



Portable Computer and
Communications Association

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YEAR 2001 TECHNICAL AGENDA

We are in the process of firming up our year 2001 technical agenda. Items under consideration include:

- ❑ Continuation of our wireless workshop program to test interoperability
- ❑ WAP and other delivery methods for mobile content: status, issues, interoperability, directions
- ❑ Interoperability between handheld platforms and data-capable mobile phones
- ❑ Java for mobile platforms: interfaces, application considerations, interoperability
- ❑ Roaming interoperability between homogenous and heterogeneous environments
- ❑ Pushing content in combination with wake-up mechanisms for device links such as USB and Bluetooth
- ❑ Educating application developers on how best to take advantage of wireless commands and interfaces
- ❑ Evangelizing our existing technical standards

Please let us know if any of these topics are of particular interest. If you are aware of other specific interoperability issues facing the industry where the PCCA could play a constructive role, do not hesitate to contact us. Send e-mail to the PCCA.

JOINT MEETING WITH MCPC, FEB 7,8, MAUI

The Standards and Architecture Committee of the PCCA and the Mobile Computing Promotion Consortium (MCPC) of Japan are planning a joint meeting. The PCCA and MCPC have been working together on mobile computing initiatives for several years. The two organizations have a memorandum of understanding that was executed in 2000.

The intent of this meeting is to summarize the status of each organizations activities, and to explore the interoperability issues related to next generation wireless networks. There are a number of special presentations planned for the meeting.





Details of the meeting, including the agenda and hotel information, are available at <http://www.pcca.org/news/Agendas/ag01-02.html>

To register for the meeting, please send an e-mail to the PCCA with your name, company name, phone number and e-mail address.

WIRELESS WORKSHOP TASK FORCE (WWTF) UPDATE

By Ron Smith, WWTF chairman.

Progress this quarter towards holding an initial interoperability workshop has had to face the realities of 2G+ (i.e., packet cellular) network deployment in North America, along with the availability of radio devices. However, the WWTF program is still very much alive, and plans are to host several workshops in 2001. We are presently working with VoiceStream on an initial GPRS workshop, which is being targeted for January or February 2001. This workshop will give members exposure to a live GPRS network, and provide us with a better understanding of some of the interoperability problems we face down the road. Subsequent GPRS workshops will then be targeted towards solutions to these problems. We also plan to hold similar workshops in conjunction with CDMA and TDMA operators as their 2G+ networks become available.

The WWTF will notify PCCA members by email as soon as we have a definite date and place for the initial GPRS workshop. In the meantime, please contact me by email or phone at: Ronald.m.smith@intel.com, 503-264-5550, with any questions regarding this program.

MEMBERSHIP UPDATE

By Gloria Kowalski.

The PCCA welcomes four new members since the last issue of this newsletter:

VoiceStream Wireless. Executive level. Primary member: Tom Kurata, Sr. Manager, Wireless Data Applications. Secondary member: Murat Bilgic, Principal Engineer.

Advanced Wireless and Telecom Corp. Associate level. Primary member: Chris Stephens, VP of Sales.

e-celerator Fund, LLC. Associate level. Primary member: Stew Skomra, Managing Director. Secondary member: Troy Malone, Managing Director.

Mentor Engineering Inc. Associate level. Primary member: Paul Finlayson, Business Development Manager.

These new members have provided information about their companies:



Advanced Wireless and Telecom Corp.

<http://www.advancedcorp.com>

Advanced Wireless and Telecom Corp. was founded by Christopher Anderson formerly a manager at Cincinnati Electronics Co. and Texas Instruments in 1998, to develop and market a wireless technology that is uniquely positioned for the exploding world of wireless applications. Funded originally through the successful completion of a U.S. Navy contract, Advanced Wireless began earlier this year to rapidly add technical, marketing and administrative staff to handle the growing OEM product and licensing opportunities before it.

Advanced Wireless has discovered a method of decreasing the complexity required to demodulate digital radio data while increasing the demodulator performance. The method simplifies much of the signal processing required to demodulate digital data on a certain class of modulation types. The receive sensitivity in the presence of multipath distortion is enhanced, while achieving bandwidth efficiencies beyond that used in current systems. The resulting advantage is realized in greater operating range, higher data rates, lower power consumption and smaller size of wireless equipment.

