



# Cisco Connected Workplace



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Whitepaper

## MAJOR CHANGES CALL FOR NEW APPROACHES TO WORKSPACE DESIGN, TECHNOLOGY, AND WORKPLACE POLICY

This white paper explores the trends impacting the workplace, and the role that workspace design, technology, and workplace policy plays in the creation of new work environments. Cisco delivers innovative workplace solutions that provide the foundation for the next-generation workplace, enabling companies to dramatically reduce costs, improve productivity, and foster innovation.

### Introduction

An aging workforce, the explosion of new mobile devices and cloud-based applications, availability of ubiquitous and inexpensive Internet access, and the changing nature of work are rapidly transforming the workplace. This white paper examines workplace trends, their impact, and the role that workspace design, technology, and policy play in the creation of the next-generation workplace. This paper also highlights Cisco Connected Workplace, a solution framework that provides the foundation for companies to deliver innovative workplace services to employees and guests. Cisco Connected Workplace leverages capabilities across the entire Cisco portfolio of products and services, giving companies the ability to deliver physical and virtual workplace solutions that are specifically designed to meet the challenges of today's new work styles, address the needs of a more diverse and multi-generational workforce, and dramatically reduces costs.

### Business Opportunity: Major trends are changing the workplace

The corporate workplace will go through a series of dramatic changes over the next few years that will reshape how companies are organized, how they operate, and how they attract and retain talent. At the core of this change are three major trends:

1. **Workforce Demographics:** The oldest of the baby boomer generation--those individuals born between 1946 and 1964--reached retirement age in 2011. In North America alone 10,000 baby boomers will reach retirement age each day for the next two decades.<sup>1</sup>
2. **Changing Nature of Work:** Over the past 20 years companies have automated and outsourced much of their structured or process-oriented work. What work is left is unstructured, complex, and highly collaborative.
3. **Continued Technical Innovation:** An explosion of mobile devices, coupled with the widespread availability of ubiquitous Internet access and cloud-based applications, is changing where and how work is being performed.



1. <http://www.pewresearch.org/daily-number/baby-boomers-retire/>

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Each of these trends will have a significant impact on the workplace. Due to the impending retirement of a large number of their most skilled and experienced employees, companies will face the serious threat of a talent shortage. To address this, many companies will expand flexible working programs (e.g. part-time, job sharing, work sabbaticals, etc.) to encourage their most valued employees to stay in the workforce. Second, to secure the best talent, companies will “cast their nets” farther into the talent pool, hiring employees from outside their geographic areas, thus creating a more virtual and distributed workforce. One of the consequences will be that companies will need to rethink their technology strategy and whether their architecture, services delivery model, and support structure will work with a flexible and virtualized workforce. It will also cause companies to re-examine corporate real estate needs. What are the impacts of flexible working programs on space planning? If an employee works part time or job shares with another employee, are they entitled to dedicated office space? In addition, as the organization becomes more virtual and distributed, what workspace types and technology services will be required to ensure that office-based employees can work with their virtual counterparts?

As the baby boomers begin their mass exodus, the demographic of the workforce will change dramatically, becoming much more diverse—ethnically, culturally and, most importantly, generationally. For the foreseeable future we will have four, and in some cases, five generations in the workplace concurrently, each with their own needs and expectations. The latest generation to enter the workforce, the Millennials, expects flexibility and choice in the workplace, and will not hesitate moving from job to job until they satisfy these needs. Baby Boomers, on the other hand, tend to value structure and predictability, and will reward employers who provide this with loyalty. The new workplace imperative is to accommodate the needs and expectations of all employees, ensuring that everyone’s requirements and preferences are met, and everyone can work together effectively. This is not a simple task. How does the workspace need to evolve to support multiple generations? How do you design space to accommodate the ergonomic, lighting, and accessibility requirements for older workers, but then have that same workspace be practical for a millennial employee? From a technology perspective, IT organizations will need to provide a greater variety of tools and devices to meet generational preferences, but will also need to ensure that there is functional parity, interoperability, and a consistent user experience in the services they offer.

“Raising the productivity of employees whose jobs can’t be automated is the next great performance challenge—and the stakes are high.”

