FreeStor ®
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Business Continuity Disaster Recovery

(BCDR) Planning for the Optimistic Pessimist

White Paper

BCDR PLANNING FOR THE OPTMISTIC PESSIMIST

White Paper

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ABSTRACT

Although you are not necessarily planning for a hurricane or tsunami that wipes out your data center, you really are preparing for just that sort of event. You are also preparing for every server failure, virus, disgruntled or careless employee…

This is true for any organization in any sector.

Business Continuity Data Recovery (BCDR) can mean continued existence or demise for a company. In the event of a disaster, lack of planning can result in a significant recovery delay and be very costly.

A good recovery plan defines recovery objectives and aligns the BCDR strategy with business requirements. It is about identifying critical areas of operation and making sure you have a documented set of processes to follow in the event of an outage so that your organization has minimal disruption to business operations.

This white paper highlights some disaster recovery (DR) strategies and challenges that an organization might face while creating a business continuity and disaster recovery plan as well as strategies FalconStor FreeStor customers can use to meet ROI recovery requirements.

INTRODUCTION

When asking business leaders and CIOs what kind of BCDR solution they are looking for, they say they want:

- A Unified Data Management Software Platform
- Data protection
- Business Continuity Data Recovery (BCDR)
- Data migration across heterogeneous environments that is quick and seamless
- A scalable solution to meet changing business requirements
- Integration into their existing platform
- Empowerment (in-house data management & control)
- Fast Return on Investment (ROI)

So where does one find a Unified Data Management Software Platform that is scalable, cost-effective, can be integrated into an existing platform, protects data, allows speedy recovery in case of disasters, allows quick, non-disruptive data migration across assorted types of machines, that is always ready and can be managed in house?

SOLUTION

The FreeStor business continuity disaster recovery (BCDR) solution offers service-oriented recovery for both physical and virtual server infrastructures.

Once you have a Business Continuity Data Recovery (BCDR) plan in place, FreeStor will take care of the rest. FreeStor allows you to restore files, applications, or entire sites automatically in any environment.

Using FreeStor, you get:

Business Continuity: **Cluster** √   **Replicate** √   **Protect** √

Disaster Recovery: **Snapshot** √   **Recovery** √   **Local/Remote** √

Data Migration: **Move** √

ELEMENTS OF A GOOD DR PLAN

There is no definitive right way to create a business continuity disaster recovery plan, although there are plenty of wrong ways.

Creating a good BCDR plan begins with identifying your recovery objectives and then aligning your strategy to your business requirements. The plan should include detailed procedures to be followed before, during and after a disaster to ensure a level of stability and systematic recovery after a disaster.

The plan you create will be specific to your business needs. However, all BCDR plans should start with the following general steps:

- Preliminary step – A brief executive summary stating the purpose and scope of the plan

- Step One – Information gathering

- Step Two – Business Impact Analysis (BIA) & Risk Assessment

- Step Three –Recovery Plan outline and testing

Step One – Information and Resource gathering

- Identify the Business Continuity (BC) team, including a description of roles, responsibilities, and authority within the BC team.

- Identify critical systems, applications, and business processes along with locations, IP addresses, logon credentials for source and recovery sites.

- If you are using a remote recovery location, identify all off-site facilities equipped with the computing power and backed-up data to keep systems and services online.

Step Two – Business Impact Analysis (BIA) & Risk Assessment

- Create a BIA questionnaire to review systems, applications, and business processes and collect all pertinent information about each specific business function in order to rank each function in each department in order of importance.

- Identify the minimum critical business processes that must be restored in order to resume operations. These are tier one functions that need to be back online within a few minutes (up to 1 day).

- Identify tier two business processes – functions that need to be up within 24 -36 hours.

- Risk assessment – assess threats to critical systems and determine the response strategy and recovery strategy, detailing step-by-step response actions and step-by-step recovery actions.

- Determine the Recovery Point Objective (RPO) and the Recovery Time Objective (RTO) for each business process or service. The RPO and the RTO will help you define your BCDR plan. The RPO is driven by the acceptable amount of data that can be lost and the point in time from which it must be possible to recover data. For example if the RPO is set to three hours, then your nightly off-site backup will not be acceptable. The RTO defines how quickly the business function must be restored. It is the amount of time your business can be without service before experiencing significant loss or risk.

Step Three – Recovery Plan workflows

This step involves assembling groups and workflows for the following areas:

- Hardware and operating systems

- Network/Communications

- Software/Applications

- Critical functions/business processes identified in the BIA including the time frame within which critical IT services need to be reinstated.

- Criteria for invoking the plan – including identification of roles, responsibilities, and authority. This should include key roles and responsibilities for each employee/role in the plan so that everyone understands what is required in the event of an emergency as well as the required communication between employees. All employees should be made aware of your "incidence response process", including how to detect and assess abnormal situations to quickly determine the severity. This includes criteria for notifying management and other stakeholders.

