



IP Telephony

Contact Centers

Mobility

Services

EXECUTIVE
SUMMARY

The New Era of Intelligent Communications

Delivering an Exceptional Customer Experience with a Mobile, Distributed Workforce

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I. Intelligent Communications: Moving Beyond the “Utility” Paradigm

“CEOs and CIOs are raising the bar — we’re looking for technology organizations not just to provide efficiency but to provide effectiveness ... looking for the CIO to be a visionary, to bring the organization new ideas. Voice technology is going to play richly in that applications space.”

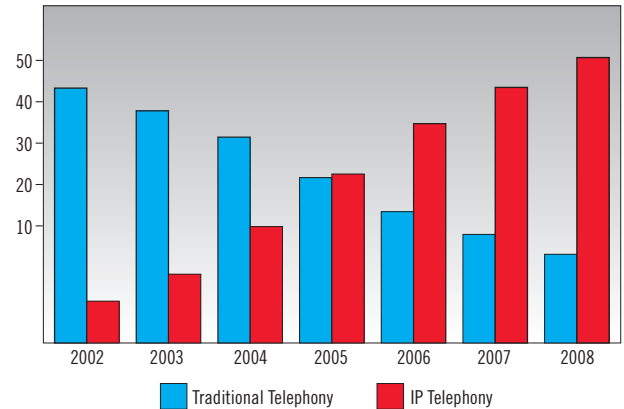
– Keynote at SpeechTEK 2005 by Don Peterson, Chairman & CEO, Avaya

When communications is intelligent, it is not only more efficient, but also much more effective. What makes communications intelligent?

- Customers call and always reach whom they need to reach. Contact centers help, rather than hinder, getting questions answered.
- Workers don’t get interrupted by trivial calls during important tasks. Nor do they miss an urgent message because they were out of the office all day.
- Business processes automatically notify the right person, right away, when something breaks down. And if that person doesn’t respond, the next right person is contacted, and the next, until the problem is addressed.
- PDA’s finally live up to their name – personal digital assistants. You can handle all of your essential communications – phone, text messaging, email, phone, and voice mail – wherever you might be.

Intelligent Communications is the seamless connection of communications applications and business applications. This gives workers, customers, and business processes the ability to be linked, over any network, to the right person, at the right time, by the right medium – voice, text and video.

Several interrelated trends have made 2005 “the tipping point” for this new era of Intelligent Communications. Broadband is widely available, piped to end users by both wired and wireless IP networks. Web services – key to integration in the world of data – now enable next-generation telephony that combines voice and data applications. Building upon these enablers, the adoption of IP telephony has soared. In 2005, new IP telephony lines shipped surpassed the number of new TDM lines – 24.6 million IP lines were expected to have been shipped in 2005 vs. 22.3 million TDM. And for businesses, IP telephony leaped from the number-seven IT priority in 2004, to number two in 2005, according to one Yankee Group report.



Source: Avaya analysis based on independent industry-analyst reports.

The import of this inflection point in 2005 goes far beyond IP telephony’s 25% annual growth in replacing older technology with a more cost-effective infrastructure. The rise of IP telephony has provided the transport foundation for enterprise communications that enables competitive breakthroughs, not just voice connectivity at reduced cost. IP telephony provides the basis for proliferating voice-embedded business applications – Intelligent Communications – in areas such as mobility, customer service, productivity, continuity, and collaboration.

Many CEOs expect their information technology leaders to be visionary – drivers of innovation, product development, and customer acquisition. Intelligent Communications blossoms when IT leaders develop visionary technology-enabled solutions, transforming enterprise networks into “engines of competitive value,” as Avaya CEO Don Peterson puts it. With Intelligent Communications, companies step beyond the improvements provided by particular devices and applications, transforming the way they do business by embedding communications into core business processes.

In other words, communications is moving beyond its traditional function as a utility. By making communications more intelligent, its value extends beyond merely providing more (and more sophisticated) devices that deliver more voice and data communications. In fact, more is not necessarily better. Workers can be overloaded by communications devices and applications intended to make them more productive. Businesses – particularly the IT organization – find that more appliances and devices can fragment their previously coherent communications environment, in some cases creating risk. As an example, your sales reps may leave for another job and take their own mobile phones (and hence, your customers’ contact numbers) with them.

