



Volume XMXVI
May/June 2007

The Association of Telecommunications Professionals, Inc.

NEWSLETTER

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ATP June Meeting Notice

When: Wednesday, June 13, 2007

Registration begins 8:30 a.m.
Meeting begins at 9:00 a.m.

Where: OCLC, Inc.

6565 Frantz Rd.
Dublin, OH

See our website (www.atp-ohio.org) for parking options

Topic: *The State of the Telecommunications Industry*

ATP is proud to present its 22nd annual "State of the Telecommunications Industry" meeting. This will be an important and timely forum on the leading public policy and telecommunications industry topics that organizations in Ohio are facing.

The meeting will consist of two panels: the first features state and federal telecommunications policy, and the second features network service providers. We are also expecting a speaker on the State of Ohio's telecommunications initiatives which have both policy and technology aspects.

The public policy panel will look at regulatory and legislative issues in telecommunications at the state and federal level. Our presenters will include Commissioner **Valerie A. Lemmie** of the *Public Utilities Commission of Ohio* (PUCO) and **Scott Hempling, J.D.**, Director of *The National Regulatory Research Institute* (NRRI).

The industry panelists have been asked to provide, for the benefit of ATP's institutional membership, status and strategy of their network in the context of convergence. The Panel format will not only provide an opportunity to hear the views of experts firsthand, but it will also provide an opportunity for interaction between presenters and with ATP members and guests.

Our objectives for this meeting are to better inform our institutional membership on the issues that can affect future purchase decisions and better to share the perspective of telecommunications purchasers with leaders in public policy. This is a unique opportunity to engage authorities in their respective fields.

The meeting fee is \$20 for members and \$30 for non-members. To pre-register, use the new ATP web site at <http://atp-ohio.org>. Or, to register by phone, call the **ATP HOTLINE** at (614) 836-4318. And don't forget, when you pre-register before the deadline (5 p.m. on Friday, June 8, 2007), your name is automatically entered in the drawing for a prize. Please register early so that we may have an accurate count for seating and lunch. Your pre-registration assists us in keeping our costs down. ☒

Membership Dues Status

by **Sheila Schmitt, Treasurer**

The ATP By-Laws state that your yearly membership dues are payable by the first meeting of the year. To insure continued good standing in ATP it is necessary that the dues be brought up-to-

date. **ATP Representatives who's Parent Organization has not paid its annual dues will be charged the \$30 non-member meeting fee.**

ATP is pleased to welcome new members: **McGraw Hill; Ohio University; Cisco; Avaya; NEC; Time Warner Cable; Ohio Cable Telecommunications Assoc.,**

Meeder Financial; and Cincinnati Bell Telephone Company, LLC.

If you have any questions regarding the Membership Status of your Organization, please contact **Sheila Schmitt** at (614) 628-8428 or by email at treasurer@atp-ohio.org. ☒

Treasurer's Report

by **Sheila Schmitt**, *Treasurer*

Treasurer **Sheila Schmitt** reports that as of May 11, 2007, there was \$13,817.21 in savings and \$6,960.53 in checking. ☒

ATP Board Minutes

March 9, 2007

by **Lora Chappelle-Pearson**,
Secretary

Meeting Attendees

Bryan Barlitt, Jed Bistline, Gina George, John Hoag, Larry Learn, Sheila Schmitt, Wendell Mumaw, and Lora Chappelle-Pearson. The meeting was called to order at Sound Communications in Grove City.

February Meeting - Rescheduled

The topic for the rescheduled meeting will be Public Networking Projects in Ohio held at OCLC. Everything is set for the meeting. As of this date, only twelve people have registered. Even though it may result in lower attendance, the Board agreed that canceling the meeting during the inclement weather was the prudent thing to do. John mentioned that he will contact some of the people registered for the meeting that are outside the ATP organization about attending the rescheduled meeting. Perhaps we should put something in place to contact non-members that have registered in the future.

Gina spoke with one of her colleagues at Sound Communications about recording the membership meetings. The facilities at OCLC are set up for recording. John will bring with him a student from OU with audio experience to take care of recording the March meeting. Microphones are not required for the OCLC auditorium, but we may want to use one for the Q&A session.

2007 ATP Calendar

May 11 (8:30a.m.)

Board Meeting
Sound Communications

June 13 (8:30a.m.)

General Meeting

"The State of the Telecommunications Industry"

OCLC

July 13 (8:30a.m.)

Board Meeting
Sound Communications

August 8 (8:30a.m.)

General Meeting

"Data Center Success Stories"

Platform Lab

September 14 (8:30a.m.)

Board Meeting
Sound Communications

October 19 (8:30a.m.)

Annual Meeting

"TBA"

TBA

November 9 (8:30a.m.)

Board Meeting
Sound Communications

December 12 (8:30a.m.)

General Meeting

"TBA."

TBA

2007 Programs

Gina discussed the April meeting held at the Asian Cuisine. Sound Communications will give a presentation they have given in the past and will contact some of their clients to give a real life example of recording for compliance.

June meeting will be the annual regulatory meeting at OCLC. We have tentative commitments from Commissioner Fergus and Larry will also try to contact the new PUCO chairperson.

The format for the regulatory meeting has been in the past both a public and private sector panel. Mike Kehoe from AT&T will attend and Time Warner Telecom and Verizon Business will be contacted for the private sector panel. Would the meeting topic benefit from speakers with more product knowledge? A

successful meeting a few years ago included a speaker from the Fisher School of Business. The speaker presented a financial analysis of technology including the risk and legal issues involved.

The format for the meeting will be a 20 minute presentation from each speaker with a lively question and answer period. John will take care of getting speakers.

The topic of August will be Infrastructure (heating/cooling, power, etc). Unfortunately, the meeting can not be held at Grace Brethren. OCLC will be the tentative location.

Jed will talk to his management at Abercrombie and Fitch to hold the meeting at their location. They have recently renovated their location. A manager from Fishel could also another possible speaker and they could perhaps have one of their clients discuss their implementation. Another possibility is the hot site organization in Springfield.

The October meeting topic is unified communications. It was not discussed.

Web Site

The new web site will take care of outstanding database issues. Bryan gave an update. It is working well but not fancy. Bryan has setup a test for board members to try. It will go live after the next meeting March 14.

Larry indicated that a copy of the by laws needs to be available on the web site. He also mentioned that once a year, ATP needs to publish a list of the member companies.

