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the Chairman



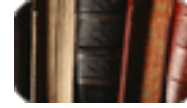
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MESSAGE FROM THE CHAIRMAN



Michael Khalilian
IPCC Chairman
& President

Fellow IPCC Members:

What a year 2005 has been for the IPCC! As the VoIP industry has grown, we've expanded our working groups to review all of the VoIP technologies in wireline, cable, GSM, CDMA, 3G, WiFi, and WiMAX, and are busy making recommendations from an unbiased, neutral viewpoint for the industry. We've increased our outreach to partnering organizations, and are ending the year with a road show to meet with the FCC, potential partnering associations, major telecom companies, and the media and analyst communities.

Right now is a busy and confusing time for VoIP providers, with the FCC deadline for E911 compliance passing last month on November 28. Many companies did not meet the deadline for the full VoIP E911 compliance and asked for extensions (see www.voip911.gov). The IPCC has taken on an important role in this issue by publishing our report titled, "Emergency (E911) Calling Requirements for VoIP Networks." This report discusses all aspects of E911 calling, the FCC requirements, current E911 challenges, National Emergency Number Association (NENA) solutions, 911 data objects, interface definitions, functional elements, implications of the architecture, and the IPCC's conclusions and recommendations. See www.IPCCForum.org to download the document.

Our message is that 911 is critical and takes time to implement—it took a couple of years for wireless and for wireline—and it's going to require partnerships with the RBOCs/ILECs and a new mindset from the FCC to help the industry look at other options for VoIP E911 and give VoIP companies access to the selective routers and PSAPs. We owe a big thanks to Marian Stasney and the IPCC E911 Working Group for working so hard on this report.

We look forward to a great 2006 and encourage all members to be active participants in our speakers programs and in the working groups that help shape the direction of VoIP and IP applications for the industry.

Sincerely,

Michael Khalilian
Chairman & President
International Packet Communications Consortium (IPCC)
"The VoIP, Broadband, & Wireless Convergence Forum"
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MEMBER PROFILE



Payam Maveddat

Vice President – Wireless Switching Product Line Management, Switching Solutions Group, Tekelec

TEKELEC

Payam Maveddat is Vice President – Wireless Switching Product Line Management, Switching Solutions Group at [Tekelec](http://Tekelec.com).

IPCC: Tekelec was just named Communications Company of the Year by the North Carolina Technology Association. What does it take to be recognized as a technology leader and what advice would you give to other VoIP companies?

Payam Maveddat (PM): Tekelec's success is based on its focus on developing access independent network solutions that allow for smooth transitions from legacy to next generation signaling, switching, and applications. This focus provides a solid and cost effective evolution path for operators to build, add, and grow VoIP services on their networks. Tekelec's commitment to the highest product quality, reliability, and evolution makes it different from many others in the VoIP equipment business.

IPCC: Tell us about your next-generation signaling and switching telecommunications solutions, business intelligence tools, and applications that you provide to the VoIP industry.

PM: Next-Generation Switching

Tekelec's purpose-built, next-generation switching products help wireless, wireline, and cable operators of all sizes easily and economically migrate from circuit to packet networks to deliver voice and other enhanced services. As a global market share leader in Media Gateways, Tekelec develops NGN VoIP and softswitch products that offer our customers new revenue opportunities and significant cost savings while enabling them to be prepared "For What's Next," including IMS. Tekelec's NGN solutions include Fixed Mobile Convergence, Class 4 and Class 5 packet softswitches, VoIP application servers, and feature-rich wireless media gateways.

Next-Generation Signaling

Tekelec is the established market-share leader in network signaling and has deployed its multi-protocol solutions extensively in wireless and wireline networks around the globe. Its solutions enable operators to cost-effectively make the transition to multimedia converged networks while leveraging existing investments.

Communications Software Solutions

Tekelec delivers solutions that provide operators visibility of their critical network traffic, service usage, subscriber activity, and traffic anomalies, enabling carriers to improve network performance, capture market intelligence, identify fraudulent network and services usage, and pinpoint sources of revenue loss. Tekelec is the only solutions provider with integrated, vendor-agnostic applications that meet the needs of operators of all sizes and types.

Tekelec also continues to evolve its entire portfolio to support a full range of industry standards, including IMS.

