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Jarek (Senior System Engineer)

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*Back-up &
Storage*

EXAGRID[®]

Greatly Reduce your Backup Storage
Costs with ExaGrid

ALSO[▼]
Akadeemia

EXAGRID[®]

*Intelligent Hyperconverged
Storage for Backup*

About Veeam – ExaGrid

Veeam – ExaGrid

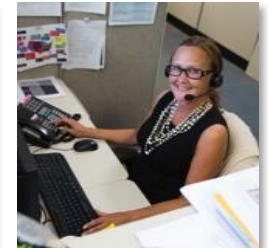
- Close partnership for 7 years
 - Two best-of-breed products
- Veeam Gartner Magic Quadrant ‘Leader’
ExaGrid Gartner Magic Quadrant ‘Visionary’
- Net Promoter Score: Veeam +75 | ExaGrid +73

100% Focused on Backup

- Highly differentiated architectures
- Tightly integrated products
- Cross-trained support organizations
- Winners of the most industry awards

Large Customer Base

- Veeam – over 365,000+ customers
- ExaGrid – over 10,000+ systems installed
 - 370+ published customer success stories



Gartner



Achievements of Distinction

Gartner Magic Quadrant

ExaGrid named sole **“Visionary”** in Magic Quadrant for Deduplication Backup Target Appliances

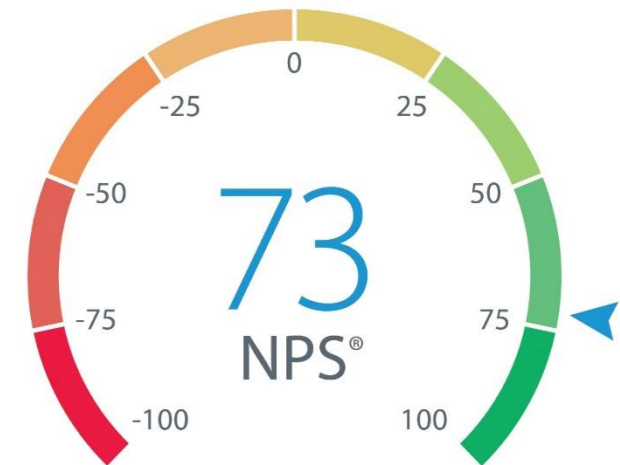
Figure 1. Magic Quadrant for Deduplication Backup Target Appliances



Source: Gartner (September 2015)

Net Promoter Score +73

ExaGrid earned Net Promoter Score of **+73** on scale of -100 to +100; Categorized by NPS as **“Excellent”**



Customers give ExaGrid NPS score of **+73**

Recent Awards

Backup Storage Innovation of the Year
SDC Awards 2019



Enterprise Backup Hardware Product of the Year
Storage Awards "Storries XVI" 2019



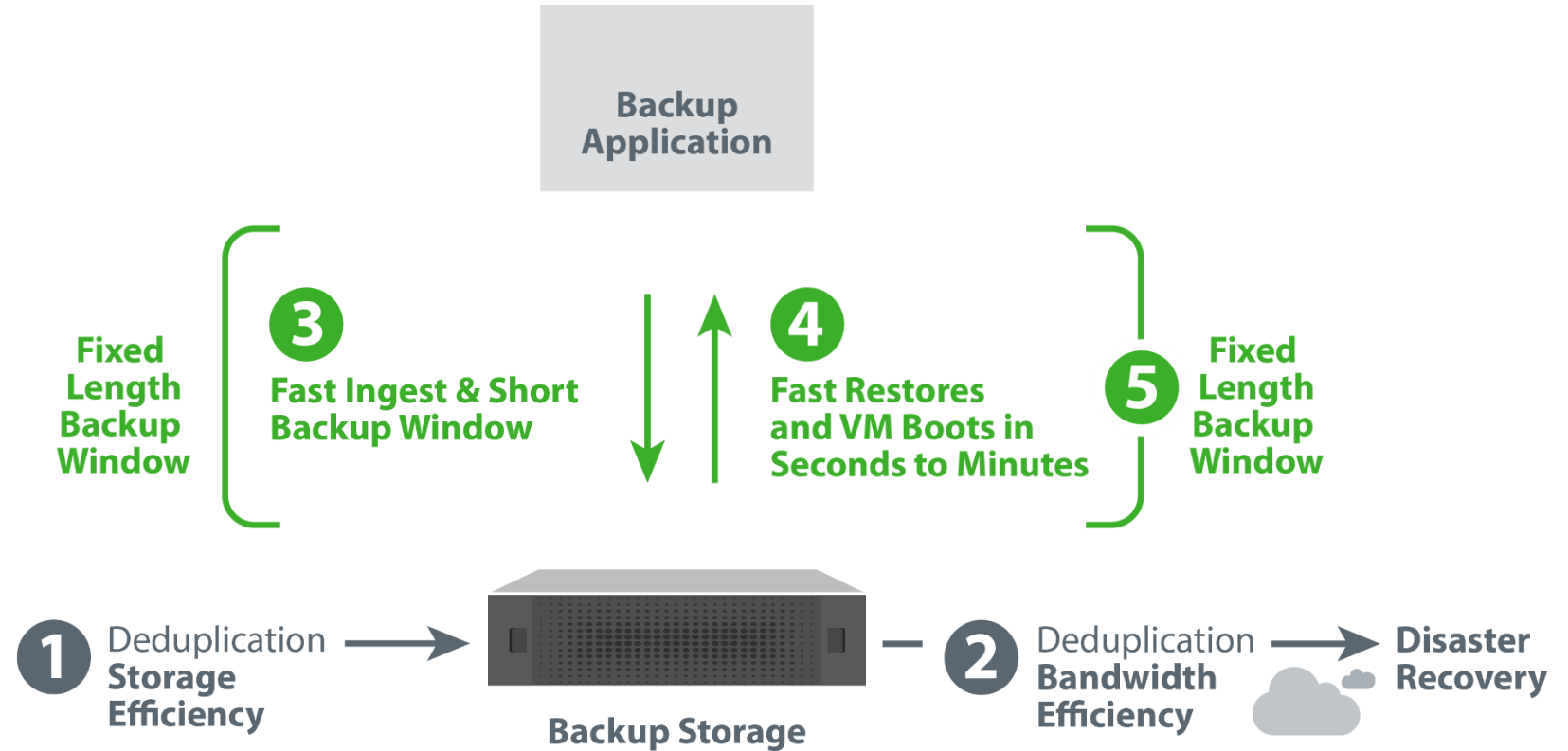
Hardware Product of the Year
Network Computing Awards 2019



