Yokogawa Engineering Asia Pte Ltd (YEA) wanted to consolidate data protection and replace disparate tools that were not meeting its requirements. YEA turned to an integrated data protection and email archiving solution from Symantec and Symantec Platinum Partner SoftSource Solutions Pte Ltd that includes deduplication and replication, as well as support for legacy operating systems and the latest virtualization technology. Results include fivefold faster recovery of virtual machines and a 50 percent average deduplication rate for backup data, including engineering design data that changes frequently.

Automating Asian industry

Singapore-based Yokogawa Engineering Asia Pte Ltd (YEA) is a leader in the industrial automation market. The burgeoning growth of developing markets in Southeast Asia has prompted YEA to expand its business beyond Singapore. It now has operations and investments in Thailand, Indonesia, Malaysia, Philippines, and Vietnam. The regional headquarters in Singapore also supervises activities in growing markets such as Pakistan, Sri Lanka, and Bangladesh.

Consolidating data protection

Until recently, YEA used two separate products to back up and restore data at its two Singapore locations—one tool to back up its primary data center, and another to back up deduplicated data from the remote facility across the WAN.

“We had to use two separate interfaces to manage data protection,” explains Colin Chua, lead engineer. “But the biggest problem was that our previous vendor could not guarantee us that they would support certain legacy operating systems going forward. Many of our servers at the remote office run Windows Server 2003 or even 2000, and we needed to make sure we could continue to deduplicate those backups in order to meet our backup windows.”

YEA decided to replace both products with Symantec NetBackup™ 7 with NetBackup Data Protection Optimization (formerly NetBackup Deduplication Option), a single, integrated solution. “Symantec was able to assure us of a clear roadmap for operating system support,” says Daniel C.S. Tan, head of IT infrastructure. “With our previous vendor, the future was a bit unknown.”

Why Symantec?

- Continues to support older operating systems
- Provides image-level backup of virtual machines
- Robust application and database agents
- Consolidates data protection and archiving with an integrated solution
Engineers now use one centralized console to manage data protection for both offices. With a 50 percent average deduplication rate for backup data on the remote office NetBackup Media Server—much of it engineering design data that changes frequently—YEA can comfortably meet its backup windows by sending less data across the WAN.

**Recovering virtual machines fivefold faster**

To maximize efficiency in its Singapore data center, YEA has already virtualized around 30 of its production servers using Microsoft Hyper-V, and plans to virtualize more. With the previous backup product, Tan and his team were restricted to file-level backups of virtual machine (VM) data, which meant time-consuming, manual restores if VMs were lost or corrupted.

“Rebuilding a virtual server from file-level backups—from scratch, essentially—would take a single staff member at least five days, although we could get it done faster if we put more people on it,” says Chua. “With NetBackup Hyper-V, we can do both file-level and image-level recovery from a single backup pass. One staff member can restore a virtual machine into production, including testing, in a single day.”

It’s not just the IT department that feels the impact of a recovery. “Even though we have failover for our applications, sometimes performance would suffer if the load was high during the time it took to rebuild a VM, because we were temporarily unable to load balance,” says Tan.

**96 percent less time managing data protection**

Less time rebuilding VMs combined with the ability to manage backups for both offices from a single console is allowing engineers to concentrate on more valuable projects. “I used to spend a third of my day going through backup logs and switching between interfaces to verify that backups completed,” says Chua. “Now I just spent a few minutes each day looking at the dashboard, and NetBackup OpsCenter gives me most of the information I need for reporting right out of the box. I didn’t customize much.”

Chua’s colleague Shahrin Zainuddin, lead engineer, is also impressed with the improvement in management efficiency. “I’m glad I was able to do most of my enterprise backup training with NetBackup,” he says. “It’s much easier to learn than our previous solution, with a more intuitive interface.”