- Contingency mode operating procedures

- Procedure for returning to normal operations

- Data Recovery procedure

- BC personnel training

- Regularly scheduled Testing & Audits

- BCDR Plan Maintenance - The procedure for maintaining and updating the BCDR plan to reflect any significant internal, external or systems changes in the organization.

CHALLENGES

Understanding and overcoming BCDR challenges is not easy, but well worth the investment of time and resources. Businesses that understand the importance of a BCDR plan and make the initial investment of time and effort to create a sustainable plan are the businesses that will succeed after a disruptive event.

There are challenges such as large volumes of data, data compatibility and synchronization, Network latency & bandwidth constraints, Service Level Agreements (SLAs), and IT complexity. However, when you consider the cost of downtime, you quickly realize the benefits of a good DR plan outweigh the pain of creating it.

STRATEGIES

ISO/IEC 27031, the global business continuity standard, states, "Strategies should define the approaches to implement the required resilience so that the principles of incident prevention, detection, response, recovery and restoration are put in place." [1]

Your strategy will define how you plan to respond to an incident. Your BCDR plan will describe how you will recover from an incident and get back to business.

Whether there is an actual emergency and you have determined that your disaster recovery plan needs to be launched or you are testing your BCDR plan, you must have the right strategy to meet your business requirements. There are basically two types of recovery: manual on-premise and automated.

ON-PREMISE MANUAL RECOVERY

There is the "all hands on deck" strategy where the entire BC team springs into action to manually recover data and resume operations. This method works fine as long as you are not in a hurry, everyone is able to participate and remember their roles, user names, passwords, IP addresses, and everything necessary to bring up the recovery site. This method is time consuming, error-prone, and risky. If your business requires you to be back up and running in minutes rather than hours or days, this may not be the right strategy for you.

FREESTOR DRAAS IN THE CLOUD

If you want to eliminate the long, arduous, error-prone, manual recovery process and would prefer a fast and easy disaster recovery process in the event of a disaster, you might want to go with a FreeStor in the Cloud recovery process.

One popular FreeStor Disaster Recovery as a Service (DRaaS) strategy is where your data is in the cloud being hosted by a FreeStor Storage Server Virtual Appliance (FSSVA). It is replicated on a regular basis so your data is always current and standing by in case of an emergency. This is called on-demand DR or standby DR.

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[1] [1] http://www.iso27001security.com/html/27031.html

FreeStor with standby DR

On-demand DR is very popular because it is cost-efficient and offers quick recovery times. It is cost-efficient because you're not using it until you need it. And it is quick because it remains up-to-date and ready to be called upon and assigned to duty.
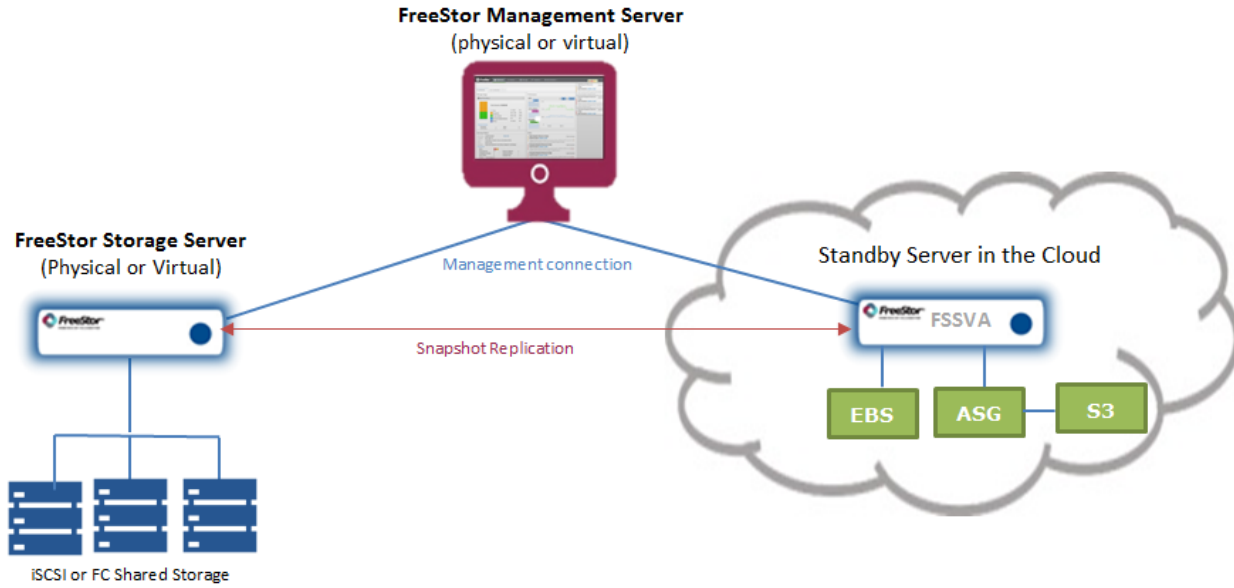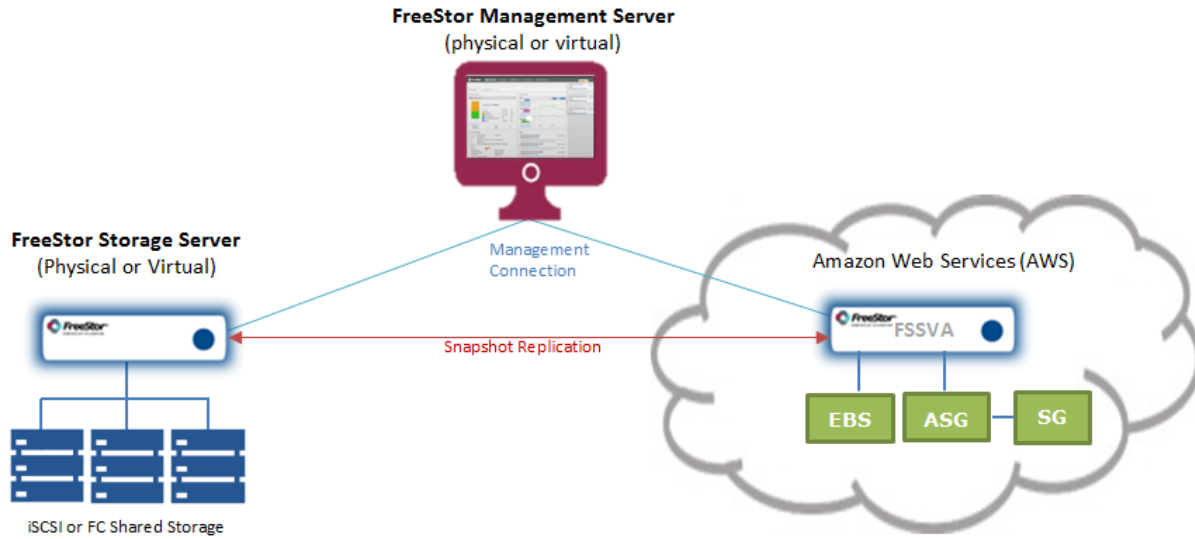
FreeStor recovery in the Cloud with Amazon Web Services (AWS)

