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Another View at Extended Enterprise Architecture Viewpoints



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Summary

This article is trying to explain the important role of Extended Enterprise Architecture Viewpoints in the context of today's social-economic circumstances.

It describes and shows **another view** at Extended Enterprise Architecture Viewpoints and how to deal with the (extended) enterprise stakeholders concerns. Based on the ideas described in IEEE 1471-2000 about views and viewpoints, a transformation of these concepts into the Enterprise architecture domain delivers another view at viewpoints and views.

Looking from the outside world to an Enterprise, several groups of (extended) enterprise stakeholders are influencing the goals, objectives and behavior of the Enterprise. Even so these groups of Enterprise stakeholders have different concerns and therefore different sets of viewpoints when we analyze these extended enterprise stakeholders.

Clustering their concerns in four generic categories is showing the drivers of the Enterprise and delivers the understanding of what motivates your (extended) enterprise stakeholders.



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Viewpoints and Views in Extended Enterprise Architecture

Introduction

What are Extended Enterprise Architecture Viewpoints and Views? Before answering that question let's have a look what Webster's New Collegiate Dictionary is saying about viewpoints and views.

- ✚ VIEWPOINT: POINT OF VIEW, STANDPOINT.
 - POINT OF VIEW: a position from which something is considered or evaluated.
 - STANDPOINT: a position from which objects or principles are viewed and according to which they are compared and judged.

Viewpoint and views are representing specific stakeholder concerns and are describing the enterprise from a specific perspective.

In IEEE 1471-2000 (Architectural Descriptions) [1], viewpoints and views are introduced to describe stakeholder concerns when describing **systems** architectures. This article is adopting the basic concepts from IEEE 1471-2000 and is transforming them to the **Enterprise** Architecture domain. To understand the basic concepts of IEEE 1471-2000 a short summary of these concepts are taking down in this article to show the differences between viewpoints and views in systems architecture and in enterprise architecture.

Based on these definitions, viewpoint and views are meaningful things in describing Extended Enterprise Architectures from specific perspectives. So they are playing an important role in the communication with stakeholders.

From the concept of architecture viewpoints another, relatively new view on enterprise architecture **sets of viewpoints** is given, to reflect extended enterprise stakeholders' responsibilities and involvement in organizations and societies.

Basic Concepts from IEEE 1471-2000

The following concepts are central to the topic of views. These concepts have been adapted from more formal definitions contained in ANSI/IEEE Std 1471-2000; *Recommended Practice for Architectural Description of Software-Intensive Systems*. [1]

- ✚ A **system** is a collection of components organized to accomplish a specific function or set of functions.
- ✚ The **architecture** of a system is the system's fundamental organization, embodied in its components, their relationships to each other and to the environment, and the principles guiding its design and evolution.
- ✚ An **architecture description** is a collection of artifacts that document an architecture.
- ✚ **Stakeholders** are people who have key roles in, or concerns about, the system: for example, as users, developers, or managers. Different stakeholders with different roles in the system will have different concerns. Stakeholders can be individuals, teams, or organizations (or classes thereof).
- ✚ **Concerns** are the key interests that are crucially important to the stakeholders in the system, and determine the acceptability of the system. Concerns may pertain to any aspect



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of the system's functioning, development, or operation, including considerations such as performance, reliability, security, distribution, and evolvability.

- A **view** is a representation of a whole system from the perspective of a related set of concerns.

In capturing or representing the design of a system architecture, the architect will typically create one or more architecture **models**, possibly using different tools. A view will comprise selected parts of one or more models, chosen so as to demonstrate to a particular stakeholder or group of stakeholders that their concerns are being adequately addressed in the design of the system architecture.

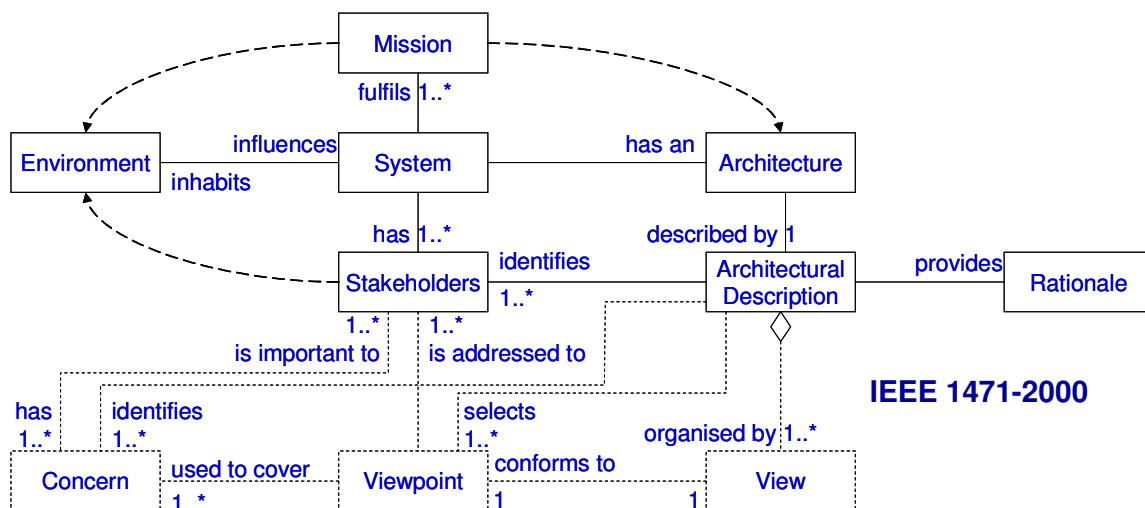
A **viewpoint** defines the perspective from which a view is taken. More specifically, a viewpoint defines: how to construct and use a view (by means of an appropriate schema or template); the information that should appear in the view; the modeling techniques for expressing and analyzing the information; and a rationale for these choices (e.g., by describing the purpose and intended audience of the view).

A **view** is what you see. A **viewpoint** is where you are looking from - the vantage point or perspective that determines what you see.

Viewpoints are generic, and can be stored in libraries for reuse. A view is always specific to the architecture for which it is created.

Every view has an associated viewpoint that describes it, at least implicitly.

ANSI/IEEE Std 1471-2000 encourages architects to define viewpoints explicitly. Making this distinction between the content and schema of a view may seem at first to be an unnecessary overhead, but it provides a mechanism for reusing viewpoints across different architectures.



In summary, then, architecture views are representations of the overall architecture in terms meaningful to stakeholders. They enable the architecture to be communicated to and understood by the stakeholders, so they can verify that the system will address their concerns.



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Extended Enterprise Architecture Viewpoints and Views

Translating the IEEE 1471-2000 definitions to the Extended Enterprise Architecture domain is resulting in a redefinition of these concepts and terms. Below you will find a set of concepts and terms [2] related to enterprise architecture.