Advanced Wireless has developed its demodulation technology for use in diverse applications including embedded wireless data and broadband infrastructure. Questions about Advanced Wireless and its technology can be directed to Christopher Stephens, Executive VP of Sales for the company.

E-Celerator Fund

<http://www.eceleratorfund.com>

e-celerator fund focus: e-celerator fund, a venture capital fund established by Batchelder & Partners, Inc of San Diego, CA, is focused on investing in companies providing infrastructure component technologies for mobile information solutions. More specifically, e-celerator fund targets companies developing and delivering offerings concentrated on one or more of three aspects of Mobile Information Solutions: Internet Communications, Business-to-Business Electronic Commerce, and Wireless Technology.

e-celerator fund distinction: e-celerator fund possesses three key attributes that provide it with unique appeal to prospective portfolio investment candidates in the Mobile Information Solution space:

- ❑ Batchelder & Partners Heritage
- ❑ San Diego Location
- ❑ Wireless Technology Expertise

e-celerator fund investment qualification: Within the Wireless and Mobile Information industry, there is a broad array of companies with discrete offerings whether hardware, software, or services. e-celerator fund views candidate investment opportunities with respect to:



- the future role of the company's offering in a pervasive mobile information space
- demonstrated performance both with respect to the technology and the market acceptance
- competitive position of offering within the current target market and the overall target market potential

Investment opportunities where the candidate company's Management, and Business Model achieve a distinct competitive advantage to capitalize on the evolving Mobile Information Solution Marketplace are of primary interest to e-celerator fund. The PCCA is an organization that e-celerator fund believes attracts good candidate investments and we are excited to be part of it.

Please contact Stew Skomra (sskom@eceleratorfund.com) or Troy Malone (troy@eceleratorfund.com) to learn more about e-celerator fund or if you have an investment opportunity that you believe may be interest to us.

Mentor Engineering

<http://www.mentoreng.com/>

Mentor Engineering Inc. designs and manufactures rugged wireless data or mobile data /AVL (Automatic Vehicle Location / GPS Tracking) equipment to automate various dispatching, status reporting and data collection functions. Mentor's mobile computing wireless data solutions have met large dispatch / tracking requirements in ten major transportation-related industries across North America, Latin America, England, Europe, China and Australia. At Mentor Engineering, we are experts in designing wireless data systems that extend your enterprise applications out to include your mobile workforce, thus using wireless data to improve your companies overall performance.

VoiceStream

<http://www.voicestream.com/about/press.asp>

Company Background

Based in Bellevue, Wash., VoiceStream Wireless Corp. (NADSAQ:VSTR), is a leading provider of digital wireless communications in the United States.

Nearly three out of every four people in the U.S. live in areas licensed to be served by VoiceStream and it's affiliates. VoiceStream uses the Global System for Mobile Communications (GSM) technology - the world's most widely used digital standard. Additionally, VoiceStream was awarded the PCS Excellence Award by Wireless Week for 1999 based on leadership, financial performance, subscriber growth, marketing and technological service, peer respect and community service.

Technology



The Global Standard for Wireless Digital Technology. VoiceStream's PCS network uses GSM technology. "GSM" stands for Global System for Mobile Communications, the international digital radio standard created by the European Telecommunications Standards Institute. Developed to allow users to roam freely among markets, it has become the globally accepted standard since the first systems began commercial operation in 1991. In the U.S., GSM-based PCS 1900 has been accepted by the American National Standards Institute (ANSI) as a standard for the PCS frequencies allocated by the Federal Communications Commission (FCC) at 1900 MHz.

GSM's proven feature-rich, dominant digital technology and use of "smart cards" (also known as SIM cards) enable North American GSM carriers to provide thorough customer service, call privacy, and fraud prevention. Only GSM provides integrated voice, high speed data, fax, paging and short message services capabilities. In GSM networks, full digitally encrypted wireless communications enhances confidentiality of voice and data calls.

