Building Your BCDR Strategy:
A Blueprint for a Safe Voyage

Enter
Your IT takes you from where you are today to where you want to be tomorrow.

The business has entrusted IT – and you – with revenue targets, employees’ productivity, and the company’s reputation. Now you must manage all of the hardware, networks, business data, and internal and customer-facing applications to propel your company to its business goals successfully and reliably.

But the seas are choppy and the weather is unpredictable. Disruptive or unexpected events can have a severe, negative impact on your business. You need to assure comprehensive planning and flawless execution of all contingency procedures and safety measures, much like designing an emergency plan for a ship. To minimize the negative impact of these events, you need to have processes and systems in place to assure business continuity, and in the case of extraordinary events, a disaster recovery plan for your business. In IT terms, this planning is called ‘Business Continuity and Disaster Recovery’, or BCDR.

Read on to get the insight you need to steer safely ahead.
Building Your BCDR Strategy: A Well-Designed Ship

Much like a ship with tested safety measures and evacuation plans, BCDR planning is essential to IT’s ability to deliver on its promises to the business, which include:

- **Revenue**: Whether IT is your key revenue-generating engine or not, IT downtime will leave a hole in your revenue stream. The longer the downtime, the bigger the hole.

- **Productivity**: Your business productivity depends on your IT. For employees and partners who rely on applications and data, there is no time for downtime.

- **Compliance**: IT can make or break your ability to meet regulatory requirements, respond to government or legal inquiries, or adhere to industry norms.

- **Reputation**: Your customers and partners expect the best from you. Unexpected downtime, unmet SLAs, or lost data can break their trust very quickly.
Challenges of BCDR: It Can Be an Expensive, Complex & Unpredictable World

Your IT embodies three key components:

• Infrastructure (including hardware)
• Data
• Applications

Just like a ship needs redundant communications and lifeboats, your BCDR solution must have the resources to properly protect each of the key components.

While multiple solutions can protect critical elements individually, this traditional BCDR approach is expensive, complex to implement and unreliable in its ability to reach key BCDR objectives – Recovery Point Objective (RPO) and Recovery Time Objective (RTO). A lack of common standards and management interfaces can lead to poor integration among point solutions for data protection, application availability, and infrastructure restoration. The need to support heterogeneous platforms, different deployment scenarios, and evolving use cases calls for a high degree of costly customization to traditional BCDR solutions. In addition, resolving support issues can be a challenge when products from multiple vendors are involved.

As a result, many organizations have limited confidence that traditional BCDR solutions can meet their objectives and are hesitant to expand disaster protection, uncertain whether the value of the insurance is worth the cost. However, perceptions of BCDR are changing as companies improve their ability to assess risk, and recognize the options afforded by virtualization technology and the flexible environments it enables. As a consequence, according to Forrester Research, 68% of companies consider upgrading their existing BCDR a critical or high priority.\(^1\)

\(^1\) http://www.emc.com/collateral/analyst-report/forrester-improve-bus-resiliency-continuous-it-avail-ar.pdf
A Modern Approach to BCDR

Modern IT leverages virtualization to achieve the most effective BCDR solution.

Virtualization has already been proven to dramatically cut IT costs and reduce complexity. Likewise, virtualization simplifies BCDR by abstracting the physical layers of hardware and data, the OS and applications, and encapsulating them within a virtual machine (VM). Virtualization also adds another key element critical to modern BCDR: unified management and automation. Rather than managing multiple DR steps, which is required for disparate physical components and layers of the infrastructure, modern BCDR focuses on protecting and restoring a VM – a simple and standard process that has been well-tested.

Virtualized infrastructure alone, however, does not address every BCDR need. Just as a ship’s emergency systems must interact with other processes to ensure the most efficient response, your BCDR plan needs to integrate seamlessly with the entire environment.

Here are three critical advantages that virtualization delivers as part of your BCDR strategy:

1. **Affordability**
   
   Virtualization drives evolution in replication technology, making DR cost-efficient. Replication can now be pre-packaged with storage appliances or as stand-alone software solutions, at the data and application levels. Virtualization enables infrastructure consolidation and hardware over-subscription and repurposing at the failover site, enabling efficient use of failover site resources and making protection of smaller sites and tier 2 resources economically feasible.