– McKinsey & Company,  
The 21st Century Organization.<sup>2</sup>

2. <http://www.shrm.org/research/surveyfindings/articles/documents/economist%20research%20-%20global%20firms%20in%202020.pdf>

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The rise of both the information and Internet ages allowed companies to streamline, automate, and outsource much of their structured and process-oriented work. The work that remains is unstructured in nature and more complex. Unstructured work requires periods of greater individual focus as well as intense collaboration. Problems arise when workplaces are still designed for structured or process-oriented work, and not for work that requires collaboration and concentration. Unfortunately, many companies still offer this one-size-fits-all workplace design and lack the different workspace experiences that are necessary to accommodate both collaboration and concentration work functions. Without addressing these issues productivity and innovation will suffer, also resulting in employee dissatisfaction and leading to increases in employee turnover.

Consumer technology, cloud-based applications, and ubiquitous and inexpensive Internet bandwidth is a major disruptor in the workplace. Over the past few years there has been an explosion of new mobile devices, primarily smartphones and tablets, into the market. As these devices have become part of everyday life, the expectation of being “always connected” has extended to workplace technology. But widespread access to information comes with challenges, specifically how a company can preserve and protect intellectual property. Securing sensitive data is a top priority for all enterprises, but mobile security will take an even more important role as both corporate-owned and employee-owned mobile devices continue to grow in the workplace. This problem only gets more complicated as talent becomes scarcer. In addition to flexible work programs, companies will turn to a new pool of talent, contingent or free-agent workers (e.g. contractors, “permatemps,” retiree pools, etc.), to fill both short-term and longer-term staffing needs. These workers will bring their own computing and mobile devices into the workplace, and companies will need a strategy to quickly onboard these devices and grant the appropriate access to information and tools, ensuring that company assets are protected.



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### A Vision for the Workplace of Tomorrow

Although the fallout from these trends may seem overwhelming, the fact that they are occurring simultaneously creates a unique opportunity for Corporate Real Estate (CRE), Human Resources (HR), and Information Technology (IT) teams to come together to truly reshape and transform the corporate workplace. Addressing workspace design, technology, and corporate policies is key in creating the workplace of tomorrow, and these groups have direct responsibility for each of these areas.

#### Workspace Design

- New work styles, flexible work arrangements, smaller computing devices, and cloud-based file storage will reduce allocation of space per employee. This will give companies the opportunity to consolidate their corporate real estate portfolios.
- What space remains after consolidation will be redesigned to support a new set of diverse new work styles, behaviors, and employee expectations. This will include more open floor plan designs, as well as the combination of space and technology to create new “fit-for-purpose” workspaces that are specifically tailored to meet the needs of different work functions being performed.
- Increases in employee mobility, more widespread use of flexible work programs, and a growing contingent worker population will drive companies from dedicated to free seating, thus driving additional workspace efficiencies.
- Workspaces will take advantage of intelligent building systems, allowing companies to reduce energy costs, personalize the workspace experience for employees, and better understand how workspace is being utilized.

#### Technology

- As enterprise networks are refreshed, ubiquitous wireless networks with advanced security capabilities will become the norm. As employees and guests enter the workplace, their mobile devices will automatically register and authenticate, and access to information and services will be tightly controlled based on user profile, time, location, or other contextual attributes.
- To protect intellectual property and optimize software licensing, applications and information will be served from the cloud. This will be especially useful for the enablement of contingent workers, allowing companies to streamline the onboarding and offboarding process.
- As the workforce becomes more diverse bring-your-own-device (BYOD) programs will become “table stakes,” providing employees flexibility in the type of device they use to accomplish their work.
- A wide range of collaboration capabilities will be available to employees, enhancing both physical and virtual work settings. In physical workspaces, collaboration solutions will be purposely integrated into various workspace types (personal video units placed in video privacy rooms for individual meetings, virtual desktop clients deployed to small touchdown workstations to support mobile workers dropping by to use

In a recent survey conducted by the Economist Intelligence Unit, 67% of interviewed senior executives plan to maintain a leaner organization through the use of a contingent workforce.<sup>3</sup>

3. <http://www.prnewswire.com/news-releases/office-space-per-worker-will-drop-to-100-square-feet-or-below-for-many-companies-within-five-years-according-to-new-research-from-corenet-global-140702483.html>

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enterprise apps, high-definition IP phones placed with deskbound workers who spend a great deal of time on conference calls, etc.). The same principle will be applied to virtual workspaces. The types of capabilities, both for collaboration and remote access, will depend on an employee's mobility needs, job requirements, and individual preferences. What will be an absolute imperative, however, is that the collaboration services offered blend the physical and virtual worlds, offering employees a seamless and consistent user experience.