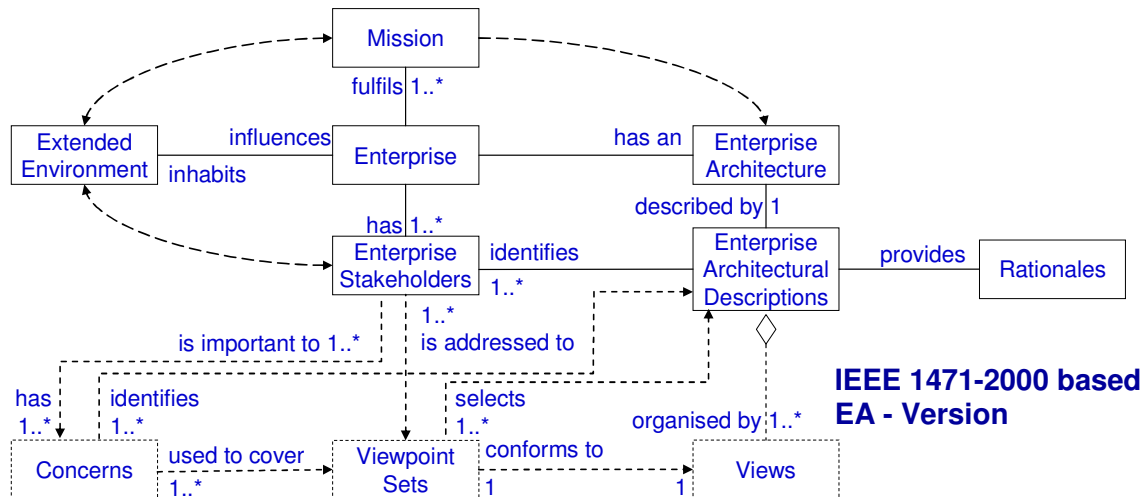
- ✚ **Extended** in this context are all the elements, relations and influences that are touching the boundaries of the enterprise.
- ✚ **Enterprise Architecture** is about understanding all of the different **elements** that go to make up the **enterprise** and how those elements inter-relate.
- ✚ An **Enterprise** in this context is any collection of organizations that has a common set of goals/principles and/or single bottom line. In that sense, an enterprise can be a whole corporation, a division of a corporation, a government organization, a single department, or a network of geographically distant organizations linked together by common objectives.
- ✚ **Elements** in this context are all the elements that enclose the areas of People, Processes, Business and Technology. In that sense, examples of elements are: strategies, business drivers, principles, stakeholders, units, locations, budgets, domains, functions, processes, services, information, communications, applications, systems, infrastructure, etc.
- ✚ An **enterprise architecture description** is a collection of representations that document an enterprise architecture in such a way that it can be communicated to enterprise stakeholders.
- ✚ **Enterprise Stakeholders** are groups of people who have key roles in, or concerns about, the enterprise: for example, shareholders, customers, partners or managers. Different enterprise stakeholders with different roles in the enterprise can have different concerns. Enterprise Stakeholders can be representative people, teams, or organizations.
- ✚ **Concerns** are the key interests that are crucially important to the stakeholders in the enterprise, and determine the status and behavior of the enterprise. Concerns may pertain to any generic or common aspect of the enterprise's functioning, organization, or operation, including considerations such corporate governance, security, privacy, risks, culture, laws & legislations, costs and benefits.
- ✚ **Extended Enterprise Architecture Viewpoints** defines the perspectives from which views are taken. From an extended enterprise perspective these viewpoints are addressing generic and common concerns covering the whole enterprise.

Here is an important differentiator between the IEEE 1471-2000 definition that is addressing viewpoints from a stakeholder's perspective, where in extended enterprise architecture the viewpoints are representing generic, common business and technology concerns derived from enterprise stakeholders groups or dictated by the extended environment (e.g. law & regulations).

- ✚ **Extended Enterprise Architecture Views** are representations of the overall enterprise architecture that are meaningful to **all** stakeholders in and outside the organization. The enterprise architect chooses and develops a set of views that will enable the enterprise architecture to be communicated to, and understood by, **all the stakeholders**, and enable them to verify that the Enterprise Architecture will address the generic concerns.



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Extended enterprise architecture is usually represented by means of a set of enterprise architecture representations that together provide a coherent description of the extended enterprise. A single, comprehensive representation is often too complex to be understood and communicated in its most detailed form, showing all the relationships between the various business and technology elements. As with zoning planning, it is normally necessary to develop multiple **views** of the architecture of an enterprise, to enable the enterprise architecture to be communicated to, and understood by **all** stakeholders of the enterprise.

Extended Enterprise Architecture Viewpoint Sets

Extended Enterprise Architecture Viewpoint Sets are themes of viewpoints that can be determined based on different ways to look at the enterprise and its environment. From literature [3] and best practices the following Extended Enterprise Architecture Viewpoint sets are generic and common for all extended enterprise architecture programs and activities and represents stakeholders' responsibilities.

