Mobile Zero Clients – the future of secure, efficient and flexible computing

It's no secret that mobile device proliferation has been essential in enabling businesses to become more efficient, productive, cost effective and responsive. But while mobile devices have generated many benefits for corporations, they have also ushered in unprecedented security threats, and a range of device management challenges.

Toshiba's recent pan-European research found that securely managing multiple devices at scale is one of the biggest challenges faced by contemporary mid-size and corporate companies,[1] with 84 per cent of senior European IT decision makers stating unauthorised IT system use is endemic within their businesses.[2] Ovum's European Mobility Management Gap report also found that a staggering 61 per cent of European business leaders still feel they are making little or no progress towards building a secure mobile workforce.[3]

In an attempt to tackle these challenges, many IT professionals have turned to thin client solutions, as they can shift sensitive data away from a set device and centralise permissions and data access management. However, these thin client propositions still come at cost, with inherent risks and limitations, particularly when it comes to enabling remote working. In order to strike the perfect blend of security, functionality, flexibility and cost effectiveness, companies are now exploring other alternatives.

The rise and pitfalls of zero clients

The residual challenges posed by thin client solutions have led to the rise of zero clients – a very small form factor type of thin client which slashes the level of processing, storage, memory and wider components necessary within a device. Similar to thin clients, zero clients rely on a central, purpose-built server that hosts the operating system and applications. The difference with zero clients is that the operating system can be extracted from the individual device. This eradicates any dependence on individual devices' hard (HDD) or solid state (SSD) drive for storage. The entire gamut of functionality and data is also opened via a cloud-based virtual desktop infrastructure (VDI).

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[1] "Make IT work research," Toshiba in partnership with ICM, May 2016
[2] "Make IT work research," Toshiba in partnership with ICM, May 2016
[3] "The European Mobility Management Gap," Ovum, September 2016

On top of the computing benefits zero clients offer, businesses tend to prefer them because they can unlock extensive savings. For example, zero clients eliminate the requirement to regularly replace PCs when they become outdated. Instead, updates are made via the server and with no information held on the client. The solution is therefore faster and more efficient for a longer period of time. Not only are zero clients more affordable, quicker and more efficient, they also consume 97 per cent less energy than standard desktop PCs, according to Information Technology Group.[4]

However, zero client solutions still require some central management within the IT infrastructure. Traditional zero client solutions also tend to be desk based, although with today's flexible working environment, businesses want to be able to offer their employees the opportunity to work remotely. Toshiba has identified the need for businesses to have a more flexible, mobile, secure solution and introduced the Toshiba Mobile Zero Client (TMZC) based on its award-winning B2B notebook products.

