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 Deputy Director General, Tax Operation
 Inland Revenue Board of Malaysia*



Inland Revenue Board of Malaysia

INDUSTRY Government

SOLUTIONS *Virtualisation, Enterprise Platform*
Hardware — Hitachi Universal Storage Platform® V
Software — Hitachi Basic Operating System, Hitachi Dynamic Provisioning, Hitachi Backup and Recovery software, powered by CommVault
Service — SAN Implementation Services, Hitachi Universal Storage Platform V software training and Hitachi Data Protection Suite (powered by CommVault) training provided by Formis Network Services Sdn Bhd

Hitachi Data Systems Helps the Inland Revenue Board of Malaysia Address the Needs of Taxpayers

The Inland Revenue Board of Malaysia (IRBM) is one of the main revenue collecting agencies of the Malaysian Ministry of Finance. Established in accordance with the Inland Revenue Board of Malaysia Act 1995, the IRBM's charter is to improve the quality and effectiveness of tax administration. Seeking to revise and modernise its IT and data centre infrastructure, the IRBM recently embarked on a server consolidation and virtualisation project, which it based on the Hitachi Universal Storage Platform® V with backup infrastructure using the Hitachi Data Protection Suite, powered by CommVault.

Support for Future Growth

Over the last few years, Malaysian taxpayers have had the privilege of accessing online services to settle their tax matters conveniently. This list of services, which includes e-Daftar, e-Filing, e-Filing for Tax Agent (TAeF), e-Bayaran, e-RAS, e-Stamp and STD Calculator would not have been possible if not for the vision and foresight of the IRBM.

The IRBM was also aware that providing online services to millions of registered taxpayers would require a robust IT environment. With this challenge in mind, plus the knowledge that more Malaysians will

eventually access online tax services, the IRBM decided that its IT and data centre infrastructure would need to be upgraded to support future growth.

One of the IRBM's most recent IT projects geared towards supporting this growth was the server consolidation and virtualisation project for IRBM's supporting applications. The initiative has reaped significant benefits because it enabled IRBM to successfully consolidate up to 80 physical servers to run on a single enterprise server system. Subsequently, more systems were added into the consolidated infrastructure.

More importantly, the strategic move has led to an improvement in overall IT efficiency, enhancement in staff productivity, as well as a marked reduction in power consumption and data centre footprint. The project undertaken by Formis Network Services Sdn Bhd was completed and commissioned within a nine month period, including the transfer of technology to the ICT personnel of the IRBM.

Partners involved in this strategic IT exercise included technology providers such as Unisys, VMware and Hitachi Data Systems. Hitachi Data Systems was selected to offer its Universal Storage Platform V for the storage consolidation component as well as its expertise to help streamline storage and backup processes in the IRBM's data centre.

Key Success Factor: Strategic Planning

In the first phase of the project, Formis Network Services undertook a Discovery and Analysis Study of the servers identified for virtualisation using specialised analysis tools. Formis Network Services also conducted a number of customer workshops to examine the technical, business and operational aspects of each server. The information gathered from the study and workshops was then used to create a detailed design document for the planned



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virtualisation, including requirements for the associated disk storage.

By going through this process before any technical changes were made, Formis Network Services and its other technology partners were able to better understand how the servers were administered and interacted with each other. Ultimately, this enabled a successful implementation and migration exercise with adequate capacity to allow for continued growth in the number of virtual machines.

The IRBM Consolidation Project Reaps Benefits

“Under the consolidation and virtualisation project, we managed to simplify the IRBM’s IT infrastructure by consolidating 80 existing physical servers with one enterprise server running virtual infrastructure technology,” said Deputy Director General, Tax Operation of the IRBM, Yang Berbahagia Dato’ Dr. Mohd Shukor Mahfar.

“As a result of this IT exercise, the data centre footprint required by the IRBM has been drastically reduced by 50 percent and ongoing power consumption cut by 70 percent,” added Dr. Mohd Shukor.

Smart Storage

The IRBM also needed to enhance its storage and backup infrastructure so that it could manage larger volumes of data as well as support the requirements of multiple applications running on many servers, within the framework of its data protection policy. In that regard, the combination of the Hitachi Universal Storage Platform V and Hitachi Data Protection Suite has clearly been the ideal solution for the IRBM.

Configured to offer up to 10TB of Fibre Channel capacity, the Hitachi Universal Storage Platform V is currently utilised to consolidate the storage disks from the 80 physical servers as well as supporting the IRBM’s e-Filing application, which requires approximately 2TB of capacity, and e-RAS system, which requires 2.8TB. Additionally, the Hitachi Universal Storage Platform V has been configured to support the storage requirements of future applications, such as e-Stamp. To improve and speed up the backup for the 80 consolidated servers, 10TB of SATA capacity have been configured for the disk-to-disk-to-tape (D2D2T) backup policy.

Through this IT consolidation initiative, the IRBM has also managed to streamline data storage utilisation; it enabled thin provisioning technology by deploying the Hitachi Dynamic Provisioning feature. Essentially, this means that ad hoc storage requirements within the IRBM’s various departments can now be fulfilled dynamically. This is akin to employing a “storage on demand” model without having to invest unnecessarily in more storage capacity. This has enabled a very high rate of storage utilisation, and has eliminated wastage and stranded storage that is normally found in static provisioning storage configuration techniques. IRBM can now maximise their return on their storage assets and reduce capital expenditure, moving forward.

“Our decision to deploy the Hitachi Universal Storage Platform V is very strategic as it now allows our IT administrators to easily maintain and centrally manage the agency’s storage infrastructure. Data backup can now be performed regularly and automatically as opposed to the previously manual process,” said Dr. Mohd Shukor.

The IRBM’s successful server consolidation and virtualisation project has certainly won accolades from its industry peers. In fact, the IRBM garnered the Gold Award for the “Best Green Strategy for a Data Center” from Hitachi Data Systems Asia Pacific. This award was presented during the annual Hitachi Data Systems IT Inspiration Awards, which was held in Cebu, Philippines in November 2008.

“The IRBM’s server consolidation and virtualisation project is no doubt a successful business case study of an organisation that has improved overall productivity, increased efficiency and achieved significant cost savings. The IRBM has truly set a benchmark for others to follow,” said General Manager of Formis Network Services, Ahmad Zaki Embi.

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