RedNews

The newsletter of Redwood Technologies

Winter/Spring 2007/08

Headlines

REDWOOD TECHNOLOGIES

Welcome to the Winter/Spring 2007/08 edition of RedNews – a selection of Redwood's top news stories of the last quarter.

This edition takes a look at Redwood's recent projects with O2, CYTA and Rapide, plus the charity fundraising work carried out on the DNX® media response platform in operation at KPN. Page 2 focuses on the exciting new developments in mobile Internet and VXML technology.

For further information on any of the news articles, or for details of Redwood's Value Added Services product portfolio, please register on Redwood's RedExec™ Partner Programme via the website, or contact Joanne Williams on: +[44] (0) 1 344 304 344 or jmw@redwoodtech.com.

Recharging the O2 Network

O2 is one of Germany's leading mobile operators, offering a full range of mobile, broadband and content services. Combined with parent company Telefónica, the joint entity is the world's largest telecom operator outside of China, with more than 212 million customers.

The company is continually developing new products and services to grow its customer base. In 2007, O2 in Germany saw its most successful Q3 in terms of new subscribers, as a direct result of new initiatives and propositions.

One of the most recent initiatives set up by O2 (Germany) Service GmbH is a mobile phone credit recharging service, developed for new brand FONIC, which distributes its services via different sales channels (e. g. supermarkets).

The FONIC service runs on Redwood's award-winning IVR platform and allows customers to top up their mobile phone by dialling a dedicated short code and following the simple instructions on the IVR prompt menu. After confirming their choice of credit, the top-

up is initiated and the respective charge is made to the customer's bank account. FONIC customers are also able to send an SMS to the same dedicated short code, in order to automate a top-up of €10. Top-ups are confirmed with a notification SMS.

The service has proven to be hugely popular, attracting more than 200,000 customers since its launch in September.

The Redwood IVR system is one of the most fully-featured systems available. The current version has been in continuous development for the past twelve years and is used by some of the world's largest carriers.

Combining the crucial elements of an IVR system with easy-to-use application development tools, the system provides the widest range of technical options for many other IVR features, such as airline flight arrival information, sales order processing and telephone banking.

For further details, please visit www.redwoodtech.com or contact Redwood at sales@redwoodtech.com.

Upgraded Televoting at Cyprus Incumbent

Founded in 1961, CYTA (Cyprus Telecommunication Authority) provides, maintains and develops a full range of telecommunications services, telephony (fixed and mobile), Internet, digital and interactive television, both in Cyprus and overseas.

A number of national and local media companies in Cyprus, mainly TV stations and CYTA's television network, miVision, use televoting as an integral part of their format. During a televised series or special event, such as the Eurovision Song Contest, CYTA handles hundreds of thousands of calls from viewers, on top of the standard voice traffic.

In order to handle the huge bursts of service demand from users, CYTA has implemented Redwood's RedResponse® Solution – the technology behind some of the largest mass calling systems in the world, with well-known deployments including the telephone voting systems used for shows such as Big Brother, Who Wants To Be A Millionaire? and The Eurovision Song Contest.

With a January 2008 live date, the RedResponse platform brings a number of benefits to CYTA. As well as providing high throughput,

capacity and reliability, the state-of-the-art solution allows the company to offer -a whole range of new interactive voting methods, and analyse its services in real-time.

The system supports interactive voting services such as Question and Answer, where the caller is required to enter their chosen option, in addition to passive

voting, where the caller simply dials a unique number associated with their choice.

ATHK CYTA

RedResponse additionally allows call recording, ASR and DTMF inputs, plus options for SMS, online and red button voting.

Demographic information on viewers can be collected by simple methods such as using Caller ID to determine where a viewer lives, or more detailed information obtained through questionnaires.

Other information, such as the number of new viewers participating in a mass calling event, can help CYTA determine how effective a particular show format is, and whether its appeal is starting to decline.

For further information on CYTA, please visit the webpage at http://www.cyta.com.cy/. For further details on Redwood's mass calling and televoting solutions, please contact sales@redwoodtech.com.

