Executive Summary

Applying EA Roadmapping: An SOA Roadmap

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Business-IT alignment is the primary objective for any CIO. During the economic downturn of the past few years, alignment has come to mean the ability to cut spending and stick to the basics. Today, business priorities are again turning to top-line growth, causing an important shift in the perception of the business value of IT. The code name for growth strategies is agility. Companies recognize that they must sense opportunities and threats earlier, evaluate them quicker, make better choices, and implement those choices in a more timely and efficient manner. They understand that change can no longer be exorcised from business but instead must be embraced as the source of competitive advantage.

Thus, business-IT alignment becomes the discipline of managing enterprise architecture (EA) for agility. To achieve this, the enabling and constraining aspects of technology must be properly understood and managed with a proper time perspective. This can be achieved by implementing the basic principles of technology roadmapping into EA management.

In the accompanying *Executive Report*, we outline the discipline of EA roadmapping (EARM) and provide readers with a detailed roadmap template, charting the key steps in implementing service-oriented architecture (SOA) on an enterprise scale. The practical tools discussed in the report have been devised to support and speed up the process of aligning IT for agility.

EARM

The central concept of the report is EARM, the discipline of planning the evolution of enterprise architecture in a way that anticipates and enables business changes as well as maximizes the opportunities provided by technology innovations to improve enterprise agility. It is inspired by the growing practice of technology roadmapping, which encompasses methods, techniques, and tools for strategy development in environments with high rates of changes. EARM consists of the following three components:

1. **EA planning framework** — lays out the key "dimensions" of knowledge.
2. **EA roadmapping technique** — implements the planning framework.
3. **EA roadmap templates** — focus on the key themes in EA evolution. Templates support the quick creation of company-specific architecture roadmaps.

SOA ROADMAP TEMPLATE

An important element of an architecture roadmap is the "final destination" — the vision of an "ideal" architecture.

For SOA, the final destination has been defined as the adaptive EA. It is a vision of the enterprise in which the business processes, information, and knowledge assets can be quickly and effectively reorganized and redeployed to support and enable the strategic

maneuvers, innovations, and productivity levels required by today's highly competitive business environment. It separates the business from the complexity and diversity of such IT assets as networks, servers, and applications.

In the report, we offer a template that guides the reader on the road to this final destination. Adaptive EA is reached by taking relatively small steps. Each step, representing a stage in learning how to apply an SOA, relates to different categories of architecture-management issues and results in specific business benefits and opportunities.

Service delivery, service integration, service interoperability, and service management are the four steps in our roadmap. For each step, the SOA roadmap template defines the management objectives that can be achieved, technical and organizational capabilities that need to be developed, and business opportunities that can be pursued. An extensive catalog of SOA-related architecture patterns — cross-referenced to the roadmap steps — is presented, showing which best practices should be used in shaping the landscape of IT resources in order to achieve the benefits of the subsequent steps in the SOA evolution.

For example, with the first step — service delivery — an organization achieves the potential for opportunistic reuse when building new automated business processes and maintaining old ones, both in and out of the organization. The short application delivery schedule, required to maintain the agility of the organization, cannot be achieved without the possibility of such reuse. On the other hand, if, as part of its architecture, an enterprise deploys a service-oriented application platform that, through low application development cost and short delivery time, allows financing new projects from operational expenses rather than capital expenses, the latter could be used to enhance EA so that the next SOA milestone can be reached.

SOA PATTERN CATALOG

Included in the report are six key SOA-related architecture patterns: enterprise service, service-oriented application, service-oriented application platform, service-based assembled application, integration broker, and managed services portfolio. Each pattern is defined in terms of its motive, applicability, consequences, and known uses. These patterns are building blocks that allow an organization to build a flexible and efficient EA — a bedrock for corporate agility. The report offers a model presenting the dependencies between architecture patterns. The inherent logic of these dependencies underlies the structure of the SOA roadmap template.

Patterns included in the catalog have been defined on the basis of extensive practical experiences gathered in several projects using the SOA paradigm to deliver concrete business results. A selection of these experiences is presented in the form of case studies.

CASE STUDIES

We present four case studies discussing various aspects related to the deployment of architectures using the above-mentioned patterns in real-world enterprise solutions. These case studies cover themes such as electronic banking, mobile services, electronic commerce network, and service portfolio development.

CONCLUSION

IT progress often redefines the impact computers have on business strategy. This is probably the most important reason why IT still matters and is still an asset with strategic consequences, especially in the areas of enterprise agility, innovation, and efficiency. It is important to employ tools that improve business-IT alignment, such as architecture roadmapping, especially for SOAs.

The EA roadmap template is intended to help readers set the direction of EA evolution and select the best route based on business goals and opportunities as well as on architecture management considerations, implied by the relationship between various architecture patterns that have to be implemented on different stages of SOA evolution.

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