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Getting the BugS Out

Terminix International migrates to an iSeries Model 890 and reaps the benefits

BY JIM UTSLER

My work environment represents the antithesis of system consolidation. Every time I upgrade a computer, I move another one to a different part of my office and connect it to my network. Why? I don't know. Perhaps it's some sort of pack-rat mentality; I believe that computer's going to come in handy someday. Of course, they rarely do, and I'm stuck upgrading each of them separately, having no central server from which to disperse the software. And with a dialup Internet connection, the task of upgrading my OS can become an all-day affair.

But I'm a small operation, and I don't have 20, 30, 50 or more servers to upgrade. Operations that do might well consider server consolidation, centralizing their formerly decentralized systems to one, with their users accessing all of their applications and data from a central location. One company that has done this, replacing its decentralized mainframe and UNIX* environment with a centralized IBM* @server iSeries* server, is Terminix International, the world's largest termite- and pest-control company.

As one might expect, this migration process represented a huge undertaking, in large part because Terminix had to develop new operational applications to run on the iSeries server and support the business. Fortunately, it found help in the LANSA development environment, using it to build all of its homegrown applications. Without this type of vital support, the company's IT staff might have gone buggy, with the migration coming to a screeching halt.

Forty-Eight Hours

Headquartered in Memphis, Tenn., Terminix is part of the ServiceMaster family of companies, which also includes Merry Maids, TruGreen ChemLawn, TruGreen LandCare, American Home Shield, ARS, AmeriSpec and Furniture Medic. Terminix has more than 12,000 employees, including some 5,500 service technicians, located not only at its headquarters, but also 400-plus business-unit locations crossing six time zones, covering all but four of the 50 states. "We operate all the way from the U.S. East Coast to Hawaii and have more than 2.5 million repetitive customers," says Lee Crump, Terminix vice president of IT and CIO.

Currently, an iSeries Model 890 with 20 processors and 16 TB of disk helps support this large presence. The company also has a large server farm, which Crump likens to a "plantation," at its Memphis location that supports Citrix applications and Windows* functions for its 6,000-plus thin clients, which are distributed throughout its branch-office locations (office managers also have access to PCs).

Prior to installing its new 890, the company was operating on a mainframe, which handled all of its financials, customer billing and payroll, and each branch location had its own small UNIX server to conduct local business. As one might expect, maintaining the individual servers was a chore. As Crump explains, "If the branches had any issues, they would call our help desk, and we would try to talk them through it. If it was an application issue, we would either overnight tapes to them or try to download a software patch via a dialup connection. If it was a hardware issue, we would send IBM out there to resolve it."

System backups were also often a problem, first, because not all of the locations were doing backups ("no matter how much I preached to them," Crump adds), and, second, because the company viewed offsite storage facilities for each location to be cost prohibitive. As a result of this latter issue, tapes for systems that were indeed backed up were kept onsite. "As a CIO, this made me pretty nervous," Crump says.

To gather pertinent customer and financial data from these branch locations and their UNIX servers, the company conducted data transfers every night, beginning at 10 p.m. Eastern and working westward to Hawaii, finishing at around 6 a.m. the next morning. According to Crump, "We were doing pretty well on any given night if we successfully polled 90 percent of our branches." This was in part because the connections between the mainframe and UNIX servers were dialup and because the UNIX servers had to be on their polling screens for the connection to be made; unfortunately, the individual branches often didn't adhere to this latter requirement.

Even after the polling occurred, there were additional issues to grapple with. "We were using the mainframe for all of our billing, financials, payroll, and there certainly were problems with data synchronization, with us trying to match what the branches showed," Crump recalls. "We would spend the whole day processing the data we received the night before, finally updating our files in the late afternoon and early evening. And then we would start the polling process all over again. So the mainframe was always a minimum of 48 hours behind the branches, even when things worked perfectly. If things didn't work perfectly, if, say, a line went down, we could be behind three or four days on some branches."

As part of its day-to-day operations, Terminix has a 100-employee telecenter in Memphis that takes calls received after business hours and those unable to be answered by branch offices. Although this is a positive function, it created problems in the past, with telecenter employees entering customer information into an isolated call-center application, printing that information and faxing it to the branch offices, where the information was entered into individual servers. Because the latest customer information wasn't available to the telecenter employees, specific customer queries couldn't be addressed at the time of customer calls.

Similarly, if customers mistakenly called branch locations at which they weren't customers, the branches couldn't provide them with their customer histories; all of that information was contained on the correct branch's server and the mainframe. "They couldn't even tell if they were in fact customers at all," Crump adds. The result was customer-service levels below what the company, which prides itself on customer service, desired.

UP CLOSE

CUSTOMER: Terminix International
HEADQUARTERS: Memphis, Tenn.
BUSINESS: Termite and pest control
HARDWARE: An IBM @server iSeries 890
CHALLENGE: Centralizing its IT infrastructure
SOLUTION: Using LANSA to rebuild its environment, which now runs on an iSeries server, and connecting its branch office to its headquarters via a frame-relay network and thin clients

TERMINIX
No Bugs. No Hassles.

The Mission System

When Crump came to Terminix five years ago, President and COO Albert Cantu put him in charge of changing the company's IT environment. This included resolving issues related to its distributed-computing model. Although it could have done so with another mainframe, the organization decided instead to move to the AS/400* server and then the iSeries server. "The focus," Crump notes, "was to improve sales and service."

