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innovation meets collaboration

Market pressures are forcing companies around the world to expand collaboration with third parties. To operate successfully across borders, firms must cast a wide net for skills, labor and innovative ideas. IP technology underpins each move.

Written in cooperation with the Economist Intelligence Unit

Today, many firms are looking externally to tap expertise for faster innovation and greater specialization. "The prevalence of geographically distributed teams allows companies to assemble the right people with the right levels of expertise in and out of their own organization," says Thomas Malone, Professor at MIT Sloan School of Management.

As the pace of globalization accelerates and companies focus their attention beyond their usual field of operation, collaboration technology is opening up new ways to gain access to valuable knowledge from both conventional business partners and a far wider community. "In the areas where we do business, there are millions of scientists, engineers and other companies globally," says Proctor & Gamble's Chief Technology Officer, Gil Cloyd. "Why not collaborate with them?"

Some believe that the move toward this extensive kind of collaboration, enabled by Internet Protocol (IP), comes not a moment too soon. Today, the cost of a single support call for a newly purchased product can wipe out the supplier's profit margin. New, less expensive ways of operating are being sought out to make use of knowledge from new sources. With a worsening economic outlook in many markets, companies are looking to technology-enabled collaboration to maintain their competitive positioning.

new drivers of collaboration

Another trend driving the growth of collaboration is social networking. A generation of graduates is emerging that is used to staying in touch online via MySpace or Facebook. "People's social neighborhoods are no longer their geographical neighborhoods," states Malone. "The new generation is developing an intuitive understanding of collaboration. This bodes well for collaboration in the workplace," says Dan Elron, Managing Partner with consulting firm Accenture.

Enhanced IP communications and applications are an important enabler of collaboration. For example, enterprises can use presence awareness to solve the challenges of complex communications and take advantage of improved responsiveness. For global recruitment firm Harvey Nash, IP serves as the basis for a number of collaboration initiatives, ranging from meeting places in the Second Life virtual world to wikis used in high-level headhunting projects, according to CIO Alastair Behenna. Web 2.0, as well as "unified communications," the convergence of communications applications and devices on a single platform, promises to make employees' use of collaboration technology more straightforward.

how open?

However, getting collaborative technologies to work across the company is no easy matter — let alone adapting social networking to business ends. Companies are wrestling with the drive for more applications sharing with partners and the wider community, while still preserving the security of their information and their intellectual property. The Hong Kong Airport Authority maintains that the confidentiality and

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customers: the new tech support

Companies are recognizing that there is a large community with expertise in their products: their customers. How can companies collaborate with them to share their knowledge and use it to fix problems?

Written in cooperation with the Economist Intelligence Unit

As products become more complex, customer support gets more and more complicated to manage. Mobile phone makers provide a good example: they now have to deal with support calls that are no longer just about phones, but also about cameras, radios and music players. Manufacturers now receive an average of three to five calls per new phone, while margins get ever tighter.

Firms are recognizing that active customers represent a resource to be tapped and are learning how to collaborate with their customers to solve problems; or rather, get their customers to collaborate with each other to sort out difficulties. According to John Ragsdale, Vice President of Research at the Service and Support Professionals Association (SSPA), "Historically, technical support agents have been quite solitary people. Now it is getting impossible for a single support person to have all the answers." He adds that 30 percent of support calls are about other suppliers' technology. Forward-looking companies recognize that outsiders can give input that even surpasses what its own employees can provide.

customer community support

An executive of one business software producer relates that his firm has started to supply customers with a self-diagnosing support tool. This will be extended to feed into a Web forum where customers can collaborate with each other in real-time, along with systems integrators, resellers or anyone with a vested interest in solving problems relating to the software.

IP networks are helping to remove the restrictions, and other inventive ideas are starting to be applied to lift the burden from the internal support function. Businesses are adapting support ideas that have worked elsewhere with consumers on the Web. For instance, firms are borrowing an eBay-type confidence ranking to highlight how well particular customers solve other customers' problems. Customers who need support advice rate these volunteers according to how effective their fixes have been — just as eBay sellers and buyers are rated according to their reliability.

