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Comparative Review

### **Wide Area Wireless Data Services Questionnaire**

The following questionnaire will allow us to gather information in order to evaluate the data service offerings of nationwide cellular carriers in the US. Our analysis of this information will be presented in print and on line to our audience of enterprise information technology professionals, including technical managers, CIOs and CTOs of organizations who are current and potential new customers for your services.

Some of the questions relate to current services while others relate to forthcoming capabilities. We realize that only a limited amount of information may be available about future services but our readers are making deployment decisions with both current and futures services in mind. Thus, we feel it is essential for service providers to articulate a road map of future services.

Please respond as per the cover letter attached to this questionnaire. You can edit this document directly to provide your information or you can respond in a separate document, explicitly citing the following questions. Please limit your responses to no more than ten pages. You can include references to supplemental materials and we will make an effort to review such materials.

The submission deadline for surveys is **August 13, 2004**. It is our intent to schedule a follow-up call (up to 90 minutes) with each respondent the following week to discuss responses and address any outstanding issues. Please indicate three preferences for a follow up call between 9 am and 5 pm, August 18, 19, or 20. If none of those dates are possible, please contact Dave Molta to arrange an alternative time.

**1. Foundation Technologies.** Please list and briefly describe the cellular technologies you currently use in your network? (e.g., GSM, GPRS, EDGE, UMTS, 1xRTT, 1xEV-DO, iDEN, etc.)

**AT&T Wireless is following the GSM data roadmap (GPRS, EDGE, UMTS, HSDPA).**

**2. Data Coverage Area.** As of August 1, 2004 (or most recent date for available data), describe and, where possible, illustrate your POP coverage areas for each major data technology supported on your network? (For a CDMA2000 carrier, this might be X POPS with 1xRTT, Y POPS with 1x-EV-DO. For a GSM-UMTS carrier, this might be X POPS with GPRS, Y POPS with EDGE, Z POPS with UMTS.) You may also summarize coverage outside the US, if available, as well as other wireless data service offerings, including WiFi hotspots.

**The AT&T Wireless owned and operated EDGE/GPRS network covers a US population area of 225 million (over 7500 cities and towns and more than 30,000 miles of highway). Through our roaming partners in the US, this coverage extends to 260 million. There are no domestic data roaming charges in the US.**

**3. Roaming for Data Services.** Summarize any roaming agreements you have with other carriers as relates to data services.

**Internationally, AT&T Wireless customers can make GSM voice calls in 150 countries and send and receive email in 69 countries (GPRS or EDGE). A complete list of countries and carriers is available.**

**4. Data Service Pricing – Enterprise Plans.** As of July 1, summarize the service pricing of your data plans that are targeted at enterprise applications? (This should include unlimited usage and high-volume usage-based plans, if available).

**AT&T Wireless offers a variety of Mobile Internet Rate plans for Smartphones, PDAs and laptop PCs, including unlimited and metered plans.**

**Our most popular plans are the \$49.99 unlimited PDA/Blackberry plan and the \$79.99 unlimited data rate plan for laptop PCs.**

**<http://www.attwireless.com/business/plans/mobileinternet/>**

**5. Pricing Consistency.** For nationwide data plans, is your service pricing consistent across the US. (For example, is the pricing obtained for a subscriber in Seattle the same as for a subscriber in New York?)

**Our pricing for data is the same across the US**

**6. Mobile Data Device Connectivity.** Summarize your approach to supporting data services on notebook and handheld computers. Specifically, address options for connecting such a device through a cell phone (Bluetooth, infrared, or cable) and also through the use of PC-Card, Compact Flash, or SDIO or other modems. Address related pricing issues including subsidized-purchase programs for modems and any additional charges associated with using both a data-enabled phone and a separate modem.

**AT&T Wireless offers PC card modems and phone tethering to connect laptop PCs and PDAs. The Sony Ericsson GC83 PC card modem supports laptop PCs running Windows 98 SE or higher OS, including tablet PC.**

**A variety of AT&T Wireless handsets support tethering. The Nokia 6620 and 6820 support Bluetooth, USB and Infrared.**

**7. Web Optimization.** Do you offer optimization of Web traffic as an option? If so, describe the system's architecture (client/server, clientless or both).

**Yes, AT&T Wireless has deployed an in-network optimization complex, with a client that is deployed through our AT&T Wireless Connection Manager. This technology is effective in optimizing web traffic Web, both speeding the end user experience and reducing data kilobytes used.**

**It is important to note that enterprise end users commonly connect to their corporate environment through a VPN; When this VPN connection is made, all traffic is encrypted and thus carrier's in-network optimization is bypassed. For this reason, AT&T Wireless has partnered with Venturi Wireless to offer an optimized experience to enterprise users.**

**8. Value-Added Business Data Service Offerings.** Please list and briefly explain your value-added services for business data connectivity? (This could include items such as optimized e-mail access.)

