

ITEM FOR FINANCE COMMITTEE

CAPITAL WORKS RESERVE FUND

HEAD 710 – COMPUTERISATION

Government Secretariat : Education Bureau

New Subhead “Upgrading of the Web-based School Administration and Management System”

Members are invited to approve a new commitment of \$67 million for upgrading the Web-based School Administration and Management System in government, aided, caput schools and local schools under the Direct Subsidy Scheme.

PROBLEM

The Web-based School Administration and Management System (WebSAMS) in government, aided, caput schools and local schools under the Direct Subsidy Scheme (DSS schools) is becoming increasingly inefficient due to its hardware constraint and more vulnerable to security risks due to obsolete software.

PROPOSAL

2. The Secretary for Education proposes to enhance the processing power and overall performance of WebSAMS by creating a new commitment of \$67 million to –

- (a) replace and upgrade the WebSAMS hardware servers and related system software in government, aided, caput and DSS schools; and
- (b) enhance the WebSAMS application programs to ensure that they can continue to be run in the upgraded system environment.

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JUSTIFICATION

Improving Efficiency

3. After the WebSAMS was rolled out in phases from 2003 onwards, the usage rate of the system keeps on rising. For example, basically all schools are now using WebSAMS to file survey returns to Education Bureau (EDB). To enhance WebSAMS as a better computerised tool to support the management planning and administrative processes of schools, the functions performed by the system have been continually expanding to cope with the changing needs. This has in turn added loading to the system. The system capacity is now nearly fully stretched, affecting at times the overall performance and efficiency of WebSAMS. More processing power is required to sustain the future growth of WebSAMS in support of the new business requirements and enhancements in the school sector. To better serve the users and improve the efficiency of the system, we consider it necessary to replace and upgrade the WebSAMS hardware servers.

Reducing Security Risk

4. The WebSAMS system software, including the operating system and database management software, is becoming obsolete. In about three years' time, the software vendors will cease providing upgrade patches for the system software. Without the upgrade patches, the system will become more vulnerable to security risks and system instabilities. As WebSAMS contains personal information of students, parents and teaching staff, it is essential to replace and upgrade the system software to minimise security risks.

5. With the proposed hardware and software replacement for WebSAMS, we will also need to enhance the WebSAMS application programs to ensure that they can continue to function properly in the upgraded system environment.

Benefits

6. In overall terms, we expect the system upgrading would bring about enhanced productivity and better customer services. We also expect that all tasks currently performed by the system will be handled more efficiently and in a more secure manner. Although these benefits being scattered in some 1 100 schools^{Note} cannot be realised in the form of actual staff savings, the time and efforts of school staff thus saved can be diverted to other areas conducive to the teaching and learning in schools.

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^{Note} The 1 100 schools are counted on server basis, e.g. bi-sessional primary schools with separate servers for AM and PM sessions are counted as two schools in the WebSAMS operation.

FINANCIAL IMPLICATIONS**Non-Recurrent Expenditure**

7. We estimate that the proposal will require a total non-recurrent expenditure of about \$67,000,000 over a period of three years from 2008-09 to 2010-11, with breakdown as follows –

	2008-09	2009-10	2010-11	Total
	\$'000	\$'000	\$'000	\$'000
(a) Hardware	38,500	2,000	400	40,900
(b) Software	15,000	800	200	16,000
(c) Implementation services	2,900	-	-	2,900
(d) System migration services	4,500	200	100	4,800
(e) Contract staff	800	800	800	2,400
Total	61,700	3,800	1,500	67,000

8. As regards paragraph 7(a), the estimate of \$40,900,000 is for the acquisition of computer servers and ancillary equipment for 1 100 schools.

9. As regards paragraph 7(b), the estimate of \$16,000,000 is for the acquisition of computer software, including system operating software, database management system, system backup tool and anti-virus software for the servers in schools.

10. As regards paragraph 7(c), the estimate of \$2,900,000 is for the acquisition of services by EDB to modify the WebSAMS application programs to suit the new system environment.

11. As regards paragraph 7(d), the estimate of \$4,800,000 is for the acquisition of services for schools to migrate the WebSAMS, including the computer application software and the data, to the new servers.

12. As regards paragraph 7(e), the estimate of \$2,400,000 is for hiring of contract staff services by EDB to provide technical advice and monitor the implementation of the project.

Other Non-recurrent Expenditure

13. The proposed system upgrading will entail additional non-recurrent staff cost of \$2,690,000, with breakdown as follows –

	2008-09	2009-10	2010-11	Total
	\$'000	\$'000	\$'000	\$'000
Staff cost	2,152	269	269	2,690
Total	2,152	269	269	2,690

14. The staff cost estimated above represents a total of 36 man-months of Education Officer (Administration) and Analyst/Programmer grades staff for managing the project and providing support to schools. This will be absorbed by EDB from within its existing resources.

