

Effective Classroom and Library Printer Management

The challenge for the modern ICT classroom is to provide the right level of technology along with access to resources and content - without scope for abuse or misuse by students. Outside of software licensing, the other key variable for classroom cost management is the availability and use of printer resources.

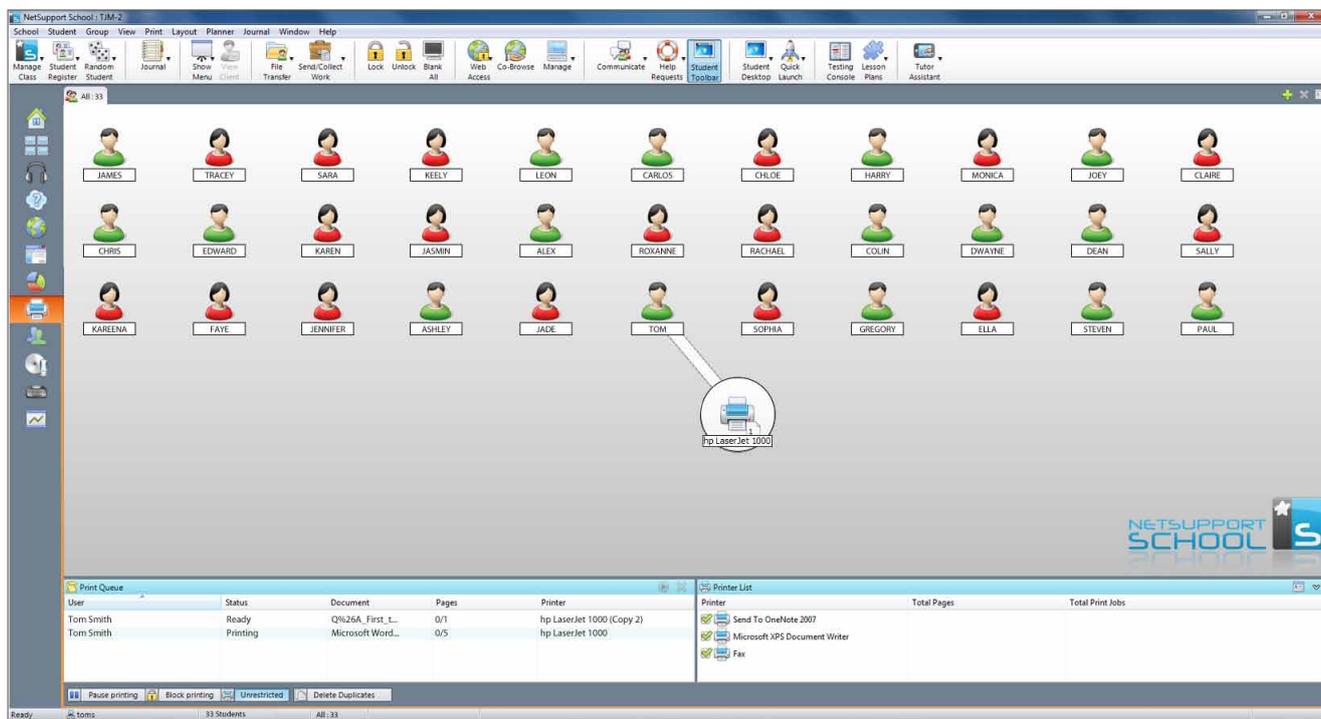
Printers are a fundamental part of the ICT classroom and provide a practical means for both teacher and students to retain hard copies of coursework and projects undertaken during a lesson. However, the cost of printing within the classroom, whilst nominal per individual student, can quickly become quite significant across an entire student enrolment.

A number of solutions exist to provide schools with printer management capabilities. Most are standalone user-account centric solutions which carry a significant cost to both implement and maintain, while having a prerequisite that each student is identified centrally on the system with costings and quotas being applied per head. NetSupport School is unique in providing high level and affordable printer management as standard within its existing classroom management solution.

Managing the Classroom Printers

The printer management feature within NetSupport School provides the teacher with total control over printer usage within a given classroom. Utilising the software, a teacher can both monitor and control all printing activity during a lesson, as well as assigning pre-defined limits based on acceptable use policies.

It is important at this point to clarify the differences between a high level print management solution such as that provided by NetSupport School, and more granular, dedicated print management solutions available in the market. NetSupport School does not require the pre-definition of student accounts, does not require a centralised server component and does not require quotas and costings to be applied in advance of its use.



