

Universitätsklinikum Erlangen



Company Profile

Founded in 1824, University Clinic Erlangen encompasses 22 clinics, ten divisions and an institute that covers the whole range of modern medicine. Extensive quality assurance systems, as well as inter-disciplinary and inter-departmental co-operation among more than 5,500 employees, ensures optimum care from arrival of a patient through discharge. The university clinic, the university and the city of Erlangen are collectively pursuing the goal of becoming the "City of Health and Medicine".

Industry

- Healthcare

Business Challenges

- Heterogeneous systems, poor data quality and performance
- Business processes support and optimization
- Establishment and development of electronic patient record, DRGs, Telemedicine

Solution Overview

- Integration solution which supports HL7 Standard
- Patient data communication, diagnostics findings communication, requirements communication, communication of accounting-specific services
- Dynamic connection to Clinical Workstation Systems (KAS)
- Automated data transformation

"The time savings for business processes is the most important business benefit of our integration solution. The SeeBeyond solution has enabled us to establish and develop an electronic patient folder, the implementation of DRGs and the management and optimization of processes for the clinic." **Detlef Kraska**, Group Head Clinical Communication, University Clinic Erlangen

Business Challenges

With the most modern operating room in the world, the newest equipment and scientifically-supported diagnostics and therapies the University Clinic Erlangen encompasses 22 clinics, ten divisions and an institute that spans the entire range of modern medicine. Teaching, research and patient care are key tenants for the organisation and are interrelated at the highest level. Erlangen research findings are leading the industry in prevention, diagnostics and therapy, and the organisations patients benefit from the most modern treatments.

As an adopter of state-of-the-art IT solutions, the University Clinic Erlangen has traditionally ranked among the pioneers in the use of innovative technology. For example, as early as 1995, the University initiated a program called the "Erlangen Communication Hub" (EKDS). Prior to the program, the University was faced with a heterogeneous system environment of mainframes, UNIX, with many 'islands of data' and minimal electronic data exchange. Data had to be manually entered into different systems several times. As a result, data quality and system performance were significantly compromised. In 1997, the University selected the SeeBeyond platform, which resulted in the enhancement of EKDS to meet existing challenges and new demands. Since the deployment, the number of connections across disparate systems has increased significantly, and as a result, the communication volume.

More recently, the University Clinic Erlangen has been faced with the challenge of establishing an electronic patient record and in the near future, the integration of entire healthcare networks. Further challenges include the implementation of Diagnosis Related Groups (DRGs), the implementation of telemedicine techniques as well as supporting and optimizing business processes.

Minimal training was required to master a range of tasks in a changing framework. In addition, the IT department of the clinic has a centralised support organisation that is equipped to act quickly and flexibly when integration-related issues arise. This group also required a high level of autonomy for the implementation of connections, the testing of scenarios and the effective monitoring methods. The needs for the integration solution also include standard support of all message formats and adapters required by the clinic.

Solution overview

The University Clinic Erlangen's IT strategy centred around early adoption of cutting edge technology, while at the same time supporting industry standards and enabling the organisation to react quickly and flexibly to changing business requirements. In 1997, the clinic selected the SeeBeyond solution for its high performance rate, its graphical front-end and for its concise support of HL7, the message standard in healthcare. The initial integration solution was continuously expanded, successfully connecting 15 disparate systems. Most recently, the University Clinic Erlangen decided to migrate to the latest version of the SeeBeyond platform, eGate™ Integrator. The migration was completed in

May 2002. Today, the eGate™ platform provides connectivity to more than 25 systems with approximately 45 interfaces.

Every day 30,000 'inbound' messages and approximately 120,000 'outbound' messages are transmitted via the integration platform. Some of 'inbound' messages are multiplied. In total, this means over 100 MB of in- and outbound data is managed through the system.

Business Benefits

The time savings and resulting cost reduction make up the primary benefits for the University Clinic Erlangen. Thanks to the integration platform there is no need to enter redundant data manually, and there is a decreased error rate when transmitting billing-oriented data. The communication flow now takes place in near real time and eliminated daily delays.

Another benefit resulting from the SeeBeyond deployment and the company's 15-year track record in the healthcare space is the University's access to SeeBeyond's extensive message library which has saved significant time and resources. The clinic is also saving time by using SeeBeyond's packaged adapters for connectivity to its SAP system.

Further, the integration platform has helped the clinic to save time throughout the entire process chain, including registration of the patient, diagnosis, treatment and care, as well as patient discharge billing. As a result, patient data is immediately populated into the system and is immediately accessible during treatments. This accelerated registration process also enables e.g. that a special diet can be drawn up in an electronic format immediately after registration. As a result, delays through the previously paper-based systems have been eliminated. Also the individual diet plan is not only a matter of health but also 'customer satisfaction'.

Without a flexible communication solution such as that from SeeBeyond, it would not be possible to automate messaging across the organisation. More importantly, the integration of its clinical workstation system (Soarin) was key to the process improvements and enhanced patient safety.

Plans for the future

The clinic is currently evaluating SeeBeyond ICAN 5.04. With the migration to ICAN 5, the clinic expects to gain additional flexibility through the use of Java, as well as enhanced security for the future through the support of open standards.

The University Clinic Erlangen also plans to leverage SeeBeyond's elnsight™ Business Process Manager to enable workflow-modelling in order to better manage and monitor complex integration processes.

"The SeeBeyond platform has played a key role within our organisation, with a large number of projects having depended on the unified integration platform. For instance, we have been validating the new KAS Soarin from Siemens since 2002. Without a flexible communication solution such as that from SeeBeyond, it would not be possible to integrate such a system. Furthermore, we look forward to deploying SeeBeyond ICAN 5, as it affords us additional capabilities such as composite application development and business activity monitoring that we would otherwise not have with traditional EAI solutions." **Detlef Kraska**, Group Head Clinical Communication, University Clinic Erlangen.

Business Benefits

- Time savings through more efficient processes
- One-time data collection
- Short training periods and little effort for future adaptations to interfaces
- Reduced error rate when transmitting billing-specific data with large number of projects (e.g. KAS) having depended on use of the unified integration platform
- Improved patient satisfaction

Technology Profile

- SeeBeyond Components
- eGate™ Integrator
- JDBC/ODBC-eWay™ Intelligent Adaptors
- SAP/BAPI-eWay™ Intelligent Adaptor
- HCM-eWay Intelligent Adaptor
- XML-Toolkit

Hardware and OS

- SUN