Optimizing Cloud

BaaS | DRaaS | Protecting Office365 | Managed Availability

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Introduction: Why Optimize Backup and DR?

Most IT organizations fall into a few categories when it comes to backup and Disaster recovery (DR). Some are *hopers* – these folks make backups of their systems and hope that it will all work out should a disaster happen. They're betting on the low probability of a disaster and aren't planning. Then there are *planners* – these IT folks have a plan, but it's never been tested. But they have a plan! It's a step in the right direction, but no one knows if the plan will work. Lastly, there are *know-it-alls* – the IT organizations that have a false sense of "we have DR covered", regardless of how much or little planning, testing, etc. is in place. They're idealists that aren't taking DR seriously.

Regardless of whether your organization fits into one of these three, is somewhere in between, or lies outside the scope, one truth remains: *there is more you can be doing to ensure recovery*.

The idea of *optimizing* backup and DR stems from the heads of managed DR service providers that do backup and DR every day. They see what organization's best effort DR strategies and plans look like, and see room for improvement.

Given that most IT pros have little real-world experience recovering from a true complete loss of operations, there is logically some room for improvement in DR planning and execution.

In this ebook, we'll take a look at 4 ways you can optimize your data protection efforts. These include:

- Backup
- Disaster Recovery
- Office 365
- Achieving Availability

These four areas make up nearly all aspects of your data protection strategy. In the coming chapters, we'll provide reasons why optimizing is useful, along with real-world guidance on how to achieve it.

Let's get started!

Chapter One

Optimizing Backup as a Service

Businesses today realize the need to ensure an ability to recover, no matter what the disaster. Many organizations have chosen to leverage cloud-based backup services to host their backup data to facilitate the recovery of data, systems, applications, and even locations. Backup-as-a-Service (BaaS) provides organizations with a robust, scalable, secure, and highly-available way to backup and recover.

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Defining BaaS

Let's start by establishing a BaaS definition to make certain everyone's on the same page. What BaaS is not simply using on-premises backup software with backup data stored in the cloud. Remember, there's a Service aspect right there in the acronym. BaaS is better thought of as a two-part service: cloud-based storage to host backups and software designed specifically to manage backups in the cloud.

Why Optimize BaaS?

But just because you're invested in and utilizing BaaS it doesn't mean your backups are optimized to meet the recovery objectives of the organization. Issues like speed, efficiency, latency, durability, availability, recoverability, and security all need to be taken into consideration.

And no two backups are necessarily the same. Workloads with varying degrees of criticality require different backup intervals and have unique recovery objectives – both impacting the definition of what gets backed up, how often, and for how long.

While it is possible to just begin using a BaaS solution and take advantage of the value and functionality of the cloud, no one cares when and how you backup; they care about whether you can recover quickly and accurately to get the business back up and operational.

So, let's look at a few ways you can optimize BaaS to help meet the backup and recovery requirements of the organization.

O **E** OffsiteDataSync and Veeam

Backups are the basis for recovering data, applications, systems, and entire operations. IT organizations need to validate their backup strategy and execution meets the needs of business's recovery point and recovery time objectives, while ensuring efficient and cost-effective storage and recoverability.

Look for insights from OffsiteDataSync and Veeam throughout this chapter!

Optimizing BaaS

In general, the goal is to speed up the process of backing up and recovering data. This can be accomplished in a number of ways:

- **B U R** – File-level backups are the legacy standard. Then came image-level backups. Each has its place in a backup strategy, with the correctly chosen backup level assisting in optimizing the backup and recovery processes. If the goal is to protect entire applications or systems, *image-level* is always the best choice. *File-level* is perfect for backups of specific sets of file data that require more frequent backups than the system they reside on. Additionally, backups today generally support *full* and *incremental* backups. Full backups include an entire copy

O D S Full and Incremental Backups

When not properly architected, the combination of restoring a full backup and its subsequent incremental backups can be time-consuming and error-prone. OffsiteDataSync and Veeam eliminate an ending string of incremental backups by leveraging either of Synthetic Full Backup (consolidated data from the latest full backup with subsequent incremental backups) in circumstances where a traditional forward incremental backup strategy is used, or by creating a constantly updated full backup as part of a reverse incremental backup.

- **D C** – Sending backups to the cloud means you can't be copying massive amounts of data up to the cloud. It will take far too long during both backup and recovery operations. BaaS requires using solutions specifically designed to first deduplicate data to be backed up (to minimize the backup data set definition) and then compress the data *before* the it's sent to the cloud. Doing so reduces the time it takes to backup, lowers the cost of Internet access, and assists with minimizing the storage necessary to host the data in the cloud.

