



Netsurf
beyond horizon

Whitepaper
Netsurf Mobile Solutions

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ABOUT NETSURF COMMUNICATIONS (P) LTD

Netsurf Communications (P) Ltd is an innovative and fast growing organization specializing in complete web solutions; IT enabled services and application software development for companies based in the U.S, Asia, Africa and Middle East.

By applying industry-tested expertise, localization capabilities and cordial and stable customer relations Netsurf has become a leading expert in developing end-to-end solutions for business, adapting to the ever changing global economy. Netsurf aims to be the leading, new business application provider.

INTRODUCTION TO MOBILE SOLUTIONS

Businesses are seeking out new sources of competitive advantage. Relying only on traditional methods is no longer enough; companies need to take pole position in the data race. By mobilizing the information that is stored and managed on computer networks, business efficiencies can be maximized in the field and across the globe, accelerating a company's growth through measurable returns.

Mobile Solutions enable mobile users with mobile phones to exchange data using SMS (Short Message Service) and WAP (Wireless Application Protocol) technology.

SMS is a globally accepted wireless service that enables the transmission of alphanumeric messages between mobile subscribers and external systems like email, paging and voice mail systems.

SMS also guarantees delivery of the short message by the network. Temporary failures due to unavailable receiving stations are identified, and the short message is stored until the destination device becomes available.

SMS uses the control channels over the air-interface as a transport mechanism. SMS offers the possibility to transmit messages restricted to 160 bytes per message from and to the users. It is a store and forward mechanism.

In order to fulfill the business needs of its enterprise customers, Netsurf has developed an SMS gateway that can interface with different corporate applications, and is able to support the different Gateway to SMSC (Short Message Service Centre) protocols. The Netsurf SMS Gateway is a modular system, to be customized according to the business requirements of the customer.

Wireless Application Protocol (WAP) provides the capability to deliver data that is optimized for the bandwidth constraints of mobile communications. WAP enabled phones have the capability to browse WAP enabled sites on the internet and run applications from the internet. The WAP standard also leverages existing Internet technology so that Web developers can make their content available for use by mobile devices with a minimal effort.

Mobile users today face four main restrictions with regards to Internet access compared to PC users connected over a 56K line to a service provider i.e. monochrome display, restricted screen size, low available processing power and restricted bandwidth.

These four restrictions make it impossible to send web content directly to mobile devices. WAP technology modifies the content structure to make it suitable for transmission to mobile devices. WAP technology translates HTML pages (Hyper Text Mark-up Language) into WML pages (Wireless Mark-up Language), while JavaScripts are translated into WML Scripting. The goal is to reduce the amount of content to make it accessible to mobile users. WAP can be implemented using a WAP gateway or a WAP server. Like the Internet, WAP is a pull technology. This means that the user will have to build the session to get the information.

This technology opens a world of information (corporate and leisure) to the mobile users. Typical applications include: connection to email applications, stock quotes information, banking and transactional information, public transport timetables, ticket reservations, tourist information, take-away orders and many more.

Both SMS and WAP will give users more comfort, efficiency and flexibility.

Netsurf proposes to use wireless technologies. Netsurf Mobile solutions will help to develop and implement tailored, cost effective solutions that meet the specific needs of your organization.

Features of SMS

SMS is Cost-effective

As a communications medium, SMS is the most cost-effective way of communicating to any mobile audience.

High Response to Calls-to-Action

SMS is an extremely personal means of communication, there is a high level of attention for any text message that is received by the individual.

Immediacy

An SMS is typically delivered within seconds, depending on the gateway used, message traffic, and of course on the handset being switched on and within coverage. It is an extremely reliable means of getting time-sensitive messages to recipients.

Reliability

SMS offers notification and verification that a message was received, providing you with the assurance that important messages have reached their intended destination.

Message Reporting

SMS messages can be saved on your existing IT infrastructure, but is also logged with a full message report by the system.

Personal and Discreet

One SMS - one recipient, SMS messages are sent to individual mobile handsets where it is personal and aimed at that specific individual, allowing for compelling one-to-one communications.