Name Change/Bylaws/ Statutory Agent

No new developments on these topics. If we can complete the review of the bylaws by the end of March, the membership can vote on any updates at the April meeting.

Larry brought up the topic of quorums. What do we as an organization define as a quorum — the majority of the members at a meeting or the majority of all members? The bylaws are a bit ambiguous on this topic and perhaps it is best to leave this as is. The elimination of the membership distinction will help eliminate the ambiguity for voting.

Treasurer Report

Sheila gave the treasurer's report. The checking account has a balance of \$6392.53 and the savings account has a balance of \$13,794.25.

The Ohio University Scholarship banquet will be held May 10. The key not speaker will be Mike McCurry, the former Clinton administration press secretary. The ATP scholarship will be presented by Sheila as treasurer. Wendell will be out of town and not able to attend. John asked if ATP could publicize the banquet, sending an email message to the membership. At this point, the ATP has not included links to other web site on its web site, but a link site hosted elsewhere was discussed. No action was taken at this time.

Sheila asked how things are approved for payment. The treasurer provides a budget based on the prior year's expenditures that the board approves. The treasurer then pays bills as needed. Sheila now has everything transferred over and her responsiveness is greatly appreciated.

Miscellaneous

How often is the ATP hotline being used? Mike Patterson has been updating the message and minimal registration is done with it. For the April meeting post card, the hotline phone number will be removed with the new web site as the primary registration and an email to treasurer@atp-ohio.org as the secondary registration. Bryan moved to terminate the hotline. John seconded the motion.

John mentioned that it could be beneficial to have an ATP 800 number that can be used as a contact for questions and information about ATP. John made motion to acquire an ATP-Ohio 800 number for support that will not exceed a cost of \$10 per month. Larry seconded the motion. John volunteered to take the initial period for the number.

Larry brought up the point of members on the web site. As of February 14, the new list of company members needs to be on the web site once annual fees have been paid. So far, twenty-two companies have paid. Sheila and Bryan will coordinate the paid members with the new web site.

Larry then asked who should be bumped from the news line and when should people be removed? Larry is trying to minimize his work load. If he removes names from the news line, then the

company pays its membership fees, Larry then needs to add the emails back in. Larry will send a message in the near future to send him an email to continue to receive the news line in the hopes that this will eliminate some of his work. Could this be added to the new web site? Larry wants a direct email from the recipient as an opt in, not an opt out.

From the newline and Larry's point of view, we have three classes of email addresses: members with good addresses from companies in good standing receiving messages; members that should be getting messages, but aren't; and members that should be getting messages, but are getting blocked by their ISP of email service. Larry will remove email

When do we send a message to companies that haven't renewed? We will need to coordinated current membership list on web site and the termination of news line receipt.

Bryan asked Larry to make the atp-ohio.org text in the news line a hyper link so that members could click in the news line and go directly at the web site.

The meeting was adjourned by Wendell. ☺

ATP Meeting Minutes

April 11, 2007

by **Lora Chappellear-Pearson**,
Secretary

The April meeting held at Asian Cuisine was called to order by Wendell Mumaw. The topic for the meeting was Strategies for Managing Liability, Agent Evaluation, and Training. The first speaker was Darin Cooper, Engineer with Sound Communications <http://www.soundcommunications.com>. Please see the web site for a complete bio.

Mr. Cooper started his presentation by asking how many attendees are recording calls. Almost everyone in attendance was recording calls in some manner. It is becoming more common place. When you hear "Your call may be recorded for quality assessment" at the beginning of a call, the customer service rep and the user placing the call tend to be nicer. In the past, recording was done for liability and auditing purposes. Companies now realize how important call data is. It

consists of 70% of contact with customers. It is the primary interaction with customers.

Mr. Cooper then discussed strategy, trying to measure different things. All call centers have statistics. The definition of strategy is a long-term action plan for achieving a goal. Recording becomes more valuable for implementing this strategy.

More companies are doing voice, data and video recording of contact centers. Verint is a leading provider of recording systems. It has become a robust product. Sound Communications was founded in 1983 and one of six Verint Platinum business partners. They are a Verint Master Distributor of Audiolog providing 24x7 support by trained technicians.

Mr. Cooper discussed the quality and performance agenda, "the power of why". How do we increase customer loyalty and satisfaction? How do we get the most out of our people? How do we take cost out of the operation? How do we generate new revenue opportunities? Recording calls become more valuable than ever.

It's more than just a phone call. Mr. Cooper gave a billing call example. All steps of the process present different issues, but how do we identify them and get information? What is needed to solve these problems? The ability to look at the big picture, a new approach that delivers more business impact with less cost, analytics to make all this data actionable, and the ability to find the root cause of the issue.

Companies want to see what types of information are available to their agents. They need to attach information to the recorded call. This can be a great tool for agent evaluation. Some companies use Excel spreadsheets, Access databases, or commercials tools. Organizations also want the screens used by agents included in the call for quality monitoring. In the public safety arena, agent analytics have been used to train dispatchers. The City of Columbus has had success using this method. The agents are better trained with a higher retention level. Retraining has problems with keeping staff engaged in training sessions. This is more successful.

Voice and data analytics technologies help companies identify, understand, and resolve issues that impact the effectiveness of customer-focused

operations. It helps organizations understand not only what is happening, but why. It also shows how. Voice analytics (speech to text) show what is happening. It provides a way to display what customers are calling about. It can also identify problems that can be used to set business priorities by identifying customer defects, increase first call resolution, and promote self service use. It can also suggest root causes. It allows the organization to identify problems as well as determine how successful the agent was in resolving the issues.

Mr. Cooper then discussed the Why and How. Why is it happening? Voice analytics automatically suggests root cause terms with a 60,000 work vocabulary, key themes, and continually refined results. How can I take action to improve? The actions include sampling the most relevant calls to identify appropriate action, go right to the part of the call that matters (automatically highlighting insights and root causes), and integrated workflow component to coach, evaluate, escalate or flag for action.

Data mining analytics identify what is happening. It creates a visual dashboard for call centers with key performance indicators (PKI). Each KPI can easily be viewed showing average hold time, up sell rates, transfers, etc. It also indicates whether the organization is meeting these KPI values. As one of these PKI indicators goes up, sales may go down.

Why is it happening? For each KPI, data mining can automatically identify circumstances that impact that goal in either a positive or negative way. It includes circumstances that you did not think to ask about without sifting through charts and reports. It also automatically prioritizes findings based on how often it occurs.