- **U M S T** – Keeping with the topic of storage, cloud storage vendors offer to host your backup data using tiers of service. Generally referred to as *hot, warm,* and *cold* tiers, these storage options provide organizations with the ability to store backups based on their criticality. For example, backups lying in wait for a recovery scenario should reside in *hot* storage. Older backup data that could be needed (but is not critical) would reside in *warm* storage. And data that should be retained for archive purposes should be placed in *cold* storage. The benefit is lowered cost as you move from *hot* to *cold,* with the accommodation being that it takes longer to retrieve and recover data sets, from the *warm* and *cold* tiers.

O D S Chilled Storage

The use of OffsiteDataSync Chilled Storage available through Veeam Cloud Connect simplifies the long-term retention of archive data. By leveraging policy based storage management, OffsiteDataSync and Veeam can automatically move backup data to OffsiteDataSync Chilled Storage, reducing the overall cost of retaining data, while still preserving the ability to recover it, if ever necessary.

- **G S H** – Just because members of the IT organization are experts on the platforms they manage, it doesn't necessarily mean they are experts on how to backup and recover those platforms. Use of an external cloud services provider can help the optimization of backups through an assessment and recommendations around defining backup data sets, backup intervals, backup methods, and choosing both backup storage and software.

So, what practice steps should you take to optimize BaaS?

Putting BaaS Optimization into Practice

Getting BaaS to an optimized state isn't a difficult process. It simply involves some attention to detail in both how you're accomplishing backups today, and what needs to change. Use the following high-level steps to help you begin optimizing your BaaS implementation:

1) **O B** – The goal is to ensure you have the right backup type, frequency, and data sets in place to ensure recovery. Start with your workloads and their dependencies. Define your recovery point and recovery time objectives for each workload, thinking about what kind of backup type (image or file), frequency, and methodology is appropriate for each.

2) **O S** – This should be accomplished through your backup solution. The right solution should support both the use of the multiple tiers of cloud storage, as well as the management of backup data sets to automatically move them between tiers based on established policy.

3) **O E** – Looking at the choices you've made in optimizing backups and storage, and how all this works to meet the operational needs of the organization is a necessary step. Leveraging outside expertise to review, advise, restructure, and even manage the backup process – all in the interest of ensuring a successful recovery – can affirm your organization's ability to restore operations quickly.

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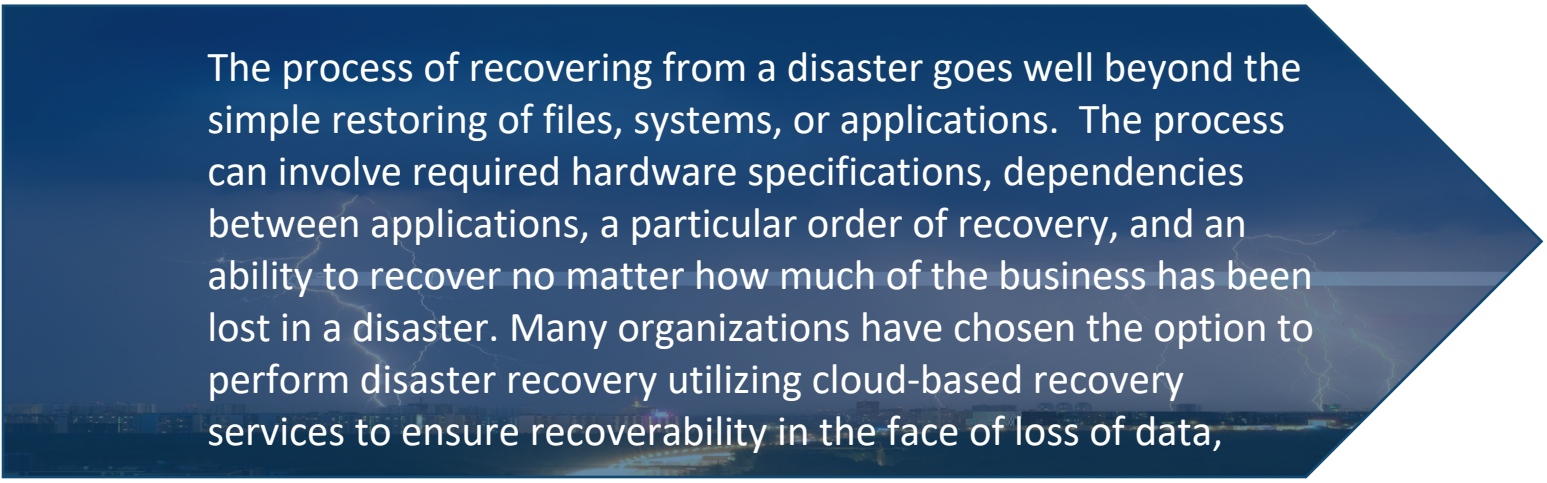
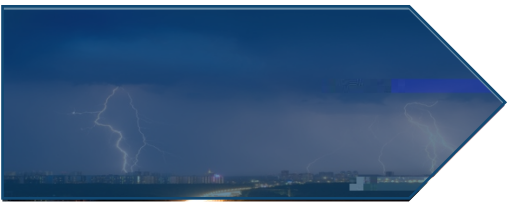
Chapter Two

