GE Healthcare’s new Centricity EDI services platform delivers high availability, scalability cost-effectively; as a result, the company is ready to meet any emerging opportunity or customer need.

It’s exciting when technology creates whole new markets. But it takes more than just good ideas to leverage emerging opportunities.

That’s why GE Healthcare IT turned to HP to help design a technology platform to support its Centricity® Electronic Data Interchange (EDI) Services offering.

**Digital healthcare**

GE Centricity EDI, part of GE Healthcare IT’s Centricity portfolio, leverages technology to help healthcare providers improve patient care, process claims more quickly and efficiently, streamline operations, trim revenue cycles, and improve cash flows. Processes that were once handled manually are automated and can be performed around the clock. And by managing processes with technology—such as verifying patient insurance eligibility—Centricity EDI frees administrative staff to perform tasks that are more valuable to patient care and satisfaction levels. The solution is also Health Insurance Portability and Accountability Act-compliant (HIPAA) and Electronic Healthcare Network Accreditation Commission (EHNAC) certified to protect patient privacy and help providers meet regulatory requirements.

“Our EDI solution gives providers a way to implement reliable, highly-available, state-of-the-
“HP proactively managed the relationships between all of the vendors who contribute to our solution to ensure they were on board with our requirements.”

— Milan Caha, Centricity EDI System Services Manager, GE Healthcare IT

art practice management without having to make capital investments in hardware and software infrastructure,” explains Milan Caha, Centricity EDI System Services Manager, GE Healthcare IT.

That’s the value proposition to GE Healthcare customers. Caha’s job is to make sure that the solution is implemented on a technology platform that delivers on this promise and can be offered to providers at a reasonable price-point.

Leveraging a long-standing relationship

“The EDI service was first launched in 2001 on a Windows®-based platform,” Caha explains. That worked for awhile, but with time it became clear that a change was needed. “The business was growing. In order to sustain that growth and remain competitive, we decided to look at different technology options.”

GE Healthcare IT engaged the Standish Group, an independent consulting group, to validate its understanding of the market potential, as well as provide some high-level direction on what hardware and software systems would achieve the most attractive return on investment. The consultant’s recommendation: Retire the Windows-based architecture, which was both proprietary and relatively unstable, and move to open, industry-standard technologies. “High availability was a key priority,” Caha says. “Our customers need to know that our service will be up and running when they are ready to access it.”

With that recommendation in hand, it was natural for GE Healthcare IT to turn, next, to HP. “We had a long-standing and close working relationship with HP,” Caha says. “We knew they would have both the technology and the expertise to help us design and implement our new platform.”

The two companies decided on a 64-bit version of the EDI solution running on HP Integrity servers based on Dual-Core Intel® Itanium® 2 processor technology. With the HP-UX 11i v2 and v3 operating system underlying the Integrity architecture, GE Healthcare IT gains flexible capacity, secured availability, and simplified management to maximize its return on IT investment. “Integrity servers are the best on the market from a price-performance standpoint,” Caha says. “They meet our requirements from a cost perspective, they are highly manageable, and they provide us with the horsepower and agility we need to deliver our applications to our users.”

Another central component of the new environment: a redundant Fibre Channel storage area network (SAN), spanning two data centers via high-speed, low-latency SONET ring technology.

“Everything is redundant,” Caha says. “One of our data centers could go down and our users will barely notice, if at all. Providers who use this service know they can run their organizations 24 hours a day, seven days a week.” The hardware itself has also proven exceedingly reliable. “In our experience, HP products are rock solid. Since we began testing and through production, for example, we’ve experienced no unscheduled downtime attributable to SAN-related issues.”

The implementation

In addition to helping GE Healthcare IT design the system, HP also helped implement it. That included both technical support as well as a fair amount of planning and behind-the-scenes legwork. The EDI Centricity solution, for instance, leverages Sun’s SeeBeyond eGate software, a Web services-based distributed integration platform for application connectivity, data transformation and transactions and messaging functionality. When HP was first engaged to provide the new EDI platform, the eGate software wasn’t certified on Integrity servers—so HP deployed technical resources to jump-start the certification process. “HP proactively managed the relationships between all of the vendors who contributed to our solution to ensure they were on
board with our requirements,” Caha says. Besides the eGate software, more than 4,000 applications, including leading healthcare-related software, are certified on Integrity servers.

The implementation was performed using a phased approach. Hardware includes a mix of entry and midrange HP Integrity servers clustered with Symantec/Veritas Cluster File System with HP Serviceguard; the SAN comprises 12 HP StorageWorks Enterprise Virtual Arrays (EVAs) with 437 TB raw disk space. These systems are covered by HP support, including high availability, 24x7 support on the data centers' mission critical servers. These support contracts, along with the HP Performance Manager and Systems Insight Manager software installed to manage the systems, provide another layer of assurance that the platform will meet GE's availability requirements.

**Being prepared through scalability**

While high availability was one of GE Healthcare IT’s main priorities for its new EDI platform, it wasn’t the only one. Another was scalability. “The market for outsourcing digital healthcare management is evolving rapidly,” Caha says. “We need to be prepared to support new services as we identify opportunities, or as our customers request them.”

