

**ON-DEMAND  
CONFERENCING  
INFRASTRUCTURE:**  
Enabling Real-Time  
Collaboration for the  
Virtual Workplace



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## EXECUTIVE OVERVIEW

Companies today are facing several critical business challenges brought on by the increasingly virtual nature of their workplaces. More and more, employees are scattered across regions, nations, and continents—and yet they must be able to collaborate with one another, as well as with partners and customers, at any time and from anywhere. At the same time, both managers and employees want to keep travel to a minimum, since it's only getting more difficult and more expensive, both in real dollars and in terms of lost productivity before, during and after the event.

Organizations need tools to help them lower operational costs while increasing productivity; support remote, geographically dispersed and mobile workers so they can perform as a single team; shrink decision cycles and times to market; and pursue new business opportunities by delivering faster, more efficient customer and partner interactions.

One of the best technologies for helping companies achieve these and other critical business goals is on-demand video conferencing, which allows for ad-hoc collaboration that's easy to use and cost effective. On-demand conferencing lets employees meet on the fly, without making plans or reservations in advance. As a result, they can collaborate exactly when they need to, with whomever they need to, as soon as the need arises. So if a group of marketing employees is working on an imminent new-product launch, they can quickly start a collaborative session to discuss the particulars face to face; or, a team of research and development professionals might initiate a video conference with web collaboration, to share documents and drawings as they discuss the product's particulars with the aid of video input. And thanks to new pricing models, they can do all this without worrying about skyrocketing costs.

With on-demand conferencing, the technology (the bridge port) does not need to be reserved, eliminating the need for a conferencing scheduling system or a conference operator. As a result, on-demand conferences can be completely ad hoc, or they can be planned in advance and scheduled using Outlook or another calendaring tool. Either way, end users and IT administrators don't need to think about the availability of the underlying technology.

This paper drills down on the value of on-demand video conferencing. We'll discuss what it is and why it's key to solving some of today's most immediate business challenges; how companies are integrating the technology into a larger communications infrastructure; and how to assess and achieve a strong return on investment.

## **ON-DEMAND CONFERENCING INFRASTRUCTURE: WHY NOW?**

There are many reasons for the growth of video conferencing in general, and on-demand services and applications in particular. Knowledge workers in the next-generation enterprise are increasingly empowered, with decision making and innovation increasingly distributed and decentralized in turn. These 21st-century enterprises need technologies that disrupt traditional command and control structures and enable the bottom-up creation and dispersal of ideas. Additionally, the availability of high speed networks is facilitating anytime/anywhere connectivity, access to information, and real-time collaboration. This fast emerging “power of collective knowledge” will fuel business in the future.

On-demand conferencing does several things to support the next-generation enterprise:

- It eliminates the need for IT to schedule and launch conferences, getting users up and running faster and regardless of where they’re located (especially critical for time-sensitive issues);
- It delivers a high-quality conferencing experience, without requiring that end users understand (or even think about) the underlying technology;
- It enables companies to form project-focused teams comprising co-workers, partners, and even customers;
- It helps managers integrate conferencing into daily business processes, to improve decision making, knowledge sharing, issue resolution and collaboration;
- Its simplicity and fixed cost encourages increased, enterprise-wide use, boosting productivity and driving ROI.

### **Superior Quality, Simple to Use**

Video conferencing has long offered business and bottom-line benefits, but it hasn’t always delivered on its promise; early products often offered grainy images and poor sound quality. What’s more, the systems have historically been difficult for non-technical users to operate, leaving many end users reluctant to take advantage of the technology even when it was available to them.

New video conferencing tools change the game. They offer remarkably good picture and sound quality—especially high-definition and telepresence systems that deliver life-like, you-are-there experiences. And because these higher-end systems are operated by a simple remote control device, anyone who can use TiVo can operate the new systems, making it easier for end users to routinely leverage the technology. On-demand video makes it all even simpler, letting employees collaborate with colleagues whenever they need to, as soon as they need to—no more reserving the technology in advance.