Technology Focus:
Mobile Internet – Data on the Move

It's easy to see the appeal of keeping the Internet in your pocket. As well as being easier to carry around than a computer, the small screen of a mobile phone offers a quick and hugely convenient source of information in scenarios such as on a crowded bus or on train journeys.

More and more companies are picking up on the Mobile Internet trend and creating bespoke made-for-mobile web pages. Popular information and entertainment downloads include ringtones, games, horoscopes, music, real-time news and travel information, all delivered directly to the mobile phone at the touch of a button, from any location.

In order to cater for the huge surge in mobile downloads, leading-edge equipment is of paramount importance to carriers and Service Providers. Implementation of Mobile Internet requires expertise and experience with many different networks and protocols, so that the convergence can encompass existing infrastructure and grow to meet the increasing demand for access.

Redwood's high-performance, carrier-grade platform acts as a reliable and secure gateway to managed IP networks and is fully compliant with the IMS (IP Media Subsystem) standards set by wireless standards body 3GPP (3rd Generation Partnership Project), designed to aid the access of multimedia applications across wireless and wireline terminals.

Service Benefits

Service Provider – Marketing and Profiling

• An SMS or MMS video campaign with downloadable discount voucher or link to online ordering system encourages impulse browsing and purchasing.

• Customer and regional profiling can be conducted through review of order responses and vouchers redeemed in-store.

Service Provider – New Customer Base

• Internet customers who do not have regular access to a desktop computer can be reached on a mobile.

User – Social Browsing

• Movie trailers, cinema ticket reservations, restaurant vouchers and travel directions straight to the mobile. Online banking, e-mail and auctions available on pages that look as good as on the desktop.

Redwood's established software applications, including RedRouter,^{TM} RedMatrix,$^{®}$ RedLink$^{®}$ and RedResponse$^{®}$ are all well suited to the new architecture. The versatile tariffing model in RedRouter is capable of using all information from the charging records. The RedLink 'My Inbox' feature will immediately allow users to access their own multimedia messages and control their accounts.

For further details, please visit www.redwoodtech.com or contact Redwood's Business Development team at sales@redwoodtech.com.

Technology Focus:
VXML – Integrating Voice and Data

Millions of phone calls are processed by VXML (Voice Extensible Markup Language) applications every single day. Applications are deployed across a wide range of industries, covering services such as order enquiries, shipment tracking, emergency notifications and phone directory assistance.

VXML was developed by W3C (The World Wide Web Consortium) to make Internet content and other data accessible via voice and telephone. Instead of mouse clicks, the input method is speech recognition or DTMF, and the output is conveyed via audio prompts or Text-To-Speech, rather than a graphical web page.

VXML has been widely adopted within the speech industry, and Redwood's award-winning RTSinfonia$^{®}$ communications architecture has been developed to provide full and extensible VXML support.

VXML applications can integrate with a huge range of telecommunications and data networks on Redwood's DNX platform, with multiple language

Technology Benefits

Rapid Development

• Developers have found VXML application development up to three times faster than in traditional IVR environments.

Platform Independence

• The language is standard, allowing applications to run on various platforms.

Full Integration

• Based on web technology, allowing close integration with existing web-based business systems.

Faster Customer Interactions

• ASR interface can replace a traditional hierarchical IVR menu tree.

Multi-Technology Support

• Spoken prompts (recordings or Text-To-Speech)

• Speech recognition (user control via spoken word)

• Tone recognition (DTMF interaction between the user and the application)

• Recording (allows recording of spoken input).

support for TTS and ASR, full support of IP signalling standards (SIP, H.323, H.248/MEGACO) and protocols (TCP/IP, SMTP, IMAP4, POP3, SNMP). Additionally, over 100 database engines are supported, along with over 100 SS7 variants and E1/T1 variants.

For further details on Redwood's VXML solutions, and how they could work for your business, please visit www.redwoodtech.com, or contact Redwood's Business Development team at sales@redwoodtech.com.

KPN's Rapid Response Brings Disaster Relief

Incorporated in 1989, KPN Telecom NV is the largest telecommunications company in the Netherlands. It provides telephony, mobile and data services to business and residential consumers in the Netherlands, as well as Germany (E-Plus), Belgium (BASE) and Western Europe.

