

Coherency Management: Using Enterprise Architecture for Alignment, Agility, and Assurance

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ABSTRACT

This paper represents a significant point of evolution in thought and practice about the design and management of complex enterprises that often exist in highly dynamic, sometimes chaotic operating environments. The paper asserts that Coherency Management is the primary outcome goal of Enterprise Architecture (EA); that the architecture of enterprises should be formalized and promote coherency; and the best way to do this is to adopt EA as the ongoing, overarching method for abstracting, analyzing, designing, and re-engineering new and existing enterprises - regardless of the market, industry, or government sector that the enterprise belongs to. EA is about more than technology as it now has strategic and business dimensions - all of which must align to create agility and assurance in promoting transformation and delivering value. The paper discusses three modes of EA, namely Foundation Architecture, Extended Architecture and Embedded Architecture, that represent progression in thought and practice, with emphasis that the modes are independent but not necessarily mutually exclusive. The paper also discusses how collectively these influence enterprise coherency. The paper concludes by elaborating the ways and approaches to assess organizational coherence.

KEYWORDS

alignment, agility, assurance, change management, coherence, enterprise architecture, governance, organization design, risk management, strategy, transformation

INTRODUCTION

This paper represents a significant point of evolution in thought and practice about the design and management of complex enterprises that often exist in highly dynamic, sometimes chaotic operating environments. The concept of Coherency Management is about using Enterprise Architecture (EA) to advance alignment, agility, and assurance in large, complex organizations. The essence of this concept is that the architecture of enterprises should be formalized and promote coherency, and the best way to do this is to adopt EA as the ongoing, overarching method for abstracting, analyzing, designing, and re-engineering new and existing enterprises - regardless of the market, industry, or government sector the enterprise belongs to.

We see Coherency Management as the most influential and important outcome of EA. This approach to EA is about more than technology as it now has strategic and business dimensions, all of which must align to create agility and assurance in promoting transformation and delivering value. EA is still a young and still evolving management discipline that now includes all dimensions of an enterprise and therefore is uniquely able to serve as the "meta" approach for designing and/or re-designing enterprises to successfully compete in highly dynamic public and private sector environments. The term "enterprise" can address many areas of systematic and purposeful human activity, but in this context the word most often refers to an enterprise, parts of an enterprise, or a group of enterprises.

The term "architecture", when used in the context of abstracting the enterprise to identify scope, function and relationships includes the frameworks, methods and artifacts that describe the design and function of enterprises in current and future states, and is often implemented at the enterprise, business unit, service, and system levels in a consistent manner, which allows for decomposition and aggregation. EA has the potential to align strategy, business, and technology elements across the entire enterprise, and can provide the context and standards for implementing a number of industry and government best practices including strategic planning, capital planning, service-oriented architecture, information technology infrastructure libraries, knowledge management, program management, security controls, internal controls, quality management and human capital management (Bernard, 2005; Saha, 2007).

We use coherence as a term that speaks to a logical, orderly, and consistent relation of parts to the whole. The paper uses this term as a central theme, which is appropriate and necessary in presenting ideas about how to design and operate complex enterprises that must continually adapt to changes in mission and market conditions.

Coherency management has three fundamental outcomes:

- Alignment - a term that addresses the need for similarity in EA methods at all levels/areas of the architecture, and an important concept for complex enterprises that are composed of a number of lines of business and business functions that have competing priorities and limited resources.
- Agility - a term that addresses an enterprise's ability to manage change, and a concept that is an essential element for the survival of enterprises that have to operate in dynamic environments where change is constant and windows for important opportunities now open and close in hours, days, and weeks; and customer expectations are driven by increasing choices in providers and access to best-of-breed service delivery; as well as new technologies that improve many facets of every day life.

- Assurance - a term that addresses control, and a concept that speaks to confidence and fidelity in the sources and use of enterprise products and services, as well as the resources that create them.

While alignment, agility, and assurance are the outcomes of managing coherence, the means for achieving this is the use of EA as a methodology. Figure 1 below shows these relationships.

