# WHITE PAPER

ViewSonic®
See the difference®

## Solstice™ Visual Collaboration Solutions: Efficient Wireless Visual Collaboration for Any Number of Users, from Any Device


This white paper reviews the most common ways technology can interfere with meeting productivity; the benefits of effective collaboration; and the ways in which Solstice visual collaboration solutions leverage today's technologies to overcome these challenges and bring true collaboration to meetings and classrooms.

— Gene Ornstead , 11/01/15

## INTRODUCTION

It is probably safe to assume that anyone reading this has conducted and attended meetings as well as sat through numerous educational presentations. That you've found more than a handful of them to be inefficient and one-sided is also probably a fairly safe assumption. Business professionals, trainers, and instructors of all types share the desire for more efficient and effective meetings. In some ways, technology has positively impacted meeting culture; in others, it has introduced additional inefficiencies and roadblocks to participant engagement.

## MEETINGS, CLASSROOMS, AND THE BEAUTY OF COLLABORATION

A recent survey of nearly 500 diverse business professionals is among the latest research to confirm the above assumptions.[1] For one thing, this survey confirmed that business professionals attend meetings regularly, with 51% indicating that they attended more than three meetings a week, and two-thirds (33%) saying they attended more than 10 meetings a week. For another, the survey shed light into some of the factors that sabotage meeting productivity. Among the top offenders are some issues that likely won't come as a surprise.

### Productivity Roadblocks

Among the top meeting productivity drains are technical issues. Despite today's advancements in AV technology, nearly half of all meetings have some sort of issue with technology. A common scenario is the presenter who has difficulty getting his or her presentation onto the display. In fact, 41% of the respondents reported technical difficulties sharing to a display in over half of the meetings they attended.[2] Since meeting start up time and accompanying tone set the stage for the rest of the meeting, technical delays (along with presenter/attendee frustration) hamper the natural flow of information and collaborative processes. This unfortunate circumstance creates inefficiency and negatively affects productivity through lost focus and longer meeting times.

Nonetheless, research shows that a large amount of meeting time is spent simply getting things started. On average, out of a typical 70-minute meeting, six of those minutes are spent connecting the presenter's computer to the in-room display, activating room control systems, and generally situating everyone. While six minutes may not seem like much, for most companies, this lost productivity can add up. Think about it this way: according to a University of Arizona study, there are more than 11 million formal meetings per day in the United States (about 3 billion meetings per year), meaning that those six frustrating start-up minutes cost U.S. companies 1.1 million hours a day.[3] What's more, those six minutes will be repeated for each additional person presenting in a given meeting.

Lack of participation and engagement was another top challenge to productivity revealed by this survey; with almost half of the respondents (44.8%) indicating that

getting meeting participants to engage and participate was the most common challenge in meetings they attended. In addition, 44.2% felt that only half of the meetings they attended were actually productive and effective.[4]

## Improving Efficiency and Engagement

So what can be done to improve things? There are probably a few helpful answers to that question. For the scope of this paper let's focus on technology and its impact on focus and engagement. As revealed by the same survey, a vast majority of business professionals (98.1%) find it valuable when content is shared with the group via a display in the room. For meetings that feature presentations or other content shared visually, 43% of them felt that the most helpful way to facilitate productive and effective meetings was through the simultaneous sharing of content by multiple people on a display. Two thirds said that faster meeting start times would be the best way to improve productivity in these meetings. Finally, improving collaboration through the effective use of technology is another prime way to improving meeting productivity.[5]

## The Benefits of Collaboration

Collaboration in the classroom has been demonstrated to improve student engagement, retention, and scores, as well as to help students develop 21st century skills.[6-8] When business meetings call for training or learning of any kind, the interjection of effective collaboration using interactive technology can likewise boost focus and retention of information.

"Collaboration in the classroom has been demonstrated to improve student engagement, retention, and scores, as well as to help students develop 21st century skills."

