

IMPIRE AG scores with live-action sports content powered by IBM Information Management software.

Overview

■ Challenge

Provide 3D sports graphics and statistics in real time for broadcast during professional sporting events

■ Why IBM?

IBM acted as a trusted advisor, provided a proof of concept that met the customer's specific needs, and offered products delivering high performance and availability, scalability, and support for Linux®

■ Solution

High-performance database platforms provide management, processing and mining of data for instantaneous play analysis and statistical content

■ Key Benefits

Improved ability to provide information on demand; higher system availability and reliability; rapid development of new capabilities and features to meet customer demands; faster and more in-depth analysis with data mining; improved ability to quickly modify content; improved employee productivity; better collaboration with employees and customers



Soccer is one of many sports that may soon benefit from IMPIRE AG technology, which uses IBM databases and data warehouse solutions to collect and analyze plays and statistics.

For sports fans, futuristic technology is enhancing the thrill of today's live action. Whether from an armchair or stadium seat, fans are able to experience game highlights shown as IPTV broadcasts or 3D graphics of plays in combination with related sports statistics—delivered to a screen near them. They can watch a soccer player make a goal, and moments later view the same play from a field-level perspective, complete with information about how fast the player was running and how far the pass traveled, as well as historical statistics.

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—Christian Holzer, Chief Innovation Director, Cairo technologies AG & IMPIRE AG

Leveraging data mining and analytics to deliver information on demand



Increasing excitement and fan loyalty by providing analyses to spectators and the media in the form of colorful 3D graphics is the name of the game for Cairos technologies AG & IMPIRE AG.

This type of viewer experience, multiplied across multiple sports, is what German-based IMPIRE AG delivers to the sports industry. IMPIRE's employees and freelancers provide game statistics, TV graphics, 3D virtual and augmented reality animation, and technology concepts for TV broadcast, multimedia and other content systems. This allows IMPIRE to offer sports teams a marketing tool to heighten fan excitement and loyalty and a diagnostic and profiling tool for player training and recruitment. IMPIRE also licenses the use of the data to media and information outlets.

Handling huge data volumes in real time

To achieve its objectives, IMPIRE needed to replace its complex and expensive-to-manage database infrastructure with a highly available, high-performance solution that could rapidly load data and provide data mining. A flexible data model and development environment would allow IMPIRE to capture live sporting events statistics, distribute them in realtime,

store large amounts of new and historical data from various sources, analyze and publish that data in near-real time, and quickly develop new applications.

Through a proof of concept, IBM demonstrated the best price-performance, scalability and availability, and offered database solutions that were easier to use than other products. IBM's support for Linux and range of development tools also appealed to IMPIRE. "IBM positioned itself as a trusted advisor," says Christian Holzer, chief innovation director, Cairos technologies AG & IMPIRE AG. "The presales, software services and sales teams worked diligently to understand our business needs and were always available to provide the information we needed to make the right business decisions."

IBM Business Partner and reseller Dittrich and Partner Consulting GmbH provided project analysis and design, supported proof-of-concept projects and provides ongoing training.

Collecting game data and broadcasting it live

The data is collected in real time through a semi-automated process. IMPIRE can combine this data with historical data from other databases to generate game analysis, statistics and graphics. It broadcasts game statistics content to stadium fans and makes it available to broadcast stations, Internet and mobile service providers, and other media.

"As a high availability data server that delivers real-time data streaming, IBM IDS enables us to replicate data instantaneously across multiple servers and meets our requirements for live broadcasting of sports replays and analyses."

– Knuth Hartlieb, Head of IT Development, Cairos technologies AG & IMPIRE AG

IBM Informix Dynamic Server databases form crux of operations

To produce 3D graphics and statistics during sporting events, IMPIRE relies upon IBM Informix Dynamic Server (IDS) for fast performance and high availability. "As a high availability data server that delivers real-time data streaming, IBM IDS enables us to replicate data instantaneously across multiple servers and meets our requirements for live broadcasting of sports replays and analyses," says Knuth Hartlieb, head of IT development, IMPIRE AG.

The database has a total size of 15 gigabytes running on Red Hat Enterprise Linux 3 and 4. To ensure that data is available 24x7 and able to service multiple Internet and application needs, live data is replicated in realtime using Enterprise Replication (ER) across several IDS servers in different locations.

At its central office in Ismaning, Germany, IDS with High-availability Data Replication (HDR) and ER functionality is the central repository containing data on all players, clubs and venues. The database platform manages data from individual sporting events (such as goals scored and free kicks in soccer) that is evaluated and published during a game. IMPIRE uses IDS databases at offices in Germany and Austria to replicate the central database, provide historical data and deliver current data for the German broadcasting

network. IMPIRE uses the same IBM IDS with HDR and ER to replicate other databases for security and high performance.

