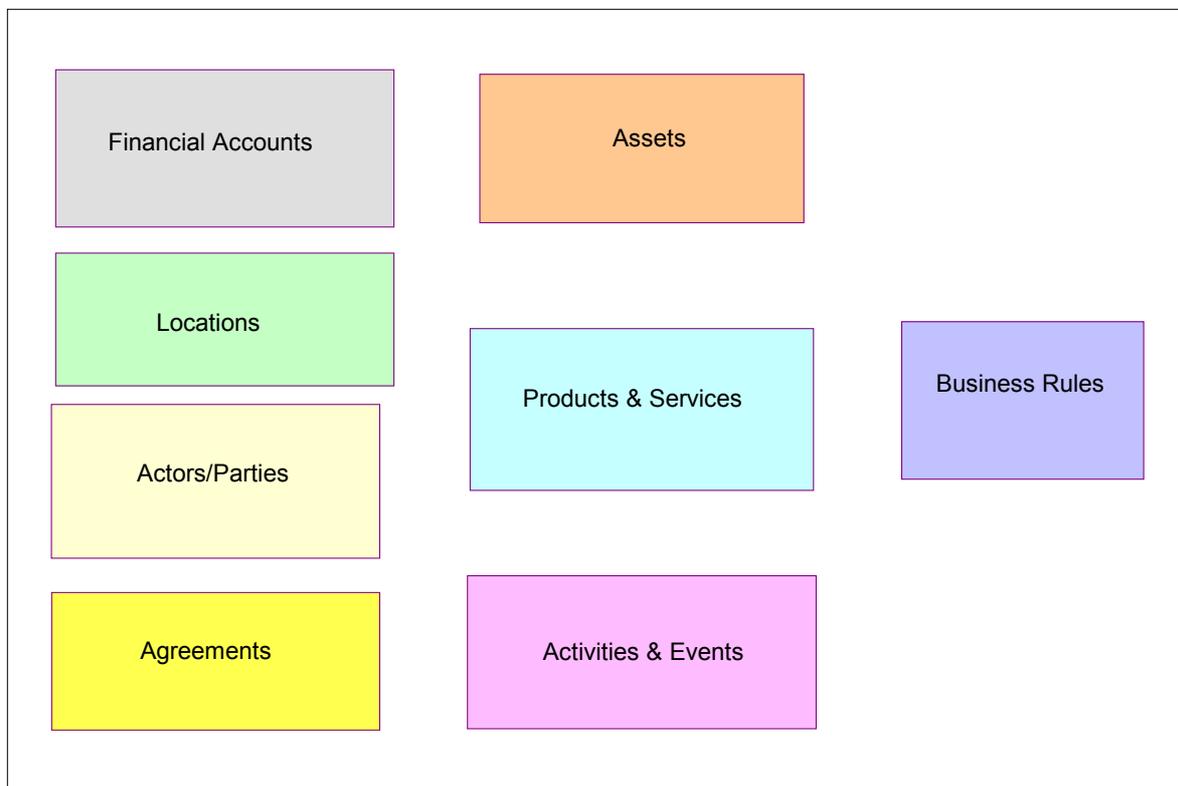
Enterprise Subject Areas

The purpose of starting any model with the above subject areas is to provide a simplified high level structure within which to model the enterprise in more detail. By using subject areas from the start of any analysis task, one is provided with the facility to categorize data, functions and applications from the outset, minimising duplication and re-work at later stages. It should be noted that for application modelling, the boundaries of subject-area-to-application will often not coincide, particularly when analysing existing legacy applications that have built up over time. However, it is still a valuable technique to keep sight of the subject areas when analysing old or modelling new applications.

2. The Enterprise Data Model

The first component of this enterprise architecture is the Enterprise Data Model. This is a two-tiered, highly structured design which provides a comprehensive framework for enterprises and businesses. It may be used as a conceptual model, as the foundation for a specific enterprise, or it may be used as it stands for physical database generation.

2.1 Level 0 - Major Enterprise/Business Entity Types

The following Level 0 data model diagram shows the main entity types, or classes, within their enterprise subject areas. Seven of the enterprise subject areas occupy the main body of the diagram with Business Rules shown as an over-arching area over to the right.

1. The outer degree shows the 'Type Classification' entity types, e.g. 'Asset Type Classification' etc.; these are higher level groupings of the middle degree entity types, or classes, and can be used for super classifications of entity types and to enable multiple inheritance.
2. The middle degree shows the 'Type' entity types, e.g. 'Asset Type' etc; these are for the static entity type, or class, data, and are used to hold common information about business entities or objects.
3. The inner degree shows the basic business entity types, or classes, e.g. 'Asset'. These are the most dynamic of the three kinds of entity type and operate within the contexts of their higher levels
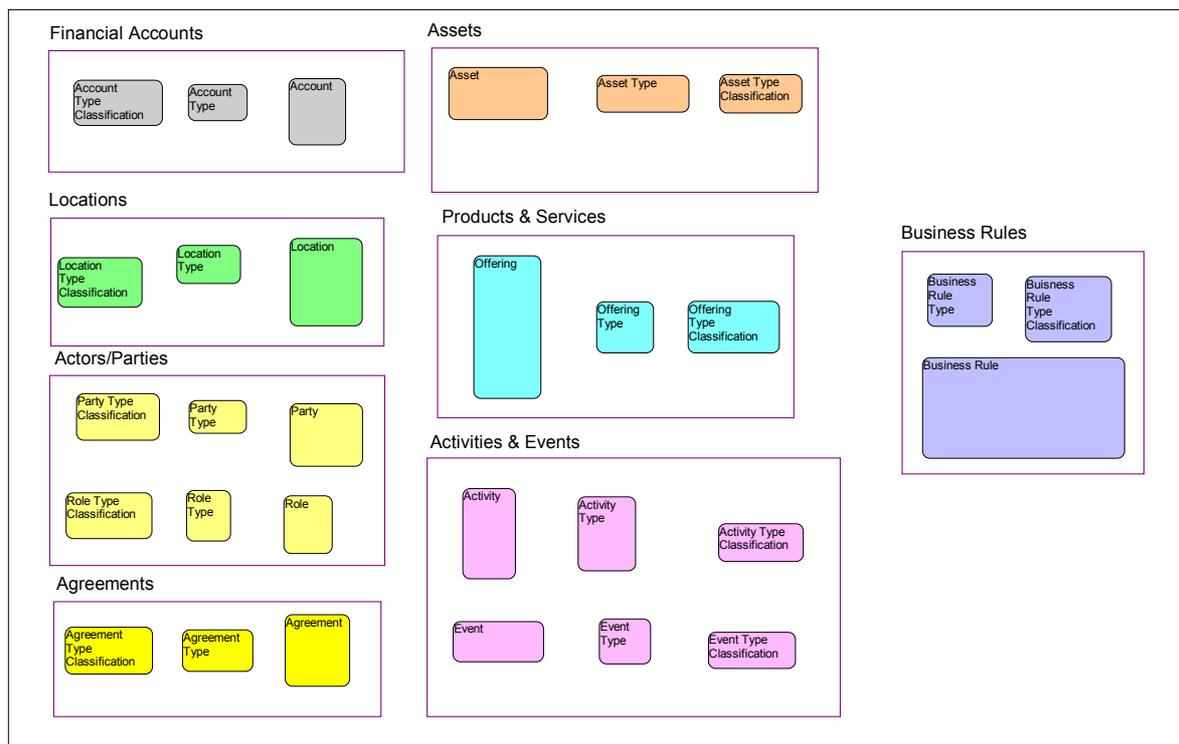
Major Entity Types

Note that the structure is the same for each subject area. By using the same pattern for each subject area, the overall framework is simplified and navigation made easier both to use and remember.

2.2 Level 0 - All Level 0 Entity Types

The following Level 0 data model diagram shows the main entity types, or classes, within their enterprise subject areas. At this stage it is possible that some businesses may not use one or two of the new entity types, e.g. a health insurance business may not need to use 'Linear Asset', but might find it useful to make additions at this level which are of particular importance to that business, e.g. a transport business may require a 'Schedule' which could go in the 'Activities & Events' Subject Area.
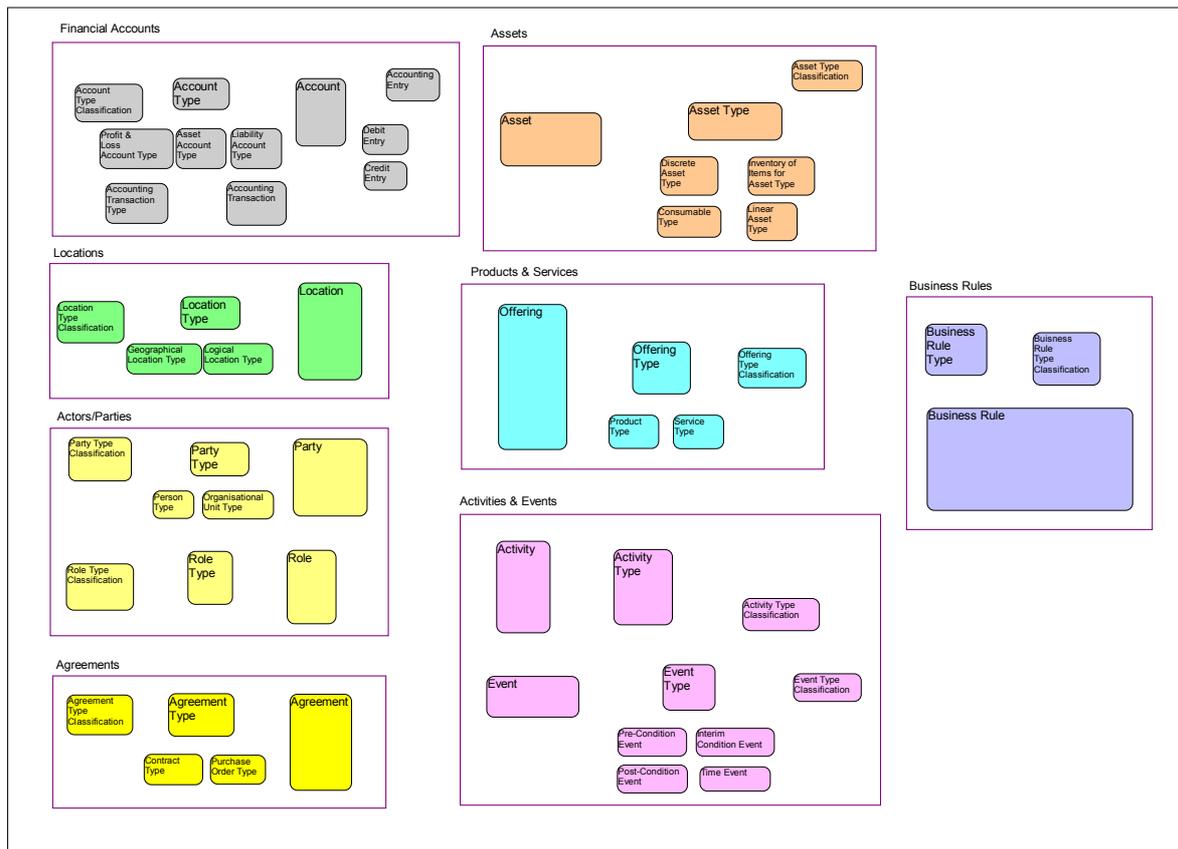
All Enterprise Level 0 Entity Types/Objects

Note that neither this level nor Level 1 (next level) of the Enterprise Model contain low-level, minor or mechanistic entity types or classes, e.g. business-specific entities, histories or manager classes etc. since these are not enterprise objects.

2.3 Level 0 - Full Level 0 Enterprise Data/Object Model
(showing Relationships / Associations)

The full Level 0 Enterprise Data Model contains all required enterprise-level entity types and their chief generic relationships, or associations. It fully describes an enterprise, or business, in terms of its generic entity types, or classes and their relationships or associations with each other.

It is useful to note that the relationship structures of the basic business entity types inherit the structures of their associated 'Type' entity type. This is explicit where pigs ears (where an entity type has a relationship to itself) are shown on both kinds of entity type and implicit where subtypes are only shown on the 'Type' entity types; in the latter case, each basic business entity type implicitly inherits its 'Type' entity type's subtype structure. So the fact that 'Location Type' has both a 'Geographical' and a 'Logical' subtype implies that 'Location' also has a 'Geographical' and a 'Logical' subtype. For readability and navigability such objects have not been included in this model, and do not need to be at this level.

Relationships/Associations

The relationships, or associations, shown are those that are deemed to be the most generic and most frequently used during access profiling. Not all potential relationships that may ever possibly be required are shown since the diagram would become unreadable and unusable; there has been some compromise for readability. However, this does not mean that further relationships can not be added where they are important to a particular business, or removed if never required. Focus is on the relationships which connect the inner, most dynamic, entity types, i.e. the basic day-to-day business entity types, or classes. By centring the more dynamically used entity types down the middle of the diagram, it has been able to minimise crossing of lines - again to aid diagram readability and navigation.

The Asset Type has explicitly been given two levels of sub-type. It might reasonably be argued that the second level of sub-typing need not be shown on Level 0 - this is a matter of preference. These three levels of sub-type have been included here because they are often recognised major enterprise Asset Types. If one prefers, however, they may be removed from this diagram and shown on Level 1 if required.
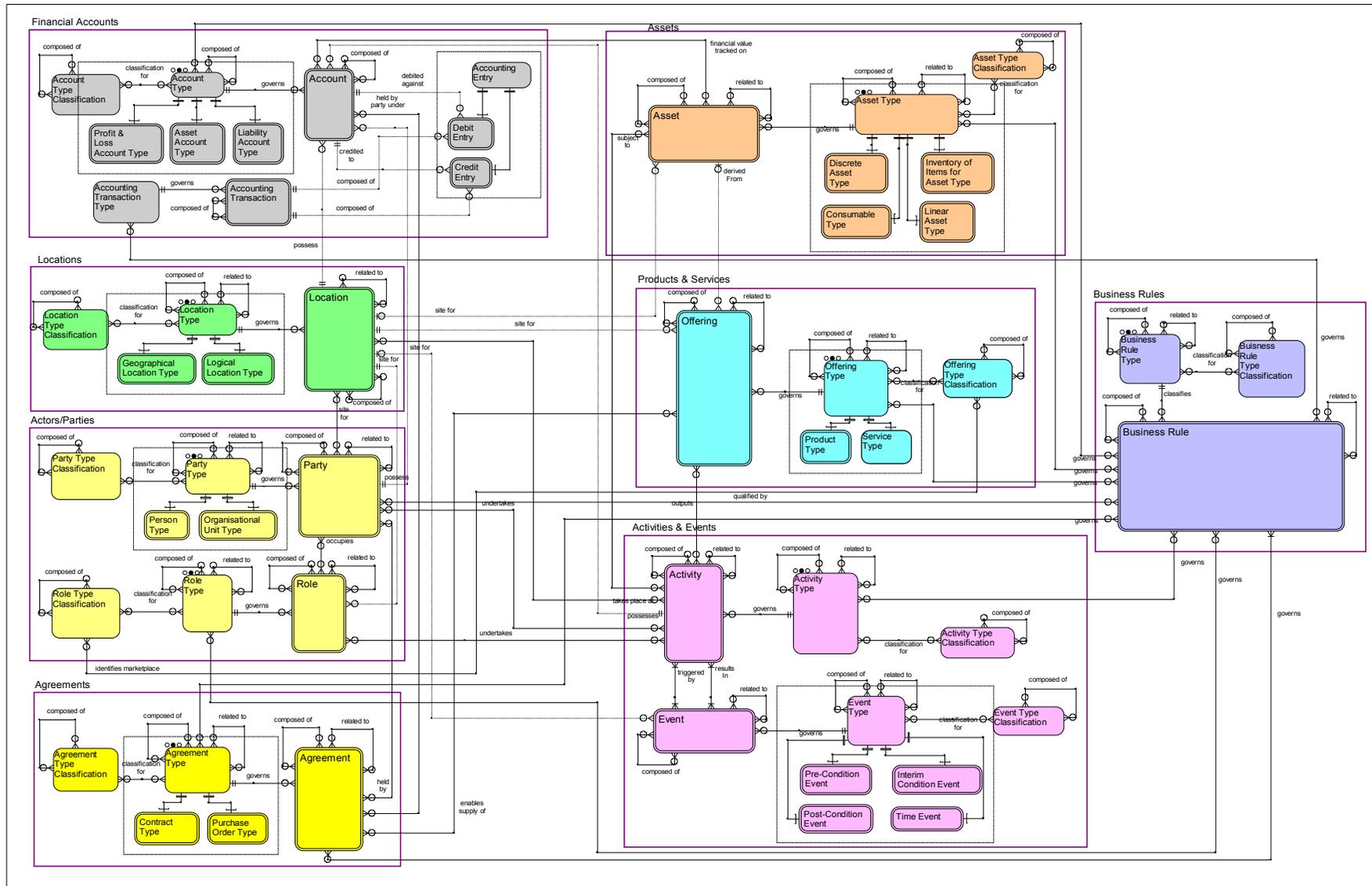
2.4   Level 1 Data Models

In this section, the Level 0 subject areas are expanded so that interfaces with other business areas can be made explicit and relationships resolved.   The entity types/objects are still, however, quite generic.   Interface entity types are now shown at this level and are colour-coded light grey (N.B. these do not appear on the Level 0 diagram, but are the resolutions of many-to-many relationships with entity types form other subject areas; these become explicit in the lower level diagrams).

2.4.1   Level 1 - Financial Accounts

The Level 1 Financial Accounts data model expands on that area of the enterprise that pertains to recording an enterprise's financial history.   In theory, this area should be able to summarise fully an enterprise's financial situation.

The central business entity type is the Account. This is governed by the Account Type and perhaps may have further Business Rules Applied to it, via the Account Type Classification. Note that in Level 0 a relationship connects Business Rule to Account Type, but not to Account Type Classification.   If such a relationship is required, then it is recommended that it should be added in Level 1 only in order to avoid congestion on the Level 0 diagram.

An Account may be debited by a Debit Accounting Entry or credited by a Credit Accounting Entry.   Each Accounting Entry forms one half of a full Accounting Transaction, which may be one of a number of Accounting Transaction Types which, in their turn, are likely to be governed by Business Rules.

An Account will refer to one of a number of other enterprise objects, for example, a Location, Asset, Activity, Organisational Unit, Person or even a Contract.   The behaviour of a given Account will be governed by its Account Type which, in project level diagrams, will be connected to the 'Type' entity type of the related area.   For example, if an Account is an Asset Account, then the Account Type will be linked to the relevant Asset Type.

The Account Type has explicitly been given three subtypes, Asset Account, Liability Account and Profit & Loss Account. These are three fundamental kinds of Account in which any enterprise will be interested. There are, or course many more kinds, and a useful exercise would be to fully enumerate, for your enterprise or business, the Account Types your business needs to hold records for.