Mr. Cooper then discussed "How can I take action to improve?" This includes sampling relevant calls to identify actions to eliminate negative behaviors and reinforce positive ones, applying voice analytics to relevant findings to further improve processes, integrating workflow to coach, evaluate, escalate, and flag for action. This can then be used as input into business decisions on what can be improved. Call recording is the base to build upon.

Different types of call recording triggers can vary from: trunk side CTI and

SMDR; pooled SSC, SO, and rules based; agent desktop screen and data capture; and VoIP over the Internet.

Verint products Audiolog and Ultra Enterprise provide comprehensive solutions for every size of contact center: compliance, risk management, and quality monitoring. The Ultra product provides a highly scalable enterprise solution with virtual contact center capability, enterprise quality management with speech and performance analytics.

Mr. Cooper then discussed the tools for the contact center. Recording and retrieval can be used for call with voice, screen and input data. Evaluation and coaching can be accomplished with non biased sampling with criteria driven results and robust reporting and agent coaching. Speech and data analytics and can be performed in real time with suggested root cause analysis.

Q: Are there any applications using voice recognition?

A: Where the system responds? The IDR application can record calls. Indiana Power and Light records calls and responds to call with different text based on the response from the customer.

Q: In your experience, what percentage of companies has dedicated QA staff?

A: Not sure. Many do quality monitoring, but a team may be set up. The University of Pittsburgh Medical Center have 16-17 people evaluating the data for quality purposes. Most clients have at least one person doing quality monitoring. Automatic reporting can be enabled.

Q: What type of security is set up?

A: Data can be encrypted and typically is. The access to the information is the key component. If the network is secure, the call data will be. Authentication is required to log in to the tools is another layer of security. Access can also be restricted and what applications that can access the data. The internal infrastructure is the main security.

Question: Speech to text has been difficult?

Answer: It's still difficult. They're doing more than just speech to text. We're beginning to really drill down into the call and handle dialects. Searches are performed on the entire call, not just single works - Analytics application.

Q: Are you looking at inflection/tones?

A: The CSI television shows are messing everything up! You don't look at the inflection rather than the entire call. More information is needed. Some systems are trying to do this.

Thomaso Morrow from Verint (www.verint.com) then gave a demo of Verint products, discussing the philosophy of call recording rather than product details. The technology was built for government, but can be applied to the business environment. As everyone is doing more with less, it's hard to focus. We want useful information. Call recording allows organizations to take call center information and make it available to the entire organization. Call center data can be used with other information to solve problems.

How many organizations are using the reporting feature of call recording? Very few do. Do the reports answer questions? Even fewer answer questions. Do we go to meetings to answer these questions? Probably not. Call reporting attempts to bring to organizations answers for problems. Verint tries to work with companies to acknowledge that this is a process not just an installation. It continually evolves.

Verint products are web based tools and will follow any existing security policies. The quality program isn't required, but most people can see an informal aspect of quality that can be implemented.

How do you implement the tools? To begin, capture all calls to see patterns or time on each call. Next we can determine when to begin filtering down recording. Any information collected can be stored and saved.

Mr. Tomaso gave an example. Sample two calls per day for two weeks per agent. This can show the calls requested. It can be changed at any point and record different agents at different intervals. At the agent level, the products can record audio and forms included. It can also record with screen captures/screen shots that are included in the call data.

It's very simple. Agents can also have access to their call data. They can see information about their calls and their supervisor's evaluation of the calls. It helps with staff retention because the agents are part of the process.

The use of call data as a strategic tool is unique to Verint. IntelliFind allows users to create categories by calls, identifying trends and allows for analysis of the calls. You can listen to the recorded calls as if you were listening to the call live. Systems get better with customer information. Data can be charted however you want. The calls are ranked by how well the call fits the category. Within a category, you can also see other patterns that appear in the category. This feature uses analytics.

Speech to text is 60% successful. Verint's speech analytics is 90% successful. Whatever is captured is accessible by all tools.

Verint products understand what is happening in the organization and report what could be causing it. It can determine if anything is negatively impacting statistics. Analytics will help. An example is call time. It can be artificially short because no one answered the call due to call center staff out of the office, hang ups, etc. This is considered in determining the call time.

Q: How often are recordings made available to sales staff?

A: It's what makes sense. It's not a Big Brother issue. Companies are using data to integrate the entire company with better communications. AT&T is one of Verint's largest clients. It's being used for marketing as well. More groups are able to use the data.

Q: What type of hardware?

A: The product is a windows base solution. If attaching to Avaya, Cisco, etc. each vendor has its own access using the customer's hardware. Verint is working on a linux version.

Q: Compliance and retention. Email retention is an issue. Is there a way to address these issues that can be retained based on data mining?

A: Yes. To have accurate statistics, they need the data. If you want to keep the data, keep the data available and retain only what you want to keep. This can impact the analytics.

Q: Is compliance/retention an issue?

A: Retention is different for each organization. The IRS keeps its records for seven years. Chase Bank retains its records for three years.

Q: What is the optimum time to start seeing the "learning curve"?

A: It varies. One needs approximately 10,000 calls for a baseline.

Q: What does Verint see in light of Sarbines-Oxley expansion to include email? It will generate a large amount of data.

A: Yes, it will be an opportunity for increased storage. But storage is cheap and Verint has no upper limit at this point. Email can be included into the tools with the call. Retention period is configurable and a policy issue for the organization. There is no theoretical limit. With intelligent archiving, the screen shots are more for quality/evaluation. We can determine what to keep for the call.

Q: Can call be parsed on analytics?

A: Yes, you can.

Q: Can you predict success of agents based on accent/speak patterns?

A: Several studies on over seas call centers are in progress. The results of these studies should be released, soon.

Comment: Legislation requiring agent location is in committee.

Q: Is it a problem to opt out of recording?

A: It's not an issue. You may want to exclude this from analytics, but can include it in call recording statistics.

The second segment of the meeting was a panel discussion with three users of call recording, Regina Shipley from Cincinnati Children's Hospital, Sandy Grey from AEP, and Chris Larsen from Duke Energy.

Ms. Shipley has two large systems at Children's hospital. The initial users were the call center and the pharmacy. They now support 75 different departments in 12 buildings with more coming in 2008. The users range from the call center to human resources. They implemented Verint because their prior system was so unreliable. It's been extremely successful. It has been successful because they started small then grew as their end users saw value. From the telecom side, they don't look at calls, they just verify the system is working. Children's is starting a project to allow agents to work at home. They retain their calls for 18 years on their NAS storage.

