Double-Take Availability®

A Technology Overview
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Executive Summary: The Availability Imperative

The pace and competitiveness of global commerce requires a flexible, resilient and available IT infrastructure that provides 24 x 7 x 365 access to applications and information. Any data, system or application downtime poses a threat to business operations and can have serious repercussions for your organization’s profitability, potentially impacting customers, reputation and revenue.

Achieving the new levels of high availability required to support mission-critical systems puts increased demands on IT and data center professionals. Double-Take Availability for Windows helps protect your profitability and reputation by providing affordable data protection, failover, and recovery from any system outage.

Double-Take Availability for Windows: Over 20 Years of Progress

Well-conceived designs endure. They become entrenched within the culture of their respective disciplines and follow an adaptive path toward refinement. Over the course of twenty years, Vision Solutions has developed solutions with unmatched capabilities for ensuring application availability and data integrity—and we continue to innovate today.

Double-Take Availability®—now in version 7—offers exceptional application and data protection in virtual, cloud and physical computing environments. Thanks to a single, unified management console, it is easier to use than ever and requires far fewer resources than other availability options. What’s more, Double-Take Availability is one of the most affordable solutions for complete data protection.
Double-Take Availability

Double-Take Availability—Vision’s flagship availability solution for Windows and Linux systems—provides affordable application and data protection, failover, and recovery from any system outage.

Real-time replication eliminates non-productive backup windows. Moreover, Double-Take Availability continuously captures and asynchronously replicates changes at the byte level, in real-time, to any storage system, across any distance, locally or globally.

Open-file mirroring and replication capabilities allow you to replicate active files without taking them offline.

Double-Take Availability also allows you to implement failover clusters without shared storage or geographic limitations – eliminating a single point of failure and giving you the freedom to locate cluster nodes wherever they are most useful.

Why Double-Take Availability Provides Superior High Availability

Double-Take Availability for Windows helps protect your profitability and reputation by providing affordable data protection, ensuring fault tolerance and enabling immediate recovery from any system outage.

When evaluating any availability solution, you must consider a handful of critical criteria. Over the next few pages, we will provide an overview of the essential availability issues and how Double-Take Availability addresses each.

Simplicity – Deploy and configure the solution quickly using advanced features that automate the initial setup and the ongoing management of your availability environment.

Any-to-Any Protection - Ensure availability redundancy across physical, virtual, and cloud environments to provide a single-vendor solution in a complex data center.

Real-time Replication - Ensure the uninterrupted availability of critical application systems and virtually eliminate the potential for data loss.

Near-Zero Downtime During Migrations - Real-time replication technology allows users to remain active while Double-Take Availability recreates the production environment on the new system.

Platform Independence - Double Take Availability allows you to protect more of your environment, while spending less than you would for other options.

Simplified Management - A unified console makes it easier to implement, manage and extract value from a powerful HA environment.

Definition:
Virtual Software Appliance

“A virtual software appliance is a software environment that includes an application and operating system that is packaged for a specific virtual platform.

Virtual software appliances are typically inexpensive and easy to implement.”
1: Simplicity: Setup Quickly, Run Continuously

Double-Take Availability automates the setup and configuration of real-time protection and availability management for data sets, business-critical applications, and full system states through advanced management features. These features configure and administer protection of individual applications, such as Microsoft Exchange and SQL Server, Windows File Servers, and nearly any other Windows server configuration, including Windows Failover Clusters running in physical, virtual or cloud environments.

Server protection can be as granular as individual files or as complete as entire virtual machines at the virtual-host level. As a result, administrators do not need to have an in-depth understanding of the applications or server configurations to enable the solution. And single-screen monitoring allows you to sort, filter and monitor data on the health of servers, check the currency of your target system, and view event logs in one intuitive display.

2: Any-to-Any Protection across Heterogeneous Datacenters

Modern data centers employ a combination of physical, virtual, private cloud, and public cloud platforms. Double-Take Availability provides technologies that work within and across these diverse computing platforms to provide protection throughout your data center.

Whether replicating entire virtual machines between virtual hosts or replicating applications between physical and cloud environments, Double-Take delivers leading-edge technologies that move data efficiently and keep users online with the least disruption, while eliminating the barriers between physical, virtual, and cloud platforms.

Modern data centers are intricate for many reasons. For example, their complexity may have evolved due to mergers and acquisitions or simply through the acquisition of new technologies over time to meet new business demands. Whatever the reason, many availability products support only one part of the modern data center, specializing in a single virtualization platform or providing a one-size-fits-all approach to data and application availability.

In contrast, Double-Take Availability provides different technologies that work together across a complex data center to bring all of your protection under the umbrella of a single vendor and a single management interface.

3: True Real-time Replication: More Efficient and Better Protection

Double-Take Availability features patented, real-time, asynchronous, byte-level replication. Unlike snapshot-based replication solutions or store-and-forward solutions, Double-Take Availability replicates data immediately and continuously, as fast as bandwidth and processing allows. Asynchronous, real-time replication is ideal for crossing any geographic distance because it can flexibly queue and send replicated data as bandwidth and latency over distances fluctuates throughout the day, without holding up the production servers.
Double-Take Availability's byte-level replication is very efficient over any distance because, unlike some other products, it sends only changed bytes rather than entire disk blocks. Additionally, Double-Take reduces the amount of data on the network by providing three levels of intelligent data compression during replication.

Scheduling bandwidth throttles can further optimize the use of limited network resources to make sure that bandwidth remains available for vital transaction and other processing at busy times of the day. When bandwidth is limited, Double-Take will intelligently queue any data that cannot be sent, but it will continue to try to send data from the queue as quickly as bandwidth allows, keeping data synchronized between the source and target as fast as possible.

