# BRIDGING THE TECHNOLOGY GAP

## How to Support Unified Communications in an Audiovisual Environment

vaddio
THE ART OF EASY

**A Vaddio White Paper**
Bridging the Technology Gap

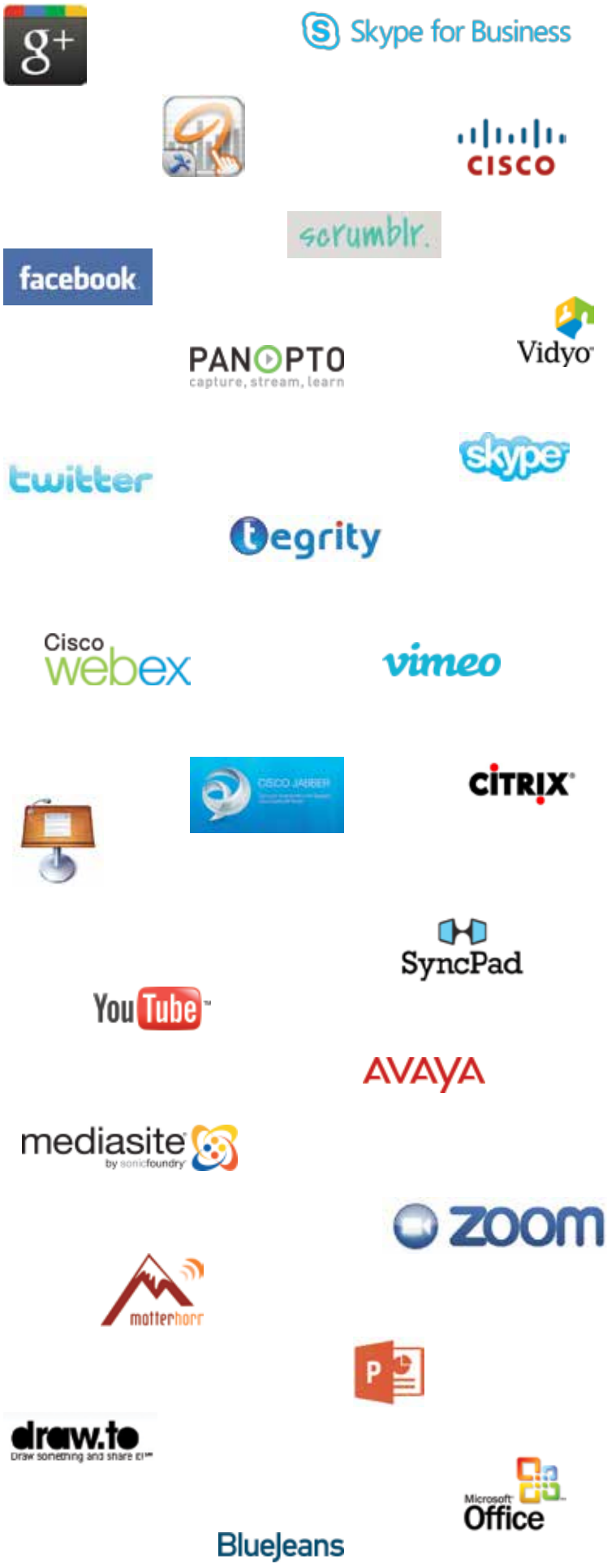
*www.vaddio.com*

# Introduction

**Remote collaboration is easier than ever before.** From desktops and mobile devices, employees hold ad hoc audio and video conference calls, present and share content, send instant messages, schedule meetings, and more. They use cloud-based applications and unified communications (UC) platforms such as Microsoft's Skype for Business (formerly Lync) or Cisco's Jabber, to conduct their communication activities. These kinds of tools are intuitive and familiar to users; they consistently have high adoption rates within the business environment because they are so easy to use.


But when employees move to a traditional audiovisual (AV) group collaboration venue, they are frequently disappointed and frustrated. Whether it's an executive boardroom, a training facility, or a small auditorium, these rooms often lack access to the popular UC platforms and cloud-based content delivery solutions that employees want to use. Instead, users find collaboration solutions that are not familiar or intuitive. Due to the complexity of these systems, the technology often goes unused unless there is an IT or AV tech available to assist in starting a session.