For information on becoming an IPCC member, please visit our website at www.IPCCForum.org or contact Debbie Hetland at DHetland@IPCCForum.org.

IPCC INDUSTRY NEWSLETTER

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WE HAVE A WINNER!!!

Dear Members,



Congratulations to Jean-Marc Desaulniers from Alcatel, he won the new Apple iPod nano for completing our recent Membership Survey! Thanks to all of you who participated; your comments and suggestions will lead to improved communications and increase the quality of your experience with the IPCC. We gained important feedback from the survey and are implementing some immediate changes as a result. For instance, we have more prominently placed the newsletter on our website for easier access and our Working Groups have completed another white paper report.

MARK YOUR CALENDAR

The IPCC will participate in the following events next year. Please let us know if you are interested in speaking or exhibiting at any of these events by contacting Debbie Hetland via email at DHetland@IPCCForum.org or by calling (510) 744-4020.

January 10–12 Tampa, FL	SCTE Conference on Emerging Technologies	• Attend
January 24–27 Ft. Lauderdale, FL	Internet Telephony Conference & Expo (South Florida 2006)	• Speak, Exhibit
March 19–22 San Diego, CA	CompTel/ASCENT Spring 2006	• Speak, Exhibit
March 21–23 Singapore	IMS Asia Conference	• Speak
April 9–11 Atlanta, GA	NCTA's National Cable Show	• Speak, Exhibit
June 4–8 Chicago, IL	GlobalComm	• Speak, Exhibit
June 20–23 Denver, CO	SCTE Cable Tec-Expo	• Attend
June 20–23 Singapore	CommunicAsia 2006	• Speak
October 10–13 San Diego, CA	Internet Telephony Conference & Expo (Fall 2006)	• Speak, Exhibit
Dates TBD Orlando, FL	CompTel Fall	• Speak, Exhibit

WORKING GROUP UPDATES

TO THE MEMBERS OF IPCC:

Wireless/Wireline Convergence

The outline for version 2.0 of the "Fixed to Mobile Convergence Project" was finalized on November 29, 2005. The final outline, [ipcc-p0010.002.01](#), has been uploaded to the Project Central section of the IPCC website.

Mission	Build upon Version 1.0 document to promote best practices for fixed to mobile convergence. Includes reference architectures for VoIP to 2G handoff and vice versa. Examine technical, business, and financial challenges. Open dialogue about back office systems integration in a multi-service environment.
Target Audience	Service providers (cable, wireless, MNVOs, and wireline) and equipment vendors.
Target Publish Date	Version 2.0 on 2/01/2006

Version 1.0 ([ipcc-p0010.001.00](#)) can be found on the IPCC Documents page. Conference calls to discuss progress are held every other Tuesday afternoon at 4:00 Central Time. To participate, please send contributions to Marian@IPCCForum.org.

The Wireless Wireline Convergence WG has a new subgroup underway, IP Multimedia Systems (IMS), chaired by Gary Miller of Global Crossing. Gary is an acknowledged leader in the field of IMS and IPCC is very fortunate to have his leadership. The outline has been finalized ([ipcc-p0012.001.00](#)) and uploaded to the Project Central section of the IPCC website.

Mission	Discuss 3GPP/3GPP2 standards as they relate to the wireless, wireline, and cable markets. Define what fixed-mobile convergence means.
Target Audience	Service providers (cable, wireless, and wireline), enterprise, and equipment vendors.
Target Publish Date	Version 1.0 on 2/01/2006
Paper Length	Approximately 15 pages

Conference calls to discuss progress are held every other Tuesday afternoon at 4:30 Central Time. To participate, please send your contributions to Marian@IPCCForum.org.

Service Provider Interconnection

The period of comment on the "Interconnection Considerations for VoIP Networks: Peer-to-Peer Scenarios" closed October 25. The document ([ipcc2005.015.00](#)) has been posted to the IPCC website. At this time, there are no plans to publish a second version.

