



WORKHORSE FOR WIRELESS

Proven Sprint SCP platform bridges legacy and future technologies

AT SPRINT, YOU DON'T HAVE TO LOOK far to find an HP NonStop server. NonStop technology runs the Sprint Call Center, which handles station-to-station and person-to-person calls, international general assistance and directory assistance, fraud features, call screening and routing, and more. It's the heartbeat of the E-911 system, which takes care of emergency services. NonStop technology underpins the massive ODS/ZLE system, which processes millions of call detail record and operational measurement events every day. It runs the Service Delivery Platform (SDP), which produces transaction processing applications that insert call processing data into live network elements in near real time. And—to the unmitigated satisfaction of

Jonathan Schaff, a network design engineer at Sprint—it provides an ultra-reliable, cost-effective engine for Sprint's core Service Control Point (SCP) system.

Sprint SCP comprises four network nodes (NonStop S86012 servers) across the United States and handles some 55 billion transactions per year. It provides routing and validation information for both wireline and wireless calls, in response to queries from the switch. The system uses an "n+1" configuration, such that any three nodes could carry the entire workload in the unlikely event that the fourth became unavailable.

Not that platform unavailability is a big worry in this environment. "Our SCPs were running on NonStop servers even before I joined the company 16 years

ago," said Schaff. "In all that time, we've never had an outage due to a hardware failure. I can't even think of a case where one of them has been down other than for maintenance."

RELIABILITY PLUS

Continuous system availability is a good thing when you handle the kind of traffic that Sprint sees every day, but it's not the only way in which NonStop technology contributes to the success of the SCP system. Sprint also enjoys the lowest cost per transaction—less than \$0.0006—of any SCP in the industry. This analysis is based on the company's actual costs, including acquisition and maintenance, development and test systems, personnel, floor space in a NEBS facility, and plant-related expenses.

Industry-leading cost per transaction is complemented by serious investment protection. "I've worked on the NonStop platform for almost my entire IT career," Schaff said. "The capabilities keep increasing in terms of processing power and storage, and the reliability has always been there. What's more, it's always been backward compatible. That's valuable, especially here at Sprint where we have applications that have been running for many years." Ease of manageability also contributes to the excellent SCP cost picture; the entire system, along with a pair of SCP management system (SCP/MS) servers, is effectively overseen by just three people.

Finally, the real-time capabilities of the NonStop platform play an important role in the SCP environment. "All of our databases are real time or near real time," Schaff explained. "Data generated by external systems—for example, our Customer Information System—arrives at the SCP/MS by different data links. The SCP/MS translates and distributes the related changes to the four SCPs and to the backup SCP/MS. These updates happen immediately, with no manual intervention."

BACK TO THE FUTURE

The Sprint SCP system hosts more than 20 applications, many of which touch both the wireline and wireless parts of the business. One of the most important applications is local number portability (LNP), the FCC-mandated ability of a

consumer to change service providers within the same local area and retain the same phone number. The SCP also handles toll-free and virtual private network (VPN) call routing, as well as special services for the government (including the recently implemented Government Emergency Telecommunications System, or GETS, which provides higher-priority services and special billing for first responders).

The new Centralized Translation Control (CTC) application handles primarily wireless traffic, although it also supports wireline. "CTC was developed by another group within Sprint, but it runs on the same SCPs," explained Schaff. "In the older DMS-250 switch environment, routing to a stated destination or ported number was done by provisioning information into the switches themselves—all 48 of them—using a semi-manual process. This function has now been moved into the SCPs for the new-generation switches. The SCP gets a dialed number, converts it to a local routing number if necessary, and then routes it to a specific trunk." The data entry function in CTC takes advantage of the Java™ support in the NonStop platform.

As wireless technology continues to grow in importance, the proven Sprint SCP system is ready for the challenge. "The platforms are there and they're reliable," concluded Schaff. "They're easy to develop new applications on, and they can be used for any kind of



application—whether wireless or wireline. We anticipate that upcoming applications in support of wireless calling will be deployed on SCP, and we are confident that the platform will meet and exceed every requirement that comes our way." ♦

FOR SPRINT, NONSTOP SYSTEMS:

Serve as ultra-reliable, cost-effective engine for the SCP system

Handle high transaction volumes, including millions of CDR and operational measurement events every day

Support future application development, whether for wireless or wireline

Provide easy manageability, contributing to industry-leading low cost per transaction

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Jonathan Schaff, Sprint network design engineer