



## Extricom Enterprise WLAN and the BYOD Challenge





## Introduction

Bring Your Own Device (BYOD) programs have been making a dramatic impact on the workplace over the past two years and will continue doing so in the years to come. Sparked by the introduction of smartphones and tablets, workplaces have seen a dramatic shift as employee-purchased and owned devices are replacing company-provided IT technologies.

In the changing landscape of technology use, the company-assigned IT devices of ten years ago no longer have the upper hand in power, innovation, productivity and connectivity compared to employee-purchased devices. Instead, users have grown accustomed to strong network performance, high flexibility, and the rich and interactive user experience they enjoy with their personal devices, which they then seamlessly transfer from home to work, and back.

Consolidating office IT with favoured personal devices, supporters of BYOD argue for higher productivity, improved efficiency, reduced costs and greater employee satisfaction. It comes as no surprise, therefore, that in a recent Gartner survey among IT managers, 70% of respondents had either adopted or were planning to adopt BYOD policy in the next year, enabling employees to use their personal mobile devices to connect to work-based applications.

## BYOD & Wi-Fi

Today we are witnessing not only a dramatic increase in the number of personally owned devices, but also the change in the devices themselves as these have transitioned from portable PCs to Wi-Fi networked mobile devices. Indeed, over 90 million smartphones were in use in the US alone in the beginning of 2012; nine out of ten users employed them on a daily basis for texting and for internet browsing (Anson Alexander, "Smartphone Usage Statistics 2012 [Infographic]).

Even more significant for IT managers who need to accommodate growing numbers of new devices, that require network ability without compromised service, is the growth in tablet use, including iPads and the iPad Minis. Only two years after the launch of the original iPad, tablets, reached what was defined as 'critical mass', and are expected to exceed smartphones in terms of internet browsing traffic.

With no Ethernet connectivity, smartphones, tablets and Android devices necessitate networking that is Wi-Fi-based, so that one of the main challenges for IT managers today is to provide Ethernet quality connectivity to seamless wireless roaming.

## Severe Bandwidth and Security Challenges

Often employing more than one device, end-users require access to numerous network platforms, frequently with different levels of access permission. Clearly, security and privacy concerns are crucial as the flow of data sets new demands on enterprise networks. Indeed, BYOD applications raise many concerns regarding both the securing and the management of high-quality and reliable wireless roaming as the number of connected devices increases, data traffic grows, and high level connectivity must be assured to all concurrent users.

Yet, while various solutions to the securing of access and data flow and to the safeguarding of both enterprise and end-user privacy exists today in the market, these solutions do not address the increased demands on Wi-Fi capacity or the connectivity challenges that enterprises currently face.

Even more so, they cannot meet the highly challenging demands of large-scale employment facilities such as hospitals, universities and schools, in which the increasing connectivity demands of staff and students are joined to those of visitors who frequent these locations. For example, in one hospital survey, over 80% of employed staff stated that they were already incorporating BYOD into their daily practice. To this one need only add the large number of patients, and visitors to envision the vast extent of capacity demands. Indeed, as BYOD practices become more prevalent, IT managers will continue to meet with amplified unpredictability and volatility in traffic, yet they will fail to accommodate the extent and timing of demand and will be unable to provide the expected quality of service.



## Different Authentication Schemes

To date, most solutions to networking security and connectivity have focused on the regulation of device numbers and on solutions offered at the app level that streamline first-time logins. However, such solutions will inevitably be met with continued pressure by users to increase network capacity and ease of access as personal mobile devices become more powerful, use-friendly, affordable, and hence widespread.

In addition, BYOD programs necessitate different authentication schemes for connectivity between devices and enterprise VPNs, which are user-credential based rather than device-ID based, in order to provide the best service to users who employ multiple devices. Also of concern is the loss or theft of personal devices used in the workplace, as these may leave enterprises exposed to access by unauthorized users.

Finally, interruptions in communications cost time and money: as battery consumption is contingent on the duration of transmission, continuously interrupted connectivity inevitably leads to high battery usage and premature shutdown of mobile devices.

## Extricom Enterprise Wi-Fi: Built For BYOD

To overcome many of the challenges faced by IT managers as business, education, health and entertainment verticals that are seeing the growing permeation of BYOD, Extricom presents its patented Channel Blanket™ architecture as an ultimate solution for BYOD seamless mobility in large-scale WLAN environments.

The Channel Blanket solution places wireless intelligence in a central switch that coordinates the actions of all access points. Access points are configured to use the same channel, eliminating the complexities of cell-planning and simplifying wireless deployment. With the Channel Blanket, Extricom is able to provide a solution for both extensive and unpredictable Wi-Fi traffic that does not restrict the volume of users, allowing each Wi-Fi channel to be used in any location and on every access point, in a sense creating 'blankets' of coverage. While most solutions attempt to quell the torrent of users that characterize the rise of BYOD, Extricom thrives on the surge of traffic velocity.

Providing up to four blankets of wireless coverage, each of which can be set up to support a different business requirement, it becomes possible to provide, for example, one wireless blanket specifically for business-critical data, and another for the internet browser generated traffic themselves. This way, business-critical data usage is unaffected by the heavy data usage of internet browsers.

## Robust Security, Higher Bandwidth, Seamless Mobility

For BYOD programs Extricom's solution is particularly powerful: it allows staff to use numerous mobile devices in the work environment in any location and at any time, while minimizing wireless security risks as all staff traffic runs on one secured Channel Blanket. Allowing for multiple access and security schemes, standard Channel Blanket security coupled with standard AAA (Authentication, Authorization, and Accounting) protocols is providing heightened security for both wired and wireless IT services.

The Extricom solution reduces the clutter that BYOD creates and that ultimately affects not only BYOD connectivity but that of non-BYOD enterprise services as well. With the Channel Blanket, BYOD users are offered greater bandwidth and coverage than they would get on traditional WLANs, as well as seamless mobility with no AP-to-AP handoffs, the elimination of RF cell planning and co-channel interference, and the ability to offer a performance guarantee for both connection rate and bandwidth.

The Channel Blanket solution situates all access points on the same channel, providing multiple opportunities for client transmission, and thus reducing transmission time as well as battery usage.

## Wire-like Reliability

By eliminating co-channel interference, providing multiple uplinks, and taking advantage of reflected RF rather than being hindered by it, the Extricom solution is intrinsically reliable, as well as time and cost efficient.

Built to slash wireless complexity, Extricom's Channel Blanket is the solution for future-proofing networks that are supporting BYOD for today and tomorrow's multi-service demands. Our WLANs have met and exceeded customer expectations even in environments where other WLAN's have failed to perform. Extricom – When no-one Else Can!

## About Extricom

Extricom is a manufacturer of 4th generation enterprise wireless LAN solutions, based on its Channel Blanket™ technology. Extricom solutions are used by customers in numerous industries worldwide, including education, healthcare, warehousing, and a rapidly growing number of large entertainment and public venues.

While adhering to the 802.11n standard, Extricom's patented topology provides wire-like reliability, high throughput, seamless mobility, unparalleled noise immunity, and is easy to install and maintain. In an era of intensive wireless usage powered by the market explosion of smart phones, iPads, iPods, tablets and other communication devices, voice, data, video, and location services are delivered with an always-on, robust and mobile Wi-Fi connection to any client, in any environment. Extricom Interference-Free™ WLAN is purpose-built to slash wireless complexity and future-proof your network for tomorrow's multi-service demands.

Extricom serves its growing global customer base through offices in the USA, Europe and Japan, and by working with a global network of distributors and partners.