Optimizing Disaster Recovery as a Service



The process of recovering from a disaster goes well beyond the simple restoring of files, systems, or applications. The process can involve required hardware specifications, dependencies between applications, a particular order of recovery, and an ability to recover no matter how much of the business has been lost in a disaster. Many organizations have chosen the option to perform disaster recovery utilizing cloud-based recovery services to ensure recoverability in the face of loss of data,



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Defining DRaaS

As we did in the last chapter, we'll begin by defining DRaaS to ensure the remainder of the chapter is founded on the same service concept. DRaaS is much more than just having an ability to recover, say, virtual servers up in the cloud. Instead, you should think of DRaaS as a robust mix of cloud-based infrastructure, recovery-centric backups, and external expertise that all work together to design, test, and implement a recovery plan tailored specifically for your organization.

Why Optimize DRaaS?

Most organizations with a DR plan – even one that utilizes cloud-based infrastructure – are still thinking about the plan from a simple recoverability perspective (for example, being able to recover server X in the cloud), and not necessarily considering other recovery factors that may impact that recoverability, such as business requirements, hardware needs, application dependencies, and issues running from the cloud introduce like latency, accessibility, and security.

The process of taking advantage of a DRaaS offering and use of the cloud for backups and recovery is simple enough. But, when it comes time to make the organization operational again, the simplest changes in the environment – something as small as a newly applied patch – can impact even a tested DR plan, causing it to fail.

In this chapter, we'll look at a few ways you can optimize DRaaS to ensure the recovery requirements of the business translate into technical requirements that, in turn, come to fruition as a tested and assured process to put your organization back on its feet.

Optimization Experts: OffsiteDataSync and Veeam
Disaster Recovery involves the coming together of many technical and business factors. Organizations seeking to guarantee an ability to recover, even in the face of a complete loss of operations, need to review whether their DRaaS implementation can and will meet the needs of the business.

Look for insights from OffsiteDataSync and Veeam throughout this chapter!

Optimizing DRaaS

In general, the goal is to speed up the process of backing up and recovering data. This can be accomplished in a number of ways:

- **Defining You DR Plan Based on Business Needs** – If you designed your DRaaS solely based on the systems and applications that needs recovering, you aren't optimized. DRaaS offers an opportunity to recover your entire operations in the cloud, so an optimized implementation is one that is designed around what is needed by the business to operate. This includes a priority list of critical workloads, recovery time and point objectives, dependency lists, testing, and periodic reviews to ensure any version changes to any aspect of the environment doesn't impact your ability to recover.

- **Verifying Backups Well Before Recovery** – Even the best DR plans can fail if the backups aren't viable. The plan assumes the backup data set is present, accessible, and undamaged. The success of DRaaS requires backup solutions designed to test backups immediately after they're created to absolutely ensure they are intact and ready to be recovered.

OffsiteDataSync | Veeam: Backup Verification

Most organizations leverage some form of incremental backups, which creates a long chain of backups that need to be restored. If one part of the chain is corrupt, the backup won't work. Verification can be accomplished at ,multiple levels, For example, OffisteDataSync and Veeam can offer the ability to immediately verify backed up images, changing connectivity and applications, as well as doing health checks in the latest restore point in a backup chain.

- **Using Appropriate Recovery Technologies** – Recovering some or all of your network environment (and have it work with any parts of production that are still operating) takes much more than just recovering images in the cloud. Use of automation tools to orchestrate recovery, boot up, failover, and failback should be a part of your DRaaS equation.

- **Leveraging Recovery Expertise** – Even though you may have members of your IT organization that understand and have experience recovering some or all of your systems and applications, it doesn't always translate into success during a true "we've lost everything" disaster. Taking advantage of an external cloud services provider that has thousands of hours of experience planning, designing, automating, testing, and recovering environment just like yours can up the odds of success in even the most challenging of recovery scenarios.

So, what practice steps should you take to optimize BaaS?

Putting DRaaS Optimization into Practice

Getting BaaS to an optimized state isn't a difficult process. It simply involves some attention to detail in both how you're accomplishing backups today, and what needs to change. Use the following high-level steps to help you begin optimizing your BaaS implementation:

1) **Optimize the Plan** – Start with the recovery and work backwards, asking lots of questions that define DRaaS needs to do for the business, and *then* define the plan to achieve it. What workloads does the business need to operate? How quickly do they need it? What do the needed workloads rely on to function? How do we failover some or all of the environment? How will we failback? How often should you test? Walk through every aspect of DR conceivable from business to tech and ask questions that help to define what each step of the DR plan should look like.

2) **Optimize the Technology** – Simply using a solution that backs up to the public cloud where you can recover virtual machines easily isn't necessarily the right use of DRaaS tech. Be critical of your new plan, looking for ways to leverage additional technologies that can automate the orchestration (read: achieve consistency) of the recovery process. Thinking about how to use the backup solutions, the cloud infrastructure, and automation tools to achieve consistency in your recovery execution is paramount.

OffsiteDataSync | Veeam: Orchestrating Recovery

No two organizations have the same recovery process. The combination of Veeam Availability Orchestrator and tailo4red recovery services from OffsiteDataSync make certain your environment will recover the way you plan. Veeam Availability Orchestrator simplifies the creating, documenting and testing of DR plans, and OffsiteDataSync helps tailor that orchestration to ensure it meets your organizations specific needs.

3) **Optimize the Execution** – Optimizing a plan can unearth aspects of recovery that internal staff simply don't have the experience to make recovery absolutely certain. Using external cloud service providers specializing in DRaaS to define, plan, implement, test, and even perform the actual DR itself may be necessary to guarantee a successful recovery.

OffsiteDataSync | Veeam: Success is in the details

The ability to quickly recover not just a system or an application, but operations depends on whether each part of the recovery process happens in order, at the right time, with the expected result, setting the stage for the next. OffsiteDataSync takes the robust recovery capabilities provided by Veeam and crafts a comprehensive DRaaS implementation and plan that assures a successful recovery outcome.

In the next chapter, we'll discuss the inclusion of cloud-based applications, such as Office 365, as part of your backup and recovery strategy. We'll offer reasons why you need to protect this application data, and provide practical guidance on when and how often to back it up.

Chapter Three

Protecting Office 365

Most often, organizations are thinking about protecting data that rests on-premises or in the private cloud. Those organizations that have enterprise Microsoft applications, such as Exchange or SharePoint also have a plan to recover those servers, the applications, and the data. But with the move to use Office 365 for email, collaboration, and cloud storage, organizations have left the work of ensuring an ability to recover to Microsoft.

But disaster recovery means that *you* have an ability to recover every part of your environment, regardless of the disaster. And, what happens if the disaster is Microsoft's servers fall prey to a massive attack, or your organization needs to pull out of Office 365? Are you protected?

What's in Office 365 That Needs Protecting?

There are two ways to define what should be protected – what the *business needs* to protect, and *what's technically possible* to protect. Whatever operational data resides within Office 365 should fall under the umbrella of requiring protection. But, as with any enterprise application, there needs to be programming interfaces that a) provide access to an application's data, and b) do so with the backing up of the data in mind. To date, Microsoft offers an ability to backup Exchange Online, SharePoint Online, OneDrive for Business, and Teams. So, as you read the remainder of this chapter, you should be thinking in terms of those applications.

Office Data Protection Experts: OffsiteDataSync and Veeam

Protection of all your data – including Office 365 data – is imperative to the resiliency of the organization. OffsiteDataSync and Veeam together can provide a backup/DR strategy and execution that incorporates Office 365 to ensure, no matter the circumstances, there is always an ability to operations.

Look for insights from OffsiteDataSync and Veeam throughout this chapter!

In this chapter, we'll look at the importance of protecting data in Office 365 to ensure the recovery requirements of the business include your data in the cloud. We'll also provide some guidance around what and when to backup.

