Five guiding principles to enrich the workplace experience

A blueprint for intelligent spaces
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Executive summary

Mobile devices, smart applications and cloud-based services are transforming the way we live, work and communicate.

Astute businesses are embracing digital transformation, introducing Intelligent Spaces to unleash worker productivity and accelerate the pace of business. The workplace plays a critical role in an organization's digital transformation. Forward-looking organizations recognize that you can’t build a digital business without building a digital workplace.

Intelligent Spaces are created by blending physical and digital contexts. This new approach connects people with each other, IT platforms, places and things within organizations, creating value from these connections, quickly and flexibly. Intelligent Spaces can help organizations break down communication barriers, improving collaboration, saving time and money, and fostering innovation.

This guide reviews some of the business and technology trends driving digital-physical convergence and shares a set of guiding principles from HPE Pointnext, the services organization of Hewlett Packard Enterprise, for creating Intelligent Spaces that empower the Mobile First workforce. The blueprint is based on real-world experience from many customers across a range of industries. By heightening physical and digital interactions, Intelligent Spaces enrich the workplace experience, helping organizations attract and retain talent, eliminate inefficiencies and improve business outcomes.

Workers shouldn’t have to adapt to the workplace—workplaces should adapt to the needs of the workers

Today’s tech-savvy employees are accustomed to mobile apps and cloud-based services in their personal lives. They use sharing apps like Uber and Airbnb to arrange rides and rent rooms. They use location-based services to meet up with friends, book a table at a nearby restaurant or reserve an item for pickup at a local retailer. They also use smartphone apps to control the lighting and temperature in their homes or to keep an eye on their pets, children or property. They expect smart applications and mobile productivity tools to be available in their workplaces as well.
However, for many, a trip to the office feels like a trip back in time. Many businesses still rely on legacy IT implementations built for a bygone era of stationary office workers and wired PCs. Underperforming corporate wireless networks, bolted on after-the-fact, provide spotty coverage and sluggish service. Going forward, enterprises must fully embrace mobility to unleash worker productivity and maintain a competitive advantage in the fast-paced digital economy.

The physical work environment also plays an important role in the lives of many employees. Many businesses are replacing traditional office environments with more open and welcoming spaces to attract talent, encourage teamwork and spur creativity. Rigid, walled offices and cubicle farms are giving way to open spaces, with flexible floor plans, natural lighting and adaptable furniture systems. Open offices trigger spontaneous interactions and promote cross-pollination across organizations—e.g., development teams, engineering teams and field support teams—sparking innovation.

Many organizations are taking advantage of workspace makeovers to reduce real estate and facilities costs. Some are introducing desk sharing, hoteling and benching to optimize space and minimize property expenses. Some are implementing smart building systems to contain lighting, HVAC and security costs. Innovative organizations are building intelligence at the edge within the workplace to boost productivity and enhance user experiences.

Open spaces help attract talent, encourage teamwork and spur creativity
Bridging the digital and physical worlds

Open office spaces can help improve collaboration and productivity by breaking down physical barriers and encouraging interactions, but they are not a panacea. Workers still need private spaces to make phone calls or focus on challenging tasks. Everyday activities—finding quiet spaces to focus on a critical deadline, tracking down an available conference room, setting up a web meeting, finding a colleague or meeting location in a sprawling office complex—can still waste time and energy.

Forward-looking business leaders are creating Intelligent Spaces—integrating the digital and physical worlds—to take productivity and collaboration to the next level. Intelligent Spaces enable the workplace to adapt to the people, rather than the other way around.

Contextual applications and location-based services help employees intelligently reserve workspaces, automatically initiate meetings and connect to smart conference room technology, or intelligently meet up with coworkers or find their way across campus. They bring all the benefits of the Cloud First, Mobile First world of consumer IT to the workplace, improving employee satisfaction and job performance. Better yet, next-generation workplaces help businesses make optimal use of real estate, closely aligning conference room, desk and meeting area spaces with demand to rein in escalating property and facility expenses.

Intelligent Spaces break down organizational, structural and informational barriers, helping enterprises promote innovation and solve business problems. By physically and digitally bringing people together dynamically and rapidly, problems or tasks can be addressed in real time. From agile development, to sales and marketing, to manufacturing and customer support, Intelligent Spaces help improve communications and promote teamwork between and across organizations.

Innovative organizations are implementing Intelligent Spaces to address a variety of business challenges in today’s Mobile First world.
Challenges driving the move to intelligent spaces

• Today’s workforce runs on mobile devices and smart applications. They expect secure, high-performance wireless connectivity across the enterprise.

• On-the-go employees waste too much time and energy on mundane tasks. Businesses must improve worker productivity to maintain a competitive advantage.