IBM Informix DataBlade™ technology allows IMPIRE to manage multiple data types—text, images, sound, video and spatial data—and to create new database capabilities, such as generating new statistical information on demand for customers. It also helps IMPIRE's software developers quickly and inexpensively create innovative applications.

The company has created customized Web portlets for its sports editors and sales staff, the media, sports clubs and coaches by using IBM WebSphere Portal Express and Alphablox. The portlets improve employee productivity and customer service. To support rapid development of WebSphere Portal applications and promote collaboration, IMPIRE uses IBM Rational Application Developer for WebSphere. By using the application's Enterprise Generation Language (EGL), employees can easily create their own tools and interfaces.

The IBM solution is also helping IMPIRE expand its Web-based business. The company has been able to offer games such as Fussball Manager in which players use real-world sports statistics to assemble and manage their own teams, ranking players against one

Key Components

Software

- IBM DB2® Alphablox®
- IBM DB2 Data Warehouse Edition (DWE)
- IBM Informix® Dynamic Server (IDS) 10, Enterprise Edition, Workgroup Edition and Workgroup Edition Unlimited
- IBM Rational® Application Developer for WebSphere® Software
- IBM WebSphere Application Server
- IBM WebSphere Portal Express
- IBM Workplace™ Solutions
- Red Hat Enterprise Linux 3 and 4

Server

- IBM BladeCenter®

Services

- 24x7 IBM support and direct contact with IBM labs
- IBM Software Services for WebSphere

IBM Business Partner

- Dittrich & Partner Consulting GmbH

“DB2 Data Warehouse Enterprise Edition gives us powerful data mining tools and rapidly deployable and easy-to-use analytics through DB2 Alphablox.”

– Knuth Hartlieb

another and predicting performance against other teams in the league. IMPIRE's new state-of-the-art Web application is a real-time sport datacast called Live Ticker. Live Ticker provides live information about a match and the match day to the online user, including live statistics and analysis.

IBM Workplace transforms collaboration

IMPIRE's customers, employees and freelancers must be able to rapidly access information, applications and business processes anywhere, anytime. IBM Workplace™ Solutions facilitates remote access to IMPIRE's Web portlets, connecting customers with the same tools that are used by IMPIRE's editorial staff and employees and providing access to IMPIRE's system components. The ability to order and receive only the products

they want, such as online request features and datastreams in all types of standard formats, enables customers to have a satisfying experience with up-to-date information on demand.

IBM DB2 data mining provides the competitive edge

To integrate information and analyze data in near-real time, IMPIRE depends upon the data mining capabilities of IBM DB2 Data Warehouse Edition (DWE) software, which provide complex correlations among players and team selections for specific days or the entire season. IMPIRE uses the OLAP Acceleration component of DB2 DWE (formerly DB2 Cube Views) to mix and match current and historical data to create multidimensional models that can provide analyses of plays and players.

Using Alphablox, IMPIRE can embed its analysis into Web applications that are quickly accessible to sports editors and other users. "IBM DB2 Data Warehouse Edition gives us powerful data mining tools and rapidly deployable and easy-to-use analytics through DB2 Alphablox," explains Hartlieb.

New flexibility to meet customer demands

With IBM data servers and development environment solutions, IMPIRE provides information on demand and quickly develops new features and capabilities—such as live tickers and Web-services

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– Christian Holzer

interfaces—to meet customer demands. Built on a services oriented architecture (SOA), IMPIRE's infrastructure can easily accommodate content modifications triggered by customer requests for new statistical information or by rules changes in a particular sport. The HDR and ER technologies of IDS deliver the system reliability and availability required by IMPIRE's rapid-fire business.

The ability of IDS to deliver high-quality, real-time sports statistics and graphics in a powerful new way will not only thrill fans and help team franchises, but will also help IMPIRE expand its business to other markets. As IMPIRE grows its operations, it will look to IBM information management solutions to expand database functionality and improve analytical performance.

“Increasingly, we’re depending on information on demand to meet the needs of sports fans and media consumers” says Holzer. “IBM will be there to help us develop and deliver innovative products that maximize the value we add to viewers’ experiences.”

For more information

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For more information on IMPIRE AG, please visit:

www.imp-m.de or

www.bundesliga-datenbank.de

For more information on Dittrich and Partner Consulting GmbH, please visit:

www.dpc.de/mcms.dpc/frameset



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