

## Architectural Styles and Enterprise Architecture

**Bill Rosser**

Architectural styles based on business operations are powerful tools in the analysis and application of an IT enterprise architecture.

## ANALYSIS

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Architectural styles are a logically related set of guidelines regarding platforms, middleware, design patterns, structures and performance measures that suit a specific business process. The development of an architectural style must begin with a consideration of the core business processes that are vital to the enterprise. Most of these business processes fall into a few dominant categories (see "What Is an Architectural Style?").

It is normal for an enterprise's most important business process to drive the nature of the IT architecture. Usually, enterprises can learn how to build an infrastructure and applications that are well-suited to carrying out the primary business task or process. However, the fact that other business processes may require different sets of IT performance characteristics is not always so clear. Rather than creating multiple architectural capabilities (it is hard enough to establish a single style, gain compliance for it and make sure that it is maintained), enterprises attempt to apply a single architectural capability to a variety of problems.

As enterprises reach into new areas, it is evident that this approach is no longer working. For example, a package delivery enterprise decided to expand its operations by going into the service business (not an uncommon move these days). The enterprise discovered that a whole new infrastructure and a series of application investments would be required to support the service business. Unfortunately, because these expenses were not anticipated, profit margins and results did not approach their targets. It would have been wiser for the enterprise to examine the different architectural styles beforehand and decide whether the required investment would make the new business development worthwhile.

Each enterprise must examine its core business processes, evaluate the differences between its native architecture and the architectural styles it may need to adopt to gain more efficiency and effectiveness, and decide whether to support these multiple architectural styles or explore alternatives (such as outsourcing) to support processes other than the dominant one. In some cases, such analysis could affect an enterprise's business strategy (see "Mapping Architectural Styles to the Enterprise Framework").

The enterprise vision of the future is being increasingly influenced by the enterprise-to-enterprise operations that are largely driven by the communication capabilities of the Internet. Certain architectural styles — most notably the collaborative style — lend themselves to this new territory of global operations, business process outsourcing and Web services (see "Patterns of Collaboration: An Unrecognized Opportunity").

It is becoming more widely accepted that different core business processes demand different IT architectural styles for superior performance. For an IT-dependent enterprise, becoming proficient in more than one architectural style could yield a significant payoff. Such proficiency may become even more vital and leverageable as the economy and IT continue to move into the arenas of intensive enterprise-to-enterprise and enterprise-to-consumer activities and communications.

### Features

"What Is an Architectural Style?" — The development of a logically related set of IT guidelines and system designs will boost the performance of core business processes. **By Bill Rosser**

"Mapping Architectural Styles to the Enterprise Framework" — Employing the appropriate architectural style will become critical for enterprises in the new, "hyperconnected" economy. **By Bill Rosser**

"Patterns of Collaboration: An Unrecognized Opportunity" — Patterns of collaboration can provide a strong foundation for implementing collaboration support targeted at specific business processes. **By Simon Hayward**

This research is part of a set of related research pieces. See "Enterprise Architecture" for an overview.

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