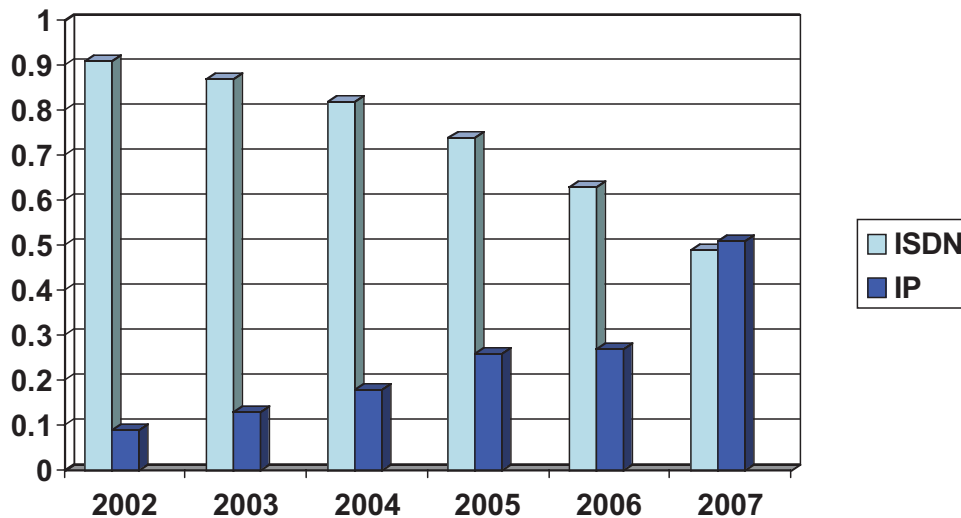
What's more, easy-to-use on-demand conferencing eliminates the need for end users to get IT support whenever they need to launch a conference, a fact that both encourages use and lessens the strain on overstretched IT departments. These have significant impacts on end user and admin productivity, as well as positive effects on conferencing ROI.

### **Growing Number & Maturity of IP Deployments**

IT managers no longer have to defend their deployment of IP networks: The technology works; it can save companies money and management headaches; and it can support next-generation collaboration tools, including presence, video and web conferencing. Furthermore, IP deployments are moving beyond pilot projects and small departmental deployments to enterprise-wide roll-outs.

Although almost all companies start by running voice over their IP networks, as soon as that's done they look for the next technology to take advantage of the new network. Often, that's video. (Please see Figure 1.) Running video conferencing over an IP network can have multiple benefits: Video over IP costs significantly less than its traditional counterpart (usually ISDN); IP is more conducive to supporting integrated collaboration applications, of which video is usually a part; and IP supports on demand conferencing, ensuring employees can collaborate whenever they need to, with little or no additional cost.