- Interactive services will be available throughout the workplace, providing information and news to both employees and guests. These services will be offered through digital kiosks, laptops, smartphones, or tablets. Interactive services will greet and educate guests in the main lobby, keep employees informed of company news in common areas, and allow them to request workplace resources from multiple devices.
- Workplace Analytics, generated from both the network and collaboration applications, will provide information to CRE and HR on the performance of the workplace, as well as the behaviors and experiences of employees.

### Workplace Policies

- Critical to the success of any physical transformation is the creation of a Corporate Space Policy. As the workplace shifts to an open space design with free seating, the Corporate Space Policy will clearly define how physical space is allocated, developed, used, and governed. HR and IT teams need to be involved in the development of this policy, ensuring that the IT and HR policies align.
- As the demographics of the workforce continue to change, and the social contracts between employees and employers evolve, the formalization of a Flexible Work Policy will become more important. The Flexible Work Policy helps define the entitlements, rights, and responsibilities of employees, and the expectations of the company. Although HR is typically tasked with creating this policy, both CRE and IT need to have input on the aspects related to the workspaces and technology that are available to support these programs.
- The IT Workplace Policy plays a vital role in defining how technology is used in the workplace, whether it's physical or virtual. As the workplace continues to transform, the IT Workplace Policy will need to be adjusted to address new challenges posed by rapid growth of BYOD and personal mobile devices, the use of new social tools, and the addition of building system technologies onto the corporate network.

## Cisco Connected Workplace: Enabling a new workplace

Cisco Connected Workplace combines a number of innovative and industry-leading Cisco products and services into a solution framework that allows companies to rapidly transform their workplace. Cisco Connected Workplace integrates capabilities from across each of the Cisco product architectures (Data Center, Borderless Networks, Security, and Collaboration) to create workplace solutions that are uniquely suited to address the requirements of the next-generation workplace.

- **Cisco Unified Access** helps enable secure network access and mobility for employees and guests, providing consistency of network services and a more seamless user experience across both wired and wireless devices. Cisco Unified Access combines wired, wireless, and VPN networks into a single physical architecture, with an integrated management and policy engine, creating the network platform to support the next-generation workplace. Cisco Unified Access is the foundation that supports BYOD programs, video, media-rich applications, and mobility, as well as inclusion of intelligent building system endpoints onto the corporate network.

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- **Cisco Medianet** ensures the best possible voice and video quality for local and remote users. It is an end-to-end IP architecture that enables pervasive and quality rich-media experiences across an entire company by embedding intelligence into network elements and endpoints to create a media-aware, endpoint-aware, and network-aware environment. Cisco Medianet-enabled networks automatically configure media endpoints, optimize the various media and application types, and respond to changes in network availability. These features are crucial for the experience of video and rich-media applications over the network, ensuring predictability, performance, quality, security, and mobility.
- **Cisco Collaboration Solutions** include a wide range of capabilities that allow employees to connect and collaborate, giving them the ability to bridge organizational and geographic boundaries. These solutions include IP Telephony, presence, instant messaging (IM), telepresence, video, web conferencing, mobility, and social tools. The depth of the Cisco collaboration portfolio gives companies the ability to deploy solutions that are optimally suited for the specific requirements of employees, as well as the physical workspaces being designed, and ensures interoperability and consistency of user experience across devices and applications.
- **Cisco Interactive Services Solution, or iServices**, uses the network as the platform to transform employee and guest experiences with interactive digital media. Cisco iServices combines touch screens, web-based content and applications, along with easy-to-use remote management capabilities and cloud-based deployment capabilities, to deliver interactive signage for building lobbies, break rooms, and other common areas. The solution also integrates elements from the Cisco Collaboration portfolio to support real-time collaboration experiences such as high-definition video concierges and escalations to video contact center agents and remote experts.
- **Cisco Smart+Connected Meeting Spaces and Smart+Connected Personalized Spaces** give CRE the ability to better manage and monitor the utilization of the various workspaces experiences being offered. The Smart Meeting Spaces and Personalized Spaces solutions enhance the workspace reservation process, giving employees new ways of booking individual or group workspaces (through interactive signage, smartphones, or IP phones). The solutions also enhance the employee's workspace experience by personalizing the workspace prior to arrival, updating digital signage to indicate that it is occupied, adjusting temperatures and lighting, and "waking up" and logging in the IP phone, A/V controls, and other IP endpoints.
- **Workplace Analytics**, generated from Cisco Connected Workplace, provide valuable information on the performance of both workspaces and technology. Location-based analytics, generated within Cisco Unified Access, analyze signal data from employee Wi-Fi-enabled mobile devices and provide insight to CRE on the utilization of workspaces as well as how people are moving within and across buildings. Organizational Network Analysis (ONA), a new capability delivered by Cisco Services, aggregates detail records from the various collaboration platforms and provides companies with usage patterns for the various collaboration applications (voice, video, web conferencing, email, IM, etc.). Additionally, ONA uses this same raw data to identify "connections" or relationships among individuals and teams. This information is extremely helpful to companies that are looking to better understand organizational dynamics, measure employee engagement, and reduce employee turnover.

