Role Definition and Organization Structure: Chief Enterprise Architect

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The chief enterprise architect leads the program to develop, maintain, govern and evolve the enterprise architecture. Several key relationships and organizational imperatives are critical to the success of this role.
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1.0 Introduction

The chief enterprise architect role ensures that business strategy and any relevant trends are expressed in the processes and systems of an enterprise. The primary activities within the span of control of this role are expressed in the enterprise architecture activity cycle (see "Activity Cycle Overview: Enterprise Architect"). While the chief enterprise architect probably won't be responsible for performing every activity in this cycle, he or she is responsible for ensuring that the activities are performed properly and appropriately for the organization.

The main activities include:

- **Strategize:** The chief enterprise architect should, at a minimum, ensure the strategy is understood and acted on, but ideally contributes to the strategy itself.

- **Architect:** This process involves articulating the desired future state, understanding the current state, identifying the gaps between the two states and developing approaches to close these gaps.

- **Lead:** Chief enterprise architects must lead the charge of change, primarily by evangelizing the change to elicit support, evolving the process of enterprise architecture so that its value is seen to be higher than its overhead and evolving the core enterprise architecture team to include required skills.

- **Govern:** Chief enterprise architects ensure that their outputs are used to bring about positive change through effective governance. This includes ensuring that the right structures, composed of the right people, are engaged to make and support enterprise architecture decisions, as well as ensuring that these decisions are carried out.

- **Communicate:** Chief enterprise architects are responsible for ensuring that all aspects of enterprise architecture are communicated effectively. This can be for informational/directional purposes, to increase support for enterprise architecture and to minimize change "pain."

2.0 Chief Enterprise Architect Defined

The chief enterprise architect (also known as the "chief architect" or simply the "enterprise architect") is responsible for leading the program to develop, maintain, govern and evolve the enterprise architecture across the enterprise. The chief enterprise architect is also responsible for defining the enterprise architecture process and the architecture review process, as well as for leading the effective integration of these processes with other, related business and IT processes.

2.1 Responsibilities

The responsibilities for this role vary by organization, but generally include the following:

- Leading the creation or evolution of the enterprise architecture function/program, including the coordination of an appropriately balanced pursuit of enterprise business, information, technical and solution architectures

- Understanding, advocating and supporting the enterprise's information technology (IT) strategies
• Leading the identification and analysis of enterprise business drivers to derive enterprise business, information, technical and solution architecture requirements

• Analyzing the current IT environment to detect critical deficiencies and recommend solutions for improvement

• Analyzing technology industry and market trends as well as determining their potential impact on the enterprise

• Promoting the enterprise architecture process, outcomes and results to the organization, including the enterprise's IT and business leaders

• Leading and facilitating the creation of governing principles to guide information, technology and solution decision making for the enterprise

• Leading the development of an implementation plan for the enterprise architecture based on business requirements and IT strategies

• Ensuring that the optimal governance structure and compliance activities (such as handling waivers) are associated with enterprise architecture compliance

• Overseeing enterprise architecture implementation and ongoing refinement activities

• Overseeing the evaluation and selection of hardware and software product standards, as well as the design of standard configurations

• Consulting with application development project teams to fit systems to architecture, as well as to identify when it is necessary to modify the technical architecture to accommodate project needs

• Consulting with infrastructure development projects to fit infrastructure to architecture, as well as to identify when it is necessary to modify the technical architecture to accommodate infrastructure needs

• Identifying organizational requirements for the resources, structures and cultural changes necessary to support the enterprise architecture

• Overseeing the documentation of all architecture design and analysis work

• Leading the development and execution of a communication and education plan for the enterprise architecture

• Assessing (through appropriate metrics) and communicating the achievement and impact of the enterprise architecture

2.2 Skills and Knowledge

Chief enterprise architects must possess a variety of capabilities and qualities. While it is impossible to list all of them here, the following skills and knowledge should serve as a baseline:

• Familiarity with basic information management practices

• Exposure to multiple, diverse technical configurations, technologies and processing environments

• Exceptional interpersonal skills, including teamwork, facilitation and negotiation
• Strong leadership skills
• Excellent analytical and technical skills
• Excellent written and verbal communication skills
• Excellent planning and organizational skills
• Knowledge of all components of holistic enterprise architecture
• Knowledge of business re-engineering principles and processes
• Basic knowledge of financial models and budgeting
• Knowledge of network architecture, client/server processing, and object-oriented analysis and design
• Familiarity with basic graphical modeling approaches, tools and model repositories
• An understanding of the political climate of the enterprise and how to navigate the politics
• The ability to balance the long-term ("big picture") and short-term implications of individual decisions
• The ability to translate business needs into enterprise architecture requirements
• The ability to estimate the financial impact of enterprise architecture alternatives
• The ability to apply multiple solutions to business problems
• The ability to comprehend rapidly the functions and capabilities of new technologies

2.3 Experience

A chief enterprise architect's educational background typically includes a degree in computer science, computer engineering, electrical engineering, system analysis or a related field of study.

