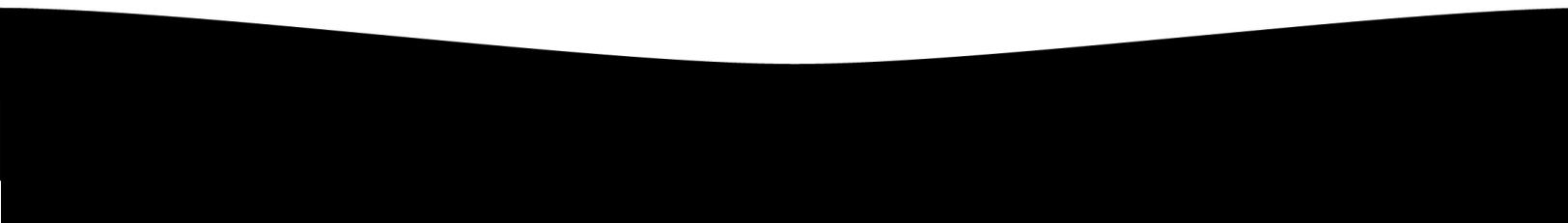# UNITRENDS

ReliableDR Deployment Blueprint

e-Government Success Story

Solution Highlights

Industry
- Government

Challenges
- Protect e-Government applications virtualized under VSphere with IBM and HP storage
- Solve complex compliance requirements

Solution
- ReliableDR

Benefits
- Reduction of complexity for continutity plan
- Failover process automated
- Push-button backup

Executive Summary

This ReliableDR deployment blueprint describes how a customer in the public sector was able to protect e-Government applications virtualized under vSphere with IBM and HP storage and solve complex compliance requirements at a minimal cost.

Customer Configuration

This installation supports the IT services of a major European city with over 2 million citizens. The city hall has two datacenters running active/passive with an extended LAN and Gigabit connectivity between them. Production storage runs on IBM DS8000 and DR has HP EVA.

The installation supports local government applications, notably a set of e-Goverment services that were classified as mission-critical, such as tax and user fee collections. As a result, a set of central government regulations applied concerning business continuity processes for which the city was not prepared. ReliableDR was deployed to automate DR across the sites and demonstrate that essential services could be restored in under one hour without needing any new hardware or software outlays.

Project Definition

The customer runs a highly virtualized infrastructure with approximately 130 VMs on vSphere with a large set of open source systems based on SUSE and other Novell components such as eDirectory and ZenWorks. Open source has traditionally been the first choice for the past five years, so most citizen-oriented applications have been deployed using Apache and Tomcat. The databases run on Oracle and Postgres.

Prior to this project, there was not a well-defined DR plan and contingency plans relied mostly on backup and restore. This was found to be non-compliant with new central government regulations, and a new solution was needed. The most pressing requirement was to meet a Recovery Time Objective of under two hours on a set of core services provided by 30 mission-critical servers.

The customer had no budget available for a storage overhaul that would have provided advanced functionality such as replication and snapshot. ReliableDR's ability to provide those functionalities was a major driver for the project
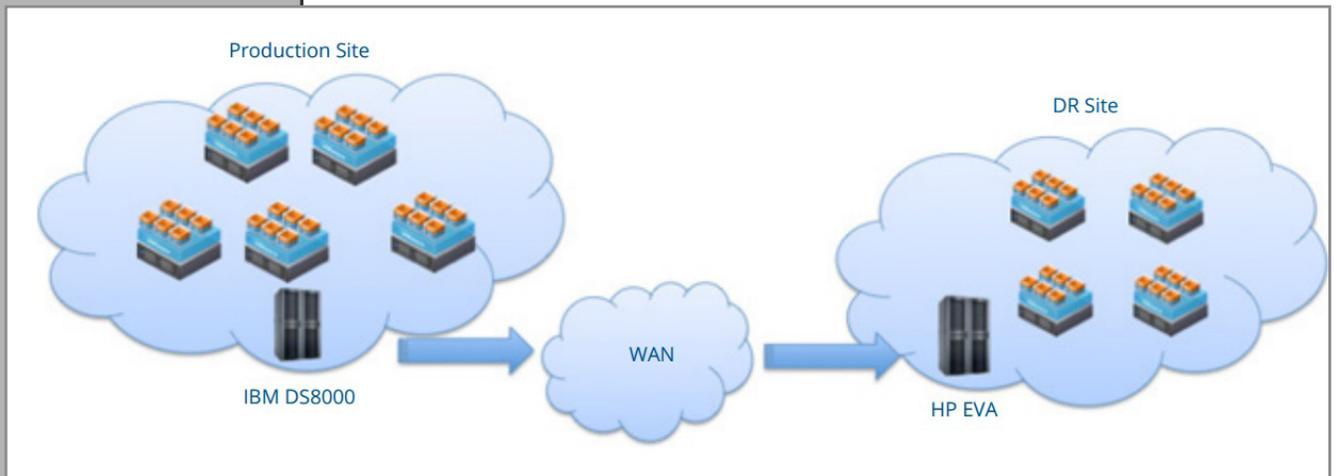
Protected Applications