2. **Simplified Management**

   DR tools should eliminate the complexity of traditional runbooks and automatically orchestrate all steps needed to ensure the desired level of protection. Manual runbooks are no longer ‘good enough’ to manage recovery plans for increasing numbers of applications and expanding infrastructures. Setting up a recovery plan can be as simple as selecting RPOs and RTOs for each service.

3. **Reliable Execution**

   The ability to test recovery plans frequently in a non-disruptive manner assures that you can meet the aggressive RPO and RTO objectives when a real disaster strikes. Once tested, recovery plans can be executed automatically with no manual intervention or risk of user error.
VMware’s Proven BCDR Solution Portfolio

How do you build your ship so it is ready for any interruption on its journey?

How do you make sure that unplanned events don’t take you off-course?

Do you build it yourself from scratch, or use a well-designed solution?

Do you wait for a storm to test it, or practice the rescue procedures in calm weather, so you know it works?

Read on to see what VMware’s proven BCDR solution portfolio can do to protect your business.
VMware is Your Comprehensive BCDR Solution Provider

VMware’s trusted virtualization platform is the foundation for a modern BCDR solution. It has been engineered from the ground up to be highly flexible, scalable and optimized for business-critical workloads, with built-in intelligence to maximize availability and efficiency.

The VMware BCDR solution portfolio provides:

- Industry-leading virtualization, backup, storage, and disaster recovery products
- Flexible and affordable disaster recovery deployment options, including on-premise, cloud-based service, or a hybrid approach
- Fully automated and centralized planning, migration and recovery
- Non-disruptive testing
- Proven, SLA-driven execution through thousands of deployments

Let us explore the VMware BCDR solution portfolio to better understand how it can help you protect your critical IT assets and services.

### Primary Site

#### High Availability

- One click to high availability
- Eliminate planned downtime
- Align resources to meet business goals

#### Data Protection

- Backup both physical and virtual applications through single user interface
- Network-efficient, secure backup data replication
- Consolidated management of compute, backup and storage

#### Recovery Site

#### Disaster Recovery

- Disaster Recovery any way you want it: on-premise, cloud, hybrid
- Affordably protect all applications
- Automated recovery plans
- Reduce storage hardware requirements

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**vSphere® with Operations Management™**
Intelligent Virtual Foundation: VMware vSphere with Operations Management

Just like a ship’s systems must be designed to support emergency procedures, your IT infrastructure needs to be architected to support your BCDR strategy.

VMware vSphere® with Operations Management™ is the right foundation for your entire BCDR strategy. It integrates capacity, performance, and health monitoring to achieve higher application performance and health, while significantly reducing the amount of time spent on troubleshooting problems. vSphere with Operations Management simplifies BCDR by encapsulating the entire virtual machine, including the OS, application binaries and application data, in a single set of files. By replicating those files to the failover site, the entire virtual machine can be recovered in a fast single-step process, accelerating typical recovery from an average of 40 hours to an hour or less².

vSphere with Operations Management enables advanced virtualization with the following advantages:

**Resource Optimization**

vSphere with Operations Management enables 37% higher consolidation ratios³ by identifying idle VMs, right-sizing over-provisioned VMs and safely increasing VM density without impacting performance.

**Proactive SLA Management**

vSphere with Operations Management uses predictive analytics and Smart Alerts to identify emerging performance issues and provides guided remediation to automate repetitive manual tasks with control.

² http://www.vmware.com/business-continuity/disaster-recovery
Three Critical Components of a BCDR Solution

1. Application Availability

The VMware BCDR approach ensures application service availability, which minimizes downtime, data loss and service interruptions.

vSphere vMotion
VMware vSphere® vMotion® enables live migration of virtual machines between vSphere hosts with zero downtime. It helps avoid service interruption during server hardware maintenance, optimize performance by moving VMs from underperforming servers, and enable automatic load balancing between the hosts.

vSphere Fault Tolerance
VMware vSphere® Fault Tolerance is a built-in feature of vSphere that initiates a ‘live shadow’ VM, running on a separate host in lockstep with the primary instance. In case of failure, the secondary instance takes over and starts off from the last good checkpoint. With vSphere Fault Tolerance, zero downtime and zero data loss is possible.

