Canton of Geneva Creates Healthcare Network

Swiss Post makes electronic health record a reality with Cisco Medical Data Exchange Solution.

**EXECUTIVE SUMMARY**

**SWISS POST**
- **Customer Name:** Swiss Post Solutions AG, a subsidiary of Swiss Post
- **Location:** Switzerland
- **Industry:** Public sector
- **Number of Employees:** More than 6000 in 15 countries (overall 60,000 employees at Swiss Post)

**CHALLENGE**
- Design and execute limited deployment Electronic Health Record project for 30,000 citizens in Geneva
- Meet highest requirements for data protection, functionality, and ease of use to improve quality of care while reducing costs

**SOLUTION**
- Cisco Medical Data Exchange Solution (MDES), with Tiani Spirit interoperability software
- Identity and access management components from Swiss Post Solutions to protect medical data
- Cisco Application Extension Platform (AXP) inside Cisco Integrated Services Routers

**RESULTS**
- Improved safety and quality of patient care through better information, including error reduction and avoidance of duplication in medical procedures and tests
- Ability to access patient data securely, regardless of location, system type, and data format
- Enhanced coordination of all activities, processes, and personnel involved in healthcare ecosystem

**Challenge**

Clinicians do not always have the luxury of time when it comes to making critical decisions on patient care. In an emergency, immediate access to pertinent records (medical conditions, previous surgeries, recent tests, drug allergies, and the like) is paramount. Even in non-emergency situations, the ability to obtain a holistic view of the patient’s health history is essential to timely and informed decision-making.

But it is not easy. Patient records are typically stored in multiple locations: Lab results may be with the primary care provider; medication records are at the pharmacy; medical images are in the hospital’s radiology or cardiology departments; specialists from cardiac-care providers to bone-density scanners maintain their own test results. Frequently this data is spread across disparate systems that often cannot talk to each other due to incompatible data formats and underlying network issues.
Mindful of the growing opportunity presented by the secure access, transport, and storage of healthcare data, the Swiss Post is tackling this pervasive challenge from the start. An innovative pilot project based on the Cisco® Medical Data Exchange Solution (MDES) is making the dream of a fully electronic health record (EHR) a reality in the canton of Geneva, Switzerland. Patients living in Bernex, Confignon, Onex, or Petit-Lancy can now log on to the healthcare network, called *e-toile*, and create a personal EHR with over 100 participating doctors and pharmacists. The *e-toile* includes a portal for healthcare professionals, where clinicians and other providers can access patient records from across the canton via the MDES. Patients must first grant access to the records to specific healthcare entities, which helps ensure patient privacy.

“Cisco MDES was clearly the best solution for the patient-centric *e-toile* system. This integrated, end-to-end, standards-based solution addresses several challenges, including limited access to clinical patient information and the increasing cost of healthcare services.”
—Thomas Bähler, Division Leader of e-Health and Insurance, ELCA Informatics Ltd. Zurich

**Solution**

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—Urs Stromer, e-Health Project Leader, Swiss Post and President of the Swiss eHealth Association

**Results**

Urs Stromer, Swiss Post e-Health project leader and president of the Swiss eHealth Association, is enthusiastic about the program. “Cisco MDES enables us to provide an effective, efficient healthcare network that meets the highest requirements for data protection, functionality, and ease of use,” he says. “Healthcare providers and patients can access their patient records, subject to strict authorization guidelines, from any system, at any time. We view *e-toile* as the forerunner of a whole new era in healthcare and a new business area replacing paper-based communication in the healthcare market.” Active participation by representatives from all relevant healthcare entities helped ensure a comprehensive solution that will make significant improvements in patient care.
Patients are at the center of the new healthcare network, says Adrien Bron, deputy secretary, Department for Regional Affairs, Business & Health for the canton of Geneva. “The patient now has maximum information about his own medical care,” Bron says. “This will strengthen the therapeutic relationship between the patient and his doctor, and we expect that this will lead to better participation of the patient in treatments.”

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The overall system architecture was designed by Swiss Post Solutions. Additional security components developed and added by Swiss Post Solutions allow a highly secured access and identity management to protect patients’ privacy and confidentiality of medical or stigmatizing data. Records are stored on e-toile in accordance with the regulatory requirements laid down by the canton of Geneva. The records are not centralized. Rather, all data remains with the various healthcare providers and is accessed via the MDES, according to the patient’s directive.

“The goal of e-toile is not to create a single, centralized medical record, but to enable the rapid and automatic exchange of information between different providers and different applications,” says Pierre-Alain Schneider, president of the Association of General Practitioners of Geneva. “This approach ensures strict confidentiality and gives the patient full control over his or her data. That is why management of access rights is crucial.”

Leveraging mandatory insurance cards produced by Swiss Post Solutions and issued by insurers, patients can use the embedded chip on their cards as the access key for the e-toile system. It is as simple as accessing an ATM network, but with enhanced security for medical data. Special rules and notification requirements apply to medical emergencies, so timely information access and appropriate diagnosis are possible even for unresponsive patients, or those who may have lost their government insurance card.

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ELCA Informatics Ltd., a leading Swiss IT services company, was chosen as the system integrator for the various components of the e-toile platform due to its extensive knowledge of the healthcare sector and its presence in the French- and German-speaking parts of Switzerland. ELCA had previously taken part in the preliminary study that led to legislation associated with the e-health program in Geneva. “Cisco MDES was clearly the best solution for the patient-centric e-toile system,” says Thomas Bähler, division leader of e-Health and Insurance at ELCA. “This integrated, end-to-end, standards-based solution addresses several challenges, including limited access to clinical patient information and the increasing cost of healthcare services.” Cisco MDES leverages the existing infrastructure instead of a separate server for lower total cost of ownership. The solution uses the Integrating the Healthcare Enterprise (IHE) framework.
The management of medical data through e-toile offers many benefits to participants. Patients enjoy improved safety and quality of care, due to the reduction in medical errors, the avoidance of duplicate tests and procedures, and enhanced cooperation among the various healthcare providers. For clinicians, confidentiality is strengthened, and decision-making is more efficient and effective; administrative processes are also streamlined.

The canton itself is also a clear beneficiary: By increasing the efficiency of its healthcare system, the canton can expect to realize significant cost savings and, most importantly, it is able to provide even higher quality patient care. “The e-toile system improves coordination among health professionals,” says Bron with the canton’s Department for Regional Affairs, Business & Health. “By providing a secure communication channel, it allows doctors to have more medical information. This will improve the quality of their medical decision-making and help decrease errors.”

Thanks to its advanced communications technology and commitment to modernizing management systems, Switzerland is an ideal place for a forward-looking project such as e-toile.

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In particular, the canton of Geneva was a pioneer in recognizing the need for electronic health records that are accessible by all participants in a patient’s care, and in laying the required regulatory foundation. Partnering with Swiss Post and Cisco provides the canton with both the flexibility in the network and stability in network components to adapt to changes in the continually developing eHealth architecture. As Switzerland moves toward mandatory EHR access for all citizens, the innovative work of the Swiss Post and its suppliers, coupled with the powerful Cisco Medical Data Exchange Solution, provides a clear example for the rest of the nation and Europe as a whole.

For More Information

To find out more about the Cisco Medical Data Exchange Solution, go to: