Case study

University of Pisa

Where fresh thinking's a way of life, fast movement's essential

As one of the oldest educational institutions in the world, the courage to challenge the status quo comes naturally to the University of Pisa. So when Paolo Da Rosa was faced with centralising legacy systems for the management of IP addresses and DNS/ DHCP domains he sought a company with innovation in its veins.

Now IPControl™ from BT Diamond IP means the university's newly-created central IT team can treat departments' disparate systems as a single management entity. Reduced administrative costs and faster responses to end users' peculiar needs are just two of the benefits Paolo's choice has brought.

> "In a dynamic educational environment like ours, we have constantly to plan for the unexpected. IPControl makes that a much easier proposition."

Paolo Da Rosa, Network Architect, University of Pisa

BT

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> "Departments' systems are isolated from each other for security and reliability reasons, and operating systems vary from legacy models to Linux and open source software. So the ability to treat them as a single entity for management purposes is invaluable."
>
> **Paolo Da Rosa, Network Architect, University of Pisa**

Needing to centrally control mixed operating system environments the University of Pisa chose IPControl™ from BT Diamond IP

Complexity could breed chaos

Probably the most famous person ever to have attended the University of Pisa, Galileo Galilei studied there and became professor of mathematics in 1589. Even during his time the institution had already stood for well over 200 years. But, transported to the modern world, would even Galileo understand the problems of IP addressing?

Today, IT plays a critical role at the University of Pisa; everything's online. The network offers high-speed wired and wireless access to a wide range of business and learning apps. A bewildering array of devices from smartphones and desk phones to servers and data storage are attached to that infrastructure.

And that's where the problem lies. Each of those estimated 10,000 items of kit has a unique internet protocol (IP) address, which enables other equipment to talk to it. Lose track of those electronic postcodes and chaos could ensue – an IP address clash might potentially crash the entire university. Managing that complexity had become a serious issue.

Paolo Da Rosa, network architect at the University of Pisa explains: "There were many different software suites and spreadsheets in use by different IT teams and their records were inconsistent. IP address management was a worryingly fragmented and labour-intensive activity."

Making things simple with central management

The trigger for action came with centralisation of the various IT departments. The University of Pisa went looking for an integrated, universal IP address management solution. It selected IPControl™ from BT Diamond IP, having first evaluated tools from several vendors.

"Every feature we wanted was right there in IPControl," says Paolo Da Rosa. "For example, it was the only solution that was able to provide a view right across our different multi-technology domains."

IPControl™ offers centralised full lifecycle management of mission critical IP management functions including IPv4 and IPv6 address space assignment, allocation/reallocation, pool monitoring, utilisation tracking and creation, and multi-vendor DNS and DHCP configurations.

Offering a holistic approach to IP address management with flexible deployment options allows integration into a multi-vendor DNS/DHCP infrastructure. It has a friendly graphical user interface and unsurpassed customisability. Safeguarding network integrity and security, IPControl™ automatically validates information as it's entered, preventing IP address management problems through incorrect data input.

"IPControl is a logical system that's understandable by non-technical people. You don't need an honours degree to learn to control IP spaces and DNS domains," adds Paolo. "That benefit of being able to delegate management yet keep 100 per cent control was yet another reason we chose IPControl."

A successful proof-of-concept (POC) trial led to a IPControl contract. Support services from BT during the POC included technical assistance and help with importing data. The newly-expanded central IT team then completed the full implementation and upload itself, a tribute to the user-friendliness of the BT system.

The IPControl™ software is installed on BT Diamond IP Sapphire servers, each running a hardened proprietary Linux-based operating system. These provide a comprehensive feature set, with the ability to monitor and manage the system from a web interface. They also offer the peace of mind of centralised patches and upgrades, and built-in security and redundancy.

Proof against future uncertainty

The ability to centrally manage IP address and DNS/DHCP domains has substantially reduced the university's administrative burden. It enables the central IT team to give more rapid responses to individual user requirements, and has freed up time that can be spent on more strategic projects.

"Departments' systems are isolated from each other for security and reliability reasons, and operating systems vary from legacy models to Linux and open source software," says Paolo Da Rosa. "So the ability to treat them as a single entity for management purposes is invaluable." That transparency even extends to data centre VLANs supporting virtual server environments and separate storage resources.

The most comprehensive IP address management solution on the market, IPControl™ enables the university to smoothly handle changes to technical standards and government policies. Those include, for example, the introduction of IPv6 and enhanced security and data protection standards.

BT Diamond IP aftersales service has also impressed the University of Pisa. "The level of BT technical support is great," concludes Paolo Da Rose. "If we do have an issue the BT team responds quickly and effectively."

Core BT Diamond IP products and services

- IPControl™
- Sapphire Appliances
- Professional Services

BT

Offices worldwide

07/14