CHAPTER 3

DRaaS Overview

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DRaaS Architecture Overview

Cisco's DRaaS architecture (see Figure 3-1) uses an overlay model in which Cisco's Virtualized Multiservice Data Center (VMDC) provides the underlying Infrastructure-as-a-Service (IaaS) system. Partners such as InMage or Zerto provide the continuous data protection (CDP) and host-based replication capabilities for storage-agnostic disaster recovery and business continuity. The system architecture encompasses advanced capabilities such as encryption for integrated data security and data optimization for wide area network (WAN) cost optimization.

The traditional in-house enterprise DR system constitutes a substantial portion of expenses annually. Rather than building a DR system in-house, enterprises can subscribe to cloud-based DRaaS services without CAPEX expenditures. DRaaS provides a continuous protected server or application replication and can start up applications running in the cloud once a disaster is declared.

Implementation of DRaaS with a virtualized cloud platform, which can be automated easily, provides a less expensive alternative to in-house implementations. The key metrics for DRaaS are:

- **Recovery Point Objective (RPO)**—Amount of data at risk of being lost during a disaster recovery, measured as the amount of time from a disaster event.
- **Recovery Time Objective (RTO)**—Amount of time to restart a business service after a disaster event.
Cisco's DRaaS architecture offers the capability to provide DR services for both physical and virtual servers from a customer data center to an SP's Virtual Private Cloud (VPC). Cisco targets deploying the DRaaS architecture as a SP-managed services offering. The DRaaS architecture leverages a validated architecture with broad functional and at-scale testing for in-depth validation of features and functionality, performance, scale, and operations.

Service providers offer, on an "a aS" (as-a-Service) basis, the following key end-user consumable services that are enabled by this development effort:

- **DRaaS**—Disaster recovery for both physical and virtual servers from a customer data center to an SP VPC.
- **ICDR**—Disaster recovery of selected VMs (VMs) in a VPC environment targeted at any VPC customer-side applications that do not lend themselves to distributed architectures (i.e., application-layer resiliency).

**Value of Cisco DRaaS Architecture for Service Providers**

DRaaS offers the following value to SPs:

- **Increased Customer Relevance**—Not all the customers requiring DR services want an Infrastructure as a Service (IaaS) offering. Offering DRaaS provides better alignment with a typical IT buyer’s focus. SP’s leveraging DRaaS offerings provides them an opportunity to differentiate from commodity and over-the-top IaaS providers.
- **Bigger, More Profitable Deals**—DR instances command a premium and provide improved margins due to lack of commoditization. DR deals, which are typically larger than IaaS deals for SPs, also generate higher margins. DRaaS offerings create reduced capital expenditures on compute resources and lower operating expenses on licensing due to oversubscription opportunities.
- **Strong Services Growth**—DRaaS offerings present a strong ability to attach additional services and create a pipeline of revenue from new and existing customers through new and improved monetization via services growth. Additional monetization opportunities present themselves through possibilities for hybrid services.
Service Provider Monetization of Cisco DRaaS

Figure 3-2 is a financial model that presents the monetization opportunity for SPs associated with the deployment of the Cisco DRaaS system architecture.

Figure 3-2 Monetization Opportunity for SPs

Value of Cisco DRaaS Architecture for Enterprises

DRaaS provides the following value for Enterprises:

- **Recovery Time Is Key**—Enterprises frequently lack the knowledge to select and deploy the optimal DR tools for their needs. Current enterprise tools for low RPO/RTO tend to be too costly when considered for widespread deployment.

- **Reduced Cost and Impact of Disaster Recovery Testing**—DR exercises present a significantly high cost and are a "distraction factor" to the normal business operation. The use of DRaaS allows enterprises to focus on application validation without being distracted by rack, stack, and recover activities with their infrastructure and IT services. It also presents a potential opportunity to better leverage the DR environment.

- **Accelerated Implementation**—Using DRaaS presents an easier framework for business continuity plan and test execution implementation. It also provides end customers with the ability to grow over time from a limited scope. It would be a lengthy process for enterprises to independently attempt to replace an equivalent DRaaS solution that is provided and managed through a SP’s robust offerings since they include self-service, monitoring, and service assurance capabilities as a holistic offer from SPs.

- **Better Odds of Success**—Using specialized SP offerings eliminates the need for a strong DR competency and addresses the difficulty associated with hiring and retaining talent for DR. The DRaaS is a niche technology that requires a significantly large scale to gain the required specialized experience. Globalization means many organizations cannot use traditional primary and secondary models of dedicated infrastructures for DR and business continuity operations.
Figure 3-3  Why Enterprises Choose DRaaS

**Recovery Time Is Key**
- Enterprises frequently lack the knowledge to select and deploy the correct DR tools for their needs
- Current enterprise tools for low RPO/RTO tend to be cost prohibitive for widespread deployment

**Reduced Cost and Impact of DR Testing**
- High cost and ‘distraction factor’ of DR exercises today
- DRaaS allows enterprises to focus on application validation, not rack/stack/recover
- Potential to leverage DR environment for hybrid use cases and app testing

Why are you interested in or already using the cloud for disaster recovery?
- 27% - More likely to succeed
- 33% - Easier disaster recovery
- 45% - Overall cost savings
- 55% - Faster recovery

**Easier**
- Easier implementation and test execution.
- Ability to start with limited scope and grow over time
- Robust SP offerings with monitoring and service assurance. SP management to troubleshoot failures.

**Better Success Odds**
- Lack of strong DR competency, difficulty hiring and retaining talent for DR and lack of sufficient scale to gain specialized experience required
- Globalization means many organizations can’t use traditional primary/secondary model

For more information about the Cisco DRaaS 2.0 solution, please refer to the full Design and Implementation Guides, which are found at the following URL: