



6 Reducing the Cost of NHS Remote Site ICT Operations

Cisco has a long-standing commitment to the NHS and, over many years, has been able to offer advice and guidance on how technology can deliver clinical, financial and operational benefits.

With the recent publication of the Cisco Network Architecture Blueprint for the NHS (C-NAB¹), Cisco demonstrated the relevance of technology to the business of the NHS. C-NAB advocates that by first establishing a robust, scalable and secure foundation, NHS organisations can confidently deploy advanced technology solutions to support business outcomes and efficiency gains.

One of the most rapidly evolving areas of ICT infrastructure is the Data Centre. The demands on the traditional Computer Room environment are ever increasing and customers are adopting a roadmap approach that includes the introduction of virtualisation, automation and ultimately cloud. Cisco's Data Centre 3.0 strategy supports this evolution at a pace that works for each customer's requirements.

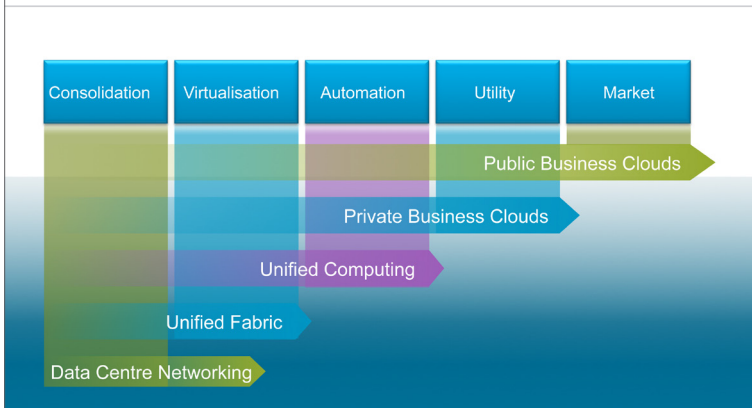
In response to these developments in an often complex environment, Cisco is providing a series of brief guidance documents. This document is number 6 of 6 and focuses on the remote site operations including cost optimisation and improved performance as well as the impact on the Data Centre itself.

1 <http://www.cisco-nab.com> Cisco Network Architecture Blueprint for NHS Trusts



Data Centre 3.0

Cisco's Five Phase Plan – The DC Journey



The ICT challenges of remote site operations

One constant challenge for NHS ICT organisations has been the need to distribute servers to remote sites in order to provide the best possible performance for users. This long-term strategy has now reached the limits of scalability and there are two key questions that need to be addressed:

- Can distributed server estate be consolidated into central Data Centre facilities?
- If so, how can application performance for remote users be maintained without incurring high Wide Area Network (WAN) costs?



Careful consideration must be given to the challenges that are created by remote users accessing critical applications and data over congested WANs. In a WAN environment, behaviour of networking protocols, especially those for file access can often degrade performance for remote office users to an unacceptable degree. This can be especially important where Virtual Desktop Infrastructure or VDI is deployed.

These considerations along with the incremental challenges of providing data protection and compliance mean a new approach is needed where performance and incremental benefits can be gained.

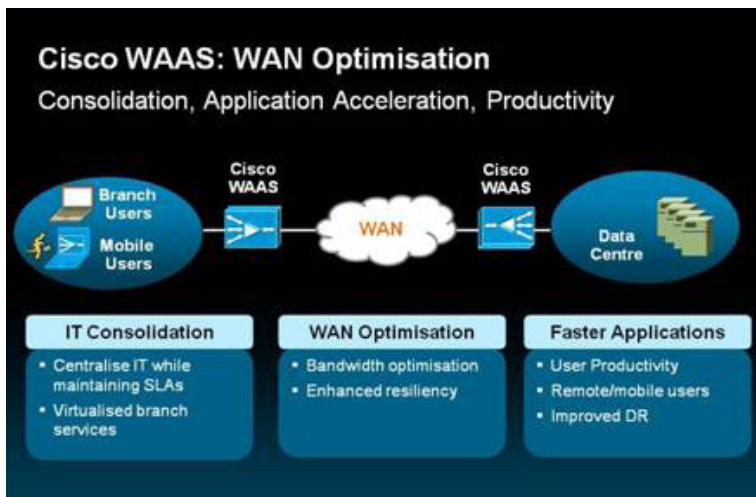
Cisco solutions for consolidation and optimised remote site performance

