

### **Manufacturing popular cars : the "Worldwide Toyota"**

Toyota stood third in the world in the number of cars sold in 1998 and an international representative of Japan, with a name that is well known in over 160 countries. As an automotive supplier to people all over the world, Toyota has adopted a slogan to propel the company's activities into the coming century: "Growth balanced with people, society, and the global environment." Under this slogan, Toyota is implementing many projects to deal with environmental and safety issues to fulfill its responsibilities as an international enterprise. At the same time, Toyota is developing attractive, high-quality, low-cost products to enhance the company's international competitiveness.

### **Toyota reviews conventional e-mail systems to streamline communication**

Raising competitiveness is one of Toyota's principal objectives. With this objective in mind, Toyota developed an intranet system to promote information sharing within the company and to raise productivity. Unfortunately, the company's conventional e-mail system became overloaded, generating problems: Users did not receive incoming messages and were not able to send messages either in a certain condition. Individual departments had each introduced their own e-mail systems. Messages to other mail systems, including those outside the company, experienced delays, and different mail applications on the client side were incompatible. And as Internet use became more widespread, many companies associated with Toyota began to install e-mail systems. To deal with these difficulties, Toyota's Information Systems Department reviewed the e-mail system and restructured it so that e-mail, now recognized as an important communication tool, could be utilized more effectively in business transactions.

### **Meeting global standards. The solution: the S/390 and Lotus Domino.**

The number of e-mail users at Toyota has already passed the 30,000 mark. IBM S/390 G5 Servers and Lotus Domino for S/390 were selected as the infrastructure to support a company-wide mail system that will support all these users.

"Since business is expected to become more and more global, an e-mail system must use international standards for sending and receiving mail over the Internet.

More specifically, it should support SMTP, the protocol of the Internet. In addition, Toyota requested that the number of servers be minimized for more efficient operations," says Yoichi Kawase, Project Manager, Technology Planning Department, Information Systems Planning Division.

The first phase in restructuring Toyota's mail system was the migration of 24,000 users to the new system between January and June 1999. Of these users, 15,000 are now using the new system. The IBM S/390 Parallel Enterprise Server features highly stable operations, as proved by the fact that it supports mission critical applications for large numbers of enterprises. Domino for S/390, which supports standard Internet technologies, provides advanced management capabilities. The combination of IBM S/390 Parallel Servers and Lotus Domino for S/390 permits integrated management and operation of the new large e-mail system.



LS400(CELSIOR)

**S/390**  
e-business  
Customer Success Stories

## **The case of Toyota Motor Corporation**

**A Lotus Notes/Domino  
"company-wide e-mail system"  
for 40,000 Toyota employees.**

*Toyota Motor Corporation Web site:  
<http://www.toyota.co.jp/>*

**Toyota is a dynamic worldwide  
automaker.**

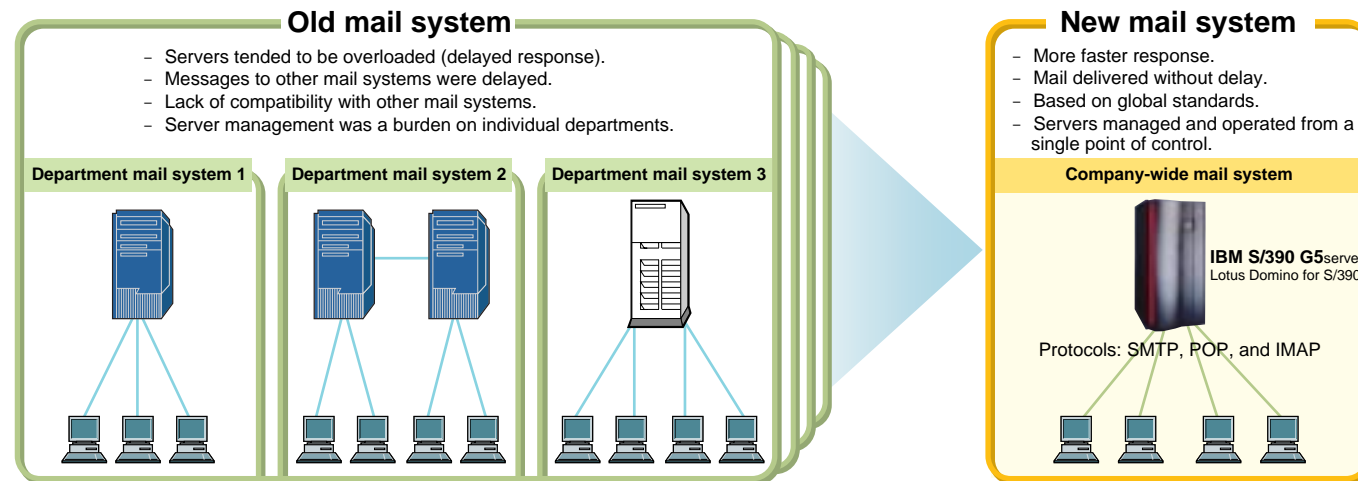
**The company reviewed its e-mail  
systems to streamline communications.**

**S/390® and Lotus Domino support mail  
systems using global standards.**

**These mail systems enjoy an excellent  
reputation among end users.**

**The goal: an e-mail system for 40,000  
users, supported by the open-ended  
scalability of the S/390.**

## Toyota's mail system restructured using S/390 and Lotus Notes/Domino



### Highly evaluated by end users. Reduced server management burden.

Recommended e-mail applications for the client side include Outlook Express, Netscape Messenger and so on. Providing a single "window" for using information on the intranet facilitates operations for end users. Transactions with mail servers are global standards protocols. End users rate the new mail system very highly: it is faster and it delivers message more reliably. In addition, integrating the servers eliminates the need to manage individual servers in different departments. Systems administrators can now concentrate on more important tasks.

### Application

Company-wide e-mail system based on Internet standards

### Software

OS/390®, Domino for S/390

### Hardware

S/390 Parallel Enterprise Server (Model 9672)

### The final system, using the high scalability of S/390, will support 40,000 users.

"Internet technology is evolving rapidly. The array of Internet protocols now available includes POP, IMAP, and for address retrieval, LDAP, enabling for a variety of applications. The technology will continue to evolve at high speed. We will aggressively adopt Internet technology to upgrade our system, rather than cling to the notion that we can develop effective systems using ingrown" says Hideki Kawahara, Assistant Manager, Technology Planning Department, Information Systems Planning Division.

Toyota plans to expand its mail system to support 40,000 users in the second phase of development. Most of the current 150 servers will be integrated into a reduced number of S/390 G5 Servers.

The stable operation of this large mail system will rely on the scalability and reliability of the S/390.

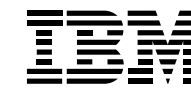


The IBM S/390 is a parallel server using the latest CMOS technology.

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