

Uncovering the secrets of high-performance SOA

by Phil Wainewright

EARLY ADOPTERS have found that the much-touted flexibility of SOA carries a hefty performance penalty.

Integrating real-time information from different systems brings real advantages, but they are offset by the extra time it takes to bring the information together. Using standards-based web services removes much of the complexity and lock-in of earlier integration platforms, but existing infrastructure is ill-equipped to handle the extra overhead of XML.

In this special briefing paper, *Loosely Coupled* brings together a collection of essays by our analysts, examining the various techniques and technologies that are available to enterprise architects facing the SOA performance challenge. Through a combination of appropriate design and technologies, it is possible to greatly enhance the performance of a services implementation without sacrificing the benefits of SOA. The collection of essays we present here will help answer the key questions.

SOA pioneer warns over performance pitfalls 2

We begin with the experience of Starwood Hotels during its four-year SOA implementation project, which is now nearing completion. Starwood's case raises several issues that we look at in subsequent articles.

Rightsizing services – why size matters in SOA 3-5

One of the most important factors is not a question of technology at all. Our analysts take an extended look at the impact of granularity when designing services. Poorly planned decisions at this early stage can have a disastrous effect on performance later on. We also include a case study from Merrill Lynch that illustrates the vital importance of involving domain experts in service enablement.

Distributed cache can yield performance returns 6

Moving on to technology issues, we assess the variable impact of cache in a services infrastructure.

Quest for high-speed XML takes network path 7-9

We examine the debate surrounding XML acceleration. A surprising number of SOA projects have opted for dedicated hardware appliances. In other cases, software-only solutions are sufficient. But there are many cross-currents in the debate, and the right choice today may not be the same in a year or two's time.

Why XML compression may not speed up SOA 10

Converting XML to binary formats doesn't necessarily enhance SOA performance. We assess the arguments still raging over binary XML and what's been achieved so far.

Adding instant reflexes to your service architecture 11-12

We conclude with a foretaste of the future, examining how financial institutions are combining event stream processing with SOA to aid business visibility and responsiveness.

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“SOA is so flexible – if it's not applied properly, it can kill you. There are many more things that can go wrong with SOA than without”

— Israel del Rio, Starwood Hotels, *page 2*

“We wanted to reuse [what] people had already made. None of the products we looked at did it”

— Tim Crew, SOA Software (formerly Merrill Lynch), *page 5*

“This lets us do many of the functions of middleware much faster and better documented than before”

— systems architect, US financial institution, *page 8*

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