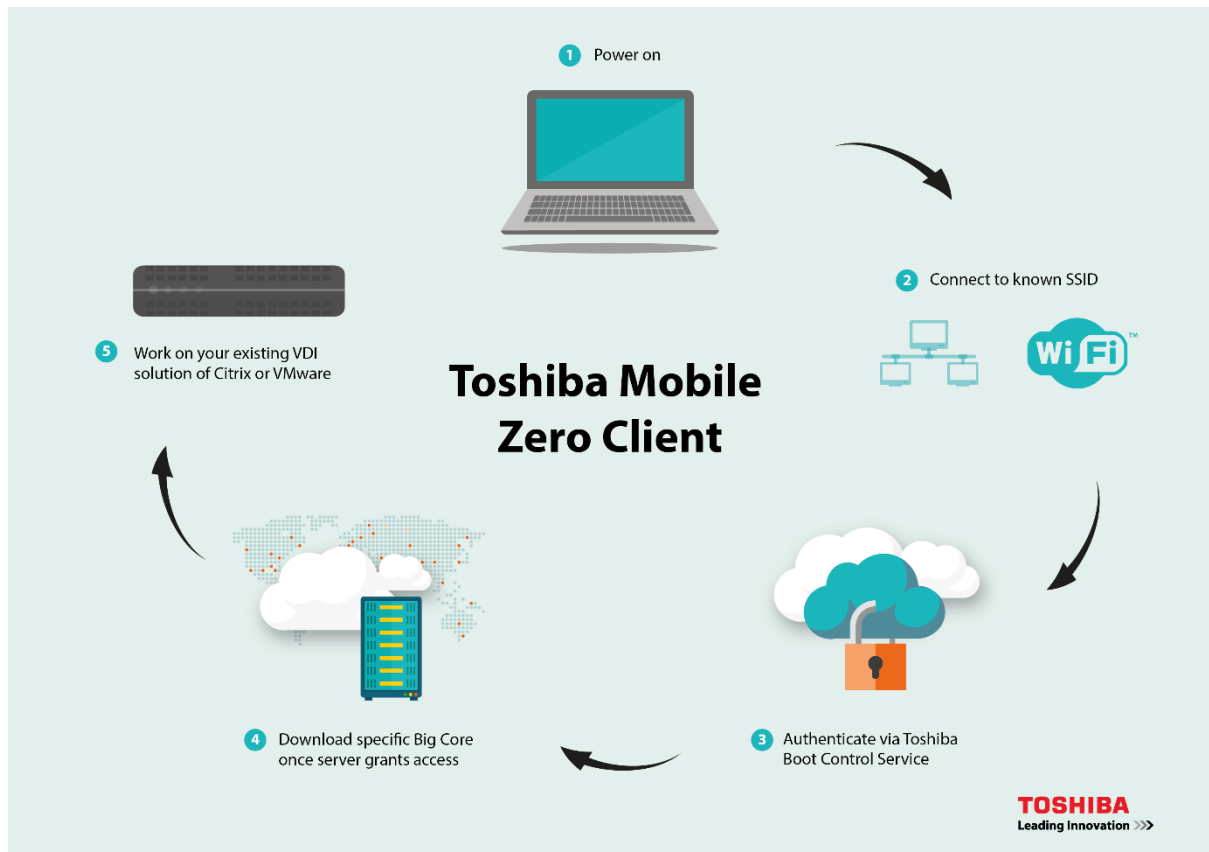**Toshiba Mobile Zero Client – the future of mobile business**

Toshiba appreciates that combining efficient mobile working with tight security measures for company data is a major priority for modern businesses, particularly those sensitive to data loss such as, but not limited to, the financial and health market sectors. The need for an IT solution which blends these areas together is what drove the company to create TMZC.

TMZC is the first mobile zero client proposition in the market. Designed to operate on Toshiba's latest standard business laptops, and requiring minimal management, TMZC is unique in that it enables businesses to take a 'set and forget' approach. Once setup there would only be a need to proactively add new devices, or in the event of a device being stolen, disable the device, rendering it inoperable to a third party.

Unlike a thin client, TMZC contains no locally installed operating system, HDD or SDD, and it doesn't allow any data to be hosted on the device. Instead, both functionality and data is made available through a user's existing VDI solution, removing the threat of malware being stored on the device and data theft in the event the device is lost or stolen.

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[4] "Green IT," Information Technology Group, March 2014

