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Simplification Is Critical to Managing

MEETING SPACE INFRASTRUCTURE

WHITE PAPER

Prepared by
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ABOUT THE AUTHOR

Zeus Kerravala is the founder and principal analyst with ZK Research. Kerravala provides tactical advice and strategic guidance to help his clients in both the current business climate and the long term. He delivers research and insight to the following constituents: end-user IT and network managers; vendors of IT hardware, software and services; and members of the financial community looking to invest in the companies that he covers.

INTRODUCTION: THE RISE OF MEETING SPACES

The digital transformation era has arrived, and it's creating unprecedented opportunities for companies of all sizes to become market leaders. Businesses that master digital transformation will see a dramatic increase in revenues and profitability by converging people, processes and technologies, while those that do not will struggle to survive. The amount of churn among the global 2000 is evidence of this. For example, a Capgemini study found that since 2000, 52% of the Fortune 500 has disappeared through acquisitions or bankruptcies. The study also found that digital organizations control 70% of market share in all industries today. Therefore, making the shift to a digital business must be a top initiative for IT and business leaders.

In the digital era, sustained market leadership is no longer based on which company has the lowest prices, the best products or even the smartest people. Rather, market leaders will be determined by a company's ability to recognize changes in the business environment and adapt to them faster than the competition. This requires the ability to make the best decision as quickly as possible while involving the right people.
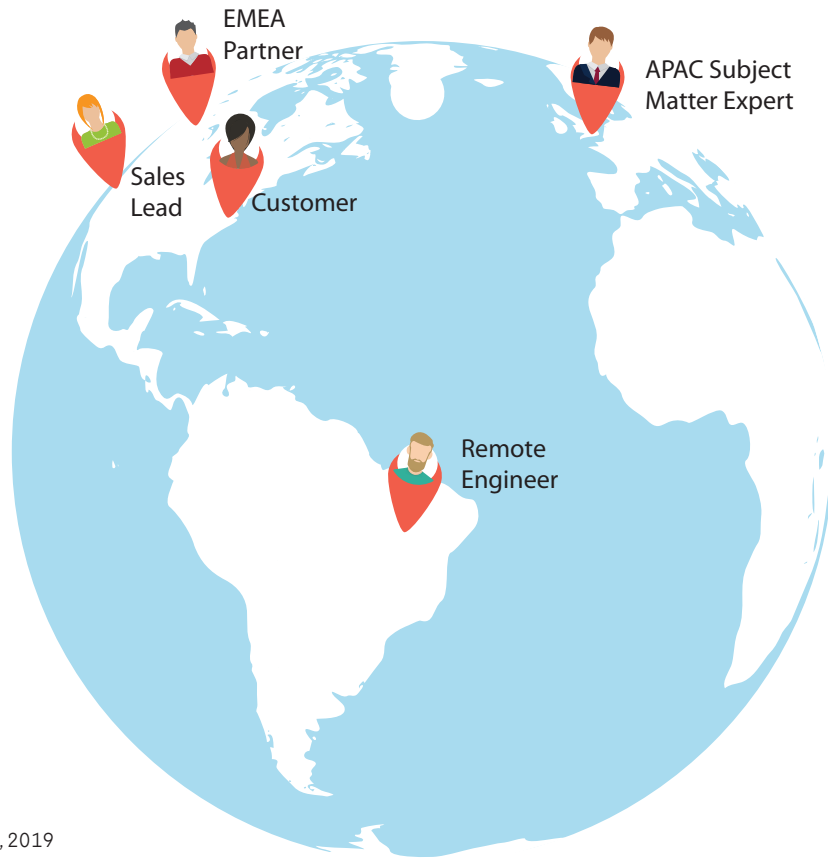
The challenge for many organizations is that the workforce is now highly distributed. Today, it's common to have a single meeting involving people from multiple companies located in all regions of the globe (Exhibit 1), making it impossible to have all participants physically gather in a single location. To fuel innovation and digital success, many companies have invested in meeting room technology to enable workers in the same physical location to collaborate with people who are located elsewhere.

Not all meetings have the same number of people or the same purpose, so it's important for businesses to build a wide range of meeting spaces including ad hoc spaces, huddle rooms, small and medium-sized conference rooms, boardrooms and almost any other configuration that can be imagined. This is a stark change from a few years ago, when meeting rooms were built as discrete islands that are unique and not scalable. The old-school approach doesn't fit anymore, and today there are more options available to accommodate different types of meetings. For example, Wainhouse Research estimates that there are 50 million huddle rooms available and collaboration-ready.