The SPI WG sub-group on E911 finalized the first document, "Emergency (E911) Calling Requirements For VoIP Networks," on December 1, 2005. The IPCC relies on the efforts of its member companies and their contributing personnel. The IPCC would particularly like to thank the following individuals and companies that have contributed to this paper and to the ongoing development of VoIP services:

- **Patrick Reilly**, Global Crossing (IPCC E911 Working Group Chair)
- **James M. Polk**, Cisco Systems
- **Eric Burger**, Brooktrout
- **Rob Smith**, HBF Group
- **Marian Stasney**, IPCC
- **Michael Remacle**, Level(3)
- **Tom Keating**, TMCnet
- **Payam Maveddat**, Tekelec
- **Lisa Start**, Telecom Attorney & IPCC Legal Advisor
- **Emery Hanzel**, Cisco Systems
- **Marc Linsner**, Cisco Systems
- **Farshid Mohammadi**, UTStarcom
- **Michael Khalilian**, IPCC & eLEC/VoX
- **Staci Pies**, PointOne & VON Coalition
- **Ted Glanzer**, TMCnet
- **Manuel Vexler**, CopperCom
- **Lou Wojnaroski**, IPCC Technical Editor

Enterprise Service and Applications Delivery

The IPCC, recognizing the needs and requirements of its membership, has launched a new technical working group focusing on the enterprise. Topics to be addressed in this working group will include such projects as hosted services, PBX, IMS, and WiFi/WiMax among others. The IPCC is actively recruiting champions for this new venture. Please contact [Marian Stasney](#) or [Michael Khalilian](#) for more details or to contribute to this important effort.

This monthly column is contributed by Marian Stasney, IPCC Director of Technical Working Groups



FCC ACTIONS

FCC Issues Text of Orders Approving SBC-AT&T, Verizon-MCI Mergers

On November 18, 2005 the FCC released the text of the orders approving the SBC/AT&T and Verizon/MCI mergers, which were approved by FCC vote on October 31. The Commission considered the competitive effects of the mergers in six key services.

- **Special access competition:** The Commission found that, in a limited number of buildings where AT&T (in SBC's territory) and MCI (in Verizon's territory) are the only competitive carriers with direct connections, the mergers could have an anticompetitive effect on wholesale special access services that are provided entirely over a single carrier's facilities. The FCC found, however, that the Consent Decrees entered into on October 27, 2005 between the Department of Justice and the two companies adequately address the potential harms. The FCC also found that the mergers are not likely to result in anticompetitive effects regarding other special access services that combine one carrier's own facilities with those of another.
- **Retail enterprise competition:** The FCC found that the mergers are not likely to result in anticompetitive effects for medium and large enterprise customers because these customers are sophisticated, high volume purchasers of communications services and because a significant number of carriers will continue to compete in the market.
- **Mass market competition:** The FCC found that the mergers are not likely to result in anticompetitive effects for mass market customers because AT&T has ceased marketing those services and is gradually withdrawing from that market, while MCI has significantly reduced its marketing. The Commission further found that facilities-based intermodal competition, including cable VoIP and wireless services, is growing rapidly and will play an increasingly important role with respect to future mass market competition.
- **Internet backbone competition:** The FCC found that the mergers are not likely to result in anticompetitive effects in the Internet backbone market.
- **Wholesale interexchange competition:** The FCC found that the market is likely to remain competitive after the mergers, due primarily to the presence of numerous competitive nationwide fiber networks with excess capacity.
- **International competition:** The FCC found that the mergers are not likely to result in anticompetitive effects for mass market, enterprise, or global telecommunications customers.
- **Public Interest Benefits:** Among the many public interest benefits, the Commission specifically recognized the applicants' progress implementing the VoIP 911 requirements for interconnected VoIP providers.

The Commission made enforceable conditions regarding the voluntary commitments made by the applicants, including the following:

- **No UNE price increases:** The applicants committed not to seek an increase in state-approved rates for unbundled network elements ("UNEs") for two years (except for rates that are subject to current appeals in specific states).
- **Collocation:** The applicants committed to a one time recalculation to exclude fiber-based collocation arrangements established by AT&T in SBC's region and MCI in Verizon's region in identifying wire centers in which SBC or Verizon claims there is no impairment pursuant to the UNE triggers in the Triennial Review Remand Order so that dedicated transport and/or high-capacity loops need not be unbundled.
- **Service Quality:** The applicants committed to implement a "Service Quality Measurement Plan," which will provide the Commission with quarterly performance results for interstate special access services. This commitment will terminate the earlier of 30 months and 45 days after the beginning of the first full quarter following the closing of the mergers, or the effective date of a Commission order adopting general special access performance measurement requirements.
- **No Rate Increases for 30 Months:** The applicants committed, for 30 months, not to increase the rates paid by existing in-region customers of AT&T in SBC's region or MCI in Verizon's region for wholesale DS1 and DS3 local private line services.