Stakeholders responsibilities and their sets of viewpoints

Despite the variety of stakeholder groups and their demands in Enterprises, stakeholders' responsibilities can be classified into four broad sets of extended enterprise architecture viewpoints: **Economic, Legal, Ethical, and Discretionary** responsibilities. Strategic governance can therefore be defined as the extent to which organizations meet the responsibilities imposed by their various enterprise stakeholders.

Economic set of viewpoints

As social economic elements, organizations are expected to generate and sustain profitability, offer goods and services that are both desired and desirable in society and of a good quality, and reward employees and other elements that help create success. To satisfy these expectations, organizations develop strategies to keep abreast of changing customer / citizen needs, to compensate employees and investors fairly, and to continually improve and innovates the effectiveness and efficiency of organizational processes. A long-term perspective is essential when establishing these strategies: A responsible organization must continue to earn profits from its ongoing activities in order to benefit its stakeholders. Examples of economic viewpoints are: Benefits, Costs, Quality, Innovation, etc.



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Legal set of viewpoints

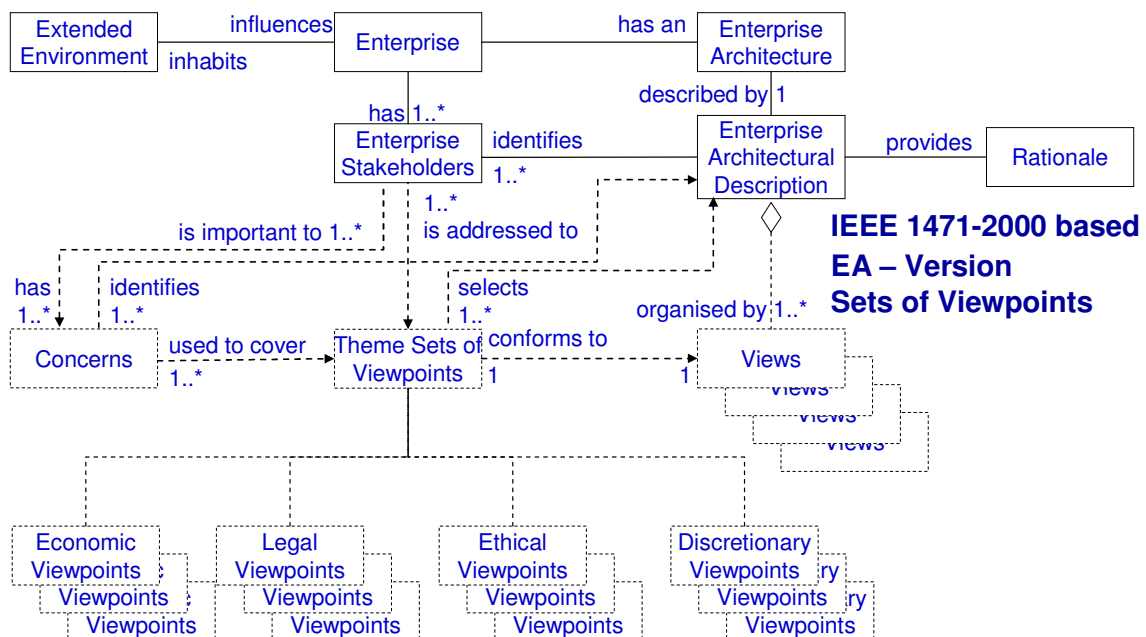
Regardless of their economic achievements, organizations must abide by established laws and regulations in order to be good citizens. Even so the privacy legislations have to be respected. The identification of legal issues and implementation of compliancy requirements are the best approach to preventing violations and costly litigation. Accounting and control mechanism have to be in place according to the rules and legislations. Examples of legal viewpoints are: Law & Regulations, Privacy, Accounting & Assessment, etc.