Ragsdale calls this the "customer reputation model." The named volunteers accumulate points and begin to build kudos, which helps their career prospects in the industry. Once support communities are established, other IP-enabled tools, such as wikis, can be deployed, bypassing the need for weighty knowledge bases and allowing current best-practice libraries to appear.

However, what happens if a well-intended posting on a supplier's portal turns out to cause damage? Ragsdale says that supplier disclaimers can be used to minimize any liability. Also, what is there to stop a disgruntled customer (or a competitor posing as one) from spreading malicious information about the company? One safeguard is that the participants are not anonymous, and this minimizes troublemakers.

Ragsdale believes that if suppliers are slow to accommodate customer support forums themselves, they will find that customers will create their own support communities. "Then the supplier will have no influence," he warns. A change in mindset is required.

Novell's high-performing customers

Novell has Web-based customer support forums that allow customers to collaborate to solve problems. It has appointed more than 30 high-performing individuals from its customer base to handle different product areas. Each quarter, Novell's extended peer support group deals with more than 45,000 user issues.

Some 18,000 contributors have registered to deal with a range of issues. The focus is on the more than 30 key contributors who have individual Web pages that include links to their business sites. Novell feels that as users of the products, these outside contributors face situations that are impossible for support professionals to cover. The fact that the named participants are doing it for recognition, rather than as part of their job, demonstrates that they are highly motivated.

Ironically, according to Novell, customer loyalty tends to increase as these communities grow. Social relationships develop around the company, and troubles are removed from the products. One Novell open forum claims to be one of the biggest news groups on the Internet.

voice of the customer program

According to a recent report by the SSPA, "Most customers would likely say that their input was not a driving force behind product releases." To help change this, the SSPA recommends the following:

Source: *SSPA Accelerator*, November 2007

1. **Educate customers on use of their input.**
2. **Make your organization an "active listener."**
3. **Coach agents on relationship skills as well as technical skills.**

today's virtual power tools

Communication tools for global teams have advanced enormously in recent years. Getting these tools to deliver smoother, more effective collaboration is critical, says David Danto, Director of Emerging Technologies at the Interactive Multimedia and Collaborative Communications Alliance, an industry association for conferencing and collaboration.

Written in cooperation with the Economist Intelligence Unit

Collaboration technologies are continuing to enable the globalization of business, bringing colleagues and dispersed partners closer to one another. Key operational executives can now reside anywhere, even thousands of miles away from their headquarters. According to David Danto, "the fact that the expert is not in the country is not important now." With greatly improved image quality, the exchange over video has become more personal. "The quality of communications and relationships improves," he says.

The ability of today's devices to provide clear, life-size images with nuances of facial expression, as well as spatial audio, brings with it more than just social niceties. IP-based video collaboration is improving productivity. On a Wall Street trading floor, desk traders, signaling and shouting commands, are now able to relay the same visual cues to colleagues in London in a split second. "The trading floor has extended across geographies," says Danto. Some traders have reported significantly increased revenues, especially when dealing with highly volatile markets. "There's been a measurable improvement."

Likewise, if a company in the western hemisphere is opening an office in Asia-Pacific, the individual in charge of construction need not travel there to attend two days of meetings. The tender process can be carried out remotely, backed by thorough on-site visual support and discussion of presentation materials.

virtually present

With video collaboration, infrastructure has now caught up with the potential of the technology. "Everything is connecting via IP," Danto says. A technology known as "telepresence" uses large high-definition images to make teams, which may be several thousand miles apart, appear to be facing each other in the same room.

In addition to being more lifelike and easier to use, newer types of videoconferencing are more reliable than the older technology. When properly tuned, there is now no noticeable delay. Danto favors the ease of use: "The beauty of telepresence is that you can walk in the room and set up the meeting right away. No training or prior knowledge is needed."

