

NETHERLANDS MINISTRY OF HEALTH

CASE STUDY



CSC

NATIONAL PATIENT RECORDS SYSTEM GETS BOOST FROM SOA

If you can manage your shopping and banking online, why not your health? It used to be that motivations for improving healthcare information technology (HIT) boiled down to saving lives and dollars. Now patients also want more convenience and control over the healthcare process – without sacrificing privacy. This is as true in the Netherlands as it is anywhere national HIT strategies have been adopted.

When the Dutch Ministry of Health got a mandate to control healthcare costs, it looked for a small-budget solution to create a countrywide electronic patient records system. The catch? The system had to be lean and flexible – able to expand rapidly to match user demand – while also protecting patient privacy.

Teaming with CSC, the ministry created Landelijk SchakelPunt (LSP), or the National Switch Point. LSP pulls together records from multiple healthcare providers to create a more complete picture of past medical treatment. By cutting out manual tasks, LSP reduces errors, cuts healthcare costs and improves patient health. It's also highly secure. Neither LSP nor the doctors' systems store retrieved files, making breaches in privacy more difficult. This heightened security has been key to earning the trust of the Netherlands medical community and its patients, who must voluntarily join the system for its benefits to be fully realized.

"LSP is crucial to establishing the safe, nationwide exchange of up-to-date healthcare information," says Anil Jadoenathmisier, director of operations for Dutch National IT Institute for Healthcare (NICTIZ). "CSC not only delivered LSP on time, but proved to be a true partner in the further development and implementation of LSP."

BETTER CARE WITH BETTER INFORMATION

The Ministry of Health established NICTIZ, the Dutch National IT Institute for Healthcare, in 2002 to pursue an information upgrade that would protect data residing in independent medical IT systems, but still allow remote access.

NICTIZ issued a request for proposals proving the requirements could be met within the short time frame mandated by the government.

According to Bob Schat, CSC solutions architect, other players in the medical IT community focused on protecting the pre-existing technological base. They saw limits to what the architecture could handle and their proposals envisioned complex, time-consuming projects and slow, inflexible systems. "CSC, on the other hand, was fresh and innovative and had the attitude that this could be done," says Schat.

CSC based its proposal on service-oriented architecture (SOA), which allows global communication between enterprise applications without integrating them at the structural level. CSC ran tests that showed to NICTIZ that an InterSystems Ensemble platform would provide advantages over conventional technologies in both development time and operating speed. Proving the deadline could be met, CSC won the tender. "CSC's offer reflected our need to deliver a high-quality and extremely secure product in a very short period," says Jadoenathmisier.

SOA MADE EASY

CSC used its Catalyst methodology to design and build LSP as a hub that connects to healthcare providers' systems using a series of standard interfaces. Physicians use their own applications – and a Java card that authenticates their identities – to access patient data retrieved by LSP from other applications. Doctors can only see information that patients have previously granted them access to in an authorization profile. In this way, LSP enables a level of accessibility usually found in centralized systems, yet achieves greater security and cost-savings through decentralization.

According to Schat, CSC delivered the SOA network on schedule in 2006, and by April 2008 at least 100 medical systems had joined the LSP pilot program. During this

CLIENT

Dutch National IT Institute
for Healthcare

CHALLENGE

Create a national information exchange that improves the quality and cuts the cost of healthcare without the privacy risks associated with a centralized database.

SOLUTION

Use CSC's Catalyst methodology and service-oriented architecture (SOA) to build Landelijk SchakelPunt (LSP), a data hub that interfaces with physicians' systems to retrieve medical records with patient permission.

RESULTS

LSP is highly accessible, scalable, affordable and private, encouraging medical providers and patients to participate in the network.

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period, NICTIZ launched efforts to enhance LSP. CSC provided the hardware and software for this effort, and assisted in building the test environment. The new LSP features included:

- the use of token authentication in addition to the existing SSL-security
- greater flexibility in using the Java card to authenticate the healthcare provider
- the exchange of pathology records
- the exchange of safety information for prescription medication
- a Web portal for patients, showing them the organizations and locations where their information is kept, as well as a log of what information has been accessed, when and by whom
- new network components that permit load-balancing between data centers
- additional disaster-recovery facilities

ADOPTION EXPLODES

With these key improvements in place, CSC designed hardware and software upgrades and started rolling out a scaled-up LSP, able to tackle a rapidly expanding load. Up to this point, the Dutch government had allowed civil service numbers (CSNs) to be used only on a case-by-case basis by pilot programs. With a completed migration to the scaled-up LSP anticipated for late summer 2008, the government issued a blanket authorization for medical organizations to use CSNs — opening the floodgates to widespread adoption.

LSP is working so well that CSC is in talks to build similar systems for other Dutch government ministries, including economic affairs and education. "We can provide the same system for any customer — all we need to do is change

the interface," says Schat. "We proved that decentralized architectures work very well and that using SOA can be very beneficial across a wide spectrum of government projects."

Analysts from International Data Corp. and Computerworld magazine would seem to agree. They awarded CSC first place in the 2008 InterSystems Innovator Awards for its rapid development of LSP. The sponsor of the awards, InterSystems Corp., of Cambridge, Mass., makes database and integration platforms specifically designed to speed application development.

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ABOUT CSC

CSC is a leading information technology (IT) services company. CSC's mission is to be a global leader in providing technology-enabled business solutions and services. With approximately 90,000 employees, CSC provides innovative solutions for customers around the world by applying leading technologies and CSC's own advanced capabilities. These include systems design and integration; IT and business process outsourcing; applications software development; Web and application hosting; and management consulting. Headquartered in Falls Church, Va. For more information, visit the company's website at www.csc.com.



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