**Figure 1: Videoconferencing Services Market: Percent of Video Calls by Network Type (U.S.), 2002-2007**

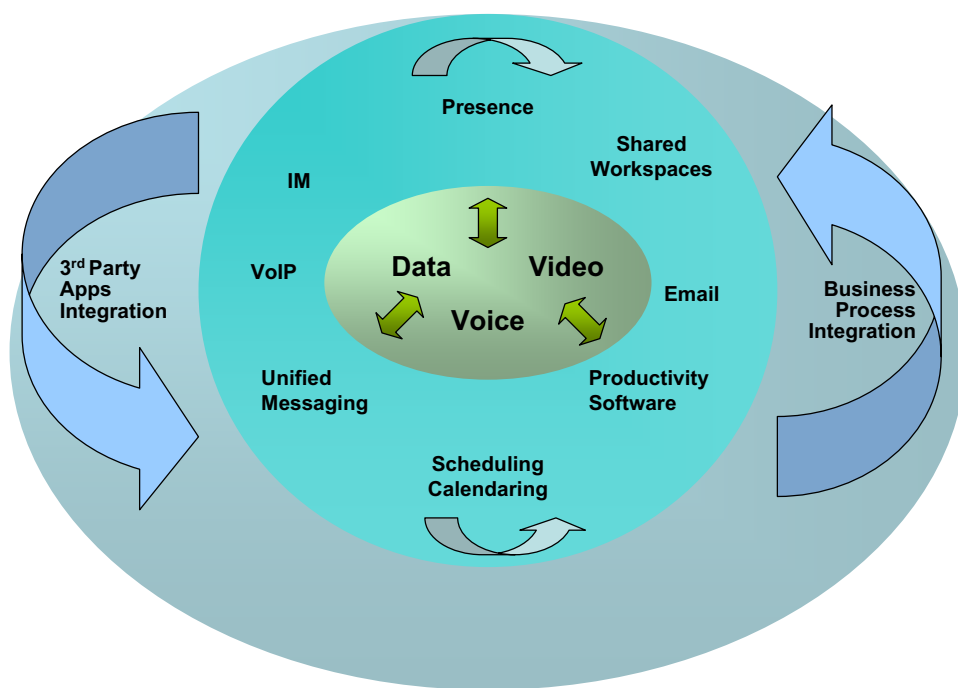


## **New Communications Paradigm: Click to Collaborate**

Unified communications applications combine a variety of real-time communications tools in a single, dashboard-like interface, letting employees access all their communications with a single click. Components typically include audio conferencing, desktop video conferencing, Web conferencing, instant messaging, voice capabilities, and PC- and telephony-based presence information.

Unified communications are changing the communications paradigm, so that today's employee expects to be able to communicate with a co-worker or customer quickly and easily. As a result, all communications technology must be simple to use—and it must deliver on-demand capabilities, so that users don't have to think about making reservations or planning collaboration sessions in advance. People work on the fly, and they need their communications tools to do so, too.

**Figure 2: The Unified Conferencing and Collaboration Paradigm  
"Click to Collaborate"**



What's more, because unified communications tools include PC-based video, the adoption of these tools is driving the adoption of desktop video conferencing—but it's also spurring companies to deploy more robust video systems on a group or team basis, for situations that require a higher-quality video experience. And it's driving on-demand video

conferencing, because the whole point of unified communications tools is to make it easy and cost-effective for employees to collaborate ad hoc, with a single mouse click, whenever the situation requires.

### **Better Options for SMEs**

Small and mid-size businesses are excellent candidates for video conferencing: They must keep a tight leash on spending while staying agile enough to respond to changing markets with a small staff and limited resources. That makes it more difficult and less cost-effective for their employees to travel, especially on short notice, when prices are higher and it's harder to get other employees to fill in for them when they're gone. Adding to the challenge, smaller enterprises often grow remarkably quickly; being able to hire the best talent regardless of where new employees are located can help smaller and mid-size businesses compete against larger enterprises.

Group and room-based video conferencing systems have traditionally been purchased by large enterprises, which have the money, space and technology skills to deploy them. But vendors are recognizing the value of video conferencing for the SME market and have started designing systems just for them—systems that are extremely cost effective and easy to use, manage, and deploy. On-demand video conferencing is especially appealing to these smaller organizations, because they don't typically have the IT or administrative staff to support and schedule video conferences. The more end users can do themselves, the better all around.

### **FOCUS ON THE FUTURE**

On-demand video conferencing lets users meet face-to-face, virtually, without having to schedule the event in advance. Conference hosts and attendees can simply launch a collaboration session any time they choose to, as needs and circumstances require. Even when attendees and rooms do need to be booked in advance, with on-demand conferencing, the conferencing bridge itself doesn't need to be reserved, making it that much simpler to have a scheduled collaboration session.

On-demand conferencing is especially relevant today, as the number of remote and virtual workers is growing, while the demands on businesses to stay competitive in an increasingly global world continue to increase. Those far-flung teams need to collaborate regularly, easily and cost-effectively to ensure companies boost revenues and decrease costs, and unified communication technologies matter more than ever.

On-demand collaboration tools can play a huge role in helping companies to meet those goals. There are several key areas of development that will make it even easier and more cost-effective for employees to connect and collaborate.

## **Presence**

Presence is a key element of unified communications. It shows users where another person is (online or offline, at one phone number or another, in a meeting, etc.); whether he or she is “available” to talk, text, or participate in a conference; and how he or she prefers to be reached (via e-mail, IM, phone, etc.). Although it was initially used to support instant messaging, presence is increasingly finding its way into other enterprise software, including collaborative tools such as conferencing, and back-office and productivity applications.

Presence is one of the key enablers of on-demand conferencing, since it allows participants to see who’s available to collaborate in real time. If an employee needs to meet remotely with one or more co-workers, for instance, all she needs to do is check on their availability, then click to conference them into an audio, video or web collaboration session. Presence information can also be leveraged for room-based video conferencing, to help hosts select the right room for a conference depending on where attendees are located that day (or hour), then ping them to ask if (or when) they’re available to meet in the most appropriate room.

## **SIP**

SIP (Session Initiation Protocol) is the defacto standard for unified communications. The goal, as with most standards, is to enable out-of-the box integration and interoperability among various collaborative communications applications, including voice, web collaboration, video conferencing, and presence servers. A SIP-based framework also enables on-demand conferencing and collaboration technologies.

Most leading vendors in the conferencing and collaboration market have adopted SIP. That’s good news for IT executives, who are starting to require that unified collaboration applications be able to work with one another seamlessly and securely. They need solutions that can be deployed within diverse IT environments, and enable a best-of-breed approach. SIP is also optimized for IP, making SIP-based solutions especially attractive to IT managers looking for ways to leverage the company’s IP network.

SIP-based solutions also help IT buyers future-proof their investment; ensure stronger partnerships between vendors and technologies; and allow more rapid development around those same solutions. And because SIP is both open and standard, IT staff need not learn arcane or proprietary skills to manage and support SIP-based technologies.

## **IMS**

IMS (IP Multimedia Subsystem) is the newest standard for service providers looking to deliver integrated mobile and fixed multimedia services. Because IMS uses standard IP protocols, it enables support for multimedia session between two IMS users, an IMS user

and an Internet user, and two Internet users. Essentially, IMS leverages cellular technologies and internet technologies to provide ubiquitous access to multimedia services.

While of interest today primarily to service providers, IMS will support the growing virtual workplace by enabling a truly seamless transition between the Internet and the cellular world. It also supports on-demand, unified collaboration across networks and infrastructures. IT executives should ask their vendors what they're doing to support IMS, if for no other reason than to help future-proof their investments. Furthermore, aggressive support for IMS indicates that a vendor is aware of the growing challenges faced by IT as it supports an increasingly remote and mobile workforce.

## **MEASURING THE VALUE OF ON-DEMAND VIDEO CONFERENCING**

Many companies realize a return on their video conferencing investment in 12-24 months, and it is not unusual to see an ROI of as little as three months. A few companies will even see payback after just a single meeting, if that meeting would otherwise have required long-distance travel by several dozen participants (not an anomalous event in today's globally dispersed workplace). But the same forces that are enabling on-demand video conferencing also boost its ROI.

Value lies in several key places:

**IP networks cut costs dramatically.** Running video over an IP network can cut down on costs substantially, since companies need pay for only the network and the software itself—there are no per-minute usage charges to ratchet up costs, as there are with ISDN. It also reduces the time it takes to configure system changes, and reduces application downtime.

Even factoring in annual maintenance fees of 15%-20% and the time IT may spend supporting the software, video over IP is a game-changing technology. Better still, because employees don't need to worry about incurring costs when they launch a video conference, they are much more likely to do so. That increased usage decreases the time it takes to achieve ROI.

Finally, running video over IP lets companies leverage their existing IP infrastructures, which helps justify the costs incurred in deploying the new network and encourages future deployments in other areas of the enterprise.

**Increased usage.** Because it's easy and available, offering video conferencing on an on-demand basis virtually ensures its usage will increase. This is especially true when it's run on an IP network, since costs do not increase significantly with use—employees don't have to wonder if they will have to justify their use of the system.

Because ROI cycles decrease as usage grows, companies that encourage employees to use video conferencing as much as possible will likely see their return on investment much sooner than in the past.

**Boosting Productivity.** Companies that deploy on-demand video conferencing solutions can bet that employees will use the technology more often—and that can lead to a dramatic increase in productivity, as project teams and departmental groups meet more often and more effectively than they otherwise would. Indeed, it's common for companies to find that when they offer employees on-demand access to video conferencing, employees don't just use it to replace in-person meetings they would have otherwise had; they actually use it to meet and collaborate when they would not have in the past. That often leads to shorter cycle times, faster decision making, increased creativity and significantly better productivity.

**Administrative & Management Gains.** On-demand video conferencing offers significant benefits to IT staff, since managing the technology is so much simpler. For one thing, IT is no longer required to set up or support the conferences themselves, freeing them up to focus on more strategic IT initiatives.

Furthermore, a good on-demand conferencing product will deliver significant improvements in management, performance and control capabilities, making IT's job easier and more successful thanks to reduced setup, configuration and resource requirements, as well as lower maintenance costs. The technology should also free administrators to remotely manage conferencing from anywhere, anytime, as well as reduce the need for (and time spent) training IT staffers and end users.

