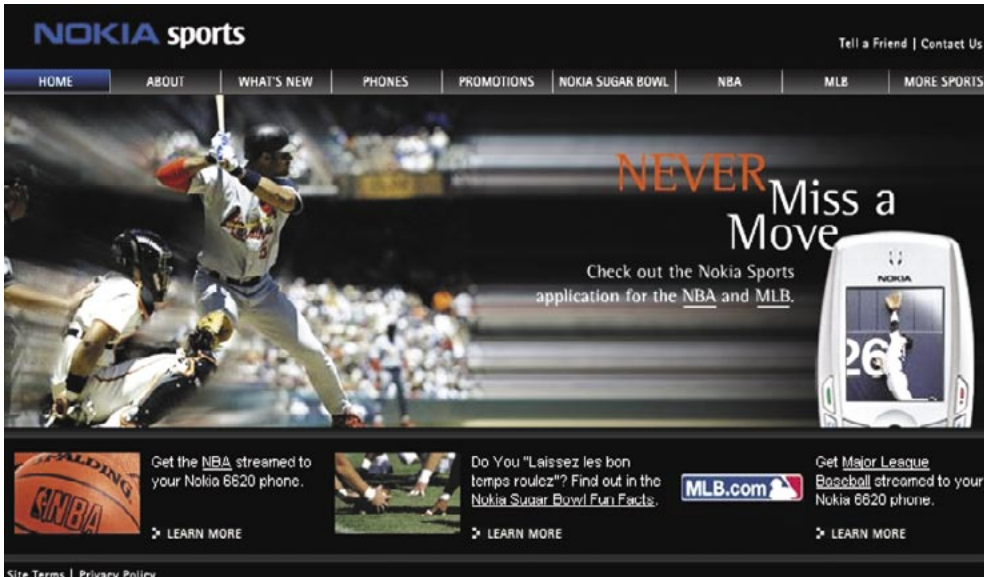


CieloVision Brings NBA and MLB To Series 60 Devices



The Cielo Group provides the enabling software driving Nokia Sports services.

Mobile sports fans and mobile devices form a natural combination. Sports fans want to see great plays, hear live play-by-play, and get real-time scores pushed to their mobile phone. The technical trick is in the underpinnings of capturing such information in real time, transcoding it into a form suitable for the displays of mobile devices, and in moving that information onto mobile devices in a timely fashion. The marketing trick is in securing the rights to such information from premium sources such as Major League Baseball (MLB) and the National Basketball Association (NBA) in order to market it to the mobile consumer.

The Cielo Group has put all of these elements together into the CieloServer server software and CieloVision client software. Together, these form the technical underpinning of Nokia Sports. Nokia Sports (<http://www.nokiausa.com/sports>) provides mobile sports fans with coverage of MLB and NBA events, including live audio feeds of all games, video clips, scores, photos, news and standings. The application is pre-installed on all Nokia next-generation devices that support GPRS, Enhanced Data Rates for Global Evolution (EDGE) and third-generation (3G), and that are shipped to Cingular and T-Mobile customers.

Success Metrics

For the Cielo Group, real success is measured in terms of getting major operators to carry the services offered, and in getting Nokia as a partner to help drive the relationships with the NBA and MLB. The Cielo Group's partnership with Nokia has generated Nokia Sports, and already Nokia Sports has been adopted by such operators as Cingular, AT&T (which is now part of Cingular), and T-Mobile, with the prospects of more to follow.

Nokia Sports includes such features as GameDay Audio, where a sports fan can listen to the live radio broadcast of any game from anywhere in the country, and video streams of PostGame.TV, a two- to three-minute highlight video stream containing all the best plays from every game. Beyond rich media such as live audio and video streaming, Nokia Sports also offers subscribers photo galleries every day along with live scoring, pitch data, players' stats and league standings.



The Cielo Group, Inc.,
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Video clips are part of the Nokia Sports service...



...as are still-photo highlights of the action.



Sports fans can listen to games from other market areas as well as those from their local broadcast markets.

Continued

Development Of Nokia Sports

Development of the CieloVision client for Series 60 began in 2003. Nokia Sports was launched in April 2004, in time for the NBA playoff season and the Major League Baseball season. The first full NBA season to be offered was the 2004-2005 NBA season.

