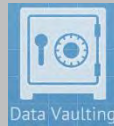


rdx[®]

TDCE 30.01.2018



- Seit fast 40 Jahren in Deutschland
- **Europäisches Headquarter Dortmund**
 - Customer Service & Werkstatt
 - Technischer Support
 - Vertrieb & Marketing
 - Logistik / Backoffice/ Lager
- Globale Präsenz
- Kostenlose multilinguale Hotline mit Muttersprachlern
- Produktionsstätte in China
- Teil des Sphere 3D Konzerns



Wer wir sind

Overland Tandberg ist ein weltweiter Anbieter und Hersteller von Speicher-, Backup- und Archivlösungen

- RDX: **R**emovable **D**isk **E**xchange, Wechselplatten Disksystem
- LTO: **L**inear **T**ape **O**pen
- NAS: **N**etwork **A**ttached **S**torage

Optimale Sicherheit und Kostenvorteile durch moderne und ausgereifte Speichersysteme in Kombination mit hybriden Cloud-Anwendungen

Konzern Übersicht



Enterprise Storage, Backup und Datenvorhaltung



Produkt

Übersicht



Robuste Wechselfestplatte und Flash Storage für professionelle Datenspeicherung, Backup und Archivierung



Tape Libraries für Backup und Langzeitarchivierung mit LTFS



Im Netzwerk eingebundene Speicherlösungen mit Hard- und Softwarekomponenten

Virtualisierung und Container



Produkt

Übersicht



Appliance-basierte Virtualisierung und virtuelle Desktop Infrastruktur-Lösungen



Glassware20

Applikations-Container Lösungen als dedizierte Appliance und als on-Demand Tool auf der Microsoft Azure Plattform

Professionelle Services



IT Consulting, Integration, Monitoring und Managed Services

Best of Tape

Removable and Portable
Long Archive Life
Rugged Cartridge
Low Cost



Best of Disk

Random Access Performance
High Transfer Rates
Data Reliability
Rapid Capacity Growth

RDX Supported Operating Systems



Backup Software



Cloud & Appliances



Where is RDX Used Today?



Healthcare



Retail



Restaurants
+ Franchises



Hospitality



Professionals



Oil & Gas



Education



Government



Telecom



Broadcast
Media



Public Safety



Financial



Construction



High Tech
Aerospace



Automotive



Research

Rugged

+

Reliable

+

Removable

+

Easy

Compliance

QUIKSTOR



Internal & External Removable
Disk Drives



QUIKSTATION



iSCSI Removable Disk Appliances



HDD, SSD, WORM Media



Accessories



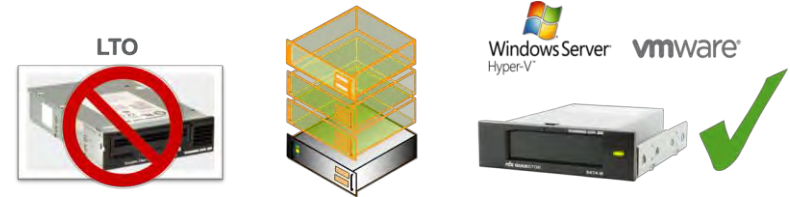
RDX Media

- Capacity on Demand
 - Ranging from 500GB – 5TB
 - Media Spanning
- Warranty: 3 Year Advanced Replacement Service
- Investment Protection and No Data Migration effort
 - Full Media Forward and Backward Compatibility
- High Performance, Quality and Reliability
 - Shock, Drop and Static Resistance
 - Environmental tolerant (humidity, temp, dust)
 - Vibration Isolation for max. performance



New RDX QuikStor SATA III

- Ideal for Server System Integration
- More W/R performance up to 330MB/s*
 - 7x faster than RDX QuikStor SATA I
 - 30% faster than RDX QuikStor USB3.0
- Improved Hypervisor integration
 - Removable storage for single VM hosts
 - RDX advantage over LTO Tape.
 - LTO can't be direct attached to a VMware server
- Security advantage
 - SATA Interface over USB
 - 256-bit AES Hardware Encryption aware**



*(HDD/SSD media generation dependency)

** (enabled with software update in 2017)

Key Technology Features

- Plug & Play operation
 - High performance and Easy to Use
- Bulletproof Media handling
 - Drive + Media + Eject-Control
 - Media Drop Resistant and vibration isolated
 - Media Electrostatic Proof
 - Keyed Media
- Maintenance Free
 - No Media wear, no Cleaning
 - Environmental-Tolerant
- Business grade Quality and Reliability
- Future Proof
 - Zero Data Migration and Investment protection



Healthcare



Retail



Restaurants
+ Franchises



Hospitality



Professionals



Oil & Gas



Education



Government



Telecom



Broadcast
Media



Public Safety



High Tech
Aerospace



Financial



Research



Construction



Automotive

RDX Storage Value

- Ideal for Backup, Archive and Data Exchange
- Proven and trusted technology
- Standard Data Protection Device since 2006
- Easy to use and to deploy
- Fast & Secure Data-Access
- Low operating cost and Investment protection
- Flexible depending on customer needs
- Specification with high quality standards



Healthcare



Retail



Restaurants
+ Franchises



Hospitality



Professionals



Oil & Gas



Education



Government



Telecom



Broadcast
Media



Public Safety



High Tech
Aerospace



Financial



Research



Construction



Automotive

Quik-Links



Product Websites: (Documents and Downloads)

[RDX QuikStor Website](#)

[RDX QuikStation 4 Website](#)

[RDX QuikStation 8 Website](#)

[RDX Media Website](#)

[RDX QuadPAK Website](#)

Solutions Websites:

[RDX and NAS Backup](#)

[RDX and Cloud](#)

[RDX and Windows Backup](#)

[RDX and Digital Media and Broadcasting](#)

[RDX and Veeam](#)

[RDX and Apple Time Machine](#)

Software product Websites:

[RDX Cartridge Encryptor Software](#)

[RDX Utility](#)

[RDX Lock](#)

[RDX RansomBlock](#)

[RDX WORM](#)

Tech Info

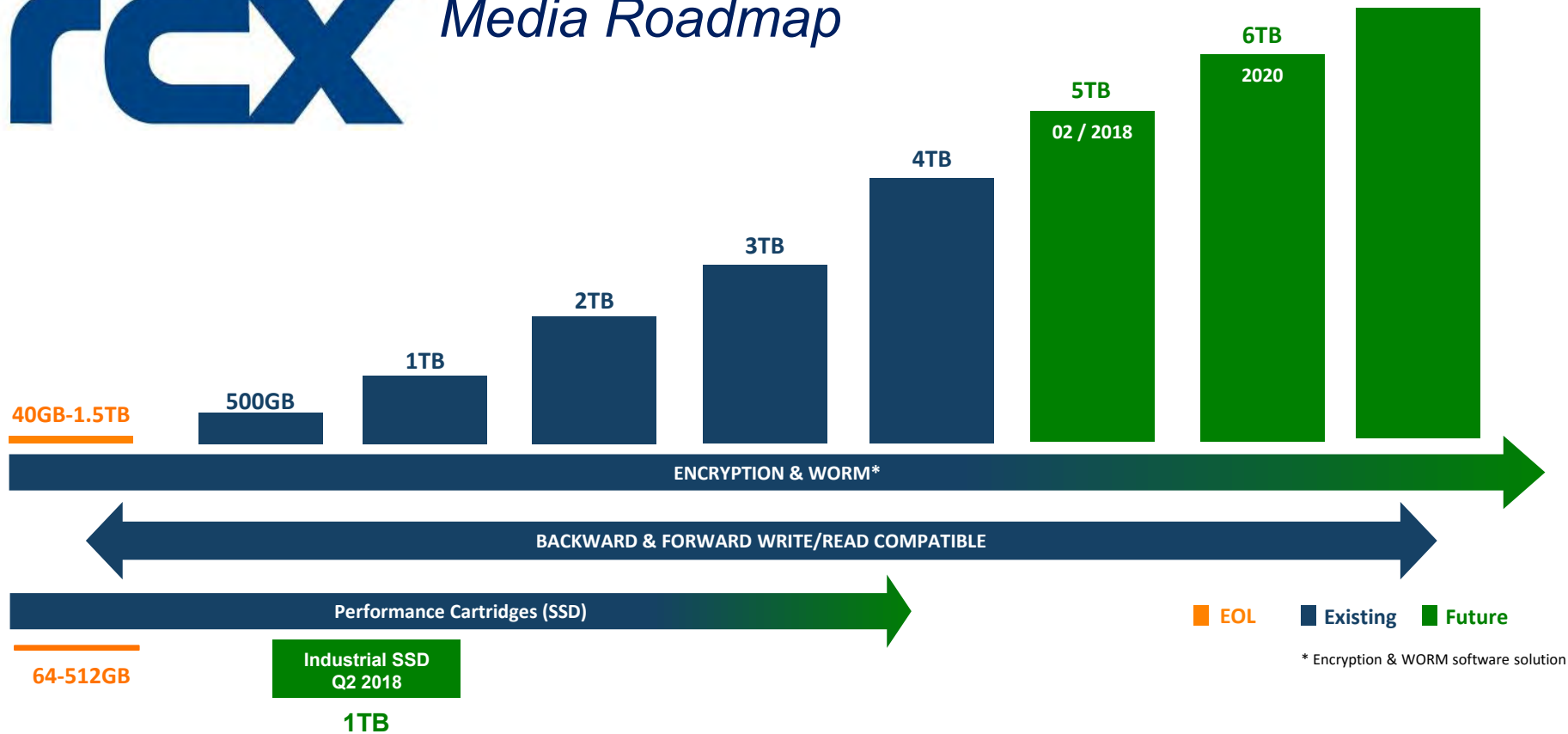
[RDX Compatibility Guide](#)

(hardware, OS and backup application)

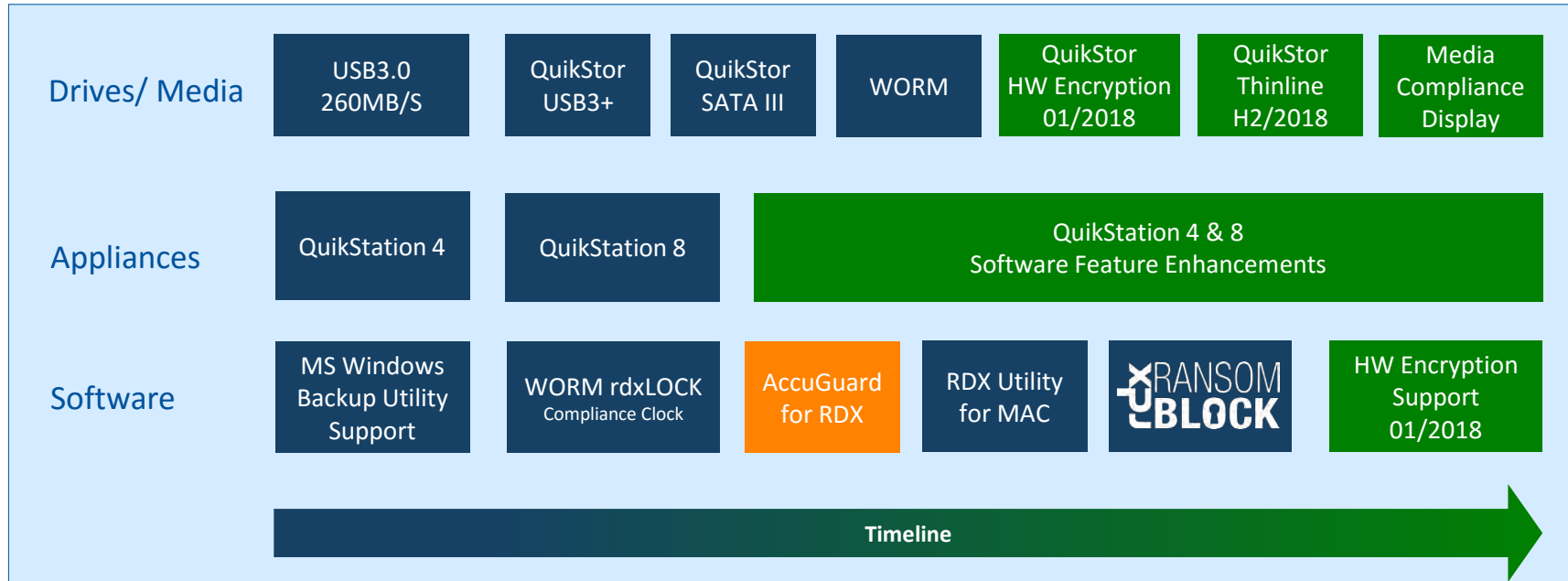


RDX Roadmap

rdx[®] Media Roadmap



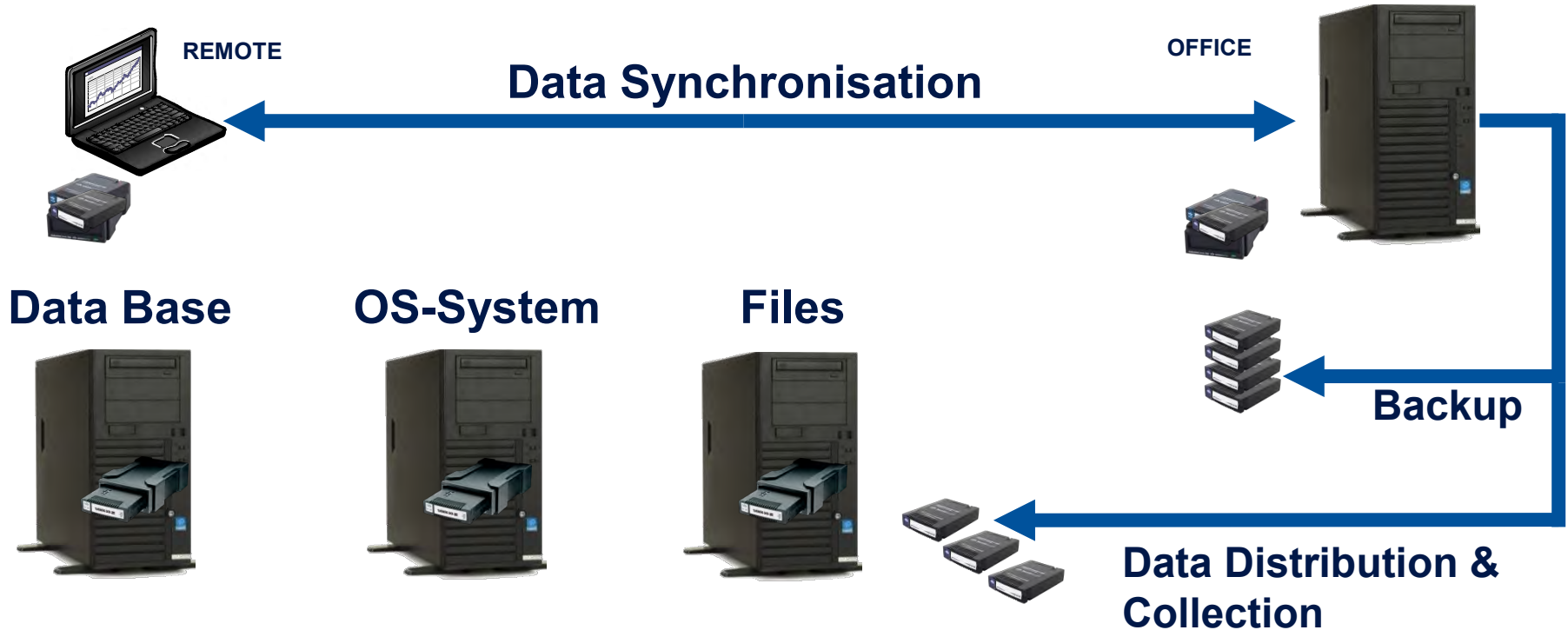
rdx[®] Systems & SW Roadmap H2/2017



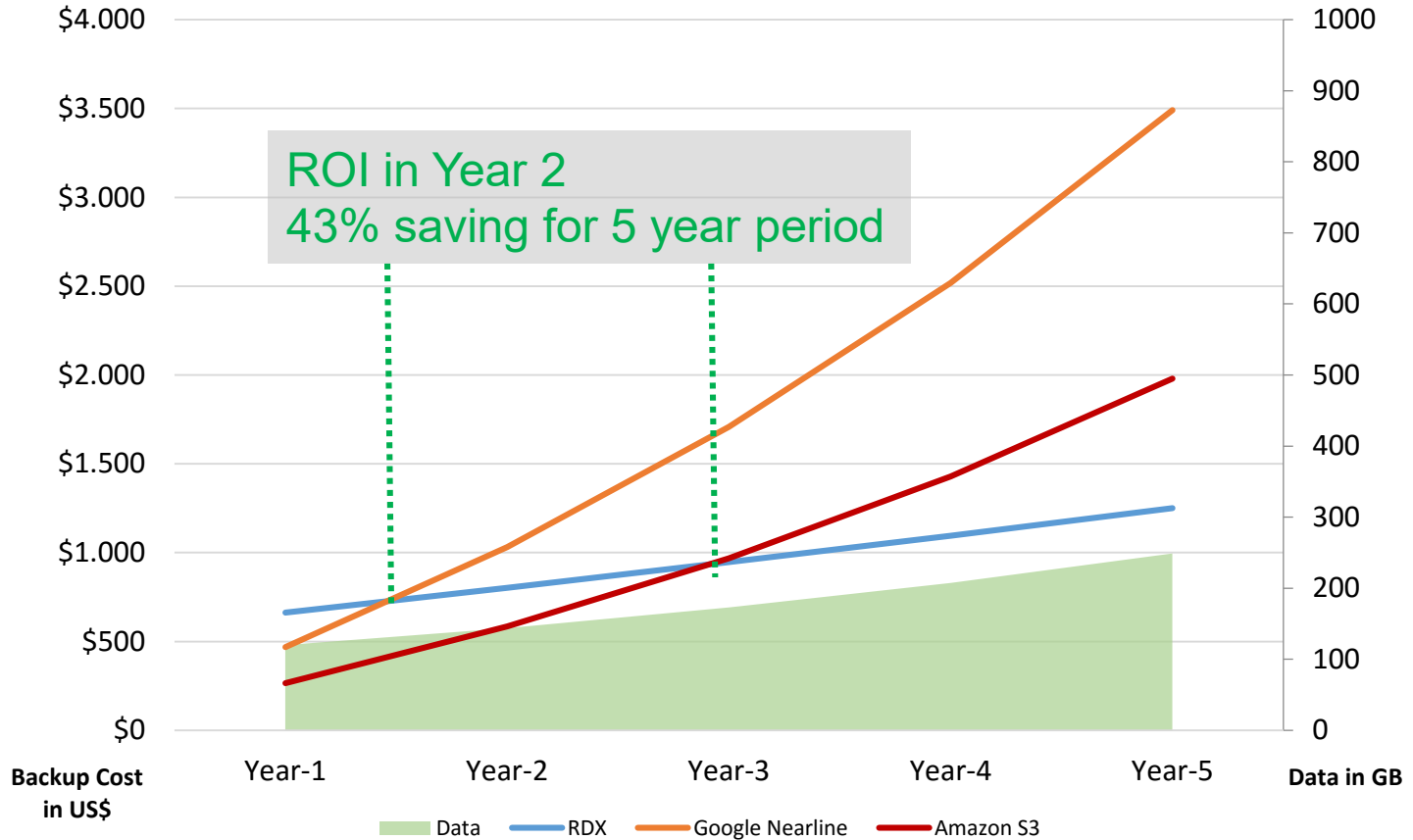
■ EOL
 ■ Existing
 ■ Future

Hybrid Cloud „RDX Use-Case“

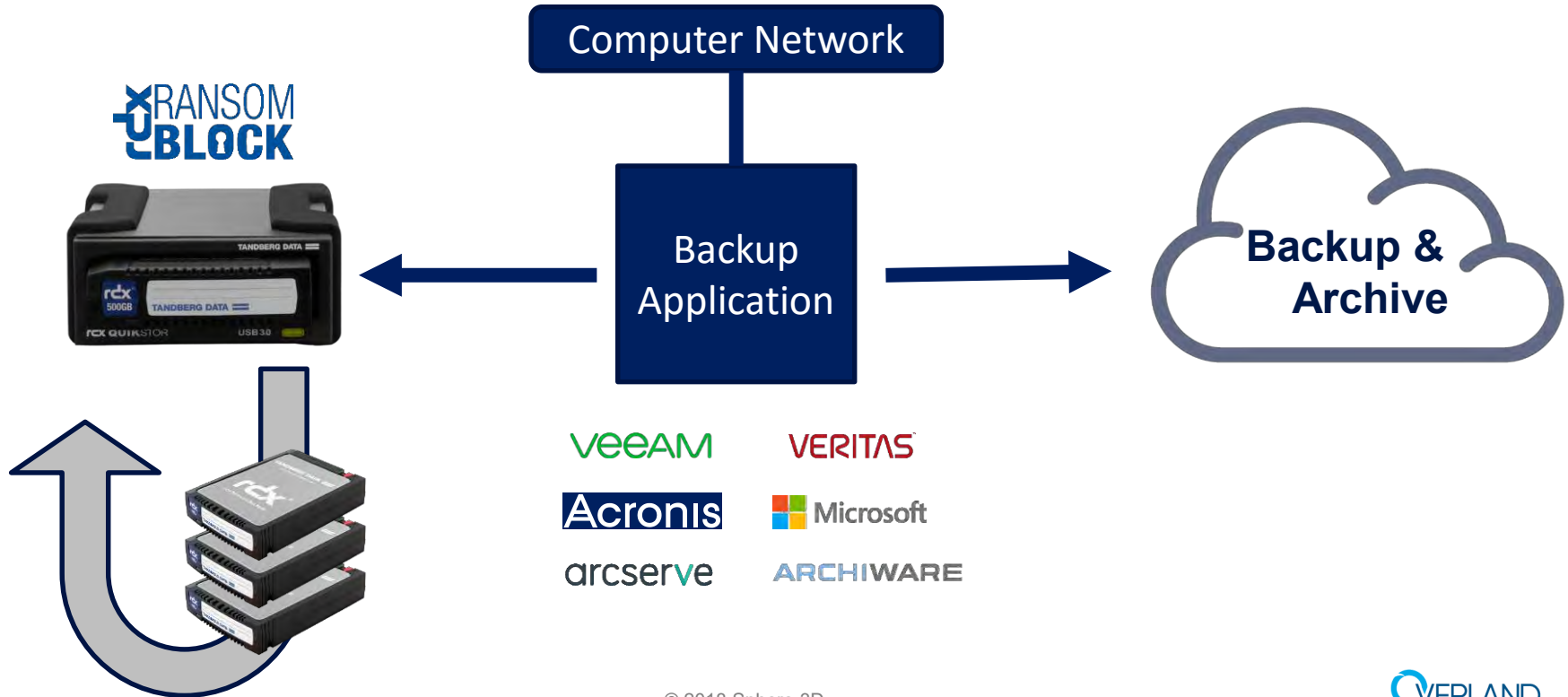
All in One: RDX Use Cases



RDX vs CLOUD: 100GB BACKUP



3-2-1 Backup Strategy (GFS Principal) -Business/Enterprise-



Hybrid Backup “RDX + Cloud Sync” -Business/Enterprise-



Hybrid Backup “RDX + Cloud Sync”



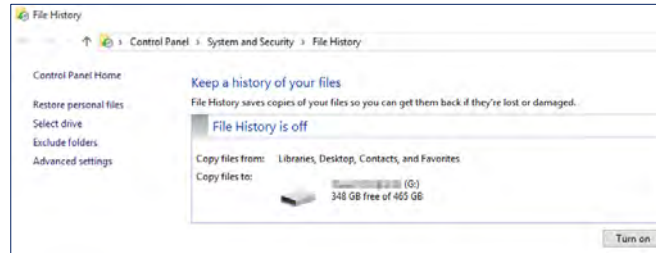
**XRANSOM
BLOCK**



Backup your Cloud -Microsoft Office 365



Free File History Tool
sync data to RDX



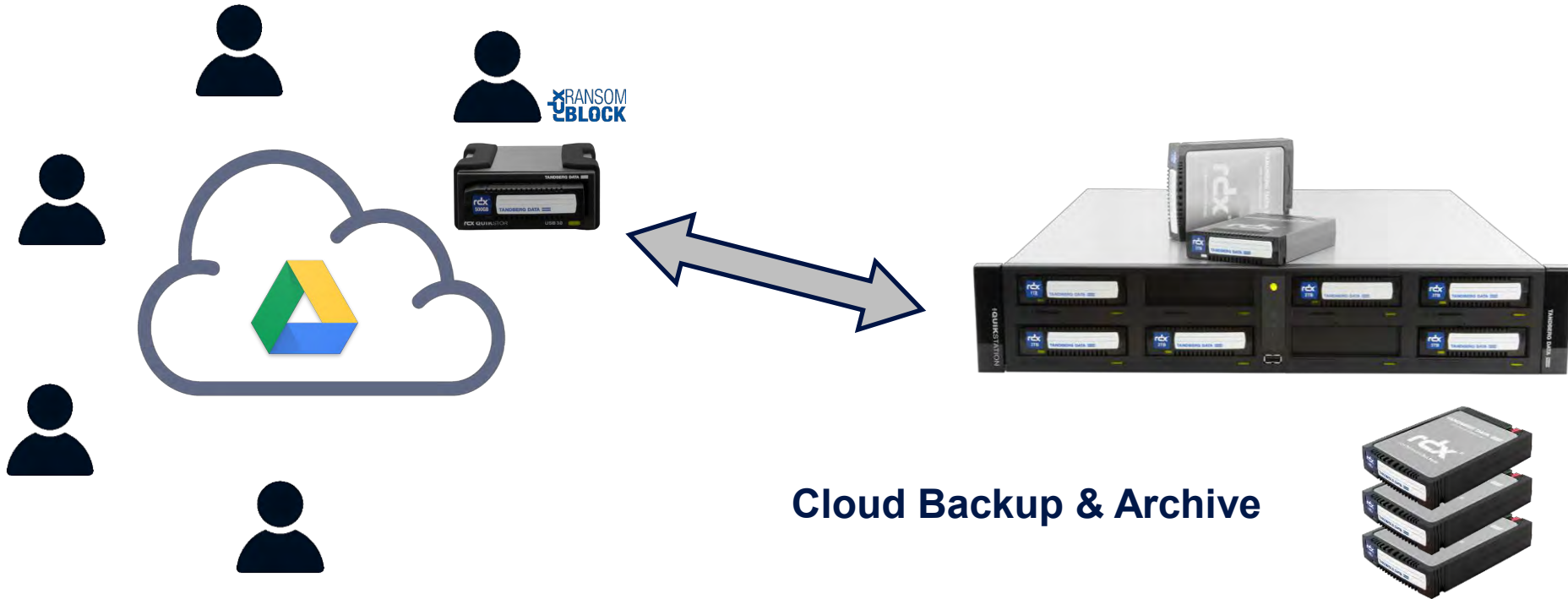
**RANSOM
BLOCK**

RDX: Backup The Cloud



RDX: Backup The Cloud

-Enterprise Collaboration-



USB3+ external RDX

Mobility and portability for Backup, Archive and Data Exchange

- USB3+ Compact & Energy Efficient
 - USB3.0 Bus Powered (no external power)
 - Automatically switched on/off with host computer
 - 30% less weight and 50% less storage volume
 - Smaller footprint

Ideal for Data On-the-Go...

- Scientific data collection and mobile workforce backup
- Video & Broadcast; Design and Graphics work

...or just the more convenient external RDX drive for your daily business data Backup



RDX & Windows Backup Utility

 Windows Server 2016

 Windows 10

- Fixed Disk RDX operation mode
 - enabling users of Tandberg Data RDX to leverage the benefits of the integrated Windows Backup application.
 - With the new mode, Windows sees the RDX as a valid disk target without the need for a third-party backup application.
 - Tandberg Data USB 3.0 RDX can now be used for scheduled system backups, including bare metal disaster recovery
- Our RDX is Microsoft WHQL certified
- Only available with Tandberg Data RDX USB3.0 and USB3+ Drives

Full Disaster Recovery Protection



NAS Backup with Off-Site Data Protection



Benefit of RDX Business-Grade technology, design, quality and reliability.

rdx[®] QUIKSTATION[™]

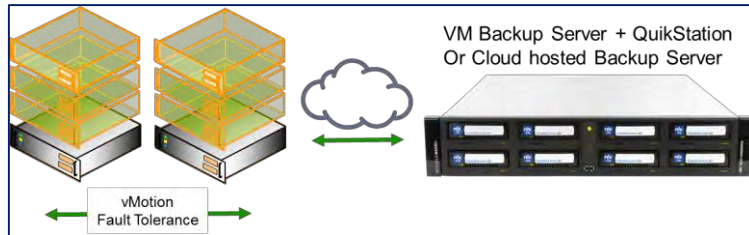
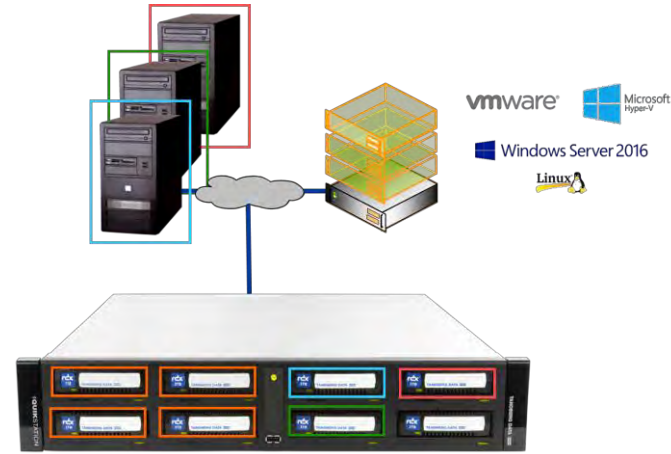
rdx[®] QUIKSTATION™

RDX QuikStation is a iSCSI Removable Disk Appliance which combines online and unlimited offsite storage used for virtual, physical and hybrid cloud environments, where data removability and transportation is required.



