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SOLUTION OVERVIEW

THE DIGITAL WORKPLACE

The explosion of smartphones, tablets and Internet of Things (IoT) devices is transforming the way we communicate, consume services, and manage our personal lives. The combination of mobile devices and cloud-based apps is also changing the very nature of our work environments, where collaborative open spaces and non-routine schedules are becoming the norm, and the #GenMobile workforce expects to be able to work anytime, anywhere.

As a result, organizations are adjusting their physical spaces and technology designs to attract and retain top talent — the influx of Millennials who want an open, modern space within a mobile-friendly environment — and to boost worker productivity. Cornell University reports 33% less attrition rate within companies when they allow their workforce to work wherever they roam.

Workplace design and technology must move in unison

Organizations have figured out that the move to mobile-cloud is not just a technology shift. So when they start to think about building design, they need to consider the physical space and what type of technology needs to be in place to support it.

Leading commercial real estate and interior design firms are also taking note and are rethinking the way they propose office design to business leaders. It's clear that in these new office settings, the device of choice for employees is mobile. The workplace must have a high performance, secure Wi-Fi infrastructure to support the mobile devices, just as we would assume that there is lighting and electricity in place. Solid Wi-Fi coverage is essential in the digital workplace, not an afterthought.

In the process, these organizations can lower operating costs as they make use of collaborative workplaces and more efficient use of real estate. Intel noted that 60% of its cubicle real estate was unused at any given time, and they decided to move to digital workplaces to not only improve employee engagement and productivity, but also to realize significant savings in real estate costs. The U.S. General Services Administration reports that on average, unused employee workspaces cost organizations $10,000 to $15,000 annually.

IoT moves in—and you thought BYOD was a headache

IoT was once thought to be a consumer phenomenon, but organizations are realizing its huge potential in creating smarter, more efficient workspaces—intelligent meeting rooms, location services, and real time monitoring.

For example, consider the smart meeting room. Imagine approaching a conference space, having your presence and calendar schedule detected automatically, and then receiving an invitation from Outlook to book the room for a Skype for Business video call. Guests would be greeted at the front desk, pre-enrolled for secure Wi-Fi access, and a notification would be pushed to their phones with step-by-step directions to the meeting room. Combining IoT devices with contextual information — location, application, and policies — yields opportunities to lower costs, build loyalty, and drive revenue.

The possible IoT business use cases are endless. According to the The Internet of Things 2015 report, 34 billion devices will be connected to the Internet by 2020, of which 24 billion will be IoT devices. The big surprise is that the largest adopter of IoT ecosystems will be businesses, not consumers. Businesses are projected to have 11.2 billion IoT devices installed by 2020.

While IoT offers potential rewards, the thought of all of those devices connecting to the network is the stuff that keeps security and IT managers up at night. The BYOD phenomenon was bad enough — all those employee-owned devices blurring the lines of a secure perimeter, risky user behavior — but IT got a handle on this challenge by creating security policies based on known, contextual data that it could trust. Given their sheer number, IoT devices need to be an integral part of the conversation when planning the network infrastructure for the digital workplace. The network needs to be smart enough to classify and understand the behavior of IoT devices automatically.

Mobile and IoT raise challenges for IT

According to a recent Goldman Sachs survey of CIOs, the top networking spending priorities for the next twelve months are network management and security as well as bundled wired and wireless offerings. There's a general consensus that the new mobile-cloud model raises IT challenges and CIOs will spend lots of time trying to figure out how to put the right infrastructure in place.

Performance and integration across the wired and wireless network

The move to mobile-cloud means that wireless is no longer an add-on to the wired network. It needs to be incorporated into the infrastructure design from the start and should be treated as the primary means employees will get most of their business done. However, the peripheral and headless devices will also rely on wireless and Ethernet connectivity. Network operators, who are responsible for keeping the network up and running, need tools that easily deploy the infrastructure end-to-end, secure it, and collect performance information on a continual basis.

Visibility: You can't manage what you can't see

With the huge scale of devices connecting to the enterprise, network operations teams need granular visibility into all things and users connected. They also need to be able to predict network issues before they happen to keep things running without disruptions to the business.

Security: You can't control what you can't understand

IT organizations must implement the right set of tools to quickly translate complex corporate security policies and stringent compliance requirements to their language. They should be able to program the underlying infrastructure on-demand and control network access for any unknown IoT and mobile device, without wasting countless hours and unnecessary resources. With the increasing variety and scale of apps running on the network, they need a common policy framework to move beyond the perimeter-based security model for all things connected.

Why does traditional networking fall short?

Traditional networking models were built on the notion of static desktop clients talking to a server, creating the classic Local Area Network (LAN) architecture. This model has served us well for 20+ years because traditional application environments have had long deployment lifecycles, a plan and approval driven operational model that was optimized for price/performance. This model has also played into the hands of proprietary architectures that lock customers into unnecessary complexity and expense.

With the shift to mobile-cloud, today's application environment measures lifecycles in hours and days with a continuous integration model that is optimized for innovation. In this environment, static networking paradigms fundamentally offer no real value when the network needs to adapt in real time to changing conditions in the application, network, and business environment.

In this new world, the entire branch network is ready for mobile and IoT in hours not days, and does not require truck rolls during moves, adds and changes. Within a single architecture, network components adapt to any size office space — campus or remote — and increase speed of delivery.