(Continued on page 6)

- SBC/AT&T and Verizon/MCI committed, for a period of 30 months, not to provide special access services to themselves, their interexchange affiliates, or each other or their affiliates, that are not generally available to other similarly situated customers.
- The applicants committed that for a period of 30 months, before they provide new or modified contract tariffed service to their own Section 272(a) affiliate(s), they will certify to the Commission that they provide service pursuant to those contract tariffs to unaffiliated customers other than each other or their wireline affiliates.
- Special Access Rates: The applicants committed for a period of 30 months not to increase rates for special access services, including contract tariffs, that they provide in their in-region territory that are on file with the Commission on the Merger Closing Dates. The special access pricing freeze is effective for 30 months whether or not an SBC or Verizon special access tariff expires during those 30 months.
- Settlement Free Peering: The applicants committed, for a period of three years, to maintain settlement-free peering arrangements with at least as many providers of Internet backbone services as they did in combination on the Merger Closing Dates and for a two year period to post their peering policies on publicly accessible websites.
- Naked DSL: The applicants committed to provide, within 12 months of the Merger Closing Dates, DSL service to in-region customers without requiring them to also purchase circuit-switched voice telephone service. The companies will make the offering for two years from the time it is made available in a particular state.
- Internet Principles: The applicants committed for a period of two years to conduct business in a way that comports with the Commission's Internet policy statement issued in September.

FCC Enforcement Bureau Set Forth Requirements for November 28 VoIP Compliance Letters

In a Public Notice issued on November 7, the FCC set forth the specific information that interconnected voice over Internet Protocol (VoIP) service providers were to have included in the Compliance Letters required by the FCC in its June 3, 2005 order establishing enhanced 911 requirements for IP-enabled service providers that were due to be filed by November 28, 2005, however a number of carriers failed to meet the deadline.

FCC Seeks Comment on Qwest's Petition for Forbearance from Enforcement of the Requirement that ILECs Convert Special Access Circuits of Post-Merger Verizon/MCI and SBC/AT&T to UNE Pricing

On October 4, 2005, Qwest filed a petition pursuant to section 10 of the Communications Act of 1934 requesting that the Commission forbear from enforcing certain unbundling obligations of the Act as they apply to ILECs, including Qwest, in the event the Commission approves the pending mergers of SBC with AT&T and Verizon with MCI (which it did on October 31). Qwest contends that, if such mergers are approved, SBC/AT&T and Verizon/MCI will become dominant suppliers in the enterprise market, having both the incentive and the ability to stifle competition. Qwest notes that today, the Commission's rules require ILECs to convert special access circuits already used by competitors to unbundled network element (UNE) pricing as long as the circuits are not used exclusively for long distance or wireless service. Qwest asks the Commission to relieve Qwest and other incumbent LECs of this duty with regard to SBC/AT&T and Verizon/MCI. In Qwest's view, requiring Qwest and other incumbent LECs to convert such special access circuits to UNE pricing would give SBC/AT&T and Verizon/MCI a cost advantage that, in combination with their size, would cause them to dominate the enterprise market.

Comments on the Qwest petition are due January 9, 2006; reply comments are due February 23, 2006.

¹ 47 U.S.C. § 251(c).

This monthly column is contributed by Ross Buntrock, Partner, Womble Carlyle Sandridge & Rice, PLLC.

VoIP RESEARCH ROUND UP

DID YOU KNOW ... ?

VoIP Customer Base and Revenue Experience Quick Growth with More to Come

The number of subscribers for Internet phone services surged to about 3.6 million in the third quarter as providers aggressively signed up customers, up 33 percent from 2.7 million subscribers at the end of June according to a report prepared by [TeleGeography](#), a research firm owned by privately held [Primetrica Inc.](#) Revenue from Internet phone services jumped 38 percent, to \$304 million, during the same third quarter period, the report said. The firm estimates that VoIP users have risen about 400 percent from 714,000 in the third quarter of 2004, while revenue soared 473 percent from \$53 million.