NETSURF MOBILE SOLUTIONS

Netsurf aims for the goal of introducing mobile solutions to enterprises to make the employees and critical business processes more efficient.

Mobility can open up new avenues for the enterprise, mobile working helps improving of scalability, maintainability, support & effective ROI. Netsurf's Mobile application development Framework strives to establish the most cost effective solution on the contemporary technologies.

Netsurf provides a wide choice of applications, ranging from the niche to the more generally available software programs. Depending on your requirements, some of the products below may be of immediate benefit to your business.

Some of our products are listed below:

Bulk SMS Tool

Whether you want to send one or multiple SMS messages, Netsurf provides bulk SMS tool for your needs. A web based, bulk messaging tool design to facilitate fast and effective personalized SMS messaging. Tool incorporates a database management component, making SMS messaging to groups or individuals fast and effective.

Web to SMS

Web to SMS is the perfect tool for companies who want to stay in touch more easily with a mobile workforce - such as a sales team or service staff.

The solution enables you to send a message to your mobile sales team, service team or anyone else in your company quickly, easily and cost effectively – using the power of the internet.

Web to SMS Scheduler (Alert Solution)

One can schedule reminders directly from the web application. You compose the message, date and time when these reminders are to be delivered (for example, the month, week or day before an event occurs).

Examples:

Users can set reminder alerts for:

Birthdays, Anniversaries, Festivals, Gifts, Public Holidays, Vacation Packages, Bill Payments, Appointments, Meetings, Tasks and Events.

Promotional Campaign Tool

Netsurf's Promotional Campaign tool combines a simplistic online front end with a powerful database driven backend. Reach out to consumers by a new and proven marketing medium; enhance your reputation as a creator in the most innovative promotional marketing campaign.

Tool allows the consumer to become interactive within the campaign, therefore direct communication channels are formed, and the consumer interacts on a one to one basis with the marketer. Direct marketing at its most effective. Send vouchers, offers to already brand aware consumers, strengthening your bond with the consumer.

Why Mobile Solutions

There are four areas that we can explore for having benefits from mobile devices, mobile information available in a lot more places:

Corporate Sectors:

The people in the company are able to increase their productivity.

- Amplify employee productivity.
- Provide access to info anytime, anywhere, any device.

Customer:

The customer is able to get better service, more responsive service.

- Drive revenue.
- Increase customer responsiveness.
- Improve customer satisfaction.
- Create new services and offerings.

Processes:

The processes associated with running the business can be automated and streamlined in a way that have not been possible in the past.