• Legacy enterprise applications weren’t designed with mobility in mind. Mobile First workers require modern productivity suites and collaboration tools optimized for smartphones, tablets and the cloud.

• Inefficient workflows and business applications create friction. Contextual applications and location-based services will streamline interactions and eliminate inefficiencies.

• There is a divide between the digital and physical worlds. By blending digital and physical interactions, smart applications will improve user experiences and boost innovation.
Five guiding principles for creating intelligent spaces

Recognizing the transformative power of mobility, IoT and the cloud is the first step. Navigating and transforming are part of a difficult journey and can introduce risks. How you do something is just as important as what you do. Organizations need a partner who understands technology, has helped customers with many transformation projects and can pull together the best in the industry.

HPE Pointnext developed a transformational blueprint to help customers create Intelligent Spaces that are more engaging and efficient. These dynamic, interactive spaces help on-the-go employees work smarter and more effectively, while also helping enterprises improve economics and accelerate business outcomes. HPE Pointnext defines best practices to help organizations become efficient, flexible and fast. The Intelligent Spaces blueprint includes Guiding Principles for addressing five key business challenges.

Ensure predictable, high-performance wireless connectivity across the workspace
BUSINESS CHALLENGE: Today’s workforce runs on mobile devices and smart applications. They expect secure, high-performance wireless connectivity across the enterprise.

Guiding principle 1: Build a trusted, high-capacity, pervasive wireless network

Replace legacy wired networks with secure, high-performance wireless networks that deliver seamless user experiences across the extended enterprise. Pervasive, bulletproof Wi-Fi is fundamental for enabling the Mobile First workplace. The latest 802.11ac Wave 2 wireless infrastructure delivers high-speed Wi-Fi with superior coverage and capacity. Leading wireless solutions also support context-aware authentication, authorization and access control, as well as unified network management for end-to-end visibility and control over wired and wireless infrastructure.

American Fidelity Assurance Company saved over $700K by implementing an all-wireless HQ

– Source: American Fidelity Video
Five guiding principles to enrich the workplace experience | A blueprint for intelligent spaces

**Checklist**

1. Upgrade wireless infrastructure, using the latest 802.11ac technologies to maximize performance
2. Implement strong wireless security measures to protect IT infrastructure and safeguard confidentiality
3. Introduce unified network monitoring and control solutions to streamline administration

**Expected Results**

- Improved productivity with better Wi-Fi coverage and service quality
- Secure, trusted Wi-Fi connectivity untethers employees from their desks
- More efficient IT operations—faster provisioning and troubleshooting

Location-based services and context-aware applications boost productivity and teamwork

- Deploy indoor location services with BLE beacons
- Trigger personalized actions with proximity services
- Provide a location-aware employee services app
- Build wayfinding to guide employees and guests to workspaces, conference rooms or printers
- Enable “find my colleague” to help maintain communities within dynamic workplaces
Guiding principle 2: Introduce location-based services and wayfinding apps

Implement location-based services to improve productivity and streamline interactions. Add wayfinding applications to guide employees to workspaces. Introduce find-my-colleague services to enable spontaneous meet-ups.

Leverage proximity services to trigger the presence of an individual in particular places. Used together with Wi-Fi location analytics, a detailed picture can be generated of room occupancy, choke points and people flow. Such data is invaluable when deciding how to configure or reconfigure the physical workplace environment as business needs change.

Best-of-breed mobile app platforms use Bluetooth low energy (BLE) beacons to provide precise location data for mobile devices in any environment. Unlike GPS, which only works outdoors, BLE beacons support indoor and outdoor applications, and are essential for enabling Intelligent Spaces.

Checklist

1. Rollout BLE beacons throughout the campus to provide precise presence data
2. Implement location-based services to seed intelligent applications
3. Introduce proximity-aware applications to improve quality of experience

Expected results

- Greater employee productivity—eliminate time wasted finding people, places and resources
- More efficient use of real estate—tightly align office configurations with usage patterns
- Improved teamwork and collaboration through increased workplace interaction

Context-aware technologies can boost productivity by 2.5 weeks or $5,300 per employee per year

Source: HPE calculations using public data from numerous sources
Intelligent spaces - workplace in action

Seek innovative solutions that improve individual work experience

One of the world’s largest mobile network operators constructed a next-generation workplace to improve productivity, collaboration and economics. The state-of-the-art facility replaces dedicated offices with open spaces and shared work areas. Hot desking and a flexible work environment help the communications service provider improve employee satisfaction and retention while reducing real estate and facility expenses. The company leverages the Aruba Meridian platform to create smart mobile apps that help employees work more efficiently.

BUSINESS CHALLENGE: Legacy enterprise applications weren’t designed with mobility in mind. Mobile First workers require modern productivity suites and collaboration tools optimized for smartphones, tablets and the cloud.

