Burlington Northern Santa Fe RR

BNSF simplifies a major IT systems merger with console consolidation and remote operations using the Virtual Command Center from Global MainTech

BUSINESS

Burlington Northern Santa Fe Corporation (BNSF), through its subsidiary The Burlington Northern and Santa Fe Railway Company, operates the largest railroad network west of the Mississippi. BNSF has 35,000 route miles covering 28 states, two Canadian provinces and additional tracks to Mexico.

ISSUES

- Fast merger of large, mainframe-based IS organizations belonging to Burlington Northern Inc. and the Santa Fe Pacific Corporation railroads
- Console consolidation, remote operations
- Training and relocation of operators with optimum use of level 2 expertise

SOLUTION

Use Global MAINTECH's cutting-edge Virtual Command Center (VCC) for fast console consolidation, remote operations, and training. The VCC technology centralized systems control and contributed to the successful merger of the two companies.

BENEFITS

- BNSF now has complete coverage of the entire Western U.S. and a significant competitive edge.
- Better use of employees
- Ease of operations
- IT efficiency

Low-sulfur coal—enough to generate 10 percent of the nation's electricity—grain, beer, cars and trucks, chemicals, minerals, forest products, aircraft parts: these are raw materials of the American economy, and they all travel by freight train. Forget about those fancy passenger cars. Burlington Northern Santa Fe Railway operates blue-collar diesel trains, the kind that make you wait at railroad crossings while hundreds of flatbeds and containers roll by. And they do it very successfully.

BNSF became an industry leader by extracting maximum benefit from a series of highly successful railroad company mergers and consolidations. The most recent merger, between the Burlington Northern Railway, which owned track all across the Northwest and into Mississippi and Texas, and the Santa Fe Railway, which owned the southwestern routes and track into Mexico, gave the combined company coverage of the entire Western U.S. A key part of the merger was the ability to quickly combine the best of both companies' information technology (IT) systems.

One unified processing system in 18 months

Both companies had very large mainframe systems running massive online applications to schedule trains and crews, and to generally keep the railway running smoothly. The managers of Burlington Northern Inc. and Santa Fe Railway Corporation wondered how they would consolidate these two complex computer systems. Nevertheless, they set an aggressive timetable of just 18 months, with July 4, 1997—Independence Day—as the target to have everything complete.

According to Pete Backer, BNSF technical consultant, “There were a lot of differences we had to overcome in a hurry to get all the systems merged and functioning as a single railroad." The big question was, "Do we go with Burlington Northern’s or Santa Fe’s applications and methods?" said Backer. "Sometimes we chose one or the other, and sometimes we chose a totally new one.” Fortunately, Pete and the other key project members were able to make the right choices to meet the aggressive timetable.

Now, says Roger Lapp, consultant systems engineer, "It's mainly one big online system from the IS standpoint. Eight different MVS systems all talk to each other continuously, of which all but two or three are actual online systems."

One of the key technology choices that helped BNSF consolidate operations and systems was the Virtual Command Center (VCC), from Global MainTech, Inc.

The Virtual Command Center

The VCC is a master console that provides simultaneous control, operation, and monitoring for mainframes, midrange UNIX platforms, Microsoft NT platforms, and network lines. Using the VCC, BNSF was able to consolidate many consoles into one master console—in a very short time.

"When I first saw the VCC, I knew it was just what I wanted," Lapp said. "It allows the operators to get more involved in what the applications are doing versus what the systems are doing. And they are more responsive to the people who are calling in with questions and problems. By clicking and pulling up the one system they need at any particular time, the operators are more stable in their work environment."

In the BNSF IT center in Topeka, Kansas, there are 2 VCC systems and less than 10 workstations. Without VCC, there would be more than 35. At one console a technician can access the primary and back-up system, as well as having access to the 35 or 40 other operating systems.

"The VCC allows an operator to do much more than they could before. We now handle all the consoles at one workstation. They don't see all this 'garbage' come across the screens that they have to worry or think about. They can watch alerts and then occasionally go to the consoles and enter a command, do a display check, or something. They don't have to monitor it all the time, whereas before the volume of messages coming across the system was atrocious."

Backer agrees. The idea that it's possible to get all the operating systems under one piece of glass amazes him. "We don't have a mass of consoles sitting in front of these people, to the point where they need roller skates or a chair with good wheels to keep rolling around to see what's going on. Now to enter something, they can click through different screens and get a lot of work done at a single terminal."

"The VCC has led to the simplification of the whole operations department."

— Roger Lapp, BNSF consultant systems engineer

Remote operations made easy

With mainframes in their Topeka data center, operations staff in their Fort Worth data center, and their St. Paul data center closing, BNSF really needed remote operations. The VCC provided this function, since an operator can sit at the VCC and operate a console—literally use all the function keys available—even though the console is thousands of miles away. The operator can even bring up and power down the systems.

More effective use of people

The VCC also allows more effective use of BNSF technical expertise. Said Backer, "In Fort Worth our systems engineers are 10 miles away from the operations building." But with the VCC, "A lot of our systems people have got the necessary software loaded on their desktop PCs, and they can log into the VCC from anywhere. They can do problem determination, resolution, and testing without having to travel out to the operations desk."

Even though the support engineers are located away from operations, the VCC lets them provide better support more quickly. It is a much more efficient use of level-2 engineering expertise.

An invaluable training tool

With operators in widely separate locations, the VCC also became an invaluable training tool for BNSF. With the VCC, said Backer, "People in different locations can look at the same screen at the same time and see what the other person is typing. Watching what the other person does makes training and troubleshooting much easier."

The future of BNSF and VCC

Global MainTech is proud to have contributed to the successful merger of the Burlington Northern Santa Fe railroad with enabling technology—the Virtual Command Center—for console consolidation and remote operations.

Both Backer and Lapp agree that BNSF will remain a customer of Global MainTech. "They're responsive," Backer said. "I've given them a lot of suggestions and requirements, and they answer."

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