Company History

In 1999, VoiceStream was spun off from its parent company, Western Wireless Corp., based in Bellevue, Washington. Western Wireless was formed in 1994 through the merger of General Cellular Corporation and Pacific Northwest Cellular, each co-founded by John Stanton. Stanton, also a co-founder of McCaw Cellular Communications, is regarded as a leader and visionary in the wireless industry. He is Chairman, Director and CEO of VoiceStream Wireless and Western Wireless.

Through the Federal Communications Commission (FCC) auctions of broadband PCS licenses in 1995, 1997 and 1999, Western Wireless acquired PCS licenses through its VoiceStream Wireless subsidiary. Now independent, VoiceStream continues to aggressively build a platform for growth to develop its network and presence in North America.

Mergers and Acquisitions

In February and May 2000, VoiceStream successfully completed merger transactions with Omnipoint Communications and Aerial Communications, respectively, making it the largest GSM operator worldwide. On August 27, 2000, VoiceStream entered a merger agreement with Powertel, Inc. Upon the successful completion of that transaction, VoiceStream and its affiliates will own licenses to provide service in 24 of the top 25 markets in the country with nearly 250 million licensed POP's.

On July 23, 2000, VoiceStream entered into a definitive merger agreement with Deutsche Telekom AG (NYSE:DT) to form the first wireless operator utilizing the GSM standard worldwide. The transaction is expected to close in early 2001 at which time VoiceStream will become part of Deutsche Telekom's mobile telephony group, which is a separate subsidiary of Deutsche Telekom AG. VoiceStream's senior management team will lead Telekom's U.S. mobile operations, continuing to use the VoiceStream brand.

Licenses and Operating Areas



For the quarter ended June 30, 2000 VoiceStream and its affiliates provided service to over 2.6 million customers. The company and its affiliates offer digital wireless service in Seattle and Spokane, WA; Portland, OR; Boise, ID; Salt Lake City, UT; Phoenix, AZ; Denver, CO; Honolulu, HA; Columbus, OH; Minneapolis, MN; Oklahoma City and Tulsa, OK; Wichita, KS; Cheyenne, WY; New York, NY; Boston, MA; Philadelphia and Pittsburgh, PA; Tampa, Orlando, St. Petersburg, Ft. Lauderdale and Miami, FL; Detroit, MI; Indianapolis, IN; and Washington, DC.

Powertel owns licenses and operates service in Atlanta, Athens, Augusta, Columbus, Macon and Savannah GA; Birmingham, AL; Chattanooga, Knoxville, Memphis and Nashville, TN; Lexington and Louisville, KY; Jackson, MS and Jacksonville, FL.

VoiceStream, either directly or through its partnerships with Cook Inlet Region, Inc., has acquired licenses to provide service in Dallas, TX; Chicago, IL; Cincinnati, Cleveland, and Dayton, OH; Norfolk and Richmond, VA; St. Louis, MO; Milwaukee, WI; San Francisco, Los Angeles, and Santa Barbara, CA; Little Rock, AR; Sarasota, FL and Reno, NV.

Licensed POPs 220 million; 245 million pending Powertel merger.

YEAR 2001 MEMBERSHIP DUES

The Portable Computing and Communications Association has been active since 1992, developing important standards to enable wireless interoperability. Over the last year we have expanded our work to address broader architectural and application issues. We have also begun an interoperability workshop program. The results have been very positive, with a one third increase in members this year alone, and average meeting attendance up over one hundred percent.

The PCCA has always operated as a minimum-overhead organization. However, due to our increased scope of activities, we are forced to raise our dues. In addition, the PCCA board of directors has voted that the chair position for the standards and architecture committee should be funded from dues rather than by corporate sponsors. On October 17, at a meeting in Santa Clara, the board approved the following annual dues structures:

Executive: \$5,000

Associate: \$2,500

Affiliate: \$750

Individual: \$100 (unchanged)

These dues will apply to new members and renewals beginning January 1, 2001. A dues announcement was sent to members of record on October 23, 2000. The board also voted that affiliate members could only be affiliates for one year as this membership level is intended for startup companies with limited financial resources.