Level 1 - Financial Accounts

2.4.2   Level 1 - Assets

The Level 1 Assets data model expands on that area of the enterprise that pertains to the company/enterprise's assets.   These are things which are of value to the company, but exclude human resources.   In theory, this area should be able to summarise fully an enterprise's assets.
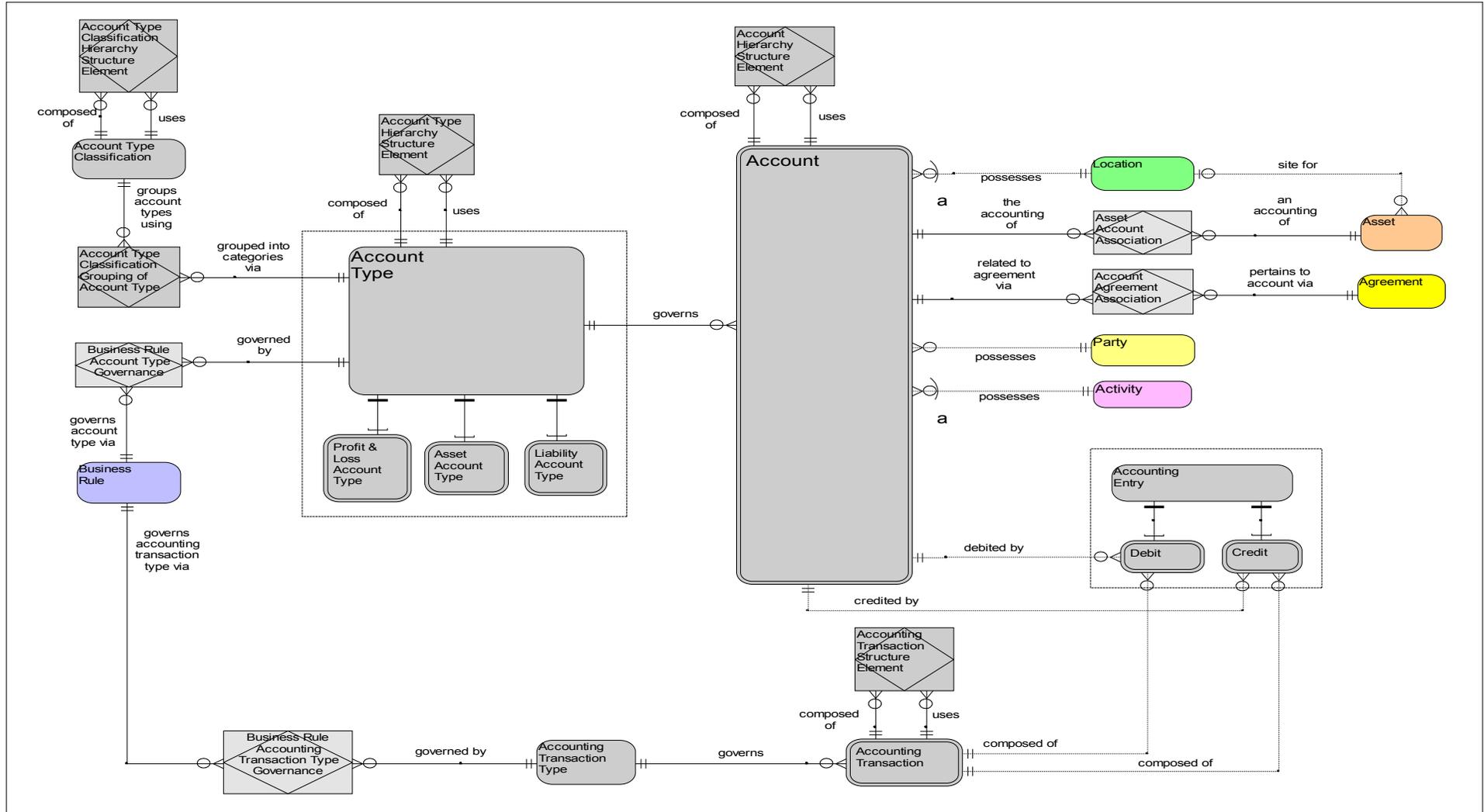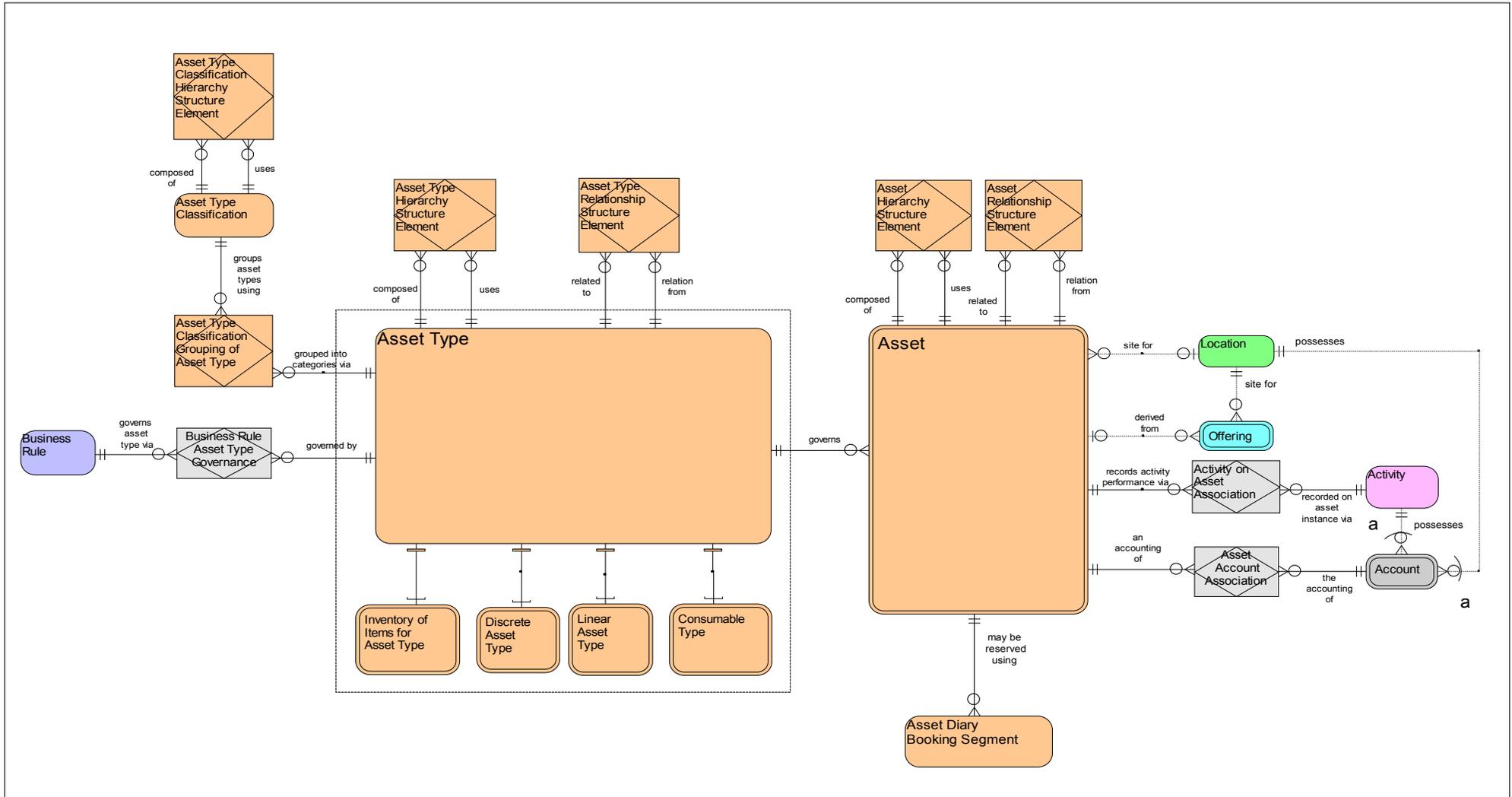
The central business entity type is the Asset. This is governed by the Asset Type and perhaps may have further Business Rules Applied to it, via the Asset Type Classification. Note that in Level 0 a relationship connects Business Rule to Asset Type, but not to Asset Type Classification. If such a relationship is required, then it is recommended that it should be added in Level 1 only in order to avoid congestion on the Level 0 diagram. .

The behaviour and structure of a given Asset will be governed by its Asset Type. An Asset may be involved in an Activity. An Asset may be the result of a transformation of an External Product that has been purchased by the enterprise now to be used as an Asset; its behaviour will, in this case, become that of an Asset and its behaviour as an External Product will become redundant.

The Asset Type has explicitly been given three subtypes, Discrete Asset, Linear Asset and Inventory of Items for Asset Type. The last of these is recursive in nature, for while it is a derived list of Assets for Asset Type, it is itself an Asset. It has been included as a subtype to draw attention to the fact that it should be valued by any enterprise or business. Discrete Asset is itself divided into three further subtypes, Fixed Asset, Information Asset and Non-fixed Asset. The flexibility of the model comes into its own here, for if, for example, a particular enterprise wished for their Linear Assets also to inherit characteristics from, for example, Fixed Asset, then the Fixed Asset sub-type can be moved to become a sub-type of Asset Type Classification. In this way, the enterprise data model can be manipulated and moulded to suit any enterprise' specific requirements.

The Asset Booking Diary Segment is the entity type used for reserving and recording time slot information about an Asset. Refer to the Activities and Events subject area for more detail.

Level 1 - Assets

2.4.3 Level 1 - Locations

The Level 1 Locations data model expands on that area of the enterprise that pertains to the company/enterprise geographical or logical sites which either form part of its locational structure or in which it may have an interest. This subject area will be able to summarise fully an enterprise's locations.

The central business entity type is the Location. This is governed by the Location Type and perhaps may have further classifications using the Location Type Classification. Note that this is the only data subject area which is not linked to Business Rule. The reason for this is that I was unable to find an instance, or example, of a Location which is meaningfully governed in its own right by a Business Rule, in other words, I could not find an example of a Business Rule that meant anything when applied to an example of a Location. This does not mean that one does not exist somewhere, just that I could not find one (so there's a challenge here). Business Rules do, however, apply to the relationships of other entity types and Location.

The behaviour and structure of a given Location will be governed by its Location Type. A Location may be used by or for an Activity. It may be the site where a Product is produced or stored or where an Asset is sited or where an Event occurs. It may, for a number of different reasons, be associated with an Agreement, and nearly always with a Party.

The Location Type has explicitly been given two subtypes, Geographical Location Type and Logical Location Type. The former is for recording physical locations such as sites, addresses, etc, or anything to which an Ordnance Survey point may be put and other physical things such as planets or stars. The Logical Location Type describes anything non-physical, e.g. email address, web site identifier, telephone number and other kinds of contact point.

The Location Booking Diary Segment is the entity type used for reserving and recording time slot information about a Location. Refer to the Activities and Events subject area for more detail.

The Location supertype-subtype data structure is highly flexible and should be used to model location networks, i.e. note-link models and nested location structures, e.g. country contains county contains street contains building etc.

Level 1 - Locations
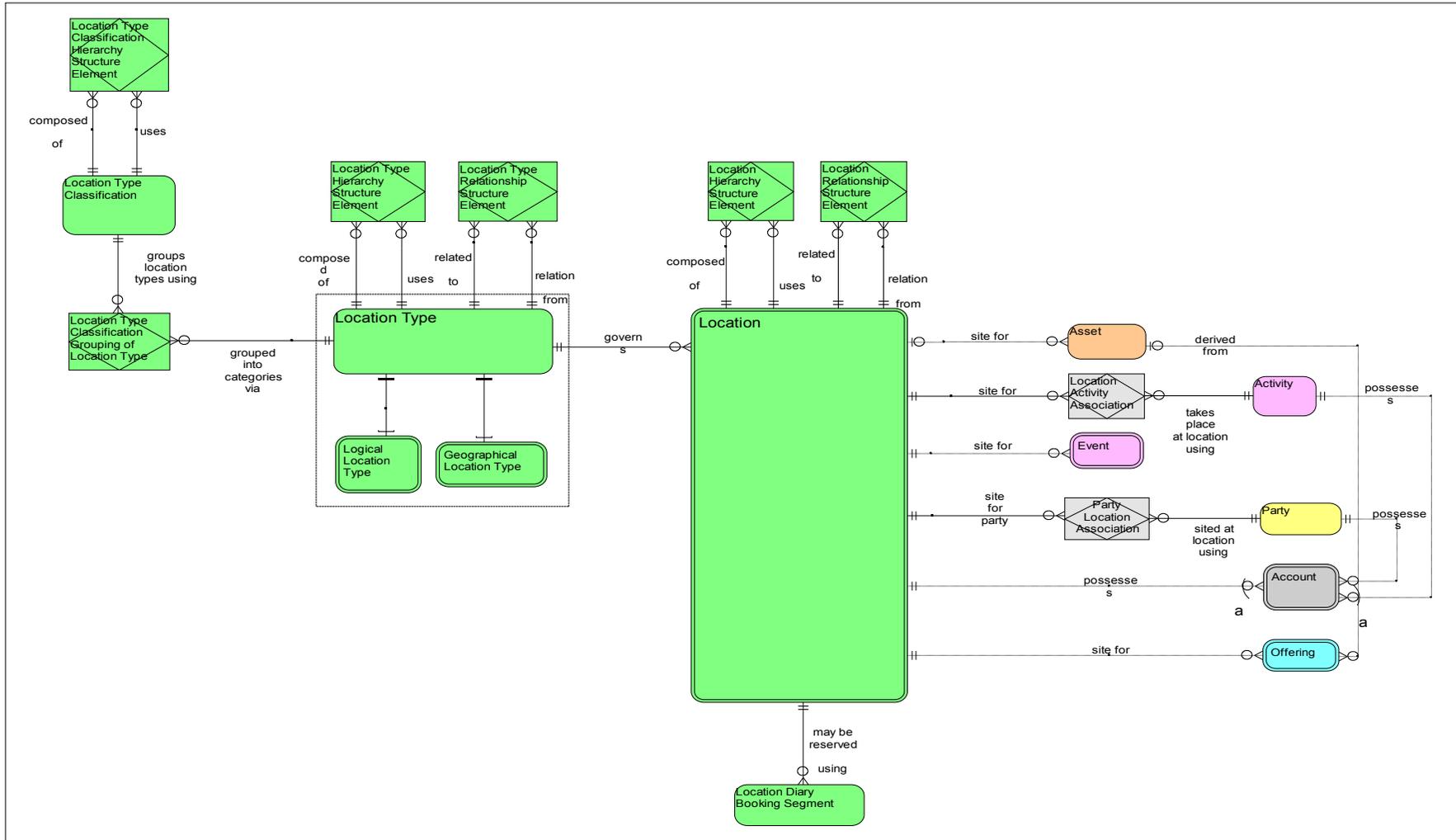
2.4.4   Level 1 - Parties and Actors

The Level 1 Parties and Actors data model expands on that area of the enterprise that pertains to people, organisations and the roles either may occupy, in which the enterprise has an interest. Parties may be internal or external to the company. I have referred to these entity types as generic Parties or Actors, the latter being a looser term, but more familiar in the 'OO' world. They are essentially different words for the same things, except that an Actor may also be used to represent Roles, or any other driver of a Use Case. A Party is different from a Role because each can exist without the other, i.e. a Role can be empty and a Party may exist and not be in a Role. Normally, an enterprise or organisation deals with other Parties through Roles which describe the nature and responsibilities of the relationships.

There are two central business entity types, the Party and the Role. Each is governed by the Party Type and Role Type respectively. Note that the relationship from this subject area to Business Rule is from Role Type to Business Rule, and there is not an equivalent one from Party Type. Again, the argument for this is as for the Locations subject area, namely that I was unable to identify an example of a meaningful Business Rule relating to an example of a Party Type where there was no other related association to another entity type. However, there is a link between Party and Business Rule where Business Rule represents a Skill or Qualification that a Party actually holds. I have used Business Rule to represent Skills and Qualifications in preference to a separate structure of lower level attributes for two reasons; convenience and because the behaviour of Skill and Qualification entities is very similar to, if not the same as, that of other kinds of Business Rule (i.e. they are often used in the same kind of way to perform the same kind of function).

Role Type, however, may also have further Business Rules Applied to it, via the Role Type Classification. Note that in Level 0 a relationship connects Business Rule to Party Type, but not to Party Type Classification. If such a relationship is required, then it is recommended that it should be added in Level 1 only in order to avoid congestion on the Level 0 diagram.

The behaviour and structure of a given Party will be governed by its Party Type. A Party may be involved in an Activity via its assigned Role. A Party and a Role may each be sited at a Location. A Party may be associated directly with an Agreement. This is a more significant association than any that a Role may have with an Agreement since Agreements often have legal obligations and Parties are legal entities which have legal attributes and liabilities.

Only the Party Type has been given explicit subtypes, of which there are two, Person and Organisation. These are major subtypes.

The Party Booking Diary Segment is the entity type used for reserving and recording time slot information about a Party. Refer to the Activities and Events subject area for more detail.

Both the Party and Role supertype-subtype data structures are highly flexible and should be used to model role and organisational structures.

Level 1 - Parties and Actors
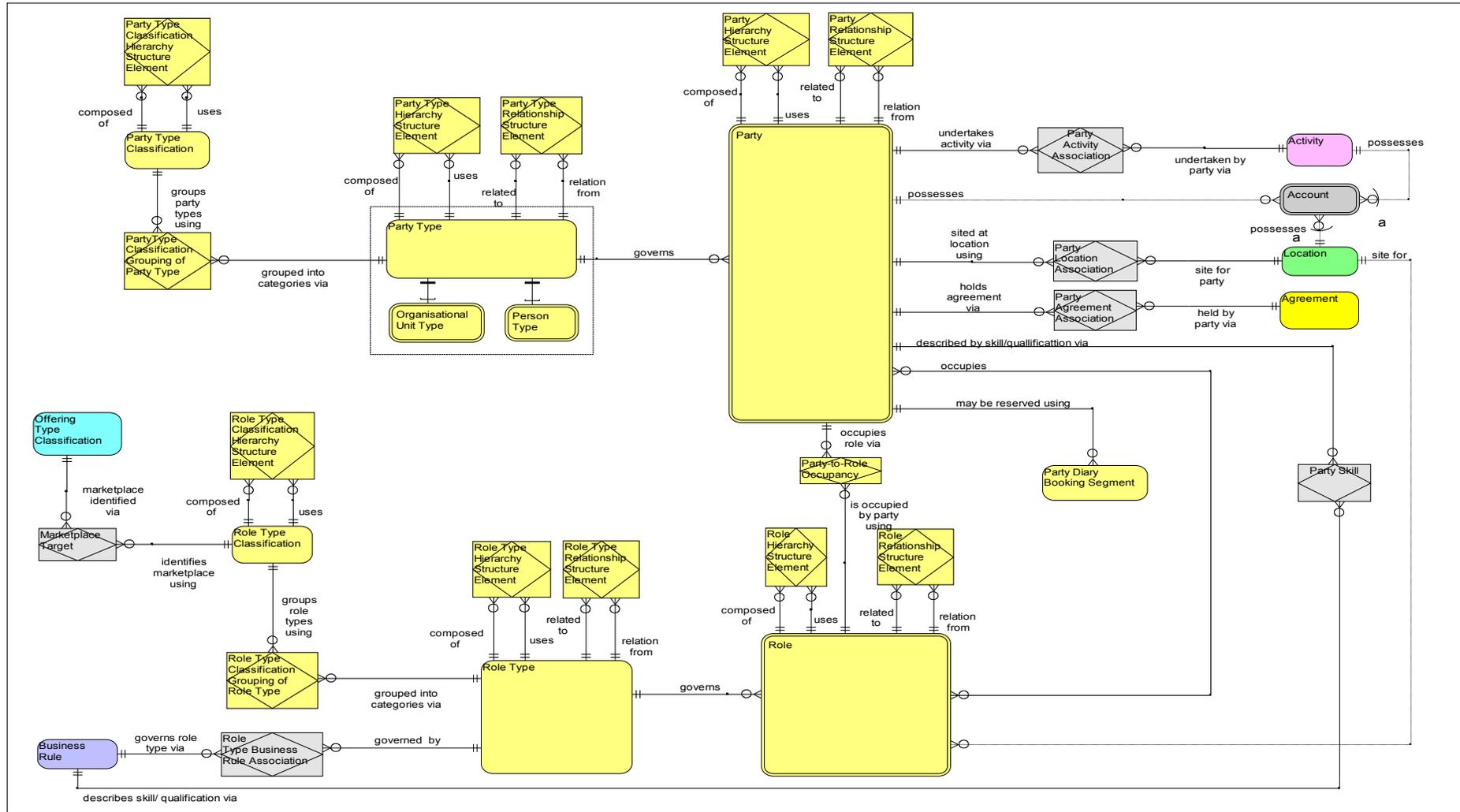
2.4.5 Level 1 - Agreements and Contracts

The Level 1 Agreements and Contracts data model expands on that area of the enterprise relating to formal agreements. It is through these agreements, or contracts, that the organisation manages its relationships with all other Parties. This not only includes external individuals and organisations, but internal ones such as staff, with whom the organisation will have a contract of employment.

The central business entity type is the Agreement. This is governed by the Agreement Type and perhaps may have further classifications using the Agreement Type Classification.

The behaviour and structure of a given Agreement will be governed by its Agreement Type. An Agreement may be involved with a Party, or number of Parties for one or more reasons. It may be governed directly by a Business Rule, or indirectly via its Agreement Type. It may be linked to an Account, for example, an external Party may have an overarching Agreement or 'call-off' Contract with the organisation to supply External Products. The Agreement is also linked to 'Offering'.

The Agreement supertype-subtype data structure is highly flexible and should be used to model agreements and contracts for products or services for parties.

