

Austrian Healthcare Provider Improves Access to Patient Records

Klinikum Wels-Grieskirchen leverages Cisco MDES to make patient information available across newly expanded enterprise.

EXECUTIVE SUMMARY
<p>Klinikum Wels-Grieskirchen</p> <ul style="list-style-type: none"> • Healthcare • County of Upper-Austria • 1600 doctors and nurses
<p>BUSINESS CHALLENGE</p> <ul style="list-style-type: none"> • Improve quality of care by providing access to patient-centered data • Supply information to authorized personnel where and when needed • Combine complex patient indexes from two different organizations
<p>NETWORK SOLUTION</p> <ul style="list-style-type: none"> • Medical Data Exchange Solution to provide collaborative tools for cross-facility communication • Platform for application integration • Application software for tabulating disparate patient data
<p>BUSINESS RESULTS</p> <ul style="list-style-type: none"> • Enabled standards-based interoperability between disparate systems • Increased staff productivity and efficiency • Created a modernized, flexible and easy-to-use interface to patient data for doctors and nurses

Business Challenge

The leading health-service provider in the county of Upper-Austria today is the Klinikum Wels-Grieskirchen, serving an area of 600,000 residents and offering 1300 beds for 24-hour specialized medical treatment. Founded 109 years ago by the Order of the Mercy Sisters of Holy Cross, the Klinikum is supported by a staff of more than 400 doctors and 1200 nurses. In 2007, sharing real-time patient information to improve cross-facility communication and collaboration became a dilemma when the Wels and Grieskirchen hospitals merged to form the Klinikum that operates today.

As electronic data capture and exchange grew into a larger component of superlative healthcare, the Klinikum realized that the integration of the two existing Clinical Information Systems deployed at the Wels and Grieskirchen would ultimately pose a difficult hurdle to overcome.

Once the Wels and Grieskirchen hospitals united with the Klinikum, several challenges emerged, including keeping costs within a budget and identifying a solution to combine patient indexes smoothly. Patient medical information needed to be readily available for personnel located at both hospitals, as well as at nearby nursing homes, homecare facilities, and approximately 150 general practitioners. To combat this problem, the Klinikum realized that it had to develop a user-friendly interface that allows for a constant flow of information sharing, communication, and collaboration between doctors and nurses.



For seven years, the Klinikum has outsourced its IT to X-tention Informationstechnologie GmbH. X-tention is involved in planning a framework for sharing electronic health records on a national and European level. The firm had determined that a standard for interoperability known as Integrating the Healthcare Enterprise (IHE) will be the technical framework to meet the future challenges in the healthcare market. These challenges

prompted X-tention to establish a strong IHE and to engage Cisco® know-how, which resulted in the decision to implement the Cisco® Medical Data Exchange Solution (MDES).

“The technology has enabled us to substantially raise the level of information where and when it is needed to help our doctors in their efforts to provide the best care possible for our patients.”

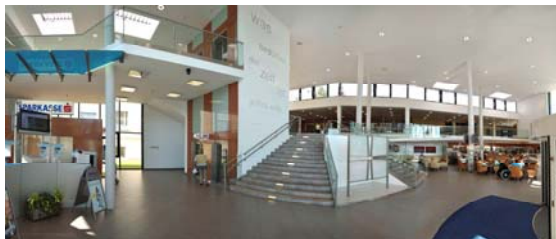
—Dr. Walter Aichinger, chief physician, Klinikum Wels-Grieskirchen

Cisco MDES became the first step in making integrated and patient-centered healthcare a reality for the new Klinikum Wels-Grieskirchen. The project resulted in more efficient and effective collaborative communication, as well as allowed each respective hospital to undergo a smooth transition period, so there was no disruption of patient care. In addition, the project guaranteed clinicians immediate access to the most important patient information, allowing doctors and nurses to continue with their day-to-day patient care without interruption.

Network Solution

The Cisco MDES, deployed in August 2008, provided the collaborative tools necessary to improve cross-facility communication and patient care. MDES utilizes the IHE compliance frameworks to establish a standards-based approach to interoperability and data exchange. The MDES addressed two key challenges: a common patient reference, and the ability to share and access patient records across disparate systems. In addition, the solution conforms to the IHE security framework to support authorized access and denial of unauthorized access to records.

With more than 400 doctors and 1200 nurses working in the Klinikum Wels-Grieskirchen, it was crucial to first consolidate the patient records of the individual facilities into a single patient index, utilizing the IHE Patient Index Cross Reference (PIX). The Tiani-Spirit application running on a Cisco Application eXtension Platform (AXP) module tabulated disparate patient data from the Wels and Grieskirchen facilities into an enterprise patient index. Klinikum established its patient index as the central information warehouse for the newly combined enterprise, enabling the Klinikum to merge all patient and personnel documentation into an easy-to-access repository.