Why Protect Office 365

"It's Microsoft's Responsibility"

You might be thinking Microsoft has backups of your data already, right? ***Wrong***. Microsoft makes a clear distinction[1] that Office 365 is a *shared-responsibility* platform. The simple high-level dividing lines are as follows:

Microsoft's Responsibilities	Your Responsibilities
• **Security** • **Identity** • **Application Services** • **Infrastructure**	• **Data Protection** • **Data Classification**

The short of it is, *it's your data*. So, whether on-prem or in the cloud, you need to

"But they do have backups of our data."

Once, again, this is a misnomer. Microsoft takes steps to ensure the availability of data and services by taking measures that establish redundancy and resiliency. But no backups of your data are made, not even for the largest of enterprises.

"There's functionality inside Office 365"

Most of Office 365 has some form of Deleted Item Retention Time which *does* protect data against accidental deletion. Exchange Online has legal holds and archiving capabilities. Is that enough? Let's answer the question by putting those same services on-prem. Would you leave your backups of Exchange on-prem to a recycle bin? Or course not. So, why are you even considering using in-application capabilities to double as your backup?

OffsiteDataSync Veeam Insights: Archiving is NOT a Backup Strategy

Exchange Online offer archiving email to a separate, searchable mailbox, giving many organizations the idea, they can use the archive as a backup. But in reality, the archive still resides in the same platform as operations (which violated the 3-2-1 Rule, and doesn't protect you against loss of service on Microsoft's part. Veeam backups of Office 365 and be configured with long-term retention times to also create an archive copy of data.

Optimizing Office 365 Backups

In practice, the backing up of Office 365 data still has its own complexities that need to be optimized to meet your organization's needs:

- **Define What Needs to Be Backed Up** – This includes which applications (e.g., Exchange Online, SharePoint Online, etc.) and which subsets (e.g., mailboxes, sites, etc.) As with on-prem, just because data exists, doesn't' mean it's valuable. Define the specific data sets that need to be backed up.

- **Define Your Recovery Point Objective** – The default deleted item retention time is generally 30 days. So, some organizations may decide to make backups less frequently than that. Don't. Define your recovery point objective like you would any other critical workload. If Microsoft somehow had a major corruption and you needed to recover the data to a local Exchange server or environment, how much data can be lost.

OffsiteDataSync Veeam Insights: Separate Backup Jobs
Despite the thinking that Office 365 is one platform, each of the application being backed up need to be defined based on the specific requirements of the organization. For this reason, you should plan on having distinct backup jobs for Exchange, SharePoint, OneDrive, and Teams – as is appropriate. Veeam and OffsiteDataSync can help craft separate jobs to meet the appropriate backuop needs for each application.

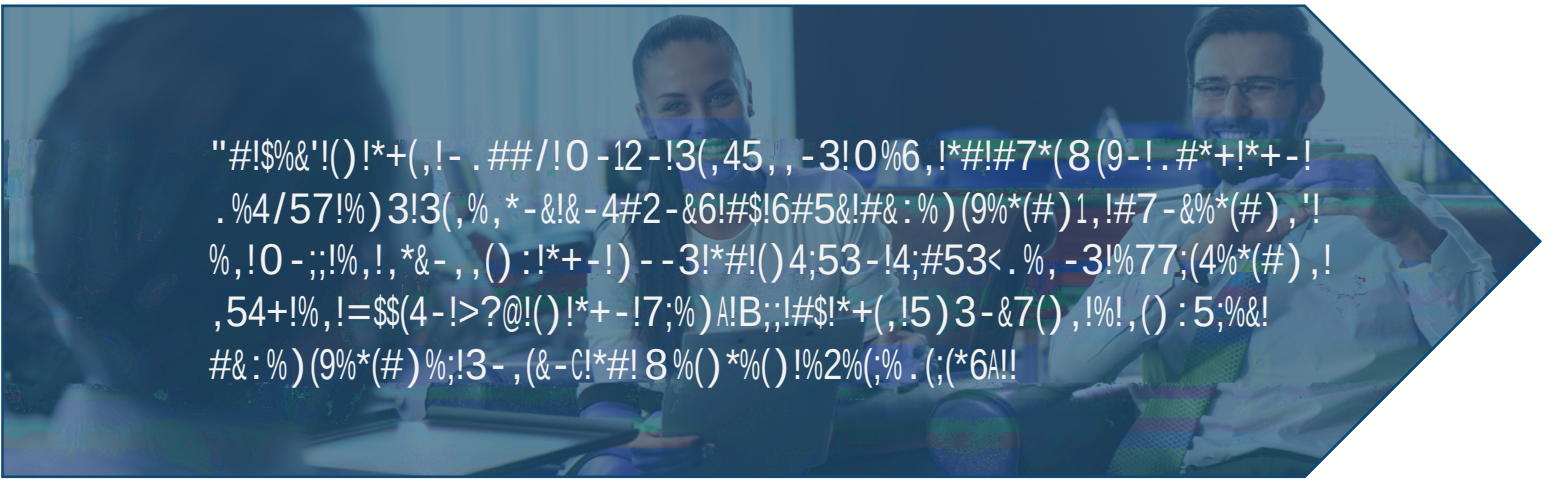
- **Include Office as Part of Your 'aaS Data Protection Strategy** – The protection of your data in Office 365 shouldn't be thought of in any different light than your on-premises data. So, as you establish DR plans, orchestration, etc. around specific disaster scenarios, the recovery of Office 365 should be at least considered.