Danto believes that use of the new wave of conferencing technology has been hampered in part by hyped expectations in the industry. Some firms have purchased expensive equipment that is incompatible with what they already have, perpetuating the myth that all legacy equipment is "bad." Also, telepresence works well if connecting two rooms of five or ten people, but as additional rooms are added, the "multipoint" options may use a switching system that is jarring, or one resulting in smaller pictures that cannot truly be called telepresence. These systems perform well only in very specific applications with specific parameters.

See Cisco and AT&T discuss telepresence.
Learn more online at att.com/networkingviews

the payoff

Whether implementing conferencing tools or mobile devices for team members on the move, Danto has found over the years that "you cannot increase the use of collaboration tools by mandating them." Moreover, "it is wise to plan for everything in the firm to work with everything else — the first time and every time." Devices have to be compatible across the global enterprise. Web conferencing is even harder, he adds, as there is no common, ubiquitous collaboration tool.

Before approving the substantial, continuing investments required for advanced collaboration systems, senior management needs to feel that initial investments have been worth it. However, Danto believes that there is no easy way to show that a company is working better and smarter through the use of collaboration tools. He is convinced, though, that within the financial services industry, where he worked at a number of investment banks, the firms that are communicating and collaborating better are those that are succeeding.

five steps for evaluating next-generation videoconferencing

The new generation of videoconferencing systems, or telepresence, has distinct advantages. "Look before you leap," counsels David Danto, Director of Emerging Technologies with the Interactive Multimedia and Collaborative Communications Alliance. He offers the following pointers to companies considering an investment:

1. **Consider the use of systems if you have at least two locations with relatively non-mobile personnel who frequently need to communicate on a one-to-one basis.**
2. **Do not purchase systems only because your current legacy videoconferencing systems are underutilized or unreliable. Get expert help to fix these first.**
3. **Determine if you want to use an outside operator or "concierge" services, and select your system accordingly.**
4. **Do not purchase any manufacturer's system that has features you currently need "on their road map." Such features may be a long time in coming.**
5. **If you intend to use the systems in large cities, where the cost of real estate is at a premium, look for those that allow their room to be used for other types of meetings.**

Extracted from *World Commerce Review*, January 2008 issue

DuPont masters the science of collaboration

DuPont is one of the world's largest, most dynamic and innovative science companies. More than 60,000 DuPont employees in 70 countries, working for 20 business units in five divisions, develop and produce items for every industry from nutrition to construction, apparel to electronics, transportation to safety and security. DuPont's brands are everyday industrial and household names: Teflon®, Kevlar®, Tyvek® and Pioneer® brand seeds.

Yet DuPont's very size and scope of operations bring their own challenges. Individual businesses making local decisions can cause inefficiencies and drive up costs. Through its One DuPont initiative, the company has moved to global decision-making organizations. These teams make decisions on behalf of the whole company — whether it is in designing new products, fine-tuning manufacturing processes or sealing a deal with a new customer. This is vital to DuPont's continued success, and communication is central to the process.

"The globalization of our organization requires us to communicate more effectively and efficiently," says Tom Marcin, Director of Global Telecommunications. Technology ensures that the right players can come together at the right time to make the most well-informed decisions. "It is critical for any business unit to be able to communicate directly with any other, regardless of location," states Marcin. Any-to-any connectivity, backed by DuPont's global MPLS-based IP network, "is paramount to us achieving our IT strategy."

"Today, telecommunications plays a more significant role than it ever has in the past," Marcin points out. "Our employees need to communicate with customers and suppliers all over the world for intelligent, rapid decision making. Our customers demand it, and we demand it of our providers."

