How a five-school trust improved its wifi performance and reduced its vulnerability to cyber attack.

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Hales Valley Trust
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Hales Valley Trust is an all primary school multi-academy trust located in Dudley in the West Midlands. Formed in 2017, the trust educates over 2,300 pupils in its five schools. It also offers teacher training and professional development courses at its teaching hub, located at one of the schools.

Being located in the metropolitan borough of Dudley, the trust uses the local authority's IT services, known as Dudley Grid for Learning (DGfL), which RM provides according to a contract first signed over 20 years ago.

In addition to the standard DGfL offering Hales Valley Trust contracts with RM for additional services, including:

- on-site and remote IT support

- technical account management to support the trust's technology strategy

- Google tenancy management

- enhanced MS Office 365 support

- RM Unify identity management

- RM Integris management information system and support

By combining the standard DGfL offering with the additional services, the trust benefits from RM's expertise in solving the technology challenges schools face. Cyber security and network capability that does not support modern teaching are two of the most serious.

Tackling cyber security step by step

According to trust IT Manager Sue Harris, cyber security is one of the most pressing technology issues that schools need to address. Thanks to the services RM provides specifically to the trust and DGfL, Hales Valley now has good cyber security practices embedded across the trust.

> **You need that cyber security information, and RM supports you to ensure that your network is secure.**
>
> **Sue Harris,** IT Manager, Hales Valley Trust

Sue attended cyber security training provided by RM and read the pieces on DGfL's blog written by RM operations manager Phil Evans. As a result, the trust implemented multi-factor authentication (MFA) for staff accessing school resources when not on the school network. Sue feels that this provides an appropriate level of security without preventing teachers from doing their job.

> **RM put on some cyber security training, which was brilliant. I listened and took on the advice for the trust schools. It was really useful.**
>
> **Sue Harris,** IT Manager

Another layer of cyber security protection applied by RM is revoking privileged access rights for staff users across all the trust's sites. This meets one of the Department for Education's cyber security standards for schools and means that the trust is less vulnerable to account takeover attacks by keeping access permissions to the minimum necessary.

Password compromise is a common way for a cyber attack to access systems. To help combat this, RM regularly provides the trust with a list of users who have weak passwords. Armed with the list, Sue can help her colleagues play their part in improving cyber security by asking them to strengthen their passwords.

Keeping staff across a trust aware of how to deal with potential cyber threats can be challenging with limited internal resources. When Sue identified a third-party supplier to conduct regular phishing simulations and targeted training, RM helped by arranging appropriate network access for them to take place.

If the worst happens, cyber incident insurance can help deal with the consequences. Like many trusts, Hales Valley uses the DfE's risk protection arrangement (RPA). The RPA includes cover for cyber incidents, subject to certain conditions. With RM's help, the trust took the necessary steps to demonstrate that it complies with the RPA's requirements.

Updating the wifi network

Modern teaching and learning, and trust support functions, increasingly rely on robust and quick connectivity across all sites. By 2021 the trust's network was creaking under the strain of having multiple devices in a classroom connected simultaneously. Updates and support for the hardware were no longer available, making them potentially vulnerable to attack and unable to perform as desired. RM understood the situation and developed an upgrade solution for all the trust's schools.

"RM as our managed service provider told us that our network hardware was end of life. They proactively told us that we needed to do something about it and came to us with a proposal."

Sue Harris, IT Manager

To ensure value for money, the trust conducted a compliant procurement process with three bidders in total. The trust chose the RM proposal based on Aruba hardware that meets the latest standard approved by the Wi-Fi Alliance, Wi-Fi 6, and the Aruba Central management console.

"The procurement process was good. It was robust as well. RM didn't mind me asking questions. They never do."

Sue Harris, IT Manager

Besides the peace of mind from improved network security, the new network has also brought benefits in the classroom. Chromebooks have been a feature of classrooms across the trust for several years. However, the old network struggled to accommodate a whole class, leading to lost learning opportunities and frustrated teachers.

> "We were putting up with not being able to have 30 Chromebooks connected without some dropping off. So we'd have some children connected and having access to the learning and some who weren't."
>
> **Sue Harris,** IT Manager

All classroom devices now connect instantly to the upgraded network rather than having several children in each class struggling to get online at the same time as their peers.

> "With the new equipment, we immediately noticed a difference. They all connect. We don't have connection problems. The wifi is very, very robust."
>
> **Sue Harris,** IT Manager

The trust called on RM's expertise to set up the network to meet their specific needs. The trust's central staff of executive leaders and school improvement, finance and operations teams frequently move between the five schools. To improve the teams' efficiency, RM set up a discrete network with its own SSID in all of the trust's sites. This means that the central team can move seamlessly from one trust location to another, with their devices connecting to the team's systems instantly.

The Hales Valley Teaching Hub allows the trust to spread good practice between its schools and bring teachers together from across the region for continuous professional development opportunities. With large numbers of short-term visitors, managing wifi access for everyone was an onerous task. However, with the updated network infrastructure, RM created a distinct network for the teaching hub with specific access capabilities. Now, teaching hub users are automatically assigned time-limited wifi access.

> "We can't keep making accounts for people who visit the teaching hub. It's really onerous. Now we have the ability for them to just walk in and self-serve. They enter their details, sign an acceptable use policy for that day and then can just use the system. After 24 hours their access expires."
>
> **Sue Harris,** IT Manager

By embracing the options that RM offers over and above the standard DGfL contract, Hales Valley Trust has network capability that delivers modern teaching and learning in the classroom. At the same time, the trust has a setup which brings benefits to its non-teaching activities and is confident in its ongoing cyber security.

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