OffsiteDataSync Veeam: Planning for Office 365 "Disasters"
DR planning should include specific recovery steps for certain types of circumstances. While it's unlikely there will be a service outage that requires recovering to an alternate environment, it is possible that data can be deleted, manipulated, or held for ransom. Veeam Availability Orestrator simplifies the creating, documenting, and testing of DR plans that can include Office 365, and OffsiteDataSync helps tailor that orchestration to ensure it meets the recovery scenarios deemed important by your organization.

In the next chapter, we'll discuss your backup and recovery cloud options. We'll offer considerations to help you identify whether public or private cloud is right for your organization and provide practical guidance on how to leverage the right partners to assist.

Chapter Four

Optimizing Availability with Managed Services



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Defining Availability

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Why Optimize Availability

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What's Wrong with DIY Availability in the Public Cloud?

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- **Higher Cost**!O! [+(;-!4#,*!,*&54*5&-,!%&-!,(87;($(-3!%)3!%&-!4#87-*(*(2-;67&(4-3'!*+-6!%&-!3-,(:)-3!0(*+!*+-!8%,,-,'!,#!6#51;;!$()3!6#5&,-;$!7;%6():!*+-:%8-!#$!Y0+(4+!75.;(4!4;#53!.-,*!%;(:),!0(*+!#5&!)--3,AZ!B33(*(#)%;;6'7&(4():!(,!3-,(:)-3!G2(%-:&-,,!4+%&:-,H!*#!/--7!6#5&!3%*%'!%77;(4%*(#),'!%)3,6,*-8,!0(*+()!%!75.;(4!4;#53!7&#2(3-&1,!-)2(&#)8-)*A

- **Limited Flexibility** O!T5.;(4!4;#53!#$$-&,!4#88#3(*6!2(&*5%;!G%)3!,#8-*(8-,7+6,(4%;H!()$&%,*&54*5&-!#)!0+(4+!*#!.%,-!6#5&!&-4#2-&6!#&!%2%(;%.(;(*6!7;%),AM5*!*+-&-1,!;(**;-!*#!)#!45,*#8(9%*(#)!%2%(;%.;-!G#*+-&!*+%)!%)6!75.;(,+-3#7*(#),H!*#!%33&-,,!6#5&!.5,()-,,1!,7-4($(4!)--3,A!B:%()'!(*1,!6#5!$(**():!()*#*+-(&!8#;3A

- **Zero Expertise** O! [+-)!75&4+%,():!,*#&%:-!%)3!4#875*-!$&#8!%!75.;(4!4;#537&#2(3-&'!*+%*1,!G:-)-&%;;6!,7-%/():H!%;;!6#5!:-*A!D+-&-1,!)#!+-;7!()3-,(:)():*+-!-)2(&#)8-)*'!-,*%.;(,+():!&-4#2-&!7&#4-,,-,'!*-,*():'!(87;-8-)*():%5*#8%*(#)'!#&!&-4#2-&6!(*,-;$A