#1 Recommended Deduplicating Backup Appliance
DCIG 2018 Buyer's Guide

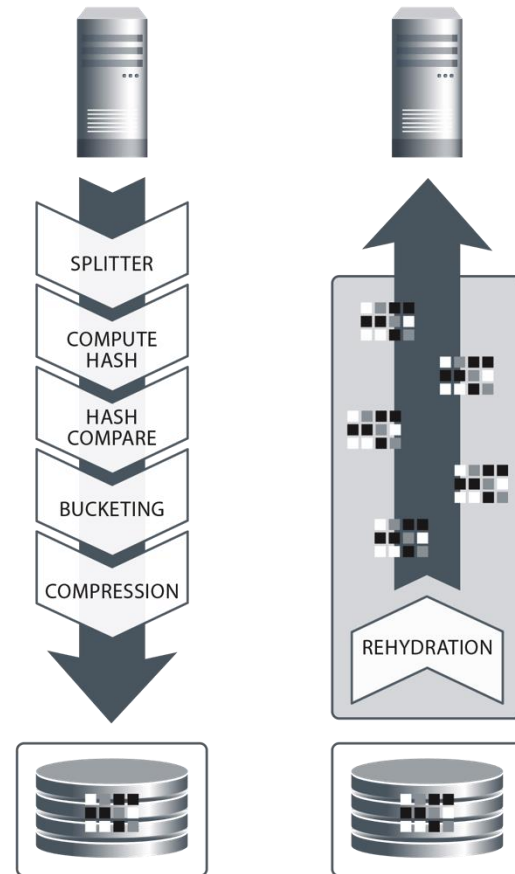


5 Considerations for Intelligent Hyperconverged Storage for Backup with Deduplication



Inline Scale-up Appliances Fall Short

Inline Solution



Inline deduplication on the way to disk

- Slower ingest
- Longer backup window

All data is stored in deduplicated form

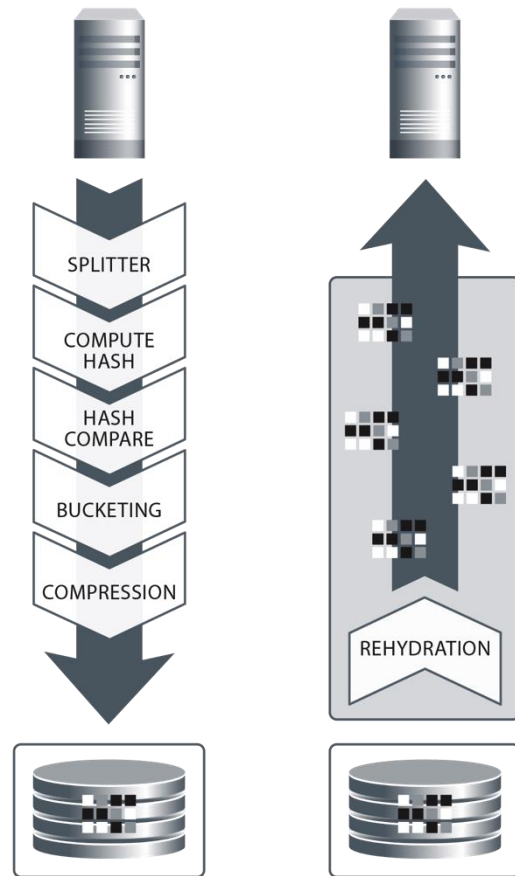
- Slow restores, VM boots, and tape copies

As data grows, only disk is added

- Backup window grows as data grows
- Ultimately forces a costly forklift upgrade