Ethical set of viewpoints

The establishment of strict ethical standards in the workplace may also be an excellent way to prevent legal violations by creating a focus on integrity in management style. In addition, an organization guided by strong ethical values may also be better able to satisfy ethical responsibilities, the third type of responsibility imposed by enterprise stakeholders. Incorporating ethical standards and handling in the corporate culture will create respectful organizations where the corporate governance structure is reflecting these ethics and where people are involved in identifying legal violations, corporate risks and security vulnerabilities. Examples of Ethical viewpoints are: Culture, Strategy, risks, etc.

Discretionary set of viewpoints

In addition to meeting economic, legal, and ethical responsibilities, organizations are also expected to display a genuine concern for the general welfare of all constituencies. Companies must balance the costs of these discretionary activities against the costs of manufacturing and marketing their products or services in a responsible manner. Example of Discretionary viewpoints is: stakeholder groups individual perspectives or specific enterprise stakeholder themes, etc.





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Stakeholder Analysis and Viewpoint sets

An enterprise stakeholder analysis [4] is a technique you can use to identify and assess the importance of key people, groups of people, or institutions that may significantly influence the success of your activities or your organization.

Identify your Enterprise Stakeholders

The first step in the enterprise stakeholder analysis is to brainstorm who the enterprise stakeholders are. As part of this, think of all the groups of people who are affected by the organization, who have influence or power over it, or have an interest in its successful or unsuccessful conclusions. The table below shows some of the groups of people who might be stakeholders of your Enterprise:

Management	Shareholders	Government
Senior executives	Alliance partners	Trades associations
Co-workers	Suppliers	The press
Employee groups	Lenders	Interest groups
Customers	Analysts	The public
Prospective customers	Future recruits	The community

Remember that although enterprise stakeholders may be both organizations and groups of representing people, ultimately you must communicate with individuals. Make sure that you identify the correct individual enterprise stakeholders within a stakeholder organization.

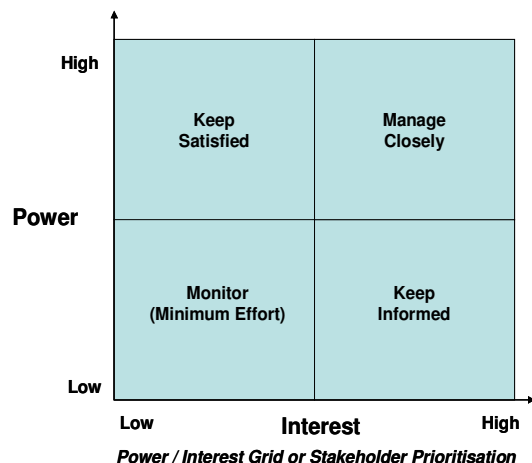
Prioritize Your Enterprise Stakeholders

You may now have a long list of groups of people and organizations that are influencing the enterprise. Some of these may have the power either to block or advance. Some may be interested in what you are doing, others may not care.

Map out your stakeholder groups using the Power / Interest Grid shown in the next figure and classify them by their power over the enterprise and by their interest in the enterprise.

For example, management is likely to have high power and influence over the enterprise and high interest. Analysts may have high interest, but are unlikely to have power over it.

Someone's position on the grid shows you the actions you have to take with them:



- ✚ **High power, interested groups of people:** these are the groups of people you must fully engage and make the greatest efforts to satisfy. Their viewpoints must be considered with a high importance.
- ✚ **High power, less interested groups of people:** put enough work in with these groups of people to keep them satisfied, but not so much that they become bored with your message. Their viewpoints play a role but don't focus too much at them.



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- ✦ **Low power, interested groups of people:** keep these groups of people adequately informed, and talk to them to ensure that no major issues are arising. Their viewpoints can play an important role but balance them against the high power interested groups of people.
- ✦ **Low power, less interested groups of people:** again, monitor these groups of people, but do not bore them with excessive communication.

