A new lease of life
VME and SOA

By providing real and usable access to business critical processes, HostTalk gives you a low risk, low cost approach to exploiting your investments in proven, high-performance, reliable and resilient IT services. Building on these investments rather than 'legacy replacement' can direct scarce resources to developments that provide real business benefit.

Introduction

Leading organisations have built large portfolios of business-critical systems using the best available technology in each succeeding generation – mostly starting in the mainframe era of the 1970s and 80s or even earlier. Many of our major customers now manage substantial investments in applications tailored to their business, based on the VME operating system.

These applications and the supporting infrastructure represent many years' development and refinement. They are highly robust and reliable and provide key functionality with high performance but they were built using proprietary user interfaces and communications protocols, running on proprietary hardware.

Today, we avoid developing systems to closed standards. Understandably enough, today's decision makers look askance at their legacy systems and their perceived isolation. Their reaction is often a desire to replace them. Replacement, however, is neither cheap nor easy and certainly not quick.

The positive characteristics just outlined may also be lost along the way. Meanwhile, the high cost of redevelopment sucks resources away from genuine business-related changes. It begins to look like IT is throwing money at technology again.

In the early 1990s HostTalk integrated VME – and other host-systems – into client-server architectures, increasing the business benefits that they provided. A further architectural evolution has occurred and organisations now seek the business agility that is enabled by service oriented architectures (SOA). Together with other developments (identified later), HostTalk provides a basic foundation that allows VME applications to fully participate in SOA. This means that organisations can quickly, safely and predictably reinvent their VME capabilities as SOA elements. Decision-makers can preserve the investments made in their systems, and ensure that those investments continue to pay off long after their originally projected termination dates.

VME and SOA

VME's proprietary origins have been superseded. It now natively supports standard communications protocols such as TCP/IP. It also runs on industry-standard hardware, using the Supernova software product.

HostTalk enables VME applications to expose interfaces that can be consumed as services by other software items rather than be simply presented as a modern user interface. Web services interfaces can be invoked directly or via an orchestration layer by means of the Business Process Execution Language (BPEL), or can be developed to any other service-based standard.

Services and their interfaces need to be managed, visible and readily accessible to (potential) consumers. A repository or registry service can be used to store details of services and their interfaces and this can handle the discovery and use of interfaces.

A typical SOA problem is 'interface spaghetti' where a large number of consumers may call any given interface, so changes to it may have far reaching consequences. A standard SOA enabler that can address this issue (as well as several others) is an enterprise service bus (ESB). This can provide further benefits where mainframe applications use thick clients by abstracting that functionality into a central tier and providing a browser or other thin client interface. HostTalk uses the VME Data Dictionary definitions, ensuring consistency and facilitating the mapping of VME data to standard schemas in the orchestration layer. VME applications can fully participate as services in an SOA environment.

Right-graining

VME application services will generally be more coarse-grained than those initially defined for an SOA environment. For much of the functionality, however, this is not an issue as applications were typically designed to meet well-defined sets of closely-related business requirements. Thus, a VME service represents a coherent unit of functionality and has relevant granularity. Legacy applications inevitably contain features that are common to other applications and across the business. These include common functions such as payment, receipt-handling and identity management and data items such as customer or account details. Common elements like these will often be relocated to 'native' SOA-style services. Over time, as business requirements dictate, the orchestration layer can be amended to call common services using the ESB or central tier. Other options, such as Master Data Management (MDM), facilitate a federated approach. This is likely to require some modification of the VME application to disable the legacy features.

It is important that valid approaches to data integration and ownership for an enterprise are defined in an integration or enterprise architecture that ensures that the logical and physical consistency of data is achieved and maintained.

Smart transition

Legacy replacement programmes typically ask for a lot of money, and a lot of patience. Complex migration plans almost inevitably leave some users without applications, directly impacting on business performance. A wholesale shift to a more heterogeneous environment also introduces large numbers of new technologies, new skills and new partners, stressing the organisation's ability to adapt.

The strategy outlined here provides a smoother, straighter and clearer path to change. Taking the HostTalk route encourages an architectural approach to your information systems portfolio, and stresses the value of shared, controlled and consistent data and functionality. In other words, not only do you preserve the applications value of your existing portfolio, you also assert the value of IS discipline – the big-picture, objectively validated, stepwise approach to delivering the right capabilities to the right people at the right time.

The bottom line

Our investment in HostTalk and our commitment to maintain VME until at least 2020 mean that VME applications can now play a full role in an SOA environment.

This low risk and lower cost approach exploits existing application investment and systems performance and provides a real option for organisations seeking to achieve the benefits of SOA. It could provide a basis for ensuring sustainable enterprise agility over the next generation of business challenges.

About the author

Nigel Greenaway has worked in the IT industry for over 35 years and has concentrated on solutions for central and local government since 1985. He is active in the industry standards area having worked on the UK's e-Government Interoperability Framework since its inception and represents Fujitsu on a number of government and industry forums. In his spare time he enjoys playing guitar (although his family are less enthusiastic) and playing five-card crib.

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Further reading

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- Best Practice for Mainframe SOA, Dale Vecchio, A Gartner Research Paper (ID Number: G00134448), published 23/01/2006.
- Mainframe Operating Systems: Perspective, Mary I. Hubley & Mary Ann Richardson, A Gartner Research Paper (ID Number: G00131155), published 3/11/2005.

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