Backup Application Inline Deduplication to Disk

Inline Solution



Inline deduplication in the media server

- Slower ingest
- Longer backup window
- Can only deduplicate native backup data

All data is stored in deduplicated form

- Slow restores, VM boots, and tape copies

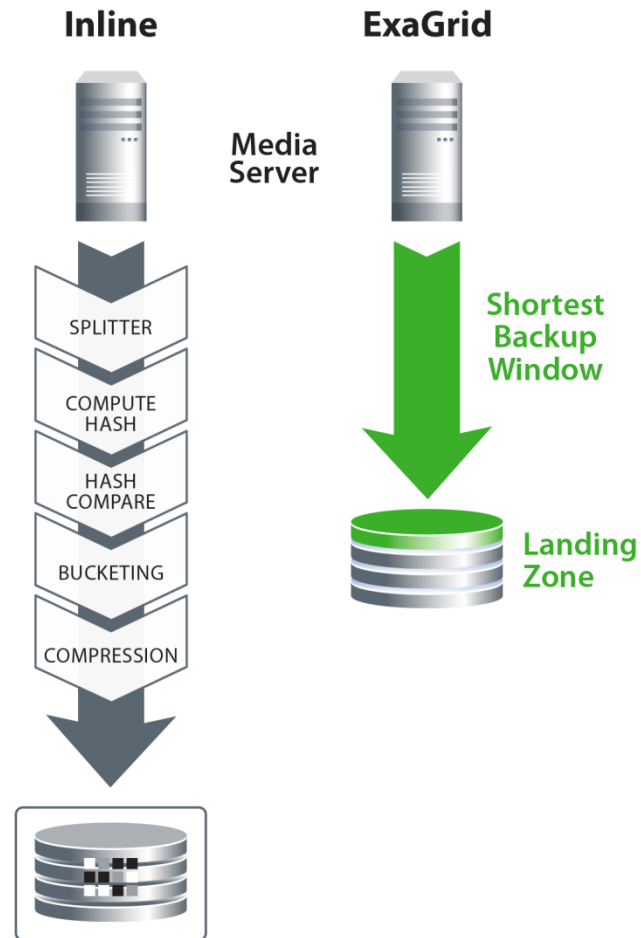
Deduplication ratios are low

- Uses more disk than target appliances
- Uses more bandwidth to replicate

Limited scalability

- Backup window grows as data grows

Fastest Backups and Shortest Backup Window



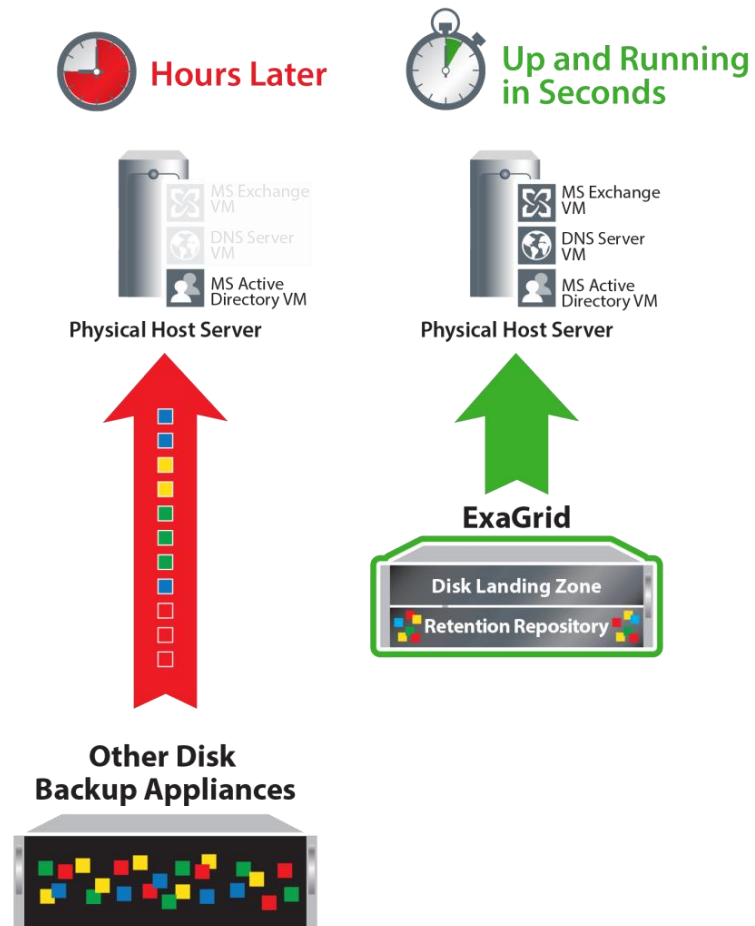
Unique / Integrated Landing Zone

- Write backups directly to disk
- Avoid compute-intensive deduplication
- Adaptive deduplication

Benefits

- No inline processes to slow backups
- Fastest backups
- Shortest possible backup window
- Strong offsite RPO

Fast Restores, VM Boots in Seconds to Minutes



Unique / Integrated Landing Zone

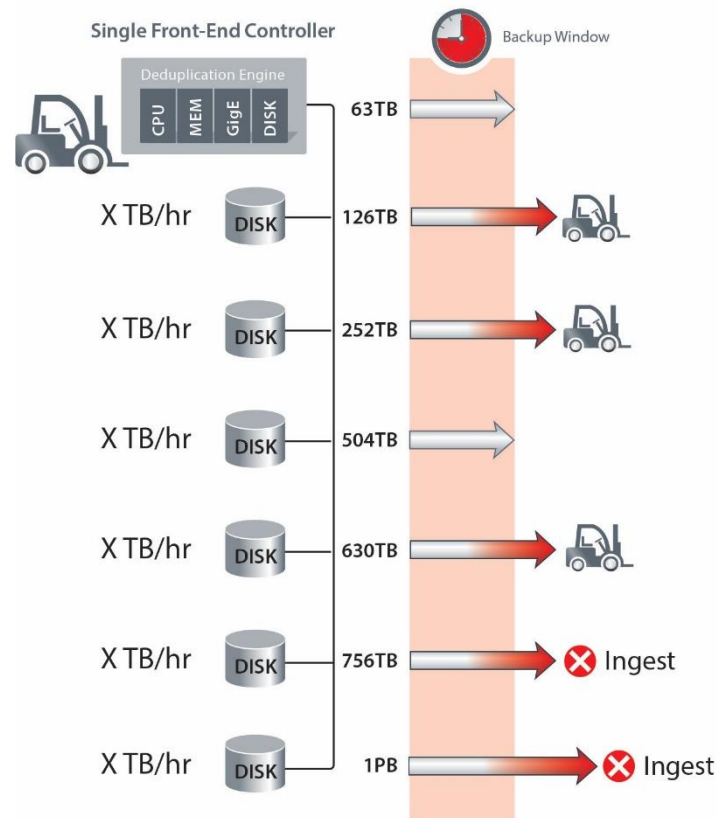
- Most recent backups are in unduplicated form
- Eliminates data rehydration

Benefits

- Restores as fast as disk
- Tape copies as fast as disk
- VM boots in seconds to minutes

