

Spar leads the market with innovative backup application that maximises the power of virtualisation

The Spar Group Limited

industry:

Consumer Goods and Products

country:

South Africa

business challenge:

Spar sought to do business better, quicker and more reliably and safeguard its complex distribution business from risk and disruption

solution:

Provide a secure, reliable and resilient backup and recovery application for the Spar Group's virtualised data centre environment that delivers accelerated back up times, efficiency and cost benefits

services:

- Procurement and deployment of EMC application, Avamar

results:

- Spar has fully realised the benefits offered by its investment in a virtualised technology platform
- Solution can be scaled to outlying offices, distribution centres and stores
- Centralised management and flexible deployment

Executive Summary

Spar's strategic move to a virtualised operating platform had delivered great results for operations, but encountered problems with extremely slow and sometimes incomplete data backups that presented an unacceptable business risk. The Group approached Dimension Data to come up with an **"out of the box" solution** that would resolve these difficulties and allow **Spar to fully realise the rich tranche of benefits offered by its investment in a virtualised technology platform.**

Dimension Data proposed a revolutionary EMC application called Avamar. This solution has transformed Spar's data centre, allowing it to back up its data quicker, more efficiently and reliably than ever before. Backup lead times have shrunk from three days to just three to four hours, with an array of complementary benefits for the business that include cost, efficiency and accuracy gains.

Client Overview

The Spar Group Limited is part of an internationally recognised chain of distribution and retail operators. The supermarket logo is a familiar, trusted and well-loved landmark of the South African domestic retail space, competing head to head with giants of the domestic fresh food and grocery industry like Pick 'n Pay, Shoprite Checkers and Woolworths Foods.

The Spar Group South Africa does not run stores itself - instead, its operating model is based on providing a distribution and retail service to stores in the Spar stable. There are three categories of Spar stores: neighbourhood Spars, Kwikspars and Superspars, all serving different demographics and targeting different consumer groups. These stores are all individually owned and managed. They are not tied into an exclusive buying agreement with Spar, and can source their stock from other wholesalers. However, the advantage of being part of the Spar family of stores is that they can take advantage of the Group's buying power to access preferential prices on stock. Other brands in the Group's portfolio include Tops at Spar (standalone liquor stores) and Buildit (building materials outlet).

The Spar Group's head office is located in Durban in KwaZulu-Natal. Its six distribution centres service about 800 stores located all over the country.

Individual stores place orders online that are processed by head office and then distributed to stores via six dispersed distribution centres.

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Business Challenge

About three years ago, the Spar Group made a commitment to move its technology infrastructure to a virtualised platform. This was a great business decision, as virtualisation delivers incredible benefits to the business in terms of reduced costs for power and cooling, reduced capital outlay for hardware and equipment, and greater operational efficiencies.

Virtualisation is the ideal platform from which to run a scalable, secure and efficient data centre that offers significant new advances in terms of functionality and application. In keeping with this technology vision, Spar now runs a virtualised data centre strategy for Windows and Intel and AS400s in the data centre, having taken 70 servers onto a VMware platform. However, one of the side effects of a move from a physical to a virtualised environment is that it is very disruptive to the backup environment. Spar found that its backups - which are essential practice for any technology environment - had become prohibitively slow. Backups for a single server routinely took three days to complete, and there were frequent failed backup runs. Failed, slow or incomplete data backups have significant implications for business. Most of these drawbacks relate to a high level of risk that they expose the business to - not only in terms of compliance breaches, but also in terms of the ability to recover from disaster and store information.

These difficulties in achieving a complete and successful backup were even more critical because of the nature of Spar's operating model. It conducted business with its affiliate stores by an ordering process that used email orders that were routed through head office and then distributed on to the regional distribution centres closest to the ordering store for processing and delivery.

Because these servers were on the virtualised platform, these electronic orders could be dropped or lost and so compromise the service Spar provided to its stores. This could potentially be incredibly problematic to the Group's business because stores are not obliged to order from the Group head office and if service and delivery fail, they can place orders with other wholesalers.

Solution Provided

The Spar Group tried applying two other backup products from different vendors to address its backup needs before approaching Dimension Data to find a next generation solution. We were challenged to think “outside the box” and come up with an innovative and effective solution that would solve its backup problems and allow it to fully realise the rich tranche of business benefits offered by virtualisation.

The solution we envisaged for Spar is EMC Avamar. Avamar is a truly revolutionary backup solution that offers a unique level of de-duplication, delivering ratios upward of 300:1. Avamar achieves these phenomenal results by stopping the avalanche of full and incremental backups before it forms, reducing backup times, client resource consumption, and network utilisation. While most other systems wait for a complete 100% backup to come to its repository before de-duplicating, Avamar typically sends and stores only 0.3% of the data - in a fraction of the time.

Avamar also unlocks the potential value in secondary storage. This allows users to achieve new levels of data reduction and enables fast, secure backup that extends not only to the immediate VMware environment, but is fully scalable to remote offices LAN/NAS servers and desktop/laptop systems.