Guiding principle 3: adopt modern, cloud first, mobile first collaboration tools

Make the move to Cloud First, Mobile First solutions. Evolve legacy client-server applications to cloud-based services optimized for mobility. Replace legacy PBXs and unified communications platforms with software-based collaboration solutions engineered for smartphones, tablets and laptops. Give workers convenient and seamless access to all their office productivity and collaboration tools wherever they go—home, office or the road.

The latest Microsoft business solutions—Windows 10, Office 365 and Skype for Business—are specifically designed for today’s on-the-go users. They deliver enterprise-class office productivity tools and rich communications services when deployed in hybrid cloud configurations, meaning corporate IT need not sacrifice security, control or reliability.
Checklist

1. Move traditional client-server applications like Microsoft Office to the cloud to improve mobility
2. Introduce mobile-optimized unified communications and collaboration tools like Skype for Business
3. Upgrade desktops and laptops to Windows 10 to take full advantage of cloud-based services

Expected results

- Improved user experiences with applications optimized for smartphones and tablets
- Greater mobile productivity—seamless, consistent access to critical applications from anywhere at any time
- Increased service velocity and greater flexibility for IT—applications are hosted in the cloud; faster time-to-market for new features and capabilities

HPE saved 1.5 million minutes of productivity time monthly with Skype for Business

– Source: HPE case study of combined Hewlett Packard Enterprise and HP Inc.
Identify and eliminate common friction points in the everyday lives of employees. Use smart applications and location-based services to help workers make efficient use of time and resources. Introduce intelligent applications to identify free conference rooms, huddle areas or desks. Create smart apps to sign-in, badge and track guests. Help visiting employees and contractors find available workspaces or nearby printers, copiers, restrooms or kitchen areas.

Integration is critical. Smart applications and location-based services must not be implemented as a separate island of functionality but used as sources for, and consumers of the digital contexts that further shape the delivery of personalized services throughout the workplace.

Open and flexible workspaces and smart applications can remove stress and improve quality of life at work, boost productivity, and help attract and retain talent.

**Checklist**

1. Organize a cross-organizational team to identify common productivity barriers
2. Introduce smart applications to streamline workflows and interactions
3. Use contextual data and location-based services to simplify everyday activities

**Expected results**

- Improved worker productivity—saves time and energy
- Greater employee satisfaction—common tasks are made simpler
- Better guest and customer experiences—seamless access to corporate Wi-Fi and automated meeting rooms and check-in systems
Mobile First, Cloud First workplace in action

A leading cloud storage provider built a state-of-the-art corporate headquarters to support its rapidly growing business. Recognizing that 90% of employees rely solely on Wi-Fi, the company designed the seven-floor building from the ground up as a Mobile First, Cloud First workplace. Aruba high-performance wireless access points and BLE beacons provide blazing-fast Wi-Fi and enable innovative location-based services throughout the entire facility. A smart navigation app provides turn-by-turn directions, helping employees and guests easily find their way across the building. Proximity beacons and push notifications improve productivity and collaboration, helping workers automatically locate and book available meeting rooms, initiate web conferences and queue documents to nearby printers. Cloud-based identity management, unified communications and business applications allow employees to work efficiently from any place at any time. This digital workplace helps the service provider attract and maintain talent, and accelerate the pace of business in a highly competitive market.

BUSINESS CHALLENGE: There is a divide between the digital and physical worlds. By blending digital and physical interactions, smart applications will improve quality of experience and boost economics.

Guiding principle 5: Weave presence and proximity data into business applications

Integrate location data and contextual information into office productivity suites, business applications, IT reporting tools and facility management solutions to streamline workflows and optimize the use of corporate resources. Use identity management, calendar and presence data to orchestrate meetups or web conferences in real-time. Use proximity data to track occupancy rates in meeting rooms and shared spaces to align usage with demand. For example, by monitoring occupancy over time, you can determine that a
room designed for 20 people is typically used by no more than 10 people. You also can determine that the first-floor hoteling area is typically filled to capacity, while the second-floor hoteling area is rarely more than 50% utilized.

**Checklist**

1. Add contextual information and proximity data to office applications to improve productivity and quality of experience
2. Tie location and presence data into facility management solutions to improve economics
3. Use historical beacon data to improve space planning and optimize real estate

**Expected results**

- Improved user experiences through secure, seamless integration of digital and physical interactions
- Lower real estate and facility costs through intelligence, visibility and automation
- IT simplification: Smart applications and location-based services are flexibly integrated with IT systems and facility-management platforms

Unused employee workspaces cost organizations up to $15K per employee per year

– Source: USA GSA report
Aruba headquarters delivers next generation workplace with intelligent spaces

Aruba’s new corporate headquarters was designed to deliver an enriched workplace experience. The six-story building features an open floor plan with community spaces, quiet zones, collaboration areas, right-sized workstations, hot-desking options and a modern Customer Experience Center. The facility takes full advantage of Aruba’s Mobile First networking technology, delivering superior user experiences for employees and guests throughout the 230,000-square-foot campus.