Fixed-Length Backup Window

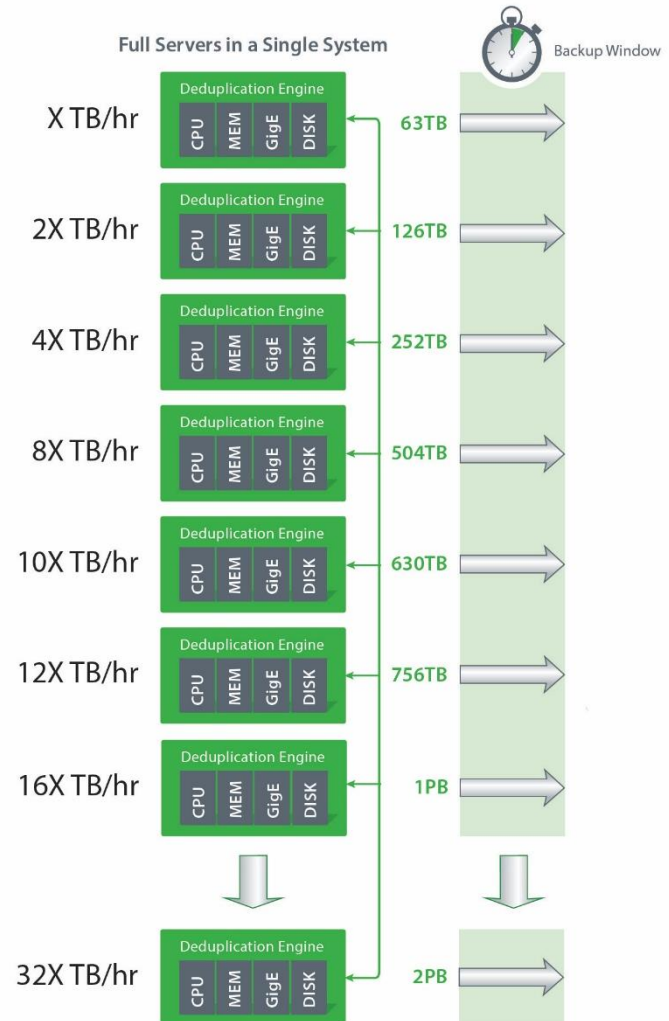
Scale-Up Architecture



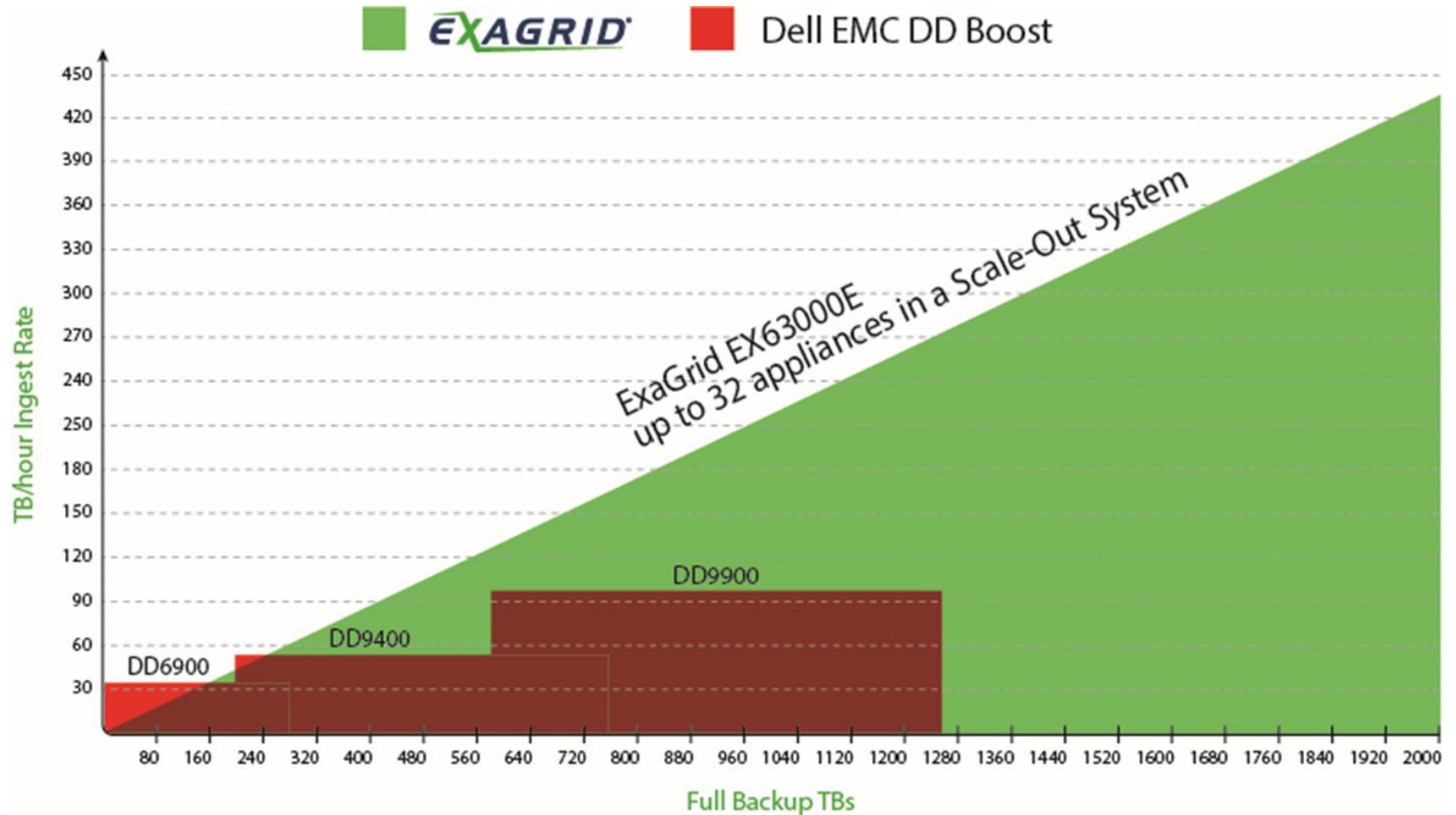
Out of storage and ingest - forklift upgrade

Ingest not keeping up with storage

ExaGrid Scale-Out Architecture



Ingest Performance of Scale-Out vs. Scale-Up



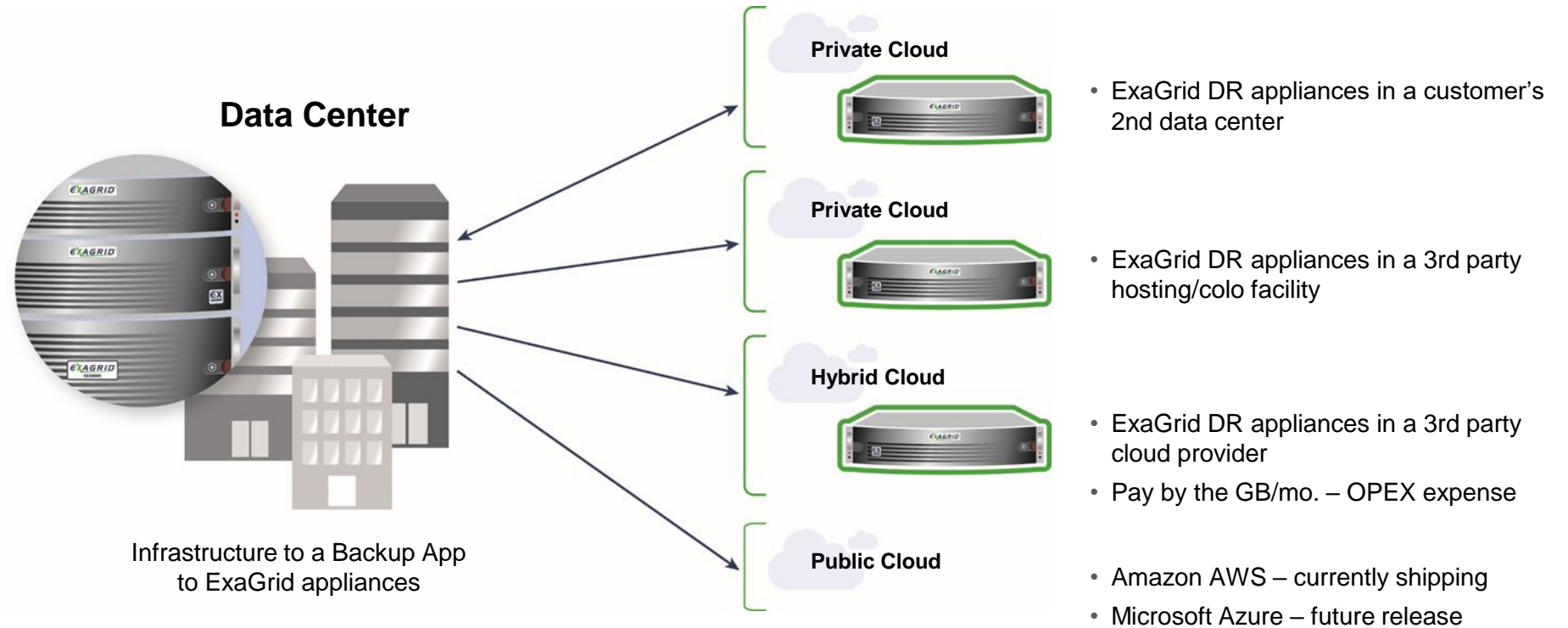
Capacity is based on a full backup with 12 copies of retention (combination of weekly, monthly, and yearly)