OffsiteDataSync | Veeam Insights: F,!*+-!T5.;(4!U;#53!R-%;;6!J-,,!VL7-),(2-WD+-!.(::-,*!3&%0!*#!*+-!75.;(4!4;#53!(,!*+-!,--8():;6!;#0!7&(4():!%)3!(),*%)*!:&%*($(4%*(#)!#$!(88-3(%*-!%44-,,!*#!,*#&%:-!%)3!4#875*-A!M5*!*+-!0#&/!)-4-,,%&6!*#!8%/-!*+-!75.;(4!4;#53!%!2(%.;-!-)2(&#)8-)*!()!0+(4+!*#!8%)*%()!%2%(;%.(;(*6!*+-!,!+#5&,'!*!&(%;!%)3!-&&#&'!%)3!)#!:5%&%)*--!#$!,544-,,!#)!*+-!*+-&!-)3A!X%)%:-,!,-&2(4-,!$&#8!=P"!%)3!Q--%8!*#:-*+-&!,(87;($6!*+-!7&#4-,,!#$!;-2-&%:()!*+-!4;#53'!7&#2(3()!-2-&6*+()!$&#8!%,,(,*%)4-!*#!4#87;-*-!8%)%:-8-)*!#$!6#5&!7%*+!*#!%2%(;%.(;(*6A!D+(,!,(:)($(4%)*;6!&-354-,!*+-!#2-&%;;!4#,*!#$!4;#53!#0)-&,+(7!0+(;-!(87&#2():!6#5&!%.(;(*6!()!8%)!7-&%*(#)%;;6!%2%(;%.;-A!

Managed Services and Optimizing Availability

D+-!#2-&%&4+() :!*+- 8 -!+-&-!(,!*leveraging a managed service partner's expertise*!*#!
#7*(8(9-!6#5&!&-4#2-&6!7;%) ,!%)3!-;-2%*-!*+- 8!*#!%!,*%*-!#$!%2%(;%. (;(*6A!D+-&-!%&-!
%!$-0!0%6,!8%)%: -3!,-&2(4-,!4%)!%,,(,*C!

\H **Optimized Plans**!O!B4+(-2() :!%2%(;%. (;(*6!*%/-,!8#&-!*+%)!K5,*!+%2() :!%!PR
7;%)A!!F*!*%/-,!;##/() :!%*!*+-!#7-&%*(#) ,!%)3!3-*-&8()() :!0+%*1,!*+-!*&5;6!. -,*
0%6!*#!/--7!4&(*(4%;!0#&/;#%3,!&5)))() :A!!]#&!,#8 -!0#&/;#%3,'!(*!8%6!. -
,(87;-!4;#53<. %,-3!&-4#2-&6A!=*+-&,!8%6!&-I5(&-!4#87;-L!#&4+-,*&%*(#)!*#
$%4(;(*%*-!&-4#2-&6A!B)3!,*(;;!#*+-&!8%6!&-I5(&-!&5))() :!7-&8%)-)*;6!()!*+-
4;#53!0(*+!&-35)3%)46!()!7;%4-A!B!7&#2(3-&!#$!8%)%: -3!,-&2(4-,!4%)!+-;7
(3-)*($6!*+-!,7-4($(4!0%6,!6#5&!#&:%)(9%*(#)!)--3,!*#!7;%)!(*,!%2%(;%. (;(*6'
#$$-&() :!*%(;#&-3!,#;5*(#) ,!*#!8--*!*+#,-!)--3,A

OffsiteDataSync | Veeam: T;%)) -3!B2%(;%. (;(*6!
B2%(;%. (;(*6!*%4*(4%;;6!()2#;2-,!%!4#8 .()%*(#)!#$!. %4/57,'!&-7;(4%*(#)'!3(,%,*-&!&-4#2-&6'!%)3!
4;#53<. %,-3!()$&%,*&54*5&-A!^%2() :!%)!-L7-&*(,-!()!%;;!%,7-4*,!(,!&-I5(&-3!*#!7&#7-&;6!. 5(;3!%)3!
%2%(;%. (;(*6!7;%)A!]#&!*+#,-!#&:%)(9%*(#),!0(*+#5*!()*-&)%;!-L7-&*(,-'!=$$,(*-P%*%"6)41,!6-%&,!#$!
-L7-&*(,-!0(*+!PR'!8%*4+-3!0(*+!*+-!7#0-&!#$!*+-!Q--%8!B2%(;%. (;(*6!"5(*-'!4%)!4&-%*-!%!7;%)!
3-,(:)-3!*#!/--7!#7-&%*(#),!&5))() :!()!%!,*%*-!#$!%2%(;%. (;(*6A!