Double-Take replication is sequential and always preserves write order to keep important application and file data in a continuously consistent state. This is especially important for database applications, such as Microsoft SQL Server or Microsoft Exchange, which use transactional database technologies. By always maintaining data integrity, Double-Take Availability allows you to failover to the most current data whenever the need arises.

Because application awareness is critical to reliable recovery, Double-Take Availability monitors the behavior of key applications and database systems and automatically takes corrective action to ensure the viability of the availability environment.

To assist you in optimizing your configuration, the Double-Take Availability Diagnostics job simulates replication traffic and estimates the amount of bandwidth needed for efficient replication between the production and backup servers.

When replicating vSphere virtual machines at the host level, Double-Take Availability uses VMware APIs for virtual machine snapshot functionality, ensuring that VMs are in a known and consistent state and ready for recovery at any time.

4: Near-Zero Downtime during Migrations

Manually migrating applications and data to new platforms usually involves some risk. Due to the many interdependencies between layers and the compatibility issues that often arise, manual migrations rarely—if ever—proceed predictably and painlessly.

Double-Take Availability takes the risk out of migrations by automatically reproducing your entire production environment on a new cloud, virtual or physical hardware platform, avoiding most of the complexities that cause migration projects to fail. Whether you are planning a migration to a physical environment, a virtualized platform or a cloud, Double-Take Availability can simplify the process, minimize service disruption, and reduce costs.

Downtime is also a major factor that must be dealt with when planning a migration. Depending on how large and important the system is, migrations can shut down applications for days when performing traditional unload/reload migrations. In those cases, great care must be taken when scheduling migrations so they have the least impact on productivity and profitability.
In contrast, with Double-Take Availability, users can remain active while data, applications, and system states are being migrated. Instead of migrations taking all weekend, servers can be migrated in minutes, leaving IT staff the rest of the weekend to test and validate the migration or—in a revolutionary break from the past—to take the weekend off!

5: Platform Independence

IT environments are now more complex than ever, with a mix of applications, storage, hardware platforms, and operating systems. Because Double-Take Availability is application and hardware independent, you benefit from being able to deploy a single solution that delivers replication and high availability for all major Windows and Linux versions running on physical, virtual and cloud-based servers.

Market forces demand 24 x 7 availability for your systems, applications and data. Double-Take Availability offers the flexibility to replicate data for key applications (i.e. SQL Server), files, or entire physical or virtual machines across your data center as needed to ensure your business keeps running.

Double-Take Availability offers protection for public and private cloud deployments. And it can replicate data between on-premise and remote, public or hosted clouds to protect against site and regional outages.

If your company offers IaaS or SaaS delivered via the cloud, you can mitigate the risks associated with hosting your clients’ critical systems by eliminating the damage that can result from a server failure. In addition, if you are interested in expanding your service offerings, Double-Take Availability provides a reliable and easy-to-manage way for you to offer Recovery-as-a-Service (RaaS).

6: Simplified Management

Ongoing management of disaster recovery and high availability solutions can be a key issue when considering the total cost of ownership and the potential liabilities of an availability solution. Double-Take Availability’s automation and autonomic features, along with its comprehensive, intuitive interface, minimize those costs and risks.

Through a streamlined and unified console, you can quickly learn to manage and monitor all of the powerful capabilities of Double-Take Availability. The Double-Take Console enterprise dashboard provides real-time visibility and management of your physical, virtual, and cloud environments, with features that allow you to monitor the health of your primary and failover servers, perform recoveries and failbacks, check event logs, and manage your license inventory.

The Double-Take Console further simplifies the management of your availability environment by forwarding events via SNMP to other management tools and providing SMPT email alerts directly to your inbox. You can also manage Double-Take through a fully functional set of PowerShell commands, thereby conforming to growing Windows automation standards initiatives.

“The evolution of Double-Take Availability brings to bear the knowledge, experience and resources of Vision Solutions, a world-leader in application and information availability.”
7: Vision’s People

Over the course of more than two decades, Vision Solutions pioneered technologies that efficiently move data locally and remotely to provide market-leading high availability and disaster recovery solutions, and we continue to innovate as we move forward into the future.

In addition, we leverage close relationships with technology partners, such as Microsoft, IBM, and VMware and utilize insights gathered from working with thousands of customers and partners worldwide to continually enhance our products and solutions. As a result, Double-Take Availability is a premier solution for Windows and Linux that scales from SMB to enterprise environments around the world, and it will continue to be an availability leader in the decades to come.

Vision Solutions is more than just technology. We are the availability experts worldwide, with a global network of certified partners to help you maximize the return on your availability investment. In addition, our CustomerCare team delivers around-the-clock, around-the-globe support with the most advanced and accessible tools—plus a team of veteran industry professionals with unmatched expertise.
About Vision Solutions

With over 25,000 customers globally, Vision Solutions is one of the industry’s largest providers of business continuity and information availability solutions for Windows, Linux, IBM i, AIX, and Cloud environments. Vision’s trusted Double-Take, MIMIX and iTERA brands keep business-critical information continuously protected and available. With an emphasis on affordability and ease-of-use, Vision products and services help customers achieve their IT protection and recovery goals, which in-turn improves profitability, productivity, regulation compliance, customer satisfaction and quality of life.

Vision Solutions also offers the tools and competency needed to migrate complex, multi-layered computing environments. We can eliminate the strain on your resources, dramatically reduce server downtime, and offset the risks associated with migrations. Regardless of OS or hypervisor, Vision Solutions offers the technology needed to make every migration a success.

Vision Solutions oversees a global partner network that includes IBM, HP, Microsoft, VMware, Dell and hundreds of resellers and system integrators. Privately held by Thoma Bravo, Inc., Vision Solutions is headquartered in Irvine, California with development, support and sales offices worldwide.

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