ExaGrid Appliances in a Scale-out System

32 Appliances in a Single System (2PB Full Backup)

ExaGrid Model	Usable Capacity (TB)	Capacity for Weekly Full (TB)	Max Backup Throughput (TB/hr)
EX3000	6	3	0.72
EX5000	10	5	1.08
EX7000	14	7	2.40
EX10000E	20	10	2.40
EX13000E	28	13	2.40
EX21000E	42	21	4.32
EX32000E	66	32	7.56
EX40000E	78	40	8.00
EX63000E	126	63	13.50

DR Scenarios



- Adaptive deduplication deduplicates and replicates in parallel
- 50:1 WAN bandwidth efficiency
- Bandwidth throttle and WAN encryption for data replication
- Configure the disaster recovery site to all repository to save cost

Works with Industry Leading Backup Applications Heterogeneous Environments

Backup Applications

VERITAS[™] Veeam[™] COMMVAULT[™]
IBM[®] DELL EMC MICRO FOCUS[®]
STORAGECRAFT[™] Zerto HYCU[™]
BridgeHead arcserve[®] Acronis

Applications Direct

Microsoft[®] SQL ORACLE[™]
Oracle Dump RMAN Dump
redgate[®] IBM[®]
ingeniously simple tools
idera[™]

Linux/UNIX Direct TAR

Linux[™]
redhat
solaris



ExaGrid Disk-based Backup Storage with Data Dedupe Integrated with the Veeam Data Mover

Veeam-to-Veeam Data Mover & Veeam-to-ExaGrid Landing Zone

Delivers the industry's fastest backups and shortest backup window

Most recent Veeam data in ExaGrid Landing Zone avoids lengthy rehydration time

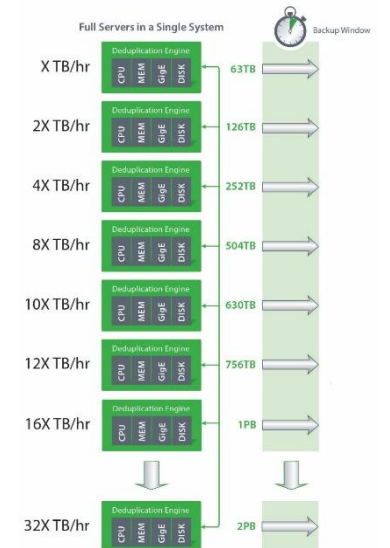
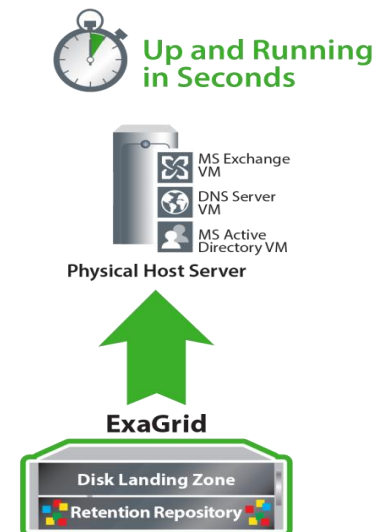
VM boots in seconds to minutes and synthetic fulls 6X faster than Veeam to disk

