CENTERFOLD

BY KELLY JACKSON HIGGINS

SEMINIS

Seed Developer Grows Its WAN With QoS and Compression

Next time you tell your kids to eat their veggies, consider this: Those carrots and spinach on the plate once needed bandwidth, too.

No one knows that better than produce seed maker and distributor Seminis, a global company that watched its proprietary vegetable-and-fruit research applications and SAP ERP systems slow to a crawl during periods of heavy WAN traffic at some sites last year. A Seminis scientist running the company's forecasting application for an experimental seed, for example, would experience sluggish response time if another user was sending a large, graphics-laden file.

So Seminis now compresses and prioritizes its WAN traffic to squeeze every last bit out of its WAN pipe without expensive bandwidth upgrades. The WAN, which spans more than 100 sites in more than 20 countries, is mostly frame relay in the United States and at its overseas sites, where pipes are pricier. Seminis' research, sales and distribution, and production sites around the world use the WAN to access the company's proprietary and ERP applications housed at its main data center.

"We run pretty lean on bandwidth," says Erik Ackerman, network engineer at the Oxnard, Calif.-based $480 million company that created the wildly popular baby carrot—no peeling required—and, more recently, a personal-size seedless watermelon.

Seminis so far has installed 14 Peribit SR-50 and SR-20 Sequence Reducer WAN optimization devices at its most bandwidth-challenged sites. These appliances prioritize traffic to ensure that the sites get enough bandwidth for Seminis' Citrix ICA proprietary applications and Windows SAP ERP apps. With the Peribit

The Hard Sell

IT PLANTED THE SEED FOR QoS

THESE DAYS, MOST IT DEPARTMENTS must endure a gut-wrenching budget-approval process even for the simplest of upgrades. But Seminis' proposal for WAN compression and QoS (quality of service) sailed through its approval cycle, in part because the company had a budget for its WAN infrastructure. Seminis won't talk specifics on its budget numbers, according to Erik Ackerman, network engineer at Seminis, but there was plenty of headroom for the initial $100,000 purchase of Peribit SR-50 and SR-20 Sequence Reducer WAN optimization devices last year.

"We were in a good position," Ackerman says. "And the company is very pro-IT: If a project makes sense, they will do it." All the IT team had to do was sell it to the IT director, and the buy was a sure thing.

The produce-seed developer's international roots had a lot to do with IT's stature in the company.

"Seminis recognizes the importance of IT, [especially for] dealing with the complexity of diverse geographic locations," Ackerman says.

IT funding has increased, too, since Seminis went private last year. Company execs say Seminis currently has some healthy cash reserves for IT projects.

Another boost to the WAN optimization project was the return on investment. The IT team showed an ROI of less than one year compared with an all-out bandwidth upgrade. For instance, upgrading the 128-Kbps frame relay link of Seminis' Idaho site would have cost about $400 a month for a

> 'The company is very pro-IT: If a project makes sense, they will do it.'

256-Kbps pipe, Ackerman says, or $4,800 a year. A Peribit box, on the other hand, listed for around $2,900, so it was much cheaper to optimize the existing pipes. "It was easy to get this pushed through," he says.

In the first phase of the installation, Seminis focused on the compression technology—QoS wasn't yet available in the Peribit devices' software. Earlier this year, Seminis added the new QoS feature for the Peribit SR-50 and SR-20 Sequence Reducers.

"The real benefit was the combination of QoS and compression," Ackerman says. "That's where we were able to prioritize traffic."

appliance's QoS (quality of service) technology, the Seminis IT department is no longer bombarded with user complaints. "They're not sitting for minutes anymore waiting for a transaction because someone is doing a large file copy," Ackerman says.

WAN optimization technology is nothing new, but the pressure on IT to control WAN costs has made the cheaper compression and QoS methods increasingly popular among all kinds of organizations. International Data Corp. projects that the WAN optimization management market will grow from $236 million to $427 million by 2008.

Not So Hot?

Seminis first tested compression more than a year ago. At the time, it was conducting feasibility tests of a "lukewarm" backup site for storing its multiple gigabytes of SAP ERP data, which was housed in IBM RS/6000 database servers at the company's data center in Oxnard. The test-bed sites were connected through a dedicated T1 pipe. Ackerman and the IT team quickly discovered that compressing the ERP data boosted performance of the traffic and applications over the T1, eliminating the need to buy a much pricier DS3 or other high-speed connection.

