

# Case Study

## Healthcare

### EXECUTIVE SUMMARY

Southampton University Hospitals, faced with rising threats from unknown devices accessing both wired and wireless networks, selected the Bradford Networks NAC Director solution. NAC Director allowed Southampton to leverage their existing Cisco switches and Aruba wireless network to strengthen security. With the implementation supporting a large production network and a diverse user community, NAC Director is exceeding Southampton's expectations.

### THE HOSPITAL

Located in Southampton, Hampshire, UK, Southampton University Hospitals is a major research and teaching hospital. A part of the UK's National Health Service, Southampton University Hospitals provides local hospital services for more than 500,000 people. With over 7,500 staff at four separate treatment complexes, the hospital treats 115,000 inpatients, 350,000 outpatients and 85,000 emergency room cases annually, and they provide specialist neurosciences, cardiac and children's intensive care services for 3 million people in central southern England and the Channel Islands.

### THE CHALLENGE

Southampton University Hospitals faced numerous challenges in securing and managing their IT environment, including:

- A rise in the number of unknown devices accessing clinical and administrative networks, and a need to prevent threats originating on these unchecked devices
- A desire to eliminate the need for manual checking of unknown devices, in order to limit the use of finite and scarce IT Support team resources
- A need to measure and report on incidents of rogue devices accessing the network, and to gain better visibility and detailed audit trail records
- The desire to find a network access control solution that would integrate wired and wireless infrastructure, that would operate out-of-band, and which would provide common, non-intrusive policies
- A requirement to ensure maximum network availability, and to minimize downtime

In looking for a solution to address these concerns, Southampton realized that Network Access Control technology could address their needs, and they identified a set of key requirements for potential solutions. First and foremost, they wanted to avoid adding a single point of failure, so they ruled out an in-band implementation. They also wanted a solution that was highly interoperable in terms of switch infrastructure, and that didn't lock them in to any given vendor. Due to the nature of their network and their user community, Southampton decided early on that any solution would have to support clientless access for registration, and it would have to seamlessly support both wired and wireless connections. Finally, the solution had to be a proven technology.

### CUSTOMER

Southampton University Hospitals  
NHS Trust

### LOCATION

United Kingdom

### BRADFORD NETWORKS SOLUTIONS

NAC Director™

"Being a large secure network of some 7,500 data sockets we were acutely aware that with no port based security we were blind as to what was being plugged into our LAN...we required a solution we could tailor to our specific security requirements while integrating with our existing LAN infrastructure.

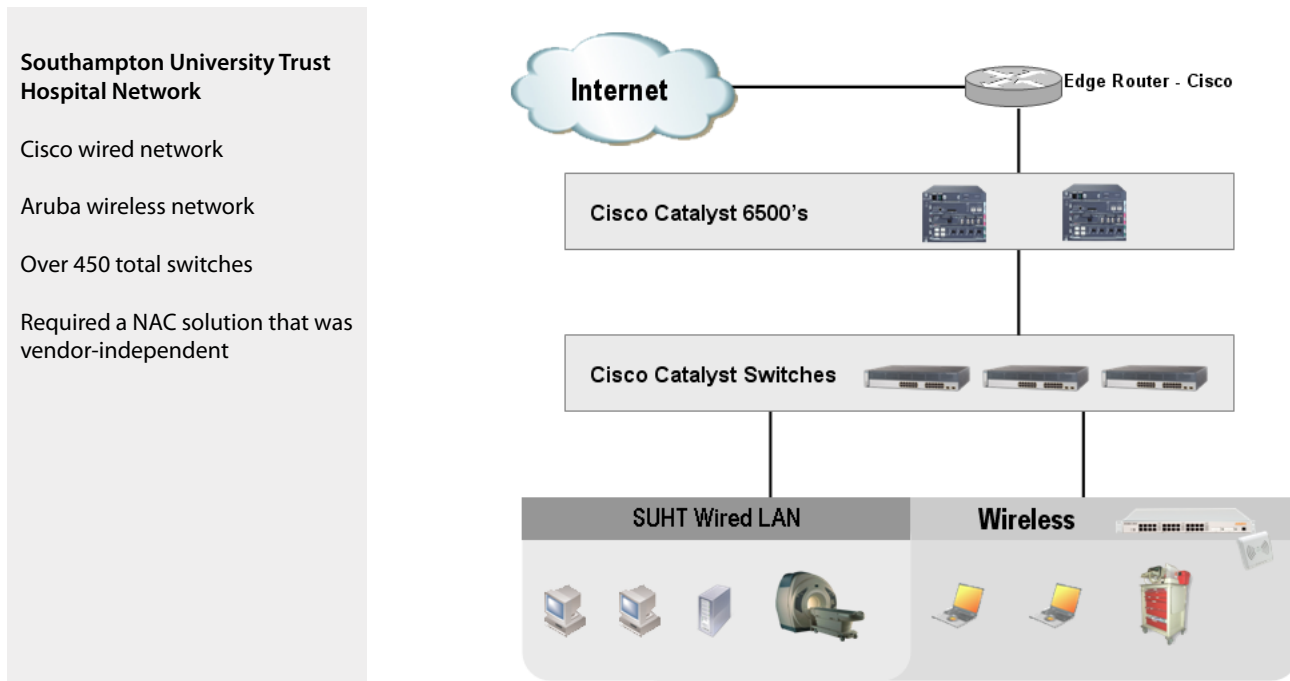
Bradford's NAC Director not only fulfilled those requirements but has exceeded them. The solution provides us with complete visibility across our LAN which is imperative when operating within a public environment. If you think you know what's on your network think again, NAC Director has highlighted security risks we otherwise would never have known about."