Level 1 - Agreements and Contracts
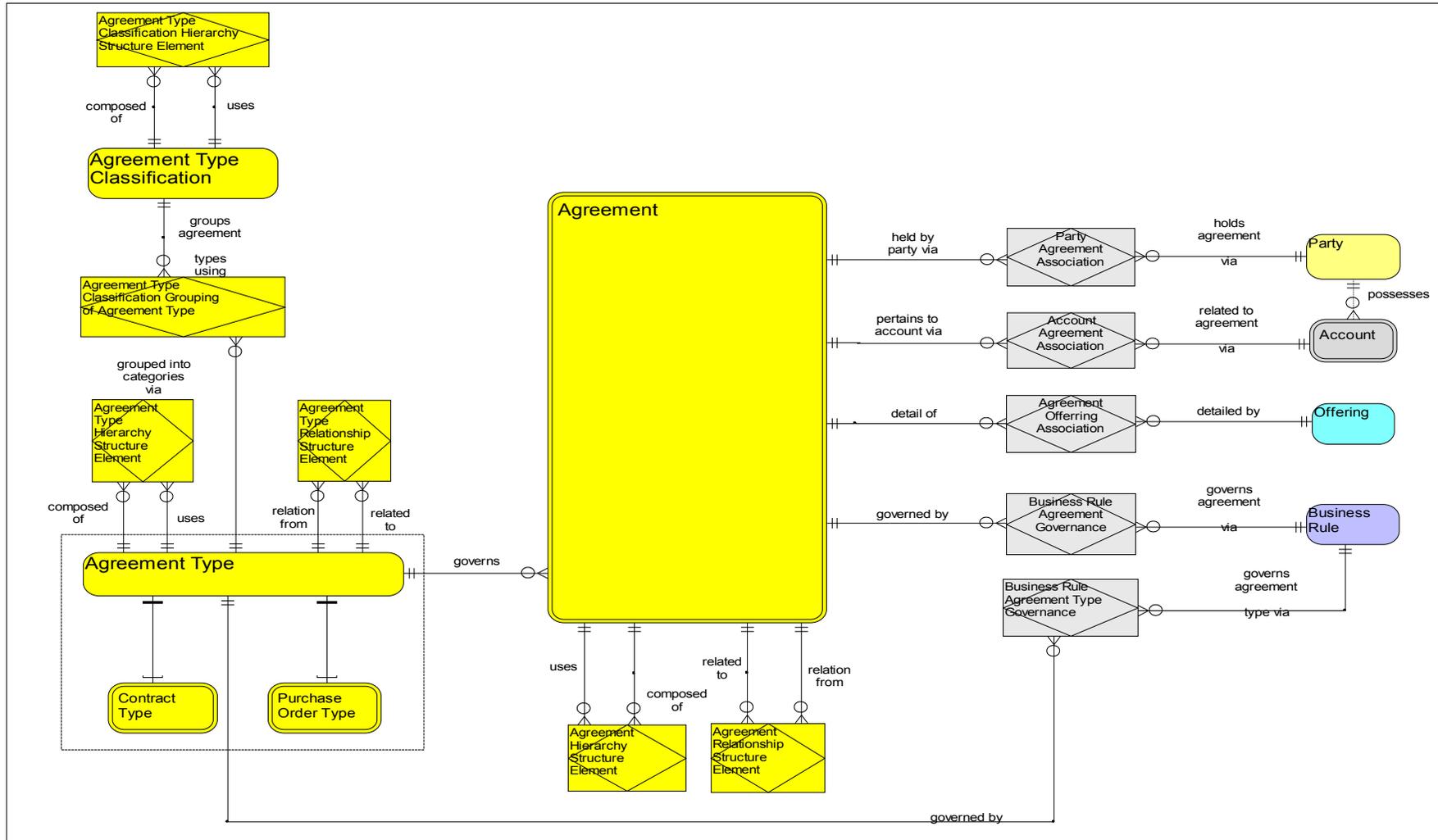
2.4.6 Level 1 - Products and Services

The Level 1 Products and Services data model expands on that area of the dealing with internal and external Offerings. These are things which the enterprise either produces or offers to its Customers (internal), and in turn receives payment for, or are things which the enterprise may purchase from its suppliers (external), and in turn must make payment for.

The central business entity type is the Offering. This is governed by the Offering Type and perhaps may have further Business Rules Applied to it, via the Asset Type Classification. Note that in Level 0 a relationship connects Business Rule to Offering Type, but not to Offering Type Classification. If such a relationship is required, then it is recommended that it should be added in Level 1 only in order to avoid congestion on the Level 0 diagram. .

The behaviour and structure of a given Offering will be governed by its Offering Type. An Offering may be involved in an Agreement, either as an Internal or External Product or Service. An External Offering may be transformed into an Asset once it has been purchased by the organisation and has crossed the organisational boundary; an Activity would drive this transformation process. Until this transformation, the object in question will retain the behaviour of an Offering.

The Offering Type has explicitly been given two subtypes, Product Type and Service Type. These are still highly generic and fairly obvious but are used to model both internal and external products and services.

Level 1 - Products and Services
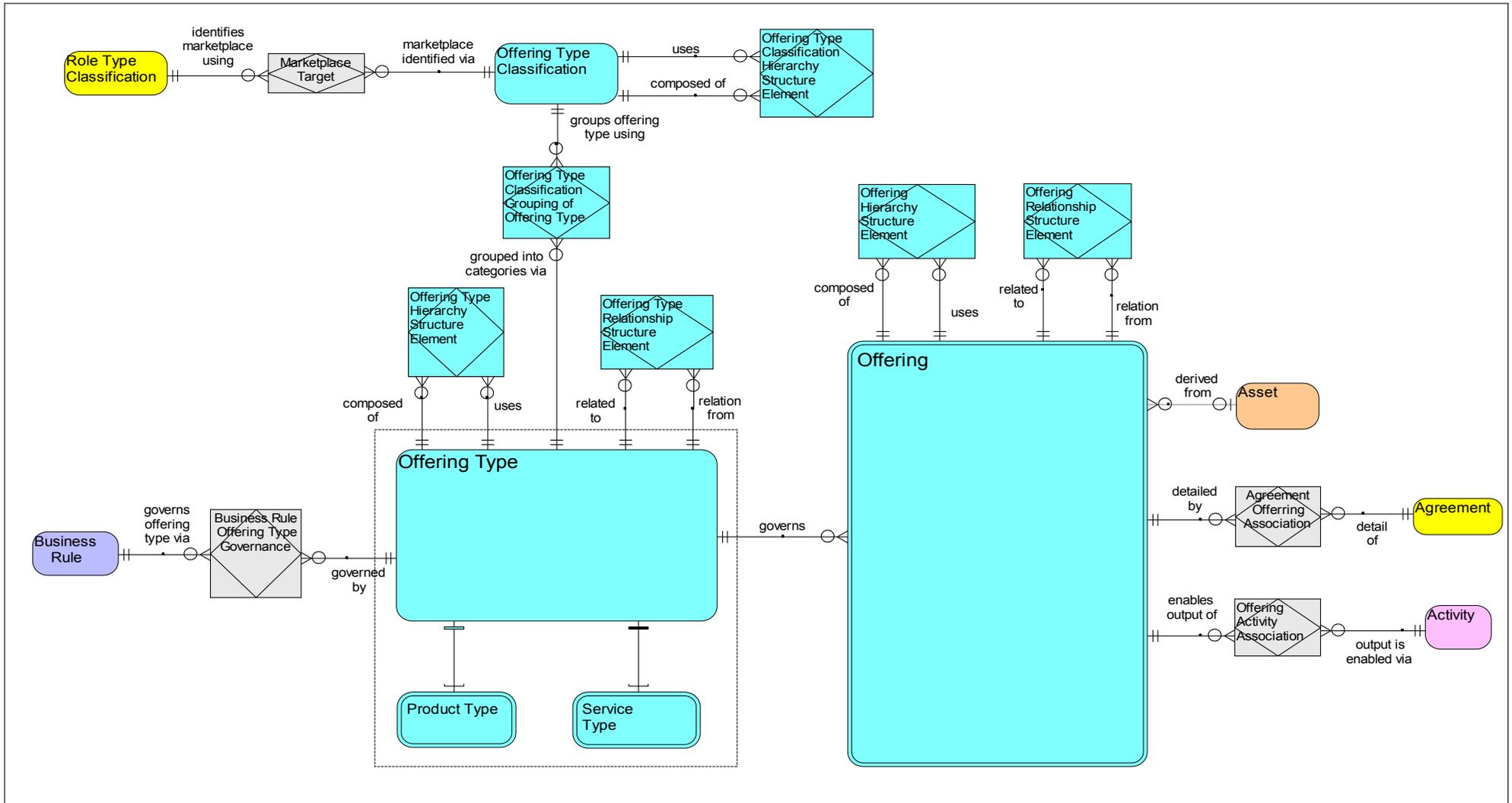
2.4.7 Level 1 - Activities and Events

The Level 1 Activities and Events data model is a 'super' model. It is at a more generic level than the other subject areas. It should be used to record information about all Activities and Events which, for whatever reason, the enterprise does not wish to hold in the other subject areas. Typical kinds of information may be, for example, about projects that are not specifically connected with producing goods or enhancing Assets, e.g. investigative work, general administration etc. They are Activities and Events, however, which the enterprise does need to keep track of and know about.

The two central business entity types are the Activity and the Event. These are governed by the Activity Type and Event Type respectively. Activity perhaps may have further Business Rules Applied to it by the Activity Type Classifications. Note that in Level 0 a relationship connects Business Rule to Activity Type, but not to Activity Type Classification. If such a relationship is required, then it is recommended that it should be added in Level 1 only in order to avoid congestion on the Level 0 diagram. Also note that Event Type does not have a relationship to Business Rule. This may be added if the enterprise's treatment of Event requires.

The behaviour and structure of a given Activity or Event will be governed by its Activity or Event Type respectively. An Activity will either be triggered by an Event or will result in an Event. An Activity will drive the transformation of an External into an Asset, it will also be involved in the production or provision of Internal Products and Services. An Activity may be required to maintain or use an Asset; it may take place at a specified Location and/or performed by one or more specified roles. It is recommended that when an Activity is linked to a specific Role, Location or Asset, that the link is to the lowest level of Activity (e.g. Task level in Project Management Workbench {PMW}). In this way, complexity and ambiguity regarding who does what, where and when can be avoided.

The Activity Type has not been given any sub-types at this level, however, Event Type has been given four, Pre-condition Event Type, Interim Condition Event Type, Post-condition Event Type and Time Event Type. These are the four chief kinds of Time Event and will be required in the formation of process chains. Each process chain will require at least one Pre-condition or Time Event, one Post-condition Event and one Interim Condition Event.

The Diary Booking Segment is the entity type used for reserving and recording time slot information about an Asset, Location or Party. This is the mechanism which will be used to maintain diaries for these significant entities and from which such things as schedules can be derived.

Level 1 - Activities & Events
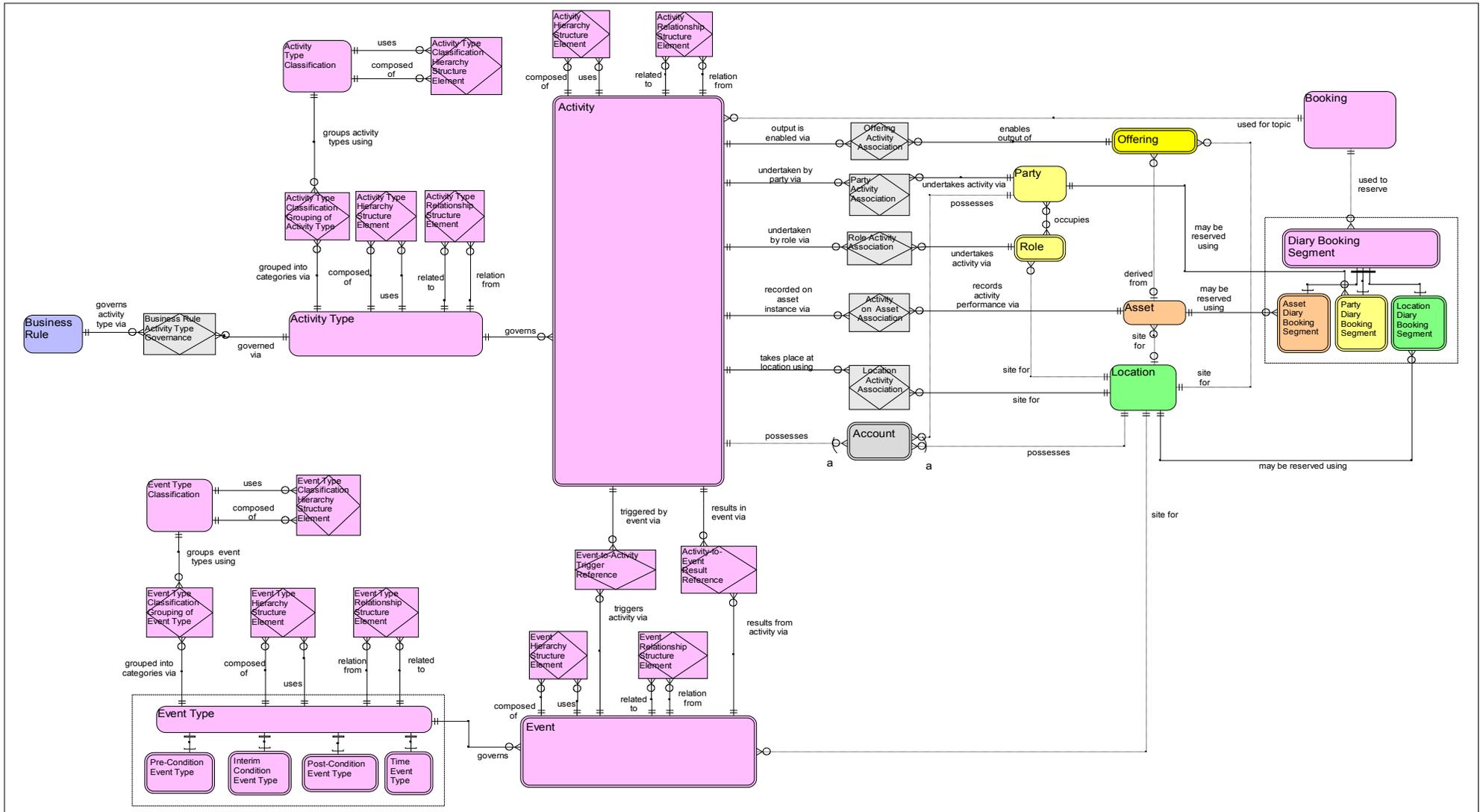
2.4.8 Level 1 - Business Rules

The Level 1 Business Rules data model expands on that area of the enterprise that pertains to the company/enterprise's rule structure and codes of practice. The Business Rules are those constraints within which the organisation must operate. In theory, this area should be able to summarise fully an enterprise's Business Rules.

The central business entity type is the Business Rule. This is governed by the Business Rule Type which in turn, may if required be grouped into higher Business Rule Type Classifications.

The behaviour and structure of a given Business Rule will be governed by its Business Rule Type. A Business Rule may have governance over, or constrain, activity or objects in any other Enterprise Subject Area. Control over the application of these Business Rules, when expressed as data, will be either through the 'Type' entity types or the 'Type Classification' entity types.

It may be preferable for business rules to be expressed in the process steps, i.e. 'hard coded'. Such a decision will be a judgement call driven by specific drivers in specific situations, but careful thought needs to be given in these cases to ensure that such decisions are well-considered, because hard-coding of business rules is likely to result in a lack of cohesion and modularity of application architecture and a higher code-maintenance overhead.

The Business Rule Type has not been given any explicit sub-types. This area should also be used to model enterprise and business objectives and goals.

Level 1 - Business Rules
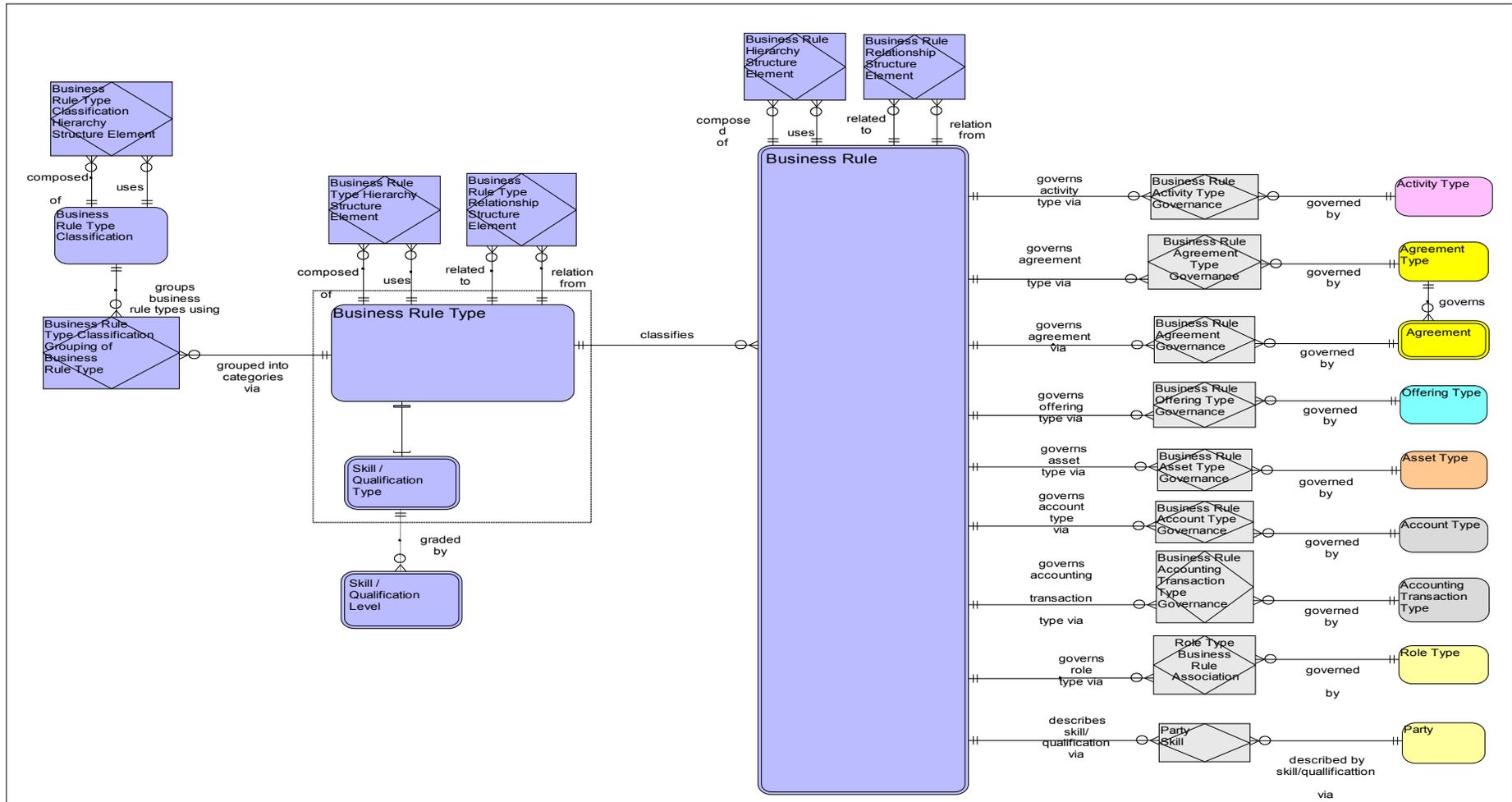
3. The Enterprise Functional Model

The second component of this enterprise architecture is the Enterprise Functional Model. This is a two-tiered design which provides the basic maintenance framework the Enterprise Data Model. It models the maintenance functionality of the main entity types and a selection of the more important operational functional objects that an enterprise, or business, might use. This will provide the foundation structure upon which additional specific enterprise or business functional and process capability would be built.

3.1 Level 0 - Enterprise Functional Decomposition

The Level 0 Enterprise Functional Decomposition describes an enterprise, or business, in terms of its generic functions, or processes. It has been designed to show the main functional areas, each functional area being colour-coded appropriately. The same colour codes apply as for the Data Model.

Certain points are worth considering when extending this level 0 decomposition:

1. An object may be considered a function in one business, or part of the business, but a process in another. For example, 'Book Flight' might be a relatively straight-forward process for a small aircraft company where a receptionist can book the flight and confirm the booking immediately on request; however, the same process would be a highly complex affair for an agent booking a flight for hazardous material on a British Airways flight, where capacity checks and the ability to store and handle the cargo would need to be made before confirmation could be given. In the former case, the process would be elementary, and could therefore be described by a single process (or use case in UML). In the latter case, the process must be decomposed into its component processes before it could be considered to be fully defined, and there may be several levels of decomposition required. A useful technique for making it clear to the reader whether a certain object is a function or a process is to use <verb + noun> for a process name. So, 'Book Flight' would be the process and 'Flight Booking' might be the function.

2. A given enterprise or business may decide it does not need certain functions or processes in the hierarchy - this is fine, but remember to check that removal of any functionality is consistent with the data model element affected. For example, 'Property Management' might be quite a large functional area for an estate agent or for any enterprise which requires to have control over property it owns, leases or manages, but might not be required by a small business that sells jewellery. In the Enterprise Date Model, property has not been modelled, so no data element would be affected by removing this function from the hierarchy.

3. A given enterprise or business is likely to require additional business-specific functions and processes. For reasons of readability, practicality and ease of use, an exhaustive list cannot be shown in this model.

Note that neither Level 0 nor Level 1 of the Enterprise Model contains low-level or mechanistic processes.

