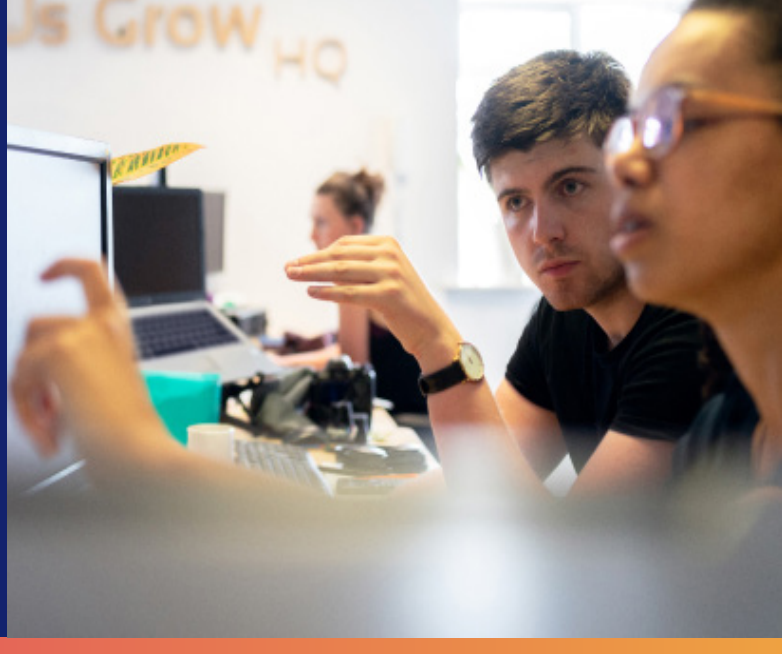
covenco
DATA MANAGEMENT & INFRASTRUCTURE 365

CASE STUDY

# Empowering Rental Growth and Combating Cyber Concerns

MCS Rental Software LTD needed to allow for growth while ensuring performance, consolidating physical storage units, and reviewing their cyber resiliency.



mcs
Empowering rental growth

## The Challenge

MCS Rental Software Ltd provides Rental Software solutions for the hire industry. Hundreds of specialist rental companies worldwide leverage their mobile apps, web-based solutions, and managed offerings to help fulfil their hire management needs.

An early adopter of IBM's virtualised storage technology for their own environment, MCS invested in first-generation Storwize V7000 in 2010, subsequently refreshing this infrastructure in later years with Gen2 and 2.5 to address their performance and capacity needs.

## The Clients Objectives

As their own data requirements grew (with the need for a tiered solution across multiple enclosures) so too did the number of clients choosing to host their environments within MCS' own infrastructure.

The business needed to allow for both this additional growth and responsibility while ensuring performance, consolidating the amount of physical storage units, and addressing increasing cyber resiliency concerns - all while minimising management.

## The Solution

IBM FS5200 - After analysing the IOP performance required and determining the compression ratio expected, two IBM storage options were considered. Either a full single 1U (12 x SFF) FS5200 enclosure, or a half-full 2U (24 x SFF) FS7300 enclosure, both with a single all-flash tier, comprising of the latest IBM FlashCore 3 Modules.

In the case of MCS's environment, it was determined that the more cost-effective 1U sized FS5200 would offer the optimum price/performance. With 12 x 19.2TB FlashCore modules, and a 2:1 compression ratio, the solution offered an effective 310TiB useable capacity.

It's also worth noting that 38.4Tb FCM3 is available, should more capacity been needed within a single storage controller.

## Leveraging the magic of hardware-based compression

The latest FlashCore Modules can themselves be described as a computational storage device. They combine NAND flash, DRAM and MRAM for caching, along with a significant amount of compute to provide far more functionality than any traditional SSD. This allows them to takes some of the computationally intensive processes, such as compression, away from the node cannisters within the storage controllers, and perform that work within the drive itself.

So, whereas previous generation storage controllers utilised software-based compression (Requiring, forethought and management to avoid compromising performance) the FlashCore modules utilise hardware compression within the modules in order to maximise useable capacity, with no performance overhead.

This enabled MCS to consolidate 8U of last generation product onto a single 1U controller, allowing room for growth and also providing space for retention and re-inflation of immutable copies.

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## Management and Cyberattack Concern

### IBM Safeguarded Copy for Cyber Resiliency

After a cyber-attack occurs, you don't want to discover that your sensitive point-in-time copies are corrupted or missing. The IBM FS5200 supports IBM Safeguarded Copy, providing immutable points of data recovery that are hidden and protected from being modified or deleted due to user errors, malicious destruction or ransomware attacks.