Virtualization and Hybrid Cloud Enabled by RDX QuikStation

- Backup to Disk as primary VM Backup method
- Off-Site data storage (DR)
- Support of multiple VM host systems
- Broad OS Compatibility
- Centralized IT-Admin Control
- Suitability for any size organization
- Backup direct from VM or via Backup Server



RDX QuikStation 4

- 4 RDX Drives/Media
- 2 Gb Ethernet i-SCSI ports
- 1U 19" Rack Mount & Desktop Version
- Performance up to 2xGb Ethernet speed (up to 200MB/s)

- Functionality highlights:
 - 4 RDX targets
 - 4 Local disk target
 - RDX Logical volume with Media spanning
 - Built-in RDX Media Cloning
 - Enhanced Security: Separate Network Connectivity



RDX QuikStation 8

- 8 RDX Drives/Media
- 4 1GbE i-SCSI ports
- 1 10GbE + 4 1GbE i-SCSI ports
- 2U 19" Rack Mount
- Redundant Power Supply Option
- Performance up to 400 MB/s or up to 1000 MB/s



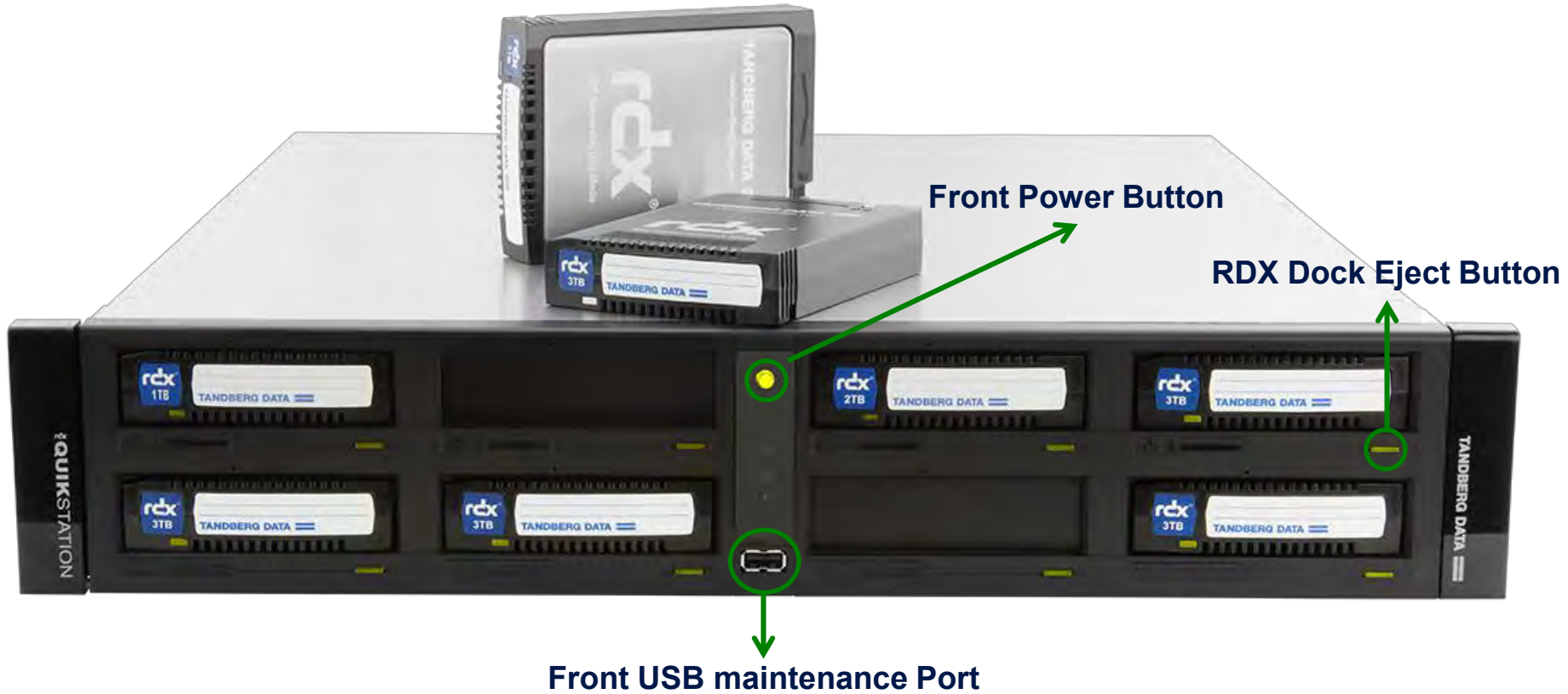
RDX QuikStation 8 Operation Modes

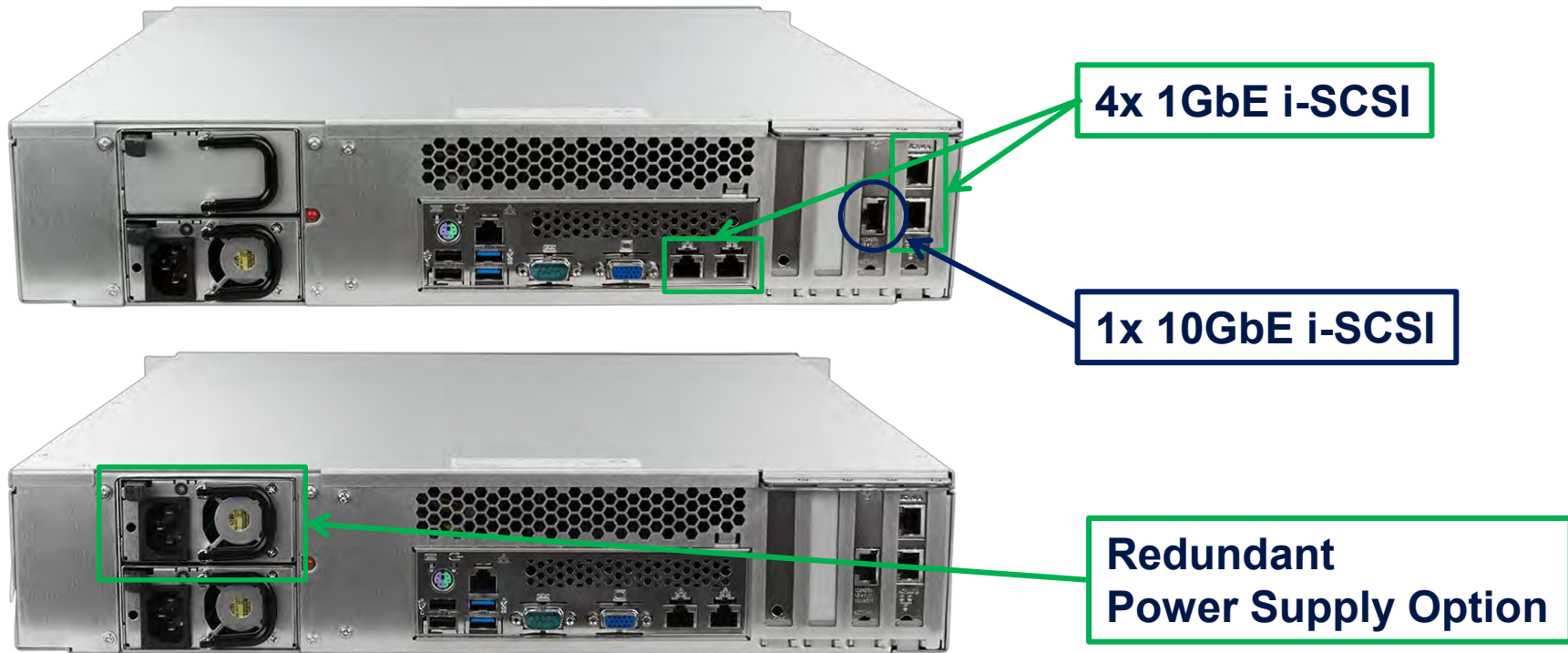
- RDX & Fixed Disk Modes
- Logical Volume Modes
- Tape Automation Modes
- Disk Autoloader Mode
- Hybrid Mode (LTO Automation + RDX Drives)



QuikStation Model Comparison

	QuikStation 4	QuikStation 8	
RDX Drives/Bays	4	8	
Form Factor	1U 19" Rack Mount or Desktop	2U 19" Rack Mount	
Host Connections	1-4	1-8	
Concurrent w/r Access	Yes	Yes	
i-SCSI Interface	2 GbE	4 GbE	4 GbE + 10GbE
Performance w/r	Up to 200 MB/s	Up to 400MB/s	Up to 1000 MB/s
Operation Modes	Disks + RDX + 1 logical Volume	Disk + Tape/Disk Autoloader + RDX + 1-2 logical Volumes + Hybrid	
Redundant Power Supply	N/A	Yes	





What's in the Box?



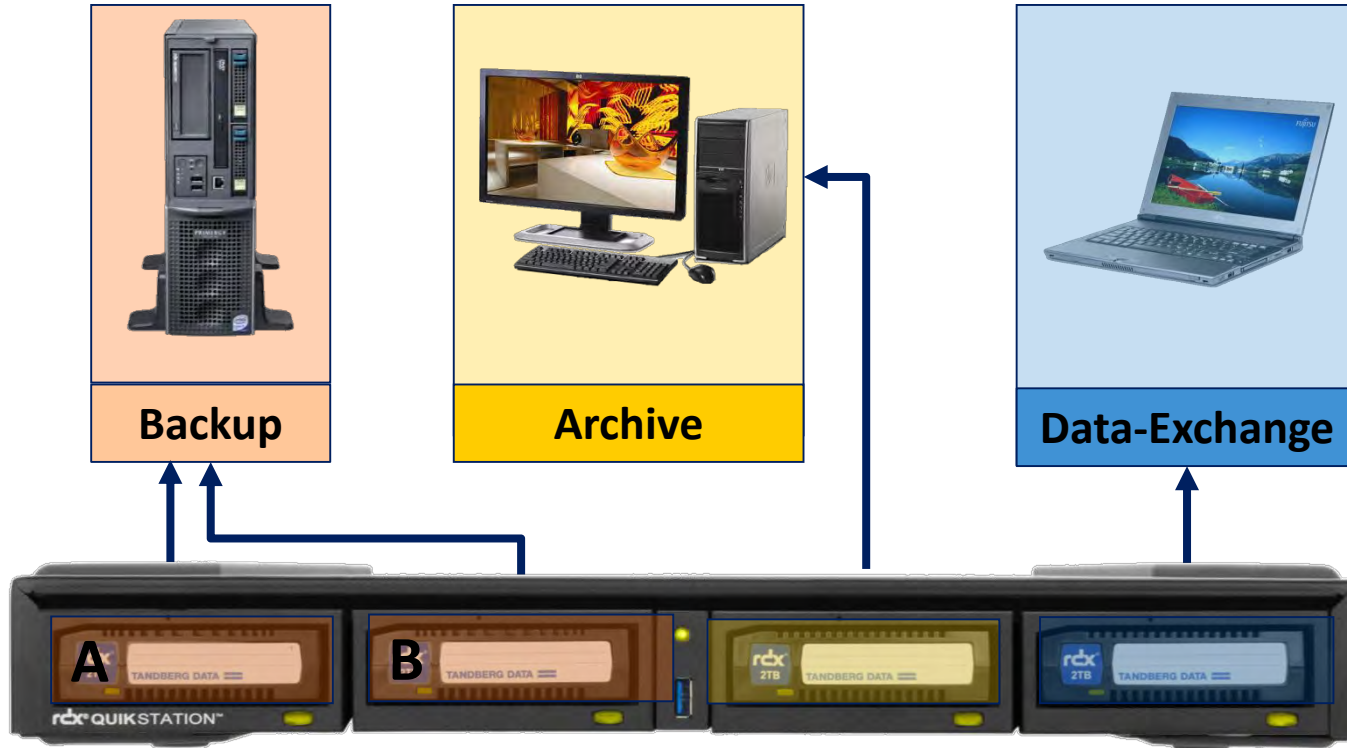
RDX QuikStation Use Cases



- Backup, Archive, Data Exchange
- Virtualization and physical servers
- Network attached Storage
- Tape Autoloader replacements
- Data Centralization

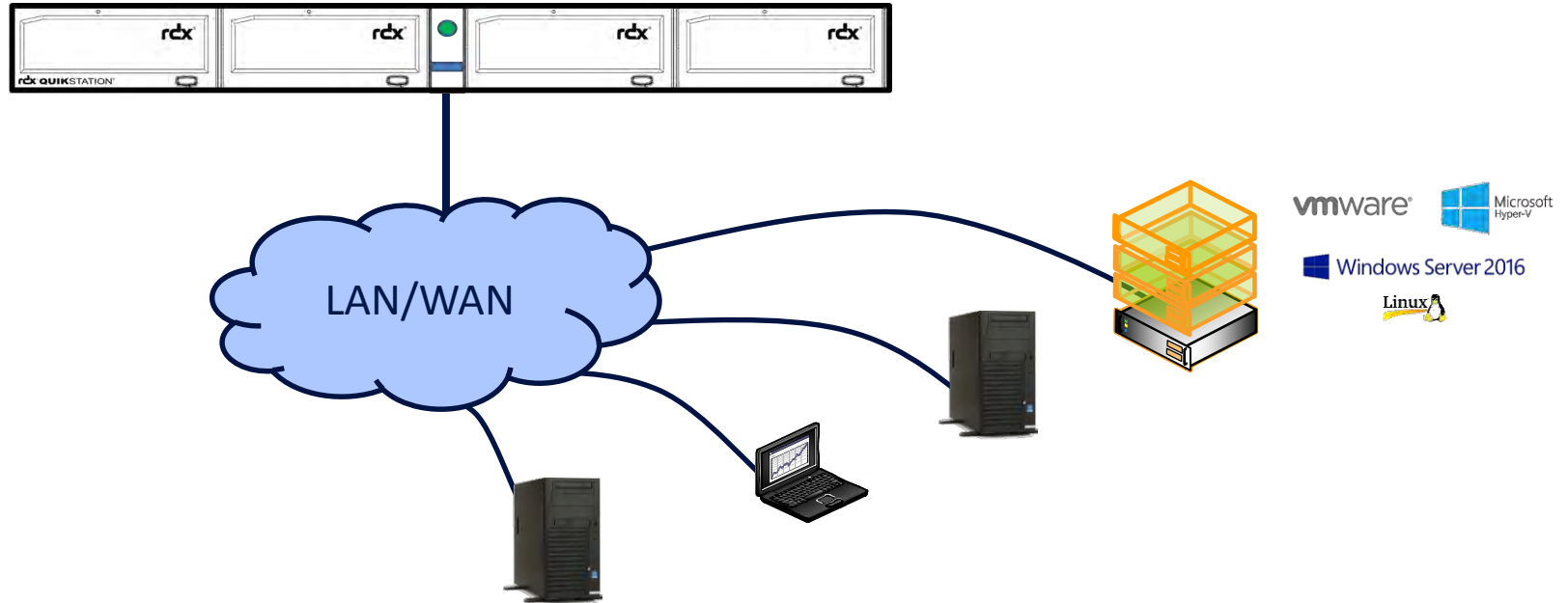


RDX QuikStation for Backup / Archive and Data Exchange



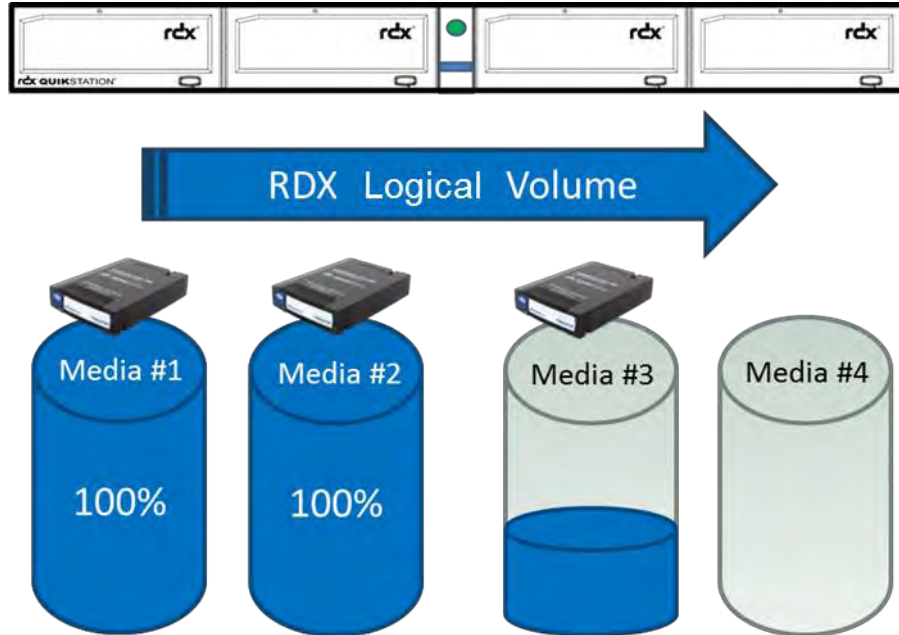
Network attached RDX Drives

- Direct attached or Switched-Ethernet connected via i-SCSI



Logical Volume

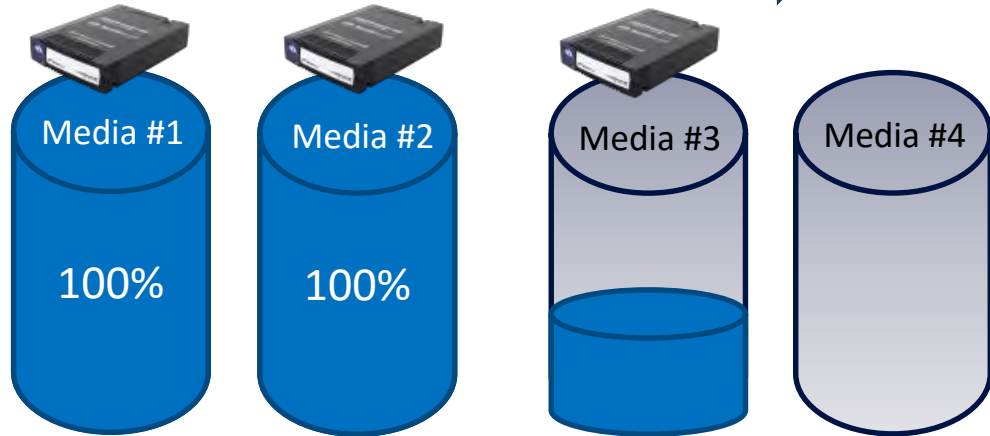
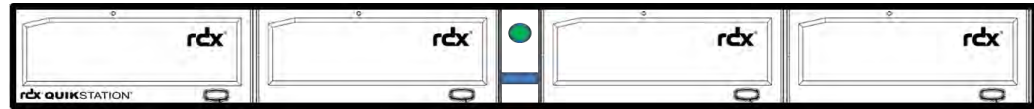
- Direct attached or Switched-Ethernet connected via i-SCSI