Q: How do you justify the money for the system?

A: Each group uses it differently. The pharmacy uses it as a way to verify prescriptions.

Q: Are any metrics used?

A: They use it as a tool to keep data for litigation/liability concerns. It is also used for training call center agents to identify additional training needs and to adjust scripting.

Q: What type of security do you have in place for home agents?

A: With HIPAA laws, the home agents access the system through the corporate firewall using VPN.

Q: What are the policies for certificates used by home agents?

A: The laptops have the certificates loaded.

Q: Are billing agents working from home?

A: Only scheduling and poison control are working from home.

Q: What is the cost per day per user?

A: They do not use change back. It's a shared pool for audio recording.

Q: What is your budget and the numbers of users?

A: Darrin Cooper answered this question with an estimate. Each department at Children's uses different pieces. His estimate is approximately \$1000/channel as the upfront cost plus annual maintenance fees.

Q: If no channels are available, what happens?

A: The extra call isn't recorded.

Sandy Grey then discussed AEP's implementation. Call recording at AEP started as quality monitoring seven years ago. It is now used for both liability and monitoring purposes. In 2005, AEP began recording all calls with 8% examined for quality purposes. A staff of 16 people monitors three calls per month from 500 agents. In 2005, AEP added evaluation. PUCO complaints are addressed with monitoring. It has also been valuable for staff evaluation. The MIQ product was installed in 2006. The product provides limited viewing of what agents and supervisors can see. Training was the easiest part of MIQ. The more complicated part is how to score the call. All stations have full time voice recording with audio logs. AEP used an outsourced recording solution prior to migrating to Verint in 2006.

The calls are stored on DVD, but AEP is migrating to NAS storage. The recordings are kept indefinitely. Security

is a big issue as customer social security numbers are part of their records. Calls are kept at different intervals. Quality monitored calls for the same month are kept for 240 days. Statistics for the calls are kept longer.

Q: How are calls handled during a network outage?

A: IVR (interactive voice response) applications are laid out geographically and receive a separate DNIS (digital number identification service) for each location. IVR is based on the phone number received and sends an appropriate message based on the calling number. The call will go through automatically.

Q: Where does the staff reside in AEP's organization structure?

A: The staff reports to the training and quality department of the call center.

Chris Lawson from Duke Energy was the next panelist. Mr. Lawson started using call recording as a QA only application at Cinergy, recently purchased by Duke Energy. He approaches call recording from the IT perspective. Organizationally, Mr. Lawson is in IT, but in the call center area. He also gets involved from the business side of the organization as well. He originally worked with a Dictaphone reel to reel system. To use it, he had to know the agent and date of the call. The Mercom system replaced this.

Duke Energy has four call centers. They have added the evaluation tool, but used a tool built in house for evaluation prior to the Duke Energy merger. Now they have Verint products and Duke used Witness. Their organization has had a lot of retirements in the recent past in the Quality area. They began using the company Hyper Quality to send their full data capture. The company, located in India, listens and reviews three call per day. They are also interested in analytics. With the merger, they are working through corporate culture differences, both organizationally and with their customers. The use recording at their dispatch and control centers recording phone and radio calls.

Wendell Mumaw then mugged the speakers.

Business

The drawing for a Ruby Tuesday's gift certificate was won by Darin Cooper.

Credit Card Payments

ATP accepts payments using most major credit cards. This is yet another frequently requested service to ATP Members being provided by the ATP. Credit Card payment is optional.

Membership

ATP currently has 30 members. Approximately 10 companies haven't renewed. The web site has the current list if you are not certain if your company has renewed.

Web Site

The new web site is now operational. Please contact any board member with questions or problems.

The June meeting will be held June 13, 2007 at OCLC.

Treasurer Report

Sheila Schmitt gave the treasurers report. The checking account has a balance of \$7882.96 and the savings account has \$13805.54.

New Business

Larry Learn thanked Bryan Bartlett for the installation of the new web site. He then discussed the Newline. It is now coming from a new mail host. Please update any filters or white lists to include this new source. The Newline will be terminated on April 23 unless you send Larry a message indicating you wish to continue to receive it. A reminder message will be sent in the near future.

The meeting was adjourned. ☉

Hot Topics in Telecommunications

(Regulatory, New Offerings, New Technologies and More)

May 2007

by Doug Ballou

Google Inc. said it has agreed to pay \$3.1 billion in cash to acquire ad-management technology company **DoubleClick Inc.** The boards of both companies have approved the takeover, which is expected to close by the end of the year. New York-

based DoubleClick helps its customers place and track online advertising, including search ads, which Google has turned into an extremely lucrative business. DoubleClick had been the target of a fierce bidding war between **Microsoft** and Google. The acquisition is the largest in Google's history.

Apple Inc. said it won't be shipping its next-generation operating system in June as planned, saying it had to divert resources from the project so that it could launch its highly anticipated iPhone on time. The new shipment date for Mac OS X "**Leopard**" will be in October. The iPhone will make its debut in June as planned.

Vonage, navigating its darkest hours in a grim first year as a public company, handed the reins back to founder **Jeffrey Citron**, at least temporarily, as the Internet phone provider tried to shine a positive light on its plights in business and in court. The resignation of Chief Executive **Michael Snyder** follows an unnerving month for Vonage Holdings Corp. With competitive pressures already savaging its business and stock price, Vonage is now facing a high-stakes legal threat over the technology it uses to connect customer calls. Vonage was found guilty of infringing on patents owned by **Verizon Communications Inc.** Vonage is appealing the verdict.

On April 26, **Mitel** announced that it has reached an agreement to acquire **Inter-Tel Inc.**, a full-service provider of IP converged voice and data products and communications systems. The merger will create a strong, privately-held company with two trusted brands, Mitel and Inter-Tel, with particular strengths in unified communications, networking, management and applications such as messaging, contact centers, mobility and collaboration. The combined portfolio will deliver greater value and choice to customers around the world. Once the transaction is complete, Mitel will feature a worldwide employee base of approximately 3,400 employees and over 1,500 value-added resellers, distributors and systems integrators active in over 90 countries. Revenues are anticipated to exceed US\$800M. The transaction is subject to customary closing conditions, including Inter-Tel stockholder and regulatory approvals. The merger is expected to be complete in the third quarter of this calendar year.

