ISC DSG technical summaries

ISC DSG technical summaries, are a series of occasional papers which summarise discussion and comment from among our community of IT leaders. Each paper focuses on one topic of interest. Papers do not guarantee an exhaustive review of a topic, but merely present a collated overview of current themes, questions and areas of focus for IT leads in participating member schools.

BYOD and 1-2-1

Introduction

ISC Schools have been exploring 1-2-1 and BYOD for a number of years. Online discussion among IT directors and managers highlights reoccurring themes to successful implementations. These themes reinforce the benefits of

- clear vision,
- effective implementation support,
- teacher CPD targeting ease of use and classroom impact,
- support from the right tools and content, and
- an ongoing focus on security and safeguarding.

Aiming for impact

- Although all parents are different, schools report success when they have found ways to share their vision with parents, dialoguing about what this means for parents. A range of techniques have been suggested, but schools which ran parent workshops / evenings, report very positive benefits and strong parent support.
- When considering BYOD devices, the features which schools have previously found most useful are:
    - Long battery life, normal keyboard, specific software, record video/sound, screen size, inking capability
    - Schools also reported benefits to devices that are no more than three years old and came with a suitable warranty, however this may be a pose a difficult financial constraint.
    - To date, most contributors to the ISC IT Leaders' forum have avoided Chromebooks or Linux devices, however that is not to say that there will not be a role for these devices in the future (e.g. as Google's G suite gains traction).
- Many member schools allow a mixed economy in client devices (meeting a minimum guideline) with few problems. However, canvasing schools shows that such flexibility comes with trade-offs, particularly in terms of how much control schools have of devices. Trade-offs also exist between device consistency vs the impact on learners' experience / demand on

teachers' CPD and prep time (e.g. greater consistency leads to a more uniform classroom environment).

Getting Help

It is the experience of many IT directors that successful partnerships with a range of providers, trainers and suppliers, can provide stability, cost efficiency and technical expertise. As differing schools are likely to have varying needs and contexts, the ISC has maintained a policy of not endorsing individual companies. However, the ISC digital strategy website does host a list of recommendations for those who wish to share them. Also, many leading IT companies do list which schools they work with, and you are always welcome to contact listed schools for references.

Training

Members of our community have discussed the very positive impact of training which is embedded, context sensitive and ongoing. Such training has reflected a considerable investment in terms of time and financial resource, however in these scenarios expensive investments in infrastructure have had successful impacts for learners.

The reverse is also true, when colleagues have acknowledged that successful technical implementation has not realised its potential for want of appropriate training.

Onboarding using the Cloud

Onboarding BYOD/1-2-1 solutions can take advantage of many cloud tools, although schools' choices are shaped by their ethos and aims. A primary concern is to first decide how much control schools want to have over BYOD / 1-2-1 devices – e.g. do they want to install software/apps as standard? Key considerations include:

- More control is possible via school owned machines, but this may not reflect school ethos.
- Vendor portals – check bundles meet needs for support and insurance also. Reconfiguration of devices also possible and a time saver if a consistent setup is required.

Infrastructure that is fit-for-purpose

Although ISC schools all have their own character and ethos, there are IT infrastructure issues that nevertheless seem universal:

- Specifying appropriate bandwidth and WIFI – although costly, high speed connectivity is essential.
- A BYOD environment allows for different possibilities when connecting to projectors. Some schools have realised considerable cost savings and gained greater user flexibility by realising these possibilities (e.g. using WiDi and replacing classroom desktops in lieu of teacher laptops).
- How will pupils and teachers print? A variety of devices can pose challenges. Some mentioned solutions include: Presto, PaperCut Webprint.
- Will you manage apps/software via some MDM (or other solution)?

Universal to all schools is our commitment to security and safeguarding. In discussion of this, common issues include:

- SSL decryption must be enabled if you wish to inspect and monitor all BYOD internet traffic however, this places heavy demands on firewalls and can cause costs to escalate. However, most feel it is needed for safeguarding and protection issues. To achieve SSL decryption, a range of technologies allow for deployment of certificates/authentication to ensure security is maintained. E.g. Fortinetconnect, Ruckus CloudPath, Aruba ClearPass, NAC? Firewall web portal.
- Allowing/preventing pupils using VPNs? Securing against VPN use is a challenge. Some schools find it useful to use traffic monitoring (bandwidth – daily reports on traffic volume, traffic type) to identify offenders.
- IT colleagues recommend regular discussion and/or review the minimum requirements for security configuration (e.g. AV and patches) of devices. Colleagues report that with greater controls, comes increased IT Support workload. To assist, there are a wide variety of solutions.
- Physical security of devices can be maintained via insurance which covers in school use.
- As each school becomes more reliant on BYOD, planning for 'down-time' in case of damaged machines / teachers forgetting necessary devices is increasingly necessary to prevent disruption.