The screenshot displays the NetSupport School software interface. The main window shows a grid of 33 student avatars, each labeled with a name: JAMES, TRACEY, SARA, KELLY, LEON, CARLOS, CHLOE, HARRY, MONICA, JOEY, CLARE, CHRIS, EDWARD, KAREN, JASMIN, ALEX, ROXANNE, RACHAEL, COLIN, EDWAYNE, DEAN, SALLY, KARENA, FAYE, JENNIER, ASHLEY, JADE, TOM, SOPHIA, GREGORY, ELLA, STEVEN, and PAUL. A callout box points to a printer icon labeled 'hp LaserJet 1000'. The interface includes a menu bar (School, Student, Group, View, Print, Layout, Planner, Journal, Window, Help) and a toolbar with various icons for managing the classroom. At the bottom, there are two panels: 'Print Queue' and 'Printer List'. The 'Print Queue' panel shows a table of print jobs:

User	Status	Document	Pages	Printer
Tom Smith	Ready	Q%26A_First_t...	0/1	hp LaserJet 1000 (Copy 2)
Tom Smith	Printing	Microsoft Word...	0/5	hp LaserJet 1000

The 'Printer List' panel shows a table of printers:

Printer	Total Pages	Total Print Jobs
Send To OneNote 2007		
Microsoft XPS Document Writer		
Fax		

At the bottom of the interface, there are buttons for 'Pause printing', 'Block printing', 'Unrestricted', and 'Delete Duplicates'. The status bar at the bottom indicates 'Ready' and '33 Students'.

NetSupport School provides the teacher with the ability to monitor all print activity within the classroom, covering all printers assigned to student computers. As a print job is initiated by a student, this is displayed within NetSupport School on the teacher's computer and, on completion, a history of all print jobs and pages printed is retained to allow for class-by-class reporting. Naturally, the ability to see which print jobs have been initiated is extremely useful but, with teacher attention likely to be focussed on the students in the class, the beauty of NetSupport School printer management is in allowing the system to manage their activity without immediate teacher input.

The primary features included within NetSupport School are:

1. Prevent students from adding or removing printers from their desktop PC.
2. Prevent all or selected students from printing.
3. Pause all student print queues - this will remain in force until the teacher releases either all or selected items.
4. Record a full print history for each student and the class to allow for subsequent reporting and costing where appropriate.
This information can be both printed and exported in a range of formats.

The ability to disable printers as and when required is also increasingly important in shared resource areas of the school, such as the library, where potentially high volume non-curriculum based printing can occur, or where examination content is provided and it is critical to avoid copies leaving the classroom.

Pre-emptive printer management

When a new lesson commences, utilising NetSupport School, a default printer status can be automatically applied to the entire class. Typically, all printers are paused and this avoids the risk of a teacher being distracted on other topics and omitting to apply printer enforcement. Additionally, printer thresholds can be defined providing basic rules for the treatment of individual print jobs. For example, NetSupport School can review each submitted print job and, based on a simple set of rules, can choose to pause any print job that exceeds a given number of pages, thereby leaving the document for review by the teacher prior to passing it on to the printer itself.

Applying the same rules, a print job beyond another defined number of pages can be automatically deleted by the system. In a typical classroom project where the students have been asked to type two pages of text on a given subject, the system can be set to allow print jobs up to three pages in length, pause those up to five pages in length, and delete any that are of a larger size.

Finally, NetSupport School will also check for over-enthusiastic students and where duplicate print jobs are submitted in close succession by a given student for the same document, the duplicated print job will be automatically deleted.

Conclusion

The cost of delivering printing in the modern ICT classroom should not be underestimated. By providing either inkjet or laser printing capabilities and potentially the availability of colour printing, the cost of both paper and consumables can quickly escalate. As an example, a school with 500 students, who each print on average no more than five pages of work each day, for each of their typical 180 school days per year, would generate a print cost to their school of \$27,000 each year based on a cost per page for a black and white laser print, at \$0.06 per sheet. This cost would be significantly higher for inkjet and colour-based content.

A product such as NetSupport School, used correctly can typically deliver savings of over 25% of the overall pages printed, by removing duplicates and unnecessary or authorised document printing and, in the example shown above, this would equate to an annual saving of \$6,750.



Real world feedback
on
NetSupport School



More info and
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