



## University of Oxford and Cambridge Colleges React to Increased Demand on Network by Selecting Aerohive

### WLAN Network Challenges

- High year-on-year growth in mobile device related traffic
- Ensure network is fast enough to enable extensive international research, while also allowing it to be used recreationally
- Fulfil student demands for university Wi-Fi and expectations of coverage and speed

### Aerohive Wi-Fi Solution Benefits

- The network provides better coverage, with improved reliability of device connectivity
- HiveManager allows the network team to manage multiple networks through a simple web based interface and allows policies to be set and bandwidth prioritised
- Scalability of solution provides colleges with the flexibility they need to react to changes in demand

The University of Cambridge and the University of Oxford have prestigious reputations for research and education, ranking as the top two universities in the UK. As two of the oldest higher education institutions in the English speaking world, both pride themselves on progressive teaching and high quality international research, which is underpinned by the latest technology. When it comes to the use of technology to enhance research and learning, both understand the need for excellent services and a future-proofed infrastructure to keep them at the forefront of university education. 28 colleges have turned to Aerohive to increase bandwidth and ensure the network can support the ever-increasing number of devices entering each campus.

### Challenges

While all of the colleges had Wi-Fi access technology in place, the ICT departments have seen a huge year-on-year growth in mobile device related traffic, driven by students using an increasing number of devices, such as tablets and smartphones, to access lecture material as well as for personal use.

“Over the last three years, we’ve seen large increases in demand on the network. The first year we saw a 10% growth, followed by 40% and then last year this has risen by 70%. We now see around 22,000 unique clients each week as the number of devices per person has risen from less than one person to an average of three,” said Simon Mortimore, Computing Systems Manager, Exeter College, University of Oxford.

For both universities, conducting the best international research is still a primary goal, and having a network which enables this to be found, shared and downloaded is essential in keeping the institutions at the forefront of this industry. The network also needs to be able to reach office spaces and bedrooms and not just the lecture theatres, libraries and scientific labs so that staff, students and guests are able to connect to the internet to complete assignments wherever they are. In recent years, the universities have come to realise that the internet is increasingly used for recreational purposes which has become important to its residents. An increase in demand for watching video for example has resulted in a need for higher bandwidth and as such the colleges need to ensure this does not disrupt the learning experience.

The network also had to allow seamless connectivity across multiple different sites, be compatible with a number of historic Grade 1 listed buildings and provide support for ‘Eduroam’.

This portal allows users, staff and students from within the University as well as visitors from other institutions to connect and gain access to services relevant to them. The 'Eduroam' system also allows students from the universities to instantly access internet services while they visit other universities across Europe. It is essential that it works in the right way.

### **The Aerohive Wi-Fi solution**

28 colleges have chosen Aerohive, citing its controller-less architecture as a key feature. This eliminates capacity and bottleneck issues, providing maximum coverage to enable staff and students to use the network for both academic and recreational purposes. Aerohive's Hive Manager is also a unique selling point, providing the ICT administrators visibility and control over multiple networks and devices from a single easy to manage interface. As Hive Manager is largely quantity independent, the colleges were able to try out the solution before they committed to it, enabling them to make sure that Aerohive was right for them.

### **Aerohive WLAN Solution Benefits**

By providing better coverage, each college benefits from improved reliability when it comes to device connectivity, higher bandwidth for users and improved troubleshooting tools for the ICT department if problems arise. It's training and online support community has also become an important product which requires little effort and helps administrators manage the network, so that each team can become self-sufficient.

As research is essential to the universities, it is important that a solution enables staff and students to be able complete tasks without the bandwidth being slowed down by videos being watched recreationally. Aerohive allowed the teams to keep the two networks separate so that it could be managed independently via a single interface. Connectivity remained high for both academic and personal use, addressing a key academic challenge for a lot of the colleges.

"The requirements for universities are changing. Staff and students expect immediate connectivity wherever they are for their multiple devices. By providing us with an easy to; implement, deploy and manage solution, while dealing with a high load on the network, Aerohive has been an important partner for us. We envisage more devices entering university grounds and so the scalability Aerohive can offer helps futureproof our investment," said Gareth Dawson, IT Manager, St Peter's College, University of Cambridge.

Philip Keeley, Principal Systems Engineer at Aerohive Networks said, "An effective mobility solution is becoming increasingly important for universities to enable them to conduct high quality, international research. We are providing that experience, and will continue to address the evolving challenges faced by institutions so that we become a partner for the future."