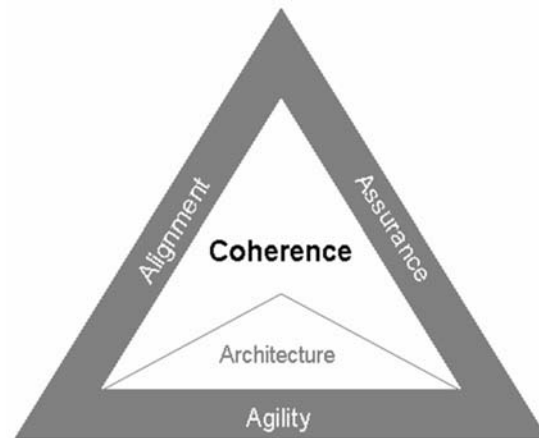


Figure 1. Coherency Management

UNDERSTANDING ENTERPRISE ARCHITECTURE

In the final section of their book *Enterprise Architecture as Strategy*, authors Ross, Weill and Robertson state that "Enterprise Architecture (EA) in many companies refers to a detailed blueprint of systems, data and technology (Ross et al., 2006). It is now clear that EA is instead a business vision. EA begins at the top – with a statement of how an enterprise operates – and results in a foundation of IT and business process capabilities on which it builds its competitiveness." EA continues to evolve and mature as an area of theory and practice. It continues to influence a number of management and technology areas and disciplines, directly and indirectly.

Metaphorically, an EA is to an organization's operations and systems as a set of blueprints is to a building. As IT departments build systems, they create legacies based on business assumptions that might no longer hold true. By following an architecture-based approach to

systems development, organizations strive to address several IT issues. Though EA is often assumed to follow business strategy, to align IT with business's strategic objectives, increasingly evidence of business strategies depending on IT capabilities are also surfacing. Defining, describing and deploying EA is a large and complex undertaking that allows enterprises to: (1) understand business operations and uncover deeply embedded business rules, (2) elevate the role of information within the organization and treat it as a core asset, (3) understand gaps between information needs of the business and information provided by IT systems, (4) create synergies between available and stable technologies and emerging technologies, and (5) leverage technologies to discover and take advantage of new business opportunities. These in turn allow organizations to be more agile when need arises.

Enterprise Architecture provides significant business benefits to many types of enterprises, many of which demonstrate a high degree of capability and discipline in areas such as strategic planning, policy design and execution, technology planning and standardization, knowledge and data management, enterprise integration, program management, service management, portfolio management, and system development life cycle management. Many of these best practices also embody and contain a number of critical success factors for the enterprise (Gøtze & Östberg, 2007). Despite incorporating best practices, many enterprises still allow key business units to define their own priorities, workflow, standards, and budgets, which often lead to 'silo' or 'stovepipe' programs, services, and systems within and between the business units. It is clearly evident that this approach leads to sub-optimization in the enterprise as the full benefit of common standards and collaboration opportunities are not realized across the enterprise. Advancing the current EA body of knowledge and state of practice is imperative because:

- Many current EA programs are primarily driven by the IT / IS department.
- EA is often reduces to IT centric architecture and hence relegated as 'yet another technology initiative'.
- Organizational levers lead to higher degree of management attention and as a

consequence greater sustainability of the EA program, and

- Active participation by individual functions and departments and contribution to overall enterprise-wide architecture is critical to the success of the EA program.

EA is not just about creating good documentation artifacts. Good artifacts serve no purpose if not utilized. That is in fact the bane of EA currently. EA is about good governance and a disciplined approach. As far as artifacts are concerned, our take is leverage on what you already do or produce. What enterprises need to ensure is that the artifacts serve the objectives (with minimal adaptation). Hence any structure/format/rules in creating artifacts should be used as soft guidelines, not prescriptions. What EA provides is a unifying and alignment mechanism focused towards a common vision for the enterprise.

We see that today EA is highly isolated, detached, and disconnected from the rest of the enterprise (with the exception of IT department). The primary reason for the disconnectedness is that most (if not all) EA programs are still driven by the CIO / IT Department (Gøtze & Christiansen, 2007). In such situations the credibility of the IT department (and its perceived role in the enterprise) is a critical factor in characterizing the EA program. As a result current EA tends to eventually reduce itself to Enterprise IT Architecture, at times with a strong business focus. We envisage EA being much more than that, and that is what this paper is all about.

A plethora of practices and programs often leads to confusion, resentment and cynicism to anything new, EA included. Typical response in such scenarios includes furious efforts to measure and demonstrate the value of EA programs. It is also typical for EA programs not to be tightly coupled to other relevant management practices. The positioning of and linkages to and from EA vis-à-vis other relevant upstream and downstream management practices need to be accomplished following careful analyses of current and future practices.

The EA process is not restricted to "transformation". If EA is done only when something else tells that the enterprise needs to change then EA will never tell when the

enterprise needs to change. EA is inherently designed as a strategic management tool that allows organizations to realize the Integrated Enterprise Life Cycle. The approach taken is to weave in EA and position it within existing management practices and leverage upon them instead of designing the EA program as a separate line of activity. This approach allows enterprises to maintain linkages between their respective functional strategies and plans. However as an enhancement, the EA layer between corporate strategy and implementation facilitates common standards, requirements, principles and effective governance and control (not limited to IT alone). EA is intended to allow enterprises to move towards shallower 'silos' and seek greater collaboration opportunities. Internally within an enterprise, leveraging on other management practices not only ensures continuity and sustainability in the EA program, but also tighter vertical and horizontal alignment.