His or her professional experience should include at least five years of experience in at least two IT disciplines (such as technical architecture, network management, application development, middleware, information analysis, database management or operations) in a multitier environment — or five years of experience in business analysis or business strategic planning. In this professional experience, this individual should have a demonstrated reputation for being:

• Respected as a leader
• Influential in the organization and a team player
• Highly supportive of the business and of its ideals and strategies
• Neutral toward technology, vendor and product choices; more interested in results than in personal preferences
• Unflappable in the face of opposition to architectural ideals
• Effective at driving short-term actions that are consistent with long-term goals
3.0 Related Relationships

While organization design is as much art as science, there are several critical success factors pertaining to the key related relationships for the chief enterprise architect role:

- A chief enterprise architect must generally have staff to accomplish even modest goals. Both anecdotal and survey data show that, on average, an enterprise architecture team has seven architects, but this number can vary widely from one organization to the next. As with most efforts, initial discovery is required for scoping. Once an enterprise architecture effort is scoped, the effort can be converted into required full-time equivalents with accuracy.

- Successful enterprise architects are influential and understand the power of the informal network of an organization. The greater the number of positive relationships maintained by the chief enterprise architect, the higher the likelihood of his or her success.

- Relationships maintained by the chief enterprise architect should support the major strategies, themes and objectives of the organization. If Six Sigma quality is a major theme of the enterprise, the chief enterprise architect should develop and maintain a relationship with the Six Sigma team. Likewise, if regulatory compliance (for example, Sarbanes-Oxley compliance) is a major theme, the chief enterprise architect should foster a positive relationship with those who are formally or informally responsible for regulatory compliance.

3.1 Reporting Relationships

The role of the chief enterprise architect is related to the IT strategic planning function within an enterprise. As IT has become ubiquitous, there are many possible permutations of reporting relationships. However, some relationships are fairly predictable. Ideally, the chief enterprise architect reports to a C-level executive, usually the CIO. In very large, complex organizations, this role can report to an executive in charge of IT strategy, architecture and planning. For more on these reporting relationships, see Section 4.0.

In some cases, roles and titles may vary. For example, in some organizations, the role of the chief enterprise architect is subsumed by a chief technology officer. This is an acceptable practice, provided there is adequate time and focus on enterprise architecture to meet the needs of the enterprise. A common risk of this practice, however, is that enterprise architecture is not given adequate attention and is viewed as a "spare time" activity.

Roles that report directly to the chief enterprise architect may include:

- Enterprise architect
- Enterprise business architect
- Enterprise information architect
- Enterprise technical architect
- Enterprise solution architect
- Application systems architect
- Enterprise services architect
- Change management specialist
For descriptions of these roles, see Section 6.0 in "Role Overview: Chief Enterprise Architect."

### 3.2 Common Peer/Related Roles

Enterprise architecture, as a discipline, produces content that must be put to use or it provides little value. It is imperative that certain peer relationships exist, or enterprise architecture will fail. The most common peer/related roles are:

- **Head of the Enterprise Program Management Office (PMO):** Generally, the chief enterprise architect and the head of the enterprise PMO maintain an open channel of communication. Enterprise architecture provides standards, models, principles and guidelines that the PMO ensures are incorporated into the project life cycle. In addition, the PMO is used as a governance mechanism for enterprise architecture and provides feedback on the architecture's effectiveness.

- **Director of Application Development (AD):** Ideally, the director of AD, or a legitimate delegate, assists in the creation of the enterprise architecture. Components of the enterprise architecture are incorporated into the system development life cycle. Application developers make the enterprise architecture real through their normal efforts. The head of AD (or delegate) serves on governing bodies to approve architectural decisions and contend with waiver requests or other issues that emerge, creating more-effective governance. If the head of AD participated in the creation and approval of the enterprise architecture, his or her direct reports will take adherence to that architecture more seriously.

