Smarter business planning & transformation

Attain maximum value from your Enterprise Architecture

Focusing on enterprise architecture to meet business goals

For decades, corporate executives and department managers have complained about the frequent budget overruns and schedule delays of complex IT business planning and transformation projects. The fact that these costly undertakings often fall short of providing the expected business objectives only serves to increase their frustration. Underlying causes include the complexities of modern organizations, intricacy and size of applications, as well as miscommunication between business, operational and IT experts who each speak their own jargon. And the moving target of evolving business services and technologies only exacerbates the situation.

Focusing on an enterprise architecture perspective has emerged as an effective way to surmount these obstacles. As a business driven approach, this perspective encompasses the broader relationships between business strategy and processes, as well as the supporting information systems, data and IT infrastructure.

This paper provides an overview of the enterprise architecture concept and highlights how an actionable enterprise architecture approach from IBM can help organizations progress EA from the ivory tower to the front lines of decision making.

What is actionable enterprise architecture?

IBM views enterprise architecture as an enabling discipline that translates business vision and strategy into effective enterprise change. By creating, communicating and improving the key principles and models that describe your company's desired future state, you can evolve toward that state more quickly and easily. The enterprise architecture is made up of collections of elements such as processes, strategies, technology infrastructure, applications, information, and roles. It also includes the relationships between those parts and the principles that guide and govern how they are constructed and used to deliver business value. As shown in Figure 1, there are four categories of reusable enterprise architecture elements:

- Strategy architecture — including the business vision, goals, objectives and value propositions, as well as the strategies and tactics that will be used to achieve them.
- Business architecture — including, but not limited to, capabilities, services, events, information, roles, locations, organization and terminology.
- Information systems architecture — including the business scenarios, processes, applications, services, components, data, personnel and other elements that support or implement business functions.
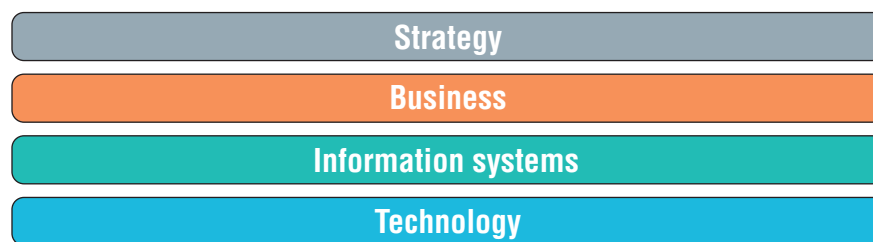- Technology architecture — including the specific hardware and software

Strategy

Business

Information systems

Technology

Figure 1: The four categories of actionable enterprise architecture span both business and technology elements.

Actionable enterprise architecture is a discipline that facilitates the execution of business goals by mapping strategies to the following:

• Business processes that carry out the enterprise mission
• Applications and information resources used to enable those processes
• Technology infrastructure that drives those applications and information resources

This discipline fulfills three objectives. First, it provides a context in which to evaluate enterprise assets against business strategy—delivering the information needed to make quantifiable decisions for guiding enterprise planning and transformation. Second, it establishes an business analysis platform, communicating impact, risk and opportunity of change. Third, it encourages the development of new assets and business driven technologies.

The actionable enterprise architecture focuses on five solution areas: :

• Business Efficiency - Executing business transformation that eliminates organizational waste, resulting in maximum productivity.
• IT Planning and Optimization - Building an effective IT portfolio by identifying areas for consolidation and reuse, unlocking operational budgets required for investment and growth.
• ERP Governance - Attaining control of your ERP deployments by standardizing components, data and functions, and understanding dependencies to the organization.
• Systems of Systems - Evaluating architectures across multiple systems to identify gaps and redundancies, resulting in a qualitative analysis to maximize ROI.
• Service Architecture - Constructing effective solutions out of enterprise and business elements that may, in turn, create new or updated elements that can be used in future projects.