In this model, the network is smart and takes action based on context — user role, device type, application category, location — to ensure best performance and highest level of security for all things connected. It not only offers connectivity, but also allows IT to gain valuable insights on device, app, and real estate usage while also helping businesses measure return on investment for BYOD/IoT, new business workflows, and digital workplaces.

To say the least, these are all impossible tasks for traditional networking.

4 STEPS TO ARUBA'S MOBILE-FIRST APPROACH

The new generation of collaborative workplaces, a surge in IoT devices, the increased speed of doing business on mobile, and the #GenMobile workforce are leading us to the million-dollar question — is the IT infrastructure ready?

Aruba, a Hewlett Packard Enterprise company, takes a mobile-first approach to create the foundation for the digital workplace. To meet the challenges that IT faces, Aruba has focused its efforts on software-powered innovation to differentiate itself from the traditional hardware-focused networking solutions. With an integrated wired and wireless portfolio, and advances in network management and security, Aruba recommends this 4-step approach and offers the following advantages to best-in-class IT organizations.

1. Beef up wireless to optimize for mobile and IoT

Gigabit Wi-Fi is the foundation of the digital workplace. Aruba's 802.11ac portfolio delivers an enterprise-grade, stable wireless solution so that mobile users can roam while accessing business applications and data. Enterprises moving to voice and video calling on Wi-Fi need their IT departments to design a wireless infrastructure that supports these apps at high density.

Aruba's new Wave 2 access points (330 series) deliver superb performance in high-density environments and add support for multi-user MIMO (MU-MIMO) and 4 Spatial Stream support (4SS). Unique in the industry, the 330 series is powered by ClientMatch technology, making sure all devices have the fastest connection at all times. This means increased network capacity and a boost in network efficiency, with fewer headaches for IT.

2. Futureproof your wired infrastructure

The integration of the HPE and Aruba access portfolios is a key ingredient in our mobile-first approach. As organizations transition to the digital workplace, they won't need as many ports as before because of the increased use of Wi-Fi. Although a highly mobile workforce means that the majority of users will connect via wireless, the surge in IoT devices and the increasing use of Wi-Fi bandwidth means that the wired infrastructure is critical, too.

HPE Smart Rate technology incorporated into the new Aruba 3810 and 5400R switches, allows you to raise the data rates to 2.5Gbps, 5Gbps, and even 10Gbps. With multi-gig capability on all of its ports, the 3810 series enables IT departments to futureproof their network infrastructure as new, higher capacity wireless technologies emerge. This transition will continue over the next few years.

3. Predict network issues before they happen

With the huge scale of devices connecting to the network, IT needs granular visibility into the access layer — at the user, device, and app level — to keep things running without disruptions to the business. Aruba AirWave is a powerful and easy-to-use network management system that manages Aruba wired, wireless, and remote access networks, as well as multi-vendor wired and wireless infrastructures.

Aruba's AirWave software is a powerful tool for not only monitoring your entire access network but also improving user experience with rich analytics. As the number and adoption of mobile devices and IoT increase in the digital workplace, the first thing that stands in the way of scalable growth is the lack of tools and resources for network operations teams to maintain visibility to all things connected and the network infrastructure. Aruba AirWave 8.2 meets this challenge by offering better network analytics and predictive visualization.

With AirWave, IT now gets unprecedented insights into Wi-Fi connectivity. Thanks to Aruba Clarity, AirWave can now proactively monitor critical non-RF metrics such as the time it takes for a mobile device to associate with a Wi-Fi radio, authenticate to a RADIUS server, gather an IP address through DHCP, and resolve names for DNS services. With VisualRF, IT teams can monitor Wi-Fi coverage in a time-lapse, significantly reducing the time it takes for wireless network engineers to troubleshoot the toughest Wi-Fi performance issues. With Aruba AppRF, IT can get detailed analytics on mobile app quality and bandwidth usage to make intelligent decisions on QoS policy assignments for devices and users.

In other words, IT now has a "crystal ball" into potential network issues, so that they can predict and fix connectivity problems before the user is affected, instead of just troubleshooting after the fact. That means fewer outages and always-on connectivity for today's 24/7 global businesses.

4. Secure the network with smart policy management

The Aruba ClearPass Policy Management Platform allows IT to assert and enforce trust on every user and device on the wireless, wired and VPN network. To do this, ClearPass leverages real-time, trusted, contextual data — a person's role inside an organization, device and app attributes, location and insight from third party security solutions — to create policies that satisfy highly mobile and IoT security needs.

The latest enhancements to ClearPass enable custom profiles to be created in order to identify and secure IoT devices in real-time. Through its integration with Duo Security and ImageWare systems, it enables stronger mobile device and app authentication. Through real-time interaction with third party security solutions, ClearPass offers automated threat protection and recovery for devices that represent risk, with minimal hands-on IT interaction.

ClearPass works across multivendor networks by replacing outdated legacy AAA with context-aware policies. It offers profiling, BYOD and guest onboarding services, and integrates with MDM, EMM, firewall, and SIEM solutions from other vendors. Massive scalability and load-balancing ensure that ClearPass will meet your evolving business needs.

CONCLUSION

The move to mobile-cloud is not just a technology shift. Organizations see business benefits — recruiting and retaining top Millennials, lowering operating costs, boosting productivity — in the move to the digital workplace. As organizations start to consider new office design initiatives, it is key for them to assess what type of technologies need to be in place to support them.

Aruba's mobile-first approach optimizes for the digital workplace. With an integrated wired and wireless access layer portfolio, secure IoT support, and advancements in network management and security solutions, Aruba is ready for your mobile-cloud world. Today and into the future.

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