Full appliances in a scale-out system add compute with capacity

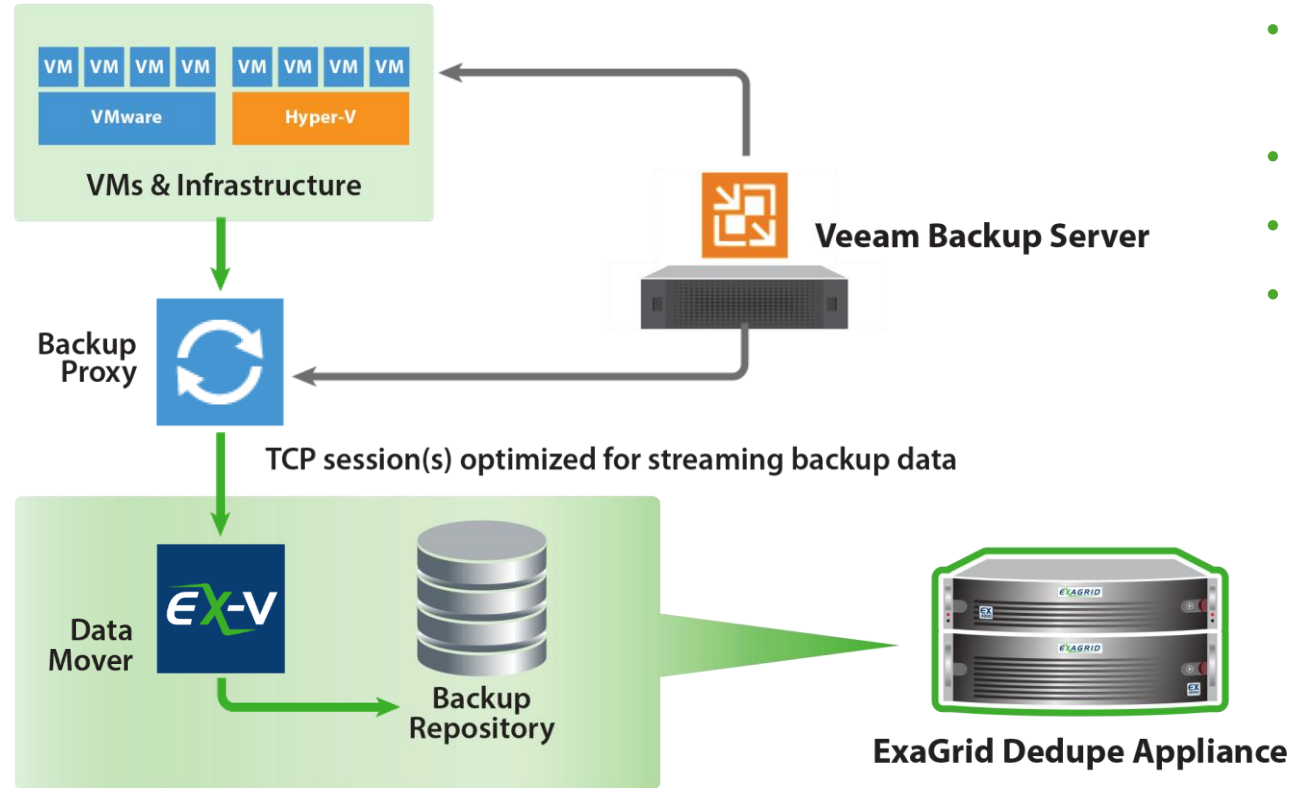
Adds backup performance as data grows

Maintains a fixed-length backup window/eliminates forklift upgrades

Supports SOBR for automated job management

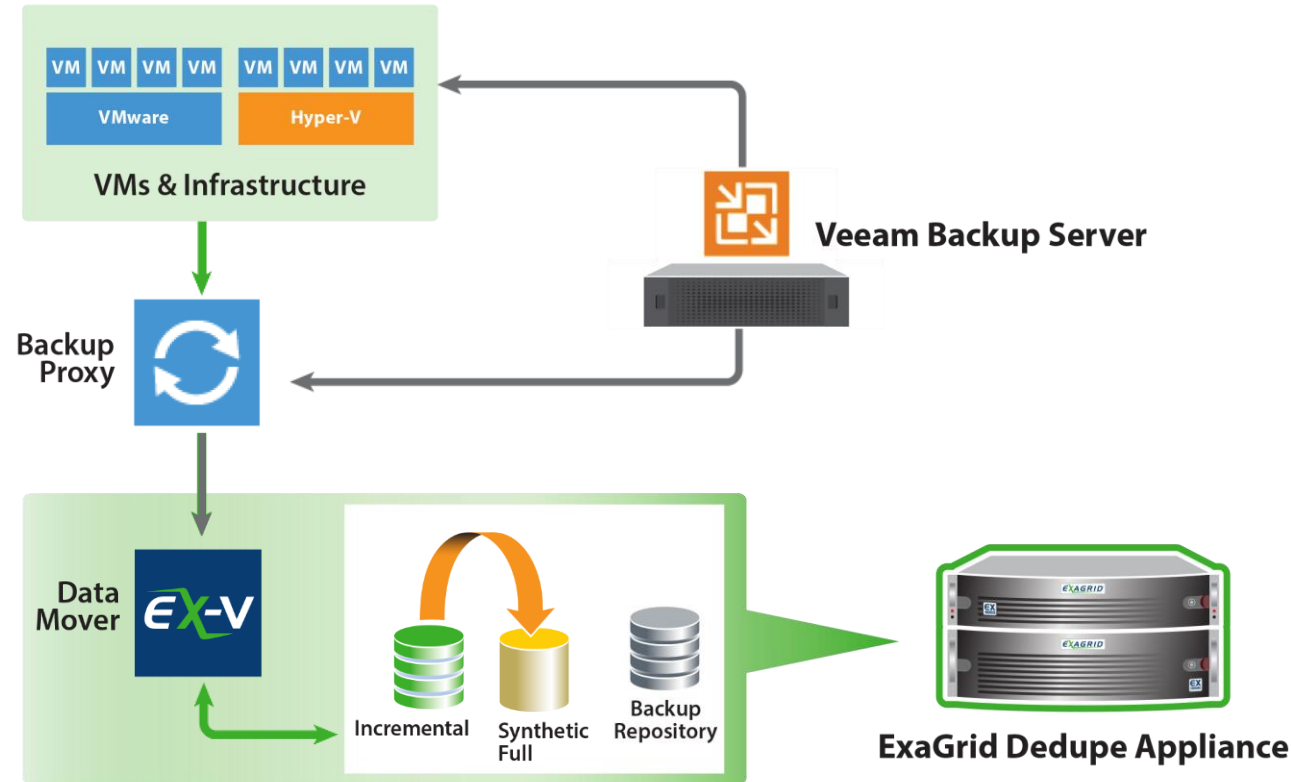


Integrated Veeam Data Mover – Faster Backups



- Veeam to Veeam vs Veeam to CIFS
- Secure communication
- 30% faster ingest
- Faster VM boots

