

**VIDEO RECORDING,  
PLAYBACK, AND  
STREAMING – A  
POWERFUL BUSINESS  
TOOL:**  
An Examination of Uses in  
Healthcare, Education, and  
Financial Services



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Practice

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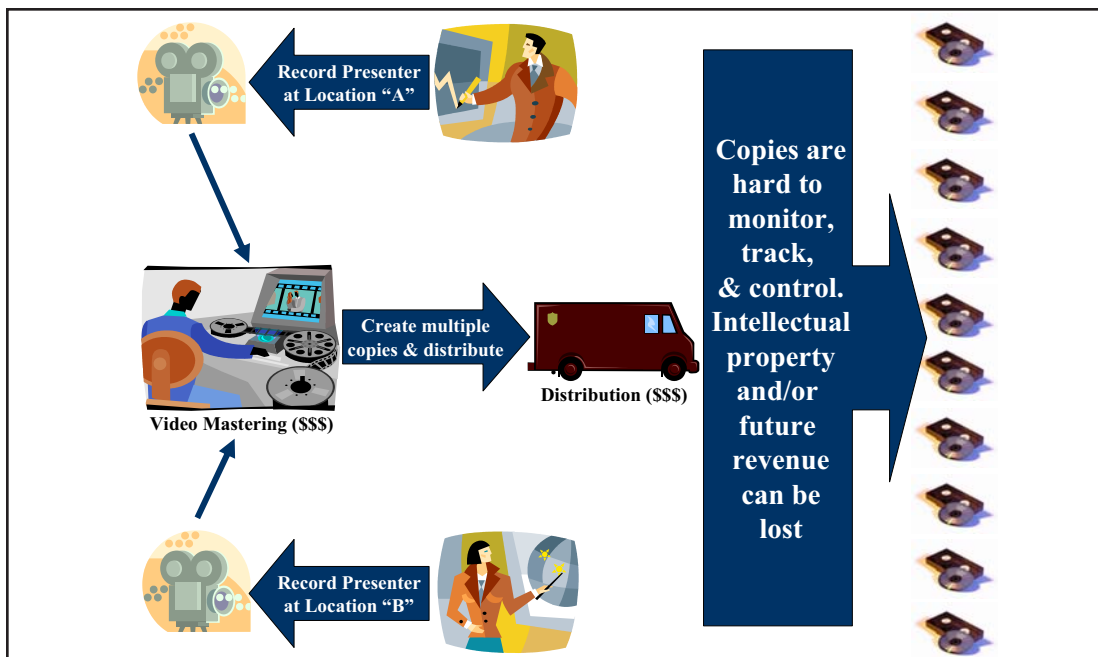
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## INTRODUCTION

In the global business environment, face-to-face meetings and conference calls are inextricably linked despite the fact that offices are frequently geographically distant from one another. While there is nothing new about the use of conference calling in business settings, as global trade barriers continue to fall, conference calling has increased in use as a way to reduce travel expenses. As a result, conference calling is one of the top methods of business communication today, others include facsimile, email, instant messaging, and one-on-one telephone conversations. As with many business tools, technology advancements spurred changes in conference calling, moving it from the realm of audio only, to a multimedia experience with audio and video.

As videoconferencing gained acceptance in the latter half of the 1990's users began searching for ways to record important conferences and began turning to point-to-point recording solutions such as connecting VCRs to videoconference end points.

**Figure 1 – An Example of the Inadequacy of Point-to-Point Recording Solutions**



Source: Frost & Sullivan

Although using VCRs to record videoconferences was resourceful, it was horribly inadequate for multiple reasons including:

- VCR recordings of videoconferences can only record video from one side of the conference.
- If speakers are in different offices, a VCR recording is needed on both sides to capture each speaker. Both recordings must then be sent to a single location for editing in order to merge the conference onto a single master tape.

