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Connecting the Bits

By Thomas Junker, Vice President, TransVirtual Systems

Welcome to the first issue of *Keeping Pace*, a monthly compilation of news, tech talk and tips for the Wang VS community from TransVirtual Systems (TVS). For those of you who aren't familiar with TVS, we're a company built by and for Wang VS people to extend the useful life of the VS operating system and the thousands of applications that depend on it indefinitely into the future on state-of-the-art hardware.

I began working with the Wang VS in 1984, coming from seventeen years of experience with minicomputers and communications operating systems. The world of Wang VS business data processing mainframes was new to me but after a brief period of adjustment I came to greatly appreciate the power and usability of the Wang VS Operating System and tools. Over time, though, particularly as the 1990s unfolded, the Wang VS lost its traction and declined, and users, including my clients, found greater and greater reason to seek alternatives.

One of a small group of my VS friends had been analyzing the inner workings of VS hardware for ten years. I suggested he begin writing code to virtualize the VS machine, as that could have some commercial potential. He did, and once it got to the point of being able to boot the VS OS I got other friends involved.

The implications were enormous. We estimated that there were still 2,000 of the legacy Wang VS systems out there. VS sites large and small were quite pleased with what they had but were in need of a future From this need and this virtualization technology, TransVirtual Systems was born.

It has now been almost two years since we installed our first system, and almost three years since we acquired the Lightspeed product line. Much has happened in that time. TVS has grown into a robust organization with fully staffed departments for new product development, 24/7 customer support, customer service, administration and management. Much has happened, too, in hardware, in software and in the Wang VS family. We thought you'd appreciate a place to read and talk about it. So here it is. Please take a few moments to read this newsletter. Tell us what you like and what you don't like. Let us know what you'd like to read about, what questions you have and what ideas you can share. We're here to be informative and to help you protect your investment in your VS application programs.

A Conversation with...

...Margo Hinshaw, IT Administrator, CMW, Inc., Indianapolis, Indiana

Earlier this month, Keeping Pace sat down for a conversation with Margo

Hinshaw, the IT Administrator for CMW, Inc. CMW (www.cmwinc.com) is a leading supplier of electrical contacts, high-density metal alloys and resistance welding consumables. The primary components are silver, tungsten and copper. You may not know the name, but it's likely you couldn't live your life without CMW's products. If you fly, if you rely on products that rely on heavy machinery, if you use electricity in your daily life, you have a close working relationship with CMW.

CMW is a well-established organization, tracing its roots back to the company founded by P.R. Mallory in 1916. But having a legacy doesn't mean it isn't forward-thinking. CMW is constantly working with its employees and customers to provide quality service along with quality products, and its IT Department is a major player in the process.

"We're constantly improving our business applications," said Margo, "and that means our software is in a constant state of development and improvement."

The business applications that are at the heart of CMW's operations run on a VS system. These include AP, AR, GL, inventory control, order entry, quoting and estimating and purchasing programs, all of which are custom-written in COBOL.

"CMW purchased a VS80 from Wang Laboratories in 1978. Through the years we upgraded to the VS85, VS100 and VS7380," said Margo. For years, CMW enjoyed the legendary reliability and user-friendliness of the VS system; however, like many VS users, they began to experience hardware issues. "Many of our challenges dealt with replacement parts. They were becoming expensive and more difficult to obtain," Margo recalled. Failure of a critical component could take the entire system off line for a day.

Management knew their VS hardware was reaching the end of its useful life and that the company had to face the all-too-familiar situation of moving to a new hardware platform. The idea had its upside. New hardware would mean capitalizing on the changes in technology that have led to smaller, faster, less power-hungry, lower cost-of-maintenance equipment, along with a clearer upgrade path over the next ten to fifteen years.

On the other hand, migrating an entire suite of business applications, all custom coded, to an entirely new platform presented a daunting downside. "We investigated a semi-automatic conversion system that would migrate us to an RS/6000," said Margo. But a chance encounter afforded CMW with a third option that, in the end, turned out to be exactly what the company needed.

"Years ago I found Tom Junker's Web site and e-mailed him with a question," said Margo. Junker, now vice president of TVS, is a well-known Wangophile and his site was often a nexus for Wang user's looking for help with technical issues. "Tom had my contact information, and about three years ago got in touch with me and told me about the solution TVS was working on for the VS."

The solution consisted of a state-of-the-art Dell server running Linux combined with middleware that faithfully reproduced all the operations and functions of a VS system. TVS was offering bit-for-bit compatibility with Wang VS applications. As Margo said, "It seemed too good to be true." Nevertheless, she was able to thoroughly test the system over the Internet and decided that TVS offered the best solution to address CMW's concerns about its aging Wang hardware.