Despite increasing emphasis on providing better service, **contact centers** appear to be doing a worse job of satisfying customers. Satisfaction rates in contact centers took a nosedive in 2006, falling from 82 percent a year earlier to 68 percent last year, according to the **Global Contact Center Benchmarking Report**. This was reinforced when **MSN** recently came out with their **Customer Service Hall of Shame**. The bottom 10 companies (out of more than 400 nominated) were ranked by percentage of respondents who rated a company's service "poor". The top of the list (worst) was headed by **Sprint (40%)**, followed by **Bank of America (30%)**, **Comcast (30%)**, **Time Warner Cable (29%)**, **AT&T (26%)**, **Citibank (24%)**, **Wal-Mart (23%)**, **Verizon (22%)**, **Wells Fargo (21%)** and **DirectTV (20%)**.

Business software maker **Oracle Corp.** will buy **Hyperion Solutions Corp.** for \$3.3 billion in cash, renewing a shopping spree aimed at toppling rival **SAP AG**. The deal will give Oracle an arsenal of Hyperion products that are widely used by SAP's customers. Hyperion's tools, known as "**business intelligence**" software, help chief financial officers and other top corporate executives track their company's performance. Santa Clara, Calif.-based Hyperion represents the largest prey to be devoured by Oracle since it gobbled up **Siebel Systems Inc.** for \$6.1 billion a little over a year ago. Oracle will pay \$52 per share for Hyperion. At the time of the announcement, the price represented a 21 percent premium above Hyperion's stock closing price.

Cisco has agreed to acquire the online meeting company **WebEx Communications** for about \$3.2 billion in cash, a takeover that furthers Cisco's push into the lucrative arena of business communications. Cisco said it would pay \$57 per share for WebEx Inc. The acquisition has been approved by both boards and is expected to close in the fourth quarter of fiscal 2007.

Google yanked paid advertisements linked to some 20 search terms that online criminals had hijacked to steal banking and other personal information from Web surfers looking for the **Better Business Bureau** and other sites. It was unclear how many people were affected before the breach was discovered, but computer security experts said the attack appears to be isolated and only targeting Windows

XP users that had not properly updated their machines. Google said it dismantled the offending links and shut down the problem AdWords. Experts said the infiltration to the Web's largest marketing network raises questions for the entire search industry about how to screen advertisers for those with nefarious motives.

AT&T Inc. reported it doubled its profit and sales in the first three months of the year, primarily because of its completed acquisition of **Bell South**. Profit reached \$2.85 billion. The earnings, which included \$2.3 billion in acquisition-related charges and a \$409 million gain from the sale of some assets, amounted to 45 cents per share for the period ended March 31. That was up from \$1.45 billion, or 37 cents per share, earned by AT&T in the first quarter of 2006, when it had not yet acquired BellSouth. First-quarter revenue rose 84 percent to \$28.97 billion, up from a pre-merger tally of \$15.76 billion in the same period a year ago.

Microsoft is buying **Tellme Networks** for an undisclosed amount in an effort to bolster its voice-services portfolio and add speech recognition to a broad range of its software and online services. Tellme provides a Voice XML-based platform that enables voice-powered directory assistance for third parties, and it also has its own mobile search services. Microsoft plans to use Tellme's platform across several of its product lines, including unified communications, mobile services, and such software as the Windows operating system and Office productivity and collaboration suite. The company says some new products that could potentially result from the deal are voice-enabled customer-service software and the addition of speech recognition with its Windows Live Search engine to provide a mobile search platform.

AT&T, which used to be **Cingular**, rolled out a service that turns a **BlackBerry** into a device that keeps track of your "mobile resources." That is to say, a company's workers. AT&T has taken the built-in GPS (global positioning system) feature available on newer BlackBerry models and added a back-end system aimed at business users. Let's assume that your company has 20 delivery trucks on the road at any one time. Hand each driver a specially equipped BlackBerry 8800 and from a computer in one's home office (or even on your own BlackBerry), each

driver's location can be seen at anytime. The system also retains a record of where your employees have been and how long they spent there. A push-to-talk feature can also be added, turning a set of 20 BlackBerry devices into a real-time wireless dispatch system. What sets AT&T's BlackBerry apart is that for a relatively low cost, one can equip a small or large business with both dispatching and tracking features as well as all the features you get on a BlackBerry, including phone service, email and a GPS to look up directions.

Viacom Inc. has picked **Yahoo Inc.** as its online advertising partner in a multiyear deal that could help Yahoo become a more formidable challenger to **Google Inc.**, Viacom's foe in a legal squabble over video copyrights. Financial terms of the alliance were not disclosed. New York-based Viacom probably will get 70 percent to 80 percent of the revenue generated from the Yahoo ads, based on the prevailing commissions in the Internet industry.

Joe Nacchio, a former **AT&T** executive tapped to transform **Qwest Communications** into a major telecommunications competitor, was convicted of 19 of 42 insider-trading charges after one-time top executives described his relentless drive to meet revenue projections without revealing financial risks. A **U.S. District Court** jury deliberated six days before concluding that the former Qwest chief executive illegally sold stock when he knew the company faced financial challenges and relied heavily on one-time sales to meet revenue targets. **Judge Edward Nottingham** set a July 27 sentencing date for Nacchio, who is free on \$2 million bail.

IBM has found a way to connect chips inside products ranging from cell phones to supercomputers, an advance that promises to prolong battery life in wireless devices and eventually speed data transfers between the processor and memory chips in computers. The manufacturing technique outlined by IBM Corp. eliminates the long metal wires that are currently used to transfer information and electrical charge between chips. In IBM's solution, two chips are sandwiched on top of one another—the distance between them measured in microns, or millionths of a meter—and held together by vertical connections that are etched in silicon holes that are filled with metal. IBM said its

three-dimensional approach creates the possibility of up to 100 times more pathways for information, and shortens by 1,000 times the distance that information on a chip needs to travel.

There is about to be a land rush in telecommunications as the **U.S. government auctions** the only remaining airwaves suitable for nationwide, high-speed wireless Web access. Big telephone and cable companies are jostling alongside Internet and technology entrepreneurs to control the spectrum, estimated to be worth as much as \$30 billion. The **FCC** is hoping to schedule the auction this fall. The auction winners will determine whether American homes, businesses, and classrooms have access to a third “pipe” for high-speed Internet, not to mention better reception and innovative services for mobile phones and other devices. The spectrum up for grabs currently is used by television broadcasters, which are scheduled to switch to digital transmissions at different frequencies in February 2009, freeing the airwaves for new uses.