As well as its commercial and entertainment services, KPN also operates a series of fundraising activities that provide vital support for a number of international charities and relief campaigns.

Live Television Shows for Emergency Disaster Aid

Large-scale natural disasters such as earthquakes and tsunamis unite the efforts of many relief agencies. KPN has provided telephony services for a number of live televised programmes which aim to raise money for the casualties of such disasters and for extensive restoration projects. During each show, KPN receives tens of thousands of calls from people pledging donations.

KPN is well equipped to handle the extremely high quantities of calls. The company has implemented Redwood's Next Generation Network DNX® media gateway, resulting in the Netherlands' largest mass calling solution.

'Our mass calling service works in tandem with a live television broadcast and must handle the voice calls and text messages that come in during a strict time period. If the platform collapses in that timeframe, we are in trouble,' says Joop van der Wijngaard, Manager, Voice, KPN. 'It's essential we have the infrastructure in place to support this volume of calls. Reliability is critical to our business. We had very high expectations and we haven't been disappointed.'

2004 Asian Tsunami

Lottery Services Funding International Relief Projects

In addition to emergency disaster relief campaigns, the mass calling platform is used to support international relief projects on an ongoing basis, in conjunction with national lottery organisations. KPN handles the phone calls for millions of lottery entrants. A percentage of the money raised from ticket sales is used to support victims of famine, war and disease, providing education, housing and a better standard of living for people in developing countries.

The televised lottery programmes show how lottery ticket money supports these charitable causes, giving viewers the feel-good factor of helping.

Ongoing Medical Research Programme

KPN's DNX mass calling platform additionally handles the calls for a number of other services that raise money for medical research into conditions such as AIDS, cancer, kidney disease and heart failure.

The robust and scalable infrastructure of the Redwood DNX allows KPN to add new services and additional capacity without system redesign, allowing the company to look to the future and keep pace with the fast-moving telecommunications industry, at the same time as helping to save lives.

Further information on KPN can be viewed at http://www.kpn.com/.

For further details on Redwood's DNX platform, please visit www.redwoodtech.com or contact Redwood's Business Development team at sales@redwoodtech.com.

Client Case Study: Rapide Communication

Founded in 2000, Rapide Communication Ltd provides inbound and outbound business-to-business and business-to-consumer mass communications services. The company currently provides solutions to over 400 clients, including a quarter of all companies listed in the FTSE 100.

Historically, Rapide has been contracted to allow communication between small teams within large organisations. However, with today's increased mobile communication and messaging technology, tens of thousands of lines are required to connect all interested parties – substantially higher than the 200 telephone lines that once sufficed.

For this purpose, Rapide has implemented Redwood's STORM™ (Services for Television, Online and Radio Media) technology, the revolutionary mass interaction communications platform that provides 20,000 ports of UK IVR capacity and 10,000 IP channels. The system provides a consistent, effective and fast way to reach thousands of people at one time.

Outbound Broadcasting

Many of Rapide's clients require immediate communication for a number of situations. For example, the Environment Agency uses Rapide's text system as part of their FLOODLINE service to alert those at risk from high tides. Additionally, the National Farmers' Union (NFU) uses Rapide's outbound voice message alert service to provide information to farmers and growers in England and Wales. When news of the recent outbreak of Foot and Mouth Disease first ran in the media, the President of the NFU, Peter Kelland, recorded a voice message to make 20,803 livestock farmers aware of the situation and advise them how they would be affected. The message was sent to all of the farmers' landline phone numbers at the requested time.

One of the most popular services in Rapide's business client sector is 'Team Call & Listen', where a message or conference is recorded for people to phone in and listen to at their own convenience. A report can be produced to show who has called in and when.

Vodafone Group, the leading international mobile telecommunications group, uses the 'Team Call & Listen' service for live streaming to its customers and Barclays CEO, John Varney, will use the service to communicate the quarterly financial results to his staff.