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### Cisco Connected Workplace: Benefits and Advantages

The financial benefits of a transformed workplace using Cisco Connected Workplace are significant. Although the savings fall into several categories, most of the financial benefit is achieved by reducing the overall square foot allocation of space per employee, in many cases up to 40 percent. This is accomplished through the creation of collaboration and network-enabled workspaces, by deploying capabilities to allow a more mobile workforce, and moving from a dedicated to free-seating workspace policy. Reducing the space allocation per employee directly correlates to the reduction in both one-time and recurring workplace expenses.

Figure 4: Benefits realized by Cisco's own deployment of Connected Workplace

Cost Category	Savings
<b>Corporate Real Estate Lease</b> Accommodating more people in the same amount of space	35%-45%
<b>Workplace Services</b> Reducing maintenance costs, and nearly eliminating the cost of moves, adds, and changes for workspace through the use of flexible workspaces	30%-40%
<b>Energy Cost</b> Reducing electrical and heating/cooling expenditures	30%-40%
<b>Construction</b> Building a smaller space than typically required	40%-50%
<b>Furniture</b> Purchasing less, and less expensive furniture than typically used in standard cubicles and offices	50%-55%
<b>IT Capital Spend</b> Reducing cabling costs, telephony endpoints, etc.	20%-25%



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In addition to the financial benefits, there are a number of key organizational and operational advantages to a transformed workplace.

- **Providing greater flexibility:** Open space designs and free-seating environments allow organizations to more quickly adapt to changing business needs and priorities.
- **Increasing employee engagement:** Leveraging technology to create a work environment where employees are more satisfied, committed, and engaged; leading to increased productivity, quality, and lower attrition.
- **Attracting and retaining top talent:** Offering a modern and flexible work environment, along with innovative tools and progressive business practices, will appeal to the next generation of workers.
- **Creating a culture of innovation and sharing:** Breaking down organizational silos by creating open-floor designs and deploying communication tools that bridge both physical and virtual workspaces, fostering greater collaboration.
- **Promoting environmental sustainability:** Combining smart building technology and reduced space requirements will allow organizations to dramatically cut their overall energy consumption and carbon footprint.
- **Superior portfolio efficiency and utilization:** New workplace analytics provide insights into how workspace and technology are being used, allow companies to better optimize their workplace investment.

## Cisco Connected Workplace: Executing on the Vision

To take advantage of the opportunities presented by this new workplace environment, companies must deploy a technology architecture that provides the foundation for the delivery of next-generation workplace services. This architecture must be aligned with the goals and objectives of the business, but also has to simplify service delivery, be cost-effective, and must be adaptable to address future workplace requirements. The process for building and deploying a next-generation workplace technical architecture must:

1. Leverage a design approach that acknowledges that one size does not fit all, and that technology services need to be carefully mapped to the functional requirements of employees and their work environment.
2. Support both physical and virtual workspaces, seamlessly blending these worlds together.
3. Accept that multiple delivery models exist, and that the choice between premises-based, cloud or hybrid models is directly related to the business requirements of the workplace.
4. Recognize adoption is the goal, not implementation, and that a formal change management process must be leveraged to ensure success.
5. Include capabilities that allow enterprises to monitor and measure the performance of the workplace, allowing for continuous and sustained improvement.