This white paper looks at the growing business need of blending the capabilities of conventional AV rooms with the simplified, on-demand communication and content creation experience provided by UC platforms and cloud-based applications. It explores the subsequent challenges and looks at a simple solution that already exists in most meeting rooms—the PC—to bridge the gap between the two technologies. In the end, blending capabilities creates a lower cost, higher adoption UC collaboration experience within a traditional AV group collaboration space.



70%

The percent of businesses who say they either have or plan to put unified communication systems in place.

62%

The percent of respondents who say improved employee collaboration is a top business driver for deploying unified communications.

2 Finneran, Michael. "2014 State of Unified Communications." InformationWeek. 2014.

## The Demand For A Blended AV/UC Environment

**The unified communications sector witnessed a 27** percent revenue increase between 2013 and 2014 and is expected to keep growing, according to an IndustryView report. Further supporting this growth, 70 percent of businesses say they either have or plan to put UC systems in place. A key reason for this growth is the rise in remote work and increased BYOD in the workplace. In addition, as millennials enter the workforce in large numbers, they bring expectations for high levels of work flexibility because they have already adopted collaboration tools in their online and day-to-day communications. They expect collaborative communications, such as remote video collaboration and cloud-based applications for content creation and sharing to be part of their business environment as well. A UC platform allows businesses to provide the necessary technology for a more flexible work environment and to improve collaboration capabilities. In a recent InformationWeek survey, 62 percent of respondents said improved employee collaboration is a top business driver for deploying unified communications.

Beyond offering UC capabilities on individual desktops and mobile devices, many organizations have expanded UC capabilities to small-group collaboration rooms or huddle spaces. In these environments, where group collaboration is limited to a few individuals, UC technology is deployed with the same basic tools as an individual desktop solution—a personal computer (PC), a webcam or USB-connected camera, and a small internal-external speaker the participants can "huddle" around. Combining UC/AV capabilities in smaller rooms has already increased productivity by making it simple to capture information and engage with partners, customers, and coworkers. Now enterprises want those same collaboration capabilities in larger spaces.

Effective collaboration can only happen when everyone is seen and heard.

## Where Traditional AV Falls Short

**For large-group environments that require a high-**quality video collaboration experience, a professional AV system is a must. But a huddle space collaboration system—a desktop with a single camera and microphone—doesn't work in a larger group environment. In a group environment of 10-50 people, effective collaboration can only happen when everyone is seen and heard. To provide an optimal experience for all participants, AV systems are designed to facilitate and capture the sight and sounds of all participants in the room through the use of multiple cameras, microphones, speakers, displays, and AV controllers. These sensory end points allow better visuals, improve audio clarity, and provide image magnification (IMAG) of those speaking or presenting in a medium to large room environment. Remote participants also enjoy a more intuitive experience—seeing and hearing who is talking in a more natural manner, as if they were present in the room.

Traditional AV systems excel at improving the sensory experience of remote collaboration, but they lack the flexibility and easy maintenance of UC platforms and other cloud-based collaboration applications accessed through PCs and mobile devices. UC platforms are not only created with an intuitive interface, but users are familiar with the technology because they use it daily from their desktops. In the traditional meeting room, however, the user interface is often foreign to the users, not intuitive, and is intimidating to use. Without the help of a trained AV tech, users often forgo using the technology at all.

Additionally, in a traditional AV environment, each type of collaboration opportunity—video conferencing, conference calls, web meetings, lecture capture, or content sharing—is considered a separate application and requires a separate appliance-based solution. Sharing prerecorded content and presentations during a video conference or streaming from external sources, for example, requires purchasing expensive additional appliances such as a video codec, presentation system, recording system, backend storage device, and management server. The need for multiparty calling may also require purchasing a multipoint control unit.

Even if all the hardware necessary to run these user activities is purchased and installed, the proprietary nature of most appliance-based solutions can create interoperability issues or limit access to cloud-based applications. Because of the additional hardware and software required, there is added complexity in managing, maintaining, and running these systems. Setup time often increases and the rack full of gear and cables needed to run the system makes troubleshooting a major headache. However, a software-based UC platform mimics the server-client architecture that is common for most mission critical applications across the enterprise, eliminating interoperability issues and streamlining system management.