The authors advocate the use of EA to promote the coherent management of enterprises. Since the introduction of early EA concepts by John Zachman in the late 1980's (Zachman, 1989), this discipline has evolved into three primary modes of being practiced: Foundation Architecture; Extended Architecture, and Embedded Architecture. Balanced Architecture is a term that is used in this paper to describe when an enterprise utilizes the best and the most appropriate characteristics of each of the three modes of EA. The authors believe that no organization has yet reached a level of maturity in their EA program, so as to have a truly balanced architecture state. With this paper, we intend to influence EA thinking and practice over the next decade.

To illustrate the three modes, let us first consider an enterprise that is new to EA. This scenario is depicted in Figure 2 below.

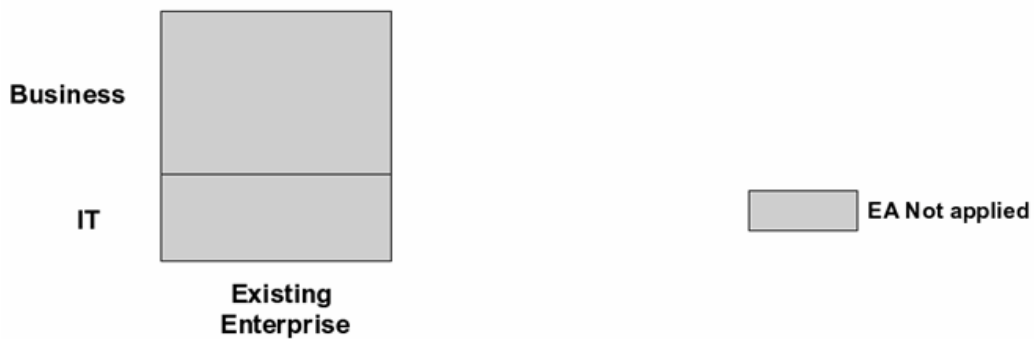


Figure 2. Enterprise Architecture Not Applied to an Enterprise

Even without EA, the enterprise exists, and is operational. It does business, and it has IT. But it does not manage enterprise-wide coherency. It performs badly when it comes to alignment, agility and assurance. Now, considering that the enterprise "adds" EA into the equation.

Foundation Architecture

The most common and 'traditional' and classical EA is what we call Foundation Architecture. The EA is most often done to align IT to the

business. The Foundation Architecture can be seen in the most widely accepted definition of EA provided by Ross, Weill and Robertson where "EA is defined as the organizing logic for an organization's core business processes and IT capabilities captured in a set of policies and technical choices, to achieve business standardization and integration requirements of the firm's operating model". Figure 3 on the next page depicts the Foundation Architecture graphically along with its primary purpose.

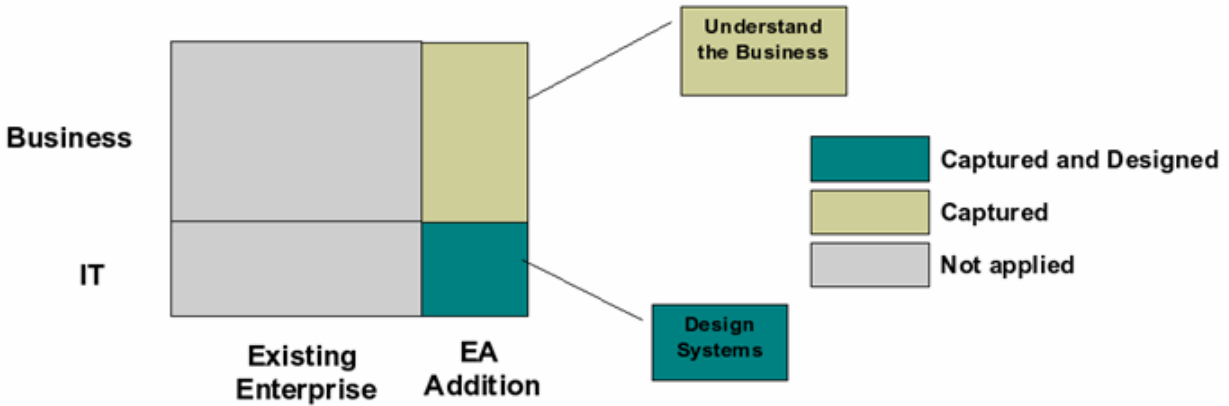


Figure 3. Foundation Architecture – Aligning Business and IT

Within Foundation Architecture there are two levels of maturity. The first level is where the organization's IT architecture is documented for the entire enterprise in its current and future states. The focus is on well-architected, well-designed IT systems with enterprise-level alignment, interoperability, and efficiency. Accordingly, this level of Foundation Architecture is very IT-centric, and for many enterprises EA is still viewed as this type of data and technology architecture, just that it is being implemented at the enterprise level. This perspective does help to leverage concepts such as federated patterns, but under-delivers from an enterprise-wide strategy and business perspective.