The major collaboration tools in use at DuPont are email, audio conferencing and Web conferencing. "It is ingrained in our culture to share, mark up and highlight documents or presentations during an audio conference," Marcin says. "We are also looking at Web-enabled program and project management tools that are more collaborative than the traditional tools that sit on one individual's desktop." Blogging and idea-capturing portals are being piloted.

moving toward unified communications

"We need to enable our people to be successful by giving them the right devices and tools," Marcin says. Increasingly, those tools are moving DuPont toward a world of unified communications. For DuPont, "unified communications" means connecting people, information and machines in a secure, timely manner. According to Marcin, at the core, it's about integrating mobile telephony with wireline telephony or IP telephony. "It's integration of any type of voice device that you may have with your traditional data communication applications, like email and instant messaging."

Marcin sees instant messaging as important to any technology solution that enables rapid decision making, and "the messaging side of mobility will become more important to the enterprise in the future." Marcin points to the popularity among consumers of technologies like instant messaging, short message service and Web logs, and believes the "consumerization," or as he calls it, the "prosumerization" of IT is something that organizations need to be very cognizant of. Marcin believes that companies will need to respond to the workplace needs of employees who are accustomed to using a variety of these communication tools in their personal lives. The availability of such tools also helps companies like DuPont attract younger, more technically savvy employees.

DuPont is moving to an environment with one standardized source of company data that is accessible, secure and available for authorized users to make accurate decisions. Looking to the future, Marcin anticipates an expansion of "presence-based" unified communications capabilities, where the systems themselves could identify triggers and set off a collaboration event. "It's not person-initiated or user-initiated," Marcin says. "The system identifies a significant event, knows who the key stakeholders are, and pulls these people together, regardless of their location, what platform they are on, and what communication tools they have available to them."

a clear line of responsibility

As he works to bring such innovations into the mix, Marcin evaluates each for its new functionality, the additional value and cost-savings potential. A business case is developed and justified by hard dollar savings, as well as soft benefits. Recent projects have saved millions of dollars a year, but once realized, are not available to fund new initiatives. "Each project must stand on its own from a hard savings perspective," Marcin states.

Rather than buying services from the best-in-class supplier in every region and integrating the collection themselves, DuPont saves both time and money by joining One DuPont with one global networking provider: AT&T. Working with an organization that delivers end-to-end solutions across many different platforms increases the security of the system and makes it much easier to maintain. "The benefits of going with a single global IP provider outweigh the perceived potential cost advantages of going with independent regional providers and trying to integrate them," Marcin says.

Today a new kind of technology — the science of collaboration — is helping prepare DuPont for its third century of innovation. DuPont encourages its providers to create new enterprise services and bring them to market more quickly. "We continue to push for leading-edge technology solutions," adds Marcin. This proactive approach fits perfectly with DuPont's drive to innovate.

the fundamentals for unified communications

Tom Marcin, DuPont's Director of Global Telecommunications, offers these recommendations for businesses evaluating UC:

1) **Understand your spending on mobile voice and data telecommunications services worldwide. Optimize coverage with as few providers as possible and simplify.**

2) **Implement a global IP-based wide area network to interconnect all of your locations and provide the platform for integration of your wireline and wireless voice and data services.**

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integrity of its IT environment are the primary considerations in the implementation of any collaboration tool, "as any compromise in security will have significant impact on business."

While sound data protection and security must be the technology foundation for collaborative efforts, some believe that firms may be clamping down too hard and blocking progress. "Companies should think more about the benefits of sharing more widely," says Malone. "Better results come from giving more power to partners." He cites the successful example of the Canada-based mining company Goldcorp, which went so far as to post all available geological data for its Red Lake mine in Ontario on its corporate website. Participants from around the world were encouraged to submit proposals identifying potential targets where the next six million ounces of gold would be found.

"We've got to think more liberally," says Behenna, of Harvey Nash. "We're used to locking things down." Ironically, not sharing enough may in itself pose the biggest risk to companies. Accenture's Elron believes the instincts of the open, sharing Facebook generation are bound to conflict with those of the old guard: "The attitude of sharing information openly will clash with the fear of security and intellectual property from the older generation," he says. "In the long term, the new generation will win."

"There must be the right balance of technology aids and cultural enablement."