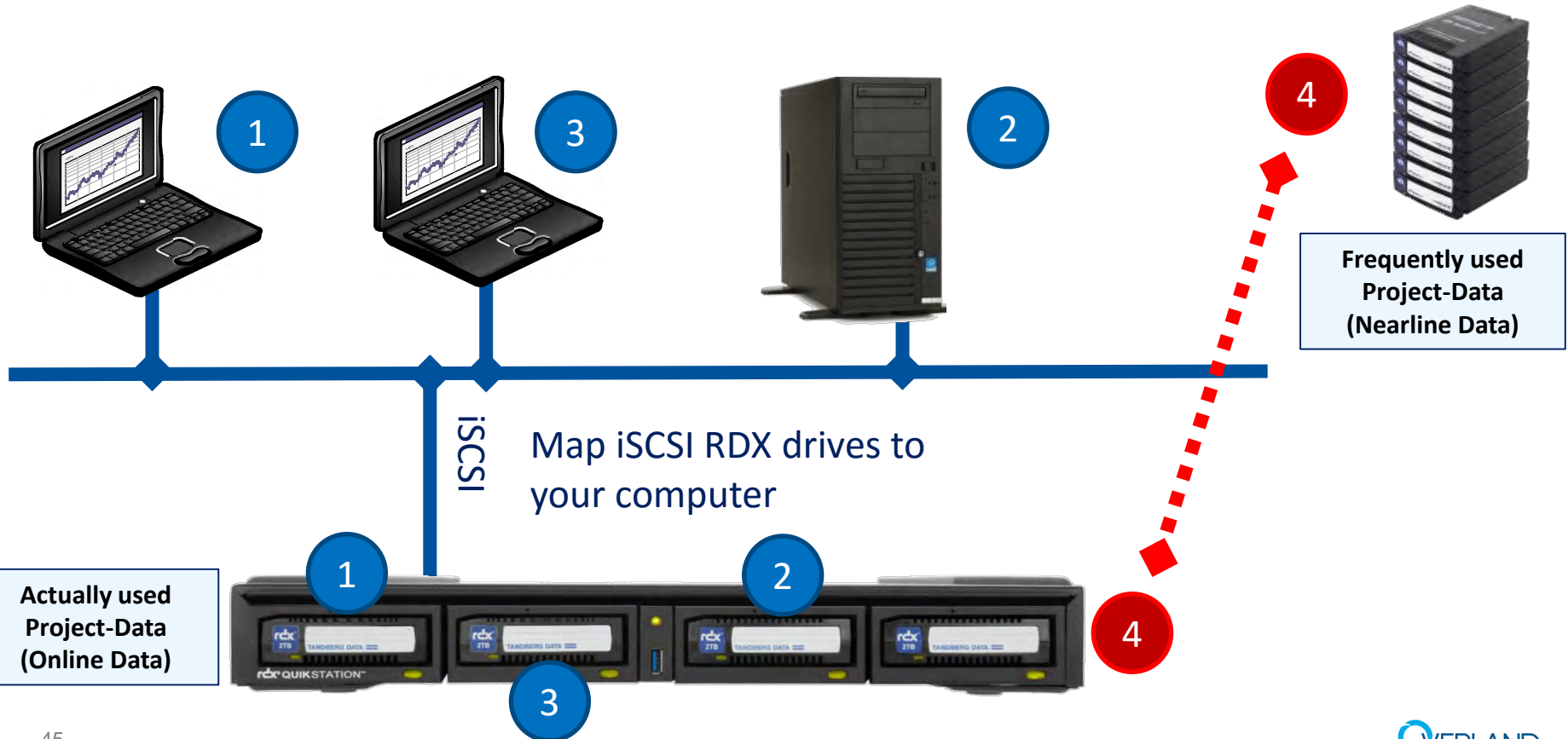
RDX Backup with Media Spanning



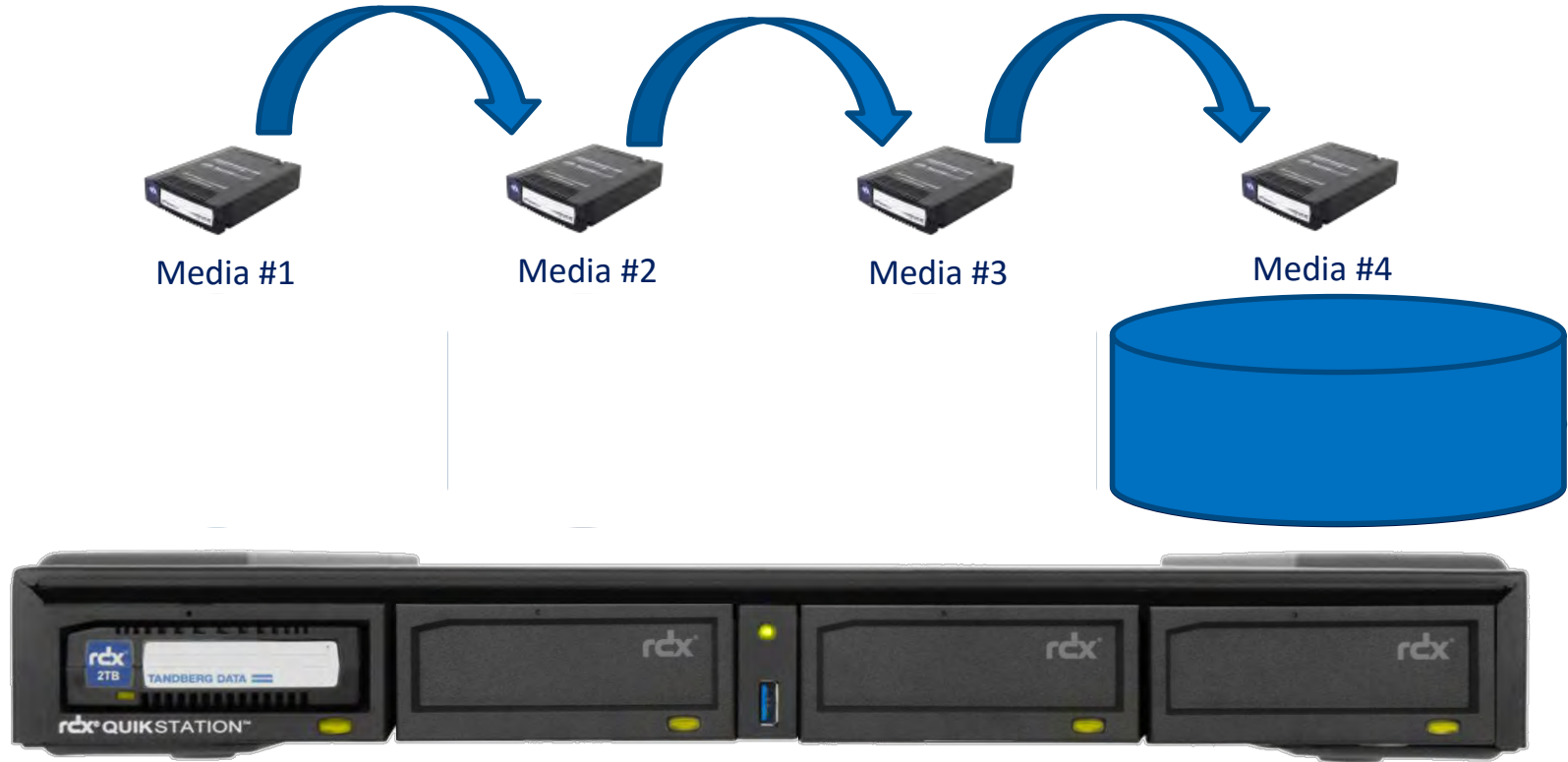
>4TB



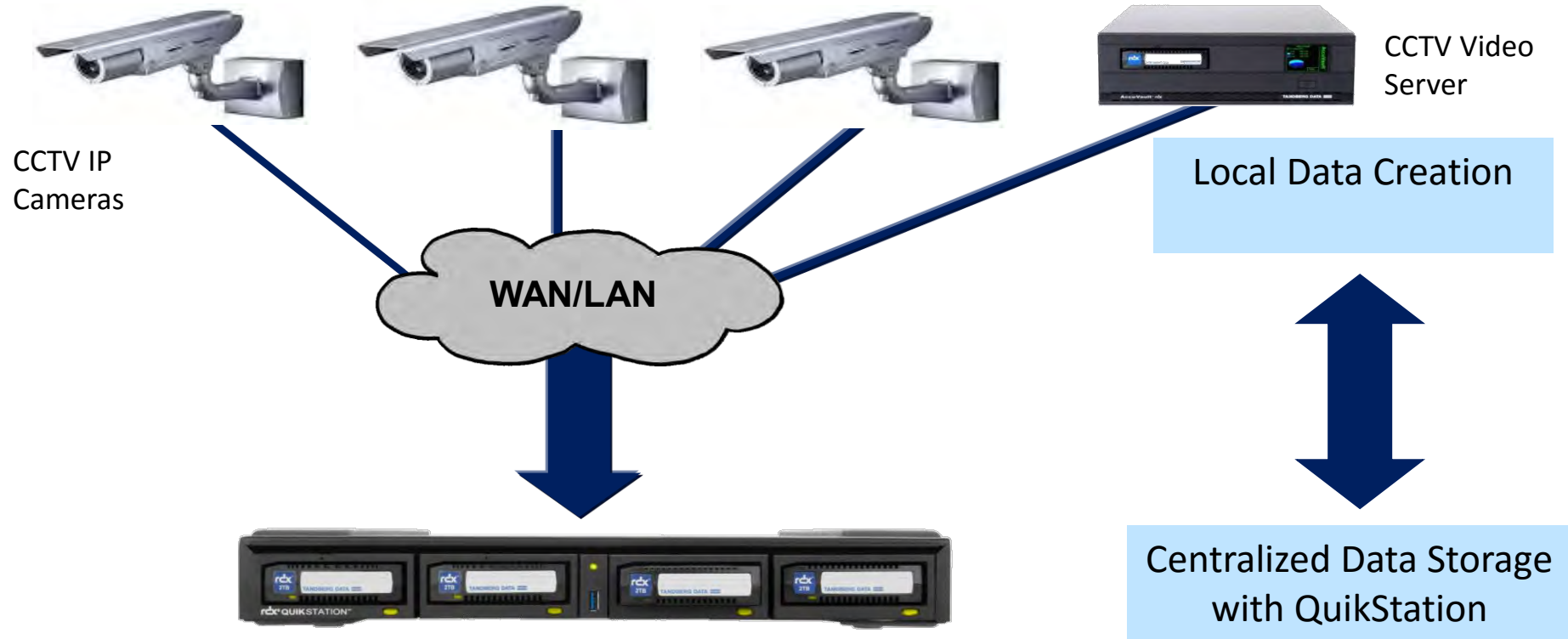
Shared Storage + Nearline Archive



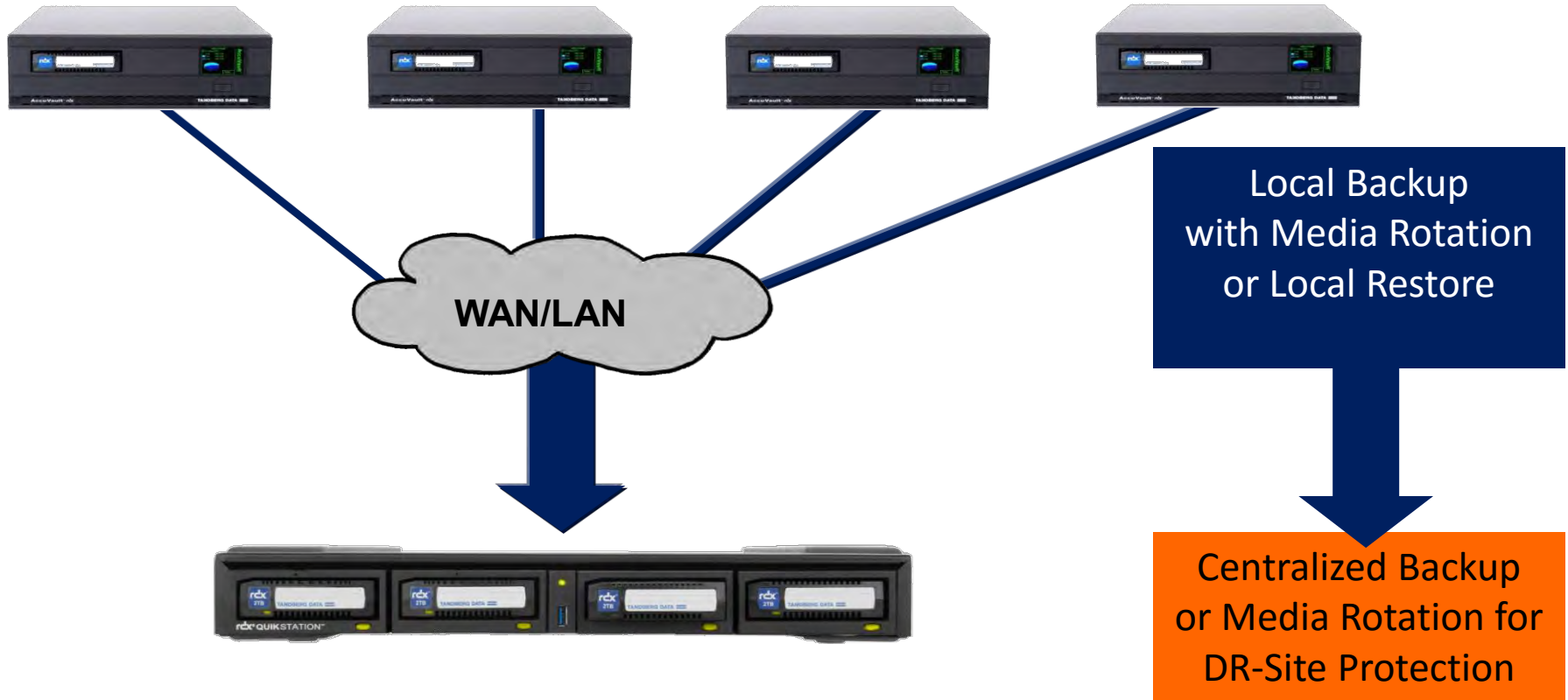
More than 3TB? No Media Spanning? Build a Logical Volume



