Agile Enterprise Architecture Disciplines

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Abstract
Enterprise Architecture Process is currently guided by the TOGAF 8.1 ADM (update for 9.0 in progress). The ADM does not get into too much detail on specifics such as Roles, Activities and Work Products categorized by Disciplines as does other flavours of the Unified Process such as RUP[1], OpenUP[2], DSDM[3], EUP[4] and others that are based upon the software process engineering meta-model SPEM.

In order to define a more tangible, rigorous and understandable EA practice, we have based the definitions on the software process engineering meta-model (SPEM) [5] constructs, which helps set the context by laying out the EA Practice into categorizations of work. This paper explains the content and thinking behind each of the Disciplines defined. [Nothing is cast in stone.]

Introduction
In SPEM 2.0 a discipline is defined as:

A Discipline is a categorization of work (i.e. Tasks for Method Content), based upon similarity of concerns and cooperation of work effort.

A discipline is a collection of Tasks that are related to a major ‘area of concern’ within the overall project. The grouping of Tasks into disciplines is mainly an aid to understanding the project from a ‘traditional’ waterfall perspective. Typically, for example, it is more common to perform certain requirements activities in close coordination with analysis and design activities. Separating these activities into separate disciplines makes the activities easier to comprehend.

Defining these Disciplines can be done from a top down as well as a bottom up approach. The top down approach starts off by defining known areas of concern “in the large”, while the bottom up approach starts with the detail of capability “in the small”. Who does what Activity to produce what Work Product and then this is categorized into a likely Discipline.

Because of these two approaches and because the Enterprise Architecture Process is still in a state of being defined, this may well change, but currently it has been defined based upon the Top down approach, with some bottom up approach reconciliation.

Discipline Groups
There are three discipline groups within the Agile Enterprise Architecture Practice:

- **Architecture** and all architectural work relating to the operations or “day job” of the Enterprise Architecture practice. Be it working on EA at a high level or on Project EA Architecture in detail.

- **EA Management** which is the discipline containing all elements relating to managing the EA Practice, such as planning, governance, people management, communication, etc.

- **EA Foundation** is as the name implies a collection of all the base disciplines that need to be in place for the above two discipline groups to function correctly.
**Architecture Discipline Group**

There are three Disciplines contained within the Architecture Discipline Group as denoted by the class diagram below. This structure can be used for a thin slice View of the Enterprise Architecture (e.g. For a specific Project sub-set) or for a broad shallow and complete View of the Enterprise Architecture.

**Business Architecture**

This discipline groups the discovery and definition the Big Picture of the Enterprise at a Business level. It is the Architecture of the Business / Organization / Enterprise.

Flowing down from the highest level of abstraction about the business values, Ends (vision, desired result, goals, objectives), Means (mission, course of action, directive, rules, policies), Influences, Assessments and Principles, through to Service areas of the business, Location, Stakeholders, etc. down to business structure, function and processes.

The Business Architecture discipline collects all Business Architecture Roles, Activities and Work Products. This includes (but not limited to) the following:

- Deciding on the Business Taxonomy and Ontology.
- Defining Work Product templates.
- Gathering and populating the current Business state within the organization.
- Architecting the future business.
- Architecting and Road-mapping segment changes from current to future states.
- Defining Enterprise Business Models. (current, future, roadmaps, segments)
- Motivation modelling throughout the Enterprise.
- Business structure (static) and behavioural modelling (dynamic) at a broad but shallow level for the Enterprise.
- Collaborating with the other disciplines on Applications, Data, Security, Systems, Technology, etc.

**Information Systems Architecture**

This discipline groups the discovery and definition the Big Picture of the Enterprise at an Information Systems level. It is the Architecture of the Information systems within the Organization / Enterprise. Often Information Systems Architecture includes Applications and Data as two separate sub-sets within this categorization. Other items included in this discipline are Security and Systems Integration.

The Information System Architecture discipline collects all Information System Architecture Roles, Activities and Work Products. This includes (but not limited to) the following:

- Deciding on the information Systems Taxonomy and Ontology.
- Defining Work Product templates.
- Gathering and populating the current Information Systems, Applications, Data and Services state within the organization
- Architecting the future Information Systems.
- Architecting and Road-mapping segment changes from current to future states.
- Defining Enterprise Information Systems Models. (current, future, roadmaps, segments)
- Define a
- Information Systems structure (static) and behavioural modelling (dynamic) at a broad but shallow level for the Enterprise.
Collaborating with the other disciplines on Business, Security, Technology, etc.
Defining Work Product templates.

**Technology Architecture**

This discipline groups the discovery and definition the Big Picture of the Enterprise at a Technology level. It is the Architecture of the Technology within the Organization / Enterprise. Often Technology Architecture include Software Systems, Hardware Systems and Networking Infrastructure as three separate sub-sets within this categorization. Other items that could be included in this discipline are Security and Data (at the more Physical level).

The Technology Architecture discipline collects all Technology Architecture Roles, Activities and Work Products. This includes (but not limited to) the following:
- Deciding on the Technology Taxonomy and Ontology.
- Defining Work Product templates.
- Gathering and populating the current Technology state within the organization.
- Architecting the future Information Systems including Software Systems, Hardware Systems and Networking Infrastructure.
- Architecting and Road-mapping segment changes from current to future states.
- Defining Enterprise Technology Models. (current, future, roadmaps, segments)
- Technology structure (static) and behavioural modelling (dynamic) at a broad but shallow level for the Enterprise.
- Collaborating with the other disciplines on Business, Security, Information Systems, etc.