At the second level of maturity, in addition to providing descriptions of IT systems across the enterprise, the business of the enterprise is captured in a standardized and consistent manner. This well understood business description then forms the input and provides the context for well designed IT systems and applications. The value of EA is measured according to the success of investments in IT and their alignment to business requirements.

When done properly 'Foundation' EA provides excellent value to enterprise and even with the other ways to be discussed, there will always be a place for this type of EA. Ross et al (2006) said that "Enterprise architecture results in a foundation of information technology and business process capabilities on which a company builds its competitiveness." The

United States' Federal Enterprise Architecture (FEA) is a good example of Foundation Architecture. Designed to fulfill the requirements of the Clinger-Cohen Act of 1996, the FEA is primarily a CIO / IT department centric program (Saha, 2008). The agencies are mandated to develop and communicate their respective EA to the Office of Management and Budget for the purposes of justifying IT budgets. This represents the control mechanism built within the EA program to realize architecture governance.

Extended Architecture

The concepts of Extended Architecture came about in the late 1990's and focused on engineering an entire enterprise from and integrated strategy, business, and technology perspectives. It is an expanded view to the earlier described Foundation Architecture. To support this expanded view of EA, a number of approaches and tools were developed to provide standardized, repeatable methods for describing an enterprise in all dimensions - beyond just the IT perspective. Whereas Foundation Architecture used architecture methods and tools to capture business requirements in order to design better IT systems, in the extended approach architecture methods and tools capture strategic goals and related business requirements in order to design the enterprise. Figure 4 on the next page depicts the Extended Architecture.

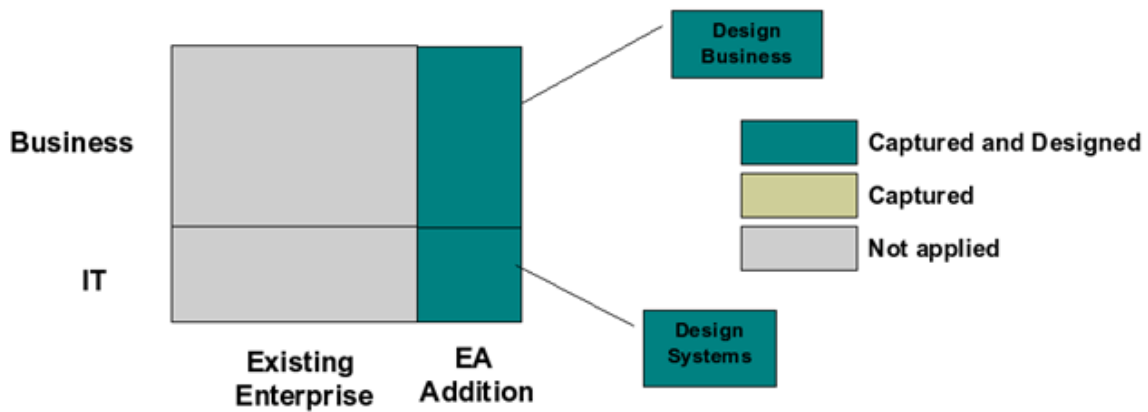


Figure 4. Extended Architecture – Driving Business Transformation

The following represent illustrations of how Extended Architecture uses architecture methods and tools to capture strategic goals and related business requirements in order to design the enterprise.

- Line of business and program owners use the Extended Architecture concepts to transform business units and services.
- Executives use Extended Architecture to ensure consistency between policy instruments and to measure alignment between strategy, business, and technology initiatives.
- Human Resources managers use Extended Architecture to ensure that processes and products for managing human capital are consistent, effective, and aligned.
- IT managers use Extended Architecture to ensure that their systems and investments

are properly aligned to business goals and strategic direction.

An interesting example of Extended Architecture is the Canadian Government's Business Transformation Enablement Program which, by its very name, can be seen as a tool to help program owners transform their business (Treasury Board of Canada, 2004). With the Extended approach, EA is recognized as a key change management tool and the EA organization (possibly distributed) provides greater and greater value to a growing number of non-IT business functions. There are business level valuations of the EA program in addition to the Foundation measurement of successfully delivered IT.