Collaboration brings two or more people together to work toward a common goal through idea sharing; quite simply, collaboration is teamwork taken to a higher level. According to a Work.com study, 97% of employees and executives agreed that the level of collaboration directly impacts the outcome of a task or project.[9] Effective collaboration helps work teams move more effectively toward its goals. When a team or department (or classroom work group) is collaborating smoothly, openly sharing information, and communicating seamlessly, they are able to work at their most effective level. On the other hand, when employees (or students) work in individual silos, it can take longer for a team to finish a particular project or task.[10]

In addition to the core benefit of more effectively reaching stated objectives, effective collaboration: [11, 12]

- Fosters creativity and learning
- Blends complementary skills, strengths and perspectives
- Builds trust, encourages equal participation

- Develops a strong sense of purpose
- Enhances employee skills development
- Teaches conflict resolution skills
- Promotes a wider sense of ownership
- Encourages healthy risk-taking
- Delivers faster problem solving and increases innovation
- Creates an efficient pace of work (the “divide and conquer” principle)
- Improves job satisfaction and employee retention

## SOLSTICE OVERVIEW

By enabling multiple users to simultaneously share media wirelessly from a range of devices to any display or projector, Solstice™ visual collaboration software leverages today’s technologies and trends to bring an organic (and highly effective) flow of information sharing and creative collaboration to meetings, classrooms, conferences, and more.

Before the interactive whiteboard and PowerPoint positioned presenters front, center and solo; before valuable time was wasted searching for and connecting cables and drives; and before individual mobile devices fragmented attention in meetings and classrooms, participants got down to business, shuffling through files and documents, spreading papers across the conference table and passing around visual data. With Solstice, the power of effective information sharing is back, as multiple users are enabled to simultaneously share content from their individual mobile devices, facilitating enhanced presentations, collaboration, learning, creativity, and decision-making.

"With a Solstice-enabled display or projector in the room, any number of users can walk into the room to quickly connect and begin sharing content."

With a Solstice-enabled display or projector in the room, any number of users can walk into the room to quickly connect and begin sharing content and controlling the display using their personal Microsoft, Apple, and Android devices. Adding the free Solstice app (or entering a provided access key) and connecting take under a minute. An enterprise-class software solution, Solstice includes robust security, access control options, flexible network deployment, and dashboard-based management functionality. The licensed Solstice software can be installed on any standard Windows 7, 8, or 10 PC, while the Solstice Pod™ offers a turnkey solution for meeting spaces without a dedicated PC.

## SOLSTICE FEATURES AND BENEFITS

Designed to support the most demanding enterprise and educational environments, Solstice delivers several unique benefits not available from other collaboration software solutions. The first and currently only solution on the market that does not require the use of any proprietary hardware, Solstice leverages existing equipment and networks, supporting an unlimited number of users simultaneously connecting and sharing an unlimited amount of media on a Solstice-enabled display. For simplified, streamlined management, the Solstice Dashboard enables IT administrators to centrally manage all the displays across a network.

Additional key features and benefits include the following:

## An Intuitive WiFi Solution

With Solstice, an unlimited number of presenters, meeting attendees, students, and instructors can walk into a room and quickly connect any device to the display. No cables or additional hardware are required, eliminating clutter, tripping hazards and time wasted physically connecting equipment, then reconnecting to accommodate multiple presenters. Participants and facilitators are freed from concerns about adapter and cable compatibility as well as the need to play "pass the cable" or wait for the cable to become available before they can share content to the display. And because Solstice supports an unlimited number of people connecting to the display simultaneously, the resulting visual collaboration opportunities go well beyond what is possible with one video cable and one person at a time sharing content.

