For information
on 8 June 2000

LegCo Panel on Education

Enhancement of Administration Computer Systems in Schools and the Education Department

PURPOSE

This paper informs Members of the proposals to enhance the administration computer systems in schools and the Education Department (ED).

BACKGROUND

2. In 1993, the Finance Committee approved the implementation of an Information Systems Strategy, the purpose of which was to maximise the effective utilisation of resources through the introduction of information technology (IT) facilities for both schools and the ED. The School Administration and Management System (SAMS) and the Education Department Information System (EDIS) were launched under the strategy. The SAMS, launched in 1994, provides all public sector schools with a networked computer system to assist in their administration and management processes, and enables the electronic transmission of information between schools and the ED. The project covered some 1 000 public sector schools and was completed in 1998. The EDIS, also launched in 1994, provides around 1 300 ED officers with computers connected to the ED network and the Internet. The project was completed in 1996.

NEED FOR ENHANCEMENT

3. With the rapid development in IT, the SAMS and the EDIS are now far behind the latest technology to meet increasing users'

expectations and needs. The lack of integration between the different systems has also constrained effective deployment of IT resources.

ENHANCEMENT PROPOSALS

4. We propose to -

(a) replace and upgrade computers of the SAMS;

(b) integrate the SAMS network and computers in schools provided for IT in education;

(c) redevelop the SAMS into a web-based computer programme;

(d) replace and upgrade computers of the EDIS; and

(e) expand the coverage of users of the SAMS and the EDIS.

BENEFITS OF ENHANCEMENT

Improving efficiency

5. Since the implementation of the IT in education strategy in November 1998 [Note(1)] and the rolling out of various initiatives, an IT culture has gradually been built up in schools. Teachers are now more accustomed to using computers; one natural consequence is that the usage rate of the SAMS is on the increase. For example, some 90% of public sector schools now send student data to the ED electronically through the SAMS and about 80% of secondary schools send students' registration details for entries to public examinations to the Hong Kong Examinations Authority through the system, as compared with 30% and 40% respectively in 1997.

6. While it is encouraging to note the increasing use of the SAMS,

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Note(1) We issued a strategy document entitled 'Information Technology for Learning in a New Era: Five-year Strategy 1998/99 to 2002/03' in November 1998 after public consultation. A capital sum of $3,200 million and a recurrent sum of $560 million were set aside for implementing the various initiatives in the strategy document.

we have also been receiving feedback from users, i.e. teachers and schools, that the processing speed of the SAMS is too slow. Indeed, due to rapid technological development in IT, the processing power and the storage capacity of the SAMS, which was provided in 1994, cannot meet present day users' requirements. To better serve the users and to improve the efficiency of the system, there is a clear need to replace and upgrade the system of the SAMS.

Optimization of use of IT resources

7. At present, due to hardware and network constraints, computers for the SAMS cannot be used for IT in education, and vice versa. As a result, there may be times when the demand for one network is high whilst the computers for the other are not fully engaged, and yet schools cannot deploy resources from one network to another. For example, the demand for the SAMS is usually high during the period after year-end examinations as teachers have to input students' scores while there is spare capacity for computers designated for use of IT in education during that time as there are no school lessons. Through integrating the SAMS and computers provided for IT in education, schools can use all IT resources available in schools in accordance with their circumstances and needs to support their administrative work as well as teaching and learning activities.

Tapping web technology

8. Web technology is now commonly used in developing software. It is therefore important to tap this technological advancement to improve the SAMS. Redeveloping the SAMS into a web-based programme will bring about the following benefits -

(a) teachers can access the SAMS anywhere and anytime as long as they have computers connected to the Internet;

(b) it will be much easier to upgrade the SAMS in future. At present, upgrading the SAMS software requires lots of manpower as the ED needs to install the new software school by school and there are over 1 000 schools installed with the SAMS. If the SAMS is web-based, however, the ED will only need to

upgrade the programme once at the ED's server and schools can immediately access the upgraded version through the Internet; and

(c) the web provides a convenient platform for software developers to promote and develop add-on school administration software, thus providing schools with easier access to more choices on such software.

Enhanced security

9. Since the SAMS contains students' personal information, we will put in place security measures such as password identification and network traffic filtering after going web and, integrating the IT in education network and the SAMS network so that unauthorised access to the SAMS will not be allowed.

Improving services to schools and the public

10. The rapid development of IT provides an excellent opportunity for Government departments to improve their services to the public. At present, in the case of the ED, the public can communicate with officers of the Department through the EDIS which is connected to the Internet. However, there are several limitations -

(a) computers of the EDIS are aging and its system capacity is insufficient to support a large amount of public requests made electronically; and

(b) the EDIS network currently only covers around 1 300 ED officers, mostly officers of the rank of the Education Officer (or equivalent) or above. Many frontline staff who deal with public requests direct do not have computers or computers which are connected to the EDIS network and the Internet.

To enable the ED to provide better customer service and to start implementing the delivery of its services on-line through the Internet, there is a need to upgrade the computers of the EDIS and to extend the coverage of the EDIS and the Internet to all officers of the rank of the

Assistant Education Officer (or equivalent) or above. By networking existing stand-alone computers in the ED and providing 140 additional computers, some 1 800 ED officers will be able to use the EDIS network in their daily work.

BETTER ADDRESSING NEEDS OF SCHOOLS

11. In view of the large number of public sector schools, the replacement and upgrading of computers of the SAMS will take a much longer time if the work is done centrally by the Government. While some schools may urgently need replacement of aging machines, others may wish to replace the system later due to other priorities. Therefore, it is always in schools' best interest to allow them to decide on their own when to arrange site preparation works [Note(2)] and to replace existing computers. Disbursement of cash grants to schools for such purposes will provide them with the necessary flexibility. In fact, all public sector schools have been provided with cash grants for procurement of computers under the IT in education project and feedback from schools on the arrangement is by and large favourable. That said, we recognise that some schools may prefer to procure computers on their own and leave site preparation works to the Government; others may wish to have both site preparation works and procurement of equipment co-ordinated by the Government. We will therefore provide appropriate options to schools to meet their specific needs.

12. Under current policy, the subsidy for schools under the Direct Subsidy Scheme (DSS) is based on the average cost of an aided school place in the past year. To ensure that DSS schools will have access to similar SAMS facilities at the same time as their counterparts in the public sector, a cash grant will be provided to DSS schools for enhancing the SAMS system.

FINANCIAL IMPLICATIONS

Note(2) Although all schools have installed trunking and cables under the IT in education project, computers of the SAMS are not connected to the network. To enable the integration of the SAMS and computers provided for IT in education, site preparation works are required.

13. We estimate that the proposed enhancement to the administration computer systems in schools and the ED will give rise to non-recurrent expenditure of about $370 million over three years from 2000-01 to 2002-03, most of which goes to hardware and software acquisition (about $230 million) and site preparation works (about $50 million). The detailed breakdown of the cost of the project is still being fine-tuned. We will seek funding approval from the Finance Committee in June 2000.

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Education and Manpower Bureau