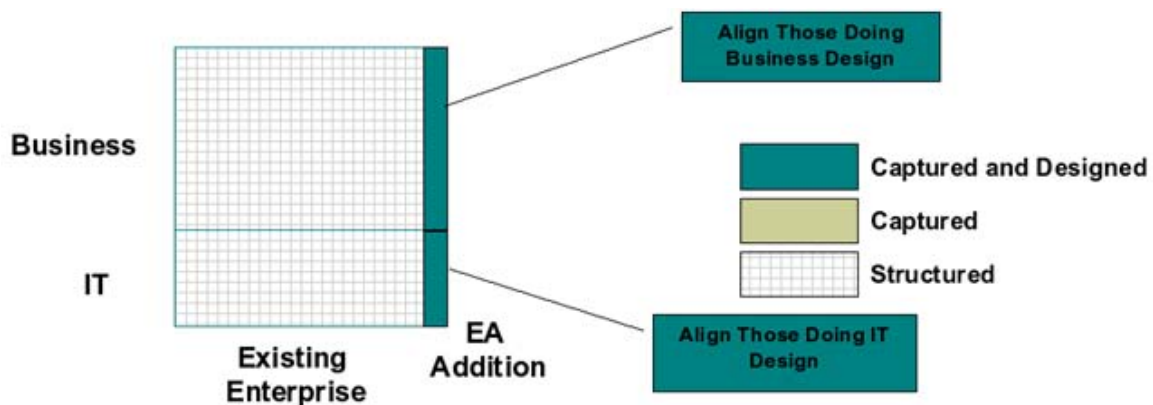


Figure 5. Embedded Architecture - For Designing and Managing the Enterprise

Embedded Architecture

In the Foundation and Extended modes of EA, artifacts (various types of documentation) are created as the result of an EA process or method, somewhat extraneous to the functioning enterprise. With Embedded EA architecture tools, methods, and models become embedded in the normal (usually existing) processes of the day. Rather than relying on processes and people extraneous to the business programs (and their processes), the architecture is produced by the processes themselves. In this way the architecture is organic and ever greened naturally, shown in Figure 5. Examples of Embedded Architecture are:

- Annual planning artifacts that employ architecturally aligned rules for how annual plans are expressed. That is, they follow the normative models (e.g. Reference models) for expressing what the business is about, their clients, goals, objectives, etc.
- All human resource artifacts are created according to EA rules. So organization charts get refreshed regularly, when they do, they are expressed in a way that supports enterprise wide views of roles and responsibilities.
- Artifacts from different processes are interoperable to support cross-functional decision support and business design. For example, process maps leverage EA standards which allow them to be linked to job descriptions which, in turn link to organizational design artifacts and business plans. With these types of linkages, an analysis to determine the security implications of using an externally delivered service can be made much more efficiently.
- Web service catalogues which get updated with every release of on-line services and are categorized according to the same models which define the annual budget. So a user can come to the web pages and be profiled according to the same way services are profiled and the services can be dynamically combined based on their fit. And just in case the users are curious they can see how much this service and/or all services for their type of people cost on an annual basis.
- Strategic planning uses the methods and common language to ensure a holistic plan which aligns to all other key players in the planning arena. (e.g., strategic plan use

outcome logic model which every division leader / functional head can link in to).

- Public reporting uses terms and language which is consistent throughout the enterprise. (e.g., services for youth can be identified as such, costed consistently, and results determined consistently-whereas all process owners currently use their own categorization for their customers making aggregate analysis impossible).

Evaluation of the EA program becomes a matter of assessing enterprise coherency. Embedded Architecture enables the greatest degree of enterprise coherence but is admittedly a longer road to travel. Ultimately more comprehensive and holistic, but it takes much longer. It does not mean enterprises cannot start because every single process brought into alignment brings a degree of more coherence. To be truly on top of the game enterprises, however, need to have all three modes of EA going on simultaneously.

A project or a program should not be the reason to develop EA. The architecture should already be there and be usable by the project. An organization's EA should be context neutral. Embedded Architecture demands that CFOs, CTOs, Chief Planners, Chief Strategists, and HR Managers, embed the EA discipline so that they produce well architected artifacts and as a product from their normal routine, not for the sake of the project. There are many acts, policies, and procedures causing departments to file artifacts of every stripe but they do not have the necessary rules/constructs/ to be useful for generalized purposes. Rather than developing a new report, the embedded approach expects enterprises to get the existing reports to be more multi-purpose. EA can be used to ensure artifacts achieve higher degrees of reusability. The unintended benefit of coherent artifacts is the reduction of the reporting burden which currently plagues many large enterprises today. This mode of EA needs minimal additional engagement mechanisms and the program is able to sustain itself.