Intelligent Communications: Can we talk?

Intelligent Communications brings people and business processes together in new ways to create a right-time enterprise – with some capabilities existing today, others promising dramatic possibilities on the horizon.

- Intelligent Communications is marked by the ability to automatically link direct human interaction to processes and transactions when — and only when — that's what's needed to get the job done.
- Intelligent Communications is present when workers, customers and processes can be linked to the right people at the right time, reaching them wherever they may be, on any network, and on the right medium -- voice, email or video -- suited to both the task and the people.

In short, Intelligent Communications is right-time, right-choice communications that makes businesses and workers more responsive to customers, more flexible in dealing with changing needs and more able to control how and when people communicate to get things done.

Technically, communications are intelligent when communications applications and business applications are linked for customer service and worker productivity:

- By embedding voice communications into business processes to bring exact and timely service to customers.
- By extending the office to any location – remote or mobile – to bring the business to the people who need to take action.

In the emerging era of Intelligent Communications, businesses will be able to design how they want to react to specific events – bringing people in to quickly fix a problem with a customer or a process. Deals won't vaporize because communications can't be completed in time. And workers will be able to set rules about how and when they can be reached.

At the same time, Intelligent Communications is not a pie-in-the-sky vision of what one day will be possible – or possible today only if you spend lavishly on IP telephony infrastructure. Rather, Intelligent Communications is founded on open standard software technologies that enable affordable, cost-effective competitive advances *in the real world*.

Real-world realities are that technology infrastructure is mixed: IP and TDM will operate side-by-side for years to come; heterogeneity is increasing as IT environments continue to move to open standards. Moreover, IT budgets are always constraining, with a need to justify expenditures by measurable business returns.

With Intelligent Communications, the explosion of devices and diversity of communications mediums can be managed within a uniform, coherent, central communications infrastructure. This enables Intelligent Communications to deliver its increasingly beneficial – and ultimately transformative – competitive value in two fundamental (and interrelated) dimensions of the business: customer contact and mobility. With Intelligent Communications,

- **Customer contact** delivers a consistently positive, intimate, and value-adding brand experience.
- **Mobility** drives productivity and collaboration across time and geography – for all workers, whether desk-based, telecommuting from a home-office, roving around a sprawling enterprise facility, or traveling around the world.

Leveraging intelligence in communications means business enterprises can differentiate communications based upon the particular user, environment, and other requirements. This way, businesses can deliver appropriate communications to end-users – employee groups and customers – with greatly differing needs. And businesses can extract the maximum potential value from end-user devices and that run the gamut from smart to simple – from the latest IP-enabled mobile phones and PDAs to “dumb” landline phones and 56K dialup Internet connections.

II. Building Brand: Consistent Value in Customer Contact

“Superlative guest service is a hallmark of Wynn Las Vegas. When we designed the new resort we were committed to putting the very best technology to work in innovative ways [such as] an Intelligent Communications solution that enables our guests to enjoy new levels of customer service throughout the resort.”

– Stephen Wynn, Chairman & CEO, Wynn Las Vegas

In most enterprises, voice communications provides the primary means of customer interaction. Hence, customer contact is essential to delivering value to the customer. Unfortunately, market research, as well as your own daily experience as a customer, tell an all-too-common story of diminished value and missed opportunities – from the frustration of less-than-helpful contact center agents to cold transfers into “voicemail hell.”

Contact centers often are the beginning and end point of customer contact. Intelligent contact solutions help businesses deliver personalized and responsive customer interaction every time – thereby deepening rather than damaging customer relationships. Customer service agents can bring more expertise to the interaction and still deliver first-call resolution – “hang up the phone and it’s done.” This is made possible by providing agents with vastly more capable communications resources, making them a gateway to the full expertise of the enterprise.