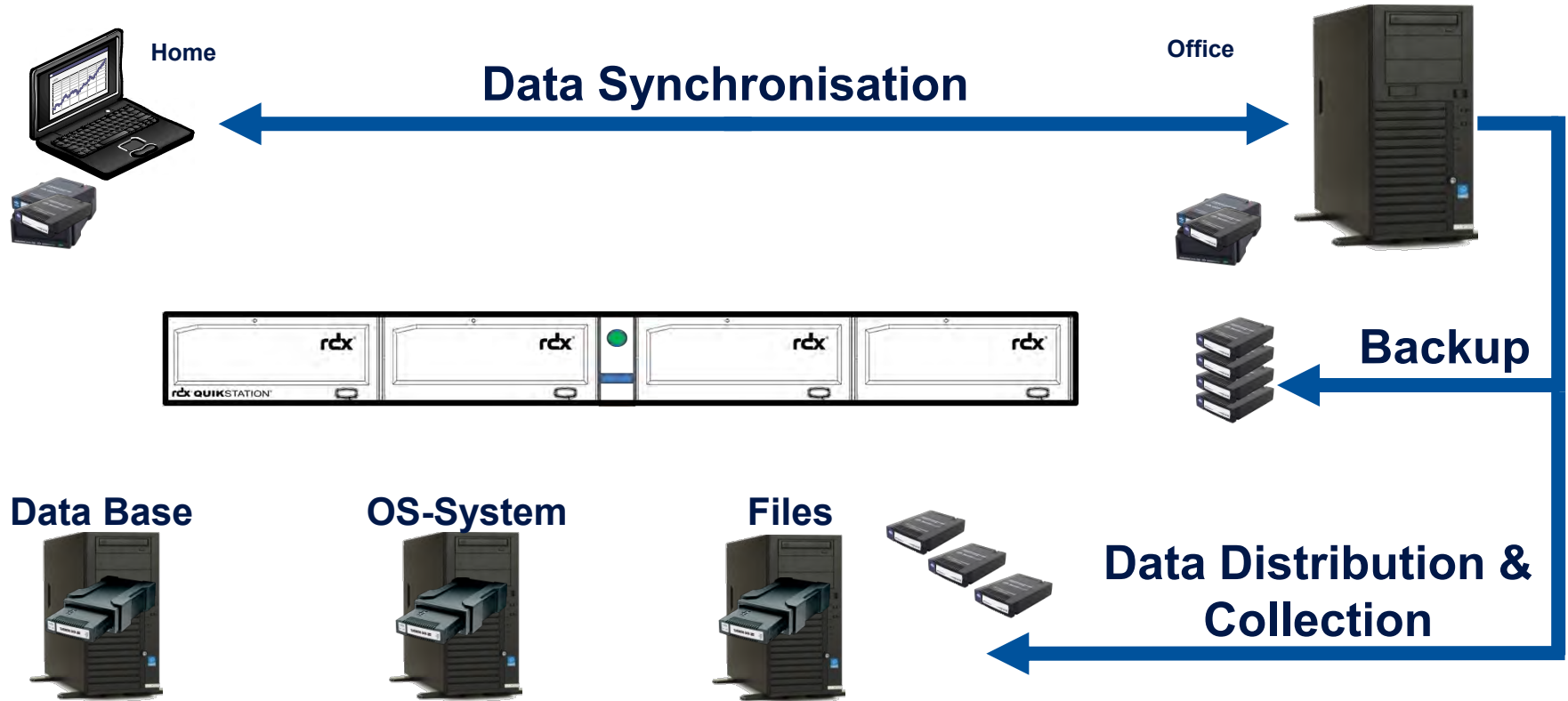
RDX® QuikStation™ Data Seeding / Centralization



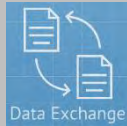
RDX® QuikStation™ Data Seeding / Centralization



All in One: RDX Use Cases



rdxPOWER ENCRYPT



Why it is important to encrypt data?

RCXPOWER
ENCRYPT



Compliance and Regulatory Requirements of electronically stored information are constantly and globally increasing!

GDPR: Data at rest must be protected from unauthorized usage.
Fines up to US\$20M or 4% of global turn-over whatever is higher.

Increasing compliance requirements for almost any business or vertical markets

- Business Data
- Medical Data (PACS; HIPAA)
- Bank and Finance Data
- Public Security and Law Enforcement
- Everywhere where sensible data can be easily stolen or lost!

Key Take-Away!

**RDX POWER
ENCRYPT**



- ✓ RDX PowerEncrypt is using 256-Bit AES XTS encryption.
- ✓ RDX PowerEncrypt is FIPS 140-2 compliant today; officially FIPS 140-2 certified in May 2018 for RDX SATA III
- ✓ RDX PowerEncrypt is secure according to today's available compute and encryption technologies and can't be hacked by any Brute-Force or Dictionary Attacks.
- ✓ It elevates Data Security to a new security level in comparison to other hardware technologies.
- ✓ RDX PowerEncrypt benefits of the two core RDX technology components
 - RDX Drive + RDX Media = Media Access Control + Data Encryption
- ✓ Manage up to 8 different passwords with different access permissions
- ✓ RDX PowerEncrypt only available for SATA III RDX drives today
 - Will be enabled with a *free* f/w update
 - USB3.0 Drive and QuikStation 4 & 8 support are Roadmap items we actively work on

rdxPOWER
ENCRYPT



Benefits of RDX PowerEncrypt Hardware Encryption

RDX Encryption Benefits for Data at Rest

**RCXPOWER
ENCRYPT**



Two methods to do Data Encryption, Software or Hardware.
Both do 256-Bit AES encryption.

What are the benefits of Hardware Encryption??

1. Ease of Use
2. It always works
 - no conflicts with Windows updates or software compatibility issues
3. Ensures Encryption
 - all data stored is automatically encrypted
 - no need to specify folder or drives
4. With RDX we control data access for Write and Read
5. Doesn't consume any processing power from Host (faster)

RDX Power Encrypt vs. Competition

	RDX PowerEncrypt SATA III	LTO-4/5/6/7/8	SED HDDs	iStorage: diskashur 2
Encryption Type	AES-XTS 256 bit	AES 256 bit GCM	AES-XTS 256 bit	AES-XTS 256 bit
FIPS certification	Yes, 140-2	Yes, 140-2	Yes, 140-2	FIPS PUB 197 validated
Password / Authentication	Software Utility and Auto-Drive/Media authentication	Software Utility or Backup Application	Hardware built-in	Key-Pad, no user utility or software integration
Interface	SATA III	SAS & FC	SATA III & USB3.0	USB3.0
Easy to use	Yes	No	Yes	No
Server integration	Yes: 5.25" or 3.5" slots	Limited: 5.25" length is a problem	Yes: 2.5" and 3.5" HDD bays	No
External connectivity	Roadmap for USB3.0 RDX	Yes, single drives and libraries	Yes, USB3.0	Yes, USB3.0
Cost for 2TB MSRP in US\$	US\$ 209 (Drive) US\$ 343 (Media)	US\$ 1,549 US\$ 29	US\$ 150	US\$ 404
Cost for 5TB MSRP in US\$	US\$ 209 (Drive) US\$ 739 (Media)	US\$ 2,459 US\$ 95	US\$ 300	US\$ 627

rdxPOWER
ENCRYPT



How Secure is RDX PowerEncrypt?

256-Bit AES XTS Encryption & Security

RDX POWER
ENCRYPT



Can RDX PowerEncrypt be hacked/attacked? ...Typical encryption or password attacks are „Brute-Force“ or „Dictionary Attacks“

- Brute-Force Attack:
 - Systematically checks all possible passwords and passphrases until the correct one is found.
 - Key Size of 256-Bit AES allows 1.1×10^{77} key combinations
 - If you could do 10^{14} keys per second (today's fastest super computer)
 - one year has 31,536,000 seconds
 - it will take 3.31×10^{56} Years to hack 256-Bit AES encryption
- Dictionary Attacks:
 - trying to determine decryption key or passphrase by trying possibilities, words in a dictionary.
- PowerEncrypt key authentication cycle takes 1s
- No matter how fast Super Computers or Quantum Computers will be in the future...
PowerEncrypt slows them down to a 60bpm pulse.

RDX Manager Encryption Password

rdx POWER
ENCRYPT



Encryption user-password strength is the biggest security threat of any encryption technology.

RDX PowerEncrypt helps with „Password Security Strength Advices“

New Password Selection

Please enter the password you would like to use for this cartridge.

New Password
.....

Confirm New Password
.....

Estimated Password Strength: **Very Good**

Allow Read Access

Allow Write Access

Allow Password Create / Change / Deletion

Allow Cartridge Reset and Erase All Encryption Configuration without a password.

Password Name
Master Password

OK Cancel

RDX PowerEncrypt evaluates a password's entropy based on several algorithms including common words, repeated characters, date formats, number substitution (Leetspeak,) and keyboard layout.

RDX Manager Encryption Password

**RDXPOWER
ENCRYPT**

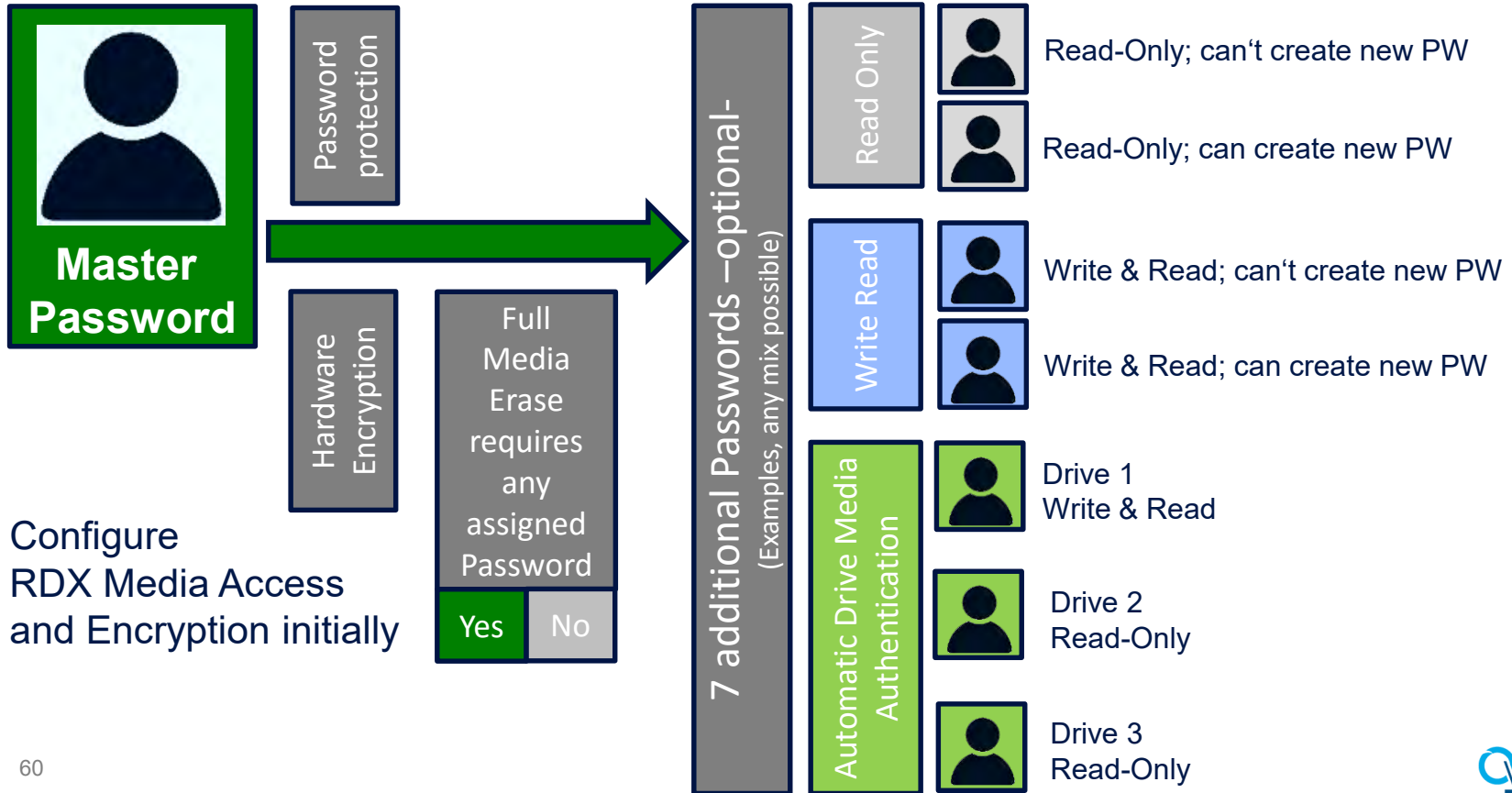


- Up to 8 different passwords
- Per password different data access privileges
 - for Write, Read only and Password creation
 - Additional option: Automatic Drive Media Authentication Password

Attention: When you forget your encryption passwords there is no possibility to retrieve data. You can configure it that you can't reuse the RDX media when you have lost your passwords! Encryption errors are not covered with our 3 Year Media warranty! RDX PowerEncrypt is a true and trustful data security solution!

THERE ARE NO BACK-DOORS!

RDX PowerEncrypt: Password Architecture



RDX Manager Encryption Password

RCXPOWER
ENCRYPT



Best practice, if you don't want to worry about password security and password entry:

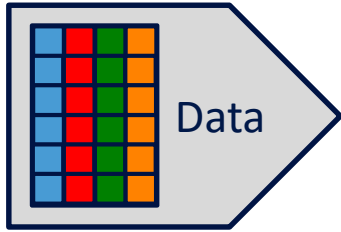
1. Configure a Secure „Master Password“
 - Read the text presented during the Encryption configuration carefully!
 - If you forget your passwords, nobody is able to decrypt or recover any of the encrypted data. And if you additionally have unchecked the box „Allow Cartridge Reset and Erase All Encryption configuration without a password, your RDX cartridge becomes unusable and it will void the RDX Media warranty.
2. Use Automatic Drive Media Authentication Password

**rcxPOWER
ENCRYPT**



How does Password Architecture / Encryption work?

RDX SATA III HW Encryption: How it works!



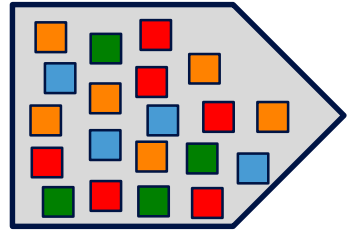

256-Bit AES XTS Encryption Processor

3 9 9 0 2 4 5 8 0 3 9 9 0 3 9 9 0 2 4 5 8 0 0 2 4 5 8 0

Random Number Generator

Secure Password Hashing and Encryption Key Exchange (OpenSSL + NIST 800-132)

RDX Manager Encryption Password 



1. Locked



- 2. Unlocked Read-Only
- 3. Unlocked Write/Read

RDX POWER
ENCRYPT



How do we proof the resilience of
RDX PowerEncrypt with RDX QuikStor SATA III?

FIPS140-2 certification for RDX SATA III

EXPONENT
ENCRYPT



NIST = National Institute of Standards and Technology

FIPS = Federal Information Processing Standard

FIPS 140 has been issued by NIST to coordinate the requirements and standards for cryptography modules that include both hardware and software components.