**EA Management Group**

There are five Disciplines contained within the EA management Discipline Group as denoted by the class diagram below. These disciplines are there to ensure and facilitate collaboration and structure to the rest of the disciplines. The disciplines also group some of the external facing and management mechanisms such as Governance, Communication, People and Risk management, etc.

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**EA Planning**

All planning related Work products, Activities and Roles involved with managing and planning the EA Practice are defined here. The Planning processes are based upon Adaptive and Agile Principles of iterative and evolving collaborative improvement.

The discipline takes the EA Practice from the very beginning when it is first started, through until it is a mature well established discipline. It therefore includes activities such as:
o Develop and Sell a Mandate for a EA Practice (Project or Department)
o Obtain a Champion and Sponsorship.
o Obtain Finance for EA Practice.
o Publish an review EA Vision and Mission.
o Review and Plan Iterations.
o Prioritize iteration activities.
o Traige new projects and requests.
o Manage EA Practice by objectives.
o Direct team resources.

**EA Governance**

All governance related Work products; Activities and Roles involved with managing and governing the EA Practice are defined here.

The Governing processes are based upon TOGAF as well as Agile collaborative and iterative improvement.

Governance therefore includes activities such as:
o Manage architectural policies
o Take on new Architectural elements
o Retire old Architectural elements
o Ensure compliance to standards
o Ensure Compliance to Regulatory standards
o Ensure ability to comply with OLA’s and SLA’s.

**EA People Management**

All People Management related Work products; Activities and Roles involved with managing and governing the people within the EA Practice are defined here. The people management processes are based upon general management principles.

This discipline is a grouping of people planning (Human Resources) aspects of line management, Hiring, Firing, Holiday, Sick leave admin, Interviewing, Training, Assessments, Reviews, etc. It also uses TOGAF defined requirements for People and Skills.

People planning therefore includes activities such as:
o Acquire team resources.
o Ensure Team Training.
o Motivate & Measure Team resources on key performance indicators.
o Plan People Resources (Holidays, time-off, seminars, etc.)
o Ensure Team industry awareness.

**EA Communications**

All Communication related Work products, Activities and Roles involved with managing expectations and communicating the successes of the EA Practice are defined here.

Communication therefore includes activities such as:
o Present EA benefits.
o Communicate EA Service offerings.
o Publish EA information out the repository.
o Communicate what EA are up to regularly.

**EA Risk Management**

All EA Risk management related Work products; Activities and Roles involved with managing the Risks and Issues within the EA Practice and the Enterprise Architecture in general are defined here.

The Enterprise Architecture practice should follow a Risk driven approach in order to minimize the likely impacts
of uncertainty and capitalize on opportunities.

Risk Management therefore includes activities such as:
- Evaluate Project Architectural Risk.
- Revise Risk list and Assign Mitigation Actions.

**EA Supplier & Vendor Management**

All EA Supplier & Vendor management related Work products; Activities and Roles involved with managing the Supplier & Vendor issues within the EA Practice and the Enterprise Architecture in general are defined here.

On the Product Vendor side there are management elements of horizon scanning and innovation, new product releases of products already in use in the enterprise, vendor support level agreements, licenses and license management, etc.

On the Supplier side, this would depend upon the level of outsourcing and 3rd party arrangements the enterprise has with any company outside of the enterprise. This could mean Software Development, Production outsourcing, even cloud Software as a service (SaaS) services acquired and using.

**EA Foundation Group**

There are three Disciplines contained within the EA Foundation Discipline Group as denoted by the class diagram below.

![Class Diagram](image)

**Change Control**

All EA Change Control management related Work products, Activities and Roles involved with managing the Change aspects such as Risks and Issues, Candidate Proposals Requests, EA Work or Service Delivery Requests, Architectural Component Change management, etc. in the Enterprise Architecture are defined here.

Change Control Management therefore includes activities such as:
- Control Changes
  - Candidate Proposal Changes
  - Risk and Issues Changes
  - Architectural (Service Delivery) Changes
  - Governance Changes

**Configuration Management**

All EA Configuration management related Work products, Activities and Roles involved with managing the Configuration items within the EA Practice are defined here.

Configuration Management therefore includes activities such as:
- Manage Configurations
  - Documentation releases
  - Web Published Model releases
Process and Tools

All EA Process and Tool related Work products, Activities and Roles involved with managing the Process and Tools within the EA Practice and the Enterprise Architecture in general are defined here.

Process and Tools therefore includes activities such as:

- Create Artifact meta-models.
- Define Activities, Disciplines, Phases.
- Define Meta-Architecture.
- Identify initial tools to use.
- Procure Ea Toolset.
- Implement EA Toolset.
- Evaluate EA Tooling.
- Define EA Standards.
- Define & refine Atomic Artifacts and Work Products.
- Define & refine Roles and Responsibilities.
- Define EA Business Services.
- Tailor EA Process to suit the team.

References