

Canadian National Railway Company

# On track with RailMail



**COMPAQ**  
Inspiration Technology

“We’re looking to growth for the future, incorporating a vision of unified messaging, so we went with Lotus Notes mail. And since we have a strong commitment to Compaq, we decided to continue with them...it was just a logical move for us.”

Norm Van Der Elst, team leader, Lotus Domino Infrastructure  
Canadian National Railway Company

*What makes it work:*

- > 38 Compaq ProLiant™ 5500 servers
- > Compaq Insight Manager™
- > Compaq ActiveAnswers™
- > Compaq Services for Lotus Domino and Lotus Notes R5 upgrade and implementation

*Business Benefits*

- > High availability solutions — tailored for customers’ specific needs
- > Centralized environment
- > Scalability — easily handles all anticipated business growth
- > Easy management
- > Notes R5 — provides a more robust Web-enabled, cross-functional collaboration platform

How does one of North America’s largest railroads make sure its e-mail system keeps up with demand? For Canadian National, the answer was based on fundamentals. First, partner with a trusted supplier to ensure scalability. Second, establish a solid foundation utilizing Lotus Notes R5 as the cornerstone for unified messaging. Eventually, such a system will provide one centralized storage area for messages, allowing users to receive both voice and text messages by phone, PC, cell phone, or other wireless devices.

**A vast network — of rails and wire**

Canadian National operates a network of approximately 16,000 route miles of track in Canada and the United States. It transports petroleum and chemicals, grain and fertilizers, coal,

metals and minerals, forest products and automotive products. In the past five years, CN has undergone a major transformation, becoming more financially durable than the other major rail carriers in North America.

In 1998, CN (Canadian National Railway Company) and IC (Illinois Central) announced a proposed merger. Now, with the merger a reality, CN’s trackage extends south to New Orleans, making this railroad the only one to link three North American coasts: Atlantic, Pacific, and Gulf of Mexico. The only railroad to span Canada and mid-America, CN is geographically well-positioned to take full advantage of opportunities presented by the North American economy.

Today, CN serves the ports of Vancouver, Montreal, Halifax, New Orleans and Mobile, AL,

and the key cities of Toronto, Buffalo, Chicago, Detroit, Memphis, St. Louis and Jackson, MI, with connections to all points in North America.

On the IT side of things, the merger effectively took place in October 2000, when all of IC’s computing operations were combined with CN’s systems. This consolidation and the growth plan of the two organizations included an enhanced mail infrastructure with strong server and storage scalability.

**For connecting and collaborating: CN introduces “RailMail”**

Both CN and IC used the same two messaging systems — one Windows-based and the second, an older mainframe-based system. To avoid coexistence problems, CN has always used a one-mailbox-per-user



approach. As the two companies looked at ways of consolidating, eliminating redundancy and adding new capabilities, a common denominator began to emerge. Both CN and IC were using Compaq servers with Windows NT for one component of their mail systems.

Actually, even before the announced merger, CN was exploring ways to upgrade their existing mail system. Carl G. Henderson, CN's manager, Technology Strategy, explains, "E-mail is critical for the railroad." Back in the mid-90s, Henderson realized CN's present mail system was reaching its limits. He confesses he wasn't initially a Notes believer. "Then I started to see the value Notes R5 could bring to CN. With Notes, mail was just the starting point. We could meet critical user needs for handling attachments, but more

importantly, it would enable future interactivity including collaboration, document management and knowledge management."

For Henderson, several issues were central in the decision-making process: "We had to give users more than they already had. The system had to be responsive and adaptable. Furthermore, it had to operate very reliably at a high level of performance."

With Lotus Notes already in use at various points in the system, CN's IT department knew it offered the kind of enhanced messaging capabilities which CN desired. "We had an existing base of 3,000 Notes users," Norm Van Der Elst, team leader, Lotus Domino Infrastructure, explained recently. "But we wanted to bring that up to around 14,000 users on 11,000 workstations."

