

Québec provincial government relies on VLS for timely backup, fast restores

HP Server, Storage, and Software solutions help support massive Oracle database installation



“DGSAGIR has one of the largest Oracle installations in the world, with more than 40 databases sized between 50GB and 700GB. We feel confident in backing up this critical data to our HP VLS system.”

– Richard Gilbert, IT manager, DGSAGIR

Objective

Reduce the backup window for a growing volume of procurement, human resources, and financial data while providing reliable backups and faster restores

Approach

Deploy a 2-node HP StorageWorks 9000 Virtual Library System (VLS) with post-process deduplication, in conjunction with HP StorageWorks EVA8000 and EVA4000 disk arrays

IT technology improvements

- Leverage post-process deduplication to reduce backup window by 50%, even with growing data volume
- Ensure reliable and stable backups, leading to better performance and increased operational flexibility
- Confidently back up data from more than 40 Oracle databases sized between 50GB and 700GB
- Create multiple robots with multiple cassettes to increase backup effectiveness
- Automatically configure added disks with no need for separate array management

Business outcomes

- Back up Oracle data reliably for enhanced business continuity
- Increase user productivity by restoring data more quickly
- Meet service level agreements for improved user satisfaction
- Reduce costs as less data is transferred to physical tape and stored offsite



Québec is Canada’s largest province, stretching from the Canadian Shield to the St. Lawrence Lowlands and the Appalachian Mountains, and incorporating 96 regional county municipalities, three urban communities, and 1398 municipalities that vary in size. All of this adds up to a lot of data—including procurement, human resources, and financial—that must be processed, stored, backed up, and occasionally retrieved on an emergency basis. The monthly volume varies from 165TB to 200TB of data.

To make it possible for staff to handle this enormous data volume most effectively, the Québec provincial government (DGSAGIR) implemented a 2-node HP StorageWorks 9000 Virtual Library System (VLS), in conjunction with HP StorageWorks EVA8000 and EVA4000 disk arrays. Leveraging post-process deduplication technology, ease of management, and excellent backup reliability, the VLS system has become a core element in DGSAGIR’s mission-critical infrastructure. Complementing the storage

HP customer case study:
HP Virtual Library System (VLS)

Industry: Public sector





infrastructure are HP ProLiant DL360 and DL380 servers, which run primarily Microsoft™ applications such as Exchange and SQL Server.

Reducing backup windows

IT manager Richard Gilbert notes that DGSAGIR faces many data-related issues. “The main challenges in our environment are the growth in data volume and the need to comply with the time slots allocated for making backup copies. To this we can add the great diversity in data types, the large number of servers, the variety of operating systems, and the multiple backup and recovery operations required as part of our specific business activities and operations.”

The primary business driver behind DGSAGIR’s acquisition of HP VLS technology was the need to reduce backup windows. “We cannot afford to close the application or extend our backup process beyond the allotted time, because that would have a negative impact on our users,” continues Gilbert. “The post-process deduplication feature of the VLS is important in helping us achieve this goal. It reduces the time range required for operations, while simultaneously reducing the amount of space required; therefore, it is more efficient. With deduplication, we save a lot of

space. We also minimize the amount of data that must be transferred to physical tapes, which saves money. With VLS we have more reliable and stable backups, and that means better performance and increased flexibility for operations.”

Another key driver was the need to perform fast restores when necessary. “With the VLS, we are able to complete our backups quickly and reliably,” says Gilbert. “And because the backups stay on the drive longer, we can respond to our users much more quickly when they need to have data restored. DGSAGIR has one of the largest Oracle installations in the world, with more than 40 databases sized between 50GB and 700GB. We feel confident in backing up this critical data to our HP VLS system.”

Gilbert notes that the VLS with a virtual library can accommodate a much higher backup load than a physical library. The ability to create multiple robots with multiple cassettes allows DGSAGIR to increase the effectiveness of the backup process, collecting data on the VLS at night and transferring it to physical tape during the day. In addition, live access to backup copies for stakeholders makes for faster and easier work while promoting greater independence in data recovery. “Since temporary backups are often needed, the VLS is a great asset,” says Gilbert.