Of course, this transition required some foresight—as well as a great deal of programming work, with new applications being built to support its goal of a centralized IT infrastructure. Terminix had to find the right development environment that would allow it to quickly build applications that could be shared via a frame-relay network and accessed in a thin-client environment.

"We went to IBM Rochester a couple times to get some guidance and recommendations, and the advisors there told us, 'Look, you're in a very unique business, and there isn't

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any prepackaged software out there for you. So if you're going to build applications from scratch, why don't you look at LANSA,' " Crump remembers. "We were told to look at their 4GL product because with a single set of source code, you can create green screens, you can create a Windows-like interface, you can create XML, and it's not dependent on any specific database. We liked LANSA because when we're ready, we can switch to a Windows-based environment rather than the green screen we currently have. So we wrote everything in 100-percent LANSA."

Now having upgraded to a Model 890, the company, as of this April, has brought all of its branch locations online, accessing the same applications and database. The result is a centralized computing environment, with all data updated in real time instead of being batched and a minimum of 48 hours old. The branch offices access the iSeries server through a frame-relay network and onsite thin clients, which also enable users to access office-type applications. As a result, both telecenter employees and branches can look up the latest customer information and directly, in real time, respond to customer queries.

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Although it may sound as if this migration to the iSeries server happened overnight, Terminix actually took a very deliberate approach to the implementation, starting with "a clean piece of paper," as Crump puts it. "Once we decided we needed a centralized environment, we formed an advisory board that included division VPs and their best branch, office, service and sales managers, and regional administrative analysts, for a total of 15 people. We then began with a blank flip chart in a hotel room and started to define our information requirements and process flows."

Crump and Gabriel Sgolombis, director of systems architecture, spent nine weeks visiting different branches to learn how the branches worked, asking employees about system weaknesses, functions they needed and those they didn't. They then went back to the advisory board and diagramed the data requirements and the process and data flows. Sgolombis and his team began development work using LANSA, demonstrating the applications as they were being developed to the advisory board and some branch employees. Quality assurance, both in the design and the software development, was managed by Carol Price, director of quality assurance and operations.

"We put a big focus on end-user involvement in the design," Crump recalls. To that end, Terminix also spent 30 percent of the project budget on user training, knowing that no matter how good and intuitive an application might be, training is key to helping ensure it works as intended. Thomas Tesh, director of training and communications, spearheaded the 18-month training effort, which involved more than 30 full-time trainers.

The application rollout began just as deliberately, with 25 branches being brought online per month. As Crump puts it, "There was no way to do a big-bang implementation. We had to work with both systems, making them blend together as best we could over an 18-month period. In fact, we took six months off, from January 2002 through June 2002, from the rollout, making sure everything was working on the back end. The whole thing was a balancing act, scheduling the cable installations, identifying how much equipment was needed at each branch and then shipping that equipment to them and setting it up, and scheduling the training. This was all part of a 500-task checklist for each branch." Tracy Laurie, currently the vice president of ServiceMaster enterprise support, was responsible for coordinating all of the network and hardware activities for the rollout.

Crump admits that this approach was "very conservative," but notes that "about 80 percent to 85 percent of IT projects of this size fail. So the thing we're proudest of is the fact that we did this without bringing the company to its knees or causing customer desertion." Crump's colleagues, witnessing the conservative approach he was taking to developing and rolling out the new applications and infrastructure, teasingly referred to his role of delivering the system to Terminix as a "mission." Furthering the joke, they began calling the new infrastructure the "Mission System," a name that has since stuck.

Crump plans to partition the iSeries server, creating one for development and another for production. Its general ledger, accounts payable, fixed assets and payroll, as well as those of

the entire ServiceMaster family of companies, run on a pSeries* server, which "sits right next to my box," Crump says. That pSeries server, which was installed about a year-and-a-half ago, is running PeopleSoft's World ERP software.

The company's service personnel are also now using wireless handheld devices that tie into the back-end system. Every morning, they log onto the devices and upload scheduled stops for the day, customers' accounts-receivable information and account notes. Updated information is then downloaded to the Mission System at the end of the day. The devices also work as time clocks, with service personnel signing in and out of the system as they progress through the day.

"These devices act as a combination productivity and customer-service tool, allowing us to keep track of service stops and giving customers a way to ask service personnel about their accounts at their site," Crump notes. "Our service personnel now have all of that information at their fingertips."

Continued Innovation

Although my IT environment continues to grow, with my pack-ratty self not willing to give up on a perfectly good—albeit slow—computer, larger organizations would be wise to consider server consolidation, much as Terminix did. The company now has a centralized computing environment, with all of its branch information being updated to a central database in real time, which results in improved decision making. More important, though, its customers can now access their account information via several different methods, including the telecenter, local branches and service personnel.

Notably, Terminix isn't finished yet. "A good application is like a drug," Crump notes. "The more you give people, the more they'll want. It's when you stop innovating and providing good benefits that everything shrivels up and dies." And thanks to LANSA, the company has the tools it needs to continue this progressive approach to giving its end users the best of what they might expect in a well-planned and -executed migration to a centralized IT environment.

Jim Utsler, @server Magazine *senior writer, has been covering the technology beat for nearly a decade. His responsibilities include writing case studies and other articles of general computing interest. Jim can be reached at jjutsler@provide.net.*