The platform issue was more difficult for CN. While they knew Compaq hardware to be highly reliable, with a record of solid performance, CN needed to understand how the *ProLiant™* servers could handle their scalability requirements.

### Partnering for success

That was where Compaq's senior account manager Michel Lacasse, Compaq senior technology specialist, Claude Drouin, and Steve Brunner, part of Compaq's Lotus Alliance group, came in. Their approach to the CN challenge was to work as true partners with their customer.

Brunner, armed with an in-depth knowledge of Lotus Notes R5 and Domino, undertook a comprehensive analysis of CN's messaging network. The result was literally a map of CN's actual message hubs and network connections.

From there, Compaq's team members helped identify potential bottlenecks, places where there was redundancy, and ways to improve efficiency overall.

Van Der Elst adds, "It made a big difference when we sat down and did the analysis together to really see what the requirements were. It

became a lot more concrete at that point. So the partnership really helped."

### Going with what you trust

CN's Lotus Domino infrastructure already relies on 38 *ProLiant* 5500 servers. At the close of 2000, CN has 13 *ProLiant* 5500 servers hosting Lotus Domino Mail, enabling Norm Van Der Elst to sum things up in five words: "very reliable... no major problems."

Carl Henderson talks of "Web-tone" or "dial-tone reliability." He adds, "With the kind of system we envision, infrastructure reliability is absolutely critical. And infrastructure is where Compaq gets winning points. Our operational experience with Compaq has always been very good."

Currently, there are 3,000 Notes Mail users. Beginning in the first quarter of 2001, 11,000 users will be migrated from the mainframe mail system to Notes Mail, bringing the total Notes Mail user base to 14,000.

## Looking ahead to SAN implementation

Norm Van Der Elst sees a possible Storage Area Network (SAN) in CN's mail future. Right now, CN is implementing a telecommunications Storage Area Network built on four *ProLiant* 8500 servers in a data center in Montreal. Eventually, the RailMail infrastructure could utilize 1.1 terabytes of storage from that SAN for e-mail users in Montreal.

The possibilities offered by a SAN solution were an additional factor in CN's decision to partner with Compaq in unifying the railroad's mail system. Says Van Der Elst, "We reviewed a report from leading industry analysts, and with respect to SANs, Compaq solutions will basically be in the forefront in 2001. So that gave us a comfort zone; if we decide to go with a SAN, we'd be with one of the leading companies in the market, and we can continue to grow with them."

Van Der Elst recognizes that establishing a SAN-based solution could bring great benefits. Without a SAN, systems are limited to the server-attached storage. With a SAN, however, there is virtually no limit to the amount of storage available to each server. It allows for easy, dynamic expansion and/or reallocation of storage, with a faster reaction time.

He likes the possibilities of sharing resources. The SAN will be the back-end for a new Windows 2000-based system. The same SAN can be shared between functions such as messaging infrastructure, file and print, and backup. Says Van Der Elst, "We'll be able to piggy-back on all these other solutions; it just makes sense, corporate-wide, for economies of scale."

## Partnering for growth

Apart from the knowledge and expertise of Compaq's Lotus Alliance Team, and the compelling performance,

scalability and reliability of Compaq hardware, the following tools were considerations in deciding to partner with Compaq. *ActiveAnswers* is an online interactive source for critical information in system selection and configuration. *Insight Manager* provides real-time error reporting via pagers, cell phones and other devices. This helps ensure maximum uptime 24x7. According to Van Der Elst, with *Insight Manager*, "I can be fixing a problem before it is identified on the board as a problem."

CN's rail network spans the continent. RailMail promises to keep everyone in touch — even the road warriors. To ensure scalability and responsiveness for today and in the future, CN relies on Compaq solutions. Ultimately, with an enhanced mail system, collaboration promises to make the entire CN operation more efficient and more responsive. CN and Compaq — partnering to keep RailMail on track.

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