- After a master tape is created of the videoconference, copies must be made and sent to all locations or persons that will view it at a later date.
- Over time and with repeated viewing, recordings will degrade, become damaged, be misplaced, or lost.
- It is not possible for an organization to track how many copies are made of tapes, protect intellectual property discussed on the tapes, or determine who possesses copies.

There are so many drawbacks to recording videoconferences using VCR technology that most organizations refrain from recording them and instead have speakers and presentations made in the same location, and when needed, have the conference recorded in a studio to be later distributed on demand via streaming video. Of course this type of solution does give companies more control over recorded conferences, but fails to meet the needs of organizations that require a more secure solution than VCR tape recordings and with more flexibility than a recorded presentation in a studio can offer.

## **BUSINESS CHALLENGES – GENERAL TO SPECIFIC**

### The Fortune 500 and Global 2000: Different Geographic Locations

Although based on solid reasoning, the move away from point-to-point videoconference recording with VCRs attached to end points has created problems for organizations seeking flexibility, such as the need to time shift business critical meetings for employees, partners, and customers with scheduling or time zone conflicts. The principal pain points for the Fortune 500 and Global 2000 include long distance collaboration and conference calls, training sessions, company-wide communications from senior level executives, and issues related to corporate governance and compliance.<sup>1</sup> Depending on the industry, each pain point or challenge can have an entirely different level of importance. However, the three most common issues discussed regardless of industry are training, conference calls, and department or company-wide messages from executives.

Training is arguably one of the most important activities that a business does to maintain a competitive edge. It is also an activity that isn't fully leveraged because it usually occurs at certain times of the year, thereby putting new employees or veteran employees with schedule conflicts at a disadvantage, and prevents the company from maintaining a high level of agility in competitive environments.

Similar to a missed training session, missed conference calls / videoconferences can prevent a company from performing at its best due to a lack of information. Unfortunately, missed conference calls are common despite the fact that they are scheduled primarily for the interactive nature of the meeting and in the case of videoconferences, for enhanced interaction among participants including visual aids such as presentations.

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### **Compliance vs. Governance**

Corporate governance consists of company policies that address a company's assets and employees. These policies are often associated with internal controls, operational efficiency, or both. "Internal controls" refers to the rules a company implements for information lifecycle management (data migration, retention, and disposition) whereas operational efficiency pertains to lowering operational costs, increasing worker productivity, and improving financial performance.

Corporate compliance occurs when a company implements policies in order to obey established laws and regulations in the nation or state where it conducts business. Quite often, the only difference between the two is the organization requiring adherence – the Company (governance) or the Government (compliance).

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<sup>1</sup> For an explanation of compliance and governance, see the sidebar.

Frequently videoconference calls are made to collaborate on projects, discuss company strategy and performance, and for department or company-wide announcements from key executives. In short, these videoconferences are critical for employees to attend, but do not lend themselves to VCR recording because company sensitive information is usually discussed.

Consequently, when an organization works with geographically dispersed employees, it is common for significant time and expense to be spent on repeat conference calls due to scheduling or time zone conflicts and the need to carefully control the dissemination of information.

### Education

In the education field, from public schools through university level and professional training, the industry continues to rely upon physical media such as VCR tapes and DVDs as an integral part of a curriculum despite the fact that the media is frequently lost and damaged. Furthermore, as institutions struggle with budgetary constraints and offer courses less frequently, it has a snowball effect on the learning institution such that classes become overcrowded due to high demand and low capacity, and scheduling conflicts arise more frequently. The result is that students are forced to cope with a less than ideal learning environment where keystone classes are not always accessible or class conflicts make it impossible to attend presentations from high profile guest speakers.

Because of these types of problems, learning institutions have tried to develop distance-learning programs with varying degrees of success. Unfortunately many distance-learning programs have the disadvantage of taking place in an environment where interactive learning experiences are limited and learning is restrained due to infrequent contact with other students. Although student collaboration through email, instant messaging, and web-based discussion groups aids the learning process, these tools are less effective than audio visual interaction and also puts students at the disadvantage of not being able to attend lectures by guest speakers.