> Users are no longer sitting for minutes waiting for a transaction.

"We were trying to limit our expense in dedicated circuits for backup," Ackerman says. "It was certainly a fit for remote offices, especially in our international areas, where the cost of circuits is high."

The company considered pumping up the bandwidth at its U.S. sites, but at the time, Seminis had no surefire way of guaranteeing or monitoring QoS on the fatter pipes. "There was no way to measure or give certain apps priority," Ackerman explains.

Configuring QoS on Seminis' Nortel ARN (advanced remote node) routers didn't help, either. The ERP application had so many ports associated with it that it was actually inefficient to configure the older, low-end ARNs with the QoS parameters.

"We put HTTP Port 80 traffic at a lower priority over the WAN, but this didn't entirely solve the performance problem," Ackerman says.

So Seminis went with the WAN optimization appliances, which made defining applications, grouping traffic and allocating bandwidth easier, Ackerman says. Seminis runs Peribit's PeriScope

[15 MINUTES]

Erik Ackerman

NETWORK ENGINEER
SEMINIS, OXNARD, CALIF.

Erik Ackerman, 33, network engineer at Seminis, is responsible for the fruit- and vegetable-seed manufacturer's global WAN, which spans more than 100 sites in more than 20 countries. He also handles the company's LAN architecture and security for its headquarters in Oxnard, Calif. Ackerman holds certifications in Citrix Winview, Winframe and Metaframe administrator, CCSA (Check Point) and MCP (NT 4.0). He has been at Seminis for four years and in IT for 15 years.

Why frame relay gets a bad rap these days: "Probably VPN and MPLS marketing, but I don't pay attention to the hype."

Best day of his career: "When I first used a packet analyzer."

Why running a multinational WAN is no picnic: "Time zones, languages and cultures. Sometimes you have to accept that in some countries, it takes as long as it takes for WAN transmissions."

Where QoS falls short: "In configuring frame relay circuits. In working with our managed services vendor, we were not able to configure the ARNs effectively to provide the level or quality of service we were looking for. It did provide some improvement, but it was inconsistent."

Favorite veggies and fruit developed by Seminis: The Bambino miniwatermelon is cool. And the pocket-shaped lettuce Jammers—a cross between romaine and iceberg—which are like a taco shell and used [as a bread alternative] for low-carb diets."

Biggest bet he ever made: "$400 in Vegas on War, and I won. Then I did what everyone else does in Vegas—I lost it."

Best advice: "People aren't stupid or smart—they just think differently."

Wheels: "Infiniti Q45. It goes forward *and* backward."

Off the clock: "Fishing, hiking, camping, gambling."

Habla ingles only: "Fortunately, English is the business language. Even if I did [speak another language], I'm not sure how much that would help: Our IT contacts can communicate in English, and we're all aware of the language barrier."

CMS (Central Management Software) to configure and monitor compression and QoS.

But not all of Seminis' sites can get WAN compression and QoS. The Budapest and Tapioszele, Hungary, sites, for example, are connected over a serial link. Tapioszele accesses the WAN through a Nortel ARN router in Budapest, where there's also a Peribit Sequence Reducer. Because Tapioszele traffic goes straight to the ARN router via the serial link and doesn't touch the Peribit box, it doesn't get compressed, nor are the apps prioritized with QoS.

"The easiest solution for this would be to place a Peribit device in Tapioszele," says Ackerman, who declined to give more details on the company's plans.

Seminis gets some useful compression data from its CMS management console, such as the level of compression used at a particular site or in a particular application. "I can also look at units of bandwidth going to each site," Ackerman says. Seminis uses these reports to pinpoint apps with poor compression and to get a look at how traffic is flowing. Then a determination can be made whether a configuration change is in order or where to place an additional Peribit appliance.