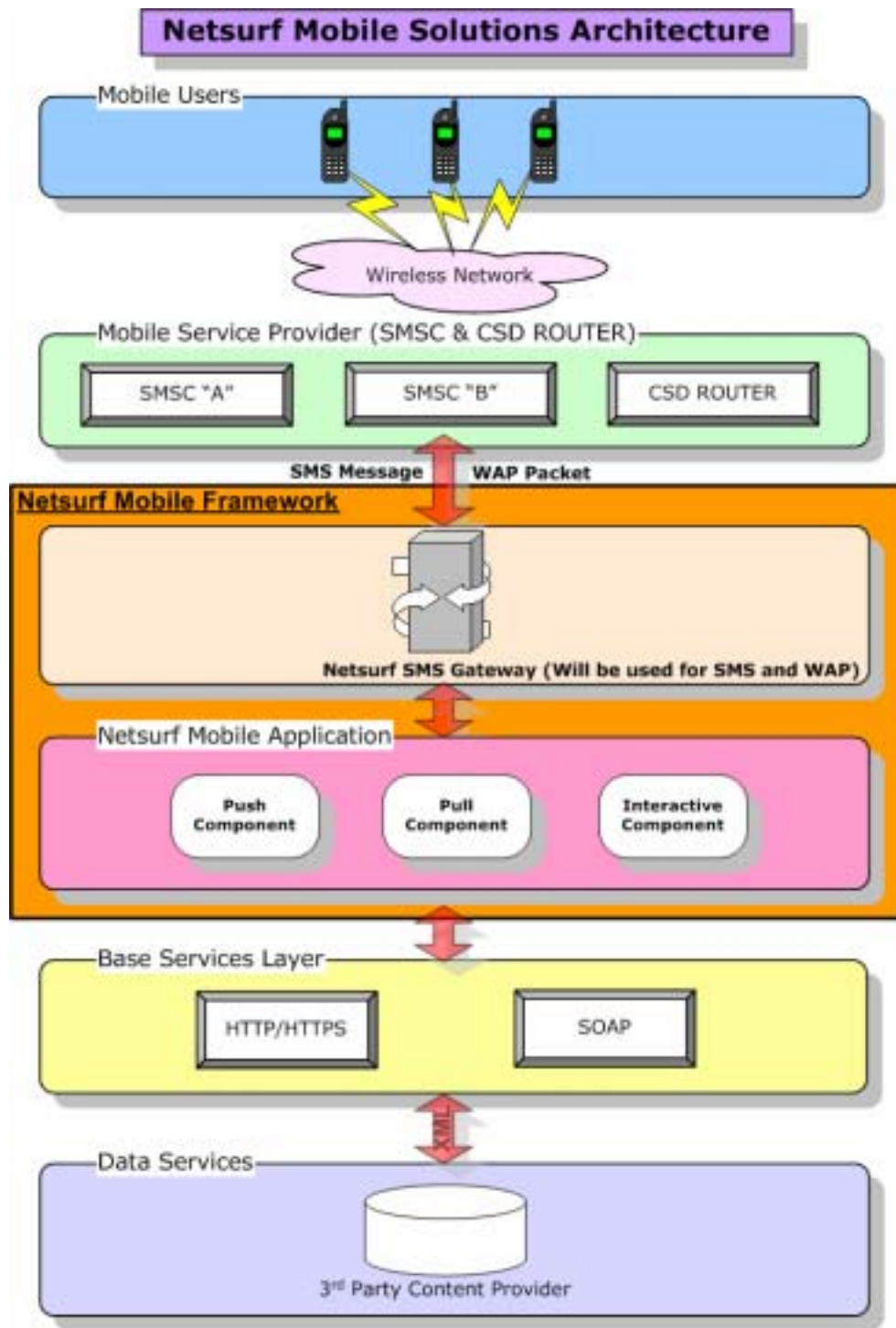
- Accelerate time to market.
- Common architecture / platform to deliver mobility.
- Reduce costs of paper-based processes.

IT:

The IT organization can move into a better position to cost-effectively distribute and administer mobile infrastructure.

- Gain flexibility.
- Extend existing line-of-business solutions.
- Infrastructure built on standards, reliable, secure, and scalable.
- Cost-effective mobility solution.

NETSURF MOBILE SOLUTIONS ARCHITECTURE



The major components of the Netsurf Mobile Solutions are as follows:

SMS Gateway

SMS Gateway is a unique Short Message Service (SMS) messaging tool. It facilitates complete two way messaging capabilities over GSM networks.

It is not just a SMS gateway; it also works as a WAP gateway. The gateway talks to, six different kinds of external entities: SMS centers, CSD routers, a configure/monitor/control workstation, content servers, clients sending SMS messages via HTTP, and an HTTP proxy. The SMS centers use a variety of mostly proprietary protocols (CIMD, EMI, and SMPP) over TCP/IP, modem lines, or various other carriers. The gateway needs to support as many SMS center protocols as possible, and make it easy to add new ones.

Wireless Network

Communication Link with the GSM Wireless Network.

Netsurf Mobile Applications

Applications can be built by interfacing them to an SMSC/CSD Router, which is the central component in an SMS/WAP network. However there are many SMSCs and each vendor's SMSC supports its own protocol. Standard protocols are not widely used and application complexity increases due to these diverse protocols platforms and environments.

SMS Gateway hides these complexities by allowing applications to be built on standard Internet development platforms and toolkits by translating SMSC specific protocols into industry standard HTTP format. The use of web-based environment for SMS applications also means that most standard HTML web-applications can be adapted easily to start providing services over SMS.

