Hallmark Cards

Channel Extenders Save $500,000 Annually by Driving Printers at Distribution Sites

INRANGE®
Where Networks Converge

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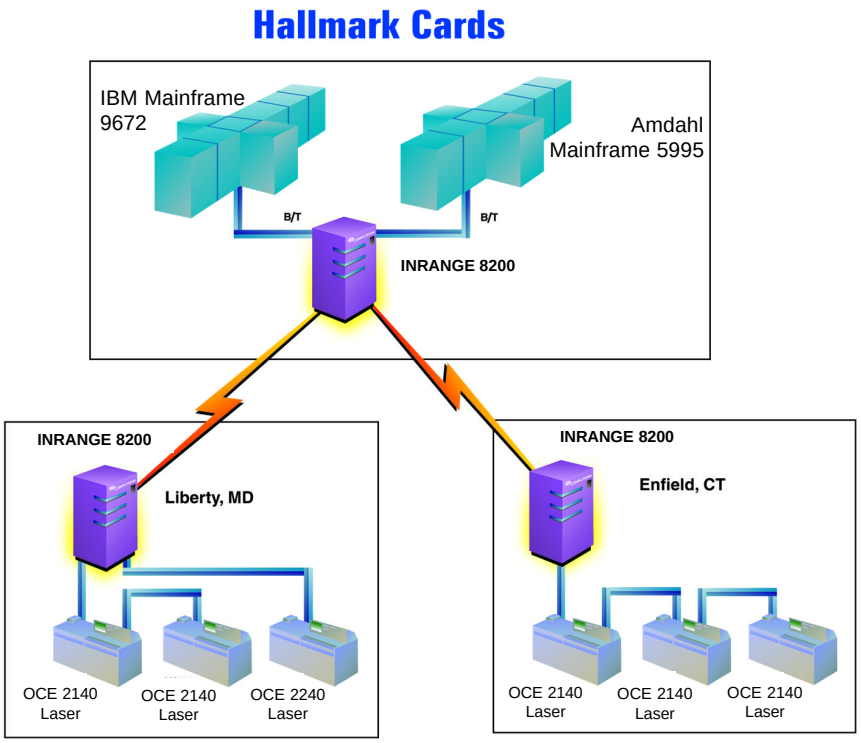
Three channel extenders with outstanding reliability are saving Hallmark Cards, Inc. well over $500,000 per year by driving printers at two remote distribution sites. Even after eliminating two mainframe computers previously located at its distribution facilities, Hallmark enjoys performance equal to the previous configuration — the remote sites receive distribution information from their local printers as quickly as when they were driven by local hosts. The 8200 Series channel extenders from INRANGE Technologies have operated without a single outage to date while providing up to 5:1 compression ratios, making it possible for a single T1 line to support the remote locations easily.



Mission-Critical Application

Hallmark's automatic distribution system (ADS) is a mission-critical business application used to deliver the company's products to retail outlets. This custom-developed application is used for order entry, selection of substitute items if the ordered item is not in stock, picking stock from inventory, and shipping. The application currently runs on IBM 9672-R55 and Amdahl 5995-12670M mainframes at Hallmark's headquarters in Kansas City, MO. These mainframes drive two OCE 2140 and one OCE 2240 printers at the Liberty, MO distribution center and three OCE 2140 printers at the Enfield, CT facility.

The Challenge

In the past, Hallmark ran the ADS application on mainframe hosts at all three facilities. Leroy Hansburg, Information Technology Manager - Mainframe Support, sought a lower cost alternative. "The ideal solution, I felt, was to operate the printers at the distribution centers from the mainframe at Kansas City headquarters," Hansburg said. "There were obvious and fairly substantial savings to be gained. The problem that we had to overcome is that IBM's mainframe architecture makes it impossible to operate peripheral equipment at distances greater than three kilometers from the host using ESCON channels."