# Where UC Systems Fall Short

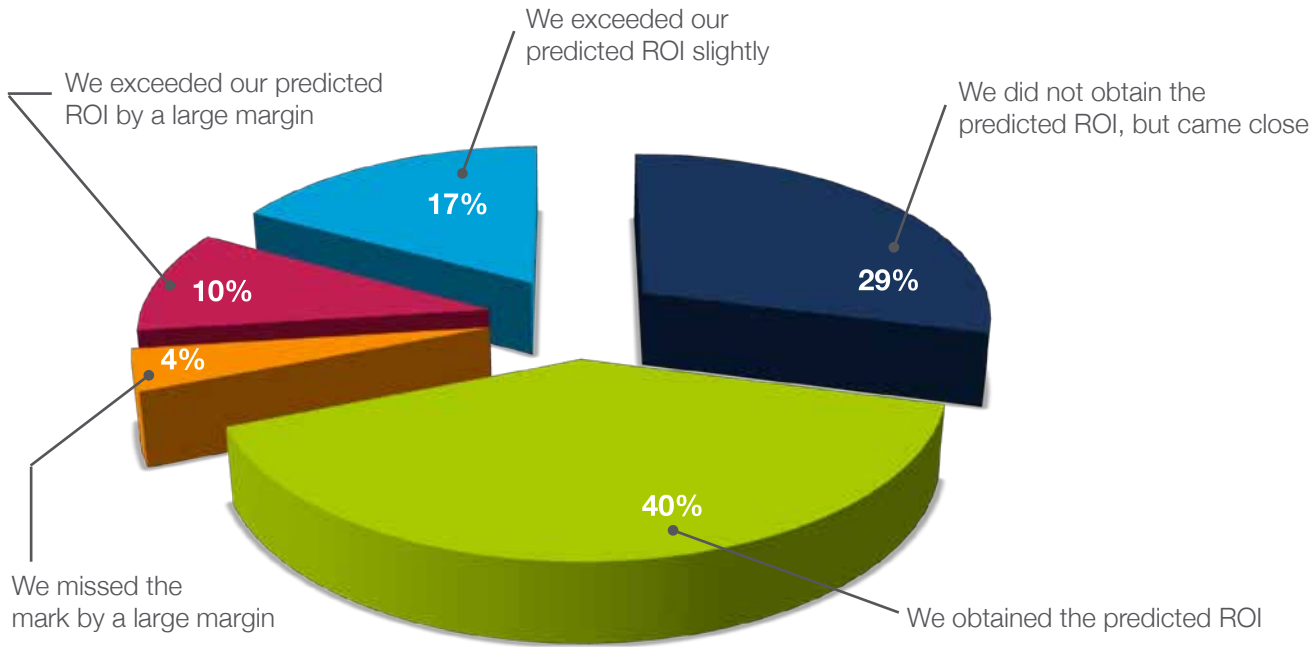
**Unified communications platforms make content** development and collaboration easier and more engaging. Employees can create self-published content from platforms like YouTube and SlideShare, and easily present and share this content through UC platforms like Jabber, Google Hangout, Skype, etc. The increase in cloud-based UCaaS is reducing capital expense costs, and overall, UC is delivering a high return on investment (ROI) for businesses. Sixty-seven percent of companies surveyed say they met or exceeded their predicted ROI analysis on a UC system, and another 29 percent said they came close to meeting their expected ROI.

Unfortunately, UC systems are not optimized for group environments that require multiple sensory sources. Even when an AV system with multiple cameras, microphones, and displays is in place, UC platforms lack a method to control the AV system. Another shortfall is that UC platforms focus on remote collaboration with little consideration for local presentations where all participants are in the room. In a group environment, the majority of presentations are for the audience in the room—not remote participants—therefore requiring the ability to present and collaborate on room displays rather than from device to device.

Traditional video conference appliances solve the problem of multiple sensory sources to remote participants, but fall short on end-user usability, IT flexibility, and local presentation capability. Professional AV systems, on the other hand, excel at providing the right capabilities for local presentations and multiple sensors, but lack the capability to incorporate remote participants.

Ultimately, business users want the higher level of functionality a professional AV system offers, particularly in a group collaboration environment, but they also want the intuitive UC interface and access to the cloud-based applications they are familiar with and enjoy using to create content. Marrying the two technologies is where the greatest challenge lies for IT and AV professionals charged with deploying these systems.