Apple Inc., maker of the iPod music and video player, may need to become an even bigger booster of digital film and television shows to win broad market adoption of the TV set-top box. The **\$299 Apple TV** sends movies and TV shows over a wireless connection from computers to widescreen sets. The latest electronics product from Apple is anticipated to be highly competitive in the growing crop of offerings that deliver Internet-based videos to the television.

AT&T Inc. plans to offer its **U-verse Internet television** service through personal computers and wireless phones, adding more features to compete with cable providers such as **Comcast Corp.** U-verse subscribers can get 28 channels through a licensing agreement with **MobiTV Inc.** on their PCs, and the service will be available on handsets later. The company will sell the PC service under the AT&T brand starting at \$10 a month.

In Big Media’s latest attempt to combat **Google Inc.’s** YouTube, **NBC Universal** and **News Corp.** are banding together with **AOL**, **MSN** and **Yahoo Inc.** to form an ad-supported online video network for full-length TV shows, video clips and movies. The new venture, which has yet to be named, is expected to launch this summer and would allow people to watch any shows online for free. As YouTube does, the site would also allow

users to upload their own videos and share the site’s videos elsewhere. The network would be open to distributing programs from other media companies.

Dell Inc., one of the world’s largest PC makers, said that an internal audit committee has found a number of accounting errors and evidence of misconduct in its months-long review of previous earnings statements. Dell also said it would miss an April 18 deadline to file its annual 10K financial report to the **SEC** until the internal review is completed. The company added in the statement that it was working with management and the company’s independent auditors to determine whether the errors would require the restatement of previous earnings reports.

AT&T Inc.’s Cingular Wireless plans to introduce **mobile banking** capabilities with four prominent banks, the biggest such initiative in the U.S. but still shy of the industry’s long-discussed goal of turning cell phones into credit cards. The deals with **Wachovia Corp.**, **Regions Financial Corp.**, **SunTrust Banks Inc.** and **Bancorp South Inc.** will enable AT&T customers who bank with those companies to use their cell phones to check account balances, transfer money between accounts and pay bills. AT&T will not charge customers for the service beyond its data usage fees. To use the new service on an existing AT&T mobile phone, customers will need to download a program. AT&T plans to begin embedding software on new handsets starting in the second half of 2007.

You’ll have to provide a password if you want to get your account information from your telephone company under new privacy rules approved by the **FCC**. The rules were created to safeguard against **pretexting**, the practice of impersonating a phone customer to gain access to his phone records. The rules also require carriers to ask for customers’ permission when sharing private account information with business partners and independent contractors. The move is a blow to the commonplace industry practice of cutting costs by hiring other companies to run targeted marketing campaigns or perform other customer-service functions. The FCC order needs to be approved by the **White House Office of Management and Budget**, which could take six months or more.

A coalition of big technology companies wants to bring **high-speed Internet access** to consumers in a new way: **over television airwaves**. Key to the project is whether a device scheduled to be delivered to federal labs lives up to its promise. The coalition, which includes Microsoft and Google, wants regulators to allow idle TV channels, known as white space, to be used to beam the Internet into homes and offices. But the FCC first must be convinced that such traffic would not bleed outside its designated channels and interfere with existing broadcasts. The six partners—**Microsoft**, **Google**, **Dell**, **Hewlett-Packard**, **Intel**, and **Philips**—say they can meet that challenge. They plan to give **FCC** officials a prototype device, built by Microsoft that will undergo months of testing. If the device passes muster, the coalition says, it could have versions in stores by early 2009.

The recent buzz about **security threats posed by iPod** has reinforced the need for IT managers to treat these devices like any other removable media that employees with malicious intent can use to extract sensitive data. iPods pose a particularly high risk to corporations that let employees wander into work with these devices strung to their ears. The same devices that entertain workers during their commute (and of which 100 million have been sold) can be used to copy personal or financial data, intellectual property, and other sensitive information from Corporate PCs, often without a trace. The idea of stealing corporate data with an iPod has gained so much attention lately that it’s even been given its own term called **“slurping.”** Apple officials did not respond to inquiries asking if the company plans to add security features to iPods. Endpoint security technology, available from **Next-Sentry** and other monitoring content ware and data-loss-prevention companies, solves the problem by blocking information that’s been deemed sensitive from being copied onto removable media, e-mailed or printed. This way, employees can use their iPods in an office setting—particularly important as corporations begin to look at the video devices as not just entertainment but potential training tools – but won’t be able to copy data onto their iPod unless they’re authorized to do so.

In a recent survey of 83 corporate IT managers, 28 acknowledged having had to cope with a data breach, and half of those

respondents reported significant related costs. In its report, market watcher **Forrester Research** concluded that the costs of a data breach vary widely, from about \$90 to \$305 per customer record. **Darwin Professional Underwriters** released a free online calculator that lets businesses estimate their financial risk from data theft in three major categories: internal investigation expenses, customer notification/crisis management costs, and regulatory and other compliance expenses.

The **U.S. military** plans to test an **Internet router in space**, in a project that also could benefit civilian broadband satellite communications. **Cisco** and **Intelsat General** are among the companies selected by the **Department of Defense** for the project, which aims to deliver military communications through a satellite-based router. Potential non-military benefits include the ability to route IP traffic between satellites in space in much the same way packets are moved on the ground, reducing delays, saving on capacity and offering greater networking flexibility. Although satellites have been relaying IP traffic passively since the 1970s, the use of an orbiting satellite as an active part of the Internet is a more recent development.

The **WEP Wi-Fi security protocol** should not be relied on to protect sensitive material, according to three German security researchers who have discovered a faster way to crack it. Now it takes just 3 seconds to extract a 104-bit WEP key from intercepted data using a 1.7GHz Pentium M processor. The attack requires so much less computing power than previous attacks that it even could be performed in real time by someone walking through an office.

AT&T, **Verizon Business**, and **Qwest** have hit the jackpot, winning a 10-year, \$20 billion telecommunications contract with the federal government that is the largest of its kind in the world. **Sprint Nextel** wasn't so lucky. The carrier, which has held two previous such contracts, FTS 2001 and FTS 2000, served the federal government as a telecom provider for 18 years but lost out on the **Network Universal** contract.