### Healthcare

Not surprisingly, the Healthcare and Education industries face similar challenges due to the fact that ongoing education is a cornerstone of the healthcare industry. In fact, teaching hospitals, regional health insurance organizations (RHIOs), and medical groups have key employees that are required to continue their education throughout their careers. The difficulty however lies in the fact that healthcare professionals are increasingly short on time in today's managed healthcare environment, which can increase the incidence of schedule conflicts when doctors and nurses need to stay close to the hospital or clinic.

In addition to the matter of continuing education, is the issue of conflicting schedules for critical meetings ranging from the administrative type for RHIOs to meetings of greater importance such as patient case reviews, observing a new surgical procedure, or legal discovery. In each instance, the need to convene interactive meetings of key personnel is

important, but due to regulations such as the Health Insurance Portability and Accountability Act (HIPAA), the need to control outside liability exposure, and control dissemination of information, VCR or DVD recordings of meetings, medical procedures, or training courses are less than ideal for healthcare organizations.

### Financial Services: Compliance Issues

There are many industries in the U.S. that are subject to regulatory oversight, but issues pertaining to financial services and activities related to the industry make it one of most closely regulated areas in the U.S. economy today. Due to the amount of government oversight in the financial services area, companies are becoming very proactive with technology solutions that help ensure compliance with a variety of rules and regulations implemented by government and self-regulating organizations (SROs).<sup>2</sup>

In many financial service businesses, technologies being deployed focus on encryption and archival of document image captures, email, instant messages, and recorded telephone conversations. Over the past 3 years however, there has been increasing concern that regulations such as Sarbanes-Oxley (SOX)<sup>3</sup> and SEC 17a-4 (explained below<sup>4</sup>) will be altered in the future to require the recording and retention of Board of Directors meetings, certain types of telephone conversations, as well as conversations using Voice over Internet Protocol (VoIP), and videoconferencing technology. Although there are not clear indications from government if either SOX or 17a-4 (and related regulations<sup>5</sup>) will be modernized to require recording and retention of voice and videoconferencing communications, proactive companies believe the changes are inevitable and are preparing for new regulations that will require voice and videoconference recording.

Two additional areas of concern for publicly traded companies include:

1. SEC Regulation FD (Fair Disclosure)<sup>6</sup>
2. Merger and Acquisition (M&A) communications between companies

In the case of SEC regulation FD, publicly traded companies that provide information about the company to third party such as a financial analyst, are required by law to disclose that same information to all analysts, investors, and the general public. In a nutshell, companies cannot selectively disclose information to friendly financial analysts, as was common

2. SROs are organizations that industry participants voluntarily join to collectively regulate an industry in an effort to stave off further government regulations. Participating members of SROs such as the National Association of Securities Dealers (NASD), or the New York Stock Exchange (NYSE) agree to follow rules established by the SRO and are subject to fines for non-compliance.

3. Some companies that are publicly traded in the United States are recording meetings of the Board of Directors in order to prove that the Board is making efforts to comply with SOX.

4. SEC Rule 17a-4 deals with record keeping relating to correspondence between the securities company and its customers. It was written with the broker/dealer in mind, but also applies to investment advisors as well as employees of a registered investment company. It requires the retention of correspondence with customers including all purchase & sale documentation, customer complaints, and supervisory procedures. Each of those points have direct implications to email and instant message chats

5. SEC 31a-1 and 31a-2 deal with record keeping related to correspondence for mutual fund companies, SEC 204-4 is a similar law directed at investment advisors, and NASD 2210 and 3010 as well as NYSE 342 require members to comply with SEC 17a-4

6. SEC Regulation FD can be found at <http://www.sec.gov/rules/final/33-7881.htm>

practice throughout the 1990s. As a result, many companies now offer streaming audio replays of earnings calls and major announcements with a slide deck that can be downloaded separately. Although it follows the letter of the law, it is less than adequate for persons listening to the replay since the slides are not synchronized with the audio playback. In other cases where the company does synchronize the voice recording with the slides, the organization may be absorbing costly editing and production fees.