Intelligent customer service also arises from the combination of communications applications with business process improvements. Companies are able to differentiate communications appropriately for particular customers and customer segments. Intelligent routing connects calls to agents based on the customers’ characteristics – such as their call history, location, or the products they’ve purchased previously. Enhanced self-service matches the level of service to the needs and value of the customer. For example, experienced customers will use the self-service application for routine requests while new customers can be connected directly to the human customer service agent, ensuring a successful interaction the first time. Intelligent communications also can include speech recognition for customers calling from the road who need hands-free interaction.

Intelligent Communications enhances customer contact beyond the contact center. In some retail service environments – such as the new Wynn Las Vegas resort – advanced communications technology can be

put directly into the hands of customers as well as employees charged with service delivery. The result is a brand experience elevated by consistent, reliable, even ubiquitous communications that delivers value-adding contact with the most appropriate resources, each time at the right time, for every customer.

What’s the ultimate expression of using technology to enrich a company’s value proposition? Everyone in the organization is available to deliver service to the customer. One pizza chain in western Canada has taken this to the extreme. Every Friday night, every employee’s phone – including the CEO’s – is available to take and dispatch orders. More commonly, companies today are applying IP telephony and software-based “softphones” to extend customer service beyond the contact center to subject matter experts, at-home work forces, and remote agents.

III. Improving Productivity: Uniform Communications for the Mobile Enterprise

In a survey of 600 office workers:

- Only 45% are normally able to immediately reach key contacts.
- 48% said that at least once in the previous week they picked up an important message too late to act upon it.
- More than 30% recalled a situation in which they lost a sale or deal because of ineffective communications.

Source: 2004 Avaya survey.

Today’s world is one of the mobile enterprise. Workers are increasingly on-the-go – out of the office yet in need of constant communication with co-workers, customers, and partners. Companies themselves are more distributed, moving resources around the country and around the world to lower costs and reach new markets. To sustain competitive advantage, businesses must develop intelligent communications solutions and create enterprise-class mobility.

Enterprise-class mobility is about application value, not just connectivity – extending full-capability communications to workers anywhere so that everyone communicates at a uniformly high level. Intelligence in one’s communications tracks where people are, how they can be reached, what devices are available to them, and whether they can be interrupted. But uniform access doesn’t mean that one size fits all. Intelligence allows the mobile enterprise to be smart and adapt communications to the greatly varying needs of different workers.

Marin County: High-Value, Low-Cost Mobility

Marin County in California needed a cost-effective communications solution to support its mobile work force of 1,800 people – including some 500 employees working remotely or always on the go, the remainder spread across 16 major facility locations. Naturally, these users have very different needs because they do very different jobs, ranging from law enforcement and elected positions to medical services, inspection, and other field work.

Marin County solved its communications dilemma by deploying centrally managed speech access and messaging – including text messaging from IP phones to cell phones, speech access to e-mail, and e-mail access to voicemail for about 500 of the most demanding mobile users. This solution, administered by the county's IT staff, avoided provisioning large numbers of laptops (roughly \$3,000 each) and PDAs (\$500 each) – yet provided its mobile workforce with exceptional value through network-based intelligent applications.

In today's enterprise, traditional desk-based workers often represent less than 20% of the workforce. To achieve enterprise-class mobility, companies must support the other 80% who display a range of needs.

- **Home-office teleworkers** are proliferating. They may or may not have high-speed Internet access, but simply need to log in and have their calls and other communications intelligently routed to their homes.
- **“Workplace Nomads”** – such as workers in healthcare, retail, and manufacturing – are frequently on the move in the enterprise's facility yet require consistent access – whether via wired access at someone else's desk, or wireless access when they're not at a desk.
- **“Deskless workers”** may be traveling executives, field sales and service personnel, or transportation workers. Their needs can vary greatly, so they may require a wide range of applications functionality to support their work regardless of where they are traveling.

Intelligent Communications solutions meet these diverse needs by communicating across wired or wireless network infrastructure and accommodating the level of network connectivity that is available, to devices ranging from PDAs to mobile phones to landline-connected end points.