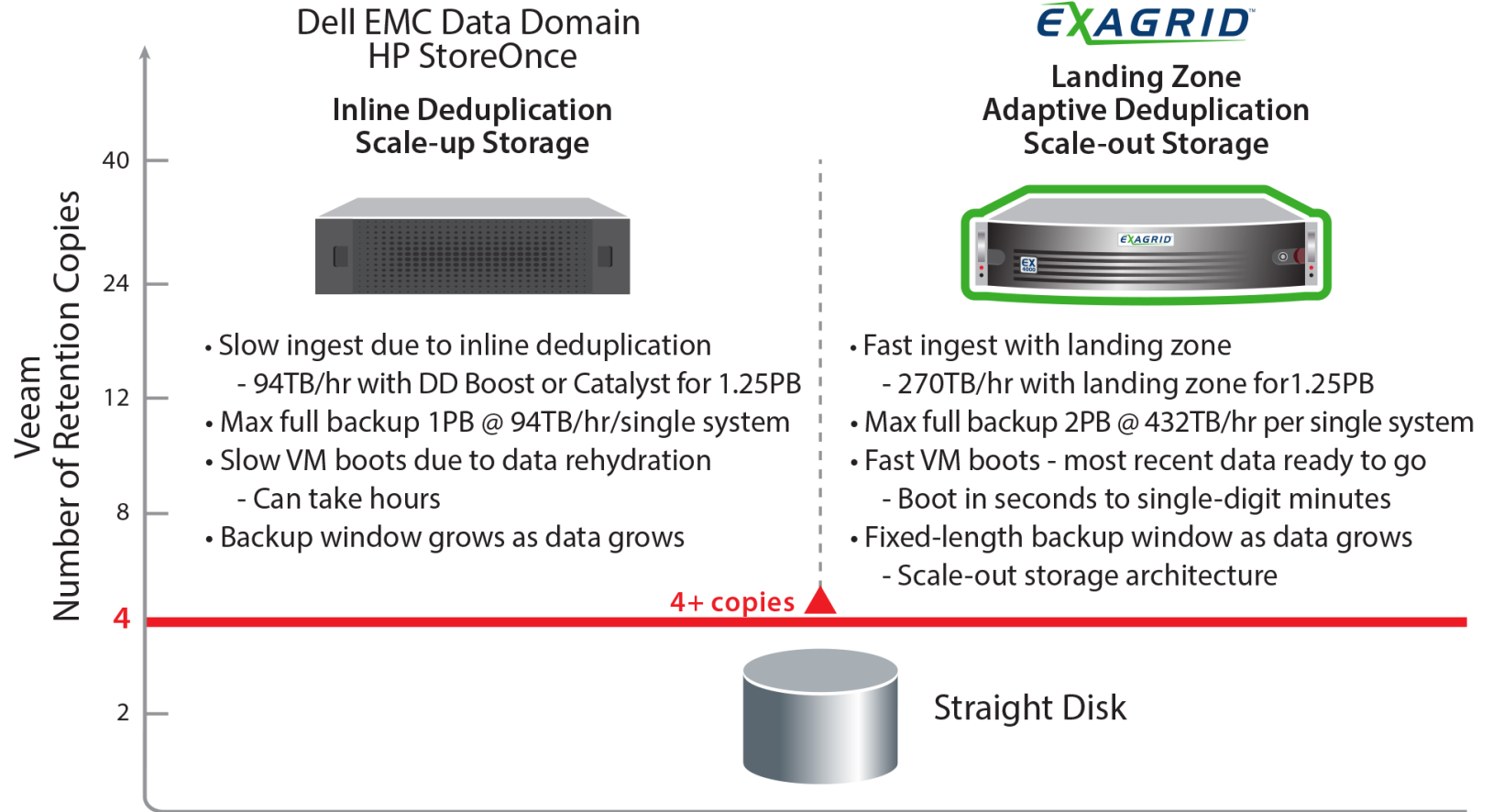
Integrated Veeam Data Mover – Faster Synthetic Fulls



- Veeam data on the landing zone
- ExaGrid compute nodes
- Create synthetic full 6X faster than Veeam to disk
- Frees up Veeam backup server resources