While these new dues are a substantial increase from prior levels, they are still significantly lower than comparable industry organizations. We are committed to maintaining a low overhead organization. For instance, the PCCA does not pay for any office space nor does it have any full time employees. Accounting services are generously provided to the PCCA by Andy Seybold's Outlook free of charge.

The PCCA is in a unique position to serve and grow the industry by providing a technology neutral forum for companies to address interoperability issues spanning applications, platforms, devices and networks. We hope that companies continue to participate in the PCCA.

We would like to thank the companies that have sponsored the chair position over the years, including AT&T Wireless Services, Ericsson, Intel, Microsoft, Motorola and Xircom.

SUMMARY OF MEETING OCTOBER 18, 2000

This was a joint meeting between the standards and architecture committee of the PCCA, the mobile management forum of The Open Group and the industry infrastructure committee of the Wireless Data Forum. The focus of the meeting was mobile management.

Almost 40 people participated, representing the following companies and organizations:

3Com Corporation, Advanced Wireless, Aeroprise, AT&T Wireless Services, BellSouth Wireless Data, Brand Communications, Boeing, Broadbeam, Compaq, Ericsson, Ecelerator Fund LLC, Eteam, Idealab, Intel, Lucas Valley Technologies, Lucent Technologies, MCPC, Microsoft, Motient, Motorola, NCR, Nokia, The Open Group, Rysavy Research, Sierra Wireless, Transactions Marketing, VoiceStream, Wireless Data Forum, WRQ and Xircom.

The meeting began with presentations by the Open Group, PCCA and Open Group to inform members of the other organizations about current activities:

- ❑ Overview of Open Group Mobile Management Forum - Gregory Gorman, Open Group
- ❑ PCCA Overview - Peter Rysavy, PCCA
- ❑ PCCA Wireless Workshop Taskforce - Ronald M. Smith, Intel
- ❑ WDF Technical Activities - verbal presentation by Joe Jasin, WDF

Subsequent presentations focused on the topic of mobile management:

- ❑ Boeing Requirements for Mobility - Richard H. Paine, Boeing
- ❑ Sessions Management Architecture for Wireless Applications and Devices - Martin Kendrick, Brand Communications
- ❑ Wireless Messaging, What Now? - Roger Mizumori, Compaq
- ❑ Using PCCA STD-201 (wireless NDIS extensions) to Manage Wide Area Wireless Network Interfaces - Emil Sturniolo, WRQ



- Windows Management Instrumentation - Sasha Nosov, Microsoft

Complete minutes of the meeting and copies of these presentations are available in the members area of the PCCA Web page at <http://www.pcca.org/private/members.htm>. PCCA members needing a user ID and password should send e-mail to the PCCA.

FUTURE MEETINGS

Future meetings of the standards and architecture committee are currently scheduled as follows:

- February 7 and 8, 2001. Maui, Hawaii. Joint meeting with Mobile Computing Promotion Consortium of Japan. Wireless Data Interoperability. (See separate discussion above.)
- May 2001. Date and location to be determined. Tentative topic: status and issues with content delivery methods (WAP, i-mode, web clipping, etc.) for mobile devices.
- August 2001. Hosted by AT&T Wireless Services, Redmond, WA. Date to be determined. Tentative topic: wireless interface and application issues associated with handheld and palm-size computers.
- October/November 2001. Date and location to be determined. Proposed topic: Java for mobile platforms: interfaces, application considerations, interoperability.

For the latest information on PCCA meetings and other events, see <http://www.pcca.org/news/news.htm>

ABOUT THIS NEWSLETTER

This is the newsletter of the Portable Computer and Communications Association. Effective 2000, this newsletter is distributed via e-mail. The purpose of this newsletter is to keep PCCA members current with the activities and directions of the PCCA. This newsletter is published on a quarterly basis. This newsletter is distributed to everybody on the PCCA mailing list, including both PCCA members and non-members.

We welcome contributions. If you have any topics or articles you would like to contribute, please contact us. The editor of this newsletter and chair of the PCCA Standards and Architecture Committee is Peter Rysavy, <http://www.rysavy.com>, 1-541-386-7475. For questions about PCCA membership, please contact PCCA Director Gloria Kowalski, <http://www.pcca.org>, 1-541-490-5140.