IBM

Vitea starts small, grows big with IBM DB2 Universal Database.

Overview

- **Application**
  Web-based healthcare
  management system
- **Business Benefits**
  Ability to serve 40,000 new patients
  in its first year of business; scalabil-
  ity to 3.3 million visitors/sessions
  per month within 2 years
- **Software**
  IBM DB2® Universal Database™
  for AIX®; IBM WebSphere®
  Application Server, Advanced
  Edition; IBM WebSphere Edge
  Server; IBM VisualAge® for Java™;
  IBM SecureWay® Directory Server;
  IBM HACMP/6000™
- **Hardware**
  IBM RS/6000®
- **Services**
  IBM Global Services; IBM
  e-business Hosting Services

Vitea's Web site offers a broad range of services aimed at helping users find the healthcare they need.

When Vitea AB started up in the Swedish marketplace just over a year ago with a modest health information Web site, few onlookers would have suspected that the company would burst onto the scene a year later with two HMO-type offerings. Yet that is about to happen. After a year of developing name recognition and building its database of healthcare providers, Stockholm-based Vitea is about to launch two comprehensive

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– Paul Kallenius, CEO, Vitea AB

Patients can log on to Vitea's Access service to obtain treatment information concerning their symptoms or book an appointment with a provider.

healthcare plans that employers can buy for their employees. The company has already signed up three of Sweden's largest employers, and the concept seems headed for success.

With a national health plan and no HMOs, Sweden may be receptive to the Vitea offerings. If it is, the news will come as no surprise to IBM Global Services, which released a study in 1997 predicting that healthcare intermediaries like Vitea would eventually emerge and capture a hefty share of the Swedish healthcare market. Two years later, when Vitea CEO and Co-founder Paul Kallenius began giving a laptop presentation of his new business concept, the word quickly reached the IBM NetGen group, which decided to help Kallenius develop his idea. In the intervening two years, IBM has enveloped the company with strategic technology advice and marketing support. IBM has also helped Vitea develop

a solid IT infrastructure designed to scale to heavy usage as the company emerges as a major healthcare vendor.

At the foundation of this infrastructure is IBM DB2 Universal Database, which manages information on the plans, the plan participants and their employers. It also stores medical histories, networks of healthcare providers and transactions between patients and their providers. Says Kallenius, "We wanted to create an infrastructure that would scale to 560,000 visitors or sessions per month, on average, in the first year, growing to 3.3 million within 2 years. Even though we already had a relationship with IBM, IBM actually encouraged us to shop other software vendors, and we evaluated Sun, Oracle and Microsoft. But in the end, IBM had the best price/performance, the best financing, the best solution altogether; and it was the only one that could offer an end-to-end solution."

In its first year, Vitea plans to serve at least 40,000 members. In addition, with its robust, industrial-strength
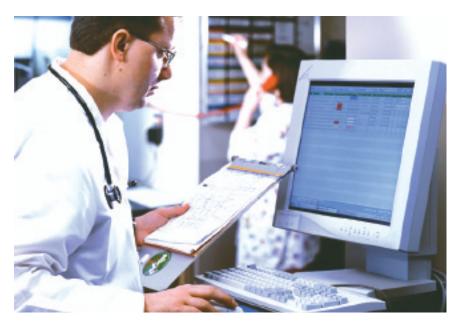
"We needed a high-performance database with stellar usability, manageability, availability and functionality. DB2 is meeting and exceeding all our expectations, and we have great confidence in it as we approach the final test of going live."

–Rikard Bergquist. CIO, Vitea AB

software platform, Vitea has spun off a separate company, Capvit. An IBM Business Partner and independent software vendor (ISV), Capvit provides an HMO-management software package that IBM will market to its insurance customers worldwide. Says Kallenius, "We will have to interact with many players, from employers to healthcare providers to ISV customers who may want our system on a different platform. We must have a flexible, open solution that can interoperate with other software and platforms. We also have to be able to preserve the integrity of large amounts of data and keep it secure. Only IBM and DB2 are able to meet all these requirements to our satisfaction."

From self-diagnosis to complicated surgery

The first of Vitea's plans is Access, a comprehensive medical plan with a medical call center staffed by nurses as well as networks of physicians, specialists, hospitals and other healthcare providers. Employers prepay a fixed number of visits for their employees, and Vitea pays the providers without assuming any insurance risks. The second plan, Proactive, based on the same business model, is an occupational health plan designed to help employees with stress and muscular-skeletal disorders return to work quickly.

Vitea needed a robust, scalable database to manage information on health plans, patients, employers, healthcare networks and medical transactions; it found the perfect solution in IBM DB2 Universal Database.

Patients using the Access system have access to comprehensive healthcare and a number of ways to use the system to obtain treatment. For instance, they can log on to the Web site with secure IDs and use an interactive questioning process designed to identify serious conditions. The site can refer patients to the call center to set up appointments as needed. When the patient contacts the call center, a nurse makes an appointment using a different interface to the central DB2 database, which provides available appointment times within the network of physicians. Physicians then enter their treatment data into the system, which tracks all the details of the

case and functions as a medical information system. Physicians also will have the option to leverage their existing patient tracking systems.

A key criterion for the selection of the database component was security, since patient privacy is protected in Sweden and in other countries of the European Community where Vitea will do business. Comments Vitea CIO Rikard Bergquist, "We used the encryption capabilities of DB2 to encrypt all patient health information at the database level. DB2 provides us with a secure environment that we can run on the public Internet without worrying about security breaches."

**Robust DB2 database exceeds
high expectations**

In addition to DB2, the Vitea
Web-based healthcare solution uses
IBM WebSphere Application Server
to access the Java classes, that
manage the business logic. IBM
SecureWay Directory Server provides
secure password-protected access,
while IBM HACMP/6000 for AIX
maximizes database availability.
IBM WebSphere Edge Server is
used for load balancing and caching.
Vitea programmers are using IBM
VisualAge for Java to develop
Enterprise JavaBeans (EJB) and
servlets. IBM e-business Hosting
Services hosts the solution on
IBM RS/6000 servers. IBM Global
Services provided programming,
along with the architecture design.

When a user triggers an application
requiring information from the
database, EJB components
running in WebSphere Application
Server retrieve the data from DB2.
WebSphere Application Server
parses the data into XML to allow
it to be worked into the HTML
presentation layer of the third-party
content management software.

Once Vitea goes live in Sweden
with its Access and Proactive
offerings, which are currently in
the testing phase, the company
plans to expand into Spain, the
UK, Germany and France. DB2
will have to handle a fast-growing
patient and provider population in
multiple language sets. Comments
Bergquist, "We needed a
high-performance database with
stellar usability, manageability,
availability and functionality. Our
applications typically have to check
through strings of data, including
membership status and long medical
histories, and they have to perform
quickly. Also we don't want to change
the architecture of our database
simply because we're adding a
new feature such as mobile access.
DB2 is meeting and exceeding all
our expectations, and we have great
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For more information

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IBM marketing representative,
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