## *Results* of ROI Analysis




Base: 168 respondents deploying unified communications and conduction ROI
Data: InformationWeek 2014 Unified Communications Survey of 488 business technology professionals, April 2014

## A PC-Centric Solution

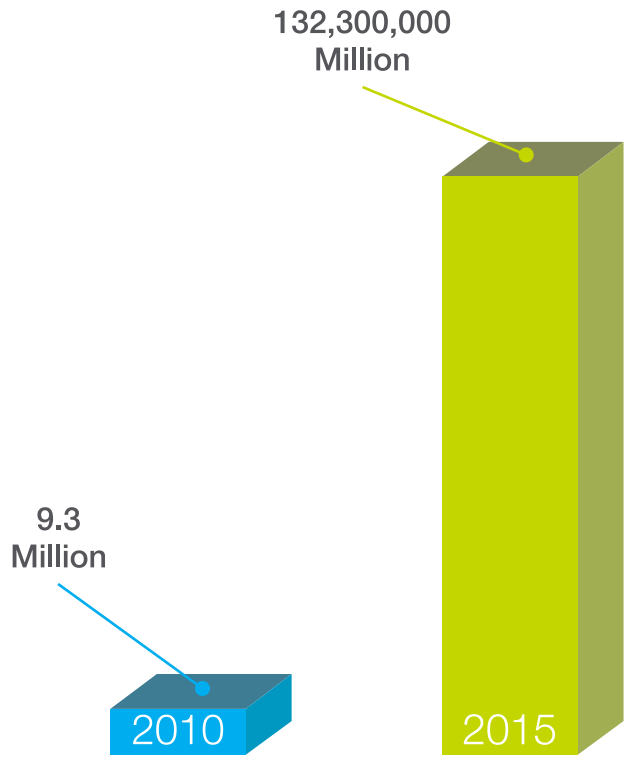
**To unite the two disparate technologies, companies** should embrace the PC as a solution. As AV continues its migration to the IP network for transport, innovative concepts and technologies centered on the PC will increase productivity, simplify infrastructure management, and reduce total cost of ownership.

## Plug And Play Connectivity

**PC-based USB connectivity is simple and saves** time by eliminating the need for hardware or software device configuration. USB connectivity also provides standardized connectivity, delivers cross-platform operation, and allows straightforward accessibility.

In a PC-centric environment, the computer takes the place of proprietary appliances to operate all the controls. Required AV peripherals, such as professional-grade microphones, loudspeakers, and cameras connect to the PC through USB plug-and-play capabilities. The PC functions as both the user control interface and as a mechanism to capture the room's audio and video sources. It also handles the playback of audio and video from remote participants. Because the PC doesn't require the installation of any drivers, there are no interoperability challenges. Users can then take advantage of any cloud-based conferencing or collaboration tool they desire. The user, not the system, decides which applications to use based on need.

**With the peripherals required for a professional AV experience connected to the PC, users can take advantage of any cloud-based conferencing or collaboration tool they desire.**




THERE ARE A TOTAL OF

**9.3 MILLION**

soft client users in organizations

**in 2010 and is expected to**

REACH UP TO

**132.3 MILLION**

USERS IN 2015

## Soft Clients And Cloud-Based Application Growth

**Additionally, the growth in video soft client usage** where the application is PC-based rather than client server-based—continues to rise. According to Gartner Research, the number of soft client users in organizations is expected to jump from 9.3 million in 2010 to 132.3 million in 2015, while traditional video end points are predicted to remain flat. The growth of soft client usage reinforces the PC's essential role in AV operations.

AV rooms designed with the PC at the center of operations can leverage the growing popularity of video soft clients and cloud-based services. Microsoft's Skype for Business, for example, saw a 30 percent year-over-year growth in 2013, with no slowdown in sight. Putting the PC at the center of AV operations provides access to soft video clients, UC platforms, and cloud-based applications that are popular with end users. With a PC as the interface for the AV system, users can use their preferred applications in a group collaboration setting, which, in turn, increases user engagement, adoption, and overall productivity.