IV. Building Blocks: IP Telephony in a Service-Oriented Architecture

“The market has been waiting for the killer application in IP telephony. The killer application is the ability to embed voice into processes and applications to create the next great leap in agility and flexibility for businesses. The result is new levels of speed that will improve productivity, efficiency, and customer satisfaction.”

– Ravi Sethi, President, Avaya Labs

The ability to embed intelligence into communications will continue to accelerate due to the incorporation of voice into a service-oriented architecture (SOA). In effect, the service-oriented architecture provides building blocks of communications functionality that can be quickly assembled to deliver new and differentiated business communications capabilities.

Communications Web services will deliver improved customer service and greater operational efficiencies, through capabilities such as streamlining of approval processes, automation of notifications, and exception management. This allows businesses to respond quickly to new market opportunities or significant changes in business operations. It also gives businesses a tool that shortens the cycle time for innovation in businesses processes.

One emerging standard – SIP, or Session Initiation Protocol – is central to this shift. SIP is an open-standard signaling protocol for IP communications including telephony, conferencing, presence, and instant messaging. Whereas enterprise communications has traditionally been marked by proprietary standards, any SIP-enabled device can interoperate with any other SIP-enabled device – so long as the provider has employed full, uniform SIP standards, which cannot be assumed.

Applications deployed based on SIP are “alert presence” (if you are available), “location” (where you are) and “device” (how you can communicate). For example, Lund University in Sweden is using SIP to give each of its students a single address for all of their communications, whether e-mail, phone, fax, or IM.

To demonstrate the potential of Intelligent Communications, Avaya has participated in a promising experiment at the Johns Hopkins Hospital of the Future. In this experiment, nurses wearing wireless headsets could not only be contacted on the go, but were able to interact with intelligent voice agents that provide them with telephony, messaging, and confidential voice access to patient information – all hands-free and confidential, securing patient privacy.

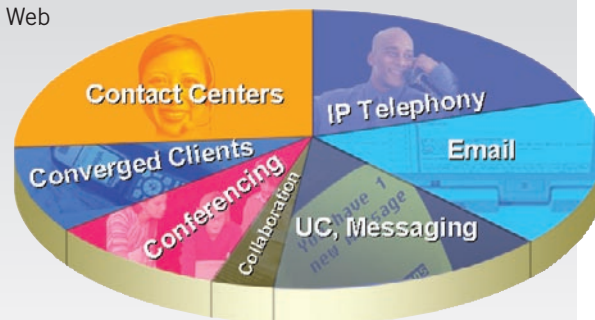
Business Communications Applications

A broad and robust portfolio of open-standards-based business communications applications is a critical component of an enterprise's Intelligent Communications blueprint.

The diverse requirements of customer contact and enterprise mobility underscore an essential aspect of Intelligent Communications. Many devices, the endpoints of communications, are likely to remain unchanged for years to come. In 2008, it is estimated that fully two-thirds of enterprise telephone lines (about 300 million lines) still will be TDM. As a result, the intelligence must be embedded into business communications applications that support both TDM and IP-based infrastructure. This need is driving 20% annual growth in the market for business communications applications.

Business communications applications embed voice capabilities in business processes and applications, bringing people and processes closer together at the right time (often in real time) via the right medium (voice, text and/or video) to improve enterprise service and performance. An open standards-based IP telephony infrastructure, combined with communications Web services, enables businesses to seamlessly integrate:

- Telephony
- A/V Conferencing
- Instant Messaging
- Presence
- Contact Centers
- Voicemail
- Collaboration
- Unified Communication
- E-Mail



V. Payoff: The Journey to Intelligent Communications

The emerging era of Intelligent Communications is a leap toward the use of communications for competitive advantage – unleashing possibilities that transform individual businesses and ultimately the marketplace at large. Companies transform their businesses by embedding communications into core processes to create greater customer intimacy and operating efficiency. Eventually, companies' business models will themselves evolve to take advantage of these capabilities, transforming the way entire industries operate.