Level 0 - Enterprise Functional Decomposition
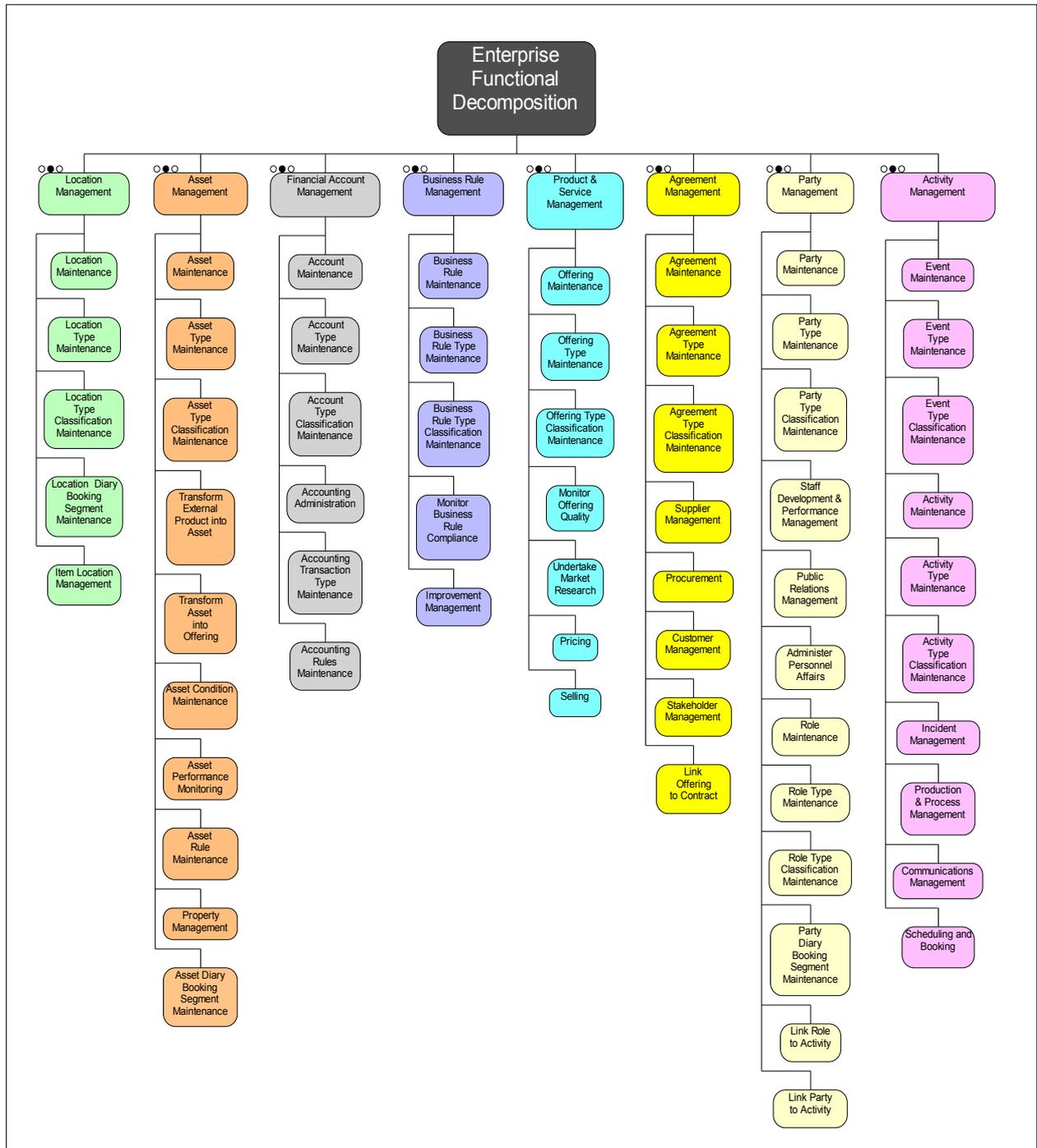
3.2 Level 1 Functional Models

In this section, the Level 0 functions have been decomposed into standard processes for the maintenance functions and into more specific functional divisions. These latter are still, however, quite generic and would be further decomposed in a manner appropriate to the specific business or enterprise. No processes or functions have been shown at this level to cross the subject area boundaries since it is considered that any function or operation at this level, while it may cross subject area boundaries, will primarily belong to, or be driven from, a single, primary functional area. If, however, it is desirable to indicate those objects that do cross boundaries, one may indicate these with light grey colour coding.

3.2.1 Level 1 - Financial Accounting

The Level 1 Financial Accounting functional model expands on that area of the enterprise that pertains to the recording of an enterprise's financial history. In theory, this area should be able to control fully an enterprise's financial operation.

This model breaks down the maintenance functionality for the Financial Accounts entity types.

In addition, under 'Financial Administration', 'Billing' and 'Cash Flow Analysis' have been added as examples of other probable functions within this area. Additional functions or processes that a business might require would be added to this structure at this level if significant, or further decomposed into Level 2 models, which can be navigated between, as required.

Level 1 - Financial Accounting
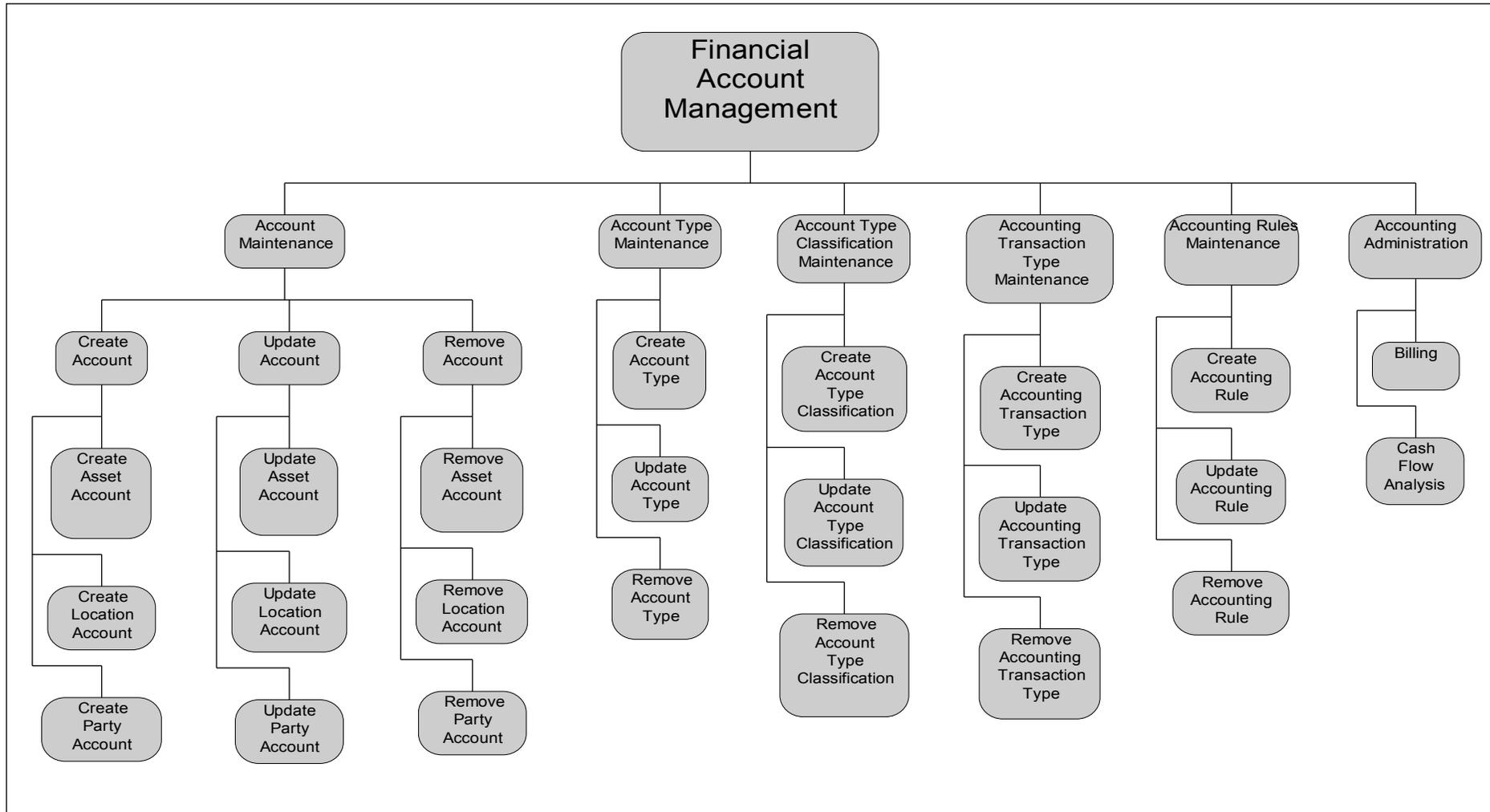
3.2.2 Level 1 - Asset Management

The Level 1 Asset Management functional model expands on that area of the enterprise that pertains to the recording of an enterprise's asset history. In theory, this area should be able to control fully an enterprise's asset maintenance and management operation.

This model breaks down the maintenance functionality for the Asset entity types including 'Asset Diary Booking Segment Maintenance' and 'Asset Rule Maintenance'. A judgement call on whether the latter of these two is managed under Asset Management or Business Rule Management might be required here since this functionality may equally belong in the Business Rule subject area.

In addition, 'Transform External Product into Asset', 'Transform Asset into Offering', 'Property Management', 'Asset Condition Maintenance' and 'Asset Performance Monitoring' have been added as examples of other probable functions within this area. These may or may not be required depending on the nature of the enterprise. Additional functions or processes that a business might require would be added to this structure at this level if significant, or further decomposed into Level 2 models, which can be navigated between, as required.

Level 1 - Asset Management

```
                                    Asset
                                  Management
    ┌──────┬────────┬────────┬────────┬────────┬────────┬────────┬────────┬────────┐
 Asset      Asset    Asset    Asset    Asset    Transform  Transform  Property  Asset      Asset
 Maintenance Type    Type     Rule     Diary    External   Asset      Management Condition  Performance
            Maintenance Classification Maintenance Booking  Product    into                 Maintenance Monitoring
                     Maintenance        Segment   into Asset Offering
                                        Maintenance
    │          │        │        │        │        │
 Create     Create   Create   Create   Create   Goods
 Asset      Asset    Asset    Asset    Asset    Receipt
            Type     Type     Rule     Diary
                     Classification    Booking
                                       Segment
    │          │        │        │        │
 Update     Update   Update   Update   Update   Accept
 Asset      Asset    Asset    Asset    Asset    Supplier
            Type     Type     Rule     Diary    Delivery
                     Classification    Booking
                                       Segment
    │          │        │        │        │
 Decommission Remove  Remove   Remove   Remove   Receipt
 Asset        Asset   Asset    Asset    Asset    Supplier
              Type    Type     Rule     Diary    Delivery
                      Classification    Booking
                                        Segment
```

3.2.3 Level 1 - Location Management

The Level 1 Location Management functional model expands on that area of the enterprise that pertains to the recording of an enterprise's location information. In theory, this area should be able to fulfil all of an enterprise's operational and management requirement for both physical and logical locations.

This model breaks down the maintenance functionality for the Location entity types including 'Location Diary Booking Segment Maintenance'.

In addition, 'Item Location Management' has been added which may or may not be required depending on the nature of the enterprise; its purpose is to control and keep records of current and historical locations for any item of any kind. Additional functions or processes that a business might require would be added to this structure at this level if significant, or further decomposed into Level 2 models, which can be navigated between, as required.

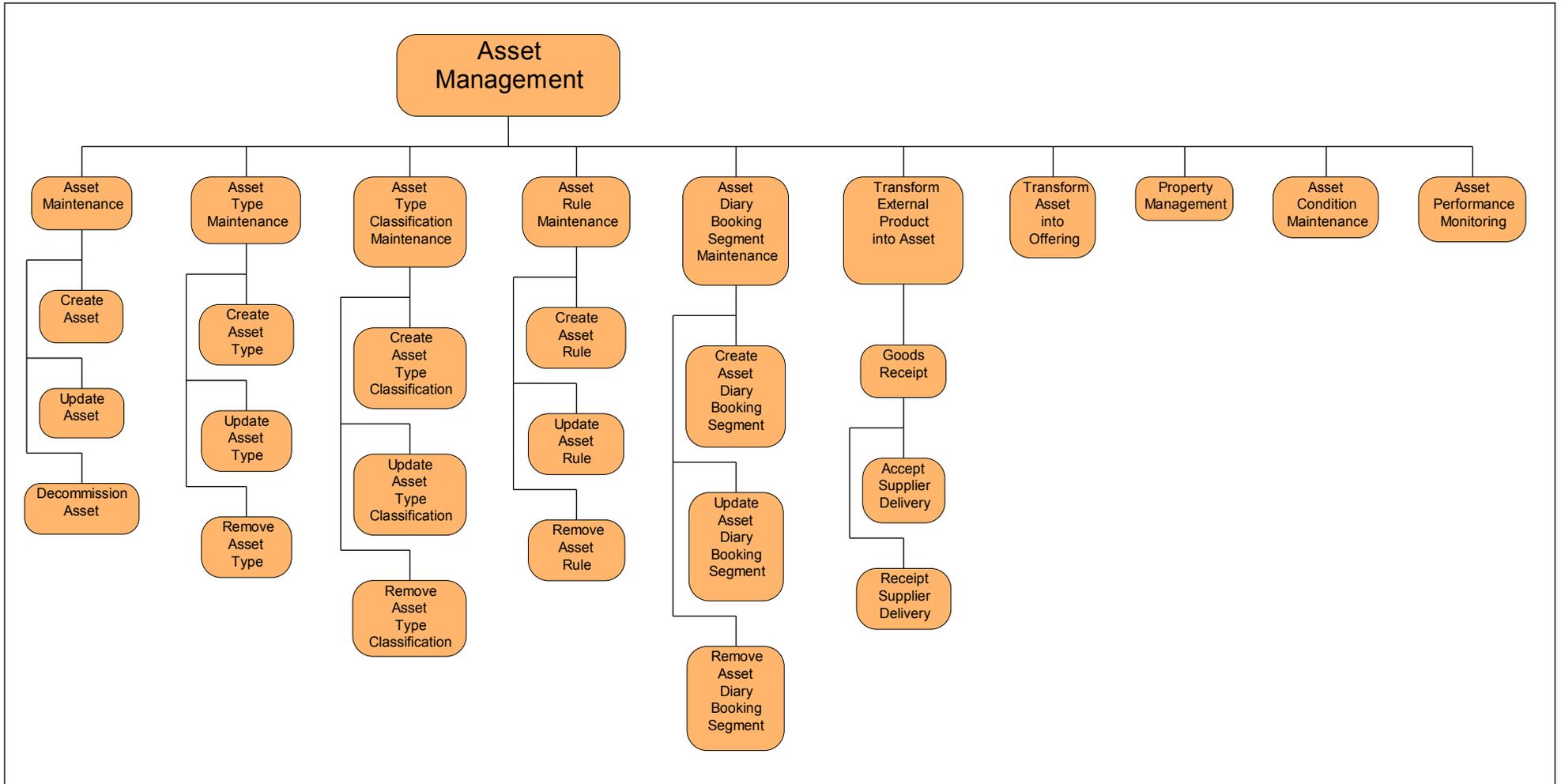**Level 1 - Location Management**

3.3.4 Level 1 - Party Management

The Level 1 Party Management functional model expands on that area of the enterprise that pertains to the recording of an enterprise's party and role information. In theory, this area should be able to fulfil all of an enterprise's operational and management requirement for parties and roles.

This model breaks down the maintenance functionality for the Party entity types including 'Party Diary Booking Segment Maintenance'.

In addition, 'Link Role to Activity', 'Link Party to Activity' and 'Public Relations Management' have been added, but which may or may not be required depending on the nature of the enterprise. Additional functions or processes that a business might require would be added to this structure at this level if significant, or further decomposed into Level 2 models, which can be navigated between, as required.
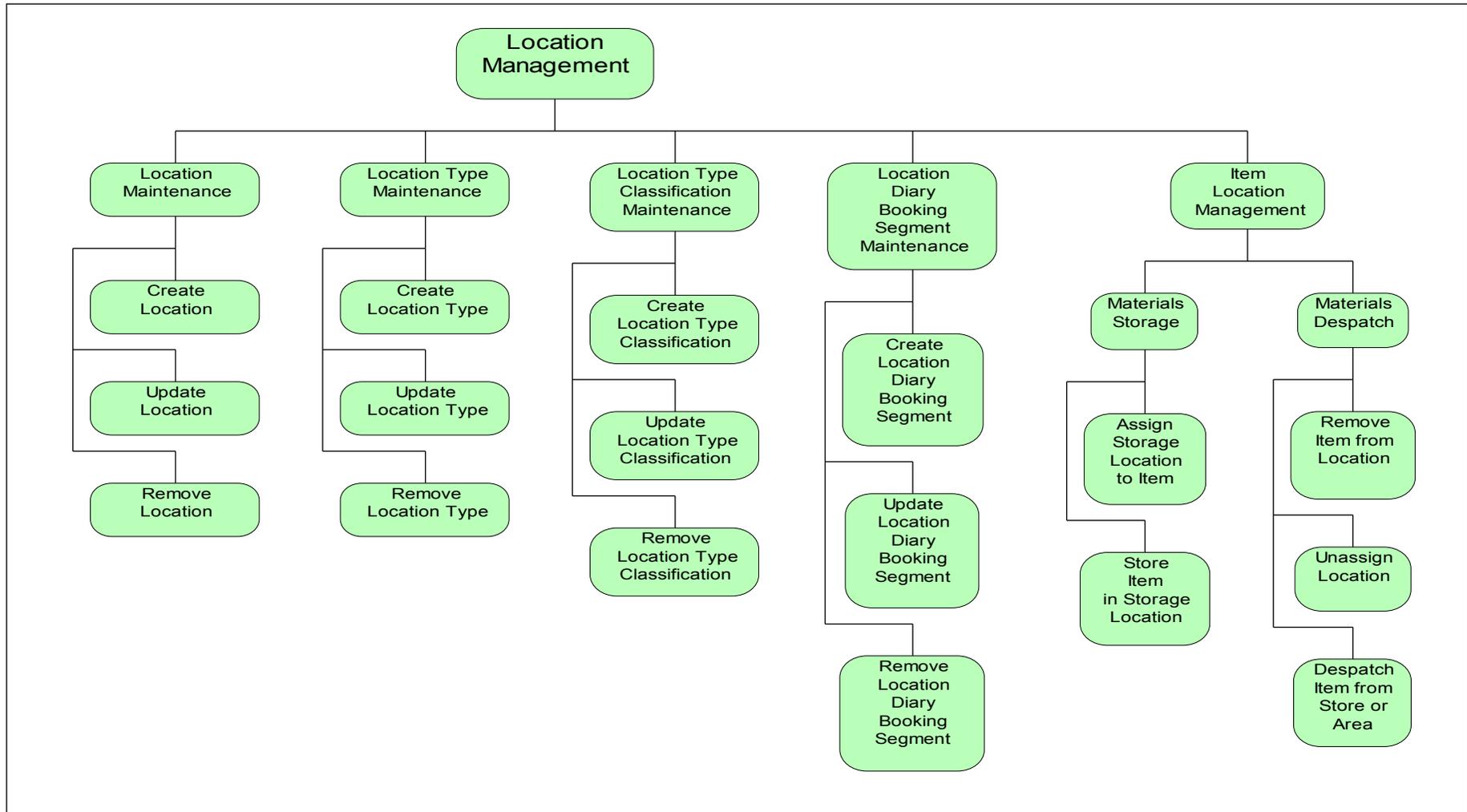
Level 1 - Party Management
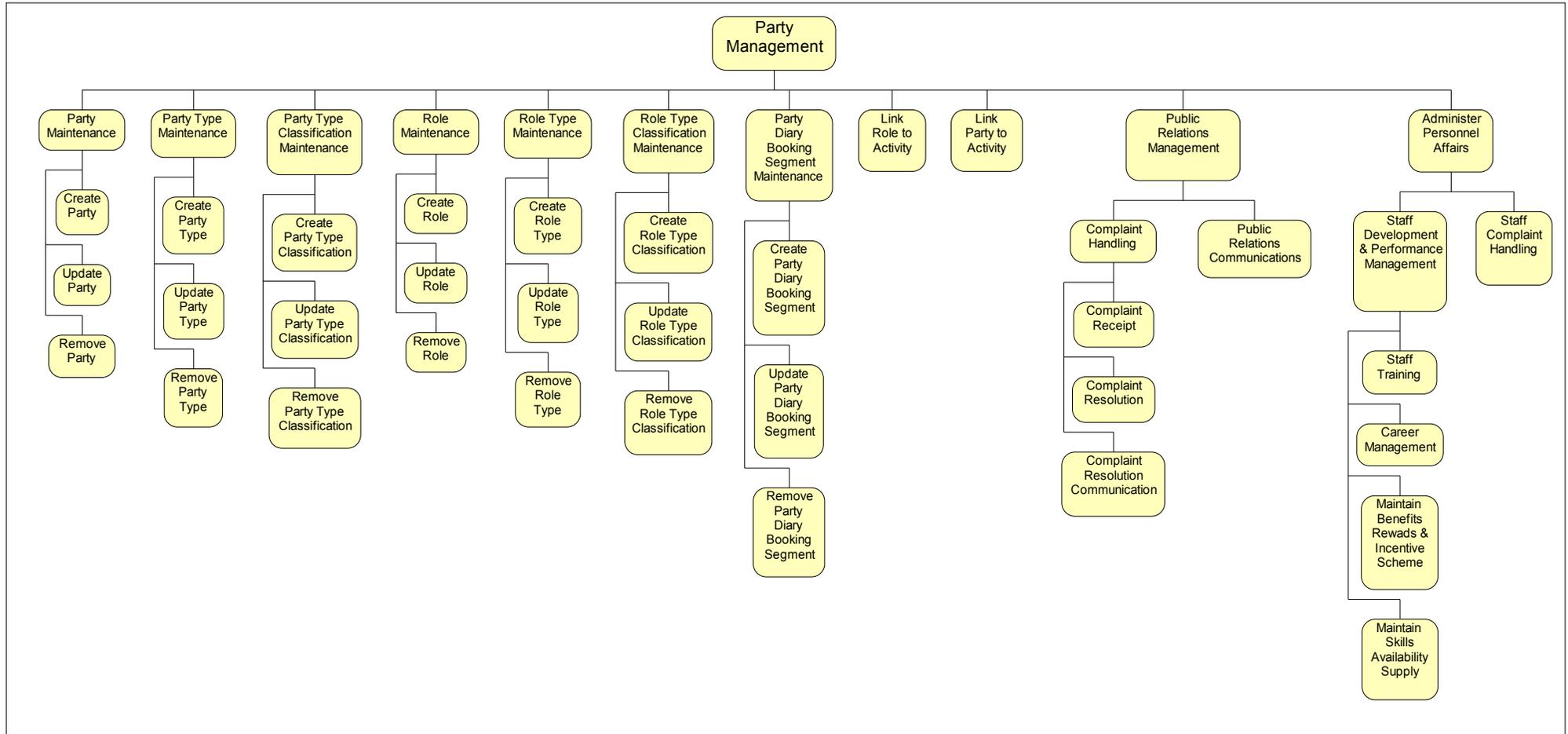
3.3.5 Level 1 - Product & Service Management

The Level 1 Product & Service Management functional model expands on that area of the enterprise that pertains to the operation of an enterprise's product and/or function. In theory, this area should be able to fulfil all of an enterprise's operational and management requirement for this area.