Toshiba Mobile Zero Client

1. Power on
2. Connect to known SSID
3. Authenticate via Toshiba Boot Control Service
4. Download specific Big Core once server grants access
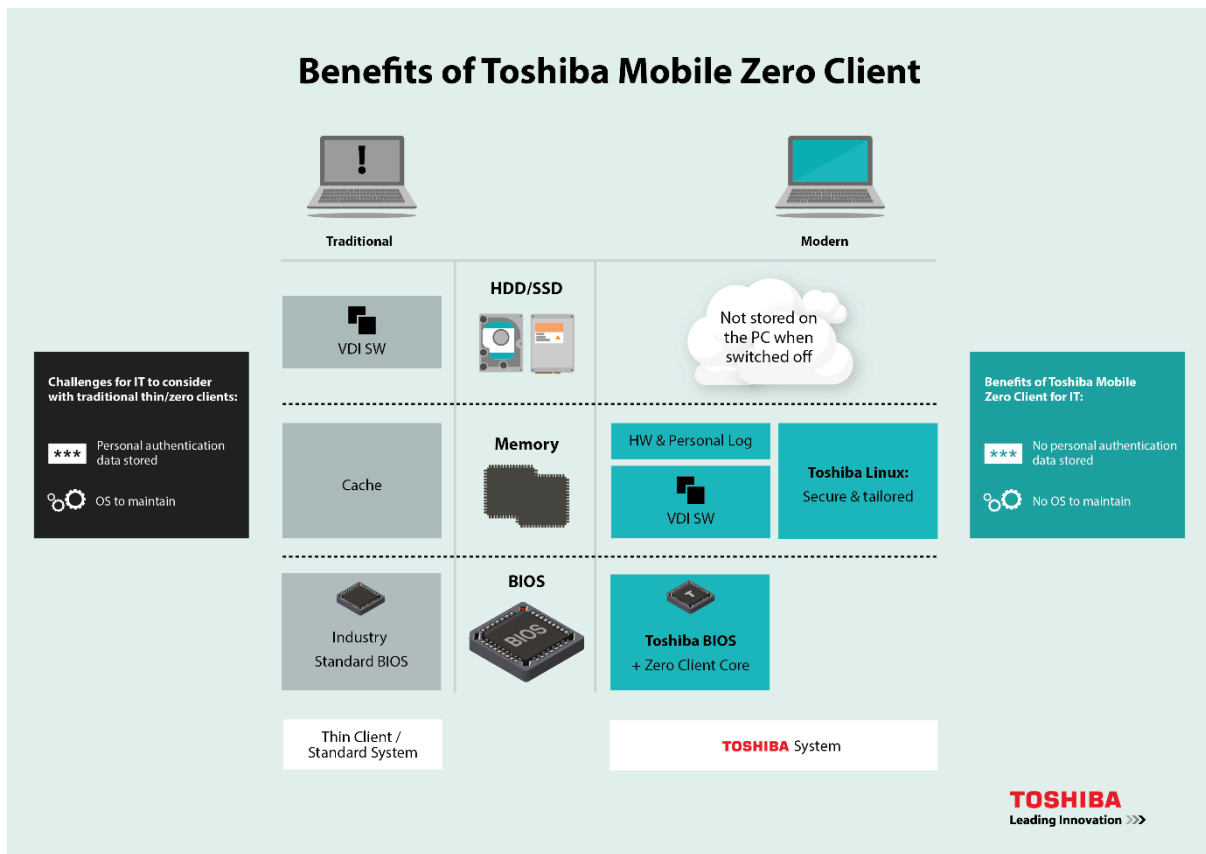5. Work on your existing VDI solution of Citrix or VMware

Through using TMZC across the wide range of Toshiba's latest business laptops, which also include 6th generation Intel® Core™ processors, users can benefit from unrivalled levels of security as well as optimum performance on the move. Beyond the separate storage of data away from the device, within its laptop range, users can rely on Toshiba's uniquely developed Basic Input/Output System (BIOS), designed and built in–house to remove the risk of third party interference. System ID and authorised network information is stored there, so that the PC boot and the access to the management server is secured on a BIOS level. When switched on, the TMZC authenticates to a boot-control server, which confirms if the device is authentic and allowed to start. Only devices that are authorised at this BIOS level boot will be allowed access to the company VDI. This approach allows TMZC to operate in a secure protected environment from the moment it is switched on.

TMZC's agile solution can allow IT staff to seamlessly integrate with their existing VDI infrastructure (i.e. Citrix or VMware) resulting in straight forward integration into existing IT infrastructures. In addition, there is no requirement for convoluted, costly or time-consuming set up. Due to the minimalistic management, TMZC offers a greater total cost of ownership benefit during the lifecycle of the product.

Benefits of Toshiba Mobile Zero Client

Traditional

Modern

HDD/SSD

VDI SW

Not stored on the PC when switched off

Challenges for IT to consider with traditional thin/zero clients:

*** Personal authentication data stored

OS to maintain

Memory

Cache

HW & Personal Log

Toshiba Linux: Secure & tailored

VDI SW

Benefits of Toshiba Mobile Zero Client for IT:

*** No personal authentication data stored

No OS to maintain

BIOS

Industry Standard BIOS

BIOS

Toshiba BIOS + Zero Client Core

Thin Client / Standard System

TOSHIBA System

TOSHIBA
Leading Innovation >>>

The TMZC proposition comes in tandem with Toshiba's range of support services to ensure that a business will fully benefit from a tailored and truly mobile zero client proposition – which both supports and evolves with their needs. The process starts with a professional assessment of the business' requirements, with Toshiba investigating the network infrastructure to pinpoint functionality needs. This assessment duly dictates the devices supplied to the company, which come 100 per cent preconfigured and tailor made to their needs.

With TMZC, businesses can finally embrace efficient mobile working alongside market-leading security. Toshiba is also currently developing more future connectivity options, such as Long-Term Evolution (LTE), to deliver even more enhanced levels of off-premise functionality.

If you would like to know more about how Toshiba could help your business, click here.