Finally with M&A activity, records of negotiations between companies need to be maintained for a variety of reasons including the fact that the Federal Trade Commission (FTC) may have to approve a merger even when one or both of the companies are privately held. Because M&A negotiations take place face to face, as well as by videoconference, there is the need to easily and cost effectively record both sides of the conversation including visual aids during an in person meeting or point-to-point videoconference. As discussed previously however, this is difficult to achieve in a cost effective manner while also tightly controlling dissemination of highly confidential information.

## **VIDEOCONFERENCE RECORDING, PRESENTATION SYNCHRONIZATION, & ON-DEMAND PLAYBACK**

### Polycom RSS 2000 A Complete Solution

In light of the business need of organizations around the world to record videoconferences, Polycom, a leading name in videoconference call technology, introduced the RSS 2000 in 2006. Considered by many organizations as an easy and cost effective better way to record videoconferences, seamlessly synchronize them with associated presentations and offer on-demand playback using the H.323 and H.239 standards,<sup>7</sup> RSS 2000 has directly addressed the business needs of the Fortune 500 and Global 2000.

RSS 2000 helps to rapidly move business away from the expense of production studios, DVDs and VCR tapes, and places the ability to easily record meetings and instantly create powerful audio and video messages for later playback in the hands of business professionals. As a result, businesses are better able to control costs as well as content distribution in ways that aren't possible with physical media such as DVDs and VCR tapes.

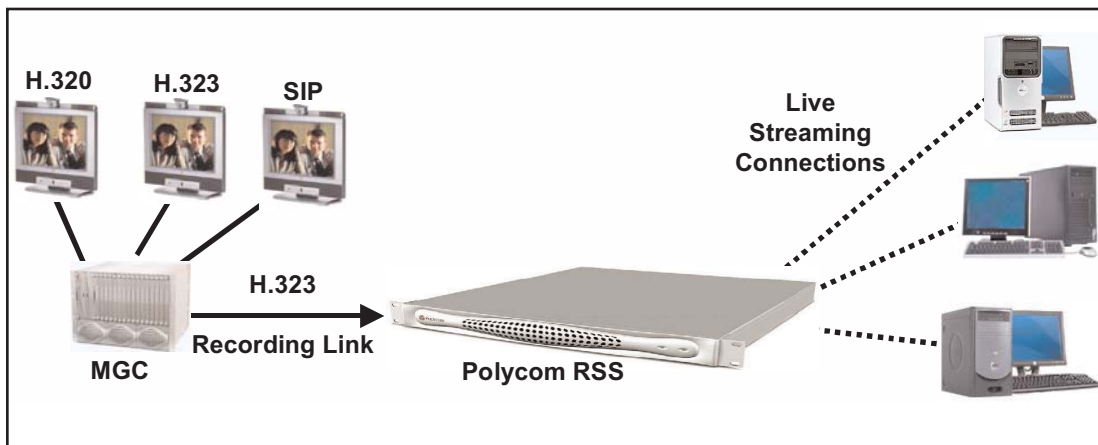
### Simplicity and Flexibility: How RSS 2000 Works

The system works by initiating a videoconference through a multipoint gateway control (MGC) via Session Initiation Protocol (SIP),<sup>8</sup> H.323 end points, and/or videoconferencing over digital circuits (H.320). Depending on the way RSS 2000 is installed, recording can be automatic, or controlled by the conference chairperson via dial-tone commands or with the end point remote control. Viewers that are not participating in the discussion, but with a need to watch the proceedings can view the videoconference live with a web browser via a streaming video connection illustrated in Figure 2.