Cisco has agreed to buy **SpansLogic**, a privately held designer of network-processing chips, for an undisclosed sum. It plans to embed chips developed by SpansLogic into its switch platforms to keep up with demands for ever-faster

Ethernet networking equipment. Using SpansLogic's network processors will allow it to improve network efficiency and throughput.

Google is coming to your television set. The Web search giant is hiring a team of software engineers to develop products for television and is building a sales team that will secure advertising for Google's TV offerings. The company's intentions are made clear in a series of job advertisements posted on its career Web site. **Greg Ireland**, an **IDC** analyst who covers consumer video technology, believes Google's foray into television will focus primarily on finding new ways to deliver personalized advertising, rather than on producing content.

The **U.S. FCC** decided it will study the business practices of high-speed ISPs and consider adopting regulations so all Web traffic is treated equally. The FCC voted to launch a notice of inquiry to examine whether broadband providers charge different prices for different speeds; whether FCC policies should distinguish between content providers that charge users for access and those that do not; and how consumers are affected by the ways broadband providers manage their networks. The decision to launch an official inquiry follows criticism **FCC Chairman Kevin Martin** received from Democrats who said the agency has not taken a strong enough stand for **net neutrality**.

Verizon Business detailed a number of network technology projects in the works, including plans to offer flow-through service provisioning on 25 percent of orders by year-end. Flow-through provisioning lets customers turn up new circuits or increase bandwidth in real time vs. waiting two to three weeks. On the hardware side, the carrier is waiting for a router or two that can consolidate its five separate IP networks into the same box with virtual segmentation and 100 percent availability. On the services front, pseudo wire services—which emulate frame, ATM and private lines over Ethernet—are on target for midyear, as are plans to unveil a product that enables a cell phone to become an extension of the enterprise PBX to provide users with one common number and voice mail box.

Web 2.0 companies worldwide were showered with \$844 million in venture capital funding in 2006, more than twice as much as the previous year, according to

research by **Ernst & Young** and **Dow Jones VentureOne**. The finding shows an acceleration of a trend in which venture capital invested in Web 2.0 has practically doubled every year since 2002, with most growth in the United States and Europe.

As data centers become hotter and denser with servers, a greater chance for fire exists. But there is equipment on the market that applies a well-known method of halting fire: starving it of oxygen. Only a few vendors are offering oxygen-deprivation systems, but interest in the technology is growing. It involves pumping air that has such low oxygen content that a fire can't start. **Wagner Alarm and Security Systems** in Hanover, Germany makes electric compressors that use a special membrane to remove some of the oxygen from the outside air, a system the company calls **OxyReduct**. The excess oxygen is exhausted, and the remaining nitrogen-rich air is pumped inside the data center. At 15 percent oxygen, it is safe for humans to enter. The lower oxygen content of the air is similar to being at an altitude of about 6,000 feet.

The **National Institute of Standards and Technology (NIST)**, the agency that sets IT standards, is circulating a draft report that sounds the alarm over the absence of **IPv6-based commercial security products** in the market, including firewalls, intrusion-detection/prevention systems (IDS/IPS) and other kinds of gear. The IPv6 protocol is more than a decade old, and while applauded for benefits such as easier administration, tighter security and an enhanced addressing scheme over IPv4, experts say what is lacking is the constellation of security gear that protects IPv4 networks.

Windows Vista may prove to be an unstoppable juggernaut, but statistics released by a market research firm show that the operating system has not yet licked its 9-year-old ancestor, Windows 98. Vista, which officially launched Jan. 30, was used on 0.93 percent of PCs tracked in February by **Net Applications**, making it the sixth most-popular operating system. Windows XP continued to lead (84.3 percent), followed by Windows 2000 (4.8 percent), Mac OS X on PowerPC machines (4.3 percent) and newer Intel-based PCs running OS X (2.1 percent). Windows 98 is still used on 1.5 percent of computers.

Temperatures exceeding 100 degrees Fahrenheit may not be damaging to disk drives, according to new research

by **Google** engineers that casts doubt on previous findings linking heat to elevated failure rates. After studying five years worth of monitoring statistics from Google's massive data centers, researchers say they could find no consistent pattern linking failure rates to high temperatures or high-utilization levels.

Video game players soon might use their thoughts instead of joysticks to control on-screen characters, if they wear a helmet released by **Emotiv Systems**. The "**Project Epoc**" headset looks like a bicycle racer's helmet, but instead of protecting the skull, it detects the brainwaves inside it, using technology similar to electroencephalography, found in medical settings.

The world is running out of storage space for the data it has to hold, according to a new report from **IDC**. The amount of data that is created globally is set to increase to 988 exabytes (that's 988 billion gigabytes) by 2010, while the capacity of storage systems is predicted to be just 600 exabytes, according to the report.

Enterprises and service providers are opening their wallets for networks, and they'll keep them open until at least 2010, according to **Infonetics Research**. Sales of telecom and data-network gear rose 9 percent in 2006 from the previous year. The year's total spending was more than \$123 billion worldwide, and it is expected to rise another 20 percent to reach \$148 billion in 2010. Carriers and corporations are investing because they want to add voice and multimedia-applications traffic to data networks. Enterprises also are starting to add advanced capabilities for security and traffic management.

Microsoft released the first public beta of **Longhorn Server** and said the software is on track to ship by year-end. Longhorn Beta 3 is feature complete, and will be the last beta before the software enters its final round of testing.

Venture capitalists invested \$7.1 billion in 778 deals in the first quarter for 2007, marking the highest quarterly dollar amount invested in start-ups since the fourth quarter of 2001. While companies in the life-sciences and medical-device industries experienced an unusually large amount of funding, IT start-ups also garnered a significant chunk of the \$7.1

billion, according to the **MoneyTree Report by PricewaterhouseCoopers** and the **National Venture Capital Association** based on data by **Thomson Financial**.

It's no secret that **Sprint Nextel** has been struggling since its \$36 billion merger well over a year ago. The carrier's floundering might make it a takeover target, says **Victor Schnee**, partner at **Probe Financial Associates**. The carrier needs to improve its operational performance by working on high customer churn rates, grow its subscriber base and build its average revenue per user, he says. Sprint's management team also needs to be strengthened.

Vonage has acknowledged it has no workaround for technology that was found to infringe on Verizon patents and does not know if one is feasible. Vonage has said it was developing workarounds, or other ways of accomplishing the same tasks, to steer clear of the technology that it has been found to be infringing on. The company is still working on those techniques, a spokeswoman says.