This model breaks down the maintenance functionality for the Offering entity types.

In addition, 'Product & Service Marketing', 'Selling', 'Monitor Offering Quality' and 'Pricing' have been added, but which may or may not be required depending on the nature of the enterprise. Additional functions or processes that a business might require would be added to this structure at this level if significant, or further decomposed into Level 2 models, which can be navigated between, as required.
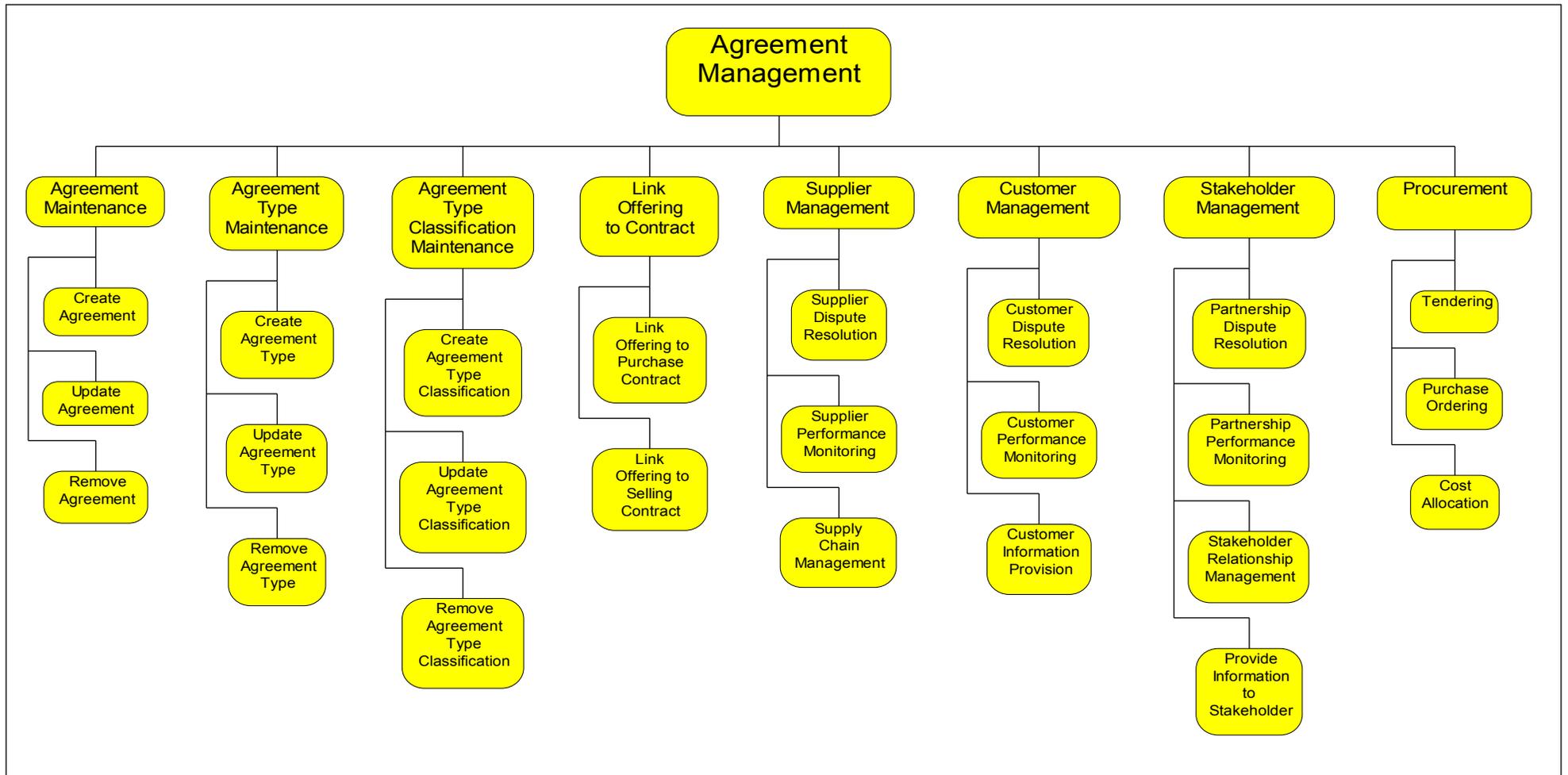
Level 1 - Agreement Management

```
                                    Agreement
                                    Management

Agreement     Agreement       Agreement       Link        Supplier      Customer      Stakeholder    Procurement
Maintenance   Type            Type            Offering     Management    Management    Management
              Maintenance     Classification  to Contract
                              Maintenance

Create        Create          Create          Link         Supplier      Customer      Partnership    Tendering
Agreement     Agreement       Agreement       Offering to  Dispute       Dispute       Dispute
              Type            Type            Purchase     Resolution    Resolution    Resolution
                              Classification  Contract

Update        Update          Update          Link         Supplier      Customer      Partnership    Purchase
Agreement     Agreement       Agreement       Offering to  Performance   Performance   Performance    Ordering
              Type            Type            Selling      Monitoring    Monitoring    Monitoring
                              Classification  Contract

Remove        Remove          Remove                       Supply        Customer      Stakeholder    Cost
Agreement     Agreement       Agreement                    Chain         Information   Relationship   Allocation
              Type            Type                         Management    Provision     Management
                              Classification

                                                                                       Provide
                                                                                       Information
                                                                                       to
                                                                                       Stakeholder
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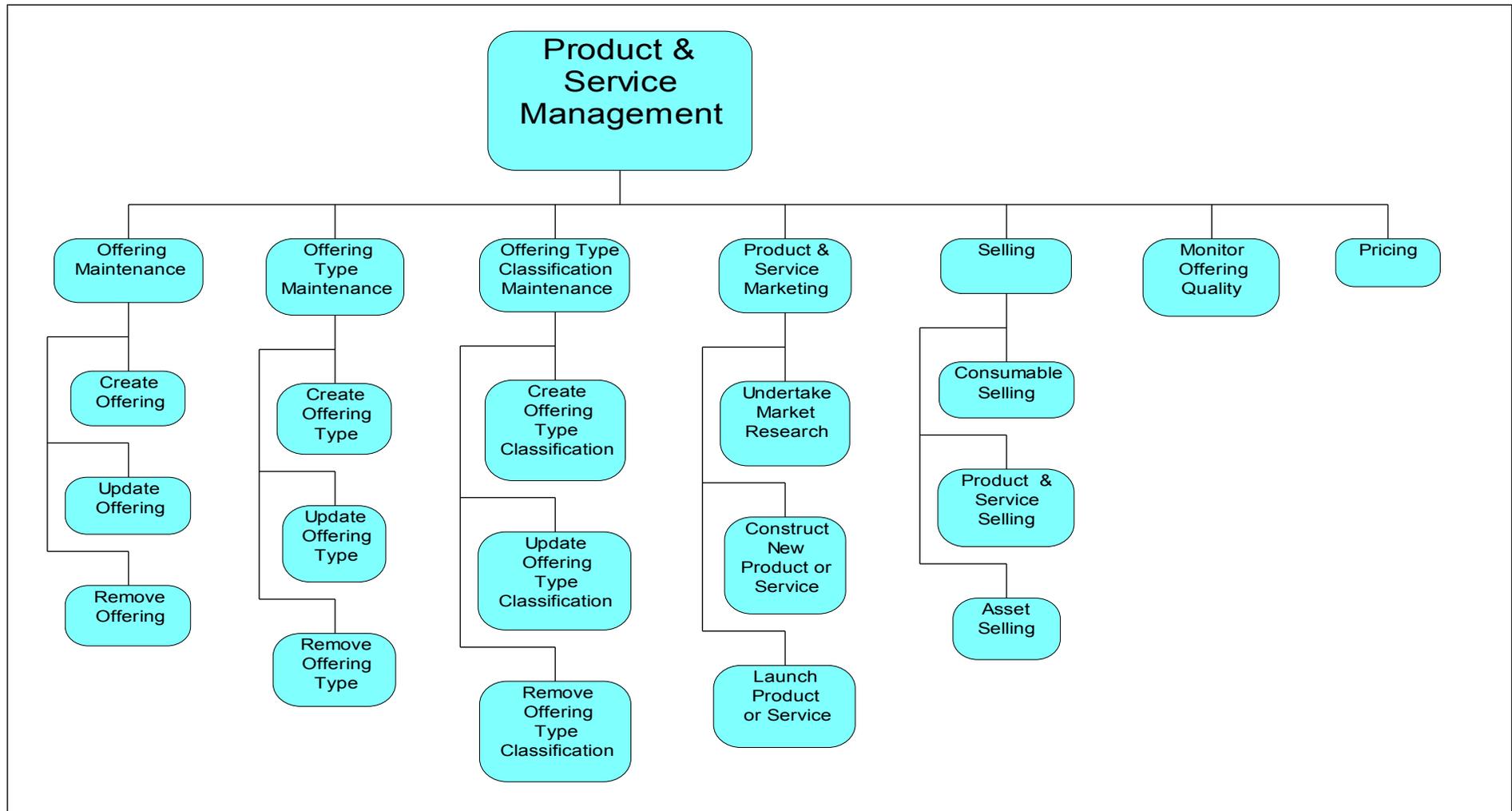
3.3.7 Level 1 - Activity & Event Management

The Level 1 Activity & Event Management functional model expands on that area of the enterprise that pertains to the operation of an enterprise's activities and events. This area should be used to control and record those events and activities that the enterprise or business requires.

This model breaks down the maintenance functionality for the Activity and Event entity types including 'Scheduling and Booking Management'.

In addition, 'Incident Management', 'Production and Process Management' and 'Communication Management' have been added as examples of other possible or likely functions within this area. These may or may not be required depending on the nature of the enterprise. Additional functions or processes that a business might require would be added to this structure at this level if significant, or further decomposed into Level 2 models, which can be navigated between, as required.

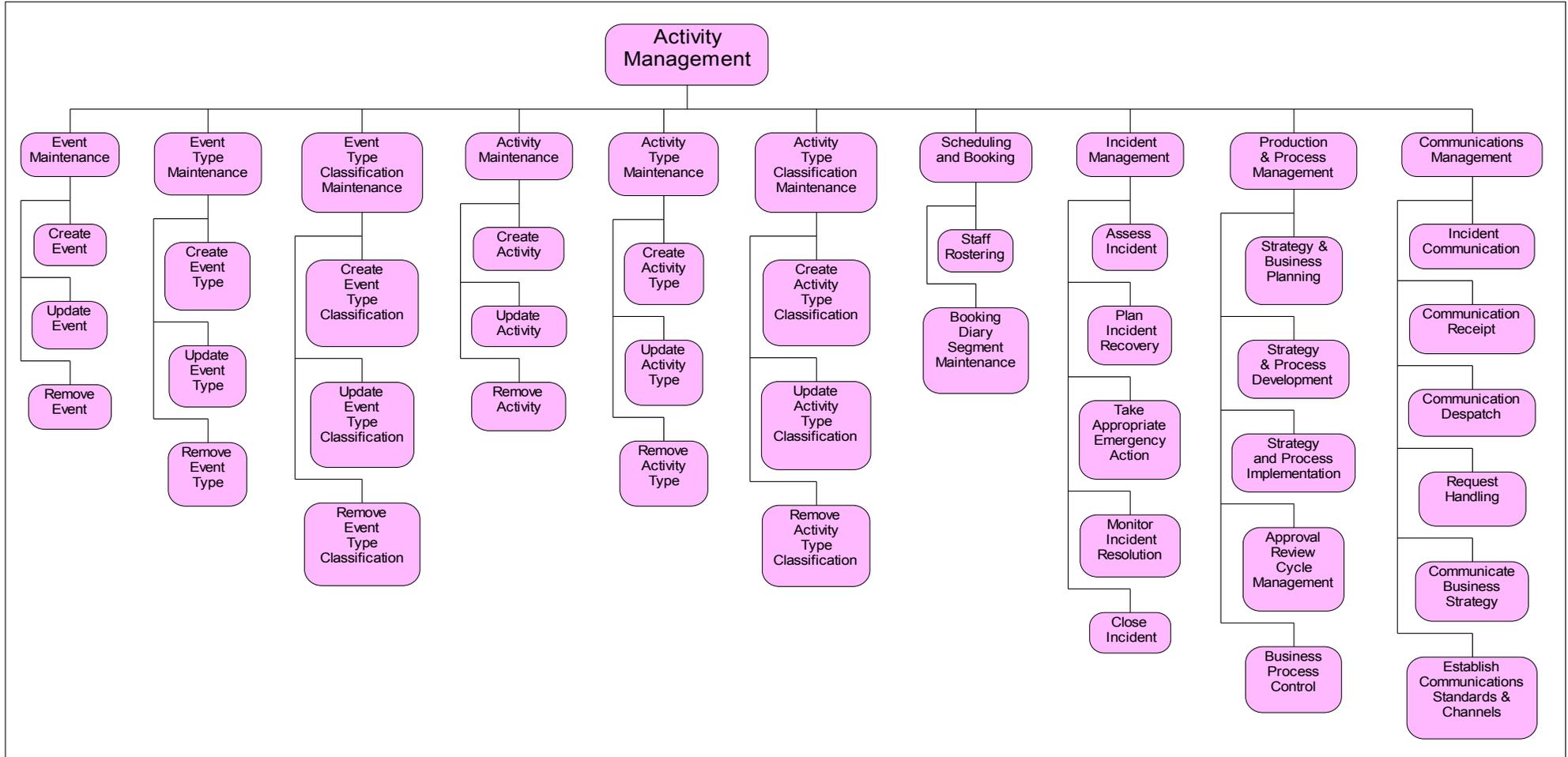**Level 1 - Product & Service Management**

3.3.6 Level 1 - Agreement Management

The Level 1 Agreement & Contract Management functional model expands on that area of the enterprise that pertains to the management and control of an enterprise's contract management function. In theory, this area should be able to fulfil all of an enterprise's operational and management requirement for this area.

This model breaks down the maintenance functionality for the Agreement entity types.

In addition, 'Link Offering to Contract', 'Supplier Management', 'Customer Management', 'Stakeholder Management' and 'Procurement' have been added, but which may or may not be required depending on the nature of the enterprise. Additional functions or processes that a business might require would be added to this structure at this level if significant, or further decomposed into Level 2 models, which can be navigated between, as required.

Level 1 - Activity & Event Management

3.3.8 Level 1 - Business Rule Management

The Level 1 Business Rule Management functional model expands on that area of the enterprise that pertains to the management and recording of an enterprise's business rules. In theory, this area should be able to control fully an enterprise's business rule maintenance and management operation.

This model breaks down the maintenance functionality for the Business Rule entity types.

In addition, 'Monitor Business Rule Compliance' and 'Improvement Management' have been added as examples of other probable functions within this area. These may or may not be required depending on the nature of the enterprise. Additional functions or processes that a business might require would be added to this structure at this level if significant, or further decomposed into Level 2 models, which can be navigated between, as required.
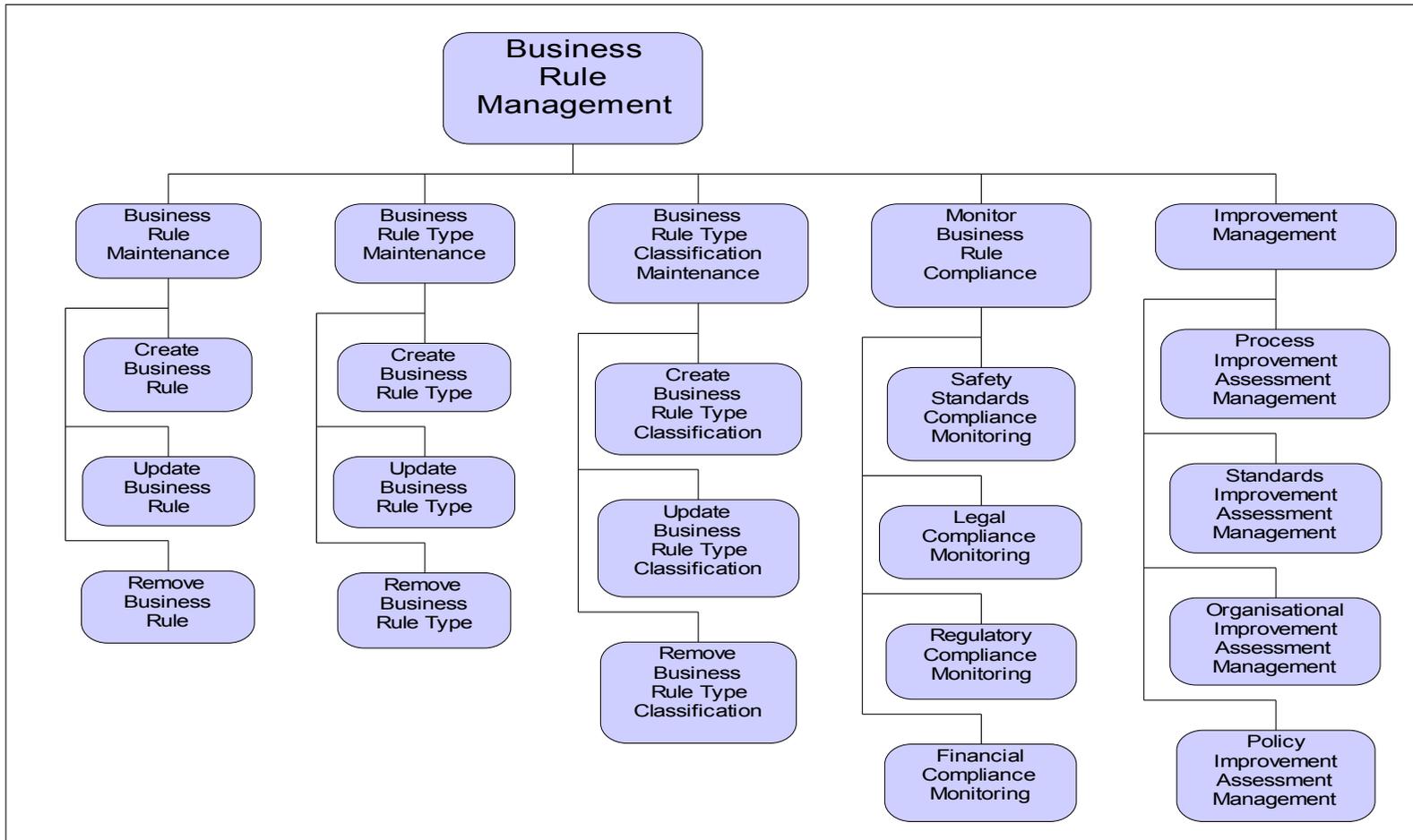
Level 1 - Business Rule Management

4. The Enterprise Application Model

The application areas, or domains, are focused on the same eight enterprise subject areas that have been used for data and functions. The purpose of this should be obvious; it is simple and is consistent with the data and function enterprise modelling. For an enterprise model, there no valid point in refining these Enterprise Application Areas any further since the generic nature of the model would start to become compromised. Further refinement can only meaningfully be done for specific enterprises/businesses and their specific circumstances.

It is also important to note that, when using this model to analyse current application architectures, it is extremely unlikely that one would be able to map any existing application architecture to the above application model, or to any other application model which is based on subject areas. However, it would be worth mapping individual applications to this model to provide a clear view of each subject area that is touched by an application to identify duplication of processing and areas where application processing is deficient or could be enhanced.

Enterprise Application Model
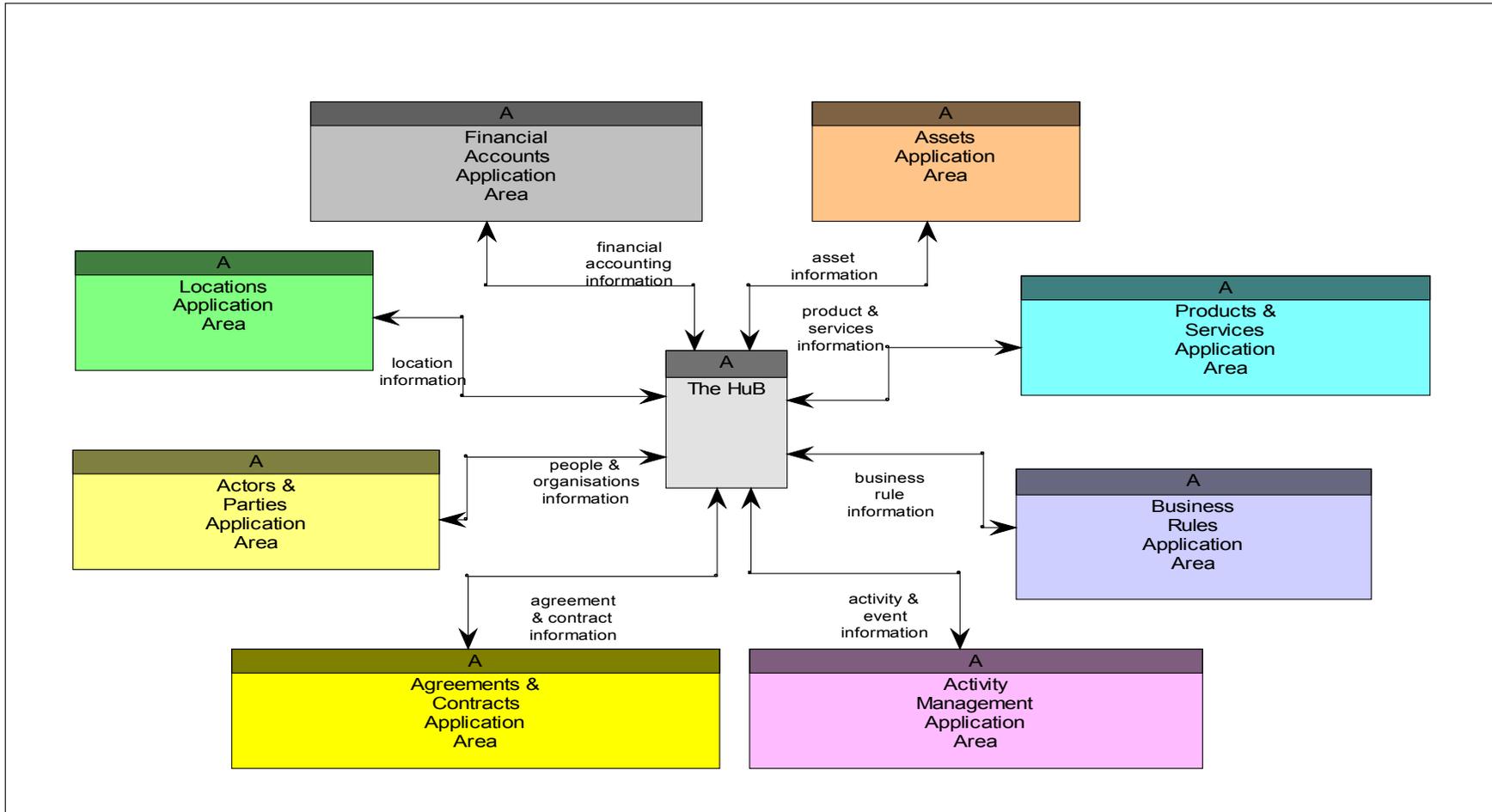
5. Data Definitions

Account
A group of financial records relating to a specified category of finance.
e.g. wages & salaries, travel costs, training, customer, cost centre etc.

Account Agreement Association
An intersection that identifies instances of Agreements associated with a particular Account. An Agreement may be set up that actions many Accounts.
e.g. British Gas may have a single contractual Agreement with BP and Shell for which a single Account is required.
N.B. this entity type should only be used for complex Agreement modelling and conditions.

Account Hierarchy Structure Element
The resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of Accounts.
e.g. Cost Centre 301 may comprise Projects 202, 203 and 307 for accounting & cost control purposes.

Account Type
The kind of financial Account that is of interest to the Organisation.
e.g. customer account, supplier account, profit & loss account etc.

Account Type Classification
A high level grouping or view of Account Types.
e.g. property accounts, operational accounts etc.

Account Type Classification Grouping of Account Type
The resolution of the higher level 'classification for' relationship between Account Type Classification and Account Type. It enables a Classification to classify more than one Type and for a Type to belong to more than one Classification. This mechanism allows subtypes of Account Type to 'inherit' attributes of objects which are not themselves Account Types, i.e. it enables 'multiple inheritance' for objects and performs equally well as a business object model as it does an ERD.
e.g. Customer Account may group Current Account and Credit Card Account.

Account Type Classification Hierarchy Structure Element
The resolution of the recursive 'pigs ear' relationship, 'composed of' which enables hierarchical structure of Account Type Classifications.
e.g. A Credit Account may be composed of lower level groupings of Credit Account.
A single financial entry into a ledger. This may be a credit, debit, correction etc.

Accounting Entry
A positive or negative financial entry to a specific Account.
e.g. £100 paid into Mickey Mouse's account on 10/02/03.

Accounting Transaction
A specific instance of the transfer of an amount of money, debited from a source account and credited to a receiving account.
e.g. direct debit from John's account into Fred Smith 's account on the 25th April 2000 for £400.

Accounting Transaction Structure Element
The resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of Accounting Transactions. Some transactions may be composed of a number of separate but hierarchically related transactions.
e.g. a deposit transaction, initial part payment, final settlement, credit for over-payment etc.

Accounting Transaction Type
The kind of Accounting Transaction permitted.
e.g. Direct Debit, Standing Order etc.

Activity
A process or procedure which is undertaken by an Organisational Unit that has value to the Organisation. This can be any task at any level from complex to elementary.
e.g. 'Manage and appraise staff', 'Monitor / inspect Asset condition'.
An Activity will have a Cost, but not a Price.

Activity Hierarchy Structure Element
The resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of Activities.
e.g. The Materials Tracking project contains the Materials Tracking Feasibility Study which contains Materials Tracking Requirements Gathering exercise.

Activity Type
The kind of Activity that can be carried out within any Organisation in support, directly or indirectly, of a Product or Service Type.
e.g. Write specification, test program, authorise purchase order, operate signal.

Activity Type Classification
A high level grouping or view of Activity Types.
e.g. risk management activity, performance activity etc.
                              Entity Occurrences:
                              1) External
                              2) Internal
                              3) Commercial
                              4) Operations
                              5) Support

Activity Type Classification Grouping of Activity Type
The resolution of the higher level   'classification for' relationship,   between Activity Type Classification and Activity Type. It enables a Classification to classify more than one Type and for a Type to belong to more than one Classification. This mechanism allows subtypes of Activity Type to 'inherit' attributes of objects which are not themselves Activity Types, i.e. it enables 'multiple inheritance' for objects and performs equally well as a business object model as it does an ERD.
e.g.   Internal Activity Type Classification may group Project Management, Financial, General Activity Types.

Activity Type Classification Hierarchy Structure Element
The resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of Activity Type Classifications.
e.g. External Activity Type Classification may be composed of Commercial Activity Type Classifications etc.

Activity Type Hierarchy Structure Element
The resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of Activity Types.
e.g. Perform Analysis may be composed of Capture Requirements, Assess Requirements, Confirm Results etc.

Activity Type Relationship Structure Element
The resolution of the 'pigs ear' relationship, 'related to' which enables a sibling relationship of Activity Types.
e.g. Capture Requirements might be associated with Confirm Requirements.

Activity on Asset Association
The resolution of the higher level 'subject to' relationship, between Activity and Asset. It enables a specific occurrence of a relationship between these two instances to exist.
e.g. the maintenance activity which took place on Signal 12344 on 1st July 2000.

Activity-to-Event Result Reference
The resolution of the higher level 'results in' relationship, between Activity and Event. It enables a specific occurrence of a relationship between these two instances to exist.
e.g. the processing of Henry Robinson's ticket refund for his London to Edinburgh journey resulted in the refund being made on 02/09/2000

Agreement
A formal understanding between a third-party and the Organisation which details the obligations of related Parties to each other.
e.g. Connex's contract with Network Rail to provide them with train path and operational information. If an Agreement has a Value to the company and when its behaviour is that of an Asset, then it must be treated as an Asset. It may have a Cost as well if, for example, it is or was a bad risk. An Agreement may also be an Offering, e.g. A service contract. However, I have mapped it primarily to Business Rules (Zachman Framework 'Why' column) because its primary behaviour is that of a governing entity constraining the ways in which one party may deal with another party.

Agreement Hierarchy Structure Element
The resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of Agreements.
e.g. Bovis's Contract with British Steel to produce RSJs may be Call-off Agreement against Order Q23456 requests 1222 RSJs to be delivered on 01/02/04.

Agreement Offering Association
The resolution of the higher level relationship, between Offering and Agreement. It enables a specific occurrence of a relationship between these two instances to exist.
e.g. a particular train route (an offering) is detailed by Agreements.

Agreement Relationship Structure Element
The resolution of the 'pigs ear' relationship, 'related to' which enables a sibling relationship of Agreements
e.g. Purchase Order 123 is related to Purchase Order 345.
.
Agreement Type
The kind of Agreement that may be held between the Organisation and one or more third party.
e.g. employment contract, supplier contract, SLA etc.

Agreement Type Classification
A high level grouping or view of Agreement Types.
e.g. Staff contracts, property agreements etc.

Agreement Type Classification Grouping of Agreement Type
The resolution of the higher level   'classification for' relationship, between Agreement Type Classification and Agreement Type. It enables a Classification to classify more than one Type and for a Type to belong to more than one Classification. This mechanism allows subtypes of Agreement Type to 'inherit' attributes of objects which are not themselves Agreement Types, i.e. it enables 'multiple inheritance' for objects and performs equally well as a business object model as it does an ERD.
e.g. employee contacts may be grouped into both:
- HR Personnel Grouping
- Finance Grouping

Agreement Type Classification Hierarchy Structure Element
The resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of Agreement Type Classifications.
e.g. Employment contract is composed of
- Letter of employment confirmation
- Signed Terms and Conditions
- Authority for periodic alcohol and drug testing

Agreement Type Hierarchy Structure Element
The resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of an Agreement Type.
e.g. A Call-Off Contract may contain a Purchase Order.

Agreement Type Relationship Structure Element
The resolution of the 'pigs ear' relationship, 'related to' which enables a sibling relationship of Agreements Types
e.g. A supplier contract can be linked to a client contract.

Asset
An item or group of items of definable financial value to the Organisation. An Asset will have a Value and, if it was once an External Product, a Purchase Price.
e.g. A given company's Computer System, Euston Station, Battersea Power Station etc.
N.B. This entity type may also be used to record information about things which do not belong to the enterprise, but which the enterprise needs to know about, for example, another organisation's assets such as road bridge. In these cases, such assets will not have a financial value to the organisation, but will be 'features' in which the organisation is interested.

Asset Account Association
The instance of an Asset recorded on a particular Account. This entity type enables the identification of all Accounts that an Asset may be reported or recorded against and, for a given Account, all the Assets that appear on it.
e.g. Signal 010122 on the Central Asset Register

Asset Account Type
The company's Accounts which record details of the Organisation's Assets.
e.g. Building Assets, Network Assets etc.

Asset Diary Booking Segment
A timeslot in the Diary of a particular Asset.
e.g. 09:00 – 09:30 am 10/01/04 for projector a123 is an available booking slot.

Asset Hierarchy Structure Element
The resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of Assets.
e.g. Fred Brown's Desktop comprises Monitor number 2345 and Box number 3211.
N.B. The level to which company asset information is required will be at the discretion of the Organisation.

Asset Relationship Structure Element
The resolution of the 'pigs ear' relationship, 'related to' which enables a sibling relationship of Assets.
e.g. Fred Brown's Monitor number 2345 is related to Box number 433211.
N.B. this is a sibling relationship between actual Assets.

Asset Type
The kind of Asset that the organisation may either own or use to generate revenue. An Asset Type may be a Feature Type if the kind of Asset or 'thing' is external to the organisation.
e.g. Building, warehouse, computer system, track, signal, information etc.

Asset Type Classification
A high level grouping or view of Asset Types.
e.g. operational asset, property asset, fixed asset, non-fixed asset etc.

Asset Type Classification Grouping of Asset Type
The resolution of the higher level 'classification for' relationship, between Asset Type Classification and Asset Type.
e.g. Internal Asset Classification might group Transmission Assets owned by the Organisation and External Asset Classification might group Transmission Assets not owned by the Organisation but of which knowledge is required.

Asset Type Classification Hierarchy Structure Element
The resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of Asset Type Classifications.
e.g. an Engineering Asset Type might contain Plant which might contain Mechanical Digger etc.

Asset Type Hierarchy Structure Element
The resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of Asset Types.
e.g. A Desktop may comprise Monitor and Box and/or External Disc Drive.

Asset Type Relationship Structure Element
The resolution of the 'pigs ear' relationship, 'related to' which enables a sibling relationship of Asset Types.
e.g. a Monitor may be related to a Box.

Booking
The specific time period for which an Activity is expected to take place with regard to the related diary Segment(s) for Asset/Party/Location.
e.g. End of Year Accounts meeting in Meeting Room 1a on 23/03/02 reserving projector 23s and attendees John Smith, Fred Brown and Edith White.

Business Rule Type Classification
A high level grouping or view of Business Rule Types.
e.g. operational rules, property rules etc.

Entity Occurrences:
1) External
2) Internal
3) Regulatory
4) Legal
5) Imposed
6) Voluntary

Business Rule
A specific clause or set of clauses, used to govern the management of a Product, Role, Party, Service, Activity or Asset.
e.g. safety procedure 3212 must be applied, Engineering Degree required, doctor's certificate required etc.

Business Rule Account Type Governance
The resolution of a Business Rule that will govern the business and commercial activity for an Account Type.
