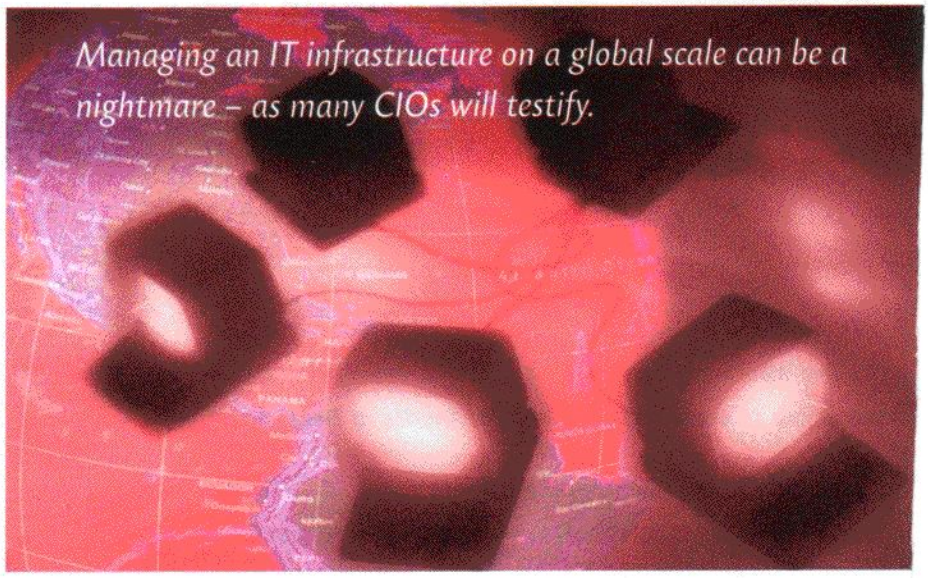
One world IT



Managing an IT infrastructure on a global scale can be a nightmare – as many CIOs will testify.

For most IT directors, managing one office's IT infrastructure is enough of a challenge. Managing distributed sites is even harder. But when an organisation's operations are truly global, the complexity of its infrastructure multiplies by an order of magnitude. And while there are often economies of scale to be gained by implementing the same systems on a worldwide basis, bigger also means more complex, as enterprise-wide systems, such as enterprise resource planning (ERP) packages, are extended to users across the globe.

Globalisation of the IT infrastructure used to mean setting up a wide area network (WAN), but since the Internet has played an increasingly important role in IT implementations, the opportunities for expansion and integration of systems in disparate offices has never been greater. And with the introduction of web-based applications, where the only prerequisite for access is a browser, even desktop applications can be run from a single server, provided appropriate security, such as a virtual private network, is put in place.

It may not be all that simple, however. According to Martha Bennett, vice president of research at analysis firm Giga Information Group, "It's not a case of deciding whether you should have the server in London or Houston – you have to look at the business and see where its processes start and end."

Irfon Watkins, managing director of business process integration company CommerceQuest, agrees. "Although building a global IT infrastructure presents a complex [technical] challenge, many of the key issues in building a global trading environment are not technology related. CIOs constructing global IT strategies must identify and overcome these."

Nevertheless, any company that is global needs to integrate at least some of its basic systems or face innumerable problems. Says Stephen Luczo, CEO of storage equipment vendor Seagate Technology, which has around 20 offices worldwide: "We used to have drives shipped from Asia that would arrive in Holland before the IT systems registered they'd been sent. We lost data. We even had a terminology for these breakdowns, where we'd have to put in another transaction to replace the original. We called it 'retriggering'."

INTEGRATION OR DUPLICATION

Companies that fail to integrate important back office systems risk duplication of effort and resources as well as providing too little information for separate offices to work together effectively. But, as Bennett of the Giga Group points out, the level of integration can vary between companies because of their differing requirements.

To integrate the company's disparate systems, Seagate installed common software and hardware platforms in its offices and unified them internally and across the Internet using a web-based infrastructure. "It's critical to deploy platforms that can be leveraged across the web architecture and be used for storage, networking, information management and application management – using a common interface and real-time messaging," says Luczo. "If you're running a company now, you absolutely have to have a web-based infrastructure. You can't afford to do global conversions if you're not using an architecture that's leveragable. It's dramatically improved Seagate's ability to run its business. Our development expenses are lower, we can convert systems more easily and hook up diverse applications with each other much faster."

But the resources for such a project are not always available to every IT department. Harriet Edelman, CIO of US cosmetics firm Avon, saw the need to revamp the company's entire IT structure to achieve greater efficiencies. However, with 3 million direct sales representatives in 135 countries and 17 manufacturing facilities around the world, the cost of true global integration was going to be high – $120 million. "We cut down on the needs associated with project delivery," admits Edelman. "The original plans were too ambitious." Building a global ERP system for manufacturers and a web-interface for direct salespeople became priorities, rather than full-blown integration of every single business process in the organisation.

