ENTER CATEGORY
Comparative Review

Sprint Corporation Responses (italic)
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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.)

> *CDMA Technologies. CDMA is a "spread spectrum" technology, allowing many users to occupy the same time and frequency allocations in a given band/space. CDMA assigns unique codes to each communication to differentiate it from others in the same spectrum. The Sprint CDMA air interface currently supports both 2G (cdmaOne) devices and*

CDMA2000 1xRTT devices.

CDMA2000 represents a family of ITU-approved, IMT-2000 (3G) standards and includes CDMA2000 1xRTT and CDMA2000 1xEV technologies. CDMA2000 1xEV-DO delivers peak data speeds of 2.4Mbps and supports applications such as MP3 transfers and video conferencing. CDMA2000 1xEV-DV provides integrated voice and simultaneous high-speed packet data multimedia services at speeds of up to 3.09 Mbps.

For more information, see: http://www.cdg.org/technology/index.asp

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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.

1. *Coverage:*

   A. *How many POPs owned:*

   Own POPs _____*246M*_

   Incl. roaming agreements ___*291M*___

   B. *What percent of national population covered by voice and packet data?*

   Voice *84__%*
   Packet Data *_84___%*

   C. *Estimated geographic coverage services today and by YE 2004?*

   Voice *_590,000___sq. miles*
   Packet Data *__566,000__sq. miles*

   D. *Number of cell sites:*

   21,764 cell towers
   8,111 affiliate sites
   29,875 TOTAL

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

   Wi-Fi agreements in place with STSN, Concourse, Wayport, AirPath, Truckstop.net, AT&T Wireless, SBC, iPass, IdleAire

3. **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).

Wi-Fi *- $9.95 per connection per location for 24 hours unlimited usage, or $49.95 month-to-month unlimited usage plan*

PCS Free & Clear Plans for Business *(wireless voice):*
PCS Free & Clear plans for Business ensure employees stay connected to key business people while away from the office. Minutes can be used anywhere on the Sprint Nationwide PCS Network. Current plans include:

Per month	*$35*	*$40*	*$50*	*$65*	*$80*	*$100*	*$115*
Anytime Minutes	*300*	*500*	*700*	*1100*	*1400*	*2000*	*2500*
Nights & Weekends	*Unlimited*	*Unlimited*	*Unlimited*	*Unlimited*	*Unlimited*	*Unlimited*	*Unlimited*
*Unlimited PCS to PCS Calling OR Nights starting at 7 p.m. **	*Included*	*Included*	*Included*	*Included*	*Included*	*Included*	*Included*
PCS Shared Minutes	*$5*	*$5*	*$5*	*$5*	*$5*	*$5*	*$5*
*Add a PCS Vision Pack**	*$15*	*$15*	*$15*	*$15*	*$15*	*Included*	*Included*
*PCS Free & Clear America****	*$5*	*$5*	*$5*	*$5*	*$5*	*$5*	*$5*

**Night & Weekend Minutes can be used from Mon – Thur, 9 p.m. – 7 a.m. and Friday, 9 p.m. – Mon. 7 a.m. The $5 option allows Night Minutes to start at 7 p.m.*

*** PCS Vision Packs provide employees with access to an array of next-generation of business focused services including unlimited web-based messaging, unlimited Web access, unlimited Picture Mail, and unlimited wireless email.*

**** With PCS Free & Clear America up to 50% of monthly usage can be used for domestic roaming off the Sprint Nationwide PCS Network*

PCS Vision for PCS Connection Card Plans

PCS Vision	*20 MB*	*40 MB*	*Unlimited*
Per month	*$40*	*$60*	*$80*
PCS Shared Data	*$5*	*$5*	*n/a*

Calls made on PCS Connection Cards with voice capabilities will incur a charge of $.20 per calling minute.

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?)

Sprint service pricing is consistent 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.

Currently Sprint provides Type II PCMCIA and Compact Flash modem cards for laptops and handheld computers. The use of a mobile phone to provide a wireless data connection to a laptop or hand-held computing device is not supported.

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).

Clientless optimization of Web traffic is provided for all Vision data services. Client/server optimization is available as an option for corporate accounts. Bytemobile Macara optimization technology is used.

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.)

*PCS offers **DataLink** - This service extends the enterprise LAN out to the wireless network for laptops & PDA's. With DataLink we offer optimization servers. The servers optimize the TCP transport that is more friendlier to high delay, low bandwidth network. The servers also do compression on HTTP, SMTP/POP, IMAP, FTP, MS apps, & other applications. This reduces the amount of data going over the network & gives a better perceived throughput to user.*

***Sprint PCS Business Connection** - This service allows you to have secure, real-time access to your business and personal email, work calendar, company directory, and personal contacts via your PCS Phone. PCS Business Connection℠ Personal Edition works seamlessly with Microsoft® Exchange and Lotus Dominos servers. The Business Connection portfolio consists of:*

- *Personal Edition – developed for individual business users and small businesses, Sprint PCS Connection Personal Edition requires no hardware and software installation on a company's network.*

- *Enterprise Edition – is set up for users by a company's Network Administrator. Versions include:*

    1. *Network Solution – Offers enterprises the convenience of a network-based approach without requiring behind-the-firewall software or hardware installation.*

2. *Server Solution - A behind-the-firewall solution that is network integrated and customer managed. Places security control and management of mobile data in the hands of a company's IT administrator.*

Sprint PCS Connection Cards

Sprint offers four PCS Connection Cards, including one with voice capabilities. Operating on the enhanced Sprint Nationwide PCS Network, users can use in conjunction with a laptop or PDA to access key company resources at speeds up to 144 kbps.

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.)

Sprint offers Frame Relay connectivity. In addition, a customer can use private line, ATM, DSL, and dial-up as a connectivity option.

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.)

Sprint offers Network Initiated VPNs, where our gateway has a VPN tunnel established to the customers VPN terminator on their network

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 addresses assigned to mobile devices are publicly routable and dynamically assigned. This approach best supports user mobility, simplifies administration, and conserves the supply of IP addresses.

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.)

Data sent over the air is protected from eavesdropping using standard CDMA 1xRTT signal processing, which includes channel coding, interleaving, spreading, and two scrambling stages.

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.

Sprint expects to design and deploy EV-DO with initial service available in select markets in the second half of 2004 and launch in the majority of top metropolitan markets in the United States in 2005. See June 22, 2004 press release at http://www3.sprint.com/PR/CDA/PR_CDA_Press_Releases