As ICT strategy focuses on business agility through faster application deployment and reduced cost of ownership, Data Centre consolidation and virtualisation initiatives are gaining momentum. The result is more centralised servers and applications and as a consequence creates a need to maintain or improve application performance requirements at remote sites. The challenges include:

- Consolidation of costly remote site server, storage, and backup infrastructure into Data Centres.
- Providing optimal performance for applications delivered from central Data Centres to remote site users.
- Specific performance requirements for Virtual Desktop Infrastructure (VDI).
- Minimising WAN bandwidth and its cost of provision.
- Enabling simplified data protection and compliance, effective backup, retention, storage management and recovery procedures to support remote locations.
- Ensuring scalability and availability.



Cisco Wide Area Application Services (WAAS) is a comprehensive WAN optimisation and application acceleration solution that is a key component of Cisco's Data Centre 3.0² and Borderless Networks³ strategies. WAAS accelerates applications and data over the WAN, optimises bandwidth, delivers desktop virtualisation and provides local hosting of branch services. Consequently this allows ICT departments to centralise applications and storage in the Data Centre while maintaining productivity for remote workers in branch offices and those that are mobile.



2 <http://www.cisco.com/go/datacenter> Cisco Data Center 3.0

3 <http://www.cisco.com/go/borderless> Cisco Borderless Networks



The solution achieves these goals by mitigating the effects of WAN latency resulting in better application performance as the rate of data transfer is improved. At the same time it reduces bandwidth consumption, delaying or eliminating increased bandwidth costs, hence reducing both capital and recurring expenses for branch ICT infrastructure.

Cisco's WAAS offer a broad portfolio of WAN optimisation solutions, including:

Cisco WAAS Software on Cisco Integrated Services Routers Generation 2: The second generation of Cisco Integrated Services Routers (ISR G2) features the Services Ready Engine (SRE), which decouples software services from the underlying hardware. Hence, the SRE can deliver WAN optimisation as an on-demand service as required by business objectives and ICT budget maximising the use of existing WAN investments. WAAS modules are also available for first generation ISRs.

Cisco WAAS Appliances: The Cisco WAAS appliance portfolio supports virtual blades in branch offices and scalable platforms for large Data Centre deployments. The appliances offer comprehensive WAN optimisation, network-embedded virtualisation for local hosting of branch IT services and branch video delivery.

Cisco WAAS Mobile: Addresses the challenges of mobile workers who travel outside the branch office that need to access centralised applications. The solution delivers bi-directional compression, application-specific accelerators, and flow optimisers for mobile or remote users across mobile Virtual Private Network (VPN) connections.



Cisco Wide Area Application Services (WAAS) Appliances

When integrated with Cisco routing and security solutions and using industry-leading application traffic transparency, the results are fully preserved quality of service (QoS), voice over IP (VoIP) and firewall services. Cisco WAAS integrates with all Cisco firewalls to provide a solution that offers full stateful firewall inspection and network virus-scanning capabilities for accelerated traffic. The solution operates without tunnels, reducing complexity, protecting investments in applications and network tools and lowering operating costs.

Cisco WAAS is also a key component of the Cisco Borderless Network strategy, based upon a next-generation architectural solution that delivers the new workspace experience by connecting anyone, anywhere, using any device, to any resource, securely, reliably and transparently. In this context, WAAS focuses on delivering consistent performance regardless of user location, application, or device.



Further Information

Cisco WAAS addresses the challenges of NHS ICT departments striving to maintain performance for remote users, whilst also delivering on a strategy of consolidation and virtualisation. It is just one component of Cisco's Data Centre 3.0 roadmap that guides customers to a more efficient and automated Data Centre environment.

For more information and support on this or any other aspects of Data Centre design, please contact your Cisco Healthcare Account Manager.

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A Hot Topic in the NHS: Evolution of the Data Centre

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