e.g. 'An Account may not have any monies withdrawn from it without the permission of the Account Holder' may be a Business Rule applying to more than one Account Type, but a Customer Account may be constrained by Business Rules which do not constrain a Supplier Account.

Business Rule Accounting Transaction Type Governance
The resolution of a Business Rule that will govern the business and commercial activity for an Accounting Transaction Type.
e.g. An alteration to a Standing Order must be signed by the Customer before being put into effect.

Business Rule Activity Type Governance
The resolution of business rule that will govern the business and commercial activity for an Activity Type

Business Rule Agreement Governance
The resolution of a Business Rule that will govern the business and commercial activity for an Agreement.
e.g. John Smith's Marriage to Edith White contains a clause whereby John must pay Mary £100 a week;

Business Rule Agreement Type Governance
The resolution of a Business Rule that will govern an Agreement Type
e.g. a call-off Contract must be in place before a call-off Purchase Order can be issued.

Business Rule Asset Type Governance
The resolution of a Business Rule that will govern the operation of and commercial activity for an Asset Type.
e.g. All IT Assets must be depreciated at 10% over 5 years then written off.

Business Rule Hierarchy Structure Element
The resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of Business Rules.
e.g. Clause A is composed of clauses C1 & C2. Claus B also includes Clause C2.

Business Rule Offering Type Governance
The definition of business rule that will govern the business and commercial activity for an Offering Type
e.g. All soft toys must pass prescribed safety tests.

Business Rule Relationship Structure Element
The resolution of the 'pigs ear' relationship, 'related to' which enables a sibling relationship of Business Rules.
e.g. Apply Safety Check A is related to Apply Safety Check B.

Business Rule Type
The kind of Business Rule about which the Organisation needs to take account of with regard to specific types of Activity, Event, Party, Role, Account, Offering or Asset.
e.g. safety procedures and governances, types of Accountancy Rule, requirements for skill & qualification types etc.

Business Rule Type Classification
A high level grouping or view of Business Rule Types.
e.g. operational rules, property rules etc.

<div align="center">

Entity Occurrences:
1) External
2) Internal
3) Regulatory
4) Legal
5) Imposed
6) Voluntary
7) Statutory
8) Mandatory

</div>

Business Rule Type Classification Grouping of Business Rule Type
This entity type is the resolution of the higher level   'classification for' relationship, between Business Rule Type Classification and Business Rule Type.

Business Rule Type Classification Hierarchy Structure Element
This entity type is the resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of Rule Type Classifications.

Business Rule Type Hierarchy Structure Element
This entity type is the resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of Business
e.g. Safety Check Application is composed of Child Safety Check Application and Pet Safety Check Application.

Business Rule Type
Relationship Structure Element This entity type is the resolution of the 'pigs ear' relationship, 'related to' which enables a sibling relationship of Business Rule Types.
e.g. Safety Check Application rule type is related to Performance Check Application rule type.

Consumable Type
The kind of Consumable which the Organisation may own for its own usage.
e.g. Part Type
N.B. Consumables, while not, strictly speaking, Assets per se, do share much of their characteristics and behaviour.

Contract Type
A specific kind of Agreement which is a formal, legally binding agreement between the Organisation and a third party.
e.g. supplier contract to provide services, employment contract, cleaning contract etc.

Credit
The positive Accounting Entry.
e.g. £100 added to John Regis' account on 02/02/03.

Credit Entry

A financial entry that results in an asset being registered in favour of an Account. This means a specific instance of an addition of an amount of money to the Account. This addition is one half of a complete financial transaction, the other half being the Debit Entry, and the amount of money credited must have been posted from a source Account; until this posting is complete, the transaction cannot be complete.

e.g. £100 added to Network Rail's cash/payment account on 22/01/2000 for overpayment for ballast supplied by British Ballast on 21/01/2000.

Debit

The negative Accounting Entry.

e.g. £100 deducted from Fred Smith's account on 02/02/03.

Debit Entry

A financial entry that results in a liability being registered against an Account. This means a specific instance of a subtraction of an amount of money from the Account. This subtraction is one half of a complete financial transaction, the other half being the Credit Entry, and the amount of money debited must be posted to a target Account; until this posting is complete, the transaction cannot be complete.

e.g. £200 subtracted from Network Rails cash/payment account on 21/01/2000 in payment for ballast supplied by British Ballast.

Diary Booking Segment

The reservable time period, or slot, for a bookable Asset or Location or Party. This is a component of a calendar of available and unavailable dates and times. Specific reservation information for any given booking is held in Booking.

e.g. 9:00 - 9:90 am on 04/07/2002 in Aircraft 3456's calendar; 10:00 - 11:00 on 03/03/2002 in Meeting Room 1A's calendar, etc.

Discrete Asset Type

A kind of Asset which can occupy a single physical location or which can be conceptualised. It may be composite or simple.

e.g. Computer System, Building, Station, Track Section, an Information Asset etc.

Event

A happening or condition which may result from one Activity and/or trigger another. Events may be internal to or external to the Organisation.

e.g. purchase order request to John Regis for ballast on 12/21/00, deadline met for summer 2000 timetable delivery, customer request for train times for London to Edinburgh on 23/2/00 etc.

An Event may have a Cost to the Business.

Event Hierarchy Structure Element

The resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of Event Types.

e.g. Robert Jones' complaint is complex and triggers notification of dissatisfaction being sent to the Chairman and the initiation of a Complaint Investigation process.

Event Relationship Structure Element

The resolution of the 'pigs ear' relationship, 'related to' which enables a sibling relationship of Events.

e.g. Robert Jones' complaint follows his receipt of faulty goods which he had requested.

Event Type

The kind of Event about which information needs to be captured.

e.g. customer request, deadline, train arrival etc.

Event Type Classification

A high level grouping or view of Event Types.

e.g. operational events, commercial events, risk, opportunity etc.

Entity Occurrences:
1) External
2) Internal

Event Type Classification Grouping of Event Type

This entity type is the resolution of the higher level   'classification for' relationship, between Event Type Classification and Event Type.

e.g. An External Event Type Classification may group Regulatory & Customer Event Types.

Event Type Classification Hierarchy Structure Element

This entity type is the resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of Event Type Classifications.

e.g. External Event Type Classification may comprise Commercial Event Type Classification.

Event Type Hierarchy Structure Element

This entity type is the resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of Event Types.

e.g. Customer Event Type may include Customer Request Type, Customer Complaint Type etc.

Event Type Relationship Structure Element

This entity type is the resolution of the 'pigs ear' relationship, 'related to' which enables a sibling relationship of Event Types.

e.g. A Customer Request Type must precede a Customer Complaint Type.

Event-to-Activity Trigger Reference

This entity type is the resolution of the higher level 'triggered by' relationship, between Activity and Event. It enables a specific occurrence of a relationship between these two instances to exist.

e.g. Henry Robinson's request for refund for London to Edinburgh ticket on 01/09/2000 etc.

Fixed Asset

A kind of Asset that is physically fixed in place and ceases to be an Asset if it is moved from that place.

e.g. building, pylon, transmission pipe, gantry, signal etc.

Geographical Location Type

The kind of Geographical Location.

e.g. post code, zone, station address, asset coordinates, track coordinates etc.

Information Asset

A kind of Asset the value to the organisation of which is in the form of information.

e.g. Computer System, Document etc.

Interim Condition Event

The kind of Event or condition that results from one activity and triggers another.

e.g. customer request received, demand for payment considered etc.

Interim Condition Event Type

The kind of Event or condition that results from one activity and triggers another.

e.g. customer request received, demand for payment considered etc.

Inventory of Items for Asset Type

A list of all the asset items for a given Asset Type.

Liability Account Type
The kind of Account which records financial details of the Organisation's liabilities.
e.g. supplier liability, customer liability etc.

Linear Asset Type
A kind of Asset which has defined length and sometimes direction.
e.g. track segment, train path, route etc.

Location
A defined (i.e. can be uniquely referenced) geographical or logical location. Can be identified either by an absolute or by a relative reference.
e.g. Southern Zone, Euston Station, Node 1223444, post code PO2 25R etc.

Location Activity Association
Describes the one or many locations a that an instance of a task or activity may be carried. Conversely, it reflects the multitude of task and activities that take place at an instance of a location.
e.g. the assessment of assets at particular site i.e. Southern Zone.

Location Diary Booking Segment
A timeslot in the Diary of a particular Location.
e.g. 09:00 - 09:30 am 10/01/03 timeslot in meeting room 002 at Norfolk House.

Location Hierarchy Structure Element
The resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of Locations.
e.g. Europe contains Britain contains England contains London contains Buckingham Palace.

Location Relationship Structure Element
The resolution of the 'pigs ear' relationship, 'related to' which enables a sibling relationship of Locations.
e.g. England, Wales, Scotland, N.Ireland are sibling countries within UK.

Location Type
A kind of geographical or logical location.
e.g. node, zone

Location Type Classification
A high level grouping or view of Location Types.
e.g. fixed points, contact numbers etc.

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Entity Occurrences:
1) External
2) Internal

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Location Type Classification Grouping of Location Type
The resolution of the higher level   'classification for' relationship between Location Type Classification and Location Type.
e.g. External Post Office Address, Internal Post Office Address etc.

Location Type Classification Hierarchy Structure Element
The resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of Location Type Classifications.
e.g. External Contact Number, Internal Contact Number etc.

Location Type Hierarchy Structure Element
The resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of Location Types.
e.g. Continent contains Country contains City contains Building etc.

Location Type Relationship Structure Element
The resolution of the 'pigs ear' relationship, 'related to' which enables a sibling relationship of Location Types.
e.g. a country may be a sibling of another country.

Logical Location Type
Any kind of non-geographical Location, including conceptual kinds of Location.
e.g. node, email address, telephone number etc.
Cost Centre may be expressed as either a Logical Location or an Organisational Unit.

Marketplace Target
The resolution of the higher level   'identify marketplace for' relationship, between Role Type Classification and Offering Type Classification. It enables a specific occurrence of a relationship between these two instances to exist.

Non-Fixed Asset
A moveable kind of Asset.
e.g. computer terminal, desk, train carriage etc.

Offering
A specific item or set of items which is available for sale by the Organisation to internal or external customers.
e.g. takeoff slot for 09:00 every Monday for year 2004 at Gatwick, batch 123 of Calpol, John Brown's healthcare contract etc.
An Offering will have a Cost and a Price.

Offering Activity Association
The resolution of the higher level 'outputs' relationship, between Offering and Activity. It enables a specific occurrence of a relationship between these two instances to exist.
e.g. John Smith analysis activity resulted in a re-scoping document etc.

Offering Hierarchy Structure Element
The resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of offerings.
e.g. Russian Doll A1 contains Russian Doll A2 contains Russian Doll A3 etc.

Offering Relationship Structure Element
The resolution of the 'pigs ear' relationship, 'related to' which enables a sibling relationship of offerings.
e.g. a particular desirable train route must be serviced in association with a less profitable one.

Offering Type
A generic classification of products or services offered by the Organisation to its customers,
the supply of which is enabled by agreements of one type or another.
e.g. train timetable, Russian doll, business benefit etc.

Offering Type Business Rule Occurrence
The resolution of the higher level   'governs' relationship, between Business Rule and Offering Type.
It enables a specific occurrence of a relationship between these two instances to exist.
e.g. All Russian Dolls must have a quality stamp on the base.

Offering Type Classification
A high level grouping or view offering Types.
Example Entity Occurrences:
1) External
2) Internal
3) Commercial

Offering Type Classification Grouping of Offering Type
The resolution of the higher level   'classification for' relationship, between Offering Type Classification and Offering Type.
e.g. Car groups Vauxhall Cavalier , Ford Escort etc.

Offering Type Classification Hierarchy Structure Element
The resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure offering Type Classifications.
e.g. Vehicle contains Car – the former is a super-classification of the latter.

Offering Type Hierarchy Structure Element
The resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure offering Types and can be used to indicate components.
e.g. 1800cc Vauxhall engine is a component of a Vauxhall Cavalier

Offering Type Relationship Structure Element
The resolution of the 'pigs ear' relationship, 'related to' which enables a sibling relationship offering Types.
e.g. Vauxhall steering wheel and Vauxhall airbag are sibling components of a Vauxhall Cavalier.

Organisational Unit Type
A body which has an existence beyond that of the individuals that make it up. Often this body has legal recognition.
e.g. Legal body, Charity, Regulator etc.
Cost Centre may be expressed as either a Logical Location or an Organisational Unit.

Party
This entity type has been introduced as a mechanism to manage the relationships between Organisational Unit & Person and the rest of the model. i.e. Party acts as a single point of contact for Person & Organisation, acting as a filter between these and all other entity types.
e.g. Firstbyte Consulting Ltd, British Airways, Home Office, Fred Jones etc.

Party Activity Association
The resolution of a Party to an Activity enabling a Party to engage directly in an Activity rather than through a Role.
e.g. Robert Brown played a football game on Sunday at Hyde Park

Party Agreement Association
The resolution of the higher level 'held by' relationship, between Party and Agreement. It enables a specific occurrence of a relationship between these two instances to exist.
e.g. John Smith has a Marriage Contract with Mary Jackson.

Party Diary Booking Segment
A timeslot in the Diary of a particular Party.
e.g. 09:00 - 09:30 am 10/01/03 timeslot in Reginald Farley's Diary.

Party Hierarchy Structure Element
The resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of Party.
e.g. John reports to James who reports to Francis etc.

Party Location Association
The resolution of the higher level   'site for' relationship, between Party and Location. It enables a specific occurrence of a relationship between these two instances to exist.
e.g. Fred works at Buckingham Palace on the 3rd floor, Fred lives at 14 the Firs road, Wimbledon etc.

Party Relationship Structure Element
The resolution of the 'pigs ear' relationship, 'related to' which enables a sibling relationship of Parties.
e.g. Fred is John's brother.

Party Type
A kind of Organisational Unit or Person. This includes Organisations with legal standing, e.g. partnership, limited company, sole trader, regulator etc. This entity type, together with Party, has been introduced as a mechanism to manage the relationships between Organisational
Unit & Person and other entity types in the model. .
e.g. TOC, FOC, Regulator, member of staff, customer, supplier, legal adviser etc

Party Type Classification
A high level grouping or view of Party Types.
e.g. external party, internal party etc.
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Example Entity Occurrences:
1) External
2) Internal
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Party Type Classification Hierarchy Structure Element
The resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of Party Type Classifications.
e.g. British Company within European Company within Global Company etc.

Party Type Hierarchy Structure Element
The resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of Party Type .
e.g. solicitor within legal dept etc.

Party Type Relationship Structure Element
The resolution of the 'pigs ear' relationship, 'related to' which enables a sibling relationship of Party Types.
e.g. Contractor may also be Supplier, Advisory Body may be associated with a Legal Body, a particular type of British Airways Department may have a contract with an IT Supplier etc.

Party-to-Role Occupancy
This entity type is the resolution of the higher level   'occupies' relationship, between Party and Role. It enables a specific occurrence of a relationship between these two instances to exist.
e.g. Fred Smith is Prime Minister etc.

Party Type Classification Grouping of Party Type
The resolution of the higher level   'classification for' relationship, between Party Type Classification and Party Type
e.g. External Department, Legal Department – the former is a classification containing the latter etc.

Person Type
A kind of individual who has, or possesses the potential to have, a relationship with the Organisation.
e.g. Lawyer, Patient etc.

Post-Condition Event
A particular Event or condition that results from the execution of a business process at a specific date and/or time.
e.g. customer request answered on 02.02.07, demand for payment met on 09.08.02 etc.

Post-Condition Event Type
The kind of Event or condition that results from the execution of a business process.
e.g. customer request answered, demand for payment met etc.

Pre-Condition Event
A particular Event or condition that must have occurred in order to trigger the beginning of a business process.
e.g. customer request made on 02.03.05, demand for payment, made on 06.04.02 etc.

Pre-Condition Event Type
The kind of Event or condition that must have occurred in order to trigger the beginning of a business process.
e.g. customer request, demand for payment, need, requirement etc.

Product Type
The kind offering that is a Product, i.e. a tangible or packaged deliverable.
e.g. Railway timetable, Russian Doll, Vauxhall Cavalier etc.

Profit & Loss Account Type
The kind of Account which records details of the Organisation's profits and losses over the year.

Purchase Order Type
A formal request to a third party to provide the Organisation with a specified offering at a specified cost, or to the Organisation from a third party for the same.
e.g. an order for a quantity of ballast etc.

Role
The instance of a Role Type, i.e. the occurrence of a part played, or post held, by a Party which is of interest to the Organisation.
e.g. Prime Minister, infrastructure project manager for British Airways Chemistry Teacher at Hastings High School etc. A Role may be associated with a Salary or range of Salaries.

Role Activity Association
The resolution of an occurrence of a given Role undertaking a given Activity.
e.g. The ITC Project Director held a Strategy Meeting on 01/01/03.

Role Hierarchy Structure Element
The resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of Roles.
e.g. programmer A reports to project manager A who reports to director A etc.

Role Relationship Structure Element
The resolution of the 'pigs ear' relationship, 'related to' which enables a sibling relationship of Roles.
e.g. systems analyst A works with programmer A

Role Type
The definition of a part played, or position that can be filled, by a Person or Organisational Unit which is of interest to the Organisation.
e.g. staff member, project manager, insurer, supplier, provider, chemistry teacher etc.

Role Type Business Rule Association
The Resolution of a Business Rule that will govern the operation and commercial activity for a Role Type.
e.g. All managers must have a degree.

Role Type Classification
A high level grouping or view of Role Types.
e.g. operational roles, commercial roles etc.
                    Example Entity Occurrences:
                    1) External
                    2) Internal

Role Type Classification Grouping of Role Type
The resolution of the higher level 'classification for' relationship, between Role Type Classification and Role Type
e.g. external customer, internal customer etc.

Role Type Classification Hierarchy Structure Element
The resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of Role Type Classifications.
e.g. External Role may be composed of Board Member.

Role Type Hierarchy Structure Element
The resolution of the recursive 'pigs ear' relationship, 'composed of' which enables a hierarchical structure of Role Types.
e.g. teacher reports to head teacher etc.

Role Type Relationship Structure Element
The resolution of the 'pigs ear' relationship, 'related to' which enables a sibling relationship of Role Types.
e.g. A Business Analyst must always work alongside a Business Sponsor,   Chairman may also be Board Member etc.

Service Type
The kind of Service offering available to the Organisation's customers and is in the form of an activity.
e.g. Railway consultancy, office cleaning, train progress updating, financial advice provision, nursing etc.

Skill / Qualification Level
The grade or level of the skill or qualification.
e.g. Level 1, distinction, II:2 etc.

Skill / Qualification Type
A kind of skill or qualification that the enterprise considers relevant for individuals to hold.
e.g. Degree, HND etc.

Time Event
The arrival of a point in time whereby a process must be initiated.
e.g. 12:00 batch run for Calpol batch production A12345 etc.

Time Event Type
The arrival of a point in time whereby a process must be initiated.
e.g. race start, batch run etc.

6. Function Definitions

Accept Supplier Delivery
The checking and receipt of the delivery of ordered goods from a Supplier.

Account Maintenance
The management and maintenance of the business's Financial Accounts.
Includes: management of Asset, Party, Location, Activity Accounts and even of Accounts which may be linked directly to Agreements or Contracts.

Account Type Classification Maintenance
The maintenance of Account Type Classifications.

Account Type Maintenance
The maintenance of Account Types.

Accounting Administration
All other non-Account-specific financial administration functions and processes.
Includes: Management Accounting and Financial Accounting

Accounting Rules Maintenance
The creation, amendment and deletion of Accounting-specific Business Rules.
Includes: Maintains Account Type & Account Type Classification Rules if any.

Accounting Transaction Type Maintenance
The maintenance of permissible Accounting Transaction Types.

Activity Maintenance
The management and maintenance of the business's information regarding Activities.

Activity Management
This is a non-enterprise specific subject area which handles all aspects of activities and events not covered by one of the other Enterprise Subject Areas.
e.g. Project Management etc.

Activity Type Classification Maintenance
The management and maintenance of the business's information regarding Activity Type Classifications.

Activity Type Maintenance
The management and maintenance of the business's information regarding Activity Types.

Administer Personnel Affairs
The administration of personnel affairs
Includes: the recording and monitoring of Personnel attendance and expenditure; Produce Training

Agreement Maintenance
The management and maintenance of the business's Contracts and Agreements.

Agreement Management
The enterprise subject area which handles all aspects of functions and processes pertaining primarily to Contracts and other legally binding or formal Agreements.
Agreement Type Classification Maintenance
The management and maintenance of the business's Contract and Agreement Type Classifications.

Agreement Type Maintenance
The management and maintenance of the business's Contract and Agreement Types.

Approval Review Cycle Management
The quality assurance process that a Product must go through before it can be formally released.
Includes: Products for external marketing, formal Accounts and internal products such as formal documents or designs. Examine the Supplier's performance and compare with expectations.
Includes: Monitor tenancy against Contract

Assess Incident
Analyse the causes of the Incident and the expected impacts.
Includes: Assess Operational Impact, Cost Impact, Brand Impact etc.

Asset Condition Maintenance
The maintenance of an Asset's condition.

Asset Diary Booking Segment Maintenance
The management of an Asset's diary. This includes the reservation of an Asset for use, access or repair.

Asset Performance Monitoring
The monitoring and control of an Asset's performance,
Includes: Test Asset Performance; Optimise Asset Performance

Asset Rule Maintenance
The creation, amendment and deletion of Asset-specific Business Rules.
Includes: Maintenance of Asset Type & Asset Type Classification Rules if any.

Asset Selling
The selling of an Asset to a Customer.
Includes: Property

Asset Type Classification Maintenance
The maintenance of Asset Type Classifications.

Asset Type Maintenance
The maintenance of Asset Types.

Asset Maintenance
The management and maintenance of the business's Assets and of features in which the Business has an interest.

Asset Management
The enterprise subject area which handles all aspects of functions and processes pertaining primarily to Assets. This area can also be used to include the management of information regarding Features. Features are things which are of no financial value to the enterprise itself, but which, nevertheless, the enterprise needs to know about a truck company would need to know about all low bridges in its route. These are features, and are often assets owned by other non-related enterprises.

Assign Storage Location to Item
Link a specific item to a specific Location.

Billing
The function of issuing demands for payment to Customers.
Includes: invoicing

Booking Diary Segment Maintenance
The maintenance of Diary Booking Segments which are not directly related to Asset, Party or Location.
e.g. it may be valid for an Enterprise to have an Event Booking Diary Segment.

Business Process Control
The function of managing the control of business processes.

Business Rule Maintenance
The management and maintenance of the business's Business Rules and constraints.
Includes: Maintenance of Business Standards & Policy

Business Rule Management
The enterprise subject area which handles all aspects of functions and processes pertaining primarily to Business Rules.
This includes policy, process and standards.

Business Rule Type Classification Maintenance
The function of maintaining business rule type classifications

Business Rule Type Maintenance
The function of maintaining business rule types

Career Management
The management of Staff members' career expectations, the Organisation's expectations for each Staff member and the potential of that Staff member.
Includes: Staff Performance Assessment

Cash Flow Analysis
The function of examining flow of cash within the organisation and with External Parties.

Close Incident
Once a satisfactory resolution has been concluded, the Incident can be closed.

Communicate Business Strategy
Communicate the Business Strategy to those Parties required to be informed.

Communication Receipt
The function of formally processing incoming communications.

Communication Despatch
The function of formally processing outgoing communications.

Communications Management
The function of managing, monitoring and controlling general communications throughout the enterprise and to and from External Parties.

Complaint Receipt
The function of receiving the Complaint from the third party and routing it to the appropriate dealing authority. Includes prioritisation, categorisation and identification of resolver

Complaint Handling
The function of investigating and resolving any kind of non-contractual complaint or dispute a third party may have with the Organisation.
Includes Supplier and Customer Complaints

Complaint Resolution
The function of negotiating a Resolution of the Complaint.

Complaint Resolution Communication
The formal communication or confirmation of the Complaint Resolution to the third party.

Construct New Product or Service
Design and build new Product or Service.
Includes preparation of Asset which is no longer required for selling and of consumables surplus to requirement.

Consumable Selling
The selling of a Consumable to a Customer

Cost Allocation
In some complex cases, bulk purchase offerings may have occurred and the cost must be distributed proportionally among the projects or cost centres in receipt of these Offerings. This function handles the allocation of such costs to such recipients.

Create Account
Create a new Account.

Create Accounting Transaction Type
Create a new Accounting Transaction Type

Create Account Type
Create a new Account Type.

Create Account Type Classification
Create a new Account Type Classification.

Create Accounting Rule
Create a new Accounting Rule

Create Activity
Create a new Activity

Create Activity Type
Create a new Activity Type

Create Activity Type Classification
Create a new Activity Type Classification

Create Agreement
Create new legally binding Agreement or Contract.
Includes: Contract Negotiation

Create Agreement Type
Create new Agreement or Contract Type.

Create Agreement Type Classification
Create new Agreement or Contract Type Classification.

Create Asset
Create a new Asset of pre-existing Asset Type.

Create Asset Account
Create a new Asset Account

Create Asset Diary Booking Segment
Create a new Asset Diary Booking Segment

Create Asset Rule
Create a new Asset Rule

Create Asset Type
Create a new Asset Type.

Create Asset Type Classification
Create a new Asset Type Classification.

Create Business Rule
Create a new Business Rule.

Create Business Rule Type
Create a new Business Rule Type.

Create Business Rule Type Classification
Create a new Business Rule Type Classification.

Create Customer Agreement
Create new legally binding Agreement or Contract for Customer.
Includes: Contract Negotiation

Create Event
Create a new Event

Create Event Type
Create a new Event Type

Create Event Type Classification
Create a new Event Type Classification

Create Location
Create a new Location.
e.g. meeting room '1A'

Create Location Account
Create a new Location Account.

Create Location Diary Booking Segment
Create a new Location Diary Booking Segment

Create Location Type
Create a new Location Type.
e.g. Meeting Room

Create Location Type Classification
Create a new Location Type Classification.
e.g. External Location

Create Offering
Create a new Product or Service.

Create Offering Type
Create a new Product or Service Type.

Create Offering Type Classification
Create a new Product or Service Type Classification.
e.g. Internal, External etc.

Create Party
Create a new Party.

Create Party Account
Create a new Party Account.

Create Party Diary Booking Segment
Create a new Party Diary Booking Segment

Create Party Type
Create a new Party Type.

Create Party Type Classification
Create a new Party Type Classification.

Create Role
Create a new Role, User Group, Post or Position.

Create Role Type
Create a new Role Type, Post Type or Position Type.

Create Role Type Classification
Create a new Role Type Classification, Post Type Classification or Position Type Classification.

Customer Dispute Resolution
The function of investigating and resolving any kind of dispute a Customer may have with the organisation.

Customer Information Provision
The communication of Customer-essential information to the Customer base.

Customer Management
The monitoring and management of Customer activities and behaviour in relation to the Organisation.

Customer Performance Monitoring
The monitoring of a Customer's performance and the rectifying of any shortfall in that performance.

Decommission Asset
Decommission an existing failed Asset, or one which is no longer required.

Despatch Item from Store or Area
Release item from site.

Establish Communications Standards & Channels
Set in place policy, standards, rules and channels for required communication flows.

Event Maintenance
The management and maintenance of the business's information regarding Events.

Event Type Classification Maintenance
The management and maintenance of the business's information regarding Event Type Classifications.

Event Type Maintenance
The management and maintenance of the business's information regarding Event Types.

Financial Account Management
The enterprise subject area which handles all aspects of functions and processes pertaining primarily to Accounts and other aspects of finance.

Financial Compliance Monitoring
The function of monitoring and ensuring business processes against financial rules/requirements.

Goods Receipt
Receive delivery of external goods into the organisation. This includes arranging delivery, providing directions to driver, checking and acceptance of goods and completing necessary paperwork.

Improvement Management
The analysis, development and implementation of business improvement.
Includes: Process, Standards, Organisational, Policy etc.

Incident Communication
The function of communicating the fact and details of an incident to those parties who are required to be informed.
Includes: Communicate Incident to Interested Parties

Incident Management
The management and control of incidents.

Item Location Management
The management and control of an Asset, Offering, Consumable Item's Location(s) as it is placed on site or moved from location to location or as it leaves the organisation's physical area of control. This function includes the management of consumables, parts, products documentation and parts. All materials must be linked to Locations at item level.

Launch Product or Service
Formalise completion of Product or Service and advertise its availability to the Customer base.
Includes formalisation of completing an Asset or surplus Consumables to be sold; function of monitoring and ensuring business processes against legal rules/requirements.

Legal Compliance Monitoring
The function of monitoring and ensuring business processes against legal rules/requirements.

Link Offering to Purchase Contract
To log the specific Services or Products that have been purchased against a Contract (normally via Purchase Order).

Link Offering to Selling Contract
Assign specific Product or Service Items to third party's Contract.

Link Party to Activity
Assign Party to an Activity.
N.B. use the pigs ear structures on Party and Activity to ensure that the Party is linked to the correct granularity of Activity.

Link Role to Activity
Assign Role to an Activity.
N.B. use the pigs ear structures on Role and Activity to ensure that the Role is linked to the correct granularity of Activity.

Location Diary Booking Segment Maintenance
The management of a Location's diary. This includes the reservation of a Location for use or access.

Location Maintenance
The management and maintenance of the business's Locations and of Locations in which the Business has an interest.

Location Management

The enterprise subject area which handles all aspects of functions and processes pertaining primarily to Locations.

Location Type Classification Maintenance

The management and maintenance of the business's Location Type Classifications and of Location Type Classifications in which the Business has an interest.

Location Type Maintenance

The management and maintenance of the business's Location Types and of Location Types in which the Business has an interest.

Maintain Benefits Rewards & Incentive Scheme

As a background to Career and other forms of Staff Management, this function addresses the ongoing maintenance of any Rewards or Incentive Scheme the Organisation may operate.

Maintain Skills Availability Supply

The function of controlling the flow of Resource Skills in and out of the resource pool.
Includes: Allocate Resource to Plan, Release Resource from Plan; Capture

Monitor Business Rule Compliance

The monitoring and control required to ensure the compliance of the enterprise's operations against the Business Rules and policies as laid down.
Includes: Safety Standards, Financial, Regulatory and Legal Requirements

Monitor Incident Resolution

Monitor the progress of the Incident Resolution Activity against quality and timescales.

Monitor Offering Quality

The monitoring and control of the quality of Products and Services on offer to Customers.
Includes: any Assets and Consumables required to be sold on but which are not part of the core business

Offering Maintenance

The maintenance of Products and Services, both Internal and External.

Offering Type Classification Maintenance

The maintenance of Product and Service Type Classifications.

Offering Type Maintenance

The maintenance of Product and Service Types.

Organisational Improvement Assessment Management

The development, analysis and implementation of enhancements to existing organisation.
Includes recommendations for Organisational improvement.

Partnership Dispute Resolution

The function of investigating and resolving any kind of dispute a Partner may have with the organisation.

Partnership Performance Monitoring

The monitoring of a Partner's performance and the rectifying of any shortfall in that performance.

Party Diary Booking Segment Maintenance
The management of a Party's diary. This includes the reservation of a Party's time for future Activities.
N.B. If a Role Diary Booking Segment is required, then this can be added, supported by its own maintenance function. The reason a Diary Booking Segment has not been added in this Enterprise Model is that because a Party may have several Roles, then the Booking Segments for each Role would need to managed against the Booking Segment for the Party; it was decided that this could tempt one into complex 'over modelling'. For planning and project management purposes, however, Roles can be directly matched to Activities.