- **Director of Infrastructure Design:** Similar in spirit to the director of AD, the director of infrastructure design (or a designated delegate) assists in the creation of the enterprise architecture. Components of the enterprise architecture are incorporated into the infrastructure design and delivery process. Infrastructure designers make the enterprise architecture real through their normal efforts. The head of infrastructure design (or delegate) serves on governing bodies to approve architectural decisions and contend with waiver requests or other issues, creating more-effective governance. Again, if the head of infrastructure design helped create and approve the enterprise architecture, his or her direct reports will view adherence to the enterprise architecture more seriously.

- **Architecture Team:** The core architecture team exists to create the enterprise architecture. Leading-practice architecture teams are composed of both formal and virtual team members who have important subject-matter expertise, influence or authority. Common virtual team members include application developers and solution architects, infrastructure designers, senior IT operations staff, security architects, and network architects.

- **Architecture Review Board:** This board approves and governs the use of enterprise architecture content. It is generally composed of senior IT and business leaders who can add legitimacy to the enterprise architecture, because they have authority over those who are expected to use the architecture.

- **Executive or IT Steering Committee:** Most leading-edge organizations in enterprise architecture have a committee like this one, whose primary purpose is to provide business-driven guidance to IT. This committee generally serves enterprise architecture by validating the highest-level artifacts — those created within the "strategize" activity. This committee also serves as an "appellate court" in the unlikely event that someone wishes to appeal a denied enterprise architecture waiver request.
• **Head of IT Procurement:** Whether the enterprise has a central IT procurement shared service, or IT is sourced or distributed at the business unit level, the chief enterprise architect usually maintains a formal relationship with IT procurement to ensure that architecture standards are adhered to. Often, architecture standards are enforced through the IT procurement function.

3.3 **Potential Peer/Related Roles**

Less-common, or emerging, peer/related roles include:

- **Business Process Improvement Team Leaders:** Often, the efforts, techniques, tools and outputs of these groups are similar to those of enterprise architecture initiatives. Solidifying a relationship with these roles often creates synergy, while failure to do so can lead to suboptimal results on both sides.

- **Chief Compliance Officer:** Leading enterprise architecture practitioners recognize the growing importance of compliance, and architect for it. Much of the compliance effort focuses on ensuring processes, information and supporting systems are stewarded appropriately, which is also a goal of enterprise architecture.

- **Director of Strategic Sourcing/Multisourcing:** Enterprise architecture is deemed strategic and should never be outsourced. However, most organizations do source services externally. A commonly cited benefit of sourcing externally is access to leading technologies and expertise. For this benefit to occur, however, the technologies and techniques of the sourcing provider must be adopted. This can be beneficial or detrimental. A positive and proactive relationship between the chief enterprise architect and those responsible for sourcing decisions increases the likelihood of deriving maximum benefit from external sourcing. Also, the enterprise architecture helps to identify dependencies between that which is externally sourced and that which is internally sourced, allowing for a favorable interface between the two.

- **Head of IT Human Capital Management (HCM):** Good enterprise architectures identify not only the desired future state of the enterprise, but also the skills required to create and support this desired future state. Devoid of a relationship between the chief enterprise architect and the IT HCM function, this identification of future skill requirements is largely academic. Also, a world-class IT HCM function will proactively identify skill shortages that may factor into the future-state design. (For example, if all staff with experience in Lisp will retire within five years, this technology should be a candidate for retirement.)

4.0 **Typical Organizational Structures**

Typically, the chief enterprise architect is a senior position that reports directly to the CIO or to a director responsible for IT strategy, architecture and planning. A chief enterprise architect who is positioned at a lower organizational level is typically ineffective and cannot expect to expand his or her scope beyond IT infrastructure.

Exemplary chief enterprise architects are intimately involved in external relationships, maintaining contact and fostering communication with partners and peers. An ideal reporting structure empowers the chief enterprise architect to understand, if not contribute to, the business strategy in near real time. Successful chief enterprise architects also maintain key relationships with external parties who can affect strategy realization, including key technology providers, customers, trading partners and standards organizations.
Effective chief enterprise architects are empowered to interact with and participate in external organizations as active members. In an era when standards are becoming critical to enable e-commerce, leading chief enterprise architects often participate on standards bodies to help shape the standards and gain a first-mover advantage. In addition, chief enterprise architects or their delegates are often encouraged to take leadership roles in industry and technology organizations.

4.1 A Typical Traditional Organizational Structure

While the chief enterprise architect is a fairly senior role, often reporting to a CIO or IT strategy director (see Figure 1), there are options regarding the distribution of the enterprise architecture staff.