- "The threat to traditional phone companies is substantial," said Stephan A. Beckert, Director of Research for TeleGeography, saying his firm projects traditional carriers will see local phone revenue shrink by \$4.8 billion and long-distance revenue by \$1.8 billion by 2010 because of VoIP competition.
- TeleGeography found that VoIP subscribers grew even faster than expected during the third quarter, partly because of "... the impressive performance of [Time Warner Cable](#), which was the fastest growing cable VoIP provider in each of the last three quarters," the report said.
- The top VoIP providers are [Vonage Holdings Corp.](#), Time Warner Inc.'s cable unit, and [Cablevision Systems Corp.](#)

Customer education and acceptance,
including concerns over service quality,
are still **major challenges**
for VoIP service providers.

U.S. Broadband IP Lines to Grow 200% by End of 2005—Though Some Concerns Remain

A recent report by [In-Stat](#) found the following:

- Customer education and acceptance, including concerns over service quality, are still major challenges for VoIP service providers.
- Loss of connectivity during power outages and E911 limitations remain concerns as well.
- At the end of 2004, In-Stat estimates there were over 1.3 million broadband IP lines in use in the U.S., with growth projected to 3.9 million by the end of 2005.

[\(Continued on page 8\)](#)

VoIP Service in Asia to Grow About \$1 Billion Per Year Through 2009

The market for VoIP services in Asia continues to show strong growth, as total revenue is expected to rise from nearly US\$5.5 billion in 2004 to over US\$10 billion by 2009, reports In-Stat. Currently, long distance calls initiated from either traditional PSTN terminals or full IP local loops (but carried over IP backbones to recipient's local networks), create the bulk of VoIP business in Asia, providing for 85.4% of total revenue in 2004, the high-tech market research firm says.

A recent report by In-Stat found the following:

- In 2004, there were 8.7 million local VoIP lines in Asia.
- Regulators still have to make hard, yet smart decisions to ensure smooth market development, with some vendors placing high stakes on VoIP for their future success.
- In Japan, South Korea, Hong Kong, and Singapore, a large portion of long distance calling has already migrated to the IP platform.

The report, "[Voice over IP Services in Asia](#)" (#IN0502395ANT), covers the VoIP market in Asia. It includes forecasts for VoIP subscribers, calling minutes, calling prices, and revenue for the region with breakdowns by major country markets through 2009. Also included are market analyses for each of the major Asian VoIP markets: Australia, Hong Kong, Japan, Thailand, Taiwan, South Korea, and China.

GSM Customer-base Growing Quickly

According to a report by the [Global mobile Suppliers Association](#) (GSA), in the three months ended September 30, 2005, 100 million new GSM customers were signed up, taking the global total to 1.56 billion. On average, in the first nine months of 2005, there were over a million net additions a day, a figure which the association claims is accelerating. Moreover the GSA claims that GSM subscribers now account for 77.2% of all wireless users and made up over 90.8% of third quarter 2005 additions. In North America, GSM outsold all other technologies, gaining over 80% of net additions to take its market share to 34.5% (up from 28.7% at the end of 2004). By the end of September, 91 W-CDMA networks had entered commercial service, an increase of 31 during the year, with a further six networks at the pre-commercial stage. The number of W-CDMA subscribers totaled 34.8 million at the end of September, an increase of 106% year-on-year.

Fixed Wireless Telemetry Apps Could Exceed Voice Market

The market potential for fixed wireless telemetry applications is larger than the wireless voice market, but the rate of adoption is much slower, reports In-Stat. The cost of service and telemetry modules that are used in applications such as utility meters, vending machines, and temporary point-of-sale terminals remain barriers to adoption, although the high-tech market research firm says the situation is improving.

A recent report by In-Stat found the following:

- Each vertical has unique barriers to adoption that can not be overcome unless the solution provider takes the time and effort to understand the vertical's needs and issues.
- The vast majority of telemetry applications have no need for broadband wireless technologies.
- Rate plans are decreasing in price and increasing in flexibility.

The report, "[Wireless Telemetry Services for US Businesses](#)" (#IN0502036MBD), provides a review of the state of the U.S. wireless telemetry services market with a historical perspective, analysis of market needs, and prospects for the future. It also includes profiles of telemetry service and equipment vendors. This report is for any decision maker involved in evaluating an investment in the telemetry marketplace.