The First NetWare Users

Editor's Note: As we celebrate our 10-year anniversary, we thought it would be interesting to reprint this interview, which was first published in the Novell BrainShare Conference Daily on March 27, 1991. Not only does the interview explain how Novell Inc. started nearly 20 years ago, it provides a snapshot of the industry in 1991.

In October 1981, Drew Major, Dale Neibaur, and Kyle Powell were hired by Novell Data Systems for six weeks to network CPM z80 microprocessors. During the next year, Novell Data Systems became Novell Inc., and the three Brigham Young University graduates became known as SuperSet. Why Super-Set? Dale explains, "We had all taken lots of math, and we hoped our group would be bigger than the sum of its parts."

Drew, Dale, and Kyle networked the CPMs in time to demonstrate the software at COMDEX, but they weren't sure what would happen after COMDEX. The three remember being a "little mean to the Novell Data executives." Kyle explains, "Novell Data Systems took us down to Las Vegas to talk about the software because no one else knew anything about it. As people came by the booth, they asked us, 'Can you do this or that?' And we'd say, 'We were planning on supporting that, but our contract is up now so we don't know what we're going to be doing.' Finally, one of the Novell Data executives said, 'Come on, guys, we'll work something out.' "

Although Novell Data Systems saw networking CPMs only as a way to sell its hardware, SuperSet was sold on networking. Drew explains, "We knew the CPM box was bad. But we knew that what we were doing—the networking part—was good."

NETWORKING IS FUNDAMENTAL

In November 1981, SuperSet saw probably the first IBM PC sold in Utah and arranged to buy it. The IBM PC sat in their office next to the CPMs. Dale remembers, "We were doing all our development on the CPM, and here was this poor little box all alone." Drew looked at the PC and said, "We could hook that on to the CPM network. We could make that work."

"For a long time, we had to network CPMs and PCs, so that forced us to come up with our Universal File System structure in the file server that was neither one," says Drew. "We wanted to make it so the CPM box saw the file on the file server as a CPM file and the IBM PC saw the files as DOS files. In reality, the files were a third file type. We just did some mapping to trick the workstations."

"It sounds so mundane now," Dale comments, "but at the time we were doing it, everyone else was doing disk server boxes. Xerox had talked about a file server at that point, but it was just a repository for storing and retrieving files."

Drew continues, "We figured out we needed to do a file server—partly we were forced to because we had to solve this problem, i.e., Novell was paying us to develop CPM stuff, but we knew CPM was dead. Networking was a good idea, but we wanted to do it with IBM PCs instead because we felt they had a much better

Left to Right: Kyle Powell, Drew Major, and Dale Neibaur

future. That forced us to go to the file server approach and to think about connecting different clients."

"We were sort of pushed to support multiple clients because of wanting to connect CPM and DOS," says Kyle. "But as soon as we got into it, we started to see all the advantages of doing it that way. We started seeing all the things we could do so much better. We saw the advantages of a specialized file server instead of a general-purpose operating system."

THE REST IS HISTORY

While SuperSet was exploring the network world, Novell Data Systems was failing to make a success of its hardware. Safeguard Scientific, which had provided the venture capital for Novell Data Systems, began looking for someone to run the company. Safeguard finally found Ray Noorda, former Novell president and CEO. Novell Inc. was finally a company with a winning combination: Ray Noorda handled the business and marketing, and SuperSet concentrated on the networking software.

As SuperSet connected CPMs and PCs, they began planning to support other clients. Drew notes, "We originally planned to support UNIX, CPM, and DOS clients. We got the jump on the market with a combination of luck and being in a situation where we saw the importance of connectivity a couple of years before anyone else. Today people are beginning to understand connectivity, but until about two years ago, the world was still focused on standards. Everyone expected that the industry would go to OSI or converge on another standard. No one was focusing on making the existing client standards work together. We've always been focused there. Of course, we've expanded on it and learned new things, and the product has evolved over the years."

One evolution was supporting multiple protocols. Although SuperSet originally planned to support multiple clients, they were going to use their own service protocol. Then Dale came up with the Universal Network Architecture (UNA), which allowed NetWare servers to support other communications protocols. Kyle says, "When you look back, a lot of the things we did seem so simple and obvious, but at the time they were great leaps."

SuperSet's original vision to connect all client platforms was finally fully realized with NetWare 3.11. Drew says, "NetWare 3.11 includes NFS support for UNIX and support for Macintosh. We fully support and connect to other environments. It's interesting that we were thinking about connecting multiple platforms and playing with how to do that back in 1982."