A business taking its first steps on the journey to Intelligent Communications will need to begin with a thorough understanding of the different communications needs of the extended enterprise. The lines of business and the IT organization will collaborate to determine the requirements for differentiated customer interaction – and how to meet the diverse needs of the mobile, often geographically dispersed workforce. Then the IT organization will put in place an Intelligent Communications platform for creating and deploying the appropriate business communications applications to serve the enterprise's needs.

To ensure adaptability as needs change, they will opt for an open-standard platform capable of embracing best-of-breed equipment and applications.

Intelligent Communications will foster rapid evolution of processes integrated with communications. This will satisfy diverse needs and deliver unique solutions across many industries – yet it will allow broader use of business applications by knitting them into a communications environment with standardized building blocks. The result will be businesses that provide satisfactory experiences to customers, staff and suppliers as business processes and personnel are brought to the service of any need, whatever the supporting applications and whoever has the expertise or authority to complete an interaction. For businesses, Intelligent Communications represents a trove of potential, giving them flexibility in increasing value delivered to customers by a more productive mobile workforce.

Intelligent Communications in Action

Enterprises of any type can become intelligent, “right time” organizations. Here are some possibilities for today and tomorrow.

Take for example a group of customers we call the “ready.” They can be any size, but they have in common a basic approach to communications: They want it low cost and simple, and they want to buy from someone they know in the neighborhood.

Intelligent Communications will offer low-cost and simple alternatives to give businesses like these a competitive advantage. For example, a tax accounting firm in the UK uses an affordable, all-in-one telephony system to let their clients call in for automated, secure, personal tax information 24 x 7.

In the near future, “ready” businesses will be able to benefit from:

- An office in the palm of the hand, so that a small or “one-person” shop can always be available.
- Customer service that can be provided on cell phones, combining voice, web and video.
- Sophisticated applications such as contact centers they can now afford for the first time by purchasing them as hosted services – even paying for them “by the seat.”

There’s another group of businesses we call the “willing.” They also care about cost, but they are actively looking for one or two sophisticated communications solutions in a core area of their business to give them a competitive advantage. One U.S. customer, for example, uses a sophisticated, distributed contact center to provide superior customer service and is about to convert to a multimedia “one stop shop.”

In the future, “willing” businesses will be able to:

- Use “presence” to provide a more personal experience for customers by allowing them to instantly locate a sales agent, or clerk, anywhere in the shop.
- Solve an urgent problem quickly by enabling people to send an alert to the person closest to the solution based on location information provided to the system.
- Save costs and give the company control over that single phone number customers use to reach an employee, with dual-mode mobile phones that move seamlessly between the private network inside the building and the public cellular network outside.

Finally, a group of businesses we call the “able.” These companies see communications as a key strategy, a way to differentiate themselves, even determine their business model. Financial services companies, for example, use Intelligent Communications to record conversations for Sarbanes Oxley compliance while maintaining absolute security – even on mobile phones.

In the future, “able” businesses will:

- Speed transactions with conference calls triggered automatically by the business process – if something goes wrong, for example, the system will automatically identify the right decision-makers, locate them according to rules they’ve previously set, alert them, and convene them in a conference call – all automatically.
- Provide critical information immediately by discreetly interrupting a call with a whisper heard only by the person with the need to know
- Make best use of your time with rules about when and how you can be interrupted, including instructions to check your calendar for those brief moments between meetings, or to encourage face-to-face meetings when the person calling you is nearby.

About Avaya

Avaya enables businesses to achieve superior results by designing, building and managing their communications infrastructure and solutions. For over one million businesses worldwide, including more than 90 percent of the FORTUNE 500®, Avaya's embedded solutions help businesses enhance value, improve productivity and create competitive advantage by allowing people to be more productive and create more intelligent processes that satisfy customers.

For businesses large and small, Avaya is a world leader in secure, reliable IP telephony systems, communications applications and full life-cycle services. Driving the convergence of embedded voice and data communications with business applications, Avaya is distinguished by its combination of comprehensive, world-class products and services. Avaya helps customers across the globe leverage existing and new networks to achieve superior business results.

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