7. H.323 is an ITU (International Telecommunication Union) standard for real time voice and videoconferencing over packet networks such as LANs, WANs, and the Internet. H.239 is an ITU standard that allows videoconference users to share content such as PowerPoint slide presentations.

8. An IP telephony protocol commonly used for Voice over IP (VoIP)

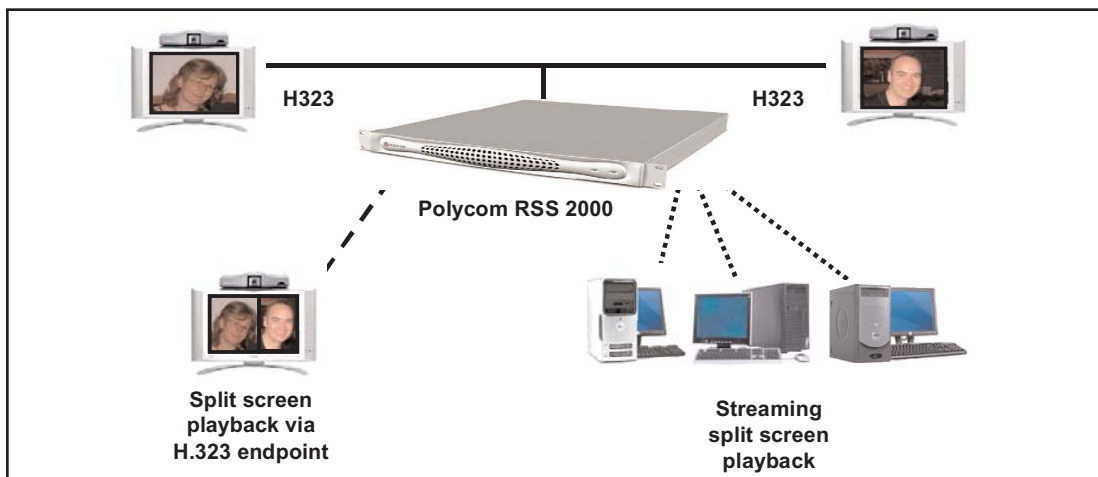
**Figure 2 – Multipoint Videoconference with Simultaneous Recording and Live Streaming**



Source: Polycom and Frost & Sullivan

In a more straightforward example, RSS 2000 can be used to record point-to-point videoconference calls with H.323 endpoints. The difference between this style of videoconference recording and the use of VCR or IPVCR recording technology is that both sides of the videoconference are recorded simultaneously for later playback in split screen format (Figure 3).

**Figure 3 – Point-to-Point Videoconference Recording with RSS 2000**



Source: Polycom and Frost & Sullivan

In the event that a videoconference cannot be attended live due to scheduling conflicts or time zone issues, RSS 2000 can store up to 600 hours of video (H.264 at 768K) for playback on demand by users with an H.323 end point<sup>9</sup> or for on demand streaming playback via computer browsers<sup>10</sup> (illustrated in Figure 4 below). And because both sides of the

9. RSS 2000 can play back up to 10 conferences simultaneously to different H.323 end points

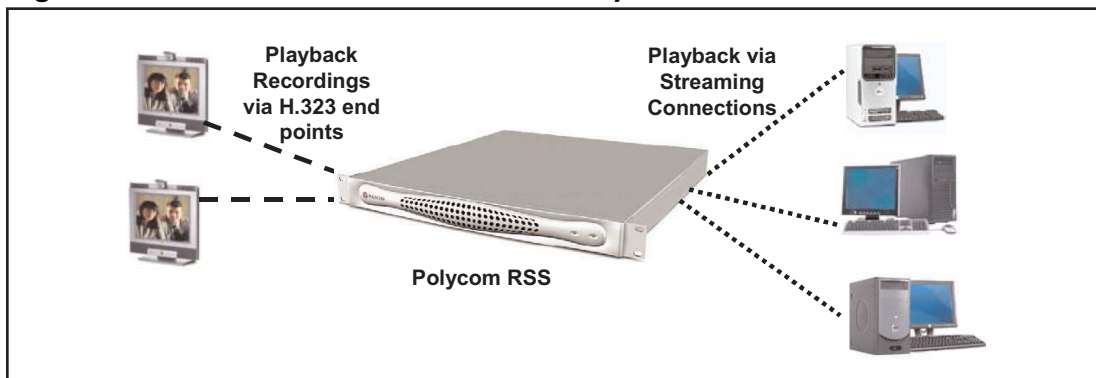
10. RSS 2000 can support up to 60 unicast streaming sessions. High Definition (HD) playback is only possible via a high-speed local area network (LAN) that supports speeds faster than consumer broadband speeds. Lower quality video playback is possible via consumer broadband connections.



