However, size and diversity alone don’t describe the whole challenge faced by the JD Group. There’s geography, with the stores widely distributed throughout southern Africa, including many located amidst relatively inaccessible rural terrain. This necessitates warehousing the majority of the merchandise at strategically located distribution centers, with deliveries made directly from these locations to the customers’ homes.

Then there’s the matter of payment method. In most areas the JD Group serves, checks are rare, and credit cards all but unheard of, necessitating predominantly cash payments. As is common in many emerging consumer markets, cash payments are made on extended credit terms spread out over 21-24 months. That means that customers physically travel once a month to one of the JD Group’s more than 600 locations to make their payments to their accounts. For the JD Group, that’s more than a million cash transactions to process and track each and every month.

Just a few years ago, before the JD Group tapped into very small aperture terminal (VSAT) technology to help manage the complexity of their operations, there was no real-time communication among the stores, the accounts departments, and the warehouses. Data was transferred overnight, and records reaching the sales floor were usually 24-48 hours behind.

In other words, clerks could only tell customers what items were available in stock several days ago, and they didn’t have access to up-to-date information on what customers owed, or how much more credit could be extended to them for additional purchases. Not surprisingly, this situation often added up to dissatisfied customers and lost business opportunities for the JD Group stores.

Perhaps the only saving grace was that other furniture retailers were in the same boat. However, grounded as it was in a highly aggressive, highly visionary corporate culture, this fact was of little consolation to JD Group managers. By the mid-1990s, with increasing sales and significant acquisitions making them the largest retailer in the region, the JD Group looked to technology to help them leap ahead of the pack in what Systems and Administration Director Dick Behrens calls a “highly competitive, almost overtraded” local furniture market.

The ultimate answer for the JD Group was a custom-built wide-area network (WAN) based on Hughes Network Systems (HNS) VSAT satellite technology, designed by HNS, in conjunction with local telecommunications provider
Telkom SA Ltd. who implemented and maintained the system under their SpaceStream brand. As JD Group Managing Director Mias Strauss said while giving Telkom the Company’s 1997 “Supplier of the Year” award for service excellence and commitment, “It’s an answer that has truly given us the competitive edge in the furniture retail market.”

Looking for a Reliable Solution
But, we’re jumping ahead. Back in 1994, the HNS/Telkom VSAT satellite solution was not yet on the drawing board for the JD Group. Identifying the need to create communications links between all of its locations, it first turned to more terrestrial solutions.

“We looked first to expanding our traditional landline WAN,” explained Behrens, “but it soon became obvious that the exercise was futile.”

Lack of existing infrastructure and the challenge of connecting numerous remote locations were the main culprits, but the JD Group faced an even more insidious foe.

“In Africa, the theft of copper cable is a true growth industry,” said Behrens. “Thieves bring in equipment to lift each manhole cover, cut the cable, head on to the next manhole, cut that, and truck it all away. It’s a big problem.”

Behrens reported that such cable theft in a city near their headquarters recently resulted in the local community being without telephone service for more than two weeks.

“We couldn’t afford that — if we were going to serve our customers best, reliability was a paramount consideration,” said Behrens. “Our vision was that a customer could walk into any of our stores anywhere in the region, and, with the press of a button, immediately know the status of their account and the availability of the products they wanted. Downtime means lost customers and lost sales, so we couldn’t take a chance on copper.”

U.S. Trip Leads to Aggressive VSAT Rollout Plan
The realization that traditional communications methods would not allow it to achieve its vision led the JD Group to send a team of company executives and IT experts to the United States to explore the methods of some of their American retail colleagues. These executives quickly saw that American retailers trusted their real-time data networks to satellite technology by HNS.

“These stores were invariably located in areas where terrestrial telecommunications infrastructure was readily and inexpensively available, yet these successful chains still chose to invest in VSAT technologies. That really caught our attention,” said Behrens.

Discussions at HNS headquarters led to the scheduling of an exploratory workshop in South Africa in February 1995, with the JD Group, Telkom, and local HNS representatives in attendance. As a result of this meeting, the team performed a positive feasibility study, and in
fast order, developed an implementation plan, starting with nine pilot sites. With the pilot results successful, the partners agreed on an aggressive rollout plan, and set the goal of installing 600 terminals over the following 12 months.

“This was to be the fastest VSAT rollout of this size ever,” said Behrens. “To the credit of Telkom and HNS, they handily beat even this aggressive timetable, having the system up and ready a couple of weeks ahead of schedule.”

A High-Tech, Easy to Deploy System
Enabling this speed of deployment was the size and portability of the HNS VSAT satellite dishes. At 1.2 meters across, the rooftop antennas look more like large serving bowls (or traditional South African skottels) than powerful communications tools, and they can be quickly driven out to any site and installed by technicians. Each remote terminal consists of the outdoor dish and its mounted electronics, and an indoor unit that is connected to the site’s computer network.

The VSAT terminals are arranged around a central hub — in this case, a shared hub located at a Telkom site. The last component of the SpaceStream VSAT system is the “space segment,” or transponder bandwidth allocated by satellites in geosynchronous orbit. Satellite capacity is allocated to remote sites on demand, ensuring optimum response times.

According to Behrens, it was the “modularity” of the system that gave them confidence that the unprecedented size of the JD Group’s demanded network wouldn’t be a problem.

“Past a certain point, whether you want 200 or 600 remote sites is not really material, once you have the concept working it’s just a matter of adding more dishes and getting more bandwidth,” he said.

Indeed, as the JD Group continues to grow at a rate of 60-70 stores per year, installing the now familiar “skottel dish” to the building’s roof has become an automatic part of the opening process at locations in South Africa and Botswana. Installations at stores in neighboring Namibia, Swaziland, and Lesotho are pending negotiations with local telecommunications providers.

JD Group, Telkom and Hughes Network Systems — a Working Partnership
The results for JD Group have been significant helping lead the company to some of the largest sales years in its history. The availability of real-time information — and a reported 99.9% network reliability — has helped the JD Group meet customer needs in ways that competitors can’t match.

“These stores were invariably located in areas where terrestrial telecommunications infrastructure was readily and inexpensively available, yet these successful chains still chose to invest in VSAT technologies. That really caught our attention,”
transactional and management data,” said Behrens. “Our SpaceStream system has been an excellent investment in helping us secure that data and use it to gain a competitive edge.”

Behrens knows that no matter how fast JD Group grows, his “Supplier of the Year,” Telkom SA, and its HNS partners — the global VSAT market leaders with more than 300,000 terminals in operation — will continue to be there to help JD Group reach new levels of success through this strategic communications tool.

“This has been a very cooperative project, with all of us working together to break new ground,” Behrens said. “Telkom and Hughes worked with us, and continue to work with us on a day-to-day basis, and have proven that they are determined to help us succeed.”

Hughes Network Systems

A world leader in satellite products and network systems for more than 25 years, HNS is the global VSAT market leader and has shipped more than 300,000 terminals. Headquartered in Germantown, MD, USA, the company has sales and support offices worldwide. HNS offers communications network solutions that include a complete line of integrated satellite, enterprise networking products, and fixed and mobile wireless networks. HNS is a Hughes Electronics Corporation company and an ISO-9001-certified manufacturer. The earnings of Hughes Electronics are used to calculate the earnings per share attributable to GMH (NYSE symbol) common stock. HNS can be found at www.hns.com.