The applications that were protected by ReliableDR included a set of e-Government systems as well as some internal applications such as geolocation of certain public assets and civil servants. The most critical services were those that collected taxes, traffic fines and user fees in real time through electronic payments. There was also a wide variety of citizen-oriented information portals that were home-grown using Apache front-ends, some using a 3-tier architecture with Tomcat application servers. All components are virtualized including the Oracle 10i databases.

ReliableDR Deployment

ReliableDR was deployed at the DR site and initiated host-based replication from the primary to the second site. Taking advantage of its storage-agnostic architecture and deep integration with vSphere, ReliableDR initiates replication across sites based on a defined schedule. ReliableDR's zero footprint architecture was a major advantage, as it did not entail any modifications or risk to the production systems.

ReliableDR's ability to snapshot VMs and fully automate recovery exercises was implemented twice per day in order to protect a maximum RPO of 12 hours. All VMs are protected in a single exercise.

The initial replication of the VMs was done over several hours, taking advantage of the high speed available across sites. Incrementals could be done in minutes as change block tracking (CBT) was implemented at the hypervisor level.

Benefits of Reliable

DR While ReliableDR has a very rich set of functionality, there were three immediate and major benefits at this installation.

Significantly Improved RTO and DR Testing Time

Prior to the use of ReliableDR, DR tests were exercised infrequently and only on a subset of applications. Restores from backup took hours at best and the customer did not have a precise idea of its Recovery Time Actual (RTA), although it was suspected to be at least 24 hours.

After ReliableDR was deployed, RTA was found to be 35 minutes. This was one of the major successes of the project.

Customizable RPO & Retention Policies

The geographical location of the customer is not subject to weather extremes and has never experienced a natural or man-made catastrophe. An RPO of 24 hours was initially considered sufficient.

However, upon learning that ReliableDR could generate a Certified Recovery Point (CRP) at any time interval, and apply retention policies against them, a decision was taken to shorten the RPO to 12 hours and retain several days' worth of CRPs in order to increase resilience and protection, and also to provide forensic analysis capabilities in case of malware penetration or other logical incidents.

Storage architects determined that they could retain up to eight CRPs on the DR site, covering the applications for the previous four days on a rolling basis.

Compliance / Business Continuity

The central government in the country where this city is located issued a National Security Framework in January 2010 that covered essential services in all layers of government and established regulations regarding continuity of services for the citizenry.

The city found itself unable to comply with the regulation that stipulated that sufficient contingency plans exist to provide essential e-Government services by at least two different means with equivalent levels of security.

The regulation further required a written service continuity plan. All assets involved in service delivery needed to be duplicated. The continuity plan needed to include control processes, personnel training and regular exercises.

ReliableDR was able to reduce to a minimum the complexity of the service continuity plan, as failover processes were automated and required no specialized skills in storage, servers or applications. Personnel training requirements were sharply reduced compared with restores from backup tapes, as operators could restore entire applications at the push of a button.

Lastly, ReliableDR's dashboard and reporting provided detailed, on-demand traces of the recovery exercises in case of an external audit.

Are You Ready to Get Protected? Connect with us Today for a Customized Quote ➡

About Unitrends
Unitrends delivers award-winning business recovery solutions for any IT environment. The company's portfolio of virtual, physical, and cloud solutions provides adaptive protection for organizations globally. To address the complexities facing today's modern data center, Unitrends delivers end-to-end protection and instant recovery of all virtual and physical assets as well as automated disaster recovery testing built for virtualization. With the industry's lowest total cost of ownership, Unitrends' offerings are backed by a customer support team that consistently achieves a 98 percent satisfaction rating. Unitrends' solutions are also sold through a community of thousands of leading technology partners, service providers, and resellers worldwide.