## Testimonials

### Anjanesh Babu, Ashmolean Museum

"I have complete confidence in Aerohive as a technical solution as a one stop shop for edge wired PoE and global as well as wide area large scale deployments. We are deploying to four museums and primarily are aimed at providing public wireless access fund so we needed to ensure that the infrastructure used could support multiple sites and that it was an investment built for the future.

"Aerohive's multisite WLAN deployment and site specific passwords along with its controller-less architecture have helped with addressing these challenges of providing staff logins along with public access on separate skids. Its most outstanding feature is the VLAN probes which is absolutely worth the investment. Along with this, Aerohive switches are best in class and its next generation devices are easy to manage. Our team members have become self-sufficient thanks to the clientele's nature of management tools, intuitive web interface and for advanced users – the easy to use client interface.

"We are fully confident that Aerohive is capable of handling the increased traffic that comes with multiple devices per person as well as helping us identify future requirements along the way. Deploying an integrated, affordable single pane of network is our vision and Aerohive is the only one out there who can meet our criteria for expected massive traffic densities in listed buildings whilst remaining aesthetically suitable for our deployments. Thus Aerohive as a solution fits strategically with my digital vision of museums being free and engaging as a collection space extending to their physical experience to a seamless gateway to our online collections and beyond."

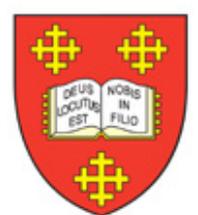
### Simon Mortimore, Exeter College

"Since we've implemented Aerohive we've seen large increases in usage as the number of devices per user has risen to an average of three, from less than one per person.

"One of the main selling points is that the system is largely quantity independent. Without a controller you can install just a few and scale-up. We wanted to prove the need before committing to a large deployment and we eventually achieved this with a four-phase installation over two years. A controller-based solution with licencing steps would have struggled.

"In addition, the system uses the cloud HMOL which can be deployed on different networks and different subnets yet conform to the same network setup. The network settings can be copied and pasted in the management interface

"I believe Aerohive will be a long-term partner as the market changes and evolves both in Tech and in challenges presented. Aerohive developing new features and applications that make them relevant. As long as the core functionality and 'business as usual' dependency is there, and as long as they stick to disciplined, tested releases of the operating system then they'll remain a very attractive affordable systems. I'd also recommend their training and the online support community because it's a well featured product which needs a little effort."



### **Ellis Karim, University of Cambridge, Institute for Sustainability Leadership**

With Aerohive we have been able to setup multiple wi-fi networks: from a corporate Wi-Fi network using strong authentication, to guest networks. We now have a seamless corporate wi-fi network that spans three buildings and supports all our mobile devices. Aerohive works. You can “set it and forget it”. We need to don't do much in the way of admin.

### **Andy Hamilton, University College, Oxford**

“I would recommend Aerohive to another college, due to its easy updating. The Aerohive solutions fitted into a strategy plan and did not need any central server to function, a key aspect for us. Using the Hive Manager, we can quickly and easily see what and how many devices are connected to the WiFi network.”

### **Chris Bamber, Somerville College**

“Aerohive provided superior scalability and ease of management, at a much more compelling price point.”

### **Luke Raimbach, Oxford E-Research Centre, Oxford**

“Our new Aerohive installation has greatly increased our capacity for supporting myriad wireless devices. We can now effectively accommodate large conference delegations arriving at our venues and can guarantee bandwidth to important delegates performing live web demonstrations, etc. as well as ensuring our own users don't miss out. Ease of management through the Hive Manager On-Line subscription service means we don't need to worry about maintaining any management infrastructure of our own. Plus, we are easily able to plug directly in to Oxford's central Single Sign On framework, providing a smooth roaming experience for all Oxford and EduROAM users while simultaneously being able to provide wireless network access to external guests.”

### **About Aerohive Networks**

Aerohive (NYSE: HIVE) unleashes the power of enterprise mobility. Aerohive's technology enables organizations of all sizes to use mobility to increase productivity, engage customers and grow their business. Deployed in over 19,000 enterprises worldwide, Aerohive's proprietary mobility platform takes advantage of the cloud and a distributed architecture to deliver unified, intelligent, simplified and cost-effective networks. Aerohive was founded in 2006 and is headquartered in Sunnyvale, Calif. For more information, please visit [www.aerohive.com](http://www.aerohive.com), call us at 408-510-6100, follow us on Twitter @Aerohive, subscribe to our blog, join our community or become a fan on our Facebook page.



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