Networks Make or Break the Real-Time Enterprise

Networks are the foundation for business applications in real-time enterprises. Affordable and relevant network technology is available; enterprises must evaluate the use of networking services to achieve RTE.

Networks form the basis of any real-time enterprise (RTE). Through 2005, 80 percent of enterprises attempting to build RTE capabilities will seriously underestimate networking requirements and will have to make last-minute additions, upgrades or modifications to actually roll out the RTE applications and capabilities (0.8 probability).

The effects of underestimating RTE network demands will be that:

- RTE implementations will be delayed as enterprises identify and meet these new requirements.
- Many business units will be left without a budget to finish broad-based RTE initiatives.
- Enterprises will be forced into using point solutions and will be unable to replicate their successes across their enterprise.

Enterprises can avoid these problems by rigorously assessing the network traffic and requirements to accommodate real-time processing. One of the biggest challenges is to identify how networking changes will affect processes and behavior patterns.

Viewed in the broader context, the RTE is “an enterprise that competes by using up-to-date information to progressively remove delays to the management and execution of its critical business processes.” Thus, RTE means “real-time networking,” a fact that must be communicated and, in light of curtailed IT spending, increasingly must be sold to management across the enterprise.

Steps to Understanding RTE Network Requirements

Discovering new networking requirements is a cross-functional, multitier process (see “The RTE ‘Cyclones’ Model Changes the View”) that, at a high level, involves four steps:

1. Linking RTE with important industry drivers and determining key business goals that must be supported by revisions to business processes.

CIOs must consider the industry drivers and gain buy-in from executives to use RTE as an important approach for analyzing critical success factors for their businesses. The CIO must understand the technological capabilities of networking and be prepared to explain to other chief officers the value proposition of RTE in achieving these success factors.
2. Benchmarking critical business processes and forming process improvement plans.

The CIO, chief operating officer (COO), IS management and business unit managers must identify the key business drivers (such as cost savings and increased top-line performance) and inhibitors (social factors and scalability) facing business units in aligning their processes with the critical success factors.

3. Determining the impact of real-time extensions of business applications to achieve the key business drivers.

At this stage, the IS organization must evaluate proposed real-time enhancements to enterprise applications so that they can adequately support application extensions.

For more research on the impact of these applications, see “Mobilizing the Real-Time Enterprise” and “ERP II Is a Critical Player in the Real-Time Enterprise.” Real-time enhancement factors will place an additional burden on business applications, as well as on the core networks that support them.

4. Identifying the new real-time requirements that these application extensions place on networks.

The IS organization needs to draft and highlight fundamental shifts in network deployments and new technologies to support changes to these processes. It must then determine if its independent software vendors, systems integrators and network service providers can effect such changes. The IS organization must also assess the relative costs and risks during the life cycle. RTE is not a one-time initiative for networking; it is a long-term condition that requires network architectures to change in line with business processes. Enterprises must first identify information bottlenecks that will be highlighted as business applications are converted from a batch-orientation to real time. RTE initiatives will, in general, significantly increase volumes of voice and data traffic.

With this framework, enterprises can identify the many worthwhile networking technologies and services needed for the RTE, and justify investment in such.

Unique RTE Networking Requirements

The RTE will require fundamental changes to some enterprise networks and increased capacity in others. For example, information that was previously batched, or in some cases lost, must now be collected and dispersed appropriately on demand.

RTE networking requirements include:

- Reduced latency when additional networking layers (such as wireless) are introduced.
- Higher capacity in cases where real-time flow of information is too great for networking or processor queues.
- Greater flexibility in quickly managing costs as enterprises become more adept at realizing more-sophisticated forms of least-cost routing.
- Bandwidth on demand to support less-predictable waves of information access.
- Higher-availability requirements as enterprises combine RTE ecosystems.
Fortunately, networking is moving in this direction. The RTE goal will accelerate these changes and is a key driver for the revitalization of networking.

To react more quickly to opportunities and threats, business-unit leaders and top management must rely on an increased capability of their IT infrastructure to provide accurate notifications of key events. Enterprises that take each of these important steps in assuring adequate networking performance will protect their investment in their RTE.

Features

“Network Management for the Real-Time Enterprise” — By understanding new requirements for network management, enterprises can identify support and performance issues for the real-time enterprise. By Debra Curtis

“Real-Time Infrastructure: Identifying the Pieces and Sources” — Enterprises should learn how to equip the network for the real-time enterprise to make RTEs agile. By Ted Chamberlin and Ronni Colville

“RTEs Must Anticipate New Network Demands” — A framework for examining key links between network capability and business solutions can help enterprises identify new networking requirements to support the real-time enterprise. By William Clark

“VoIP Helps Enterprises Leverage Unified Communications” — By identifying key unified communication trends and underlying technologies, enterprises will be on the path to prevent information overload for workers. By Bernard Elliot

“High-Availability Network Technologies for the RTE” — Using a model for the real-time-enterprise network can help enterprises ensure availability of core network processes. By Jay Pultz

“The RTE Network: Intelligent, Agile and Highly Connected” — Enterprises can more tightly link critical business processes across the extranet and maintain a critical, agile business-to-business environment. By Jay Pultz

“High-Availability Networking: Best Practices for the RTE” — A detailed checklist can help enterprises purchase the right amount of redundant services and components to keep real-time enterprise applications available. By Jay Pultz