Four FIPS 140 security levels:

- Level-1 = Lowest level, encryption algorithm verification, no physical security mechanisms
- **Level-2** = Level-1 plus physical security mechanisms (tamper-evident coatings or seals must be broken to access **Critical Security Parameters** and cryptographic keys)
- Level-3 = Level 1+2 plus ,zeros‘ all CSPs when a device is opened
- Level-4 = highest level; Level 1-3 plus detecting and responding to all unauthorized attempts at physical access and immediate deletion of all CSPs

RDX Power Encrypt –Requirements-

**rdxPOWER
ENCRYPT**



1. Available with all SATA III RDX drives after f/w upgrade
2. RDX SATA III internal drive + RDX Media (any Brand and QTY)
3. Microsoft Windows Computer
4. Download and install f/w 0252 or newer
5. Download and install RDX Manager 1.19 or newer

Today PowerEncrypt works with RDX SATA III drives only.
It is not compatible with internal or external RDX USB3.0 drives
or RDX QuikStation 4/8 **YET!**





rdxLOCK

TDCE 30.01.2017



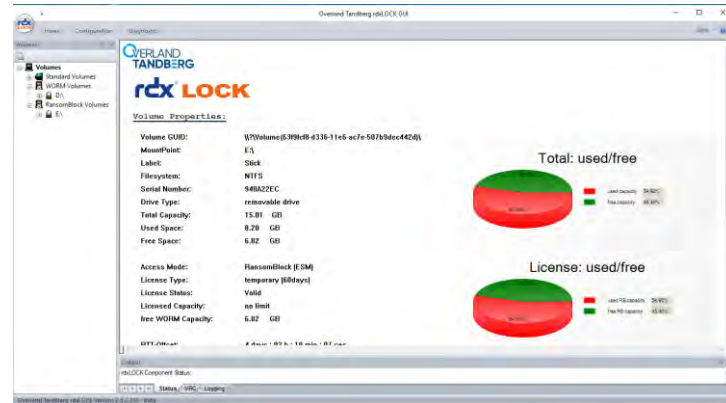
Die Software



rdxLOCK



Lizenz*
(Wird mit dem Medium
„verheiratet“)



Das Angebot

Artikelnummer	Produkt
8868-RDX	1.0TB RDX Medium mit rdxLOCK Lizenz
8869-RDX	2.0TB RDX Medium mit rdxLOCK Lizenz
8870-RDX	4.0TB RDX Medium mit rdxLOCK Lizenz
8868-SW	rdxLOCK 1.0TB Software Lizenz (ohne Medium)
8869-SW	rdxLOCK 2.0TB Software Lizenz (ohne Medium)
8870-SW	rdxLOCK 4.0TB Software Lizenz (ohne Medium)

Die License Activation Card

RDX®LOCK™ License Activation

Overland-Tandberg Storage Group is pleased to provide you with RDXLOCK. RDXLOCK stores data on your RDX cartridge either in a WORM (Write Once Read Many) format to fulfill and exceed compliance requirements, or in RansomBlock format, which secures data from virus and ransomware attacks and ensures full recovery in case of infected data and systems.

RDXLOCK is a Microsoft™ Windows® only software for specific operating system versions. Please visit our website to download the product manual and software release notes.



Please download the RDXLOCK software from www.tandbergdata.com and follow the installation instructions overleaf.

overlandstorage.com



OVERLAND
TANDBERG

In order to install the RDXLOCK software and convert your RDX cartridge into a WORM or RansomBlock cartridge, please follow these steps:

A Install the software

- 1 Download the software from: www.tandbergdata.com
- 2 Unpack the software download
- 3 Install the software
- 4 Accept the license agreement
- 5 Select the install path for the software
- 6 Accept the installation of the rdxLOCK driver
- 7 Reboot the system to finish the installation
- 8 Start rdxLOCK
- 9 Right click on the RDX volume, select 'Configure' and choose the 'rdxLOCK' tab
- 10 Select either WORM or RansomBlock mode

B Obtain a license

- 1 Right click on the RDX volume, select 'Generate License Request'
- 2 Enter the following capacity ID:

XVAD-T5D9-ADY2-UBD8-7JYT-RAB2-SIXY
- 3 Use the Web-Portal button to request a license
- 4 You will receive your license key by e-mail

C Convert the RDX cartridge

- 1 Right click on the RDX volume, select 'Install License' and select the license file



overlandstorage.com

tandbergdata.com

RDX WORM oder RDX RansomBlock?

RDX WORM

- Erfüllt gesetzliche Anforderungen für die Archivierung und Speicherung
- Daten können uneingeschränkt gelesen werden
- Daten können nicht mehr verändert oder gelöscht werden
- Ist transparent gegenüber Anwendungen wie z.B.
 - Dokument Management
 - Enterprise Content Management
 - Buchhaltung
 - PACS (medizinische Anwendung)
 - Technische Dokumentation
 - ...

RDX RansomBlock

- Schützt Backups vor Viren, Trojaner und Ransomware Angriffen
- Daten können uneingeschränkt gelesen werden
- Daten können nur durch definierbare Anwendungen verändert oder gelöscht werden
- Ist transparent gegenüber Backup Anwendungen

Die WORM Funktion



Directory Level WORM

- Alle Dateien, die auf das RDX Medium gespeichert werden, werden automatisch „verwormt“
- Empfohlen für gesetzeskonforme Speicherung und Archivierung
 - Backup Software wird nicht unterstützt

Single File Retention WORM (SnapLock)

- Benutzer oder Anwendungen „verwormen“ aufgewählte Dateien
- Empfohlen für gesetzeskonforme Speicherung und Archivierung
 - Kann mit Backup Software genutzt werden, WORM muss manuell gesetzt werden

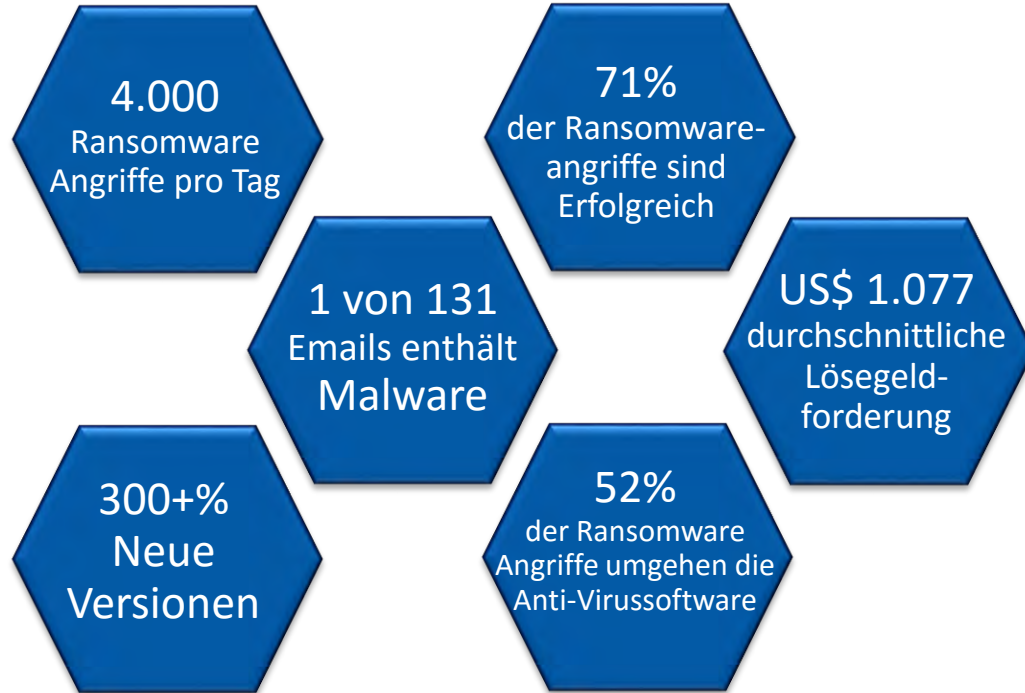
WORM Daten Aufbewahrungsfrist

- Die Aufbewahrungsfrist wird automatisch auf „unbefristet“ gesetzt
- „Verwormte“ Dateien und Verzeichnisse können weder gelöscht, noch modifiziert
- Ein komplettes Löschen kann nur durch Formatierung erfolgen

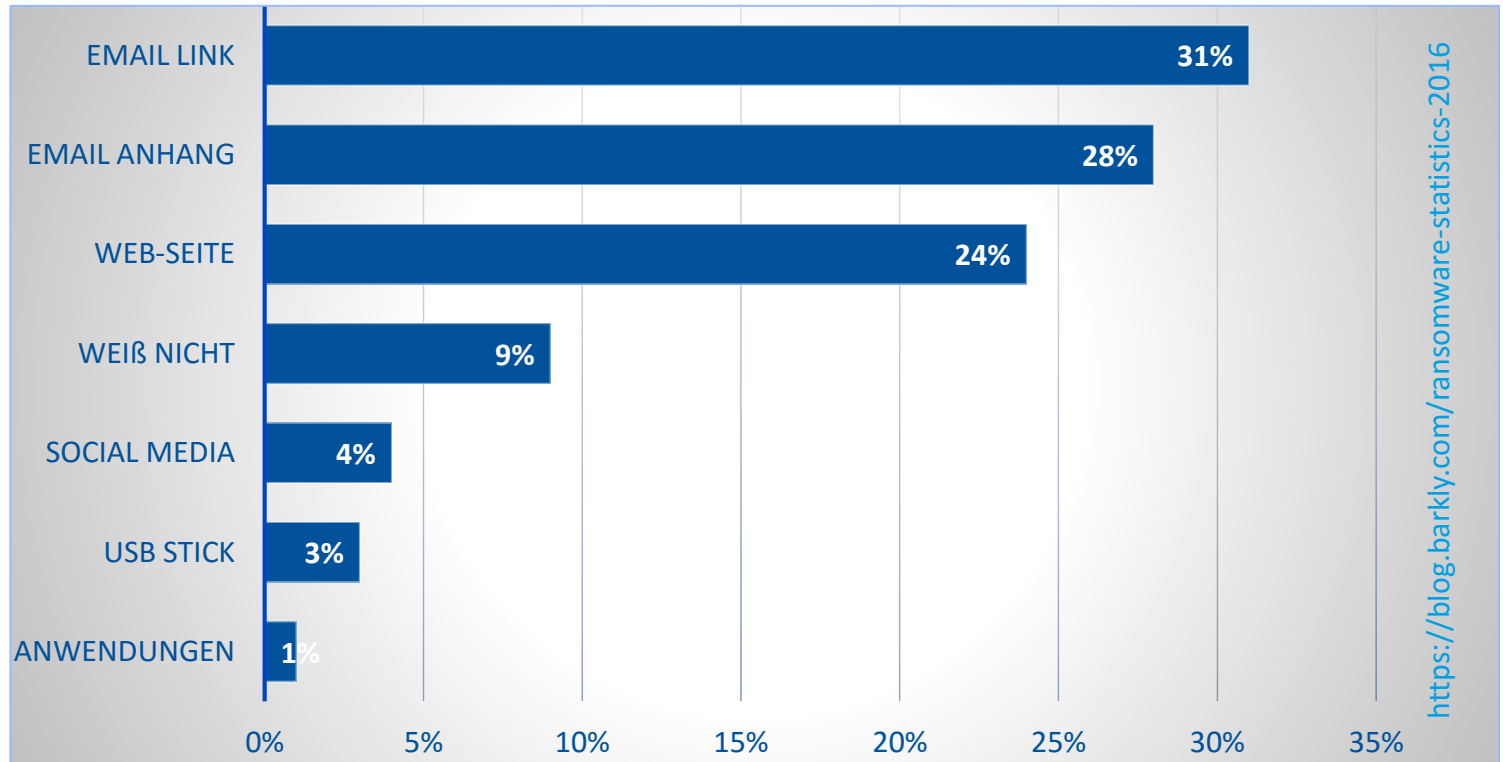
Der Wandel: Vom Schutz vor Datenverlust zum Schutz vor Datenverschlüsselung



Ransomware Fakten (weltweit)



Die Türen für Ransomware



Ransomware greift auch Backups an

Laut Informationen des Bundesamtes für Sicherheit und Informationstechnik (BSI), hat sich die Zahl der Störfälle aufgrund von Ransomware Angriffen in den letzten 6 Monaten mehr als verzehnfacht.

„Insbesondere müssen die Daten in einem **Offline-Backup** gesichert werden, da viele Ransomware-Varianten auch Online-Backups, wie Daten auf NAS-Systemen oder Schattenkopien, verschlüsseln.“

(Quelle: Ransomware, Bedrohungslage, Prävention und Reaktion, Bundesamt für Sicherheit in der Informationstechnik)



Bundesamt
für Sicherheit in der
Informationstechnik

Die RansomBlock Funktion

RDX RansomBlock schützt Backup Daten auf RDX Medien (und auch alle anderen Daten) vor Angriffen von Viren, Malware und Ransomware.

- Nutzt den WORM Schutz, erlaubt aber gleichzeitig den Datenzugriff von ausgewählten Anwendungen
- Blockiert jeden nicht autorisierten Datenzugriff
- Erlaubt das Black- und Whitelisten von Anwendungen
- RansomBlock benötigt keine Software-Updates

RansomBlock ersetzt nicht eine Sicherheits-Software

Anmerkung: RansomBlock ersetzt nicht die gesetzeskonforme Speicherung und Archivierung mit WORM





Live Demo

Initial: Entscheidung ob WORM oder RansomBlock

The screenshot displays the Overland Tandberg rdxLOCK GUI. In the left-hand 'Volumes' pane, a context menu is open for the 'QuikStor 5.0TB' volume, with the 'Configure' option circled in red. The main window shows a 'Local Volume List' table:

MountPoint	Label	Filesystem	T
C:\		NTFS	
D:\	QuikStor 5.0TB	NTFS	

The 'QuikStor 5.0TB (D:) Properties' dialog is open, showing the 'rdxLOCK' tab. Under 'Volume Configuration', the 'Mode' section has 'RANSOMBLOCK' selected with a radio button. Below it, 'Enhanced Security Mode' is checked, and 'Policy-Level Setup' is set to 'root-level'. A red note at the bottom of the dialog reads: 'Note: Switching the volume to WORM mode is irreversible!'.

Eingabe des Lizenz-Keys

The screenshot displays the Overland Tandberg rdxLOCK GUI. On the left, a tree view under 'Volumes' shows 'D:\' selected and circled in red. The main area shows the 'Volume Properties' for 'D:\', including details like Volume GUID, Media Serial No., MountPoint, Label (QuikStor 5.0TB), Filesystem (NTFS), Serial Number (86E7C09C), Drive Type (removable drive), Total Capacity (4657.52 GB), Used Space (0.23 GB), and Free Space (4657.29 GB). A green 3D disk icon is shown with 'Total:' above it. The bottom status bar indicates 'rdxLOCK Component Status: rdxLOCK Service (ProcessID: 4300) is running. rdxLock filter is attached to all WORM volumes.'

Volume Properties:	
Volume GUID:	\\?\Volume{1b764231-6062-11e6-ac70-448500ab5b39}\
Media Serial No:	886202358821
MountPoint:	D:\
Label:	QuikStor 5.0TB
Filesystem:	NTFS
Serial Number:	86E7C09C
Drive Type:	removable drive
Total Capacity:	4657.52 GB
Used Space:	0.23 GB
Free Space:	4657.29 GB

Lizenzanforderung über die Capacity-ID

The screenshot displays the Overland Tandberg rdxLOCK GUI. On the left, a 'Volumes' tree shows 'Standard Volumes', 'WORM Volumes', and 'RansomBlock Volumes'. A context menu is open over the 'WORM Volumes' folder, with 'Request License' highlighted in red. Three 'Request License' dialog boxes are overlaid on the main window:

- The top dialog prompts 'Enter your Capacity ID:' with an empty text field and an 'OK' button.
- The middle dialog, titled 'Request License', shows 'WORM Volume License Request Information' with a text field containing the key ID '2UC9-NR2G-WRJY-EKVE-7BPS-75S3-ANWA-MEQ5-MD9K-45WC' and a 'Request License Key by' dropdown menu. It has 'OK' and 'Cancel' buttons.
- The bottom dialog, also titled 'Request License', shows the same key ID and dropdown menu. The dropdown is open, showing options: 'WEB-PORTAL -preferred-', 'MAIL...', 'SAVE Request Key to file', and 'SEND Request Key to Clipboard'.

The background window shows a status bar at the bottom with 'Status', 'VRC', and 'Logging' indicators. The title bar reads 'Overland Tandberg rdxLOCK GUI'.