Thomas Malone, Professor at MIT Sloan School of Management

managing people to connect properly

Collaboration presents other managerial challenges. Employees will need to improve their time management skills to deal with increased interruptions, as they are asked more frequently to join instant collaborative sessions. They also must be able to prioritize which virtual meetings are worth attending, and which are not.

Managers need to provide guidance to help employees deal with such situations. They also need to determine how much face-to-face time is needed between team members, especially with the advent of advanced videoconferencing. On the other hand, "you can't automate the whole collaboration process," warns Elron. "There must be the right balance of technology aids and cultural enablement."

With greater use of collaboration tools, Malone points to a deep managerial change that is occurring. He believes that organizations are at the early stages of engendering "human freedom" in business. The workplace is shifting to allow staff more freedom to make decisions independently. "In many situations, better business results come from letting more people make decisions for themselves, rather than having them follow orders from a hierarchy," he contends.

sourcing bright ideas globally

IP-enabled collaboration, coupled with well-conceived management and information-sharing policies, creates new opportunities for interacting with stakeholders. Perhaps the most attractive is the wider scope it provides for innovation, and the sourcing of new product and service ideas. For example, some companies are forming customer communities to develop products, extending beyond the limits of their own R&D or design teams.

With its pioneering Connect + Develop™ program, Proctor & Gamble seeks to collaboratively create new products and continuously improve existing brands. P&G encourages collaboration by asking on its website portal "Do you have a game-changing innovation that can help improve consumers' lives?"

Taking the theme further still, the global Web-based collaboration initiative Innocentive gives companies access to a community of 125,000 scientists to solve problems. Those who come up with the best solutions get rewarded: the top "solvers" are now earning an extra $100,000 per year from the "seeker" companies.

pulling the threads together

Many niche applications are emerging today to support dispersed international teams across a range of industries. One example is "V-Stitcher™" from the Israeli fashion design software company Browzwear. The 3D collaboration tool can simulate fabric-draping in real-time, and incorporates IP collaboration features to bring together designers, pattern makers, retailers, brands and manufacturers. The latest V-Stitcher comes complete with a 3D human figure, or "avatar," which can be used by the international teams to model designs.

With the range of technologies now available to support collaboration, it is little wonder that a recent report found that fragmented, "dis-unified" communications are currently costing even mid-sized enterprises millions of dollars in avoidable expenses and lost productivity. The average 1,000-employee enterprise can lose nearly $13 million a year solely as a result of being unable to communicate and collaborate with others in real-time, the survey found.[1]

With the arrival of Web 2.0 and its potential both to ease and expand collaboration-technology deployment, the gap between those that can effectively wield collaboration technologies, and those that can't, will widen.

[1] *Measuring the Pain: What Is Fragmented Communication Costing Your Enterprise?* Insignia Research / Siemens, October 2007

collaboration building blocks from Denmark

The Danish toy maker Lego is among the first to transform product development by collaborating with its global fans to gain fresh ideas and create new products. More than 9,600 people from 79 countries responded when Lego asked for volunteers to help develop its future "Mindstorms" robot kit. This filtered down to 100 enthusiasts, including 13 architects or engineers. They were given four months to experiment with the product and put forward practical ideas. Developers accessed a secure Web forum to collaborate with one another, get information and work out solutions. Søren Lund, Director of Lego's Mindstorms, believes that the project has worked well because the diverse "backgrounds, talents, interests and livelihoods" of the team of fans reflect the character of the robot kit aimed at "tinkerers, enthusiasts and roboticists of all ages."

the next **big** thing

Unified communications (UC) will define the next decade of the communications and IT industry. Mark Winther, Group Vice President and General Manager of Worldwide Telecommunications at IDC, discusses the current state of the market, and what's needed for widespread adoption.

