Ron Hartling, project manager for the agency's global network, Department of Foreign Affairs and International Trade.

"The client/server infrastructure is revolutionizing the way we do business."

DFAIT chose the X.400 standard as its secure global messaging solution; consistent office automation tools based on Microsoft Windows* and running on Intel processor-based desktop platforms; and client/server-based corporate applications built around Microsoft SQL Server* software running on a Microsoft Windows NT*-based symmetric multiprocessing server. After putting out functional requirements and a Request For Proposal (RFP) for a standards-based server platform, DFAIT chose an Olivetti LSX 5040,* which is based on the cost-effective Intel architecture.

3. Solution

Instantly Accessible Information

DFAIT calls its new information technology solution SIGNET, for Secure Integrated Global Network. The agency is implementing the solution in phases — first in the Ottawa home office, then in Canada's major hub missions (e.g., Washington, London, Paris, Tokyo), and finally in the smaller and more remote missions. As of April 1994, about half of DFAIT's worldwide users are connected to the X.400-based messaging system, with access to each other and to other Canadian government departments with interests

abroad. The rest will be connected by April, 1995. Users now can send text and documents anywhere in the world in a matter of minutes.

"On the applications side, our first priority was financial information, which is the heart of any corporate database," says Hartling. The agency is in transition from its legacy host to the new client/server solution. It maintains two Microsoft Windows NT-based servers — one running the Microsoft SQL Server database, the other acting as a front-end transaction server to the legacy system. The corporate SQL Server database already holds all financial transactions from the last three years, and the transaction server keeps it up to date within seconds.

SQL Server applications have exceeded all DFAIT's expectations for ease, flexibility and speed of viewing financial data, according to Hartling. On the legacy VAX system, for example, common queries were run against the system-maintained summary data. Ad hoc queries not covered by those summaries required custom coding and six hour runs that had to be scheduled on weekends. The SQL system, on the other hand, runs all queries against the raw transactions rather than summaries, enabling clients to view the data in any way imaginable.

"Even the most complex possible query posed by DFAIT takes less than two minutes, and typical queries return the requested data in a second or two," says Hartling. "Most impressively, we obtain these results with a Pentium™ processor-based $40,000 server that's a fraction of the cost of a mainframe."