Another benefit of a PC-centric approach is a reduction in total cost of ownership. Since there is no longer any dedicated hardware, replacing outdated technology or switching vendors entails simply changing the service contract rather than replacing all the hardware in the room.

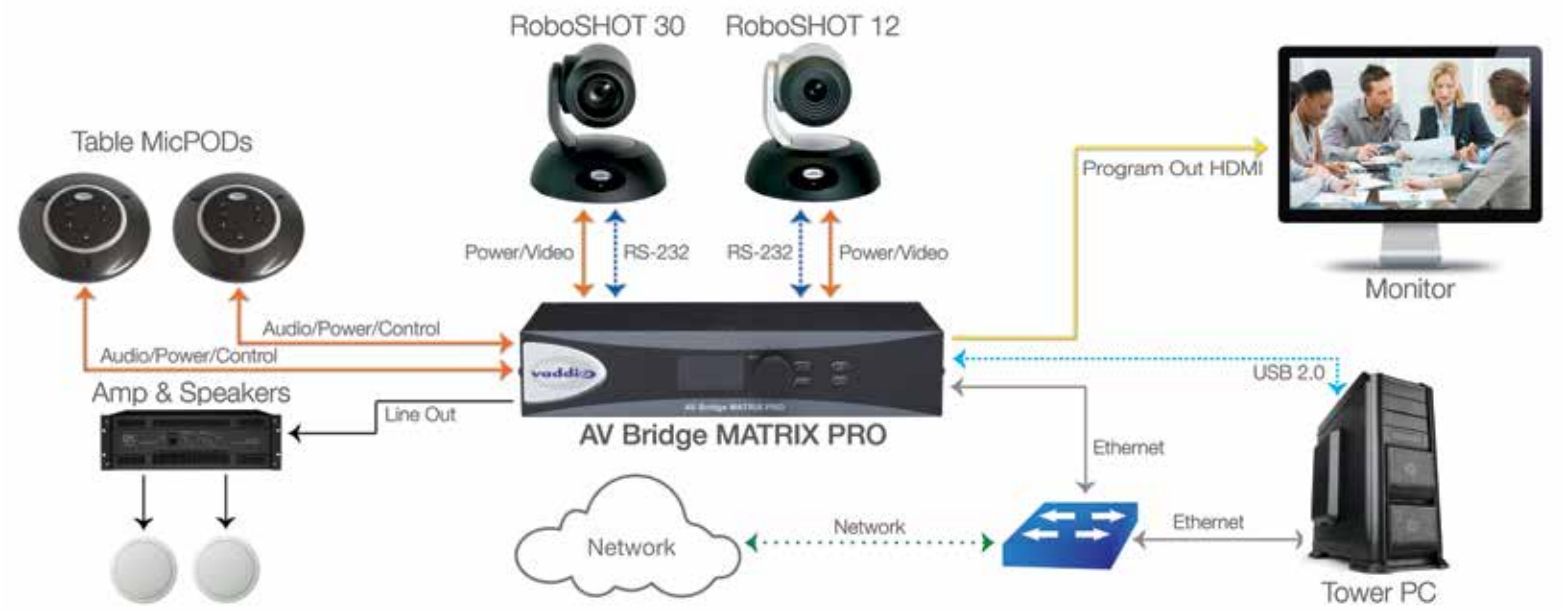
For IT, a PC-based system is easier to set up and maintain than a rack full of appliances that don't operate as a single system. It is also familiar, mirroring the UC platform used by employees on their desktops and mobile devices. Finally, a PC-based system eliminates interoperability challenges while still providing the simple yet high-quality AV experience users desire.

5 "Market Trends: Video Conferencing Worldwide." Gartner Research. 2011.
6 Nispel, Marcus. "Why Lync? Why Now?" Extreme Networks. Sept. 30, 2014. http://www.extremenetworks.com/why-lync-why-now.


# Bridge Products Close The Gap

**Vaddio's AV Bridge products leverage the PC-**-centric plug-and-play approach to create a blended AV/UC environment that allows connectivity to all PC and cloud-based applications. In many group collaboration rooms, legacy audio and video hardware for video conferencing and presentations is already present. Bridge products offer a flexible AV interface that "bridges" a room's legacy analog audio and video to a PC. Traditional AV rooms can be retrofit by simply plugging a USB cable into a host PC or connecting to an IP network.