Initially, meeting spaces were outfitted with a physical whiteboard and usually a conference phone. However, as businesses have become more dynamic and more distributed, a wide range of technology has become mandatory. This includes phones, screen-sharing systems, video cameras and digital whiteboards. Having a variety of technology available is important to meet the demands of the quad-generational workforce so that workers can use the tools of their choice (Exhibit 2).

The rise in meeting room technology options can create "infrastructure sprawl," in which it's difficult to understand what equipment is deployed where. As companies expand the number of conference rooms and related technologies they use, they need a plan to manage the infrastructure.

Exhibit 1: Meeting Rooms Need to Extend to Remote Workers

EMEA Partner

APAC Subject Matter Expert

Sales Lead

Customer

Remote Engineer

ZK Research, 2019

Exhibit 2: Collaboration Tools Need to Meet the Needs of the Quad-Generational Workforce

	Baby Boomers (1946–1964)	Generation X (1965–1980)	Millennials (1981–1995)	Generation Z (1996–2005)
Work Motivation	Working longer, retiring later	Independent and self-reliant	Independent and self-reliant	Now entering workforce
Values	Defined by their work	Work/ life balance	Working to make life and society better	Global, diverse workplace
Work Style	Value face time	Do not require face time	Want an equal seat at the table regardless of their location	Prefer live or visual interactions

ZK Research, 2019

SECTION II: UNDERSTANDING THE DIFFERENT APPROACHES TO MANAGING MEETING ROOM INFRASTRUCTURE

In the digital era, meetings can be thought of as the lifeblood of the organization.

In the digital era, meetings can be thought of as the lifeblood of the organization. Meetings are how workers can collaborate, share data and insights, and make quick decisions that can help them leapfrog the competition. According to a recent study by Frost & Sullivan, organizations that heavily rely on video technologies for meetings believe they are likely to accelerate business decisions five times faster than an organization with light reliance on the same technology. To help address this challenge, businesses have outfitted meeting spaces with a wide range of technology that must work when it's needed.

When technologies such as cameras and conference phones are not available, key information can be missed during a meeting, which can disrupt the decision-making process. For a business, this could be the difference between being first to market and being a fast follower. Depending on the market, it also could have significant implications on the company's brand, stock price and revenue. This makes managing the meeting room infrastructure critical to ensuring effective collaboration and decision making. Given how many meeting rooms are in use today and how many endpoints there are, this is not an easy task.

There are two approaches an administrator could take to managing meeting room infrastructure. The first is to choose a vendor that allows every audio/visual (AV) device to be independently connected to the network. This approach can be thought of as "bottom up," as each device is managed as an independent network node, requiring that information from multiple management tools be correlated. The second approach involves connecting the AV devices to a computer in the meeting space via USB ports. This approach is more "top down" in nature, as the PC can be managed and used as a proxy for the meeting room AV devices.

ZK Research believes both approaches are viable and depend on the needs of the company. The rest of this paper compares the two methods.
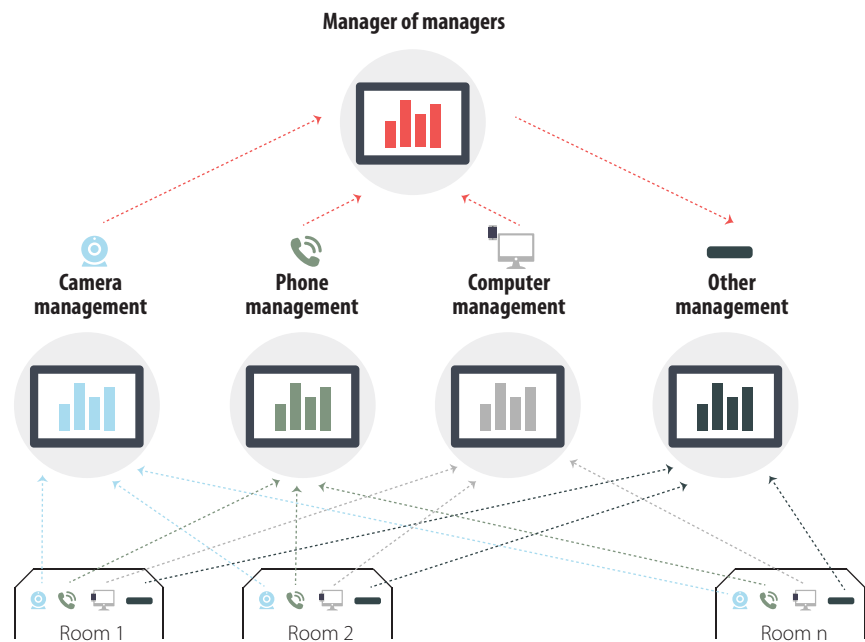
SECTION III: THE CHALLENGES OF MANAGING IP-CONNECTED ENDPOINTS

Connecting every piece of conference room infrastructure to a common IP network is certainly a valid approach to management. In this model, each phone, audio device, camera, computer and other endpoint would have its own network connection and IP address and would be treated as another IP endpoint such as a computer, switch or router (Exhibit 3).

With this model, each technology component is managed by its own management tool. Conceptually, this makes sense. However, characteristics of this approach include the following:

Granular management: This approach enables customers to manage each element in a meeting room individually. Although it can be more complex, it lets IT pros understand if a particular component, such as a camera or phone, is down and quickly isolate the source of a problem.

Exhibit 3: A Model of Bottom-Up Management

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Network-centric management: With this approach, each device can have a unique configuration based on its location or network. This enables greater customization of configuration. Also, because network managers have direct access to each device, making firmware and software updates is easier than when having to work with a PC-connected endpoint.

Fine-grained security: Connecting every camera, audio device and computer enables security engineers to apply security technologies on a device-by-device basis. This is more complex than managing the endpoints in aggregate but does offer more options. For example, segmentation can be used to put all IP cameras in a specific zone.

Independent power management: Devices such as cameras that are IP connected often require their own network switch port that has Power over Ethernet (PoE) capabilities. This provides the advantage of powering each device independently so the failure of one doesn't cause the entire room to go down—which would be the case if everything was connected through a computer.

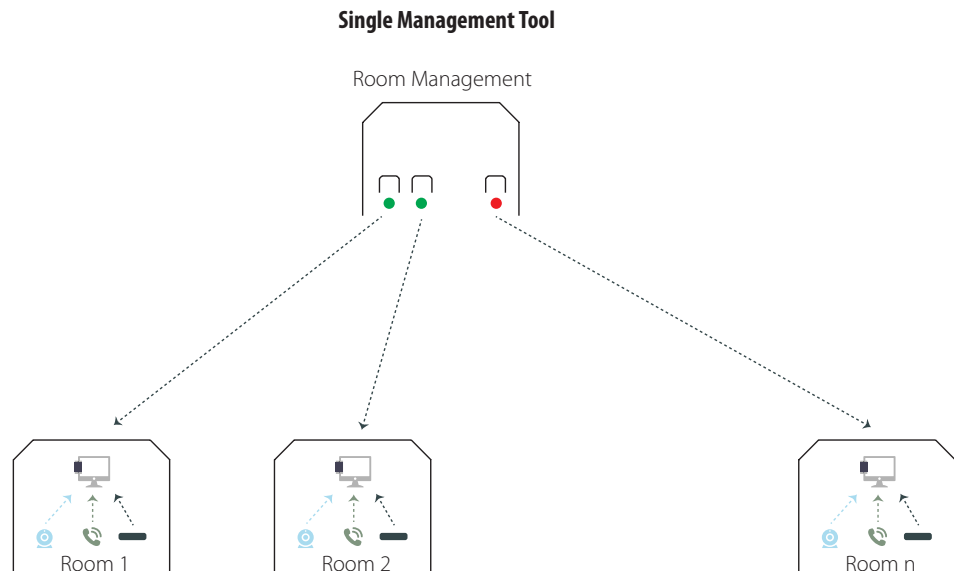## SECTION IV: PC-CONNECTED DEVICES OFFER SIMPLIFIED MANAGEMENT

An alternative to having each component connected to the network is to have all the conference room devices connected to the meeting room computer and then be managed through it via a top-down approach (Exhibit 4). This model takes a service approach to the rooms in which each meeting space is treated as a user service. If everything is functioning correctly, the service would appear green. If a component is not working, the PC can report that to the service management console and turn the room icon yellow or red depending on the severity of the issue.

In actuality, consolidating down to a single management tool may not be doable depending on the stage of deployment. A business may require a management tool for the computer, the meeting service and perhaps the device.

This approach to management offers many benefits, including the following:

Fast troubleshooting: The service approach makes it easy to understand which room is having an issue. An administrator can be dispatched and the problem resolved much faster than by trying to map IP addresses to room locations. Also, if a component is down, the problem can be isolated to the device itself or to the connection between the device and the computer. With a bottom-up model, the problem can be rooted in the network devices, which lengthens the troubleshooting time.

Exhibit 4: A Top-Down View of Meeting Rooms Is Significantly Simpler

Single Management Tool

Room Management

Room 1   Room 2   Room n

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The digital era has arrived and is pushing businesses to be fast and agile.

Reporting: Businesses can use a single tool to receive device information and configuration for the entire room, not just each device. This removes the need to manually correlate data across multiple reports.

Rapid repair: Upon failure, a PC-connected device can be swapped out in seconds without requiring the assistance of a network professional who might need to make adjustments at the network switch.

Improved security: Security for the AV devices can be ensured using PC management best practices, making security simpler and more scalable. Independently connected devices will require their own access control settings, their own virtual LAN (VLAN) to run on or other components. With a PC-connected endpoint, all the security is applied to the computer using the security patches and tools that IT employs to manage hundreds or thousands of other PCs in the enterprise.

Lower total cost of operations: In addition to being less of a strain on network resources, the troubleshooting and replacement of components can be done by a lower level administrator. High-level engineers should be focused on innovation and not reconfiguring the network to replace a conference camera, speaker or microphone.

Lower cost infrastructure: Connecting through a PC requires fewer ports and lower power commitments, and a server is not necessary to manage the endpoints. This can have a significant impact on the cost of infrastructure.

Right-sized diagnostic information: IP-connected devices can provide very granular network information that can be used for analysis or trending information. It's important to note that these are not core network components. IT professionals can often be overwhelmed by the volume of data coming from the network, making it very difficult to do anything useful with the data. PC-level diagnostics is the right level of data for managing meeting rooms.

SECTION V: CONCLUSION AND RECOMMENDATIONS

The digital era has arrived and is pushing businesses to be fast and agile. Business leaders are striving to move with unprecedented speed, as decisions need to be made quickly and then executed on. Consequently, there is an emphasis on meeting rooms because people need to come together quickly, make critical decisions and then move on to the next task. Meeting rooms of all sizes need to have technology capable of bringing in remote participants. Voice is certainly necessary, but video, content sharing and other collaborative tools are now a must-have.

The explosion in the number of meeting rooms and the range of equipment in them are creating a management headache for IT organizations as more and more new devices are being added to their scope of management on top of legacy ones. IT leaders must decide how this can be handled most effectively to ensure that administrators have the right information without overwhelming them with complexity and too much data.

Two primary management models can be used—directly connected endpoints and PC-connected endpoints. Both have their pros and cons, but ZK Research believes the PC-connected model is superior for organizations that want simplicity at scale. Management of IP-connected devices is preferred when the IT organization strives for granular control. As businesses plan out their meeting room strategy, they should consider the following recommendations:

IT should think rooms and not endpoints. What's important to a worker is whether both the room and all the technology in it are available and easy to use. If everything in a room but the phone is functional, effectively the room isn't available. Use a top-down approach to management in which the room is managed as a service instead of trying to roll up information from siloed consoles and interpreting the status of a room.

Analyze usage information. Many businesses build out meeting spaces based on current usage patterns. However, most businesses are highly dynamic, and usage is continually changing. IT professionals should constantly analyze usage data to understand how to tweak rooms, build new spaces or repurpose existing ones to best meet worker demand.

Simplify meeting room architecture. When it comes to IT management, complexity is a killer—and adding multiple network connections per meeting room can significantly drive up complexity. This leads to more human errors due to complex configuration, longer troubleshooting times (as one might need multiple tools to manage a single room) and frustrated users. Instead, strive for simplicity. A PC-based room can leverage tools like Microsoft System Center Configuration Manager (SCCM). But regardless of which management model is chosen, simplicity is important.

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