Figure 1. Typical Enterprise Architecture Reporting Structure

Traditionally, this staff reports to the chief enterprise architect, creating standards, principles, models and road maps, and recommending projects to be sponsored, funded and managed by others. A common mistake, however, has been for this staff to maintain control of recommended projects, seeing them through to completion. A good general rule is: "Enterprise architects don't do implementation." Failure to adhere to this rule usually results in a failure to evolve the enterprise architecture, because the enterprise architecture resources are too focused on implementation. On the other extreme, however, enterprise architects who remain too far removed from implementation can be viewed as being out of touch with reality.

As such, a hybrid model has emerged, which includes the project architect role (see Figure 2). Similar to both an enterprise architect and an application architect, the project architect is a resource from the enterprise architecture team who would be "on loan" to mission-critical or enterprise projects — providing value to these projects and leveraging them to create enterprise architecture content, and even to realize the desired future state.
In this scenario, roles and responsibilities must be documented and agreed to. Several adopters of this model have prescribed times when project architects meet with the core enterprise architecture team to communicate and share ideas. Proactively selecting specific dates or a day of the week enables the project managers to plan effectively.

This model provides many benefits, including:

- It provides a close working knowledge of "in the trenches" activities.
- It helps develop a synergistic, "quid pro quo" relationship between mission-critical enterprise projects and the enterprise architecture team.
- It helps to foster communication among mission-critical enterprise projects that might not otherwise have occurred.

The pitfalls of this model may include:

- A perception may arise that mission-critical enterprise projects are being slowed by enterprise architecture activities.
- The core enterprise architecture team may bear an additional cost burden.
- Enterprise architecture content developed on projects may favor project requirements that differ from enterprise requirements.

4.2 The New Enterprise Architecture Team

Gartner recently proposed a new, alternative team structure for the enterprise architecture organization (see "The New Enterprise Architecture Team"). In this new approach (see Figure 3), the direct reports to the chief enterprise architect are no longer specialists in the business, information, technical or solution (BITS) areas. Instead, each of these direct reports is a multidisciplined architect who can take strategic requirements to resolution.
This newer approach reflects Gartner's belief that the structure of enterprise architecture teams must adapt to the changing role that enterprise architects play in the organization. This role is evolving away from the traditional, narrower focus on specific IT domains toward that of the visionary, with the ability to look beyond the borders of IT and view the organization as part of an extended value chain.

Enterprise architecture teams work with multiple organizational resources, which are usually supplied in virtual-team structures to ensure that talent is drawn from different sources on an as-needed basis, while retaining the focus of core enterprise architecture team oversight. Traditional hierarchical structures are established for the chief enterprise architect, and the core enterprise architecture team generally consists of at least a business architect, information architect, technology architect and application architect.

To ensure a successful enterprise architecture program, the chief enterprise architect must drive the team's attention beyond the borders of IT, to view the organizations as part of an extended value chain that is affected by the industry and environment. To accomplish this, enterprise architects should become trusted advisors to multiple constituencies in the organization. In the new enterprise architecture team structure, the enterprise architect skills support sales, consulting and marketing. This structure will help expand the enterprise architect's understanding beyond the traditional boundaries of BITS architectures.

Larger organizations, with greater enterprise architecture requirements, have the resources to develop multiple teams of BITS architects under a series of enterprise architects (see Figure 4). This organizational model provides a good opportunity for succession planning and promotional opportunities for architects.
5.0 Characteristics of World-Class Organizations

World-class enterprise architecture organizations:

- Are sized appropriately for their enterprises. They are neither bloated nor slighted.
- Are located at a high enough level in the organization to contribute proactively to the strategy of the enterprise through their combined knowledge of their company, industry, trends within the industry and technology trends.
- Identify short-, medium- and long-term goals, and structure their organizations to achieve these goals.
- Are largely distinguished by the leadership abilities of the chief enterprise architect — and the caliber of the enterprise architecture staff — focusing on the long-term strategic vision while continuously delivering incremental value to maintain support and momentum.
- Adjust their staffs to address the natural evolutionary path of enterprise architecture in the organization. This path is a typically predictable one that starts with a focus on technical architecture, evolves to information and application architecture, and finally progresses to business architecture.

RECOMMENDED READING

"Role Overview: Chief Enterprise Architect."

"Activity Cycle Overview: Enterprise Architect"
"The New Enterprise Architecture Team"

"Profiling the Enterprise Architect"

**Acronym Key and Glossary Terms**

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<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
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<tbody>
<tr>
<td>AD</td>
<td>application development</td>
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<td>BITS</td>
<td>business, information, technical and solution</td>
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<tr>
<td>HCM</td>
<td>human capital management</td>
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