In this scenario, the FreeStor FSS is replicating snapshots to the FSSVA in the Amazon Cloud.

When an outage occurs and recovery is required, you simply spin up a new VA and instantly mount and boot the most recent snapshot in the cloud. Recovery is in minutes, not hours or days.

SUMMARY

In summary, having a business continuity disaster recovery (BCDR) plan is critical to an organization's success. This is important in any organization in any sector, whether you select the FreeStor solution or something else. It is up to you to choose the best DR solution to meet your business needs. Hopefully, this paper has provided you with some useful nuggets of information whether you are just beginning your BCDR plans or you are fine tuning the plans you have. Regardless of your organization size or environment, the FreeStor solution will make your recovery faster and easier.

The FreeStor DRaaS Cloud solution provides data mobility, as well as business continuity. FreeStor can move any workload – Windows server, virtual machine, etc. - from an on-premise environment to a public cloud infrastructure, such as Amazon Web Services (AWS).

With FreeStor's Disaster Recovery as a Service (DRaaS), you can virtualize your data and keep a current copy of your data in the cloud - which ever cloud service provider you choose. Your data is replicated and remains in the cloud until you need it. If disaster strikes, your replicated cloud environment is available for use.

To learn more about FreeStor or request a demo, visit *www.falconstor.com.*

ABOUT FREESTOR

FalconStor® FreeStor® is a horizontal, heterogeneous software defined storage platform that helps IT organizations realize more economic value out of existing environments as well as future storage investments with maximum flexibility and operational efficiency. FreeStor customers have the power to seamlessly migrate, protect, and recover data – on or off the cloud – without being tied to specific hardware, networks, or protocols.

The core components of FreeStor are:

- FreeStor Management Server (FMS) - The FMS is a standalone machine that gathers and consolidates information coming from different storage servers into a scalable repository of FalconStor services, users, and historical data. The FMS includes a web service that provides management and monitoring.

- FreeStor Portal - The web-based portal provides centralized management and monitoring of multiple FSS servers via a web browser or mobile device.

- FreeStor Storage Server (FSS) - Each FSS is a managed storage server that provides storage virtualization and business continuity services for continuous availability to business data in virtual and physical environments.

FreeStor - software defined storage with no surprises

Today's challenges require a new, software-defined approach that eliminates vendor lock-in, proprietary platform silos, increased complexity, and lack of hardware and software compatibility. Only FreeStor addresses those challenges head on and delivers real value to help organizations reduce costs, eliminate silo's while providing real flexibility and freedom.

- Intelligent Abstraction – Virtualizes existing AND future storage for a more efficient and available data pool Intelligent

- Predictive Analytics – Provides real-time and historical analytics across the heterogeneous storage pool to better manage capacity, performance, and availability

- Intelligent Action – Enables users to take action based on real-time information to optimize and maintain their storage environment from a single-pane-of-glass regardless of storage vendor or location

For more information, visit *www.falconstor.com* or contact your local FalconStor representative.

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