## **POLYCOM TECHNOLOGY: MAKING ON-DEMAND VIDEO A REALITY**

Polycom offers a full suite of real-time communication and collaboration solutions, delivering a lifelike experience to enable rapid decision making and facilitate innovation. The company's technology ranges from audio and video endpoints, to collaborative solutions and the network infrastructure. As the leader in the video conferencing market, Polycom delivers all the key elements of a superior meeting experience: video, voice and content. Polycom's on-demand multimedia conferencing solutions remove the barriers to collaboration, enabling people to meet instantly and easily whenever they need to and wherever they are.

A robust and flexible on-demand conferencing environment starts with Polycom's suite of conferencing infrastructure products. Key components include a new, IP-based on-demand conference bridge (the Polycom RMX 2000™); a simplified conference management and scheduling solution (the Polycom ReadManager SE200™); a recording and streaming solution (the Polycom RSS 2000™); and a NAT/firewall solution (the Polycom V2iU™) that allows outside participants to join an on-demand conference any time.

The core element of the Polycom conference infrastructure is the RMX 2000 Real-Time Media Conferencing Platform, a cost-effective multipoint video solution designed with the future in mind. The RMX 2000 will not only provide crisp, clear video and audio today, but is built to meet tomorrow's demand for scaleable, high bandwidth applications, including High Definition conferencing, desktop video, and mobile applications.

Easy to set up and easy to use, the RMX 2000 removes the complexity from conferencing for both administrators and end users. Administrators will benefit from an easy web-based installation wizard, and can take advantage of pre-configured on-demand "Meeting Rooms," which can be deployed immediately to either individuals or groups, making conference initiation and access a snap.

RMX on-demand meeting rooms are generally implemented as dial-in conferences, which are activated when the first participant dials in. There are three main on-demand dialing scenarios:

Ad Hoc Conferencing

- Direct Dialing into the RMX

Using the RMX "Conference Lobby"

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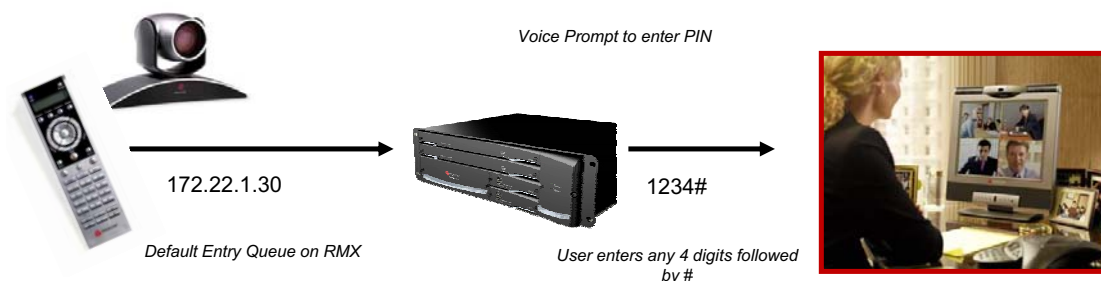
Using an IP Alias for "Meeting Rooms"

- Simplified direct dialing into customized Meeting Rooms

**Ad Hoc Conferencing**

An end user simply dials the IP address of the RMX (which could also be an IP alias), and the conference will immediately initiate. The user will be prompted to enter a PIN code, which can be assigned by an administrator in advance, or made up on the fly by the user. Other participants simply dial the same numbers to join the conference. This is the simplest way to provide on-demand conferencing. Although people and a conference room may have been scheduled for the meeting via Outlook, no advance scheduling or reservation is required on the RMX 2000.

**Figure 3 – Ad Hoc Conferencing**



Ad-hoc meetings often occur within and among work groups. While talking on the phone or chatting over IM, users may decide to escalate to a video call. One of the users simply dials the IP address of the RMX (called the “entry queue”), makes up and distributes a PIN on the fly, and invite participants to join the discussion.

Alternatively, administrators can assign a static PIN code to the entry queue. In this scenario, when a participant dials the IP address he or she will receive an audio prompt to enter the PIN. Such a set up is great for recurring team meetings, such as a weekly sales call, because the dial-in and PIN information never change and can be used from any endpoint.