These immutable copies are a secure source of data that can be used for a forensic analysis, a surgical or catastrophic recovery. With Safeguarded Copy, storage administrators can ensure that data is kept safe, secure and recoverable in a way that is transparent and easy to manage:

- The backup volume is a hidden, non-addressable volume that does not consume any of the regular volume addresses.
- Copies can be maintained at either production or recovery sites.
- Storage targets are protected against malicious actions with additional security provided through unique user roles.
- Safeguarded Copy capacity is allocated in the best performing storage tier available, minimizing performance impacts from writing backup data.
- Safeguarded Copy can be integrated with different disaster-recovery and high-availability configurations.
- Different user roles and authority levels can be used to manage production source volumes, backup capacity and recovery volumes.

## Ease of Management and Support

With growing client environments, it was critical to provide improved visibility and manageability to MCS, but equally to reduce the time overhead on the team. The tools available with the IBM FS5200 are perfect for exactly that purpose.

The Copy Services Manager enables and automates Safeguarded Copy tasks, so with minimum initial effort, the Safeguarded Copies are automated thereafter.

IBM Spectrum Control helps manage storage systems, software-defined storage, storage-area network (SAN) fabrics and devices. Storage can be seen from multiple perspectives, including departmental, application and server views.

IBM Spectrum Control helps monitor and manage performance and measure service levels by storing received performance statistics into database tables for future use. Administrators can set performance thresholds for devices based on selected performance metrics, generating alerts when those thresholds are exceeded.

These capabilities help the solution simplify the complex monitoring of multiple SAN-attached storage devices.

Also included as part of the IBM Spectrum Control solution is Storage Insights Pro. IBM Storage Insights provides an unparalleled level of visibility across your storage environment, to help you manage complex storage infrastructures and make cost-saving decisions.

Utilising the full toolset allows MCS to automate tasks, set warning thresholds and easily visualise their entire storage estate.

## Considerations to note

### Capacity Expansion

IBM FlashCore Modules are only supported in the primary Storage Controller itself, and not in expansion enclosures. Storage expansion connects via SAS which would limit the performance advantage of the FCMs. It's worth noting that traditional flash drives can be added to expansion, within their own RAID pool, and still be included within a Safeguarded Copy volume. Along with automated Tiering, any hot data will always be placed on the storage that's best placed to handle IO.

However, when Compression on the FlashCore Modules is taken into account, there is as strong cost case for clustering a pair of FS5200 (both with FlashCore Modules), as opposed to adding a standard Flash Expansion Drawer.

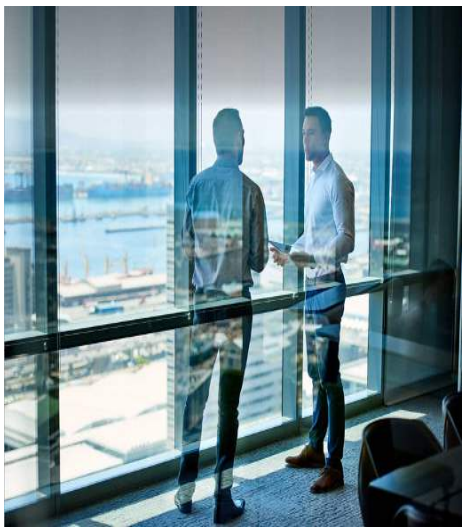
Where Compression is possible, fewer FlashCore Modules would be needed compared to standard Flash Drives in an expansion. Coupled with the fact that each controller adds additional cache and processing performance, growing 'out' as opposed to 'down' is often prudent. Up to 4 x FS5200 can be clustered and managed under a single pane of glass.

### Heat Management

IBM have done a hugely impressive job of creating a Storage Controller in a 1U format that offers so much performance and capability as provided by the FS5200. It's feasible that storage administrators could consolidate multiple racks of older disk storage onto a single (1U) FS5200, reducing space, minimising potential for drive failures and benefiting from the ease of managing a single system.

However, computer room temperature considerations do need to be made to ensure that storage controllers that are this dense, have sufficient cooling.

While overall power and cooling requirements may be reduced by consolidation, the single 1U FS5200 does have a higher heat output than previous generation 2U controllers.



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### About MCS Rental Solutions

Championing customer service excellence, MCS develops lasting partnerships with its customers, helping them to achieve their goals and ambitions for growth. MCS Rental Software leads the way in rental by embracing emerging technologies so that you can harness innovation to meet tomorrow's challenges.

### About Covenco

With more than 30 years of experience in the IT industry across a range of technologies, Covenco specializes in purchasing, selling and renting new and refurbished IBM, HP, Dell and NetApp computing hardware, storage and supporting software. Today, Covenco provides cloud and hosting solutions, disaster recovery, maintenance, virtualization, backup and high-availability services.

### Solution components

Covenco Cloud Backup

Covenco DRaaS

Covenco High Availability

Covenco started way back in 1989, selling IBM's System 36 and AS/400 servers. Over 30 years later, we still have IBM at the core of our business, but we do so much more now. Covenco have always strived to provide value without compromise, and this remains our primary goal today.

We work across a variety of industry sectors - as Business Partners for new IT infrastructure solutions and as Business Continuity specialists. Covenco is today a modern data management company providing its clients with data protection, data availability and data security 24×7 365 days a year.

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