The inevitability of changing business conditions and emerging technologies demands an actionable approach to EA that helps organizations achieve quantifiable business goals – from technology, business processes, and software application portfolio.

The benefits of this approach can include more rapid, productive and effective implementations of new initiatives, faster response to marketplace changes, and lower costs of operations.

Enabling actionable enterprise architecture

A technology-based toolset is a key enabler to successful actionable enterprise architecture initiatives. IBM® Rational® System Architect® addresses this need by providing a repository-based, graphical modeling and analysis solution that enables the collection and analysis of information about enterprise elements.

The use of shared enterprise element repositories provides a line of sight from the strategic enterprise plans to the operations, information, applications and infrastructure needed to implement those plans optimally. In addition, powerful System Architect business intelligence reports, powered by an embedded IBM Cognos reporting engine, expands EA visibility by providing business and IT decision makers the information they need to consolidate resources, allocate new funding, and implement successful projects.

Through the creation and integration of models that represent various aspects of the enterprise, including current and target states, business analysts and IT architects can identify redundant resources, obsolete processes and technologies, and gaps in business and IT capabilities. As a result, the organization can focus on the most salient issues and direct resources related to high-value infrastructures and processes.

And the enterprise architecture information can be captured and communicated across projects to help ensure consistent and rapid response to evolving business needs.

You do not have to approach actionable enterprise architecture as a "big bang" project. You can grow into it as needed—provided that the supporting tools you choose are sufficiently comprehensive and flexible to accommodate the broader long-term vision. You can start by analyzing your IT infrastructure to identify areas where you can realize considerable cost savings by improving efficiency and productivity.

The IBM Rational System Architect solution helps you create strategy and architecture visibility across the lines of business and through the layers of abstraction that management uses to define the organization. It also provides advanced functionality for analyzing information and visualizing the gaps between the current-state architecture and a future-state vision. While having a future-state vision can help you fine-tune cost-saving efforts, you do not need to determine your entire future-state picture to begin realizing the benefits of actionable enterprise architecture.

Driving the change necessary to fulfill the enterprise vision

A key to change management is the exploitation of existing business elements in the planning, developing, monitoring and governing of new projects and solutions. To accomplish this reuse, the enterprise must first fully articulate its underlying motivations and the resulting strategies.

Once the desired strategies and goals are identified, the focus shifts to achieving them. The first step is to define the mission that will realize the vision. The mission plan is then translated into planned strategies that support goals. These strategies are implemented through specific business tactics.

Strategies, tactics and capabilities are all governed by business policies and rules. The role of actionable enterprise architecture is to break conceptual enterprise architecture out of its ivory tower by enabling collaboration among business strategists, business analysts, operational modelers, project planners and solution developers in a way that is beneficial to all parties.

Realizing efficiencies through automation

Some business capabilities may be candidates for automation using IT solutions. In identifying the building blocks that enable automated IT realizations of business capabilities, the IT architecture can be broken into two main parts: information systems architecture and technology architecture.