**AT&T Wireless' view is that there is much more to adding business value than delivering technology. AT&T Wireless has the insight and expertise to delivery solutions to our customers business problems through our solutions consultants as well as industry-leading integration and software application partners.**

- **We will customize our wireless infrastructure to support your application**
- **We will bring in value added services to enhance performance and security**
- **We work with our partners to develop best practices and solutions to leverage your existing IT investments into a wireless deployment For example, through our alliances with leading VPN providers (Checkpoint, Cisco, IBM, Nortel, and Microsoft) we have developed best practices for optimal VPN performance and security over a wireless Internet connection.**
- **We integrate with your business systems to provide for easier procurement and expense management**

**AT&T Wireless is a business partner who is focused on your business results - someone that you trust to give you the confidence to extend your mission critical business processes wirelessly.**

**9. Network Connectivity.** Do you allow enterprise customers to connect to your network other than via the Internet? (For example, do you offer Frame Relay PVCs? Please list all the options.)

**We offer a suite of connectivity capabilities for our customers under the Wireless Connectivity Option offer portfolio. The options include:**

**- WCO Frame Relay – A bundled service offer from AWS utilizing the AT&T Frame Relay network. WCO Frame Relay provides a single point of contact for ordering of the wireless service and Frame Relay backend connection. Various options exist including PVC only, complete Port/PVC, and dual PVC. Speeds range from 56k to T1.**

**- WCO Network VPN – A network to network IPSec VPN that allows router to router VPN connection through the customer's existing IPSec VPN Appliance.**

**- Customer Provided Frame Relay – Allows a customer to order a PVC connection directly from a Frame Provider. Available Frame Providers include, AT&T, MCI, and Verizon.**

**10. Network VPN.** Related to the previous questions, for secure connectivity over the Internet, do you allow enterprises to connect to your network using VPN technology over the Internet? (This is a server-to-server VPN connection whose end points are your infrastructure network and the enterprise network. We are not referring to VPNs that terminate on the mobile device.)

**Yes, through our Wireless Connectivity Option (WCO ) Network VPN Offer (see question 9). We allow a network to network IP sec VPN tunnel to be established using an existing IPSec VPN appliance.**

**11. IP Addressing.** Do you offer customers the option of private or public IP addresses for assignment to mobile stations? Do you offer customers the option of acquiring static IP addresses for their mobile stations? Explain your rationale in both cases.

**IP options:**

**Public and Private – We offer both Private IP (proxy) addresses as well as public (routable) address for mobile devices. Our default addressing scheme is a private IP address.**

**Static and Dynamic – We offer both dynamically assigned and static IP address for mobile devices. Our default is a dynamically assigned private IP address. With custom IP addressing capabilities a true static IP address can be assigned to a mobile device. This is a public IP address that is assigned to a mobile device each time it registers on the AWS network.**

**Fixed/dedicated range for a specific customer – business and government customers can have a fixed block or range of Public IP addresses assigned to their pool of mobile devices. Each time a mobile device registers on the network, an IP address is assigned from within this dedicated range of IP addresses. This address can be any IP Address within the range, unless the static IP addressing option is chosen. In that case, the same IP address will be assigned to the same mobile device each time.**

**Customer supplied public IP addresses – An optional configuration with the Fixed range of IP addresses, is to assign a public IP address from a customer supplied range of addresses. This facilitates fewer firewall configuration changes.**

**12. Airlink Security.** Does your network encrypt data communications for over-the-air transmission? If so, what encryption algorithm is used? (If this differs for different wireless technologies that you offer, please indicate for each technology.)

**We use GSM 64 bit encryption for GPRS and 128 bit encryption for UMTS.**

**13. Next Generation Deployment Plans.** Indicate, if possible, how extensive your coverage area (either POPs or metropolitan areas) will be with emerging 3G cellular technologies (1xEV-DO for CDMA carriers and EDGE and UMTS for GPRS/EDGE/UMTS carriers) by end of 2005 and by end of 2006. If multiple technologies are being deployed, please indicate plans for each technology.

**Please see note above on AWS EDGE coverage in the US.**

**AT&T Wireless has launched UMTS service in the greater metropolitan areas of Seattle, Detroit, Phoenix and the San Francisco Bay area (7/20/04). The company has also announced plans to introduce UMTS service in Dallas and San Diego by year end 2004. Coverage maps are available at [attws.com/broadband](http://attws.com/broadband).**

**While we are competitors today, Cingular announced plans in June '05 to build a national UMTS network with initial rollouts in 2005 and completion in 2006.**

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