Inbound Campaigns

Rapide's 'Rant-and-Rave' service allows companies to find out what their customers really think. Allowing huge numbers of people to dial in at any one time, the platform captures both voice and DTMF data, during customer surveys for instance, allowing instant customer feedback and insight.

http://www.rapide.co.uk/redwood.

For further details on Redwood and the STORM platform, please visit www.redwoodtech.com or contact Redwood's Business Development team at sales@redwoodtech.com.

The Redwood Team – An Interview with Robert Mansfield, Senior Development Engineer

Next in the series of interviews with members of the Redwood team is Robert Mansfield, Senior Development Engineer. Before joining Redwood in April 1996, Rob graduated in Computer Science and Electronics from King's College London, and then spent three years at Rhetorex Inc, a specialist company in the field of voice processing hardware development. Sarah James asks the questions.

What did you take away from your Rhetorex experience that has helped you at Redwood?

My time at Rhetorex was hugely beneficial. My role was primarily in support and this provided an opportunity to interact with a large number of companies that were building different applications for a wide variety of markets. This afforded me a level of commercial and technical experience that has proved to be a good foundation for my career at Redwood.

What projects are you working on at the moment?

I'm working primarily on IP development. There is a huge amount of work being put into SIP (Session Initiation Protocol). The protocol is highly extensible and this leads to new features being developed for various applications. I'm also working on integrating a high density IP media board with support for video.

What technological advancements do you foresee for the next five years?

We continue to see massive advances in hardware capability. When I started at Redwood back in 1996, four voice channels on a DSP resource board was considered cutting edge. Now we can support thousands of channels on a single blade. The increase in power has allowed for multi-functional blades supporting voice, conferencing, IP and PSTN connectivity simultaneously.

In the next few years, I expect video calls to become an everyday occurrence for everyone. People will expect these features and so they will become more of a commodity and less of a technical differentiator.

What have been the highlights of your career at Redwood?

There are many, but one that stands out was my involvement in the design and implementation of a pre-paid billing and communications platform for NITEL (Nigerian Telecommunications Ltd), Nigeria's incumbent telco. We had to connect nine cities together using IP as both a voice and data backbone. It was a massive undertaking but the benefits for Redwood and Nitel were high. We were not only able to provide a reliable source of revenue for NITEL, but also backhaul some traffic from the overloaded PSTN network. The project is a great success for everyone involved.

What opportunities do you foresee for Redwood?

Redwood looks at opportunities for different markets, from different aspects. On the one hand, we listen to our customers and react to their needs, and on the other, we use our vast experience to help shape and create new market opportunities. Right now, we are seeing a migration from circuit- to packet-switched networks. This provides opportunities, as during migration a continuity of service is required. Customers don't expect to lose features when systems are upgraded! In parallel, we will see new applications and services arrive that take advantage of the IP world.

Contactability, presence services and the ability for end users to customise and control how they interact with the outside world will be major advances for end users.

Redwood Around The World

WORLD TELEMEDIA

7-9 November 2007

Prague, Czech Republic

After successfully exhibiting at some of the world's largest and most popular industry tradeshows throughout 2007, Redwood ended its calendar of high profile events at World Telemedia in Prague.

The event, which took place at the luxurious Corinthia Towers Hotel in November, saw some of the world's leading names in the telemedia industry present the latest developments in the lucrative premium content and services market.

As event sponsor, panellist and exhibitor, Redwood joined Content Guru, the new force in managed hosted services, to showcase STORM (Services for Television, Online and Radio Media), the mass interaction and monetisation platform for broadcast media applications, provided in conjunction with the Cable & Wireless network.

CeBIT in Hannover, Germany, marks the start of Redwood's 2008 events' calendar and the company's fourteenth consecutive visit to the world's largest ICT show.

Attracting thousands of exhibitors and close to half a million visitors a year, CeBIT is the leading event for innovative and trendsetting technologies.

CeBIT

4-9 March 2008

Hannover, Germany

Visit us at CeBIT 2008 on stand D58, Hall 13. To schedule a meeting ahead of the exhibition or to receive a free ticket to the show, please contact marketing@redwoodtech.com.

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