In the embedded approach the strategic goals drive business requirements, which drive technology solutions. Here, not only is the level of EA raised to include strategy, but the ubiquitous (organic) nature of the architecture is acknowledged as well. The architecture of an enterprise exists in all dimensions, whether it is

acknowledged or not, and EA makes all aspects of the organic architecture explicit by formalizing the relationships between strategic, business, and technology views across all operating units with the ultimate intent of making better enterprises.

THREE MODES OF ENTERPRISE ARCHITECTURE

One interesting aspect of the progression of EA thought and practice is that it has largely been a process of accumulation, not replacement. This means that the concepts about how to improve the planning and implementation of IT systems that grew out of first way to do EA are still applicable and work well with the business design and integration concepts of the “Extended” mode. These also are critical activities to advance the coherence needed in the Embedded Architecture. Hence EA thought

and practice is an accumulation of ideas and methods that have come together to form a body of knowledge that can be used to holistically understand, optimize and create enterprises of many types. The ideas captured in each of the modes of EA can be viewed as independent, which are applicable to enterprises either alone or in combination. In other words, they are not mutually exclusive. Such advancement in EA thinking, takes it to the next level of maturity. In some cases an attempt to rapidly implement this multi-modal approach to EA programs can be disruptive to enterprises. Indeed EA only has its tremendous value when done properly. It is the opinion of the authors that EA researchers and practitioners must do to themselves that which they seek to do to others, that is, manage their change and the change they introduce to the enterprise with EA. Figure 6 below summarizes the modes of EA described above. The key distinguishing characteristics are also depicted.

	Foundation Architecture	Extended Architecture	Embedded Architecture
Strategic Drivers <i>(Why do we do it?)</i>	<ul style="list-style-type: none"> ➤ Technology and business standardization ➤ Systems engineering ➤ IT asset utilization 	<ul style="list-style-type: none"> ➤ Business transformation ➤ Product / service leadership ➤ Business agility ➤ Enterprise engineering 	<ul style="list-style-type: none"> ➤ Enterprise design & management ➤ Enabled agility ➤ Service oriented enterprise ➤ Ubiquity
Locus of Control <i>(Who leads the programme?)</i>	<ul style="list-style-type: none"> ➤ CIO / IT Organization 	<ul style="list-style-type: none"> ➤ CXO involved during change ➤ Business architects / process owners 	<ul style="list-style-type: none"> ➤ CXO involved all the time
Critical Management Innovation <i>(How is it accomplished?)</i>	<ul style="list-style-type: none"> ➤ Architecture by compliance ➤ Replacement approach ➤ Flexible programme intensity and cope ➤ Project oriented 	<ul style="list-style-type: none"> ➤ Enterprise business architecture ➤ Organizational improvements ➤ Architecture by push with extraneous processes ➤ Actionable architecture 	<ul style="list-style-type: none"> ➤ Organic design ➤ Architecture by pull with intrinsic processes ➤ Architecture is everyone's job ➤ Management DNA ➤ Outcome driven
Key Governance Mechanisms <i>(What is used to accomplish?)</i>	<ul style="list-style-type: none"> ➤ Specialized EA team ➤ Project business cases ➤ Architecture review board ➤ Led by CIO 	<ul style="list-style-type: none"> ➤ Cross-institutional governance ➤ Value based tracking ➤ Business leadership in IT projects ➤ Led by CXO 	<ul style="list-style-type: none"> ➤ Diffused architecture team ➤ Enterprise architecture by stealth ➤ Context neutrality ➤ Led by CXO, but not separately
Programme Metrics <i>(How is it measured?)</i>	<ul style="list-style-type: none"> ➤ Cost efficiency ➤ IT responsiveness ➤ IT risk management ➤ Business-IT alignment 	<ul style="list-style-type: none"> ➤ Time to market ➤ Business responsiveness ➤ Strategic alignment ➤ Coherency in IT and non-IT space 	<ul style="list-style-type: none"> ➤ Aligned organization ➤ Decision capability ➤ Shared delivery ➤ Comprehensive service excellence
Benefits & Outcomes <i>(What do we get?)</i>	<ul style="list-style-type: none"> ➤ Shared technology platforms ➤ Economies of scale ➤ Better systems design 	<ul style="list-style-type: none"> ➤ Shared business platforms ➤ Business value of IT ➤ Better information governance 	<ul style="list-style-type: none"> ➤ Better corporate governance ➤ Deeper engagement ➤ Coherent enterprise ➤ Unnoticeable EA effort

Balanced
(Alignment, Agility, Assurance)

Figure 6. Three Modes of Enterprise Architecture with their Distinguishing Characteristics

COHERENCY MANAGEMENT – AN EMERGING MANAGEMENT PRACTICE

The idea of coherency and its management already has some traction in the business world. Lissack & Roos (1999) wrote about coherent actions, those actions that make sense to others in our organizations, and argued that managers need to know how to promote and encourage coherent actions throughout the organization. Our argument is that coherency management is an increasingly important management practice, which will need to be developed as a science-based discipline. This is necessitated by the fact that enterprises no longer are just 'traditional

top-down structured. There has been definite shift towards 'decentralized' bottom-up structured enterprise. And more recently, the emergence of networked virtual / extended organizations has made the whole landscape even more complicated. Usually in most enterprises, all three 'types' of organization models are visible concurrently in differing forms and intensity. Coherence thus becomes an imperative, as it allows enterprises to govern in an orchestrated manner. Figure 7 below depicts the components of coherency management along with the three organizational models.

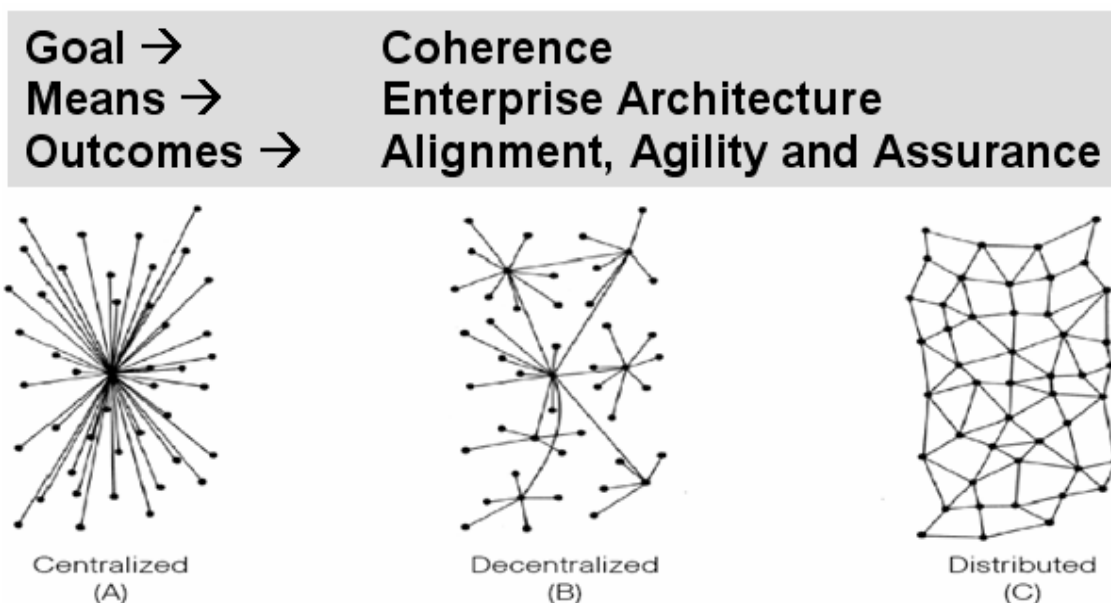


Figure 7. Coherency Management and Various Organizational Models

As Hamel (2007) says, our enterprises have "21st-century, Internet-enabled business processes, mid-20th-century management processes, all built atop 19th-century management principles", and that "with a battalion of new business challenges massing on the horizon", it is time for enterprises to "start taking management innovation as seriously as they take other sorts of innovation". Hamel here talks about Management 2.0 as an emerging management practice, and envisions Web-like organizational structures, which will be very disruptive to the traditional information and communication systems and practices.

So, we know that we have an 'information and

communication crisis' in our enterprises, and we know that enterprise architecture is going to help, but how does coherency become an integral part of an enterprise's management practice?

We need to examine the ways in which we can be coherent. Just as there are three modes of EA, there are three types of coherency an enterprise needs to manage:

1. Coherent Rules for Descriptions: There is just enough common language used in formulating the various descriptions and artifacts across the enterprise, to allow for coherently assembly and/or analysis. A common language for the enterprise is the

foundation for coherent descriptions. The 'Just Enough Rules' principle should be applied. Rules can be constricting, so every effort must be made to ensure that each rule is really needed, not for the sake of coherency, but because the added coherency must deliver some value to the enterprise.