_H **Optimized Environment** O!E#5&!&-4#2-&6!-)2(&#)8-)*!)--3,!*#!#7-&%*-!K5,*
;(/-!*+-!#)-!()!6#5&!3%*%!4-)*-&A!"7-4($(4!()$&%,*&54*5&-'!)-*0#&/() :'!,-45&(*6'
%)3!4#87;(%)4-!)--3,!%;;!3(4*%*-!-L%4*;6!0+%*!*+-!4;#53!,+#5;3!;##/!;(/-A
U;#53!,-&2(4-!7&#2(3-&,!#$$-&() :!8%)%: -3!,-&2(4-,!4%)!4&-%*-!*+-!-L%4*
-)2(&#)8-)*!)--3-3!O!. -6#)3!,(87;6!+#,*() :!*+-!&(:+*!)58. -&!#$!QX,'!-*4A
0*#!-),5&-!6#5&!&-4#2-&6!-)2(&#)8-)*!(,!-L%4*;6!0+%*!6#5!)--3A

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>H **Optimized Process** O!D+-!%4*5%;!7&#4-,,!#$!&-4#2-&6!4%)!*%/-!854+!8#&-!*+%)
K5,*!&-,*#&() :!%!.5)4+!#$!QX,A!U#)*()5#5,!*-,*() :!#$!,6,*-8!.%4/57,'
-),5&() :!4#87%*(.(;(*6!.-*0--)!%77;(4%*(#),'!,6,*-8!3-7-)3-)4(-,'!%)3
8%/() :!,5&-!*+-!-)2(&#)8-)*!(,!&-4#2-&-3!()!*+-!#&3-&!)--3-3!*#!#7-&%*-!%&-
K5,*!,#8-!#$!*+-!%,7-4*,!#$!*+-!7&#4-,,!*+%*!(,!*availability*. X%)%:-3!,-&2(4-,
4%)!+-;7!.#*+!4&%$*!*+-!7&#4-,,'!%,!0-;;!%,!.5(;3!#5*!%5*#8%*(#)!*+%*!*%/-,
+-!:5-,,0#&/!#5!#$!*+-!7;%)!%)3!(),*(;;,!4#)$(3-)4-!()!(*,1!%.(;(*6!*#!$5)4*(#)
%,!3-,(:)-3!0+-)!%!3(,%,*-&!,*&(/-,A

OffsiteDataSync | Veeam: =&4+-,*&%*-3!B2%(;%.(;(*6
VL-45*(#)!#$!*+-!7;%)!&-I5(&-,!,7-4($(4%;;6'!7&-4(,(#),'!%)3!&-;(%.(;(*6A!`,-!#$!%5*#8%*(#)!(,!
&-4#88-)3-3!$#&!8#&-!4#87;-L!-)2(&#)8-)*!0(*+!,7-4($(4!&-I5(&-8-)*,A!B!*%(;#&-3!
%2%(;%.(;(*6!7;%)!$&#8!=$$,(*-P%*%"6)4!5,():!Q--%8!B2%(;%.(;(*6!=&4+-,*&%*#&!*#!-,*%.;(,+'!*-,*'!
3#458-)*'!%)3!%5*#8%*-!*+%*!7;%)'!0(;;!%44-;-&%*-!*+-!-L-45*(#)!#$!*+-!7;%)'!-;-2%*():!
4#)$(3-)4-!()!*+-!#&:%)(9%*(#)1,!%.(;(*6!*#!&-8%()!#7-&%*(#)%;A!

Managed Services and Optimizing Availability

X%/():!*+-!K587!$&#8!%!$#45,!#)!PR!*#!%4+(-2():!B2%(;%.(;(*6!(,!:#():!*#!&-I5(&-!
,#8-!+-;7A!D+-!75.;(4!4;#53!4%)!+-;7!*+#,-!#&:%)(9%*(#),!0+#!+%2-!5)3-8%)3():!
&-I5(&-8-)*,!#$!.#*+!*+-!4;#53!()$&%,*&54*5&-!%)3!*+-!7&#4-,,!)-4-,,%&6!*#!
&-4#2-&A!M5*'!$#&!*+#,-!0(*+!4#87;-L!)--3,'!*+-!;-2-&%:():!#$!8%)%:-3!,-&2(4-,!
$&#8!%!4;#53!,-&2(4-!7&#2(3-&!,7-4(%;(9():!()!.5,()-,,!4#)*()5(*6!0(;;!7&#2(3-!
#&:%)(9%*(#),!0(*+!*+-!-L7-&*(,-!)--3-3!%)3!%)!%2%(;%.(;(*6!,*&%*-:6!*+%*!0#&/,A!!

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