Proof of Concept

Hansburg began evaluating channel extenders, devices that enable operation of peripherals remotely from plug-compatible mainframes. "There was some speculation that multiple T1 lines might be required to support our volume of traffic," Hansburg said. "This would eat up a fair amount of our savings. I established a proof of concept by bringing in two T1 lines to each distribution center. Our tests showed that the application only occupied about 27% of the bandwidth of a single T1 line, an insignificant expense in comparison to the potential savings."

The Service Difference

The next step was selecting the channel extension vendor. The decision came down to which vendor was able to provide the best guarantee against lengthy service disruptions. Hansburg selected the 8200 Series because INRANGE was the only vendor whose system architecture ensured repair of any outage within four hours. While another vendor may have had to swap out its entire channel extender, which would take 24 hours, INRANGE avoids delays of this magnitude by building redundancy into the channel extender.

Reputation with customers also played a key role in Hallmark's decision. In talking to customers of each of the suppliers that were considered, Hansburg concluded that INRANGE's customer support was superior to other suppliers' service approach.

The results affirmed Hallmark's decision. "The availability of the channel extenders has been outstanding," Hansburg said. "The entire INRANGE printer sub-system has suffered only a few incidents of downtime lasting no more than 10 minutes in the twelve months that it has been up and running. The INRANGE technical support team provided assistance in both cases by identifying the issues, even though their channel extension equipment was

not the cause of the problem. One problem turned out to be the failure of a circuit board in one of our printers. In the other case, INRANGE dialed into the unit at the remote site and ran a trace. They discovered that the channel extender was working fine and could communicate to the printer but not to the other channel extender. They suggested calling our communications provider. We did and discovered that the T1 line had gone down."

Low Bandwidth Requirements

In operation, the channel extenders required even less bandwidth than the original proof of concept, generally between 15% and 25% of a single T1 line. The 8200 Series channel extenders provide compression ratios of 2:1 to 5:1 depending on the type of data. Compression ratios of 3:1 for print and 5:1 for tape are common. All compression occurs on the channel side as data is received from the mainframe channel in large blocks. The bigger the data block, the more likely it is to contain repetitive information, resulting in a higher compression ratio. In contrast, other vendors perform compression on the link-side later in the transmission cycle when the data blocks are typically less than 1K. Compressing on the channel side provides better results. Only INRANGE offers On-Channel Compression™.

Project Success and SNMP Implementation

"This project is a major success and has made a significant contribution to our overall cost reduction efforts," Hansburg concluded. "The total cost of the project including the channel extender and related hardware and telecommunications expenses was about $250,000. The annual cost savings from turning off the two mainframe computers is $500,000. In addition, we have simplified our technical architecture, improved service levels, and reduced support expenses considerably by consolidating our processing at headquarters."

On the heels of this successful project, Hansburg is also considering implementing another channel extender feature in which operations personnel are informed of the operating status of the 8200 unit through its support for the SNMP protocol. Each channel extender at local and remote sites is fitted with a dedicated network management station (NMS) interface card to support the SNMP option. The SNMP protocol is used to send diagnostic and performance data to a network management station that provides visibility to the entire enterprise from a single console. The channel extender supports all 172 standard SNMP alarms and also provides about 50 custom alarms.

Information technology personnel can view a variety of information through the 8200 SNMP option, including configuration information, alarms (including alerts and aborts), compression statistics, utilization data and throughput statistics. For example, the unit provides notification when traffic utilization exceeds preset limits or when a cooling fan needs to be replaced.

About Hallmark

Kansas City-based Hallmark is known throughout the world for its greeting cards, related personal expression products, and television's most honored and enduring dramatic series, the Hallmark Hall of Fame. Through licensing leadership and joint ventures, Hallmark continues to expand its product formats and distribution avenues. The company, which has wholly-owned subsidiaries in 12 countries, publishes products in 30 languages and distributes them in more than 100 countries. The company's Hallmark Entertainment, Inc. subsidiary is the world's leading producer of movies and mini-series for television; its Binney & Smith subsidiary, maker of Crayola crayons, is the leading producer of student and professional art materials.

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