A location-aware Campus App, created using Aruba’s Meridian App Platform, helps employees get around campus and find co-workers, collaboration spaces and conference rooms quickly and easily. Powered by Aruba Beacons, the app infuses real-time location contexts to enable wayfinding and concierge services. It provides turn-by-turn directions to any location, including restrooms, break rooms, locker rooms and mothers’ rooms. It even provides real-time menu options for the campus café.

The new campus includes almost 100 conference rooms and dozens of informal collaboration spaces to accommodate a wide range of meetings and interactions. Many areas are equipped with modern amenities like large-screen video monitors that eliminate cable hassles and wasted time.

Aruba partnered with meeting room management platform specialists TEEM and Robin to create an on-demand meeting organizer integrated with Microsoft Office 365. Users can find free space in real-time or schedule future meetings by selecting the type of room or amenities required. Using intelligent sensor technology, the system can automatically cancel meetings if they fail to materialize, freeing up resources for other employees.
Gain a leg up on the competition

Intelligent Spaces can enrich the workplace experience helping businesses thrive in the digital economy. To unlock the potential of the digital workplace for your company, you need to identify, prioritize and resolve the unique challenges for your specific business segment and work environment. Map out a transformation path that satisfies your near-term and future requirements, protects and extends previous investments and minimizes disruptions.

Based on experiences implementing projects with customers, HPE Pointnext recommends that organizations consider applying these best practices:

- **Workshop a Mobile First path to the digital workplace.** Assemble a cross-functional team and align around a future vision and current state of the workplace. Identify common bottlenecks and improvements—including quick wins and longer-term opportunities. Create an agreed-upon transformation program name, scope and steps.

- **Baseline the current workplace state and identify gaps.** Understand the existing workplace technology landscape and how it aligns with a future vision. Agree on gaps and create a list of projects required to close these gaps.

- **Prioritize and execute requirements.** Using the information gathered in bullets 1 and 2, develop a multi-phase plan to close the gaps. Identify timelines, functional goals, cost metrics and success criteria for each phase. Carefully evaluate success criteria during each step of the implementation.

- **Proactively manage change.** A smooth transition is critical for driving user adoption and satisfaction. Keep the workforce in the loop throughout the transition to avoid disruption. Ensure that all workers are properly educated on the benefits and uses of the new applications and services. Work across the enterprise to build the awareness, understanding and confidence required to embrace change. Provide advanced notice of application upgrades, policy changes and service changes. Invest in the training and support resources needed to ensure a successful transition.
Leverage the expertise and experience of HPE Pointnext, the services organization of Hewlett Packard Enterprise, with a long history of delivering workplace transformations across industries around the globe. HPE’s reputation for delivering innovative workplace solutions also is built on the 30-plus-year partnership between HPE and Microsoft, aligned with the deep connectivity expertise of Aruba, a Hewlett Packard Enterprise company. This combination brings together technology, expertise and a solution ecosystem to help accelerate your business and lead the transformation of your workplace.

HPE Pointnext recommends the following services to assist with your Mobile First digital workplace journey: HPE Intelligent Spaces--Workplace pilot, HPE Mobility and Workplace Transformation Workshop, HPE Readiness Workshop for Microsoft Office 365, HPE Transformation Services for Windows 10 and Aruba Meridian ClearPass and Network Services.

**Conclusion**

Innovative businesses are introducing Intelligent Spaces that merge digital and physical realms to improve collaboration, eliminate inefficiencies and contain costs. Contextual applications and location-based services help remove key friction points in the everyday lives of employees and visitors, and provide valuable business insights to help facilities and corporate real estate managers control ongoing expenses.

Intelligent Spaces bring all the benefits of the Cloud First, Mobile First world of consumer IT to the modern, open workplace, helping enterprises attract, maintain and empower the talent required to fuel business growth. Optimized for on-the-go employees and mobile devices, these workspaces break down physical and organizational barriers, facilitating communications and teamwork.

By heightening physical and digital interactions, Intelligent Spaces enrich the workplace experience and accelerate the pace of business, helping enterprises thrive in today’s rapidly changing marketplace.
Additional resources

HPE Pointnext

HPE Mobility and Workplace Services Webpage

HPE Mobility and Workplace Transformation Workshop

Aruba Headquarters Case Study

HPE Intelligent Spaces Video