The information systems architecture defines the business function–based elements that may be used to realize the automation of business capabilities through the use of IT. The technology architecture, on the other hand, defines the technology-specific elements that provide the platforms and services upon which the information system components run. Because it provides the platform building blocks that support the execution of automated business processes, the technology architecture is a key part of the overall enterprise architecture.
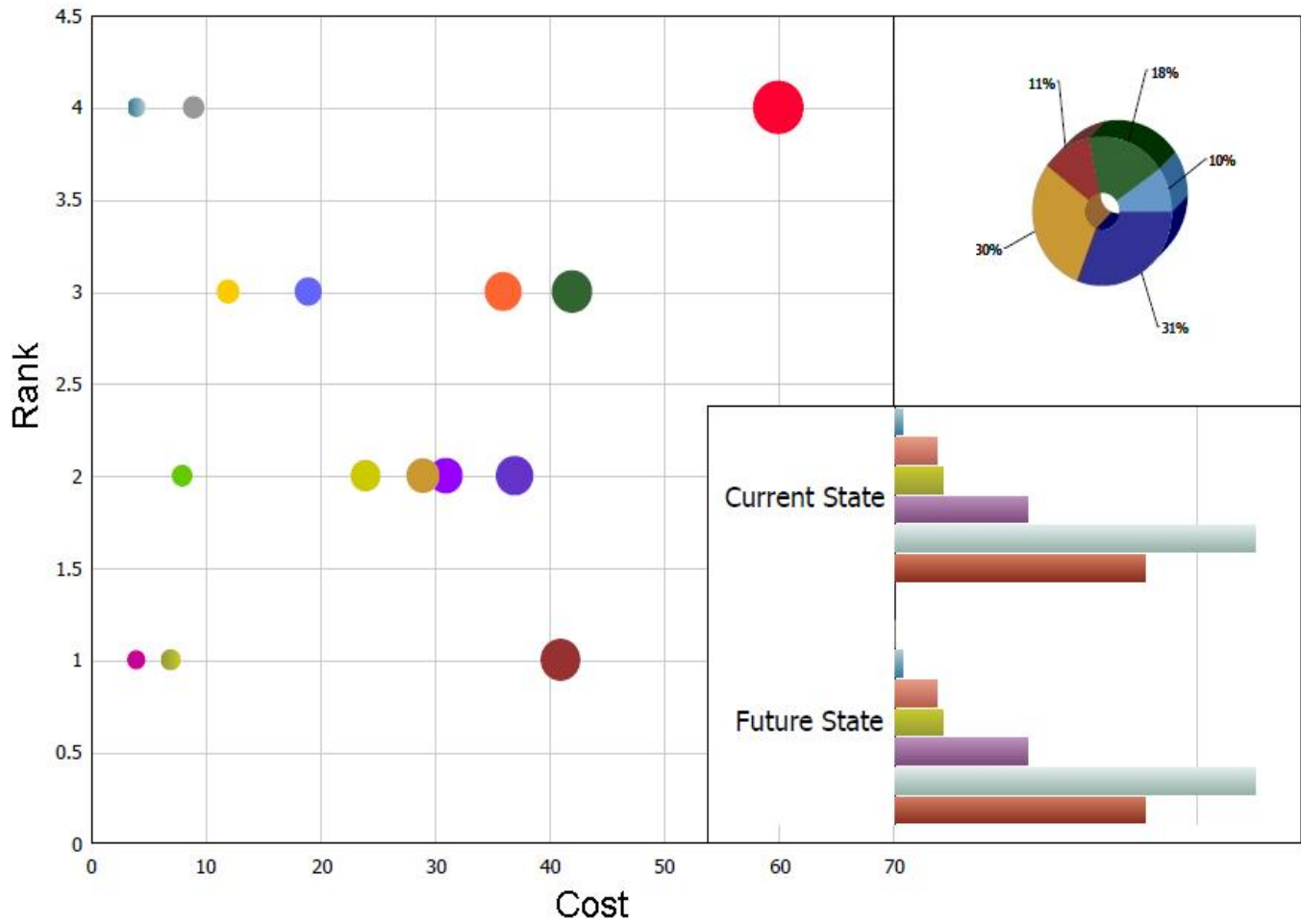
Figure 2: Business Intelligence Reports generated from Rational System Architect.

Visualizing and planning for the future

Enterprise architecture can be used to map business motivation, cost, value, and time to the project's definition, selection, and progress to help ensure that the organization remains effective. Project portfolio management can then be used to analyze the costs, time to market, business impacts, dependencies and priorities of the proposed solutions to define and select the projects that will be undertaken.

An enterprise architecture methodology offers an elevated level of analysis, insight and structure, but enterprise planning information is useful only if it is presented in formats and timeframes that are actionable. Will you be able to forecast the negative impact of high-level decisions in time to take corrective action? Will you be able to spot trends in processes or IT resources in time to exploit the opportunities or evade the threats? When enterprise information is presented in a meaningful way, it is easier to answer these questions. You're better able to predict evolving circumstances and requirements, ascertain the organizational and IT changes required to address those transformations, and manage changes as they ripple across the affected areas of the organization.