Software Registrierung im WEB


TANDBERG DATA

[Home](#) [Products](#) [Solutions](#) [Support](#) [Partners](#) [Corporate](#) [News & Events](#) [Contact](#) [PARTNER LOGIN](#)

[Home](#) » [RDX LOCK Software Registration](#)

RDX LOCK Software Registration

 Support

 [View in English](#)

Kontaktdaten

*Vorname: *Nachname:

*Email: Phone:

Receive Email Updates? Ja Nein

Unternehmensdaten

*Firmenname: Adresse:

Stadt: PLZ:


*Staat: Website:

Branche: Anzahl der Mitarbeiter:

Unternehmensdaten

*Media:

[Home](#) | [Contact Us](#) | [Feedback](#) | [Sitemap](#) | [Privacy](#) | [Terms of Use / Disclaimer](#) | [Imprint](#)

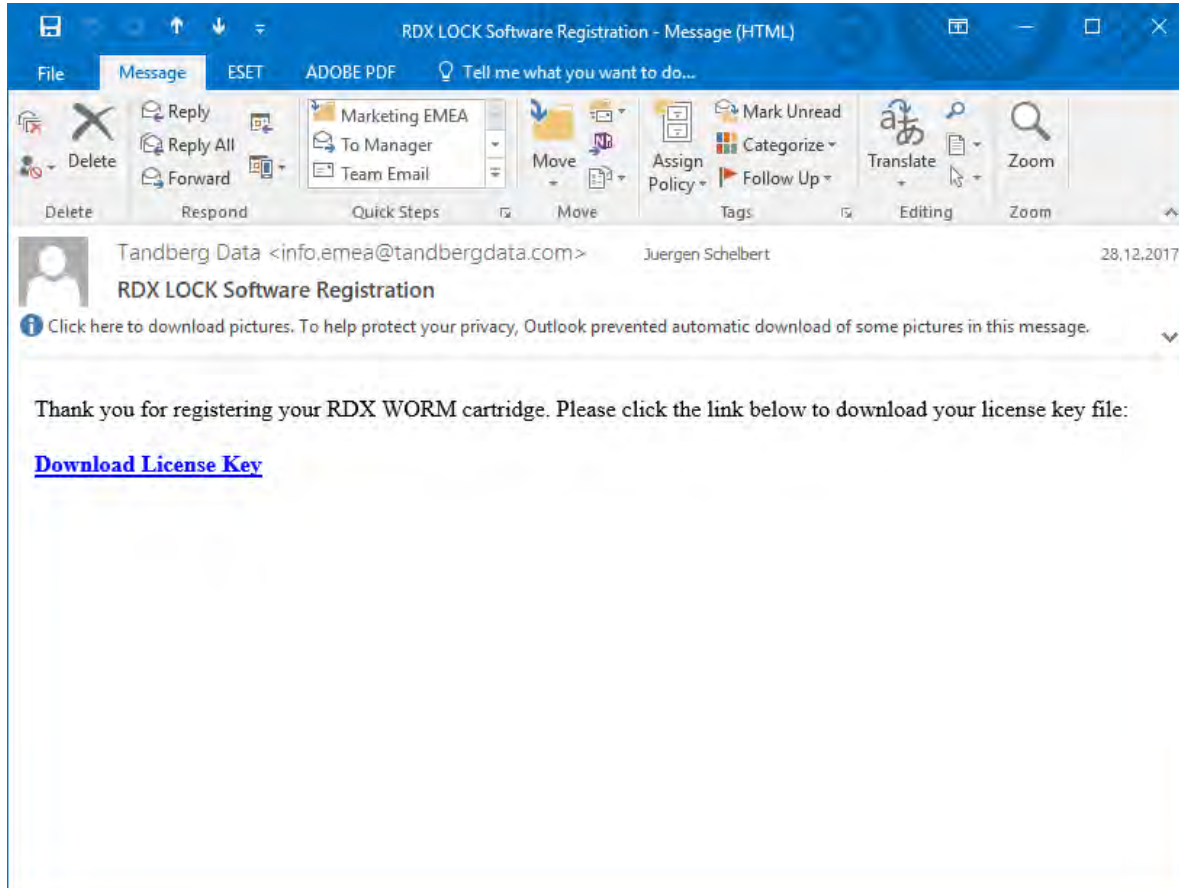


Tel. 00.800.TANDBERG
©2018 Tandberg Data

Herunterladen des Lizenz-Keys

The screenshot shows the Tandberg Data website's 'RDX LOCK Software Registration' page. The page has a blue header with the 'TANDBERG DATA' logo and a navigation menu including 'Home', 'Products', 'Solutions', 'Support', 'Partners', 'Corporate', 'News & Events', and 'Contact'. A 'PARTNER LOGIN' button is also visible. The main content area features the heading 'RDX LOCK Software Registration' and the instruction 'Please click the link below to download your license key file:'. A blue button labeled 'Download License Key File' is prominently displayed. Below this, there is a footer with links for 'Home', 'Contact Us', 'Feedback', 'Sitemap', and 'Privacy', along with the phone number 'Tel. 00.800.TANDBERG' and the copyright notice '©2018 Tandberg Data'. A Firefox file download dialog box is overlaid on the page, titled 'Öffnen von RDXLOCKLicenseKey20180129041711.txt'. The dialog shows the file name 'RDXLOCKLicenseKey20180129041711.txt', its type as 'Text Document (224 Bytes)', and its source as 'http://forms.tandbergdata.com'. It asks 'Wie soll Firefox mit dieser Datei verfahren?' and offers three options: 'Öffnen mit Notepad (Standard)', 'Datei speichern' (which is selected), and 'Für Dateien dieses Typs immer diese Aktion ausführen'. 'OK' and 'Abbrechen' buttons are at the bottom.

Zusätzlich wird eine Email versandt



Installation des Lizenz-Keys

The screenshot displays the Overland Tandberg rdxLOCK GUI. The main window shows the 'Volume Properties' dialog for a volume named 'WORM Volumes'. The 'Request License' and 'Install License' options in the left-hand menu are circled in red. An 'Open' dialog box is overlaid on the main window, showing the file 'RDXLOCKLicenseKey20171228102516.txt' selected in the 'Downloads' folder.

Volume Properties:

Volume GUID:	WORM Volumes
Media Serial No:	886202
MountPoint:	D:\
Label:	QuikSto
Filesystem:	NTFS
Serial Number:	86E7C0
Drive Type:	removable
Total Capacity:	4657.52 GB
Used Space:	0.23 GB
Free Space:	4657.29 GB

File Explorer (Downloads):

Name	Date modified	Type	Size
Quick access			
Desktop	28.01.2018 19:43	Application	8.147 KB
Downloads	26.01.2018 10:21	Compressed (zipped)...	57.168 KB
Documents	09.01.2018 17:10	Application	25.350 KB
Pictures	09.01.2018 17:07	Application	3.692 KB
RDXLOCKLicenseKey20171228102516.txt	09.01.2018 14:19	Application	96.482 KB
	09.01.2018 10:37	Compressed (zipped)...	15.195 KB
	28.12.2017 18:25	Text Document	1 KB
	04.12.2017 17:43	BIN File	3.546 KB
	04.12.2017 17:11	Application	255.015 KB
	04.12.2017 15:55	Compressed (zipped)...	36.537 KB
	30.11.2017 16:43	Adobe Acrobat-Dok...	36.126 KB
	27.11.2017 12:31	Compressed (zipped)...	103.241 KB
	27.11.2017 01:20	MP3 File	65.777 KB
	06.11.2017 03:05	Application	129.163 KB

Output:

```
rdxLOCK Component Status:  
rdxLOCK Service (ProcessID: 4300) is running.  
rdxLock filter is attached to all WORM volumes.
```

Overland Tandberg rdxLOCK Version 2.3.2.216 - Release

Lizenz-Key wurde installiert

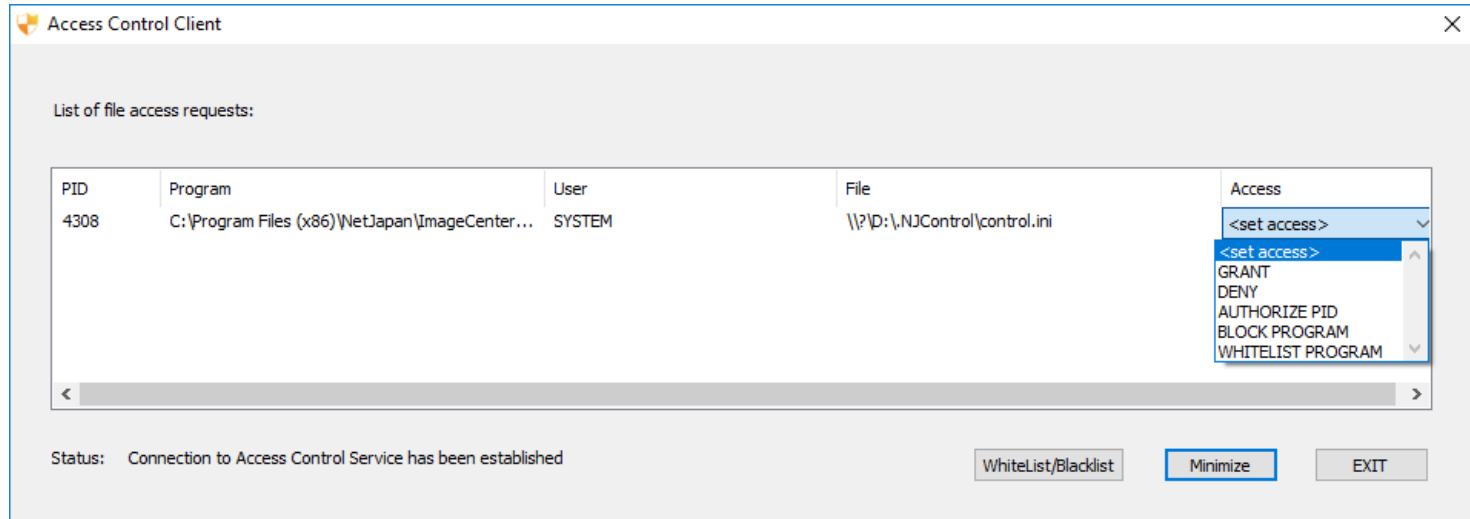
The screenshot shows the 'Overland Tandberg rdxLOCK GUI' window. On the left is a 'Volumes' tree view with 'Standard Volumes', 'WORM Volumes', and 'RansomBlock Volumes'. The main area displays 'Volume Properties' for a drive with the following details:

Volume GUID:	\\?\Volume{77a34081-046c-11e8-acd0-507b9dec442d}\
Media Serial No:	886202358821
MountPoint:	D:\
Label:	QuikStor 5.0TB
Filesystem:	NTFS
Serial Number:	86E7C09C
Drive Type:	removable drive
Total Capacity:	4657.52 GB
Used Space:	0.23 GB
Free Space:	4657.29 GB
Access Mode:	RansomBlock
License Type:	temporary
License Status:	Valid
Licensed Capacity:	1024.00 GB
free WORM Capacity:	1023.77 GB

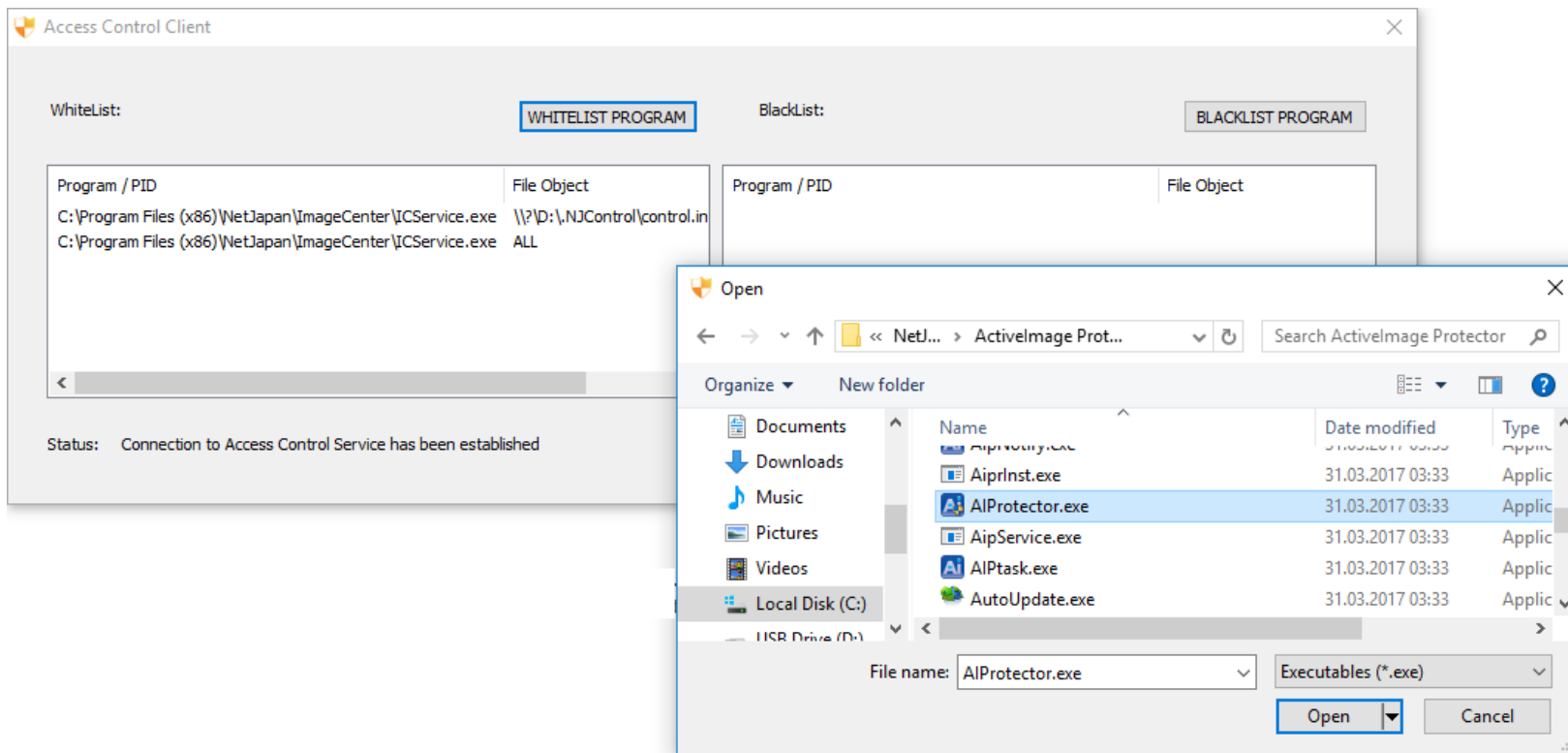
On the right side, there are two green 3D pie charts. The top one is labeled 'Total:' and the bottom one is labeled 'License:'. Both charts show 100% usage. A small 'GUI' dialog box is overlaid in the center, displaying an information icon and the text '1 license key(s) installed.' with an 'OK' button.

At the bottom of the window, there is an 'Output' pane showing 'rdxLOCK Verified Retention Clock Status:' and a status bar with 'Status', 'VRC', and 'Logging' buttons. The version information 'Overland Tandberg rdxLOCK Version 2.3.2.216 - Release' is visible at the very bottom.