But testing a solution as part of the purchase decision is a far cry from putting your business on the line. The real proof would come when CMW moved its apps over to the TVS system and began parallel operations.

"The upgrade itself was easy," Margo said. "We performed a backup on the old VS system on a Friday and restored to the TVS system on Saturday morning. We had several printers on coax cable and we did have to change some of our printer device numbers. This did require me to re-compile some COBOL programs that were pointed to a specific device number. But TVS support was very helpful in recommending solutions and resolving issues."

CMW's upgrade plan called for heavy user involvement in testing every application over a thirty-day test period. It turned out they were off in their planning by a factor of two. "We cut over after two weeks," Margo said, pleasantly pleased with both the smoothness of the upgrade and the effectiveness of TVS's 24/7 support.

Now, with about three months of experience under her belt, Margo is in a position to reflect upon the old and new VS worlds. "The TVS system is faster. We see that in our batch processing, backup and file copies." CMW, also a Lightspeed user, now has the additional advantage of having the Lightspeed server incorporated into the TVS system. "It's one less piece of hardware to worry about," Margo notes. "The system is performing as TVS said it would. It's a great solution for those of us with legacy VS software applications. We can sleep better at night knowing our business system is off the old hardware."

We asked Margo if she had any regrets about the upgrade. "We knew about TVS for about two years before bringing it into the company. My only question is 'Why did we wait so long?' "

Keeping Pace would like to share your upgrade story with the VS community. Let us know about your experience at vsinfo@transvirtualsystems.com.

Tips & Techniques

"Our goal from the beginning has been 100% seamless compatibility."

Q: I've heard the TVS system is compatible with the VS. But there's compatibility and compatibility. Where do you stand?

A: Our goal from the beginning has been 100% seamless compatibility. Our New VS runs all VS software unchanged.

Q: Emulators, simulators and the like often introduce a major performance hit. What kind of performance can I expect from a TVS solution?

A: You can expect the full range of available performance up to twice the speed of the fastest legacy VS ever produced, the VS18950. There are various performance levels, based on purchase price. The top of the New VS line is fully twice as fast as the top-end legacy VS18950. One advantage we offer is that performance levels can be upgraded by changing a license file. There is no new hardware to install, no site visit, and the process takes only minutes.

Q: Software compatibility is one thing, but how does the TVS system perform with legacy peripherals?

A: The software, including applications, sees peripherals as if all were running in a legacy VS. Some peripherals are virtualized, while in some cases the actual legacy devices may be moved to the New VS. Either way, the VS OS and applications see all devices as standard VS devices.

How is that achieved? The system not only virtualizes the VS CPU but also a number of crucial I/O Coprocessors (IOCs) such as Serial, SCSI, RSF and

802.3 (presently for VS TCP/IP only), and a number of peripherals such as DP and WP workstations, the Wang PIB, and TCB1 for WSN. In addition it offers a PC server version of the Universal Serial IOC for direct support of a range of legacy VS workstations, printers and telecommunications (TC) devices connected by coax cable, twisted pair or FiberWay clustering.

Q: Will I have to recompile my programs?

A: Usually not. The upgrade situation is exactly the same as if you were moving up to a newer legacy VS in the old days. If you are moving up to a newer VS OS, it is possible that you may have to relink or even recompile something due to newer VSSUBS. The minimum required VS OS level for the New VS is 7.53.01. If you are moving to the New VS from an earlier VS OS release, there could be a need to relink or recompile some of your programs. If there are large numbers of programs involved we can show you how to use existing utilities to help with this by allowing you to recompile/relink an entire library in a single operation.

Q: Does this mean when I upgrade to a TVS system I can plan on keeping my peripherals?

A: Just because devices can be moved forward to the New VS doesn't mean it is always a good idea. VS disk drives, for example, are not worth moving forward because the New VS already has robust RAID with very high performance and with fault tolerance. VS tape drives should generally be replaced by newer technology on the New VS. Sometimes, you have to maintain certain format compatibilities for working with vendors, customers or existing tape libraries. In these cases, some solutions are available to achieve compatibility with libraries of older tapes.

Q: I love my XYZ Ultra Smart Quadraphonic printer, the model with white wall tires. Can I keep it?

A: Most printers have moved over very smoothly if the current release of the VS OS supports that printer. Sometimes we see a problem where the customer has large quantities of preprinted forms that are only suitable for a specific printer which is no longer manufactured or is no longer supported by the VS OS. We can't make any guarantees here, but we've been able to find acceptable accommodations in each case so far. In one case we arranged for a compatible font to be created for a newer printer. In another case we had to deal with an old daisywheel printer. We found an alternative printer for the daisywheel that is supported and simply replaced the printer. I can assure you that no one missed that relic.

Do you have a question about system upgrades or the future of your legacy VS applications? Send it to us at vsinfo@transvirtualsystems.com.