

BELL MOBILITY IMPLEMENTS V-LOCITY VM

Increases Workload Throughput by 98% in Virtual Environment



Bell Mobility had already built a world-class IT infrastructure and now needed a way to stay ahead of the performance demand curve. V-locity proved to be the answer: a software solution that would reduce latency and free up bandwidth to support the increase in traffic that every IT manager knows is coming.

CHALLENGES

- Significant data growth and the need to drive greater value from data
- Bottlenecks and performance issues from excessive I/O pushed to servers and SAN
- Backups failing to complete

V-LOCITY® VM™ BENEFITS

- Significant improvement in workload throughput
- Consistently successful and faster backups
- Greater ROI from existing infrastructure

THE CUSTOMER

Bell Mobility is the wireless division of Bell Canada, offering consumer and business customers wireless network services, delivered across the most extensive wireless networks in the industry.

As rapidly as technology has evolved, Bell Mobility has maintained thought-leading innovation—adopting advanced technologies to support their growth and need for performance. As Bell's IT needs have grown, implementing virtualization technologies has helped consolidate hardware resources, and they will continue to build out their virtualization strategy over the next two years.

THE CHALLENGE

Already leveraging leading virtualization, storage, and networking technologies in its data centers, Bell Mobility's Adam Moore, who is part of the OSS (Operations Support Systems) Integration team, needed a way to improve IOPS and reduce latency.

The team manages a complex environment comprising web servers, file servers, Active Directory, SQL, Citrix farms, and VMs hosted for internal clients. SQL is part of the VMware infrastructure where both off-the-shelf and internally developed applications store their data. Metrics are pulled and stored on SQL databases from which users run queries and generate reports through web interfaces. This workload represents data transfer, parsing, and analytics—all critical to Bell Mobility's business. The ability to capture metrics and data from multiple sites on call failures, call drops, and call volume allows Bell Mobility directors to pinpoint inefficiencies and see where optimization is needed to maintain optimal services to a broad customer base. This information is critical—there is no time for poor performance and sluggish response time.

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ADAM MOORE

OSS SYSTEMS INTEGRATION,
BELL MOBILITY

ENVIRONMENT

- 100+ VMs running on VMware® ESX and ESXi, and 20 hosts
- SAN Technology: Hitachi
- SQL Server® 2012, MySQL™, Citrix® Server
- Active Directory, web servers, file servers, and VMs hosted for internal clients

V-LOCITY VM FEATURES

IntelliWrite® I/O optimization technology automatically prevents split I/Os from being generated when a file is typically broken into pieces before write.

IntelliMemory™ intelligent caching technology caches active data from read requests using available server memory.

Benefit Analyzer embedded benchmark provides before/after performance comparisons, enabling IT to measure workloads and performance in a real-world environment.

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Faced with significant data growth—and a need for faster delivery of that data to meet SLAs with internal customers—Bell Mobility needed an efficient way to gain higher performance while reducing operational overhead—freeing the team to focus on more strategic initiatives.

THE SOLUTION

The team initiated an evaluation of ConduSiv’s V-locity VM software on 16 servers. With V-locity’s embedded Benefit Analyzer, the team gained reporting functionality that demonstrated a 61% reduction in I/O to the SAN, freeing up bandwidth and enabling data to process 98% faster by eliminating bottlenecks caused by split I/Os.

Already seeing benefits from virtualization, Bell Mobility added ConduSiv’s V-locity VM acceleration software as a proactive and efficient way to optimize I/O—improving application performance from server to storage without having to add SSDs to storage shelves or investing in other costly hardware solutions.

ConduSiv’s V-locity VM software is a complement to the advanced storage, virtualization, and networking technologies that Bell Mobility runs. Because V-locity is installed on all Windows® VMs, it eliminates the surplus of unnecessary I/O at the source where it originates. Bell Mobility’s entire infrastructure (compute, network, and storage) derives benefit because only productive I/O is generated by the VM software OS layer.

As a certified VMware-ready solution that automatically and transparently improves I/O performance, V-locity increases the throughput of all x86 platforms by eliminating unnecessary I/O, and improves efficiency by optimizing writes for increased bandwidth to storage devices, especially on servers with heavy workload.

THE RESULTS

Because they have reduced the amount of I/O traffic to the SAN, the team has been able to avoid re-carving LUNs. “With V-locity, we have delayed investment in additional hardware. We’ve virtualized servers that used to run on dedicated storage, and now we’re using our resources much more efficiently,” says Adam.

V-locity’s IntelliWrite technology prevents a surplus of split I/Os from being generated at the time files are written. In addition, with IntelliMemory server-side caching technology, frequently accessed data no longer travels the full distance from server to storage and back, saving significant time to serve up files. According to Adam, “SQL queries are considerably faster, and workloads previously processing 3GB of data within a 24-hour period are now processing 9GB within the same period.” And backups? “They used to run at 10MB per minute, and sometimes didn’t complete at all. Now they run at 60-120MB per minute, and complete successfully.”

The OSS departments support a number of business units that constantly parse info, crunch numbers, and generate business analytics-supported reports. Bell Mobility’s internal users have high demand for performance and a need for queries to complete quickly. “Since rolling out V-locity, workload throughput has doubled or even tripled at times,” says Adam.

This doesn’t go unnoticed by the team’s internal customers, who rely on Bell Mobility’s massive SQL instances to do their jobs—to create value from data.