## Enhances Existing Investments

Solstice is the first and currently only solution on the market that does not require the use of any proprietary hardware. This enables organizations to leverage their existing investments in equipment and network infrastructure, which delivers an immediate ROI boost for the Solstice collaboration solution. In addition, the familiarity of using existing equipment simplifies and streamlines deployment and use. Offering full compatibility with existing hardware and ancillary applications, Solstice:

- Runs on standard Windows computers
- Is compatible with any display technology: flat panel, multi-touch, projector, or video wall
- Supports all display resolutions, including 4K displays and video walls; the only practical limit to display resolution is the graphics hardware of the Solstice software host PC. The Solstice Pod supports up to 4K resolution displays
- Runs on existing WiFi or Ethernet networks (or via the Solstice Pod as a standalone wireless access point)
- Integrates with existing in-room AV control systems like Crestron, Extron, and AMX
- Easily incorporates external video sources like video teleconferencing systems, Apple TV, etc.
- Runs in parallel with WebEx, Lync, GoToMeeting, etc.

## Fast, Easy Installation and Set Up

Solstice software installs on a standard Windows 7, 8, or 10 PC which is then connected to an LCD, multi-touch, or projection display for collaborating over

existing WiFi/Ethernet networks. Users can download the free Solstice app in advance of the meeting/class to transform their Windows, Apple, and Android laptops, tablets, and smartphones into Solstice input devices.

### 45-second Meeting Launch

> "With Solstice, meetings and classes get going in under a minute to quickly engage attention and set the stage for a productive meeting."

As noted above, much time can be wasted simply getting a meeting started. With Solstice, meetings and classes get going in under a minute to quickly engage attention and set the stage for a productive meeting, with no time wasted on connecting plugs, wires, and memory sticks. Attendees who have pre-installed the free Solstice app come prepared for nearly instantaneous collaboration. Those without it can be enabled to use the Solstice "Quick-Connect Client" feature, which lets anyone entering the meeting or classroom to connect with their device by entering a key shown on the screen into their web browser. Combined with the intuitive "Share my Desktop" button that appears when users are connected, the entire process – from the time a user opens their web browser to the time they are sharing their desktop, media files, and application windows to the screen – takes under 45 seconds.[13]

### Rich Content Sharing Capabilities

Solstice enables an unlimited number of users to simultaneously connect to a display and share an unlimited number of media posts, including documents, images, and videos. Content display includes synchronized audio and changes made to content are visible on screen in real time. Laptop users' screen privacy is ensured through the option to constrain sharing to a single application window. iPhone, iPad, and Android device mirroring delivers the ability to transmit devices' entire screens onto the Solstice display.

### Customizable, User-controlled Screen Layout

As enabled by the selected use mode (see below), the moderator or individual users can adjust the layout of the Solstice display to focus on one item or arrange several windows together on screen. An open layout mode allows users to arrange and scale media arbitrarily, creating unique and changeable custom layouts on the display, while the grid mode neatly aligns all posts. Additionally, posts may be shuffled, flipped, or moved into or out of the "on deck" side panel. Touchscreen users can manipulate any posts using familiar pinch, swipe, and zoom motions.

### Access Control with Multiple Use Modes

The ability to select from several use modes is an important Solstice security and content management feature. Designed to deliver maximum flexibility to meet the needs of any type of meeting, training session, seminar or class, Solstice offers

four distinct operating modes with varying degrees of presenter and attendee/student control. For added security, these access modes can be set in-room or remotely and any session can be closed when all attendees have joined. Other security settings include an on-screen key to limit connections from users who are not in line-of-sight; password protection for access control; and an on-the-fly 'do-not-disturb' function that locks a secure meeting once it's underway.

Solstice use modes include:

- Open Access, which allows any user with network access to join the session, post media, and control the display. In this mode any participant can control the posts of anyone else in the session as well as adjust screen layout and all other content management functions.
- Access by Screen Key, which allows only those who can see the screen key on the shared display to connect and participate. This offers the same control as Open Access, but only for those with a site-line to the Solstice display.
- Moderator Mode, which allows one or more moderators to share content and control the display as well as approve/reject users and content posts.
- Access by Password, which allows only those with the password set in the Solstice configuration panel to connect and share/control the display.

## Future-Proof Software Architecture

One-click, over-the-air software updates ensure that with Solstice, organizations won't be limited to the features available on the date of purchase. In addition, upgrades will never require replacing hardware, whether you choose Solstice software for Windows or the Android-based Solstice Pod.

## Ultra-Low Latency

Solstice features ultra-low latency for minimal delay between client devices and the display. At -10-15 ms of latency, lag becomes noticeable; Solstice streams at -5 ms of latency under optimal network conditions.

## iOS and Android Mirroring

Solstice supports full mirroring of Android and Apple iOS devices, making Solstice the only product in the market to offer software-based mirroring support for the top two mobile device platforms.

## Enterprise Display Naming and Discovery

Solstice utilizes the Solstice Directory Service (SDS) for enterprise-compliant

network traffic routing across subnets and switches. SDS presents users with intuitive display names for connectivity without using broadcast traffic on the network and can be set up without requiring any changes to network configuration or DNS records.

### Network Security and Flexibility

Solstice has numerous built-in network security features and is configurable/flexible by design in order to support deployment on a broad range of networks with unique requirements. Utilizing standard TCP/IP traffic, Solstice's base ports are configurable, and the Solstice Pod ships with built-in wireless access point capability, supporting on- and off-network deployments.

### Centralized Management

Providing an intuitive IT administrator interface, the Solstice Dashboard enables configuration, management, and monitoring of all Solstice displays throughout the enterprise from one centralized location. Solstice Directory Service (SDS) enables IT administrators to easily set up display discovery across the existing corporate network, providing the ability to control configurable sharing options, access control, and use modes. The Dashboard offers a continuous software upgrade path for access to future features and functionality.

**Business Collaboration Spotlight**

In April 2015, TriZetto Corporation, a Cognizant Company offering IT solutions for the healthcare industry, was outfitting a new Executive Briefing Center with the goal of leveraging the latest technologies to enhance client collaboration. Solstice, said Carl Cruz-La Santa, Manager of the Executive Briefing Center, fit their needs perfectly.[14]

"The ability for us to share across multiple platforms, ... to be able to share wirelessly without having to plug in and have ugly cables all over the place, and to quickly share sources from one person to the next [led to the decision to use Solstice]," said Cruz-La Santa.

Information security, a critical factor for clients who often needed to display sensitive information, was delivered by Solstice's ability to let clients connect to the network and display information without relinquishing the rights to their content.

Solstice has also "become a very valuable tool for demonstrations," said Cruz-La Santa, by enabling potential clients to use their own devices to interact with product demos, letting each one see what the others are doing on screen all at once, streamlining the demonstration process.

## THE SOLSTICE POD

Offering the features and benefits noted above, the Solstice Pod is a turnkey wireless media streaming solution that combines Solstice software with a cost-effective, high-performance hardware platform. An ideal solution for spaces without a dedicated PC, the Solstice Pod can be integrated into the existing corporate network or deployed as a drop-in solution using its built-in wireless access point capabilities. Compact and easy to deploy behind flat panel displays, above a projector, or on a tabletop, the Solstice Pod easily connects via HDMI output to a display to create a Solstice-enabled environment. Unlike firmware-based competitors, the Solstice Pod offers a continuous upgrade path for new features and functionality to keep pace with changing market requirements.

## SOLSTICE USAGE SCENARIOS

Solstice delivers the advantages of visual information sharing to virtually any circumstance in which two or more people come together to create, problem solve, and learn. Examples include classrooms, seminars, conferences, events and business meetings of virtually any kind.

### Business Meetings

Technology can be both a boon to and a distraction from effective meeting collaboration. With Solstice, laptops and other mobile devices are transformed

from attention-fracturing distractions to active collaboration tools. Meetings start up quickly and users stay focused on the objectives at hand, using their familiar personal devices to actively contribute to the evolving onscreen content.

### Hotels, Conferences, and Events

With meeting rooms and auditoriums equipped with a Solstice-enabled display, conference centers and other venues can distinguish their property as ideally enabled to host more productive collaborative meetings, seminars and conferences.

### Creative Development

Creative agencies, professional service firms and other small/midsize businesses that rely heavily on internal collaboration and client/customer information sharing, benefit significantly from effective visual content sharing. Creative teams thrive when provided the ability to combine today's technology with the natural, energetic sharing that comes from handling paper, pens and storyboards. With Solstice's user-controlled screen layout, creative collaborators have endless options for sharing, viewing, annotating, stacking, shuffling, and setting aside documents as the creative process evolves.

### Classroom Collaboration

The use of technology to enable collaborative learning has been demonstrated to improve student engagement, retention, and scores, as well as to help students develop 21st century skills. Technology that's time consuming or difficult to use, however, can distract and detract from effective learning. With a connect-and-share process that takes less than a minute, Solstice lets instructors quickly engage student attention, with no valuable class time wasted on connecting plugs, wires, and memory sticks. The Solstice software encourages a simultaneous team effort in the classroom while enabling students to work with their own personal device. This promotes integrative learning among students, and increased interaction with professors. The software also enables a professor to monitor students' work in the classroom and control the appropriateness and applicability of content if needed. In addition, Solstice helps budget-conscious educational organizations leverage existing display technology and networks as well as students' school-issued or personal mobile devices to enhance the learning environment.

**Creative Team Spotlight**

In October 2014, students and instructors at the North Carolina Sate University College of Design took collaboration to a new level of efficiency and cost-effectiveness with a Solstice visual collaboration solution. The College of Design now provides Solstice-enabled digital presentation and critique spaces for students in all disciplines – Architecture, Art+Design, Design Studies, Graphic Design, Industrial Design, Landscape Architecture and PhD in Design.[15]

"Our students work in a studio environment to produce design projects that are critiqued by peers, instructors and juries," said Jonas McCoy, Director of Information Technology at the College of Design. "For many years, our students have printed large-format plans, posters, etc. for critiques. Some students can spend several hundred dollars a year printing these. This new system not only provides an innovative space for presentations, collaboration and critiques, but it eliminates the cost of printing by presenting digitally rather than on hard copy."

## AVAILABILITY: THE SOLSTICE-VIEWSONIC PARTNERSHIP

ViewSonic, a leading provider of display technology, has partnered with Mersive to provide Solstice visual collaboration solutions to its corporate, SMB, and educational customers as part of a complete hardware/software collaboration package.

Solstice visual collaboration software and the Solstice Pod are both available in two configurations, which are available through ViewSonic selected distributors and AV solution resellers:

- Solstice Software - Unlimited Users (SW-050)
- Solstice Software Small Group Edition (SGE) - up to 4 Users (SW-051)
- The Solstice Pod - Unlimited Users (NMP250-WU)
- The Solstice Pod Small Group Edition (SGE) - up to 4 Users (NMP250-WL)

## CONCLUSION

Effective collaboration can transform any meeting or class from an inefficient and unengaging one-sided presentation to a focused, multi-participant forum where creativity and productivity thrive. Technology that facilitates (rather than distracts from) collaboration can further deliver the demonstrated benefits of this powerful, goal-driven interaction. Leveraging your chosen display technology, existing network infrastructure, and individuals' personal mobile devices, Solstice wireless visual collaboration solutions deliver an unprecedented level of digital visual sharing and control with the power to boost engagement, innovation and productivity.

For more information, contact viewsonic sales at salesinfo@viewsonic.com or visit www.viewsonic.com

**Education Spotlight: Wharton School of Business**

In April 2014, the Wharton School of Business at the University of Pennsylvania installed Solstice software in over 70 group study rooms already equipped with flat panel displays. Students and professors were then able to connect any device of their choosing when they stepped foot into a Solstice-connected classroom.[16]

Among their goals, said Marko Jarymovych, Wharton IT Technical Director, was meeting the technology expectations of new generations of students, which he said is a major challenge for today's universities, especially with tastes in technology switching like "flavors of the month."

"The expectations of the user change because of their experience with technology in other places," said Jarymovych. "That's the value proposition we're making here, that if you come to the University of Pennsylvania...your technology experience – especially at Wharton – is one of the distinguishing factors."

Jarymovych went on to say that Solstice is a successful solution because of its simplicity and elegance.

"Solstice supports the increased integration of visual collaboration in the learning environment," says Jarymovych. "Incorporating Solstice is a simple software installation that can easily scale from the study rooms to our classrooms and common areas and leverages the existing equipment we have already invested in. By doing this, we're able to leverage mobile devices to display connectivity as a critical layer of our technology strategy."


Sources:

[1, 4, 5] Meeting behavior: a peek behind the curtain. Mersive Blog. August 12, 2015 . Accessed 10.10.15 at: https://www.mersive.com/meeting-behavior-a-peek-behind-the-curtain/

[2,3,13] Jaynes, Christopher. Conducting effective meetings just got faster: the 45 second meeting launch. Mersive Blog. 9.25.14. Accessed 10.10.15 at: http://blog.mersive.com/45-second-meeting-launch-for-effective-meetings/

[6] Marzano, Robert J., The Art and Science of Teaching / Teaching with Interactive Whiteboards, November 2009 , Volume 67, Number 3 , Multiple Measures Pages 80-82, Retrieved 2.25.14 from http://www.ascd.org/publications/educational-leadership/nov09/vol67/num03/Teaching-with-Interactive-Whiteboards.aspx

[7] Trends in Digital Learning: Empowering Innovative Classroom Models for Learning,Project Tomorrow 2015, Accessed 8.31.15 at: http://www.tomorrow.org/speakup/2015_ClassroomModels.html

[8] Classroom Technology, Effective Instructional Tools for an Evolving Learning Landscape, A Research Report From the Center for Digital Education, 2015 Issue 1, Accessed 8.29.15 at: http://www.centerdigitaled.com/paper/Classroom-Technology-Effective-Instructional-Tools-for-an-Evolving-Learning-Landscape-1298.html?

[9] Hill, Aaron. What Is Collaboration in the Workplace? - Definition, Benefits & Examples. Accessed 10.10.15 at: http://study.com/academy/lesson/what-is-collaboration-in-the-workplace-definition-benefits-examples.html

[10, 11] Benefits of Collaboration in the Workplace. Ingram Micro Advisor. Access 10.10.15 at: http://www.ingrammicroadvisor.com/unified-communications-and-collaboration/5-benefits-of-collaboration-in-the-workplace

[12] Mattson, Dave, February 19, 2015, 6 Benefits of Teamwork in the Workplace. Accessed 10.10.15 at: https://www.sandler.com/blog/6-benefits-of-teamwork-in-the-workplace

[14] Blackwood, Jonathan. April 6, 2015. Collaboration Solution Allows for Simple BYOD at TriZetto. Coroprate Tech Decisions, accessed 10.10.15 at: http://www.corporatetechdecisions.com/article/collaboration_solution_allows_for_simple_byod_at_trizetto

[15] October 28, 2014, North Carolina State University College of Design Selects Mersive's Solstice Software to Bring Visual Collaboration to its Campus, accessed 10.10.15 at: https://www.mersive.com/press/north-carolina-state-university-college-design-selects-mersives-solstice-software-bring-visual-collaboration-campus/

[16] Kennedy, Jessica, Higher Ed Tech Decisions, May 7, 2014 Wharton to Boost Student Collaboration with New Software, accessed 10.10.15 at: http://www.higheredtechdecisions.com/article/wharton_plans_to_boost_student_collaboration_with_new_software/BYOD