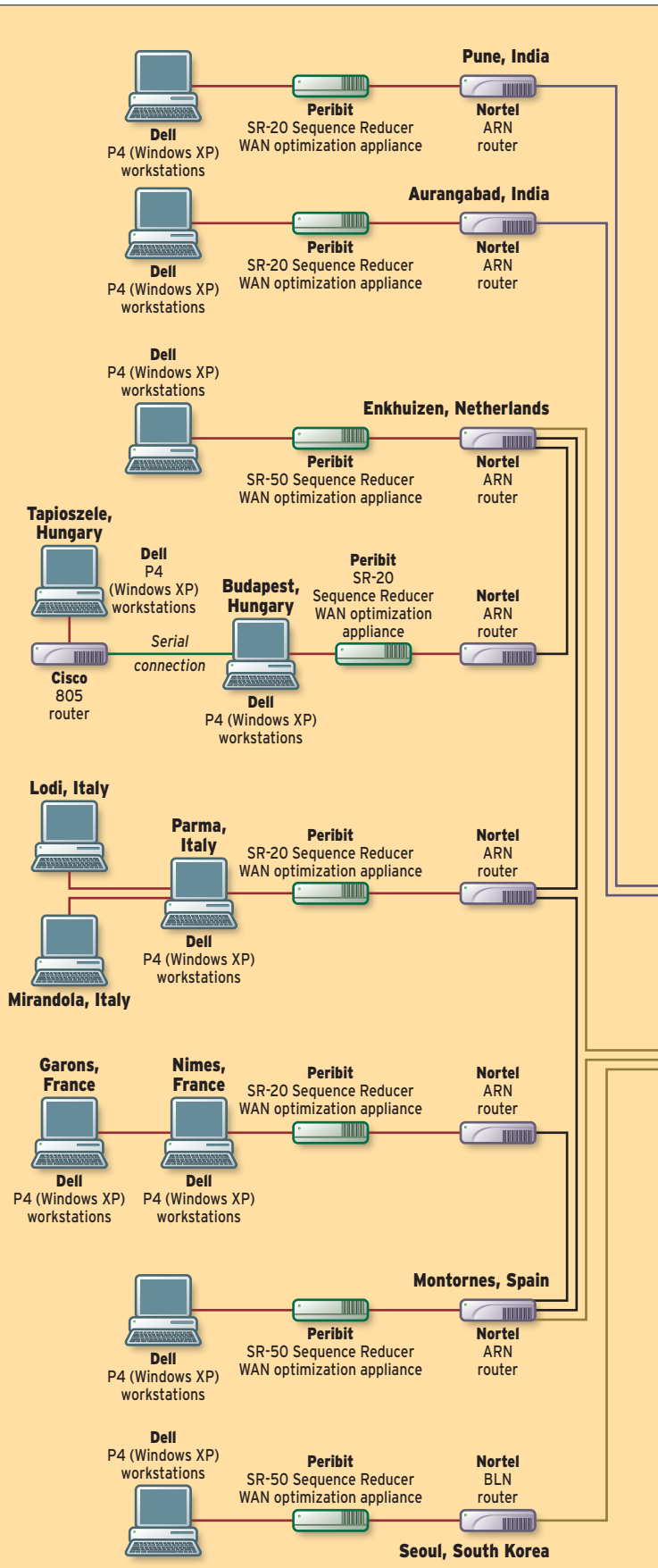
See Me, Hear Me

The QoS technology will come in handy in the near future, when Seminis plans to deploy a voice-over-IP system. The company is testing both Cisco Systems and Nortel VoIP gear for running voice over its WAN. Seminis' sites in South America will be the first to talk IP, mainly because VoIP is a cheaper and more reliable technology there for voice. "We're testing it right now between the [United States] and Santiago, Chile," Ackerman says.

Voice will get top QoS billing, Ackerman says, but not much more than its mission-critical apps, which each get a minimum 20 percent of the pipe at any time. The Citrix proprietary apps, SAP and Seminis' intranet together get 70 percent of the pipe.

Seminis is also looking at IP videoconferencing over its WAN. But even with QoS, video will likely require WAN bandwidth upgrades, Ackerman observes.