Party Maintenance
The management and maintenance of the business's information regarding People and Organisations.
Includes: Link Party to Location; Link Party to Role

Party Management
The enterprise subject area which handles all aspects of functions and processes pertaining primarily to People and Organisations
Includes: External as well as Internal Parties.

Party Type Classification Maintenance
The management and maintenance of the business's information regarding People and Organisation Type Classifications.

Party Type Maintenance
The management and maintenance of the business's information regarding People and Organisation Types.

Plan Incident Recovery
Produce a plan of the recovery Activities, dependencies and timescales subsequent to an Incident.

Policy Improvement Assessment Management
The development, analysis and implementation of enhancements to existing policies.
Includes recommendations for policy improvement.

Pricing
The function of setting up Pricing Schedules for Internal Offerings and determining the Prices of individual Offerings not covered by, or are exceptional to, the Schedule.
Includes: any Assets and Consumables required to be sold on but which are not part of the core business

Process Improvement Assessment Management
The development, analysis and implementation of enhancements to existing processes.
Includes recommendations for process improvement.

Procurement
The function of ordering and acquiring External Offerings on behalf of the Organisation.

Product & Service Selling
The selling of an Offering to a Customer.

Product & Service Management
The enterprise subject area which handles all aspects of functions and processes pertaining primarily to Products and Services.
Includes: External as well as Internal Offerings.

Production & Process Management
The function of managing and controlling the full life cycle of any process resulting in the output of any kind of Product, internal or external.

Property Management
This function encompasses those processes necessary to ensure that a property is maintained on an ongoing basis; typically this is referred to as Facilities Management. This includes the monitoring of the condition of the property.

Provide Information to Stakeholder
The communication of essential information to the Stakeholder base.

Public Relations Communications
The function of communicating general relevant and timely information to Public bodies.

Public Relations Management
The monitoring and management of the activities and behaviour of related External Organisations in relation to the Organisation.

Purchase Ordering
The function of managing and processing Purchase Orders

Receipt Supplier Delivery
Provide delivery agent with required goods receipt.

Regulatory Compliance Monitoring
The function of monitoring and ensuring business processes against regulatory rules/requirements.

Remove Account
Remove or archive an Account.

Remove Account Type
Remove or archive an Account Type.

Remove Account Type Classification
Remove or archive an Account Type Classification

Remove Accounting Rule
Remove or archive an existing Accounting Rule.

Remove Accounting Transaction Type
Remove or archive an existing Transaction Type.

Remove Activity
Remove or archive an Activity.

Remove Activity Type
Remove or archive an Activity Type.

Remove Activity Type Classification
Remove or archive an Activity Type Classification.

Remove Agreement
Remove or archive an existing Contract or Agreement.

Remove Agreement Type
Remove or archive an existing Agreement or Contract Type

Remove Agreement Type Classification
Remove or archive an existing Agreement or Contract Type Classification.

Remove Asset Account
Remove or archive an Asset Account.

Remove Asset Diary Booking Segment
Remove an existing Asset Diary Booking Segment.

Remove Asset Rule
Remove or archive an existing Asset Rule.

Remove Asset Type
Delete and archive an existing Asset Type.

Remove Asset Type Classification
Delete and archive an existing Asset Type Classification.

Remove Business Rule
Remove or archive an existing Business Rule.

Remove Business Rule Type
Remove or archive an existing Business Rule Type

Remove Business Rule Type Classification
Remove or archive an existing Business Rule Type Classification.

Remove Event
Remove or archive an Event.

Remove Event Type
Remove or archive an Event Type.

Remove Event Type Classification
Remove or archive an Event Type Classification.

Remove Item from Location
Release an Item from its physical Location.

Remove Location
Remove an existing Location.

Remove Location Account
Remove or archive a Location Account.

Remove Location Diary Booking Segment
Remove an existing booking segment for Location Diary.

Remove Location Type
Remove or archive an existing Location Type.

Remove Location Type Classification
Remove or archive an existing Location Type Classification

Remove Offering
Remove or archive an existing Product or Service

Remove Offering Type
Remove or archive an existing Product or Service Type.

Remove Offering Type Classification
Remove or archive an existing Product or Service Type Classification.

Remove Party
Remove or archive an existing Party.

Remove Party Account
Remove or archive an existing Party Account.

Remove Party Diary Booking Segment
Remove an existing Party Diary Booking Segment.

Remove Party Type
Remove or archive a Party.

Remove Party Type Classification
Remove or archive a Party Type Classification.

Remove Role
Remove or archive a Role, Post or Position.

Remove Role Type
Remove or archive a Role Type, Post Type or Position Type.

Remove Role Type Classification
Remove or archive a Role Type Classification, Post Type Classification or Position Type Classification.

Request Handling
The processing of the generic Request. This may be a complex or a simple process.
N.B. this process is decomposed into lower level processes, not EBPs. For simple cases, the decomposition will represent the lower level symbols as EBPs. The business context and complexity is all-important.

Role Maintenance
The management and maintenance of the business's information regarding Roles, Posts and Positions.
Includes: Link Role to Location

Role Type Classification Maintenance
The management and maintenance of the business's information regarding Role Type Classifications, Post Type Classifications and Position Type Classifications.

Role Type Maintenance
The management and maintenance of the business's information regarding Role Types, Post Types and Position Types.

Safety Standards Compliance Monitoring
The monitoring and control required to ensure that the enterprise's operations are consistent with the safety standards as laid down.

Scheduling and Booking
The function of reserving timeslots against Assets, Parties & Locations for future use.
N.B. this may be an extremely simple or extremely complex area depending on the nature of the enterprise.

Selling
The function of physically Selling the finished Product or Service.
Includes: Receive Customer request for Product/Service; Assess Customer Offer; Allocate goods to Customer; Dispatch goods to Customer; Notify Financial Accounts of expected Payment

Staff Complaint Handling
The function of investigating and resolving any kind of l complaint or dispute a member of staff may have with the Organisation.

Staff Development & Performance Management
The monitoring and pursuit of enhancing Staff performance.

Staff Rostering
The function of controlling the allocation of staff members to appropriate tasks using the correct equipment.

Staff Training
The active education and re-education of members of Staff appropriate to enhancing their capacity and potential for relevant Roles.

Stakeholder Management
The monitoring and management of Customer activities and behaviour in relation to the Organisation. A Stakeholder in this context is any external party with whom the Organisation has a Contract or formal Agreement and who is not either a Supplier or a Customer.

Stakeholder Relationship Management
The function of managing all aspects of relationships between the Organisation and external Stakeholders.

Store Item in Storage Location
Physically ensure that item is placed in its assigned Location.

Strategy & Business Planning
The cycle of planning any large project or Activity.
Includes: Real time planning.

Strategy & Process Development
The function of designing and building a new Strategy or Business Process.

Strategy and Process Implementation
The implementation of a Strategy or Process once it has been developed.

Supplier Dispute Resolution
The function of investigating and resolving any kind of dispute a Supplier may have with the organisation.

Supplier Management
The monitoring and management of Supplier activities and behaviour in relation to the Organisation.

Supplier Performance Monitoring
The monitoring of a Supplier's performance against the Contract and the rectifying of any shortfall in that performance.

Supply Chain Management
The management and control of the whole Supply Chain upon which the enterprise is reliant on for effective operation.

Take Appropriate Emergency Action
Following an Incident, undertake the prescribed or necessary actions to stabilise the situation.

Tendering
The function of advertising a business requirement for Products and Services to a Supplier base in the expectation of receiving responses which can each be compared with the other.

Transform Asset into Offering
If an Asset is no longer required but is in good enough condition to be resold, then this process converts the Asset into a Product that can be sold off.

Transform External Product into Asset
The conversion of a purchased external product into either a company Asset or into consumables available for the organisation's own use.

Unassign Location
Unlink a specific item from a specific Location.

Undertake Market Research
The function of researching the marketplace in order to assess the requirement or demand for Products and Services.

Update Account
Update existing Account.

Update Accounting Transaction Type
Update an existing Accounting Transaction Type

Update Account Type
Update an existing Account Type.

Update Account Type Classification
Update an existing Account Type Classification.

Update Accounting Rule
Update an existing Accounting Rule.

Update Accounting Transaction Type
Update an existing Accounting Transaction Type.

Update Activity
Update an existing Activity

Update Activity Type
Update an existing Activity Type

Update Activity Type Classification
Update an existing Activity Type Classification

Update Agreement
Update an existing Contract or formal Agreement.

Update Agreement Type
Update an existing Agreement or Contract Type.

Update Agreement Type Classification
Update an existing Agreement or Contract Type Classification.

Update Asset
Update an existing Asset.

Update Asset Account
Update existing Asset Account.

Update Asset Diary Booking Segment
Update an existing Asset Diary Booking Segment.

Update Asset Rule
Update an existing Asset Rule.

Update Asset Type
Update an existing Asset Type.

Update Asset Type Classification
Update an existing Asset Type Classification.

Update Business Rule
Update an existing Business Rule.

Update Business Rule Type
Update an existing Business Rule Type.

Update Business Rule Type Classification
Update an existing Business Rule Type Classification.

Update Event
Update an existing Event

Update Event Type
Update an existing Event Type

Update Event Type Classification
Update an existing Event Type Classification

Update Location
Update an existing Location.

Update Location Account
Update an existing Location Account.
Includes: Cost Centre Account Management.

Update Location Diary Booking Segment
Update an existing Location Diary Booking Segment.

Update Location Type
Update an existing Location Type.

Update Location Type Classification
Update an existing Location Type Classification.

Update Offering
Update an existing Product or Service.

Update Offering Type
Update an existing Product or Service Type.

Update Offering Type Classification
Update an existing Product or Service Type Classification.

Update Party
Update an existing Party.

Update Party Account
Update an existing Party Account.
Includes: Supplier Payment Management; General Ledger Maintenance; Payment Receipt Management; Debt Recovery

Update Party Diary Booking Segment
Update an existing Party Diary Booking Segment

Update Party Type
Update an existing Party Type.

Update Party Type Classification
Update an existing Party Type Classification.

Update Role
Update and existing Role, Post or Position.

Update Role Type
Update and existing Role Type, Post Type or Position Type.

Update Role Type Classification
Update an existing Role Type Classification or Post Type
Classification

7. Application Area Definitions

Activity Management Application Area
The Application Domain which houses, in a logical sense, those applications which support primarily Activity and Event data, functions and processes.
e.g. a project management system

Actors & Parties Application Area
The Application Domain which houses, in a logical sense, those applications which support primarily people and organisations data, functions and processes.
e.g. a staff management or third-party management system

Agreements & Contracts Application Area
The Application Domain which houses, in a logical sense, those applications which support primarily contract or agreement-related data, functions and processes.
e.g. a contract management system

Assets Application Area
The Application Domain which houses, in a logical sense, those applications which support primarily Asset data, functions and processes.
e.g. an asset management or stores/materials management system

Business Rules Application Area
The Application Domain which houses, in a logical sense, those applications which support primarily Business Rule data, functions and processes.
e.g. a governance system

Financial Accounts Application Area
The Application Domain which houses, in a logical sense, those applications which support primarily Financial and Accounting data, functions and processes.
e.g. an account management system

Locations Application Area
The Application Domain which houses, in a logical sense, those applications which support primarily Location data, functions and processes.
e.g. a facilities management system

Products & Services Application Area
The Application Domain which houses, in a logical sense, those applications which support primarily Products and Services data, functions and processes.
e.g. an EPOS or a marketing system

The Hub
The Hub is a mechanistic interfacing Application Area. It is not a Business Area. Its purpose is to manage, in as generic and logical a way as possible, the interfacing mechanics of applications which communicate with applications in the other Application Areas.

8. Glossary of Terms

Activity	An activity is a sequential set of tasks which is undertaken by a business and which adds value to the business. It can be used synonymously with process.
Actor	An actor is a role, organisational unit, system or device, external to the use case (elementary process) in question, which interacts with objects within the system. A use case is always initiated and driven by a single actor.
Attribute	The component or element that contains a specific value or characteristic that describes an entity or object.
Business Function	A business function is a set of business processes or operations that the business performs in order to provide a service to its customers.
Business Process	A business process is an operation performed by the business, which adds value to the business and has definable inputs and outputs. In SA2001 a business process is referred to as a 'Process Thread'. N.B. Whether or not a process (or function) can be defined as elementary will often depend on the business and/or implementation in question. For example, 'book flight' might be an elementary process for a small aircraft company where a receptionist can book the flight and confirm the booking immediately on request; however, the same process would be a highly complex affair for an agent booking a flight for hazardous material on a British Airways flight, where capacity checks and the ability to store and handle the cargo would need to be made before confirmation could be given. In the former case, the process would be elementary, and could therefore be described by a single use case. In the latter case, the process must be decomposed into its elementary processes before these could be described by use cases.
Chapter	The SA2001 name for a 'tab' within an object dialogue box. In this document the word 'tab' is used, as this is the more common Windows parlance.
Elementary Business Process (EBP)	An elementary process is the lowest level of operation performed by the business, which must be performed by one person or system without interruption and which leaves the business in a consistent state on completion. It has definable inputs and outputs. ("1 person, 1 place, 1 time").
Entity	An entity represents some thing (person, place, event, concept) about which the organisation chooses to record data.
Event	An event is an occurrence at a specific time and date, external or internal to a process, which is of interest to the business and which may trigger a process be output from a process or both.
Functional Decomposition	see 'Functional Hierarchy'.
Functional Hierarchy	Used interchangeably with 'Functional Decomposition'; A model showing the progressive decomposition of functions into lower level functions and processes. Each set of 'child' functional objects must fully define the 'parent'.

Granularity	The level of detail represented by a diagram or object.
'OO' (Object Orientation)	'OO' is a term used to identify a method by which information systems can be designed and built. By building modular functions that solely access and operate on atomic data, i.e. attributes, the data is 'encapsulated', and thus protected from uncontrolled access and manipulation. Data retrieval and manipulation is managed by front-end and higher level functions which successively relay calls to these atomic functions via a nesting of intermediate levels. The results of these calls are cascaded back up from the atomic functions to the calling functions.
Organisational Unit	An organisational unit is a defined set of people, internal or external to the Organisation, which has responsibility for performing a defined organisational function. It may have a legal standing in its own right.
Process Step	A process step is a low-level executable act, which is undertaken as part of a higher level EBP. Typically, EBPs are composed of process steps, the full sequence of which must be executed in order for the Business to be left in a consistent state. They operate at a procedural level and describe 'how' the EBP is executed.
UML (Unified Modelling Language)	The UML combines notation and techniques, hitherto used by various, separate 'OO' methodologies, into a single, consistent and universally agreed method.

Use Case	A use case is an implementation of an elementary process. One use case should describe one, uninterrupted operation undertaken by an 'actor'. It must describe what the 'actor' wants the system to do. A use case must have the following features:
	
	    -it must occur across a system boundary;
	    -be a single uninterrupted function that the system performs;
	    -be an end-to-end transaction - i.e. user-request with system response
	    -it should be named as a verb followed by a noun, e.g. book driver, reserve room etc.