Recurrent Expenditure

15. As this is a replacement project, it does not have any additional recurrent financial implications. We will deploy the existing recurrent provision for WebSAMS to meet the recurrent expenditure in support of the upgraded system.

IMPLEMENTATION PLAN

16. We will take forward the project in two main parts: acquisition of hardware and software by schools, and enhancement of the WebSAMS application programs at central level by EDB.

Acquisition of Hardware and Software

17. To provide schools with greater flexibility in procuring the computer equipment and migrating to the enhanced WebSAMS according to their own schedule, we will provide each eligible school with a one-off cash grant in 2008-09

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for acquiring the new hardware server, system software and system migration services (i.e. paragraphs 7(a), (b) and (d) above). As some system software can be purchased centrally by EDB at lower prices, the estimated amount of the one-off cash grant to be disbursed to each school is about \$54,000, subject to the development of the central purchasing arrangement. Schools may spend the one-off grant across years, but in any case no later than end 2010. EDB will provide schools with the required technical specifications for reference and offer assistance and support to schools throughout the upgrading exercise. The progress of system upgrading will be monitored and any unspent provisions will be clawed back from schools after end 2010.

Enhancement of WebSAMS Application Programs

18. While retaining their current functions, we will re-test and scrutinise the existing WebSAMS application programs for necessary modifications so that the system will continue to function properly in the new system environment. This is to ensure a smooth switchover with minimum disruption to the operation of schools. The enhancement of the WebSAMS application programs will be centrally arranged by EDB. We plan to commence the enhancement in April 2008, and the new version of WebSAMS programs is expected to be ready for distribution to schools in late 2008 for deployment under the new platform. A detailed implementation plan is at Enclosure 1.

Encl. 1

PUBLIC CONSULTATION

19. According to a survey conducted in 2006 on the utilisation of WebSAMS by schools, over 80% of the 957 schools responding to the survey indicated that it was “necessary” or “very necessary” to upgrade the hardware servers of WebSAMS. We have also consulted the WebSAMS User Group (comprised mainly schools’ WebSAMS co-ordinators) which was very supportive of the present proposal. We consulted the Panel on Education of the Legislative Council on 14 January 2008. The Panel supported the proposal.

BACKGROUND

20. On 24 September 1993, the Finance Committee (FC) approved vide FCR(93-94)78 the implementation of an Information Systems Strategy in the then Education Department (ED). Being one of the nine projects under the Strategy, the School Administration and Management System (SAMS) was first launched in 1994, to provide all government, aided, caput and DSS schools with a networked computer system to assist in their administration and management processes and

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enable the electronic transmission of information between schools and ED. To further meet users' needs, ED proposed and FC approved vide FCR(2000-01)37 on 23 June 2000 a non-recurrent commitment of \$376 million to replace SAMS computers and convert the system into a web-based application amongst other things. The enhanced system was thereafter referred to as WebSAMS.

21. The major functions of WebSAMS include electronic data exchange between schools and EDB, report card printing, management of school, staff and student information, timetabling, supporting school places allocation, etc. A list of WebSAMS applications is at Enclosure 2.

Encl. 2

Education Bureau
January 2008

Implementation Plan

Activity	Implementation timetable
(1) Procurement of services for re-testing and modifying the existing WebSAMS application programs in the new system environment (Action: EDB)	April to May 2008
(2) Enhancement to WebSAMS application programs and user acceptance testing (Action: EDB)	May to November 2008
(3) Disbursement of one-off grant to schools (Action: EDB)	October 2008
(4) Acquisition of WebSAMS hardware servers and system software (Action: schools)	October 2008 to December 2010
(5) Roll-out of new WebSAMS application programs (Action: EDB)	Starting from December 2008
(6) Installation of new WebSAMS servers and system migration (Action: schools)	December 2008 to December 2010

Functions and Applications of WebSAMS

There are currently 20 applications in the WebSAMS –

- School basic information;
- Student basic information;
- Student attendance;
- Student activities;
- Award and punishment record;
- Assessment and reporting;
- Assessment of students with special education needs;
- Staff deployment (arranging substitute teachers within schools);
- Staff basic information;
- Hong Kong Attainment Tests (for student performance analysis);
- Applied Learning;
- Communication with Hong Kong Examinations and Assessment Authority (HKEAA);
- School financial monitoring and planning;
- School places allocation (primary 1, secondary 1, 4 and 6);
- Report management (for schools to edit report templates for school-based needs);
- Data management (for schools to extract data from WebSAMS for their own computer applications);
- Timetabling;
- Code management (including standard codes, and school-defined codes for school-based subjects and activities);
- System security management (controlling access rights); and
- E-mail.

To facilitate electronic communication between the EDB and schools, a Communication and Delivery System is installed in WebSAMS to serve as an interface between WebSAMS and other computer systems of the EDB and the HKEAA. In addition, a Data Query Tool is provided for schools to compile survey data in specified format as required.