There’s the electronic medical record business, for example; GE Healthcare IT can give healthcare providers a platform for transmitting critical patient data among hospitals, clinics, doctors’ offices and specialist facilities, such as radiology clinics.

Another emerging trend is in the area of Health Information Exchange to facilitate access and retrieval of patient clinical data. The patient-centered management services are often promoted by Regional Health Information Organizations (RHIOs). These services leverage technology to help doctors and patients monitor patients’ health conditions. To manage patients with diabetes, for example, certain lab test results might be automatically flagged and routed to physicians, giving them more timely notification of their patients’ status.

Yet another possible niche is clinical data services: With the patients’ consent, their data is stripped of identifying information (such as their names) and then aggregated and provided to researchers, who can use it to gather statistical information regarding outcomes of different therapies.

“With HP’s technology, we’re able to scale as needed to launch and support virtually any electronic service for which a business case can be developed,” Caha says. “We can evaluate business cases on the basis of market potential or customer needs, knowing that from a technology standpoint, we can quickly meet our performance and capacity requirements. Our capacity is always tightly aligned with our business needs.”

**High performance, cost-effectively**

Another key benefit of the HP platform is that it’s an open architecture solution. As a result, GE Healthcare IT is able to keep its technology overhead costs down. This, in turn, enables their EDI Centricity solutions to be cost-effective for GE Healthcare customers.

“Many of our customers are healthcare providers that can’t fund their own high-end, high-performance technology platforms,” Caha says. “They might be smaller hospitals, or stand-alone clinics or practices. They know technology can help them improve their productivity and process efficiency, but they don’t have the capital to implement it internally.”

For these customers, GE Healthcare’s EDI Centricity solutions offer the best of both worlds. They get the electronic practice management functionality to manage administrative and clinical processes efficiently and deliver high levels of patient care. And they can fund it as an operations expense, paying for it as they use it, instead of as a capital expenditure.

“T’ve taken customers on tours of our new data centers, and they are awed,” Caha says. “They see our HP Integrity servers, the way we have our clusters configured, and they recognize that ours is a truly cutting-edge facility. It’s technology that would otherwise be beyond their reach—but through our EDI Centricity programs, they have access to it. It’s truly a winning scenario for GE Healthcare, for HP, and for our customers.”

“HP combines a personal touch with quality technology and competitive pricing. It’s an unbeatable combination, and it’s the reason we’ve had such a long-standing relationship with HP—and the reason we chose them to help us architect and implement our new EDI Centricity platform.”

— Milan Caha, Centricity EDI System Services Manager, GE Healthcare IT
Challenges:

- GE Healthcare IT needed to deliver on its value proposition to healthcare providers by implementing a reliable, cost-effective platform for its EDI Centricity healthcare practice management services.

Solution:

Primary hardware

- HP Integrity high-end and midrange servers based on Dual-Core Intel Itanium 2 architecture
- Two HP Integrity rx8640 Servers
- Two HP Integrity rx8620 Servers
- Four HP Integrity rx6600 Server
- Three HP Integrity rx5670 Servers
- Seven HP Integrity rx4640 Servers
- One HP Integrity rx3600 Server
- Two HP Integrity rx2660 Servers
- Seven HP Integrity rx2620 Servers
- Twelve HP StorageWorks Enterprise Virtual Arrays (EVAs)

Primary software

- HP-UX 11i v2 & v3 operating system
- HP Operations Manager software
- HP Systems Insight Manager software

HP Services

- HP support, including 24x7 support on mission critical services
- Project management and technical advisory services

Results:

Approach

- GE Healthcare IT partnered with HP to design a high-availability, redundant environment based on HP Integrity and StorageWorks Enterprise Virtual Array technology.

IT improvements

- Cluster-based configuration and redundancy ensure high availability
- Reliability: no unscheduled downtime attributable to SAN-related issues or Integrity server hardware failures
- Scalability of Integrity servers and StorageWorks technology enables platform to be expanded as new needs are identified

Business Benefits

- Architecture aligned with GE Healthcare IT business needs
- Cost-effectiveness supports profitability of EDI services
- Performance sustains GE Healthcare IT competitiveness
- GE customers able to improve patient care with sophisticated, 24x7 EDI technology

Why Intel and HP?

- Leadership and long-term association
- Robust business solutions
- Continuity, knowledge and skill

About GE Healthcare

GE Healthcare provides transformational medical technologies and services that are shaping a new age of patient care. Our expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, performance improvement, drug discovery, and biopharmaceutical manufacturing technologies is helping clinicians around the world reimagine new ways to predict, diagnose, inform, treat and monitor disease, so patients can live their lives to the fullest.

Headquartered in the United Kingdom, GE Healthcare is a $17 billion unit of General Electric Company (NYSE: GE). Worldwide, GE Healthcare employs more than 46,000 people committed to serving healthcare professionals and their patients in more than 100 countries.

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