**SOLUTONS AT A GLANCE**

**Key Challenges**
- Back up legacy servers at remote site with deduplication
- Reduce staff time spent manually rebuilding virtual machines
- Enforce seven-year email retention policy

**Symantec Products**
- Symantec NetBackup™ 7 with
  - NetBackup Data Protection Optimization
  - NetBackup Enterprise Vault
  - NetBackup Microsoft Exchange Server
  - NetBackup Microsoft Hyper-V
  - NetBackup Microsoft Office SharePoint Server
  - NetBackup Microsoft SQL Server
  - NetBackup Oracle
- Symantec Enterprise Vault™ with
  - Microsoft Exchange Mailbox Archiving
  - Microsoft Exchange Journaling

**Symantec Services**
- Symantec Basic Maintenance Services

**Symantec Platinum Partner**
- SoftSource Solutions Pte Ltd (softsource.com.sg)

**Technology Environment**
- Server platform/operating systems: Microsoft Windows Server 2008 with Hyper-V, 2003, 2000; HP-UX; VMware ESX Server for dev/test
- Storage platform: IBM System Storage DS4800, IBM TotalStorage DS4300
- Applications: Microsoft Exchange Server, Microsoft Office SharePoint Server, Web services, internally developed applications
- Databases: Microsoft SQL Server, Oracle
- Tape library: IBM System Storage TS3310

**BUSINESS RESULTS AND TECHNICAL BENEFITS**

**Data Protection**
- Fivefold faster recovery of production VMs
- 50% average deduplication rate for backup data
- 99% backup success rate
- 96% less time spent managing data protection
- Twofold faster backup of email archive

**Archiving, Discovery & Retention Management**
- Seven-year email retention policy automatically enforced
- 40% reduction in email archive size with deduplication and compression
- Virtually unlimited mailbox capacity for users
- Twofold faster search capabilities compared with PST files

“NetBackup Agents are robust. We’ve had a 99 percent backup success rate with NetBackup.”

Colin Chua
Lead Engineer
Yokogawa Engineering Asia Pte Ltd
"We have to be able to back up applications and databases without taking them offline because of our commitment to provide a high level of service and availability to users," explains Chua. "Our previous solution had agents too, but there were stability issues. Sometimes backups wouldn’t complete—they would just hang, which caused us some hassle. NetBackup Agents are more robust. We've had a 99 percent backup success rate with NetBackup."

Archiving email for compliance and fast search

To comply with a business mandate to retain all email sent or received for seven years,

YEA uses Symantec Enterprise Vault™ with Microsoft Exchange Mailbox Archiving and Microsoft Exchange Journaling. "We're able to automatically enforce the retention and deletion policies of the business and produce emails quickly in the case of an audit," says Shahrin Zainuddin.

Previously, users were limited to 200 megabytes of storage on the email server, and they stored older messages in PST files, which are easily lost or corrupted. With Enterprise Vault, mailboxes appear unlimited to users, since they can access archived messages directly from Microsoft Outlook. "Users can search their email from a single interface, instead of having to go through PST files based on different calendar years or financial years," says Chua. "A typical search can be completed twice as fast."

Enterprise Vault deduplicates and compresses email upon archiving, reducing the size of YEA's archive by 40 percent to maximize storage efficiency. The NetBackup Enterprise Vault Agent has accelerated backup of the archive twofold.

Immediate resolution with a local partner

For implementation services and ongoing support, YEA engaged Symantec Platinum Partner SoftSource Solutions Pte Ltd and contracts with Symantec Basic Maintenance Services. "SoftSource gives us the fast turnaround we need, and we have a great relationship with their engineers," says Tan. "They are very knowledgeable about Symantec solutions, and are able to resolve any issues very quickly. The fact that SoftSource held multiple Symantec Specialisations, including Data Protection and Archiving and eDiscovery, made them the right choice to work with us on this project, as we knew they had the specific experience and skills we needed."

Having an integrated data protection and archiving solution from a single vendor with a local point of contact for support has been a good formula for success. “Time is money, and with Symantec and SoftSource, we avoid the finger-pointing that sometimes occurs when working with multiple vendors," says Tan. "We’re successfully meeting our data protection challenges."

“I'm glad I was able to do most of my training with NetBackup. It's much easier to learn than our previous solution, with a more intuitive interface.”

Shahrin Zainuddin
Lead Engineer
Yokogawa Engineering Asia Pte Ltd

“With Symantec and SoftSource, we’re successfully meeting our data protection challenges.”

Daniel C.S. Tan
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