Source: *Worldwide Unified Communications Ecosystem 2007-2011 Forecast: The Road Ahead for UC* by IDC, Doc # 208043

IDC predicts that the worldwide UC market, estimated at approximately $4.8 billion in 2007, will grow to nearly $17.5 billion by the year 2011, showing a compound annual growth rate of more than 38 percent. Multiple definitions for unified communications abound, leading to confusion among potential buyers and a lack of understanding about the value of vendor solutions.

what UC is

IDC defines unified communications as a software infrastructure platform that consolidates directory, routing and management of communications across a growing set of applications. These applications can include advanced IP telephony calling and management; Web, audio and videoconferencing; instant messaging; and pervasive presence management and awareness. All applications are accessible through any device and as functions available to business applications developers.

what UC can do

Unified communications represents an enhanced platform for providing call management capabilities to workers in today's mobile enterprise. Call forwarding, simultaneous ring, unified messaging, call controls/call blocking, abbreviated dialing, presence management, policy enforcement, and least-cost routing capabilities are just some of the wired features designed to enhance employee efficiency that can be rolled out to wireless handsets when a unified platform is adopted.

Enterprise voice capabilities are particularly powerful when delivered alongside or within the enterprise data applications (email, CRM, ERP, vertical applications) accessible from converged mobile devices. Adding voice components to this suite of mobile offerings is a valuable application to build on the growing needs of a mobile enterprise deployment.

Today's UC functionality is delivered from three primary sources:

- Integrated collaborative software environments
- Telecommunications services providers
- PBX equipment

A key challenge for businesses looking to adopt UC is the identification of the features most appropriate for their organization that deliver individual and enterprise efficiencies. Since there's no "one size fits all" solution, businesses can choose from a large assortment of features from the three sources. This may require some integration efforts to make the solution run on that customer's existing network infrastructure and within the boundaries of their service contracts.

what's to come with UC

IDC expects that the more savvy and leading-edge businesses will be more adventurous with their UC projects, either because they have recognized a strategic need, or because they experiment with vendor solutions as beta customers to offset the initial costs of deployment.

This highlights the following important issues:

- Though it's well beyond the "proof of concept" phase of technology and product development, UC's overall value proposition and business case in specific vertical markets remain to be fully established.
- Companies are assessing UC's value in the knowledge worker segment, where many of its collaborative aspects should be most readily applied.
- There is a slightly "experimental" quality to UC, due to factors such as its highly personalized nature, the need for certain cultural norms (such as privacy) to successfully predispose usage patterns, countervailing technologies and new market approaches.

The technology integration and possibilities of unified communications are indeed exciting. Many businesses who see the demonstrations of rich presence that go beyond just availability, and extend to availability on a particular set of communications applications, telepresence or an application that cuts the time needed to accomplish a task, will understand the ways UC solutions can improve business processes.

> "IDC expects that the more savvy and leading-edge businesses will be more adventurous with their UC projects."
>
> — Mark Winther, Group VP/GM, Worldwide Telecommunications, IDC

IDC believes that, over the next two years, early adopters will accrue enough incremental business cases to convince later adopters to make significant investments in unified communications.

say what?

unified communications

- UC is an evolving communications technology architecture which automates and **unifies all forms of human and device communications** in context, and with a common experience. Its purpose is to optimize business processes and enhance human communications by reducing latency, managing flows, and eliminating device and media dependencies.

  — *Wikipedia*

- UC **encompasses all forms of call and multimedia**/cross-media message-management functions controlled by an individual user for both business and social purposes. This includes any enterprise informational or transactional application process that emulates a human user and uses a single, content-independent personal messaging channel (mailbox) for contact access.

  — *International Engineering Consortium*

- Unified communications for AT&T means the ability to flexibly and **seamlessly communicate, collaborate and interact,** regardless of device, modality, network or location. This involves unifying technologies, such as presence, instant messaging, IP telephony, conferencing and business applications, and making them easily accessible from the desktop, from mobile devices or the Web. Integral to the value of UC is the ability for colleagues to collaborate more quickly internally, as well as externally, with customers, suppliers and partners.