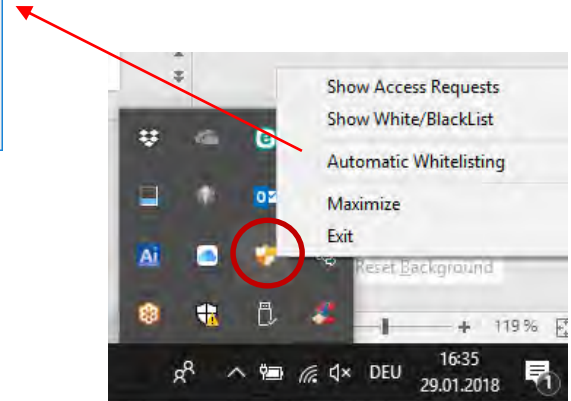
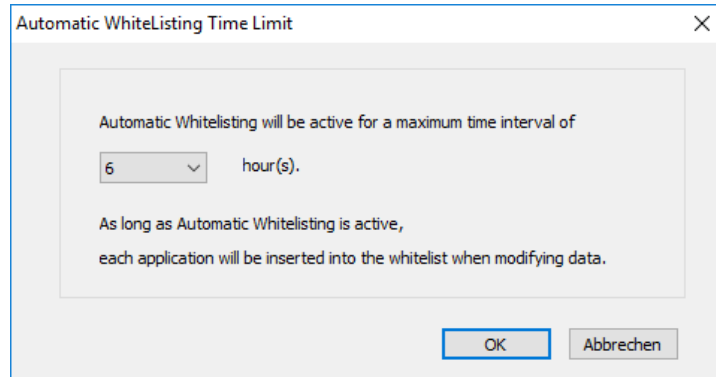
Der Access Control Client erhält die erste Anforderung



Vorab-Whitelisting einer Software



Automatisches Whitelisting für einen gewissen Zeitraum





FAQ

rdxLOCK; RDX WORM and Ransomblock FAQ

- **Is RDX WORM a Hardware solution only?** *No it is not. WORM is a software functionality used with standard RDX Media and works on Windows OS only.*
- **Do we sell the rdxLOCK software license only?** *No rdxLOCK licenses are sold with RDX WORM Media only.*
- **Why is the new 1.0TB WORM media more expensive than the previous?** *Software license costs have increased and we added new features and OS support.*
- **When purchased a RDX WORM media, can I use the rdxLOCK license before activated for a different RDX media?** *Yes you can, but it is recommended that to use the same capacity as we deliver capacity licenses with the RDX WORM media.*
- **Can I reuse the rdxLOCK license?** *Yes with the new licenses and new rdxLOCK software release you can and is a new feature compared to our previous software license. Each software license can be reused with the same media only. It allows you to change the WORM mode and also change to Ransomblock however each time you reuse or change the WORM mode all data will be lost as it has to be repartitioned and formatted.*
- **What are the differences to previous license and rdxLOCK software releases?** *We now have support of directory level and single file retention; rdxLOCK licenses can be reused with same RDX Media; support for current Windows OS; higher capacity WORM media/licenses; new Ransomblock feature*
- **I'm currently using RDX WORM are there any changes or compatibility issues when I perform the software upgrade to the latest rdxLOCK version?** *No, there are no changes expected. You will be able to continue to use the configured RDX WORM functions with the same license. It is not possible to reuse the license by reformatting the media to benefit of the new rdxLOCK features. But you benefit of new Windows OS support if you need to migrate your OS.*
- **Can I use the RDX WORM media on different computer systems?** *Yes you can. All you need is rdxLOCK software installed; the license is stored on the RDX Media, there is no need to buy additional licenses.*

rdxLOCK; RDX WORM and Ransomblock FAQ

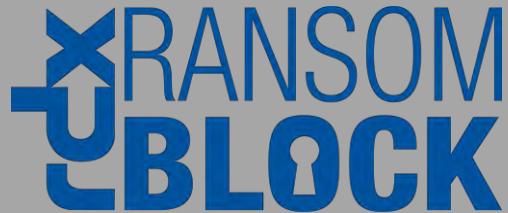
- **What Operating systems are supported?** *rdxLOCK is a Windows only software solution; when trying to use on other OS you will not be able to access the data.*
- **Can I use rdxLOCK and RDX WORM / Ransomblock with other RDX vendors RDX drives/docks?** *Yes, you can. All you need is a RDX WORM Media; Note: Dell RD1000 only supports 1.0TB and 2.0TB WORM media.*
- **I was using the 60-Day trial version and don't have access to the data anymore. Can I use a rdxLOCK software license of a RDX WORM Media and continue to use and get my data back?** *Yes, you can. After the trial period is expired, you will not have access to the data stored on your RDX Media. You can then choose to repartition and format your RDX media but that means you will lose all data. If you want to keep your data access you need to apply a license after the trial period for the same capacity or the next bigger RDX WORM Media capacity*
- **Does rdxLOCK work with all RDX Drives and RDX QuikStation?** *Yes it does. Incl. All RDX OEM branded drives for RDX QuikStation it is supported with RDX modes and Disk Autoloader mode only and you can use both RDX WORM and Ransomblock.*
- **What RDX QuikStation operation modes are supported with rdxLOCK?** *Currently individual RDX targets and Disk-Autoloader modes are supported with rdxLOCK; RDX LVM mode is a roadmap item and any VTL (Tape) modes are not supported.*
- **How do you perform a BMR operation with a RDX RansomBlock volume?** *This is depending on your backup application and Server environment but for best practice prepare a BMR RDX Media with basic Windows Backup Server OS installation, Backup Application and rdxLOCK and store at a secure location offline and offsite. Data Restore requires a functional rdxLOCK installation and a VM image/snapshot on RDX Media might be sufficient as well.*

Current verified Backup Applications

VERITAS™

VEEAM

 NetJapan

 XRANSOM
UNBLOCK

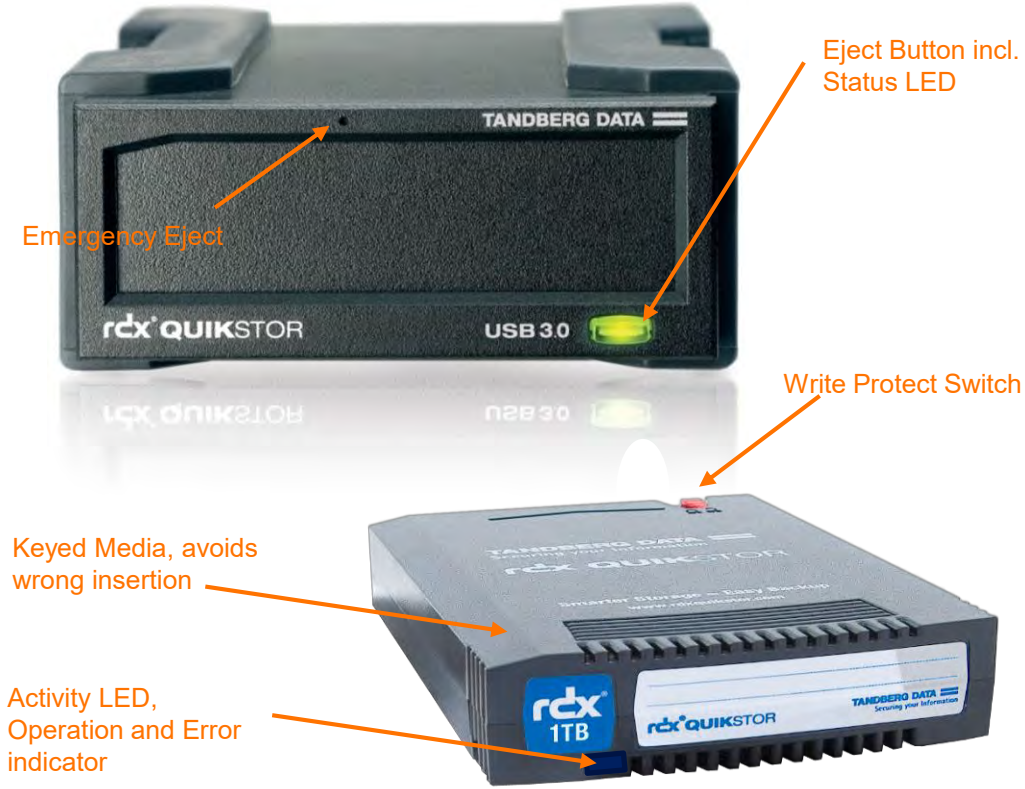
 Microsoft

ARCHIWARE

Acronis

Appendix

RDX Drive and Media – How does it look like



- Eject button
- Emergency Eject
- Status LED

- Keyed media
- Activity LED
- Write-protect switch

RDX Drive and Media – Some Facts



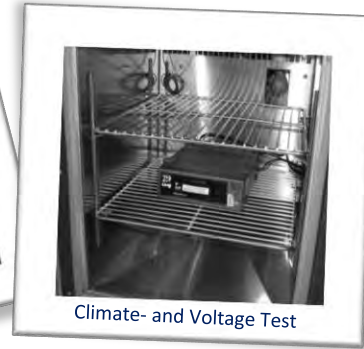
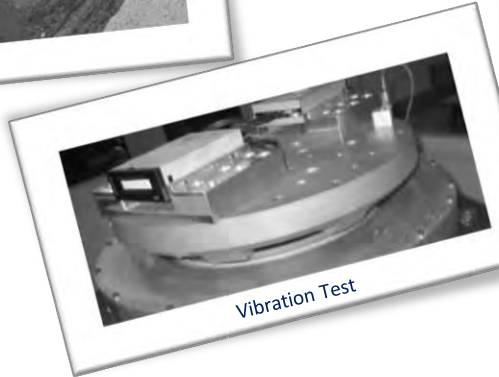
- Full forward- and backward- Media compatibility
- No technology upgrade required
- Media of the first generation can be used in latest or future Drive generations
- Drives of the first generation can use current and future media-generations

- USB3.0 c
- Internal
- Random isolation

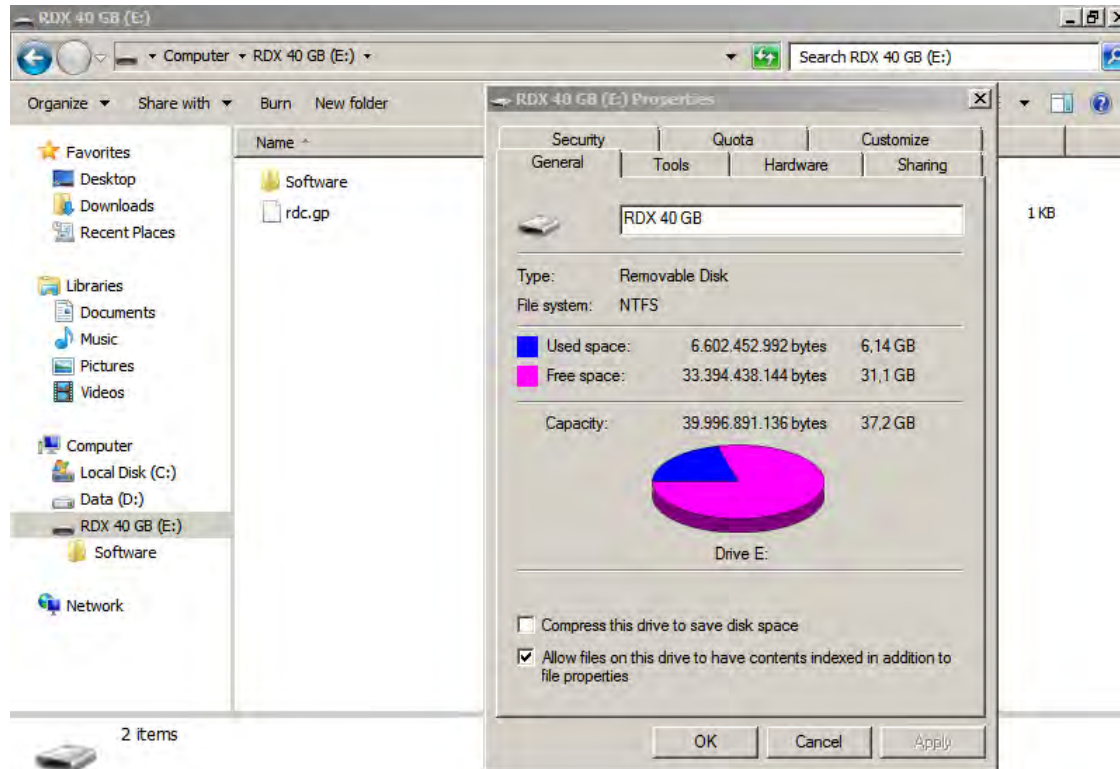
- tion
- Proof
- D Media
- Encryption and WORM





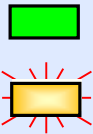

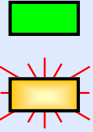
RDX Media Qualification

- Drop-Test
 - Specified Drop-Test with over 800 Drops
 - >99,x% survive at 36" (~1m) height
- RDX Extreme-testing



Plug & Play installation



LED State		Media LED		Drive LED		Host
Color	Activity	Status	Description	Status	Description	Activity
	OFF	NOT READY	Media is not inserted properly or is powered down due to low power mode and Host inactivity.	POWER DOWN	Drive does not have power through USB connection** or does not have power through external adaptor.	ON
	STEADY GREEN	READY	Media is ready	READY	RDX is ready and working properly	ON
	BLINKING GREEN	ACTIVITY	Reading, writing, seeking	EJECTING	Drive is ejecting Media	ON
	STEADY AMBER	FAULT	RDX has detected a Media fault condition. For more information, run a diagnostic application.	FAULT	RDX has detected a Drive fault condition. For more information, run a diagnostic application.	ON
	STEADY GREEN Blinking Amber once eject button is pressed	N/A		PREVENT	Host computer is accessing the media and the user has pressed the Eject Button. The drive will eject the media after the Host access completes.	ON
	STEADY GREEN for 30s, then off	N/A		POWER SAVING*	Press and hold Eject Button to eject RDX Media	OFF
	STEADY GREEN Blinking Amber once eject button is pressed	N/A		POWER SAVING*	Press and hold Eject Button for 5s to eject RDX Media	OFF

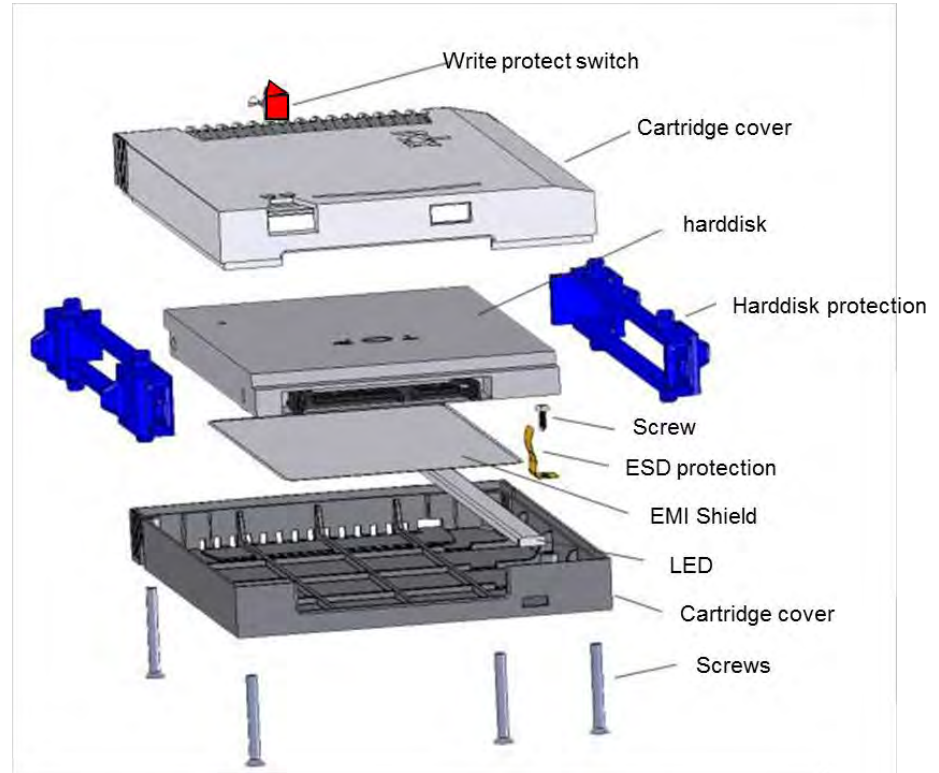
*Note: Only applicable for USB3+ RDX drives with external adaptor power or USB port with charging function

**Note: Only applicable for USB3+ RDX drives

© 2018 Sphere 3D

RDX Cartridge Design: Technical Overview

- Uses core laptop HDD
- Special isolation mounts improve shock / vibration
- Conductive shell drains static charge before electrical interface connection is made
- HDD “Fingerprint” and electronic barcode capability



Thank You