Customer at a glance

Name: Québec provincial government (DGSAGIR)

Headquarters: 1500, rue Cyrille-Duquet, Québec, Qc Canada

Telephone: 418-646-4646

Number of employees: Over 6000 direct users

Annual revenues: N/A

URL: <http://www.gouv.qc.ca>

Easy to manage, easy to upgrade

DGSAGIR also values the ease of management of the VLS system, the operation of which is outsourced to CGI, one of the largest independent information technology and business process services firms in the world. Says Gilbert, "Once the system is set up as a tape library, any disks that we add are automatically configured into the system. CGI does not need to worry about separate array management, which would be the case with some competitive solutions. This helps to keep our operational expenses in check." Gilbert adds that the implementation of the VLS did not increase the complexity of DGSAGIR's operations.

The ability to expand the VLS system without bringing it down is critical. "If your short-term restore is on the VLS, and if your backup window depends on it, you cannot afford to lose the system," says Gilbert. "It must be up 24x7x365, so you need to be able to upgrade it live. Once you start to rely on the disk environment for backup, it becomes part of your critical business path—and we know that we can rely on the HP VLS system."

A key partner

With its close relationship to both HP and the provincial government of Québec, HP-dedicated partner Système Acci has played an important role in the success of DGSAGIR's ambitious data management project. Says Marc Brochu, Executive VP at Système Acci, "In accordance with their due diligence obligations, DGSAGIR considered alternative vendors, but the HP VLS stood out as the superior solution. For one thing, DGSAGIR needed to reduce the nightly backup window—they were getting very close to 8:00 a.m. with their backups, and they did not want to impact the work of their 5500 users—so the post-process deduplication feature of the HP VLS was very attractive to them."

The customer also felt that buying a solution from the same vendor that provided their tape library would be advantageous; DGSAGIR uses a 6-drive HP StorageWorks ESL322 tape library and LTO4 tape drive. "HP has good libraries and a good VLS system," says Brochu. "Together, that resulted in the winning combination." Système Acci specializes in high-availability systems for enterprises that cannot afford to have their systems down. "That's why we were involved at the beginning, along with CGI and HP, at the architectural level," adds Brochu. "We wanted to make sure, as we put the solution together, that it would stay up all the time." Brochu's personal knowledge of the project spans nearly 10 years.

Services deliver

Reliable access to stored data is critical to DGSAGIR's operations. HP Care Pack Services help maintain the organization's current storage technology in good order, making efficient use of the storage infrastructure while setting the stage for future needs.

Specifically, HP Proactive Services complement internal resources with HP proactive and reactive support services to enhance technology effectiveness, providing technical expertise and best practices to accelerate return on technology investment. HP Storage Startup and Implementation services take risk, time, and effort out of storage hardware and software deployment efforts, while freeing in-house staff to focus on producing better business outcomes.

With HP Services, DGSAGIR benefits from HP's holistic approach to service delivery—gaining access to an entire service practice based on people, process, and technology for mission-critical environments.

Continuing to grow

Already inundated with huge data volumes, DGSAGIR sees significant growth on the horizon: close to one petabyte of data is anticipated over the next five years. "The HP VLS system will be at the heart of all that," says Gilbert. "It makes the backup really virtual—you do your backup just as you would with tape, but in reality it goes to drives. The only thing you notice is that instead of taking 8 to 9 hours, it takes only 4 to 5 hours—including management of increasing volumes of data. Eventually, we expect to further increase our capacity in order to support the growing needs of the organization, while automating as many transactions as possible."

Concludes Gilbert, "Reducing the time to make backup copies has provided us with more flexibility to intervene in case of problems, increasing the availability of our environment. Together with the excellent support we receive from HP Services, the HP VLS system enables us to meet the stringent service level agreements that we have established with our user community. This makes it a strategic part of DGSAGIR's infrastructure, one that delivers huge benefit to the citizens of Québec."

For more information

HP StorageWorks Virtual Library Systems:
<http://www.hp.com/go/vls>

HP Storage Solutions for Oracle:
<http://www.hp.com/storage/oracle>

HP and Oracle Alliance:
<http://hp.com/go/oracle>

Customer solution at a glance:

The provincial government of Québec uses HP VLS to back up critical data in a timely manner and ensure fast restores.

Primary applications

Backup and restore

HP Services

- Proactive 24 support for servers and storage extensions
- Installation, startup, and configuration services for VLS

Primary hardware

- HP StorageWorks Virtual Library System (VLS) 9000
- HP StorageWorks EVA8000 and EVA4000 disk arrays
- HP ProLiant DL360 and DL380 servers running Microsoft applications
- HP StorageWorks ESL322 tape library
- HP StorageWorks LTO4 tape drive

Primary software

- Veritas NetBackup 6.5.4, Oracle NetBackup, and Oracle RMAN software
- HP Insight Manager
- Oracle database 11g



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