**Ryan Hewitt**  
*Senior Network and Security Analyst*  
Southampton University Hospitals NHS Trust



## SOUTHAMPTON NETWORK INFRASTRUCTURE

Prior to implementing a Network Access Control solution, Southampton's network infrastructure consisted of a Cisco switched backbone, and Aruba wireless access points. The backbone network, depicted below, utilized Catalyst 6500 core switches, and Catalyst edge switches. The wireless network architecture consisted of Aruba Networks wireless technology, also feeding into the Cisco wired backbone. The hospital was keen to be able to leverage these existing network components in a new Network Access Control implementation. However, it was important to Southampton that they not be locked in to these components by the NAC technology.



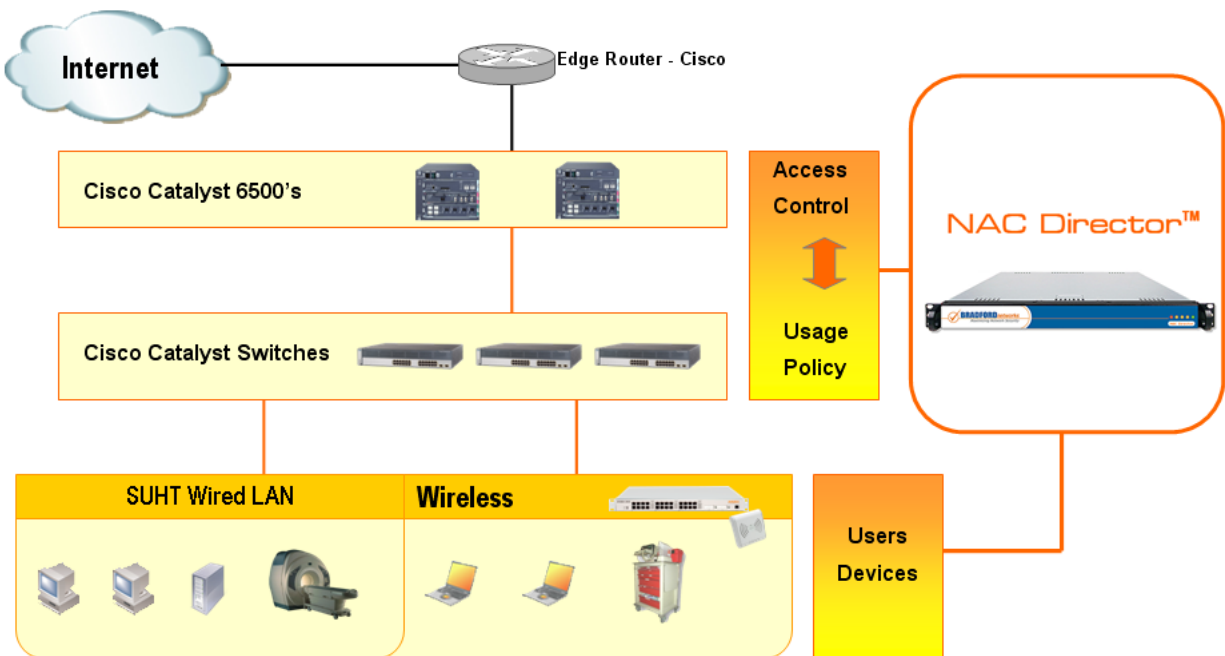
## THE SOLUTION

An authorized Bradford Networks integration partner, Khipu Networks, introduced the NAC Director solution to Southampton. After a careful evaluation, Southampton determined that NAC Director not only met their critical requirements, but exceeded them:

- NAC Director is an out-of-band NAC solution, with no single point of failure
- The implementation allowed the hospital to leverage their existing Cisco switched network, and to avoid making expensive network upgrades
- Using standard SNMP to facilitate switch interoperability, NAC Director does not lock Southampton in to using any specific network components
- NAC Director provided support for clientless operation, which was important to the hospital and their user community
- Bradford Networks worked with the hospital's wireless supplier, Aruba Networks, to ensure seamless operation for wired and wireless connections
- NAC Director is proven, robust technology, having been deployed in dozens of similar installations in the UK, and hundreds of accounts in the US

The Southampton NAC Director implementation uses the Bradford NAC Director appliance to control over 450 Cisco Catalyst 6500's, and Catalyst switches. Southampton uses NAC Director to provide identity management and access control for both wired and wireless network connections:

## NAC DIRECTOR DEPLOYMENT



NAC Director provides for authentication of all wired and wireless users. The Bradford NAC Director implementation uses SNMP to control access at the edge of Southampton's network, using the Cisco switches, Aruba wireless access points, and VLAN's to enforce policy. Southampton's NAC Director installation provides comprehensive identity management, policy enforcement, and endpoint compliance for a production network comprised of 7,500 data ports, supporting a large and mobile user population.

## KEY BENEFIT AREAS

According to Ryan Hewitt, Senior Network and Security Analyst at Southampton University Hospitals, the hospital system has experienced numerous benefits as a result of deploying NAC Director:

- Threats from unknown devices accessing the network have been eliminated
- Visibility into all devices accessing the network is provided by NAC Director, and a comprehensive audit trail of activity is provided as well
- Scarce IT resources are conserved through eliminating the need to manually check unknown devices
- Authorized users are able to use multiple devices, dissolvable agent supports Windows, Linux, and Mac's

## ABOUT BRADFORD NETWORKS

Bradford Networks develops advanced network access control solutions for wireless, wired and VPN networks. Bradford's out-of-band appliances leverage existing network infrastructures and investments to deliver automated identity management, endpoint compliance and usage policy enforcement services. Bradford helps IT managers address the challenges of guest access, unmanaged devices and regulatory compliance.