### **Using the RMX Conference Lobby**

The user dials directly into the RMX, but instead of an audio prompt, is provided with a visual “splash screen,” or conference lobby, giving the user a visual prompt to choose the appropriate meeting number

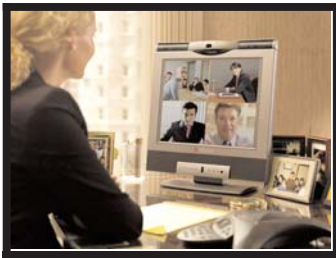
**Figure 4 - Sample Conference Lobby  
Using an IP Alias to Initiate a Custom Meeting Room**



Administrators can assign personal meeting rooms to individuals, then customize the rooms for the user or application. A custom meeting room might include an IP alias (which requires use of a gatekeeper dial plan), so that the user no longer dials the IP address of the RMX entry queue followed by a PIN code, but simply directly dials 4 or 5 digits to initiate or join a call. This number can even be the same as the user’s desk phone extension, to make it easier to remember.

The meeting room itself can be configured to meet certain parameters, such as call duration and call bandwidth, and to provide features such as chairperson services, personal lay out control (RMX Advanced Click&View), content sharing (via H.239) and the ability for the meeting room to dial out to other audio and video endpoints upon meeting initiation. This type of Meeting Room lets administrators confidently move from a highly scheduled and monitored environment to a “managed” on-demand environment, giving them up front control of the type of conference they allow their users to launch.

Three high level examples of custom meeting rooms are described below, designed to match common employee roles:



**“Executive” Meeting Room**

With the touch of her video remote, the Sr. Vice President can immediately dial out to her 4 direct reports. Additional participants may join in simply by dialing the VPs personal Meeting Room number.

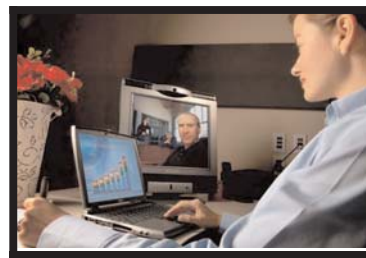
- Meeting Room Configuration –
- Personal Meeting Room with IP alias
  - Dial Out and/or Dial In, with PSTN connectivity for audio participants
  - Bandwidth: SD up to 1 mb
  - Call Duration: Up to 3 hours
  - Content sharing (H239)
  - Advanced Click&View for personal lay out control
  - Pre-assigned PINs to enter the meeting



**“Emergency” Meeting Room**

One number dials out to multiple endpoints back at the hospital, for immediate response.

- Meeting Room Configuration –
- Personal Meeting Room using IP alias for easy conference initiation
  - Dial Out
  - Bandwidth: 384k
  - Call Duration: Up to 1 hour
  - Auto record upon dial out



**“Knowledge Worker” Meeting Room**

Individual meeting rooms allow knowledge workers to meet and collaborate in real-time.

- Meeting Room Configuration –
- Ad Hoc Entry Queue with no pre-assigned PIN code
  - Dial In
  - Bandwidth: 384k
  - Call Duration: Up to 2 hours
  - Content sharing (H239)

The RMX on-demand video conferencing system has many benefits:

- The “self-service” model is considerably easier to use and maintain, and is much more cost-effective from a network operational overhead point of view;
- On-demand collaboration fits today’s work styles and business processes, providing all the visual, audio and content elements required for effective virtual meetings;

- On-demand conferencing enables quick and easy decision making in a collaborative, real-time environment, avoiding drawn-out, delayed communications via email and voicemail;
- Custom meeting rooms let administrators easily move from a scheduled to managed on-demand environment, maximizing productivity.

## **CONCLUSION**

Companies today must find cost effective, easy ways for their employees to collaborate across disparate locations, time zones and borders. Travel is growing more expensive and less desirable, but the need for teams, customers and partners to meet face-to-face is not going away—if anything, it's getting stronger. Thanks to globalization, a rapidly growing number of remote and virtual workers, increased competition and constantly expanding business boundaries, employees must be given the tools to communicate and collaborate, whenever they need to and wherever they are. On-demand conferencing answers the call—quickly, easily and remarkably cost-effectively.

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