vSphere Storage vMotion
VMware vSphere® Storage vMotion® enables live migration of VM disk files across heterogeneous storage with zero downtime. It helps with storage migration and upgrades, optimizing I/O performance and automatic capacity balancing.

vSphere High Availability
VMware vSphere® High Availability delivers the high availability required by most applications running virtual machines, independent of the operating system or application running on it. vSphere High Availability provides uniform, cost-effective failover protection against hardware and operating system outages within your virtualized IT environment.
2. Data Protection

Data protection and backup are critical components in the IT environment. VMware provides efficient and reliable backup through a simple integrated management system. Protect both physical and virtual workloads with fast, assured recovery.

**vSphere Data Protection Advanced**

VMware vSphere® Data Protection™ Advanced is a simple, efficient data backup and recovery solution for VMs and mission-critical applications. It delivers high-performance data protection through patented variable-length deduplication and network-efficient, encrypted replication of the backup data. Rapid, assured recovery and simple, end-to-end management through VMware vSphere Web Client make vSphere Data Protection Advanced the ideal backup and recovery solution for vSphere.

Some of the key features of vSphere Data Protection Advanced include:

- Automated backup verification
- Application-consistent backups for applications on physical servers
- One-stop VM recovery and end-user file-level recovery
- SQL server and MS Exchange agents for application-aware backup

**vSphere Replication**

VMware vSphere® Replication is a true, hypervisor-based replication that enables VM-level management with flexible, asynchronous RPOs.

Some of the key features of vSphere Replication include:

- Simplified administration: managed as a property of VMs
- Independence from underlying storage
- The ability to function between heterogeneous datastores
- Built-in deduplication and compression (only replicates changed data)
3. Disaster Recovery

VMware can help you create a complete disaster recovery approach and provide business continuity across sites using these three powerful solutions.

vCenter Site Recovery Manager

VMware vCenter™ Site Recovery Manager™ is a powerful tool to facilitate site DR planning, automation, testing, and execution. It is a natively-integrated DR orchestration solution that automates testing and execution of centralized recovery plans.

vCenter Site Recovery Manager can help you to setup recovery plans in minutes, initiate orchestration in one click and test as frequently as needed. Analysis shows that deploying vCenter Site Recovery Manager as the DR management solution delivers tangible, measurable financial results, as well as strong qualitative benefits.⁴

Some of the key features of vCenter Site Recovery Manager include:

- Non-disruptive testing of user-defined recovery plans
- Automated failover with one-click initiation
- Automated failback with automatic re-protection
- Planned migrations with graceful shutdown and zero data loss

vCloud Air Disaster Recovery

VMware vCloud® Air™ Disaster Recovery introduces native, cloud-based disaster recovery capabilities for vSphere virtual environments. Built on VMware's hypervisor-based replication engine, vSphere Replication, and integrated with vCloud Air the cloud service offers a cost-effective, simple, automated process for replication as well as application and data recovery in a standby environment.

Virtual SAN

VMware Virtual SAN™ implements the concept of software-defined storage, a key element of the software-defined data center, by abstracting the physical data storage under the virtual data pane. Virtual SAN is fully integrated with vSphere, vCenter Site Recovery Manager and vSphere Replication, providing a single and simple user interface for management of your compute, storage and backup. Virtual SAN reduces your overall storage costs by eliminating the need for expansive hardware for disaster recovery sites. You can now efficiently utilize storage in your servers as a DR target and manage it all from a single pane of glass.

⁴http://www.vmware.com/files/pdf/products/SRM/VMware_vCenter_Site_Recovery_Manager_5.5.pdf
Safe Voyage With VMware

With a VMware BCDR solution, you can fully leverage the benefits of virtualization to deliver uptime and predictability to your data center. According to thousands of VMware customers, it is an easier process to replicate and startup a virtual machine than to rebuild an entire server or a site. VMware BCDR solutions have been engineered to work together with the vSphere with Operations Management hypervisor layer and management tools, eliminating the need for solution integration and testing. If you already have VMware in your data center, many of the components of the VMware BCDR portfolio are included. You only need to put them to good use to ensure smooth sailing.

Experience VMware BCDR solutions by trying a Hands-on Lab

Learn more about VMware products for BCDR by visiting VMware.com