Productivity Gains
in Statistical Data Processing

Being the National Statistical Authority and Coordinator, the Singapore Department of Statistics (DOS) has been seeking continual improvements to enhance its capabilities in data collection, analysis and dissemination. Statisticians have been trained in using IT tools for data extraction, collection and analysis.

In a varied IT environment ranging from mainframe to client-server and PC platforms at DOS, the application systems which were developed several years ago and residing in the mainframe environment have become increasingly inefficient in serving the needs of users in the processing and generation of the desired output.

In May 2002, DOS launched the Rightsizing Project to improve the efficiency and upgrade the capabilities of its application systems residing in the mainframe. It is a strategic move for DOS to migrate the mainframe applications to the client-server platform to support its specialized needs. The project, which is being implemented in two major phases, will be completed by September 2003.

Phase 1 focused on commercial establishments, services and social statistics data processing. Enhancements to expanded functions and streamlined business processes were incorporated and implemented with better IT solutions. The detailed work processes were also enhanced to achieve the operational effectiveness and efficiency for various applications. In Phase II, the focus is on the population, household and national dwelling database systems.

Three Key Principles

There are three key principles observed in the Rightsizing Project. They are as follows :

(a)   Adoption of electronic data transfer as a means for faster sharing of data and reduction of turnaround time.

(b)   Establishment of a more user-friendly end-user computing environment for better control and cross-division sharing.

(c)   Streamlining of work processes for increased efficiency and further reduction of manual processes as far as possible.

The major improvements achieved in Phase 1 of the DOS Rightsizing Project are summarised in page 18. With the new infrastructure and systems in place, users are able to run programs more easily and interactively, thus saving effort and time taken in the generation of statistical reports from the application systems. With better and more advanced IT techniques available, the merging of a multitude of datasets can be carried out efficiently and effectively.

Users would also benefit from the streamlined procedures and processes. All these benefits translate into significant overall productivity gains for all officers. Most importantly, the new systems offer upgraded facilities for users in the generation of reports and outputs. As a result, users are able to maximise the application capabilities to the best of their abilities to further improve the timeliness of outputs.

Improvements/Outcome of DOS Rightsizing Project

Electronic Data Transfer

- The use of electronic data transfer approach for data exchanges across all agencies concerned facilitates data transfer.

End-User Computing Environment

- The central end-user computing environment provides a user-friendly master environment for users to

    – easily share and leverage on common programs and techniques across divisions;

    – run the programs in their PC or Server depending on data volume.

  A more efficient and flexible processing is made possible using the high-powered server and online Storage Area Network (SAN) facility. There is a significant improvement in speed and resource compared to the existing mainframe where historical data are processed using cartridges.

Streamlining of Work Processes

The streamlining of work processes has been implemented in 3 areas, namely, data extraction, data processing and generation of reports to achieve greater efficiency.

- A generic data extraction process is provided to extract data from a number of tape/cartridge media in use.

- With improved system design, direct interfacing between systems and further computerised processes, the average data processing cycle is shortened by 30 per cent to 50 per cent. In one data processing cycle, it has improved turnaround time for overall data processing from 1-2 days to less than half an hour.

- Interactive online submissions for on-demand executions and direct printing has been implemented by users. This reduces the elapse time and increases overall operational efficiency.

- Control reports are produced in softcopy to reduce paper usage and this eliminates the despatch arrangements.

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http:www.singstat.gov.sg/keystats/annual/sib.html