Avamar deduplicated backups function like full backups and can be recovered in just one step, without users having to restore full backups and subsequent incrementals. It also verifies backup data recoverability - so there are no surprises - and encrypts data for secure electronic backups.

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Dimension Data's ongoing investment in attaining EMC technology skills and our close relationship with this vendor meant we were well-equipped to put forward a solution that would work well, integrate smoothly into the infrastructure, and deliver exactly what it said it would.

How We Delivered

Dimension Data harnessed the full reach of its data centre solutions expertise to research and custom fit a solution for Spar. We're excited by the benefits offered by virtualisation and committed to making each element of it work for the benefit of our clients. We commenced with an assessment exercise and workshop to fully explore the problem and ensure we understood what was happening on the data centre infrastructure. Our scoping showed us that there were incredible opportunities to improve service delivery for Spar - we believed we could reduce the time for backup from three days to just four hours, enabling the business to operate in a more agile and responsive way. The solution would also allow us to do a full backup every day, further reducing the Group's exposure to risk. Typically backups were only performed on weekends, due to the long delays involved in completion.

Avamar is not only a technologically advanced solution that greatly increases the efficacy of data centres, but it is also an unobtrusive application that can be run without disruption to the business. The application is hosted offsite.

Dimension Data prides itself on great teams of people, working with precision and commitment to attaining our clients' business outcomes. We deliver all solutions according to a strict best practice delivery methodology known as Primer. Primer lays strict guidelines for every step of the installation and guarantees that the entire process is documented and signed off at each critical stage to ensure watertight deployments onsite. We delivered a staged implementation on the project and in the end, were proud to deliver a faultless solution delivery to Spar.

Value Derived

Avamar represents a huge advance in speed, reliability and efficiency and has delivered significant operational benefits for Spar, allowing it to maximise the value of its technology investment in virtualisation by enabling all the core components of the virtualised data centre to run optimally.

The most dramatic benefits are felt in the speed, accuracy and regularity of the backups which can now be run. Whereas backups frequently failed or were incomplete, or took up to three days to complete if successful, we have now reduced backup time to just four hours with Avamar. This means that Spar can run a comprehensive backup after hours and complete the backup well within the backup window of twelve hours that runs after business hours, between 6pm and 6am every day. This is a huge advance on the previous scenario, where because of the length of time backups took, they would have to be scheduled to run just once a week, on the weekends - and would then frequently fail or be incomplete. Avamar also offers a greatly enhanced backup capacity, putting 189 terabytes of information into six.

Restoring full and complete data backups to Spar's business has minimised the commercial risk the business is exposed to. Should there be a system failure, the data can be recovered immediately and with complete assurance of data integrity and completeness. This means that orders will never be lost in the system, allowing Spar to honour its orders, deliver a great level of service to its member stores and maintain the integrity and reputation of its brand.

This lowered risk profile is also supported by Avamar's ability to run simultaneous restore and backup functions.

Because Avamar is a highly evolved, automated application, it presents a foolproof, highly resilient system that cuts out the performance of routine manual tasks and eliminates the margin for human error. This, combined with its logical processes and smooth, quick and effective operation, make the Avamar solution a highly effective system for Spar's backup requirements.

The system is hosted offsite via a Gigabit Ethernet link from the data centre to the Avamar hosting centre. This means there are no tapes and no requirement for a Metrofile type offsite storage contract, leading to a huge saving in tape media. The initial saving is in the region of about R60,000 per annum, and this saving is cumulative and will continue into the future indefinitely.

Complementing these cost of material savings are the Green IT benefits - because there are no offsite storage requirements, the system is less resource intensive and consumes less power, cooling and energy. Everything is stored and managed onsite, which eliminates the carbon emissions caused by the physical transfer of tapes by truck to an off-site storage site.

Avamar is a fully scalable solution and its application is almost limitless. Spar will be able to extend its coverage to outlying distribution centres and eventually to all its countrywide network of over 800 stores so they can all share in the increased benefits of cost savings, greater reliability and reduced operational risk. The beauty of the solution is that when a new server is added, Avamar recognises deduplication on this server through analysis and also compares the data on the new server to what is currently stored in the Avamar backup system. This means that the more you do, the less you have to do because of the intuitive and intelligent way the application processes the data backups.

Allied to the cost and scalability benefits offered by this solution is the great flexibility it offers the business. The virtualised environment that Spar has invested in makes it easy to deploy new servers and applications. And because it is a hosted services, all host-based licences are provided free of charge, giving administrators the flexibility to plan for expansion and growth without having to plan around additional budgeting and funding. These benefits are not confined only to Windows applications but will adapt seamlessly to other platforms like Unix. This flexibility allows Spar a great deal of freedom when it comes to cost and capital expenditure, because it negates the need to buy specific, uniform new hardware.

Dimension Data is proud to stand at the forefront of doing business in better ways with the Spar Group. We're excited by the capabilities offered by Avamar and expect to see its benefits increase exponentially as it rolls out across the extended network of distribution centres and stores countrywide.