  — *AT&T*

- IDC defines unified communications as a software infrastructure platform that **consolidates directory, routing and management of communications** across a growing set of applications. These applications can include advanced IP telephony calling and management; Web, audio and videoconferencing; instant messaging; and pervasive presence management and awareness.

  — *IDC*

- UC is the use of software, hardware and network technology, along with the appropriate training and procedures, to help **companies of all sizes manage business transactions** and projects, providing an integrated, consistent communications experience for users, resulting in optimized business processes and results.

  — *UCstrategies.com*

- Unified communications has the potential to dramatically **simplify and improve enterprise communications,** as well as improve business agility. By integrating various forms of communications, such as voice, video, instant messaging, conferencing, presence and voicemail, individuals can more effectively control and manage their inbound and outbound communications sessions. Enterprises further stand to benefit from communications-enabled business processes, whereby the integration of communications services with enterprise business applications and processes enables enterprises to leverage business intelligence and presence awareness to improve agility and responsiveness.

  — *Nemertes Research*

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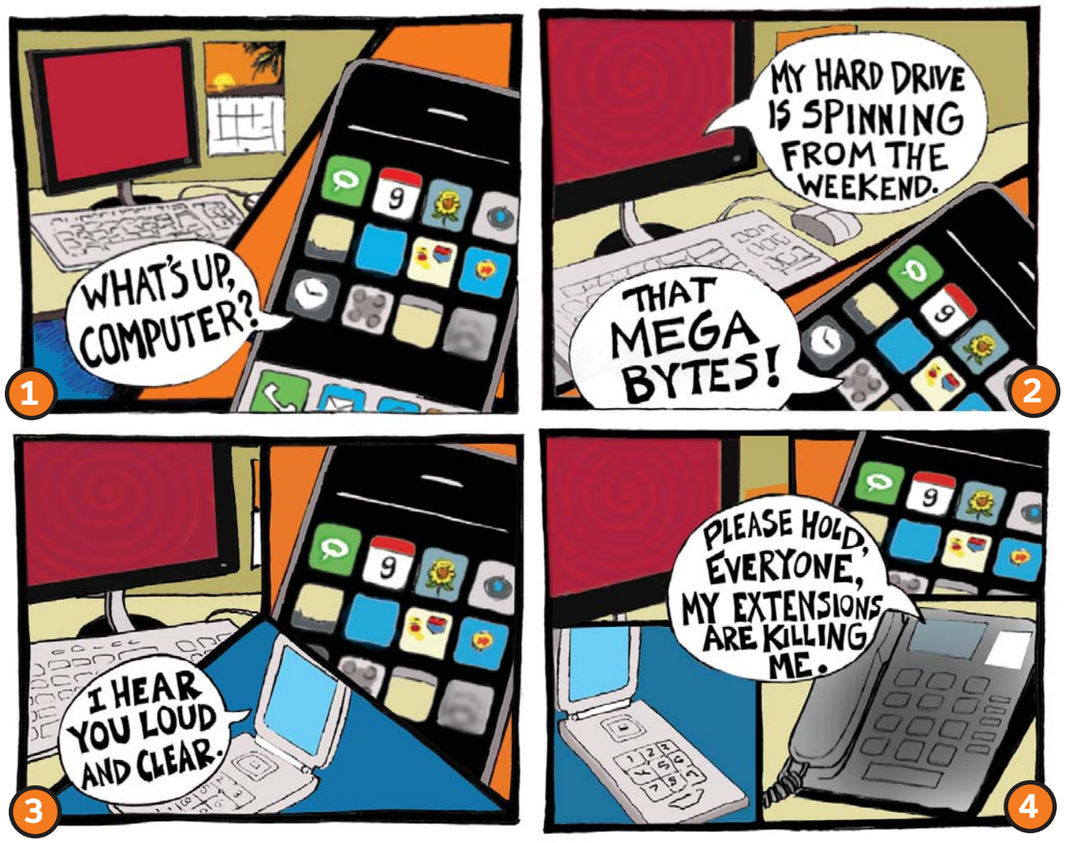

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