SMSC

SMSC (Short Message Service Center) enables subscribers to send and receive messages in a mobile network. When you access a SMSC from the phone it is invisible but when you program computers the SMSC is very visible. The SMSC is the first step in the sending of a SMS (and the last step if you are receiving), in the SMS world the SMSC works very much like your ISP works in the Internet world. Different operators have given different capabilities to their SMSCs. Some SMSCs can't roam and others are very expensive (and some are both).

CSD Router

The CSD router is the hardware that answers to the incoming data calls and then transmits the UDP packets sent by the WAP phone forward to the gateway. In other words the CSD router can be a normal analog modem, ISDN terminal or an array of these (like a modem pool). The UDP packets are picked up by a UDP thread of the bearer box in the gateway.

NETSURF MOBILE SOLUTIONS FOR VARIOUS VERTICALS

Netsurf Mobile Solutions can be customized for various verticals. One of them is described below:

MOBILE SOLUTION FOR INSURANCE SECTOR

The insurance industry has successfully weathered many challenges in recent years, from an unstable economy to geopolitical turmoil. Yet, it remains in the midst of a financial squeeze. High claims payouts, declining stock valuations and eroding profit margins are taking their toll. No insurer is immune.

Insurance companies are responding to these pressures in several ways. They are seeking to grow their market share — to attract new customers and retain existing ones by offering higher quality service than their competitors. They are also seeking to do more with less — to improve their operating efficiency while containing costs. And, given the economic climate, they are favoring low-cost, but high-payback methods of achieving these goals. Many insurers are turning to mobile and wireless solutions as a cost-effective and high-ROI method of advancing their goals.

Among property and casualty insurers in particular, with their ranks of mobile appraisers, adoption of mobile and wireless technologies is fast growing. When applied to the auto appraisal process, for instance, these technologies bring significant improvements, helping insurers meet their efficiency and service goals, while providing a path for future growth. Moreover, even a relatively modest implementation can deliver quick payback and substantial returns.

Insurance Companies would greatly benefit from web and wireless based applications in the areas of SFA and Agent management.

Services can provide a non-intrusive, rapid and scalable solution, which allows insurance companies to both, extract information from diverse backend sources, as well as build and deploy transactional applications. Platform allows the carrier to achieve all the benefits of pervasive technology without attendant downsides.

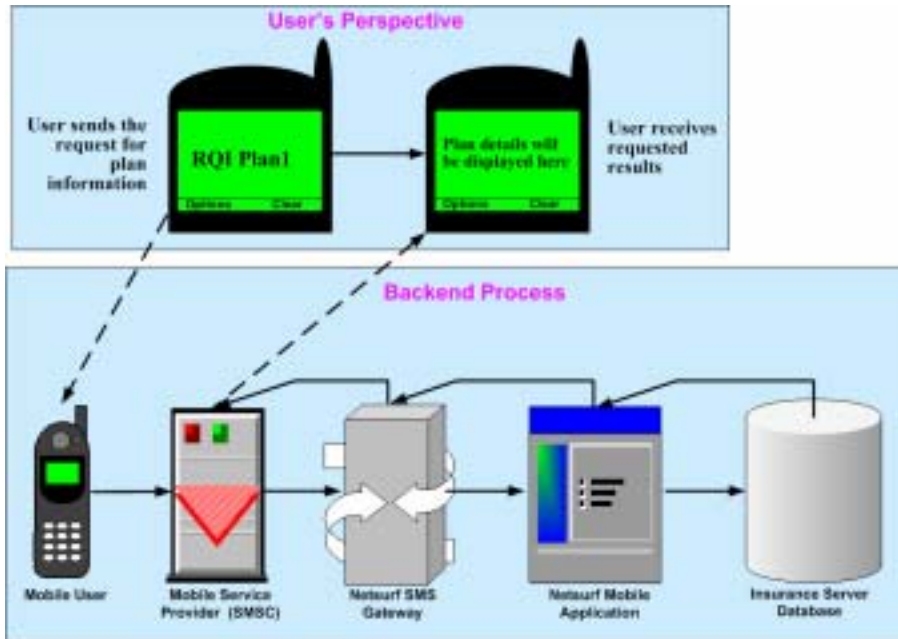
The platform allows the Carrier to:

- Enhance Sales force and Agent (SFA) productivity
- Providing pervasive access and SFA functionality to agent and wholesaler systems

- Providing the agents and direct sales force access to leads and customer information in the corporate CRM system
- Allowing customers and agents to apply for, rate, quote and bind insurance online by providing them pervasive access to insurance applications.
- Improve policy processing by allowing pervasive access to:
 - Rate/ quote systems
 - FNOL (First Notification of Loss) reports and follow-ups
 - Claims status monitoring
 - Policy administration queries.
- Increase levels of responsiveness to customers:
 - Agent / sales person online access to CRM/ Customer information
 - Claims adjusters to access FNOL/Claim? Customer information online
 - Customers to access, query and request information/assistance online
- Improve productivity by:
 - Providing sales force access to email, calendar and customer information databases in real time

Insurance is an exciting vertical business with dynamics of the industry continuously changing - from one channel earlier (insurance agents) to multiple modes to address customer needs today- insurance brokers, online insurance and so on. Professionals in these delivery channels are always mobile, meeting customers one to one and fulfilling their needs.

Netsurf Mobile Solutions for Insurance with User's and Backend perspectives



Messaging service for the customers

Predefined query sets and alerts set to push information on a preset condition or threshold. Examples of such value added services that the insurance company can offer to its customers are:

Alerts

- Reminder on policy maturity details.
- Alerts for Premium payments deadline dates.
- Claim intimation alerts
- Loan repayment notice

Broadcast

- Launch of new plans, etc.

Pull-Push

- Details about last transactions.
- Customer driven on demand requests.
- Premium Calculators

For Instance:

Client Self-service (Personal Information Management)

Clients can self-administer their policies with the help of their mobile devices. This enables insurance companies to achieve competitive differentiation while leveraging past investments.

Empowering clients to perform functions such as making policy inquiries and payments, submitting and checking on claims, receiving quotes and locating nearby agents from mobile device, at any time, translates into an extraordinary level of service that greatly increases client satisfaction and loyalty.

Messaging service for the delivery channels

Pull based SMS service to facilitate the agents/brokers and distributors (bank) in the field. The field force can send query over SMS and get the needed information to close a deal. Some of the valuable information for the field force can be:

Alerts

- Sales Targets
- Calendar Reminders

Broadcast

- Launch of new plans, etc.
- New employee policies, Group information, etc.

Push-Pull

- Particulars about Insurance Plan.
- Competition details for any specific plan.
- Performance tables

For Instance:

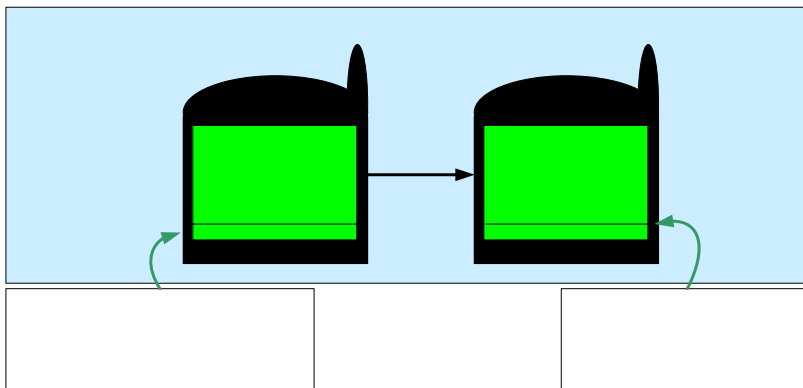
Agent Automation

Empowering agents with mobile access to policy information and insurance applications from mobile devices enables them to manage existing client relationships, and establish new ones, right at the point of contact.

Field agents equipped with cell phones can receive informational messages and actionable alerts at any time, such as notification of impending client policy expirations, alerts regarding premiums past due or even changes to their daily book of business. This helps field agents to make informed decisions about client needs.

