



Make the Right Choice among Disaster Recovery-as-a-service (DRaaS) Solutions



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Overview

- Causes of Disasters & Motivation to Act
- DRaaS Definition and Classifications
- DRaaS Evaluation Criteria
- Make the Right Choice among DRaaS Solutions
- Final Thoughts

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Causes of Disasters & Motivation to Act Now



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Causes of Disasters

- Man made
 - *Up to 75% of data center downtime caused by human error (Source: NetworkWorld)*
- Natural
 - *~33 in the US per year*
 - *~10% of outages annually*
- Complex (Combination of above)
- Pervasive Threat of Ransomware

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Ransomware

A Clear and Present Danger

- Anecdotal Evidence
 - *Weekly a new report about ransomware*
 - *Scope of attacks exponentially larger than currently reported*
 - *Regularly speak to individuals affected by it*
 - *Hackers regularly demand ransoms of \$1M or more*
 - *Increased reports of organizations successfully recovering from malware attacks*

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Ransomware

Challenges

- May not know you are infected
- Runs in the background
- Multiple entry points into organizations
- Indiscriminate in the size and type of organization it attacks

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Ransomware's Impact

- Production data partially or totally inaccessible
- May compromise existing backup data first
 - *"Infect first, detonate later"*
- Scope of infection can vary greatly
 - *Individual applications or files*
 - *Partial or full data encryption*
 - *Encrypts backup files on network shares*
- Paying ransom does not guarantee data recovery
- May still have to pay ransom to prevent public disclosure of data

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Motivation to Act

- Do not think you are immune or protected
- High level of probability you will experience a malware attack
- No cyber security provider offers a 100% guarantee that it will prevent a malware attack
- Good chance you can fully recover if attacked
- View backup/DR software as a secondary defense against malware

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DRaaS Classifications



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Traditional DR Configuration

- Description
 - *Organization plans the DR offering, selects the components, and then implements, manages, and supports it.*
- Consists of:
 - *Backup and replication software*
 - *Hardware appliance (physical or virtual)*
 - *Purpose-built or general-purpose cloud*
 - *Internally staffed and managed*
- The way most companies currently manage DR

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DRaaS Definition

Disaster Recovery-as-a-Service (DRaaS)

“A cloud computing and backup service model that uses cloud resources to protect applications and data from disruption caused by disaster. It gives an organization a total system backup that allows for business continuity in the event of system failure.”

DRaaS addresses all the common causes of disasters.

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AIO DRaaS Characteristics

- Description
 - *Vendor manufactures, provides, supports, and may own all intellectual property. The organization handles the day-to-day management of backup, replication, and recovery.*
- Solution includes:
 - *Backup and replication software*
 - *Hardware appliance (physical or virtual)*
 - *Purpose-built provider cloud*
- Current Number of Providers: ~10

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Hybrid DRaaS Characteristics

- Description
 - *Integrator plans the DR offering, selects the components, and implements and supports it. The organization handles the day-to-day management of backup, replication, and recovery. The integrator likely does not own any of the components.*
- Consists of:
 - *Backup and replication software*
 - *Hardware appliance (physical or virtual)*
 - *Purpose-built or general-purpose cloud*
- Number of providers: 100's, perhaps 1000's

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DRaaS Evaluation Criteria



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DRaaS Licensing

- Amount of data protected
 - *Front-end terabytes*
 - *Back-end terabytes*
- Cost of data stored in the cloud
- Size and type of backup appliance
- Subscription length and requirements
- Virtual and physical machines protected

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DRaaS Orchestration

- DR Runbook
- Customized Scripts
- DR Testing
- Frequency of Updates to DR Plan
- Verify
 - *Which of these services are included or cost extra*
 - *How frequently to they perform updates*

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DRaaS Test and Live DRs

- Number and frequency of Test DRs
- Number and frequency of Live DRs
- Who can initiate a DR and when
- Length of DR
- Support staff
- RPOs and RTOs

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DRaaS Test and Live DRs

- Cost of DR
- Self-service, hybrid, managed DR, or all
- Location, size, and scope of a DR
 - *Partial or full recovery or both*
 - *In the cloud, on-premises, or both*
 - *General-purpose or purpose-built cloud*
- Failover back to production

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DRaaS Cloud Infrastructure

- Dedicated or shared infrastructure
- Amount of infrastructure
 - *How many client recoveries can it handle concurrently?*
 - *What size of recovery?*
- Type of infrastructure
 - *Support physical and virtual recoveries*
 - *Virtual only*
- Cost of infrastructure

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Make the Right Choice between DRaaS Solutions



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Best Fit for AIO DRaaS

- Can standardize on one backup software offering
- Less than 10TBs of data
- Less than 10 applications
- Less than 100 virtual machines and 3 physical machines
- “Standard” IT Environment:
 - *Windows, Linux, Hyper-V and/or vSphere*
 - *Microsoft Applications*

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Best Fit for Hybrid DRaaS

- Need outside party to orchestrate and manage DR
- Need flexibility to choose backup software offering
- Need flexibility to choose between clouds
- More than 100TBs of data
- More than 250 applications
- More than 1000 virtual machines and/or 50 physical machines
- More complex IT environment

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DRaaS Selection Matrix

DRaaS Provider Category	Amount of Data	# of Applications	# of VM	# of Physical Hosts	RPO/RTO
Hybrid DRaaS	>= 100TBs	>= 250	>= 1000	>= 50	Varies
More Analysis Required	10 ⇄ 100 TBs	10 ⇄ 250	10 ⇄ 1000	3 ⇄ 50	Varies
All-in-one DRaaS	< 10 TB	< 10	<100	< 3	Instant recoveries possible Varies

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Final Thoughts



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Final Thoughts

- Ransomware is real and pervasive threat
- Cyber security software cannot detect and prevent all ransomware attacks
- Expect to be a victim of a ransomware attack sooner rather than later
- DRaaS serves a critical role protecting data and facilitating a recovery from a ransomware attack

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Final Thoughts

- AIO DRaaS solutions easiest to implement and manage
- AIO DRaaS currently a best fit for small environments
- AIO DRaaS foreshadows what Hybrid offerings striving to become – a turnkey offering

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