When you assess strategy, processes, and the supporting IT technologies and services, you need to understand how the decisions you make today will affect your organization tomorrow. Through the enterprise architecture and supporting visualization and impact analysis, companies can identify gaps and quickly correct operations and processes. By understanding the root causes of underlying issues, organizations can update their models and prevent the recurrence of problems later.

IBM Rational System Architect supports time-lapsed analysis

and enhanced visualizations that capture time-based snapshots of a given aspect of the organization and then depict the evolution of that aspect over time. Diagrams can be layered to reveal the impact of changes, such as services available now and next year.

Uniting operations and IT

The enterprise architecture approach derives its strengths — actionable information and collaboration enablement — from the fact that it draws frequently on the insights and expertise of a wide range of contributors. These contributors can include frontline employees, managers and directors who are closest to the operating activities of the business, as well as operational and technical staff members who develop and maintain the supporting IT systems. By asking these people to participate jointly in enterprise architecture, business improvement and enterprise planning activities, organizations enhance buy-in and collaboration opportunities. At the same time, it is far easier to hold people accountable when they have a substantial role in setting targets and objectives.

To make the promise of enterprise architecture a reality, information must be gathered from subject-matter experts across the organization. More important, the information and models must be kept current as the enterprise evolves and as new information becomes available

Rational System Architect software, through an accessible web client, helps organizations capture and maintain enterprise-wide information and models in the enterprise architecture repository. By seamlessly incorporating the business perspective into the enterprise architecture process, organizations gain the information needed to build models, develop insights required to make key business and IT investment decisions, and share information across the organization.

IBM: Moving EA Beyond the Ivory Tower

Organizations that recognize the value of enterprise architecture may face cultural and technology infrastructure challenges that impede deployment. IBM is committed to helping companies see practical results from enterprise architecture—both upstream to guide planning and downstream to enhance operations and supporting technology environments.

IBM recommends that companies investing in enterprise architecture consider harvesting their architecture elements from existing information resources. Then, they should find as many avenues as possible to directly sustain the chosen directions of their respective businesses and find solutions that support progress in those directions. This approach helps ensure that the enterprise architecture is current and relevant. And the recognition of the value that is created by this approach can result in continued and increased funding for enterprise architecture projects.

Integrating IBM Rational System Architect with other IBM Rational solutions and solution delivery products such as IBM Tivoli CCMDB can provide vital support for this pragmatic approach. It facilitates efficient creation and maintenance of the IT architecture by importing auto-discovered application and technology portfolios.

Because enterprise architecture spans multiple stakeholders and organizational boundaries, a key to successful development is understanding and tracking change throughout the enterprise.

The integration of the System Architect solution with change management products from IBM can provide answers to these questions while helping to continuously manage change.

Realizing greater value from complex IT projects

Successful organizations recognize how their business processes and IT projects contribute value to the enterprise. They understand the relationships between systems, data, people and broader business goals. Enterprise architecture can be a key enabler for this awareness.

Actionable enterprise architecture looks at how the organization is aligned to produce the results it is getting; analyzes the future direction of the enterprise to define the desired state; and identifies the changes necessary to move the organization to where it would like to be.

IBM Rational System Architect helps organizations develop actionable enterprise architectures by providing a flexible platform and shared workspace for all contributors to understand and enhance the business — helping to promote:

- Increased organizational agility
- Alignment of business processes and IT systems with business objectives
- Planning, modeling and execution of business processes
- Rapid, effective and positive response to business change

Finally, exploiting the integrations between Rational System Architect and solution delivery products from IBM automates development lifecycles. This provides enterprise-wide visibility to help improve the productivity and lower the costs of those lifecycles, while helping to ensure that your developed solutions better align IT development with real-world business needs.

IBM.

For more information

To learn more about how IBM Rational System Architect software can help you enable actionable enterprise architecture, contact your IBM representative or IBM Business Partner, or visit:

ibm.com/software/rational