Claims Management

Wirelessly synchronizing data to head office, when convenient throughout the day, ensures fast, accurate processing of claims.



Note:

The keywords (example: RQI) specified are to retrieve specific information sent to a particular Mobile Service Access Number.

Solution Components:

Push Component

Refer **Fig. 1** of Netsurf Mobile Solutions Framework

For Example: User receives alerts for Premium payments deadline dates.

Pull Component

Refer **Fig. 2** of Netsurf Mobile Solutions Framework

For Example: User can send the request for Particulars about Insurance Plan and will receive the details from the business application.

Benefits of Netsurf Mobile Solutions for Insurance

Empowering insurance agents, claims adjusters and clients with anywhere, anytime access to critical information offers many benefits, including:

- Dramatic boosts in productivity and efficiency, enabling agents to manage more clients.
- Reduced time intervals between submissions of client applications and underwriting, ensuring that clients receive coverage faster.
- Extraordinary customer service capabilities, resulting in high satisfaction.
- Streamlined view of client data gathered through a variety of channels.
- Ability to maintain security and confidentiality of client policy information.
- Significant reductions in redundant data entry, administrative costs and errors.
- Competitive edge due to the ability to complete applications or solve problems on the spot.
- Reduced total cost of ownership and expenses thanks to smaller form factor devices.
- More efficient data delivery to remote users and central processing.

SOME MORE AREAS IDENTIFIED WHERE MOBILE SOLUTIONS CAN BE APPLIED

<p>Airline</p> <ul style="list-style-type: none"> • Ticket Availability • Flight Rates • Flight Timings • Special Offers 	<p>Courier Companies & Fulfillment Agencies</p> <ul style="list-style-type: none"> • Tracking • Service Availability • Rates
<p>Educational Institutions</p> <ul style="list-style-type: none"> • Results Queries • Central Examination Dates • Entrance exam details • Result announcements 	<p>Corporate</p> <ul style="list-style-type: none"> • Administration (Reports) • Consumer Complaints • Consumer Price Queries • Product Availability • Dealer / Retailer locations
<p>Film & Music Industry</p> <ul style="list-style-type: none"> • Ticket Booking • Film Archive Information • Cds availability / Rates • Release details • Contests • Box office collection 	<p>Hotels Room Availability</p> <ul style="list-style-type: none"> • Room Tariffs • Promotions • Special Offers • Tentative Bookings

Financial Services

- Share Triggers/ Rates schemes & premiums
- Mutual Funds
- Loan rates Insurance
- News Flash
- Basic Tax Information

Information & Technology

- Mail Alerts for web mail sites
- Online Auctions
- Online Contest participation
- Subscription for news, etc

Satellite Channels

- TV Program Guides
- Requests for songs etc
- Contests

Publications

- Subscription
- Latest Issue Headlines
- Availability
- Archival Information

Stock Broking

- Price Triggers
- Query Prices
- Circuit Breakers
- Week High Lows
- News Alerts, Announcements
- Customized price alerts

Telecom Industry

- Bill Payment Reminders
- Scheme Details
- 1 • Rates
- Bill Details

Real Estate Agents

- Rates
- New Availabilities
- Amenities
- House Hunt

Traders

- Product Prices
- Price Comparisons
- Special Schemes and discounts
- Dealer/ Retailer Locator

Retail Stores

- Promotions
- Special Schemes for Card Holders
- Store sales

Travel Agencies

- Packages Promotions
- Hotel and Room Availability
- Room Tariffs
- Special Offers
- Tentative Bookings
- Reminders
- Confirmations

CONCLUSION

Netsurf Mobile Solutions is committed to helping your organization succeed in developing and deploying effective Business solutions. Netsurf Mobile Solutions delivers a wide range of services, support and education throughout your project life cycle. This enhanced technical expertise and access to extensive resources accelerates development and deployment – saving you time and money.

Our experienced consultants are experts in implementing mobile and wireless technology and can deliver projects from start to finish using proven methodologies and quality management systems. Customizable applications serve as a starting point to help you develop solutions that make sense for your business.