“The technology has enabled us to substantially raise the level of information where and when it is needed to help our doctors in their efforts to provide the best care possible for our patients,” said Dr. Walter Aichinger, chief physician, Klinikum Wels-Grieskirchen.

Once the Klinikum had an enterprise patient index, it then needed to provide the ability to share documents and records via a common standardized process. The Cisco MDES utilizes the IHE Cross Document Sharing (XDS) framework to enable interoperability of disparate systems. Clinicians are now able to access and view patient records using simple query-and-search processes as a result of the Tiani Spirit application running on the Cisco AXP. The MDES returns patient record location results along with signals to display access rights to the data. With this simple approach, clinicians can obtain a more comprehensive view of patient records for more informed treatment decisions.

In 2008, up to 70 percent of prescriptions given to patients through nursing facilities associated with the Klinikum were lost due to the increasing number of patients diagnosed with dementia. Using Cisco MDES, patient medical treatments such as prescriptions or allergy symptoms are stored in a single location, creating a patient-centric view for medical examiners to reference during future appointments or treatments.

The Cisco MDES module adds value to integration technology by enabling third parties, such as large healthcare organizations like the Klinikum, to extend router functionality by providing customized, integrated services to individual businesses, while reducing IT complexity and Total Cost of Ownership (TCO). The solution adds intelligence into the enterprise network to realize the network as a platform for medical data interoperability. This intelligence provides a more robust, secure, and manageable environment, leading to lower operating costs and more efficient clinical processes.

Business Results

The Cisco MDES has greatly improved patient care as doctors and nurses have immediate access to any patient's complete medical history, allowing them to give better and more specific diagnoses and provide enhanced treatment. No longer are unnecessary, and sometimes uncomfortable, processes and procedures repeated because a patient's medical history is incomplete or unavailable.

Not only has the level of patient care and satisfaction improved significantly, the facility has lowered a spectrum of costs. The transfer of medical records using expensive CDs is no longer necessary, because care providers can access such records from anywhere in the facility electronically;

PRODUCT LIST
<p>Routing and Switching</p> <ul style="list-style-type: none"> • AXP Module • Access Control Server • 6513 Core Switch • 6509 Core Switch • 2950 LAN Access Switches • 2960 LAN Access Switches • 3560 LAN Access Switches • 3750 LAN Access Switches • MDS 9500 SAN Director • 7200 Router • ISR 3825 Router <p>Security and VPN</p> <ul style="list-style-type: none"> • Firewall Service Module • 1131 Access Point <p>Wireless</p> <ul style="list-style-type: none"> • LAN Service Module • LAN Control System • LAN Management Solution • Mobility Exchange/Location Appliance

manual copying and transportation costs no longer need to be incurred. In addition, through the IHE framework, the foundation of Cisco's MDES, the Klinikum was able to dramatically reduce the personnel needed to integrate the different IT solutions across the hospital, connected nursing homes, general practitioners, and homecare facilities into a joint electronic patient record.

The elimination of health procedure redundancies has also drastically reduced facility costs, because doctors no longer need to call for medical records, such as MRIs or X-rays that may already exist in a patient's medical history. The Cisco MDES provides real-time benefits to doctors across the entire facility and improved patient care by alleviating the duplication of expensive medical procedures because a doctor was not able to access a patient's history.

"Because of the embedded IHE framework, Cisco MDES enables us to be more independent of healthcare application providers," says Herbert Stöger, head of X-tention and chief information officer for Klinikum Wels-Grieskirchen. "The separation from the data and application layer means a potential perfect migration path towards new application vendors. Especially in cost-cutting times, this gives us greater flexibility as we can now change the hospital information system without losing our data."

X-tention offers its IHE and MDES know-how via training sessions and professional workshops to enable Cisco partners and customers around the globe to achieve similar results.

Next Steps

As a result of the Klinikum's success, two more AXP/ISR (Integrated Services Router) units have been added to further integrate institutions with outside entities, including general practitioners, nursing homes, and homecare facilities, as well as other hospitals in the immediate region such as the one located in Kirchdorf. The Kirchdorf hospital is directly connected with four additional nursing homes and belongs to "GESPAG" (Gesundheits und Spital AG), a hospital chain consisting of ten hospitals and approximately 800,000 patients. By using Cisco MDES, these facilities can alleviate patient record challenges and provide world-class medical assistance to those who need it in a timely and efficient manner. Furthermore, the Austrian government agreed to start a national patient record project called "ELGA," which will integrate up to 400 hospitals, 1000 laboratories, and 11,000 general practitioners throughout the country. ELGA fully supports IHE standardized solutions, creating a fabulous opportunity for Cisco to position MDES as a countrywide solution.

For More Information

To find out more about the Cisco Healthcare industry solutions, go to:

<http://www.cisco.com/web/strategy/healthcare/index.html>



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