To ensure organizations can execute on their Connected Workplace vision, Cisco has comprehensive set of services capabilities that assist customers in their transition to the next-generation work environment. These services include strategic planning, design and development, deployment, and operational management. These services complement the activities being performed by architects, architectural engineers, workspace designers, and furniture consultants by focusing on how technology enables the connected workplace.

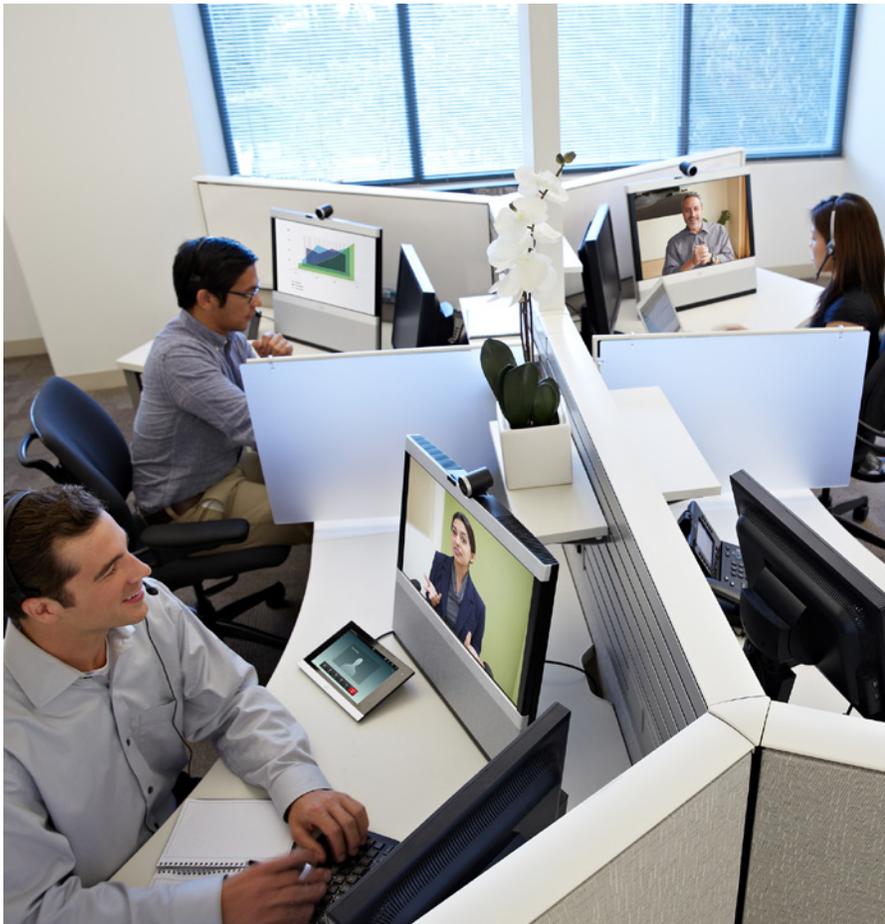
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### Summary

The workplace will go through a dramatic transformation during the next few years, driven by changes in employee demographics, new devices, and the changing nature of work. The convergence of these trends creates a unique opportunity for companies. The time is now for CRE, HR, and IT leaders come together to create the next-generation workplace. To accomplish this, these leaders will need to effectively marry workspace design, technology, and workplace policy, creating a workplace that is flexible, adaptable, and engaging. This journey will not be easy, there are plenty of organizational, technical, and cultural hurdles that can derail an effort of this size and magnitude, but those who are successful will propel their companies into a new era of efficiency, innovation, and profitability. Cisco has a broad portfolio of innovative solutions that can provide the foundation of the future workplace, as well as a world-class services organization and partner ecosystem to help customers make this transformation a success.



### Cisco Case Study: Transforming our workplace

With a portfolio of more than 24 million square feet of real estate, as well as a global, multi-cultural, and multi-generational employee base approaching 80,000, Cisco understands the important role that our workplace plays in the success of our company. During the past 15 years we have continued to evolve and transform our workplace to meet the needs of our business. To learn more about our Connected Workplace experience please visit: [www.cisco.com/assets/sol/ciscoitwork/business\\_of\\_it/ccwi/](http://www.cisco.com/assets/sol/ciscoitwork/business_of_it/ccwi/)