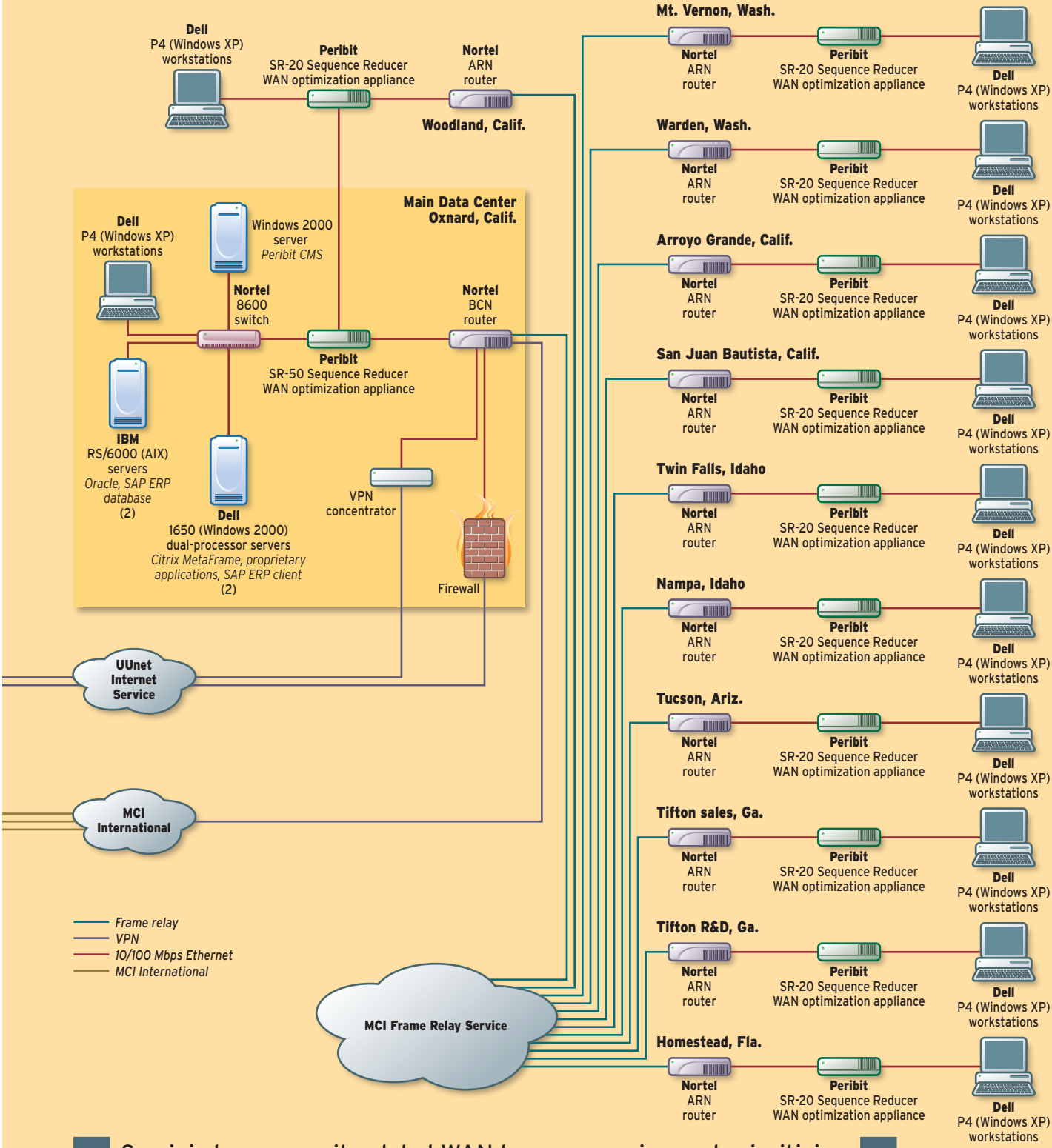
"You have to tie in bandwidth concerns with video, whether we have enough at any given point," he says. "128K for video is going to be an issue if you have data traversing the pipe as well." NWC



Tell Us About Your Network

and we may profile it in a future issue. Send e-mail to *centerfold@nwc.com* or call (516) 562-5914.

Seminis, Oxnard, Calif.



Seminis has grown its global WAN by compressing and prioritizing WAN traffic—that way, it can squeeze every last bit out of its WAN pipe without expensive bandwidth upgrades.