2. Coherent Descriptions: The descriptions, once presented in comparable manner (i.e., following the rules) can then be made coherent. Processes can be optimized, policies can be harmonized, services can be designed for joined-up service delivery, etc. The methods for achieving this rely on the rules, but rules in this case are not enough. There must be a structured approach to getting these done. If at all possible, the best place to start is by looking at the planning processes so that enterprise Vision, Strategy, and Designs can be aligned first, hence setting the context for the evolution of the coherent enterprise.
3. Coherent Enterprise: Here, the enterprise experiences coherent operation and execution. The Enterprise is effective and efficient and well understood. Alignment is very mature because the rules allow descriptions to be compared for alignment and adjusted accordingly. Agility is achieved because of designs are coherent, which includes a developed understanding and practice of loose coupling by design instead of tight coupling by accident. Assurance is gained through an ability to not only have all the information but also, through coherency, have the information provide real knowledge. Knowledge that you are making the right decisions, designing the right enterprise and executing at peak proficiency.

Logically, we foresee a fully operational system of Continuous Coherency Improvement, which includes a component of measurement.

ASSESSING ENTERPRISE COHERENCE

How would one assess coherence in an enterprise? It is done by going to the heart of what coherency management is about: a logical, orderly, and consistent relation of parts to the whole.

In some ways, coherency could be considered an element within a Risk Management Framework. For us, the critical thing is that we all understand, talk about and deal with coherency in a way that reduces its negative impact. Bring it out in the open and realize that we have been dancing around the problem for years without addressing it head on with a science-based approach. Developing this measurement technique will be an important success factor for Coherency Management.

For purposes of measuring coherency a consistent basis of comparison is needed. The units of measurement will be called 'Coherence Objects'. They are the way we subdivide the enterprise, project and/or investment so we can compare apples to apples. Service Oriented Architecture provides a best practice in this regard but it must be seen as way to subdivide the business of the enterprise, not just the systems. Granularity of these objects can be quite different but the rule is that once defined, this way of looking at the enterprise must be applied in all management processes consistently. Maybe your classification scheme results in comparisons at the business line level (e.g. accounts payable), or perhaps it is finer grained than that (e.g. invoice reconciliation), either way these Coherence Objects form the basis for your comparisons. The Reference Models of Enterprise Architecture are, in most cases, the first discernable source of Coherence Objects.

For each Coherence Object we can ask questions like: Is it aligned with the intent of similar investments? Are there any design gaps or overlaps with any related investments? Is it following applicable Rules (especially the rules of description)?

The 'score' for coherency is determined by looking at these and other alignment type questions. The evaluation will be difficult, especially in the early implementations, but will become easier once more and more descriptions become consistent (i.e., follow the rules).

The Coherency Assessment can be used to:

1. Make project decisions. Go-No Go, Confirm Design, Ensure Logistical Alignment, etc.
2. Contribute to the knowledge of project coherency across the enterprise. The

individual scores can be prorated against the total project budget.

In our forthcoming book *Coherency Management: Architecting the Enterprise for Alignment, Agility and Assurance* (fall 2008) we will develop these ideas further.

CONCLUDING THOUGHTS

This paper introduced the idea of Coherency Management, asserts that this is the primary outcome goal of an enterprise's architecture, and proposes that existing and new EA practices in the foundation, extended, and embedded areas should be used synergistically to achieve coherence in complex organizations. The focus on coherence requires that an EA extend beyond technology solutions and business requirements, to include the strategic goals that drive the enterprise. Like Occam's Razor, the value proposition of coherence management is that it is helpful to stakeholders when complex entities are made simpler and therefore are more understandable. Managing coherence through EA promotes alignment, agility, and assurance which make the enterprise more capable and competitive.

We foresee the evolution of Coherency Management into a critical function of corporate and public sector management. There will be clear, measurable, and obtainable targets. There will be a program of continuous improvement for coherency and Enterprise Architecture will be the cornerstone of the Coherent Enterprise.

AUTHOR BIOGRAPHIES

Gary Doucet is the Chief Architect for the Government of Canada. Leading the Enterprise Architecture and Standards Division (EASD) within the Chief Information Office (CIO) Branch of the Treasury Board Secretariat, he is responsible for the advancing Enterprise Architecture (EA) within the Federal Government. Gary came to the Government of Canada from CGI, a leading provider of end-to-end information technology and business process services, where he was a Director of Consulting Services and instituted a Solutions Management Office to ensure a consistent approach to solutions across their client

engagements. Currently, Gary is the vice-president of the Association of Enterprise Architects, and the former President of the Canadian chapter. He is also Head of Delegation for Canada at UN/CEFACT where he works with other countries on standards for trade and business groups. For over 20 years Gary has been hands-on across the disciplines of Systems Development, Architecture, Engineering, and Management. He has been a part-time instructor of technology for several years, and holds a B.Sc. (Computer Science) from the University of New Brunswick. Gary can be reached at gary.doucet@rogers.com.

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