Clearwire's \$600 million initial public offering is either a ringing endorsement of **WiMAX** or another overblown service provider IPO. Launched in 2003 by cellular legend **Craig McCaw**, the company is betting big on WiMAX technology to deliver wireless Internet services in competition with DSL, cable, and emerging cellular options. The company spent \$300 million to acquire the bulk of its 2.5GHz WiMAX radio frequency spectrum from **AT&T**, making it the second largest holder of that spectrum behind Sprint Nextel. That spectrum is enough to reach more than 200 million people, although the company has only built networks in 34 markets. Many observers question the viability of the venture, with some comparing it on paper with the network IPOs at the beginning of the decade, many of which went belly up (ouch!).

More than 90 percent of large businesses rely on phone trees to field calls. This is supposed to save money. Every time you get a live rep on the phone, it costs roughly \$5.00. An automated call costs \$.50. Unfortunately, consumers hate these systems, and most will do anything to bypass the phone tree and get a live rep.

According to a survey of companies that use phone trees, more than 85 percent of callers manage to hunt down a live operator. Millions visit sites like **Get-Human.com**, which lists the secret codes for accessing an agent. The new favorite weapon is **NoPhoneTrees.com**, a site that navigates the phone tree for you and rings you when it gets someone on the line.

AT&T will spend more than \$750 million in 2007 to expand its global communications network for corporate customers, an 89 percent rise from last year.

McLeodUSA Incorporated announced that it has filed a registration statement on Form S-1 with the **U.S. SEC** relating to the proposed initial public offering of its common stock. The offering includes shares to be sold by McLeodUSA as well as certain of its stockholders. The number of shares to be offered and the price range for the offering have not yet been determined. McLeodUSA provides managed IP-based communications services to small- and medium-sized enterprises, and traditional circuit-switched telephony services to commercial and residential customers in the Midwest, Rocky Mountains, Southwest and Northwest regions of the nation.

Have you ever been "**smished**"? It's a form of phishing in which the bad guys send a text message to your cell phone. It might prompt you to go to a Web site to "unsubscribe" from a service in order to avoid charges. When you go to the site, your PC is infected. People fall for it because they do not have the same level of suspicion about text messages as they do about spam or instant messages on a PC. But they are worried about being "slammed" for cell phone charges. If you get a smishing style message, ignore it. The scam works because people visit the Web page without thinking twice about it.

Rogers Communication said it has become the first wireless carrier in North America to offer **video calling to cell phone subscribers**. The company, which is Canada's biggest wireless provider, with more than 6.8 million customers, will essentially let subscribers use their cell phones much like Web cameras to complete video calls. It will also offer access to various video and music services on its cell phones, including the top 50 video clips on YouTube every week. The services are being delivered on Rogers' new HSDPA (High Speed Downlink Packet Access) network. Networks such as this allow for much faster wireless download speeds, comparable to broadband high-speed wireline service. This, in turn, lets companies such as Rogers offer access to various multimedia services. As revenue generated from voice calling slows down, phone companies are looking to bring text messaging, videos, games, music, and other data services to drive profits.

Nortel forecast a 4 percent rise in 2007 first-quarter revenue and confirmed its full-year revenue forecast. The company forecast first-quarter revenue of about \$2.48 billion, above the consensus analysts' estimate of \$2.4 billion, according to **Reuters Estimates**. It forecast full-year revenue to be flat to down slightly compared with 2006. Analysts are expecting revenue of about \$11.33 billion, on average.

RIM plans to make the software behind its **BlackBerry** wireless email devices available to devices running on the rival **Windows Mobile** platform.

Google's market share inched up to 64 percent of all queries among U.S. Internet searchers in March. **Yahoo** queries slipped to about 21.3 percent. By the way, Google is now the world's top-ranked brand according to a study, followed by **GE, Microsoft, Coca-Cola, and Wal-Mart**.

The Telework Enhancement Act of 2007, S. 1000, introduced by **Sen. Ted Stevens, R-Ala., and Sen. Mary**

The **ATP NEWSLETTER** is published as a service to the members of

**The Association of
Telecommunications
Professionals, Inc.**

Information to be included in the
NEWSLETTER

should be submitted to:
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Professionals, Inc.*

Landrieu, D-La., if passed, would make a number of changes in federal telework law, including a requirement that all federal employees be eligible to telework unless shown otherwise by their employer. Today, the law says the opposite; that is, that all employees are ineligible unless the federal agency where they work shows that telework is a viable option.

The new technology chief at **Ohio University** is promising to continue to improve computer security. **Brice Bible** is taking over next month as OU's chief information officer. The position opened last year after the university discovered that electronic break-ins had exposed 173-thousand files containing Social Security numbers, names, medical records, and home addresses. Bible says the university is committed to making sure hackers don't succeed again.

The days when airplanes offer a hiatus from being connected to the office are numbered. After years of discussion and delay, **U.S. airlines** will start offering **in-flight Internet connections, instant messaging, and wireless email** within 12 months, turning the cabin into a WiFi "hotspot." Carriers are expected to start making announcements around the end of the summer, with service beginning early

next year. Like it or not, airborne cell phone chatter still has a flying chance in U.S. airplane cabins, as well, despite a recent indication that the **FCC** will keep a ban in place.

When an emergency strikes and the 911 cell phone calls arrive, some dispatchers in Ohio aren't able to pinpoint the call, a problem several Ohio counties are trying to fix. The **FCC** has established a program requiring wireless telephone carriers to provide **enhanced 911 pinpoint technology**. Sixty-six of the 88 Ohio counties have or are on the way to have full pinpoint access to a caller who dials 911 on their cell phone. The other counties are working towards it. According to the **PUCO**, the technology is in place for each county. Most counties have to upgrade internal systems, which are outdated, and acquire the mapping coordinates. The PUCO said that 45 counties should be ready with the pinpoint technology by July. Those counties include **Franklin and Fairfield counties**.

And on the **Gee Whiz** front, electricity broadcast through the air? A company called **Powercast** is making it happen, using nothing fancier than a radio. A transmitter plugs into the wall, and a dime-size receiver, embedded into any low-voltage device, turns low-power radio waves into DC electricity, recharging the device's battery at up to 3 feet. Picture your cell phone charging up the second you sit down at your desk. Could it work for larger devices like laptops? Not yet, because of the higher wattage. But potential for low-voltage devices like MP3 players, keyboards, temperature sensors, hearing aids, medical implants and more is huge.

More next issue!

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