conference have been recorded and can be viewed in a split screen, playback viewers can hear as well as view verbal and non-verbal communication for both sides of the conference at all times. As a final point, recorded videoconferences are named by the conference

chairperson for easy search and retrieval in the future and can be manually or automatically migrated to archive storage based on the requirements of the organization as dictated by corporate governance and regulatory compliance.

**Figure 4 – On-Demand Videoconference Playback**



Source: Polycom and Frost & Sullivan

### The Value Proposition of Polycom RSS 2000

The uses for RSS 2000 are broad and far-reaching for domestic and global organizations alike. Early adopters of the RSS 2000 solution have begun to leverage the technology to address important challenges previously discussed including:

- Training and continuing education.
- Collaboration, conference calls across time zones, and companywide messaging.
- Video recording and retention of board meetings or merger and acquisition negotiations.
- Patient case reviews, surgical procedures, and legal discovery.
- Videoconference recording and retention for regulatory compliance in financial services and publicly traded companies.

In addition, because Polycom's RSS 2000 solution is the only videoconference recording and playback solution capable of High Definition (HD) recording and playback, it is particularly useful in training environments where detail and precision are critical such as healthcare, high technology manufacturing, and others.

Other important benefits of RSS 2000 use in organizations come from the flexibility the solution provides to organizations and viewers of recorded videoconferences and presentations. Whether the end-users are students viewing a lecture, a doctor that downloads a patient case study to a video iPod for review<sup>11</sup> while traveling, or a company that creates a training program to be viewed on demand by new employees, RSS 2000

11. All video recorded by RSS 2000 is stored in ASF format. Widely available and affordable conversion utilities can be used to create MPEG4 files that can be viewed on Frost & Sullivan Whitepaper devices such as an iPod.

enables organizations to improve productivity of employees and better serve customers at the same time. From the savings obtained by eliminating production studio costs, to reduction of travel expenses, minimizing outside liability through tighter control of recorded content, or monetizing recorded conferences, a positive ROI (Return on Investment) can be achieved by a company using RSS 2000 in 12 months or less.<sup>12</sup>

## **CONCLUSION**

In an increasingly interconnected global economy where agility and competitive edge require rapid and on-demand access to information, organizations are expected to provide employees with the information they need, whenever they need it. As a result, relying on incomplete or outdated technology solutions to record videoconferences has a high potential to hurt an organization more than help it, particularly in highly competitive situations and in regulatory environments. In the end, maneuvering around competitive and regulatory challenges requires more than DVD-Rs or VCR tape recordings that can be damaged or misplaced.

Polycom RSS 2000 enables organizations to tackle business critical challenges directly in order to maintain a competitive edge, minimize outside liability, decrease costs, and monetize content with a solution capable of playing back business critical content on-demand 24 hours a day in offices and remote locations. Brought to market by a company with a reputation in the conferencing market for customer support and high quality conferencing products, Polycom RSS 2000 should be considered by any organization seeking a flexible and easy to use videoconference and recording playback solution.

<sup>12</sup>. The time required to obtain a positive ROI varies per organization based on how RSS 2000 is used.

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