Even in AV venues with more modern equipment, bridge solutions increase simplicity. For desired capabilities such as audio conferencing, video conferencing, or web conferencing, with a bridge it's simply a matter of adding connections rather than components. Bridge solutions can accept and support a multitude of high-definition video and audio sources and produce superior quality results at a fraction of the cost of other solutions. They also improve ease of use, flexibility, and plug-and-play functionality.




Bridge products offer a flexible AV interface that “bridges” a room's legacy analog audio and video to a PC.

# Vaddio AV Bridge MATRIX PRO

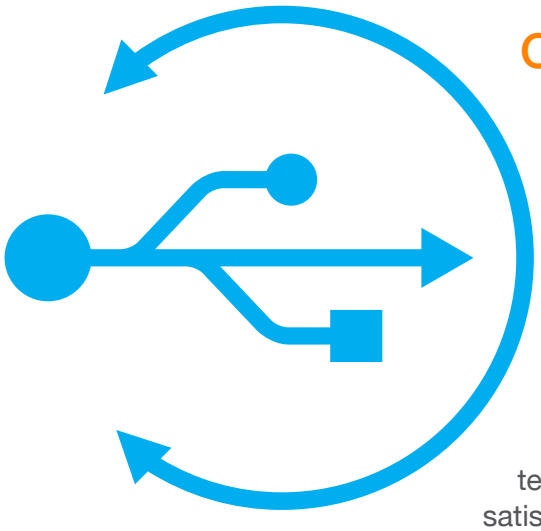
**With Vaddio's AV Bridge MATRIX PRO, you get the** ability to further streamline the bridging process to consolidate control of AV and UC tools in a single user interface. The MATRIX PRO combines audio and video mixing functionality in a single appliance. It provides a simple way to add multiple cameras, microphones, and other AV devices to a traditional AV room design. It then manages the complex process of mixing, switching, and controlling those devices in a single USB stream. This technology builds off USB ease-of-use advantages to offer an easier and more cost-effective solution for blending traditional AV and UC technology.

The MATRIX PRO replaces a rack full of gear by combining a variety of capabilities: an AV encoder with simultaneous IP and USB 2.0 streaming, a four-input seamless HD video switcher, three Quick-Connect Interfaces for Vaddio cameras, an 8 x 4 cross-point audio matrix mixer-switcher, four audio ports for Vaddio Easy USB microphones with built-in AEC, and a web server for configuration programming, control, and remote management.

Users get the advantage of integrating their PC-based platform and intuitive UC interface while being connected to multiple sensory inputs that provide a professional AV experience. At the same time, they also get access to cloud-based applications and a UC platform of choice for content creation and sharing, audio conferencing, video conferencing, and a multitude of other collaboration activities.



mix | control | capture | stream



## Conclusion

**Using Vaddio's USB bridging technology to control the AV**
Using Vaddio's USB bridge technology to control the AV environment through a PC is the perfect marriage. Users get the ability to use the intuitive software-based UC platforms they know how to use, but without losing the professional audio and video quality they desire. For IT, Vaddio USB bridge products not only facilitate the control of multiple sensory devices from the PC, they make life easier. Bridge technology centralizes the AV system in a way that mirrors how the rest of the corporate infrastructure is managed, creating greater agility and flexibility. IT is better able to meet the collaboration needs of the contemporary workplace, while reducing operating costs, improving employee satisfaction, and increasing overall adoption of richer collaboration tools.

**Enjoy the best of UC and AV in your group meeting spaces with Vaddio AV Bridge product lines.**

For more information, regarding this white paper, contact Hailey Klein at hklein@vaddio.com or call at 763.971.4400.

## About Vaddio

Vaddio is the premier global manufacturer of PTZ cameras, professional AV solutions and a full suite of Unified Communication and Collaboration products for the audiovisual, videoconference and broadcast marketplaces. Combining enterprise-class performance and industry-leading support with system-configured design for simplicity of installation and operation, Vaddio enhances any AV experience by elevating the science of communication with the Art of Easy. To learn more about the Vaddio's AV Bridge Matrix Pro, a PC-based solution for UC conferencing and lecture capture meeting rooms, please visit: www.vaddio.com or call 800.572.2011.