Understanding your key Enterprise Stakeholders

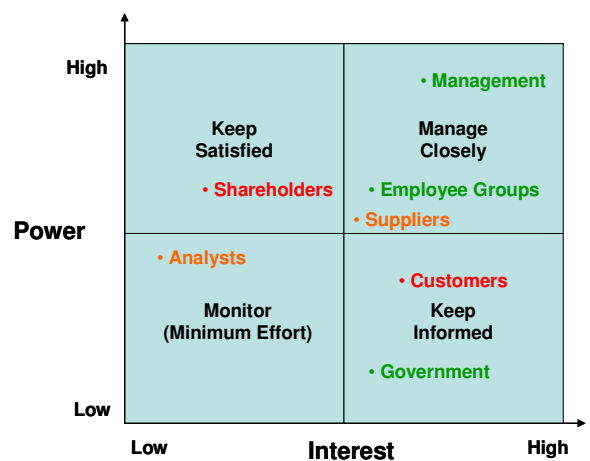
Now the enterprise architects need to know more about the key enterprise stakeholder groups. You need to know how they are likely to feel about and react to the enterprise architecture activities and results. You also need to know how best to engage them in your (extended) enterprise architecture program and how best to communicate with them.

Key questions that can help the enterprise architecture group to understand enterprise stakeholders are:

- ✦ What financial or emotional interest do they have in the outcome of the enterprise architecture program? Is it positive or negative?
- ✦ What motivates them most of all?
- ✦ What information do they want from you?
- ✦ How do they want to receive information from you? What is the best way of communicating your message to them?
- ✦ What is their current opinion about the enterprise architecture activities? Is it based on good information?
- ✦ Who influences their opinions generally, and who influences their opinion of the enterprise architecture group? Do some of these influencers therefore become important stakeholders in their own right?
- ✦ If they are not likely to be positive, what will win them around to support the enterprise architecture activities?
- ✦ If you don't think you will be able to win them around, how will you manage their opposition?
- ✦ Who else might be influenced by their opinions? Do these groups of people become stakeholders in their own right?

A very good way of answering these questions is to talk to your enterprise stakeholder group's representatives directly - people are often quite open about their views, and asking people's opinions is often the first step in building a successful relationship with them.

You can summarize the understanding you have gained on the enterprise stakeholder map, so that you can easily see which enterprise stakeholders are expected to be blockers or critics, and which enterprise



Example: Power / Interest Grid with Stakeholders Marked



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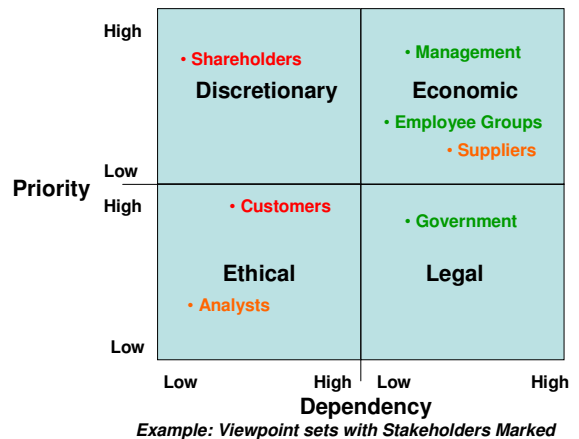
stakeholders are likely to be advocates and supporters of the enterprise architecture program. A good way of doing this is by color coding: showing advocates and supporters in green, blockers and critics in red, and others who are neutral in orange.

Weighting Extended Enterprise Stakeholders Viewpoints

After identifying the power and interests of extended enterprise stakeholders, their corresponding sets of viewpoints has to be weighted against two dimensions.

- ✚ **Priority** in terms of contributing to the goals and objectives of the enterprise.
- ✚ **Dependency** in terms of how difficult is it to fulfill the needs of this group of enterprise stakeholders.

Enterprise Stakeholder Management (ESM) is the process by which you identify your key enterprise stakeholders and win their support. Enterprise stakeholder analysis is the first stage of this, where you identify and start to understand your most important extended enterprise stakeholders and their set of viewpoints. The next step is to prioritize them by power and interest, and to plot this on a Power / Interest grid. The final stage is to get an understanding of what motivates your stakeholders, what is their set of viewpoints and how you need to win them around.



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