Integration does not necessarily mean centralisation, however. "Too much centralised control does not work," says Giga's Bennett. "I'd advise a central strategy with local execution. For example, software tools and hardware should be

Ben Salama, Unibase
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chosen and sourced centrally, but deployed locally. Larger companies tend to go for a big global services provider as an 'overnet' and then local companies for services such as local office connectivity. The best performing organisations manage the strategy centrally but tend to leave the execution and implementation to the local departments."

Paul Burfitt, Global CIO at pharmaceutical company AstraZeneca, has followed this advice. "You need to have one organisation in one company, centrally based, running things. But people at the local level need to put together their own plans. That shouldn't be done centrally – far from it. We have some global integration projects. Our infrastructure is based on Microsoft, our ERP system is SAP, but we're rationalising our applications based on functionality or whether they are nationally based. We're keeping a mix of the two."

With those systems expected to run globally, there are issues of culture to consider if these applications are used by employees and by customers. "If you're providing a trading platform offering global access through the Internet," says CommerceQuest's Watkins, "you need to consider the issues involved in cross-border trading. These include currency and taxation, but also overcoming incompatible restrictions for the sale of goods or provision of specific services in individual countries."

And a company with global interests might find it has to develop sets of technologies appropriate for only a few countries if it wants to trade there. "The Germans and the English have different approaches to electronic payment at point of sale," says Watkins. German consumers are very keen on using systems involving SMS messages on their mobile phones for payment, for example. "This requires mobile technology payment offerings, for example, to be customised," he adds.

CULTURAL MINEFIELD

"Don't have a black border round a web page in Japan. It's insulting," advises Ben Salama, vice president for Europe, Middle East and Africa at Unibase, a US company that helps companies "extend their global reach" by getting the companies IT systems and web sites to work in different languages. Rationalising a company's global infrastructure and applications may not be possible if the systems are not able to present information in a language the employees can understand. Even if the official language of a company is English, it may be the first language of only a minority of employees. Dutch bank ABN Amro, for example, has 3,500 branches and 110,000 employees worldwide; English is the first language of only 20% of its staff, yet is the official language of the company.

"If you have information centralised by a knowledge management system, it can provide great information for sales and HR teams, providing they can understand it," maintains Salama. "What we're finding is that companies that have been global for a long time have processes for creating hard-copy offline for local materials. But, in the rush to create web-based content, the traditional methods have broken down – you might produce a brochure twice a year, but have to update Internet content every day."

Many organisations have web sites only in English or with US and UK customers in mind. Others have content produced centrally for all the subsidiary web sites, but with little impact. "It's a fact that users spend twice as long on a web site in their natural language and they're three times more likely to buy things," says Salama. But devolving content production to local offices is not necessarily the solution either. Some companies have many subsidiaries, each in charge of their own web server and content, but "the millions of dollars of marketing budget spent by the corporate headquarters are being diluted in the translation or not being acted upon," adds Salama.

In addition to a set of programming libraries that let software developers internationalise their offerings easily, Unibase's software enables a company to maintain a central database of text that contains templates for all of its web pages worldwide. It links these to a database of text used by the company in previous documents and which human translators have converted into different languages. Using a content management and review process, together with fuzzy matching for slight variations, the system scans new documents for text that has already been translated and pulls the appropriate sentence from the database for alternative languages. Anything not previously translated is passed to human translators then fed into the system for future use. The central server then combines the different languages into the templates and distributes them to all the subsidiary web servers.

"Typically, 70% of content can be produced centrally, 30% locally, we find," says Salama. "But we believe very strongly that an enormous amount of responsibility has to be in subsidiaries; even if the content is produced centrally and hosted centrally, the subsidiaries need to be involved in the review process. You can't assume the UK marketing team will understand the issues in China or even France."

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By devolving power to local offices after specifying global hardware and software platforms that can deliver in multiple languages, an organisation is able to take advantages of global economies of scale. Avon's Edelman, for example, set up a cross-functional Centre of Excellence to put the business case for all the changes she was making. It was able to show that changes to the core business processes and systems were dropping lead times and inventory levels – proving to her superiors that the integration was paying for itself. These results convinced the management to back Edelman's ERP project.

Seagate's changes, meanwhile, have meant the company has been able to increase the sum of cash available to buy back outstanding shares from the stock exchange and set itself up as a private company again. But these savings can only go so far – if a company tries to force one set of applications and one language on its employees and customers, it may find that it ends up losing money instead. ⓘ

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