SUCCESS STORY

Renesas Reduces Risk and Improves Performance with Charon-SSP

The Challenge

Renesas relies on mission-critical Sun SPARC systems at their Palm Bay, Florida location to control furnaces and support semiconductor production. As the systems aged, downtime caused by hardware failure became increasingly frequent and problematic.

Craig Stevens, Principal Systems Analyst at Renesas, was responsible for the development and support of these systems. He was also the one responsible for responding to instances of downtime when one of the Sun SPARC systems experienced hardware failure. “When these systems fail, they call me in the middle of the night,” he explained.

With the age of these systems, Stevens was receiving more of these middle-of-the-night calls than ever. “We probably have about, let’s say, three outages a year across these eleven systems,” he said, “and the recovery of that was taking us about two days per failure.” Stevens knew, too, that the situation was only going to get worse as time went on: “We anticipated that failure rate to go up, not down, as the hardware aged.”

In addition to the increasing risk of hardware failure, a specific function of the systems was, in Stevens’s words, “taking excessively long.” He and his team were frustrated by the 34 minutes that function took to process. Renesas needed to find a way to eliminate risk and improve the performance of their systems.

The Solution

Among the many systems involved in semiconductor production at Renesas were five SparcStations, five Sparc Ultras, and a Sun Blade. The Sun Blade ran on Solaris 8, and the rest ran on SunOS 5.6. Nine of these systems were dedicated to controlling furnaces, and the others played various roles in controlling the tools and equipment related to semiconductor production.

Knowing that Renesas wanted to hold on to its proprietary and time-tested applications, Stevens reached out to Quayle Consulting, a Stromasys Authorized Partner. Stevens had already tested a Charon solution previously, and the evaluation was a success. He didn’t consider other options, because he knew that Stromasys was the only company offering a hardware virtualization solution for legacy Sun SPARC systems. “No one else was doing this with SPARC,” he explained. Beyond that, Renesas trusted the process they had in place. “It works, and it does what it needs to do,” said Stevens. “We wanted to stay on our existing applications.” With Charon-SSP from Stromasys, Renesas would be able to do just that.

Eleven systems were migrated to Charon over the course of about three weeks, with collaboration between Stevens and a Stromasys engineer. “We worked really well together,” Stevens explained in talking about the Stromasys engineer leading the implementation.

One important aspect of the new configuration was the addition of VMotion. “With VMotion, if one piece of hardware dies, the system just bumps over,” Stevens explained, referring to the additional layer of risk-prevention offered by VMotion in the event of unplanned downtime. “Now, we’re VMotion capable.”

Quayle Consulting

PARTNER PROFILE

Quayle Consulting Inc. is a professional engineering corporation located in Ohio. Since 1992, Quayle Consulting has provided system virtualization, data migration, system administration, software development, and training services. As a Stromasys Authorized Partner for Stromasys, Quayle Consulting offers Charon products, support, and installation services. Quayle Consulting also boasts extensive experience in OpenVMS, UNIX, and Linux operating systems. For more information, visit:

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Once Stevens got the hang of the migration process, he was moving the systems over to Charon himself—and very quickly: "a couple of hours per system, max." Charon-SSP offered a rapid way for Renesas to make their systems more reliable. This meant quickly eliminating risk and minimizing the amount of downtime needed to achieve that goal.

The Result

One of the first things the Renesas team noticed after implementing the 11 instances of Charon-SSP was a significant performance improvement. "Everything is at least two times faster," Stevens reported. Even better, the one specific process that was taking 34 minutes now takes under 5 minutes, running roughly seven times faster than it did on the original hardware.

The other major benefit for Renesas has been the peace of mind they have in knowing that downtime due to hardware failure is no longer a major risk. "We have, theoretically, eliminated our hardware failures," Stevens explained. "In theory, a piece of hardware can't take us down. We shouldn't fail. I don't know, but it's possible we wouldn't have another system failure ever."

And if the systems were to go down for some other reason—in a situation of power loss or natural disaster—Stevens knows that it would be much easier to bring the system back up now that Charon-SSP is implemented. "Our recovery strategy is a million times better," he says. "If we did have a system failure, the recovery for that used to be two days, and part of that might have been trying to find a weird old piece of hardware on the internet, and these are getting harder and harder to get. Now, the whole hardware acquisition piece is gone. Worst case scenario, we're on the order of an hour of downtime—and that's just me figuring out what I'm supposed to do." Charon-SSP has proved to be the solution Renesas needed: improving performance and minimizing risk for their mission-critical Sun SPARC systems.

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>
> Craig Stevens,
> Principal Systems Analyst,
> Renesas

About Stromasys

Stromasys is the original and leading provider of enterprise-class cross-platform virtualization solutions, including PDP-11, Digital VAX and Alpha, HP 3000, and SPARC servers. The company extends the life cycle of business and mission-critical systems through virtualization, modernization, and system enhancement.

Founded in 1998 and headquartered in Geneva, Switzerland, and in Boston, Massachusetts, with sales offices as well as engineering, development, and research labs located around the world, Stromasys has implemented more than 5,000 cross-platform virtualization solutions for the world's leading companies in over 50 countries.

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