

## The Burlington Northern and Santa Fe Railway Company Looks to SCI and NICE for Its Integrated Digital Video System

by Emily Harwood

The Burlington Northern and Santa Fe Railway Company (BNSF), employing approximately 38,000 people, operates one of the largest railroad networks in North America with 33,000 route miles covering twenty-eight states and two Canadian provinces. This network, which moves more intermodal\* traffic than any other rail system in the world, covers the western two-thirds of the United States stretching from major Pacific Northwest and Southern California ports to the Midwest, Southeast and Southwest and from the Gulf of Mexico to Canada. Revenues are generated primarily from the transportation of coal, grain, intermodal containers and trailers, chemicals, metals, minerals, forest products, automobiles and consumer goods.

When BNSF began plans for a security overhaul, PSA member SCI, Inc. provided a comprehensive scope of work and project detail outlining all of the system performance criteria. Project approval decisions were made based on this detailed overview of the system functionality in addition to the customer's previous experience with SCI and the represented manufacturers. The process began in 2000, with the most recent phase completed in August, 2004.

### About SCI

SCI is a systems integrator located in Albuquerque, New Mexico who furnishes consultation, engineering, design development, installation, and support services for integrated electronic access control systems. Founded in 1972, they have been recognized by Security Distributing & Marketing's national Top Systems Integrators report for the past six years.

### About NICE Systems

NICE Systems, a PSA vendor partner, fulfills the digital video requirements of a security plan that includes the protection of high value storage and staging areas (new automobiles) and transit points for overland freight (truck trailer transit yards). The system also supports remote viewing of large yard areas where extremely low light and long range zoom lens cameras provide the long range eyes necessary to identify train cars and yard activity.

### Why NICE?

SCI and BNSF agreed upon NICE Systems digital video products as the best option to support an integrated electronic security system that incorporates card access control of personnel and vehicle gates; alarm monitoring of gates and internal areas; alarm annunciation via network connectivity to the BNSF control center, with voice annunciation of alarm conditions over standard phone/cell service. The automated video surveillance system is tied into alarm and gate reader activity, with automated camera call-up to display monitors.

Daved Levine, co-owner and project contract

administrator for SCI stated, "The decision to use NICE was based in part on the customer's national standard performance requirements. NICE Systems provides a product that is relatively network-friendly, flexible with regards to input capacity and has a high quality of video record, transmission and display characteristics."

### Specific Challenges

Railroad environments present specific challenges to the integrator such as the need for each subsystem to coordinate between various customer support groups,

including radio communications, network services and safety and police departments. Each group has specific areas of



SCI employees Robert Ward (system designer), and Jim Trevethic (project manager), are pleased that the system is working to specifications.

concern that typically require full process disclosure, training, and documentation. System design criteria are adjusted to suit this highly industrial 24/7/365 environment including the requirement for staff to qualify for specific safety certifications.

Product performance requirements are critical concerns due to the environmental conditions. Massive amounts of structural and moving steel can impact electrical and electro-mechanical performance of security systems. Electrical grounding, surge protection, product mounting components, and general installation processes are all evaluated and performed with consideration to extremely harsh environmental and industrial conditions.

### How Does the System Work?

Video is taken from cameras located at the auto-loading facility, where cameras view general lot activity (high speed acquisition dome cameras, color, low light, long

*continued on page 5*

*\*The term intermodal is used to describe transportation involving more than one form of carrier during a single journey; for example, a single shipment may require movement by trucks, railroads and steamship lines to reach its final destination.*



Rail yards present specific challenges to systems integrators.

## **BNSF Railway**

*continued from page 4*

zoom lens capabilities), perimeter fence lines and entry points that are integrated to card access controlled gate systems.

Cameras view activity of tractor-trailer rigs that bring product-loaded trailers into and out of the yards where they are transported by rail at intermodal facilities and train deployment yards where train cars are brought in from around the country. Identifying drivers and vehicle identification numbers on truck trailers and vendor identification numbers on tractor rigs provides documentation of truck trailer transit into and out of yards.

The system deployed by SCI in three separate and distinctly different business environments for BNSF including auto loading, intermodal transit, and train configuration sites are all integrated into one enterprise system managed from a BNSF central control facility, allowing for centralization of security and monitoring management on one critical platform.

Alarm conditions generated by field detection, door or gate status monitoring devices are all managed by the access control system, tied directly to local video in the digital video recording system and annunciated by means of the access control system monitoring workstations. Automated local transmission of critical conditions to specific staff via mobile phones allows an automated voice dialing unit to send a unique voice-recorded description of an alarm condition to authorized staff.

Daved elaborates on the system design, “The local systems are each designed with both a local and regional plan in mind, which must include consideration of the enterprise master plan. The master planning is a continuous process of evaluations in respect to facilities expansion. NICE digital video works very well in this enterprise-driven environment.” 