



Tenison Woods College Selects Wyse Streaming Thin Clients Over Traditional PC's.



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**Olu Deyaolu IT Manager -
Tenison Woods College**

Centralised Management Saves Time and Money

When the IT manager of Tenison Woods College was faced with task of purchasing computers to replace those coming off their contracted three year term, he decided there just had to be a better way, and so started looking at PC alternatives. The College found that Wyse Thin Client computing was the perfect solution to centralise management whilst saving time and money.

Tenison Woods College is a co-educational Reception to year 12 Catholic Education school for just over 1250 students and managed by just over 120 staff, situated on the western outskirts of the large regional city of Mount Gambier in South Australia. The college was formed in 2000 as a result of the merge between St Pauls primary school and Tenison College secondary school and has roots going back to father Julian Edmond Tenison Woods who arrived in the area in 1857. The college has a strong focus on Information Technology and Communications as well as the Performing Arts which makes it one of the most popular schools in the region, and has seen a growth in enrolment numbers since inception. The College has always made significant investments in leading edge technologies, providing both the students and teachers access to the wealth of applications necessary to lead in today's competitive educational environment.

“Like a lot of large regional schools we have limited IT support resources, and a revolving update procedure,” said Tenison College IT manager Mr Olu Deyaolu. “We currently use just over 300 PCs and a number of laptops, all of which were purchased in different batches over time, therefore we always have a mixture of generations of PC which makes software versioning, updates and support a real nightmare.”



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Using his wide experience from the corporate sector both in Australia and in the UK, Mr Deyaolu decided to investigate if Thin Client technology would be a suitable solution for the College. Thin Client technology has been around for some time and is widely used by organisations that have fixed locations, set applications and the need for high security like banks, call centres, travel companies and insurance firms. The Thin Client is a small mains powered device that has no moving parts like disks or fans. Traditionally it relies on an operating system embedded on the device in Flash Memory such as Wyse's own WTOS, Microsoft Windows or Linux. Applications are “viewed” on the Wyse device by accessing servers via Citrix ICA or Microsoft Terminal Services.

“After working closely with the local Wyse team we purchased 35 Wyse S50 models which use a Linux embedded operating system. Whilst these devices worked perfectly well in some areas such as the library using terminal services, they did not really suit the very diverse environments of the computer labs,” said Mr Deyaolu. “Our curriculum has a very strong flavour of multi-media, the PC experience was necessary to cope with some of the applications and devices required to achieve outcomes in class. We really needed a thin client with all the flexibility of a PC, not possible we thought.”

Due to the strong relationship both Tenison College and Wyse had developed over a period of time, Wyse invited Mr Deyaolu to a product briefing prior to the official Australian launch of a new form of Thin Computing, known as Wyse Streaming Manager (WSM). This is a software program that is used with a very small Wyse Thin Client device, the difference to normal Thin Client using Citrix or Terminal service is that any number of operating systems, applications and their relative files are delivered or streamed to a “stateless” thin computer and used as required, all however still reside on the server where they are easy to backup, maintain, manage and update. The server only streams to the user what is necessary for that session.

“When Wyse produce new hardware or software we work with selected clients on a beta program, this allows the customer to keep abreast of the latest technology and allows Wyse to get real customer feedback prior to any official launch,” said Richard Eccles, southern region sales manager for Wyse. “It was a perfect opportunity for Tenison Woods College to try out the new technology before purchasing.”

“Although still in its early stages, we decided to try this streaming idea out as all indications showed it could deliver the PC functionality we needed. We worked very closely with Wyse in Australia for over six months testing every application we had installed in the school for potential issues and can now honestly say it does everything we hoped for. We have since proceeded to install and operate our first 169 thin clients across the campus using Wyse Streaming Manager,” said Mr Deyaolu.



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Tenison College as mentioned previously uses a wide range of software applications including Windows XP Pro as the OS, Office 2003, Visio, Photoshop, Publisher, GIS programs, Visual Studio and Anti Virus (which, by the way, has now been removed as running anti Virus on the desktops is no longer necessary) amongst the more memory intensive applications. “Using WSM also permits us to run a wider range of local devices from the Thin Client such as cameras, scanners, and external DVD burners, just like a PC.”

All the Wyse thin clients now run from a central server farm of IBM 336 X series with single Xeon processors located in the schools server room. The servers host the applications and files accessed by all the users as they log on. This logon determines just which menu of applications and files will be made available to that individual user. Gone are the days of users “playing” with programs that are not required or using programs of their own which could affect the entire network. “It is impossible to add programs to the server (although users can run local programs which are cleared from memory on restart) or impact security as nothing is kept permanently on the thin client, all is controlled from the server,” said Mr Deyaolu “Backups, upgrades and security are confined to the server farm, which is ideal.”

It is important to understand that, using Wyse Streaming Manager, programs are not “downloaded” in the traditional sense to the device, rather the software creates independent “images” of both the application and the OS to be streamed and sends them to the desktop. Only exactly what is required by the user for the process being worked on is sent, for instance if the student was working on a graph in Excel then only that part of the OS and the application necessary for the operation is sent.

“With Wyse Streaming Manager the network is everything,” said Mr Deyaolu. “We found it more effective to have the network deliver 100MB to the desktop and make sure the server and core switches combination was finely tuned. However we have not seen the need for an expensive new network upgrade, we used our existing Netgear products and have had no problems.”

The College reports that work had to be done to get student log-on time down to a reasonable target. “Some students had too many unnecessary files and folders in their ‘My Documents’ folder which held up downloads. Initially we were seeing three minute “starts-ups” which was just too long. We have finely tuned the logon processes and using the Wyse central software management tool, we reset all thin client devices at night so clearing the buffers for a fresh start each day. Each device can have up to six individuals log on to them each day, so it is important to keep unwanted material away.”



Solution Architecture

- Wyse Products
 - V00 Thin Clients
 - Wyse Streaming Manager 1.2.2
- Servers
 - IBM X Series running Microsoft Windows Server 2003
- Network
 - 1GB Core Network Switches with 100MB to the desktop
- User Applications
 - MS Office
 - Photoshop
 - Gamemaker
 - Cad Programs
 - Media Player 10

The College has been using Wyse Streaming Manager and the Wyse V00 thin computer operationally through October and November 2006 with great success. "After six months of testing and two months of operations we are delighted with the success of the Wyse Streaming Manager solution," said Mr Deyaolu. "Most importantly we no longer have the nightmare of mixed PC environments, which provide considerable savings in desktop management. We have central control of all applications and OS allowing for simpler upgrade processes. License management is built into the Wyse software to BSA standards so all that hassle is also gone. Size has also been another surprise for us; the thin computer is only 201x46x180mm allowing us to mount it in a cradle attached to the monitor saving desktop space, we now can put two units into an average classroom and 24 units into a lab rather than 18 PCs."

Due to the success of Wyse Streaming manager at Tenison College, the IT manager is now looking at using it as a solution across many smaller regional schools that just cannot afford onsite technical support. Their experience with the Wyse solution suggests that they could manage five smaller schools with one technical person, a huge cost saving.

Tenison Woods College expects to replace all its 300 PCs with Wyse thin computers using the Streaming Manager technology by the end of 2007 and increase usage to approximately 450 units.

Wyse Streaming Manager is now a fully supported released product, available throughout the APAC region from Wyse partners.



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