

Manage your Curriculum Network & maximise cost efficiency

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Introduction

Computer networks are an essential part of every school, not only within the administration area of the school, but if we take into consideration the core business of schools, possibly even more importantly within the curriculum area. Whilst all schools would attest that their most valuable asset is their teachers, the computer network is close behind in importance.

Overview

The aim of this paper is to address issues facing schools whose aim is to build a secure, scalable and manageable network within the framework of ever tightening budgetary constraints. Many IT Administrators and business managers are expected to know quickly and accurately what users are doing on a school's computers and network and to respond promptly to the myriad problems that can be encountered on a daily basis.

Schools today are required to meet the ever growing demand for access to information and communication technologies (ICT). Where only a decade ago, schools had limited resources in the area of computing and networks were generally small, if indeed the school had a network, today's schools are often looking to maintain networks with large numbers of computers and printers, that span multiple campuses, cater to after hours access, and require data transfer rates that only a few years ago would have been considered unachievable. With the rapid rollout of networking and computing technology in the last decade, the challenge is to provide a skill set and management system that will ensure that the investment in technology delivers maximum benefit.

What has changed?

Network infrastructure is far more sophisticated than it was, with the once commonplace coaxial cable replaced by optic fibre backbones and unshielded twisted pair (UTP) cabling capable of delivering high speed data transfers.

Simple hubs broadcasting to every computer on the network have been replaced by programmable/intelligent switches designed to manage the flow of data around the network.

A single network can incorporate multiple operating systems and multiple servers. Windows TM, Novell TM, and Linux are all common across school networks, often within the one network. TCP/IP, DNS, RAID Arrays, Netbios, SMTP, Terminal Services, Java, SQL Server, HTML and a raft of other services and protocols all go to making the task of the network manager more difficult than ever before. The broad range of hardware platforms is no easier to navigate – Cisco TM, 3ComTM, Netgear TM, Kyocera TM, Sony TM, IBM TM, Sharp TM and Epson TM to name but a handful of the common brands encountered in schools, all add to the complexity of what was once a reasonably straightforward environment.

How then should we invest in supporting the network and computer facilities?

It is widely recognised that the cost of ICT in schools is increasing at a great rate. There is pressure on school leaders and councils to ensure that the students have access to the computer resources that the parents expect and that the students deserve if they are to receive the highest quality of education the school and its teachers can provide. So how can schools achieve this without placing an ever-increasing burden on a willing staff, whilst at the same time keeping the spiralling cost of ICT in check? In simple terms, the answer might well be to consider engaging an external organisation to 'manage your network' and to assist in the development of an ICT strategic plan.

Why should we consider an external organisation rather than maintaining an employee on site?

It is no longer reasonable to expect that any one person can be an expert in all of the areas mentioned above. In the same way that we would not expect a teacher to hold a Master's degree in multiple curriculum/learning areas, nor should we expect an IT specialist to be a master of multiple platforms and all areas of information technology. Granted an individual might have a working knowledge of multiple platforms, the reality is that he or she cannot be expected to resolve networking issues, maintain server integrity, maintain workstations, manage system backups, monitor appropriate use of systems, train staff and answer queries in a timely and efficient manner.

Is there a cost benefit?

Where the cost of employing an individual to perform the duties of a network manager or system administrator might be considered a necessary expense, it is often more viable today to engage the services of an external organisation and charge them with the responsibility of supporting and maintaining the network. Unlike an individual, an external company has the capacity to call on and provide the necessary expertise in multiple disciplines and thereby provide a more efficient pathway to network stability and management.

In terms of cost to the school, the cost of employing an individual with the associated on-costs (leave entitlements, superannuation and so forth) is often higher than the cost of engaging a suitable company to manage the network. Where the cost of employing a person, or multiple persons generally increases from year to year in line with the CPI, it is not uncommon for the cost of an external manager to decrease over time as the management becomes more streamlined and the network architecture is better documented and managed.

Contracts with companies providing external management can often provide for the presence on site of a member of their staff for a fixed period of time each week, thereby allowing for minor tasks to be logged by the school and addressed in a timely manner each week.

How can this deliver improved efficiency?

External companies are generally far better placed to keep abreast of emerging technologies and therefore can advise a school more effectively than an individual. That said, one needs to ensure that the company engaged is advising impartial advice and not advice 'engineered' to promote themselves at the expense of the school's interests.

In the first instance, one might expect the company engaged to perform a full network audit and to examine such issues as data recovery procedures in the event of a system failure. These tasks generally lead to the timely identification of network issues and bottlenecks and are another reason why the cost of external management can often be higher in the first year than in subsequent years.

So how do we proceed?

If you need to review your current practices, to document your computer network and ensure that you have adequate backup and disaster recovery procedures in place or if you would simply like more information about how to review the management of your computer network, contact A1 Computing on (08) 8272 3027 or email us at info@a1computing.com.au

About the author and A1 Computing Pty Ltd

Rob Sieben has held a number of administrative positions in a career spanning twenty-five years within the education arena. He has consulted to Catholic and Independent Schools of South Australia in school administration matters and was involved in the development of an online learning platform to deliver content into Asia over the Internet. Rob holds a Masters Degree in Educational Administration, is a Member of the Australian College of Education and an accredited Member of the Australian Council of Educational Leaders. In mid-2005 Rob accepted the position of General Manager of A1 Computing Pty Ltd, a South Australian owned and operated company that provides computing hardware, services and solutions to over three hundred schools throughout the state, both regional and metropolitan.