"We originally developed CieloServer, the server side of the software, in 2001 for Pocket PC users who wanted to receive live motor sports content," said Macri. "This led to work with Major League Baseball, whom we then introduced to Nokia in the winter of 2002-2003. We felt that Nokia was leading the market with advanced multimedia phones that were capable of supporting our service, and which could do justice to MLB's rich media content."

Cielo began re-engineering CieloVision, their client software, to run on very early prototypes of Nokia 6620 devices in the fall of 2003, when Nokia supplied Cielo with four very early prototypes. "In this business, it is critical that high value applications are available to consumers simultaneously with the introduction of a new handset. Any lag between the availability of the handset in a retail store and applications which can run on it, stunts the take-up by consumers. This means developers must begin their work with phones that contain prototype software," said Macri. "If you wait until they are completed, you lose the most important months of market opportunity for that device."

The Process Of "Porting"

Cielo did not port the CieloVision client software from another platform, but built it from the ground up to take advantage of the features of the Nokia devices. "We built the Series 60 client using C++ initially with the Series 60 7.0 SDK, and has since begun incorporating Series 60 Third Edition for newer handsets," said Macri. "As MIDP 2.0 came along, we also used J2ME (JavaTM 2 Platform, Micro Edition) and the Series 40 Developer Platform 2.0 to create a client that makes Nokia Sports available on Series 40 devices." Neither caching nor the ability to set preferences is as prevalent on Series 40 devices.

Since half of the Cielo software development team is in Moscow and the other half in Boston, the emulation made possible by the Nokia Series 60 Developer Platform 2.0 was particularly important, according to Macri. "They could develop code over in Moscow, but they couldn't test it in the AT&T or Cingular network that we have over here. The code would usually run just fine, so the development environment translated well across the continents."

Forum Nokia Helps Out

The one time that the code did not translate well, Forum Nokia jumped in to help. "It was important to us to send our content over HTTP connections, which has numerous advantages over socket connections. We had a problem making HTTP connections in an early prototype firmware version, there was the question of whether the problem was in the code coming from Moscow, in the interface to the operator's network, or in the firmware of the Nokia 6620 device itself. We submitted our case to Forum Nokia online, and the Forum Nokia experts got right on it. They researched it, and were instrumental in resolving the issue in the next firmware version," says Macri.

The result of all of these efforts was a very robust application on the Series 60. "We did an informal test of mobile TV versus broadcast TV on a particular baseball game, and determined that the mobile action was only two to three seconds behind its broadcast counterpart," said Macri. "On the content licensing side, Nokia was a pivotal partner for Cielo. Nokia's extensive marketing relationship with the NBA and the Turner Network Television (TNT) network has enabled us to add the NBA to Nokia Sports."

Extending The Cielo Group Platform To Other Applications

Looking ahead, Macri points out that exactly the same software platform can also be used by operators to host operator-branded content, and by a financial organization like Bloomberg to consolidate its TV, radio, financial data and real-time stock quotes streaming to the wireless device. "On the sports side, clearly the next targets of opportunity are global sports such as soccer, cricket and motor sports. This is a real-time service delivery platform that is available from Nokia to support branding opportunities for operators," Macri says.

Developers interested in Forum Nokia PRO go to www.forum.nokia.com/pro.

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Major League Baseball is quite happy with the quality of the Cielo Group delivery system. George Kliavkoff, senior vice president, MLB Advance Media, Inc., notes that "Through the Cielo Group and Nokia Sports, it is now possible to offer all types of content--including live audio, on-demand video, real-time scores and analysis--on mobile devices through a single, dynamic interface. It also allows us to offer the quality of content experience that MLBAM subscribers have come to expect from MLB.com through other media such as PCs and web pages."

"The NBA has about half a million monthly paying subscribers for its premium content, and MLB has close to a million. Our promotion of Nokia Sports on the Nokia 6620 imaging phone is just starting out and is a small percentage of that, but we are seeing a better than 20 percent conversion rate from trial subscribers to month-to-month paying subscribers," says Dean Macri, CEO of The Cielo Group. Macri adds that in April 2005, the Nokia 6682 smartphone (a 3G device) was also made available, and also has Nokia Sports embedded on the MultiMediaCard (MMC) chip.



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