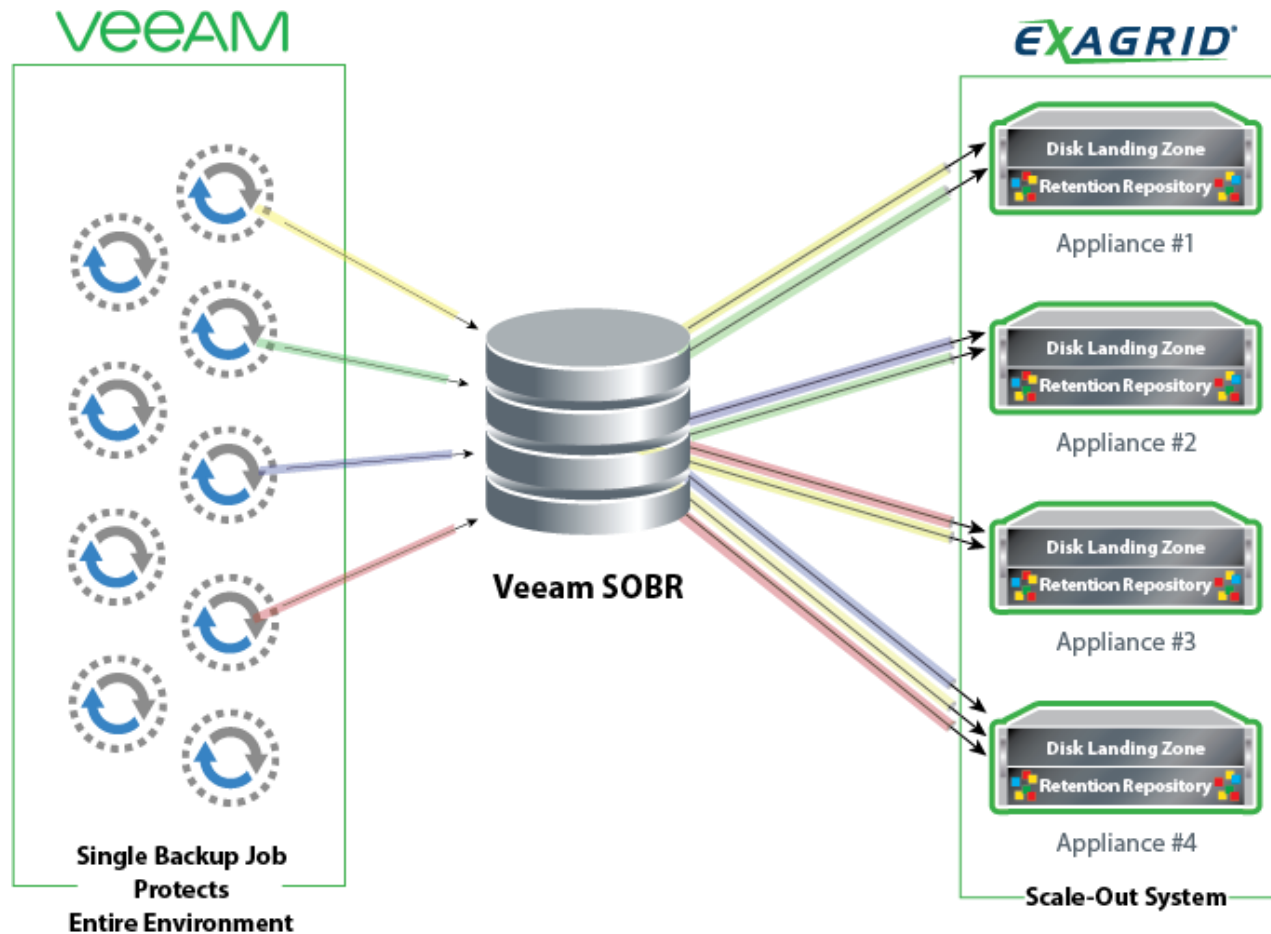
Deduplication Architectures

Veeam With Data Deduplication Appliances



End-to-End Scale-Out Backup with ExaGrid and Veeam

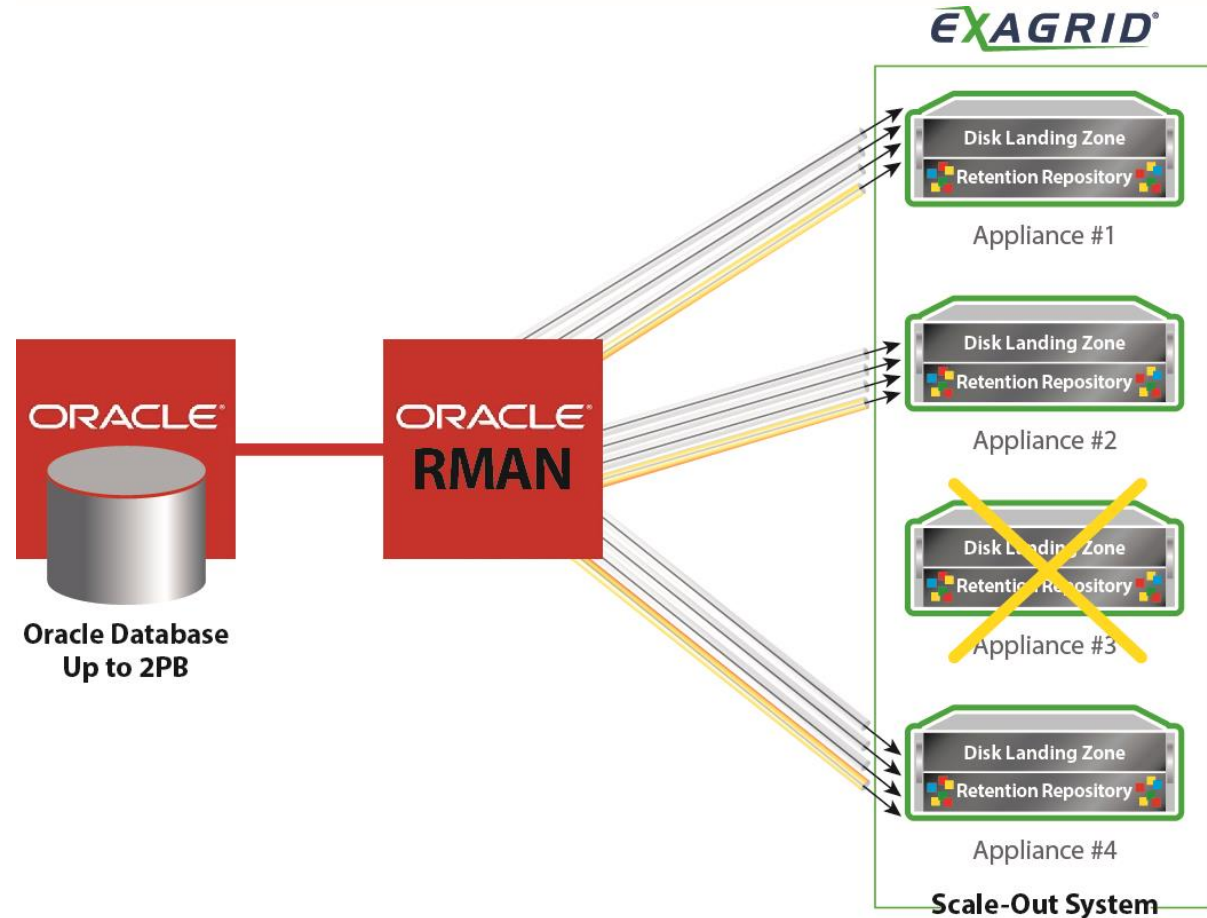
Support of Veeam Unlimited Scale-Out Backup Repository (SOBR)



- Automated job management
- Future-proof scalability with data growth – simply add another appliance
- Capacity load balancing
- Superior performance – SOBR optimizes backup streams
- 2PB backup in a single system
- Failure tolerance – automated job redirect

Fastest Oracle RMAN Backups with Failover

Support of Oracle RMAN Channels



- Fastest backups with ExaGrid landing zone
- Fast database restore in seconds to minutes from undeduplicated data
- 2PB full database backup in a single system
- Performance load balancing
- RMAN failover if any appliance fails

Stress-free Redundancy and Security

Redundant Hardware

- RAID6 with a hot spare drive guards against simultaneous disk drive failures
- Redundant power supplies
- NIC teaming

Security

- Optional data encryption at rest
 - FIPS 140-2 compliant / 256-bit AES
 - Occurs at the drive level in nanoseconds
 - Does not impact backup performance
- WAN encryption for secure data transfer

Personal Touch - Maintenance and Support

Phone and Email Support

- Assigned level 2 customer support engineer
- Support staff are subject matter experts in backup applications

Customer Installable and Serviceable

- Self-installable with phone support and WebEx
- Self-serviceable hardware replacements, next business day delivery

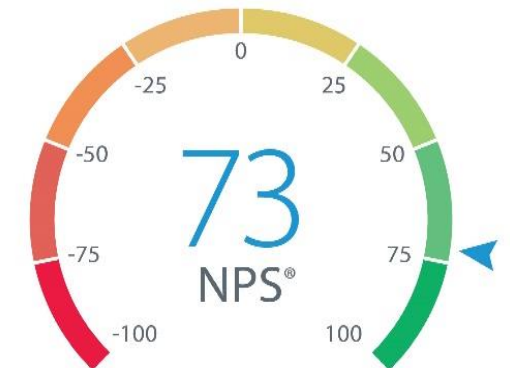
All Releases Provided

- Point and full releases – includes all new features
- No license fees to track or renew

Health Status Monitoring

- ExaGrid monitors and notifies

No additional charge – All included in support program



Customers give ExaGrid
NPS score of +73

Fixing the Economics of Backup

Traditional Vendors

Price Protection

Sell at a low price and then raise the price on future purchases

Maintenance \$

Sell one year support and then hike the price in year two and beyond

Maintenance %

Maintenance is a % of list price regardless of hardware cost

Forklift Upgrades

Front-end controller architecture requires replacement to grow

Guesswork

Need to plan out data growth to try and buy the right front end controller

Obsolescence

Products constantly discontinued and high maintenance costs charged

Hidden Costs

Pay for installation, full versions, replication, HW replace



ExaGrid fixes the price for all future purchases – price protection

ExaGrid limits the increase to 3% per year

ExaGrid's maintenance is a % of the hardware price you pay

ExaGrid appliances have all resources, add to scale-out system and grow

ExaGrid allows for appliances to be added to a scale-out system

ExaGrid supports all models forever... mix and match any appliance

ExaGrid includes installation, full versions, replication, HW replace



EXAGRID®



Thank You!