



Synology

SMART
STREAMLINED
SOLID

2019



6.0 M

Units Sold

20%

Global NAS Market Growth to 2024

30+%

Growth in Business Segments

PRESS  ENTERPRISE

XX hardwareL**UX**X

Der Schwei**IT**zer
Professional IT for Private


BlueSky

chausson 
MATÉRIAUX

 **CRESCO**


**Sialkot
International
Airport**

L|M|S
SOFTWAREENTWICKLUNG

 **ASEAN 50**
PHILIPPINES 2017
★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★
PARTNERING FOR CHANGE, ENGAGING THE WORLD


NK International Co.,Ltd.

 **imagica**

 **OMEGA
PHARMA**
A **Perrigo**® Company


**AJUNTAMENT
D'ALAUQUÀS**

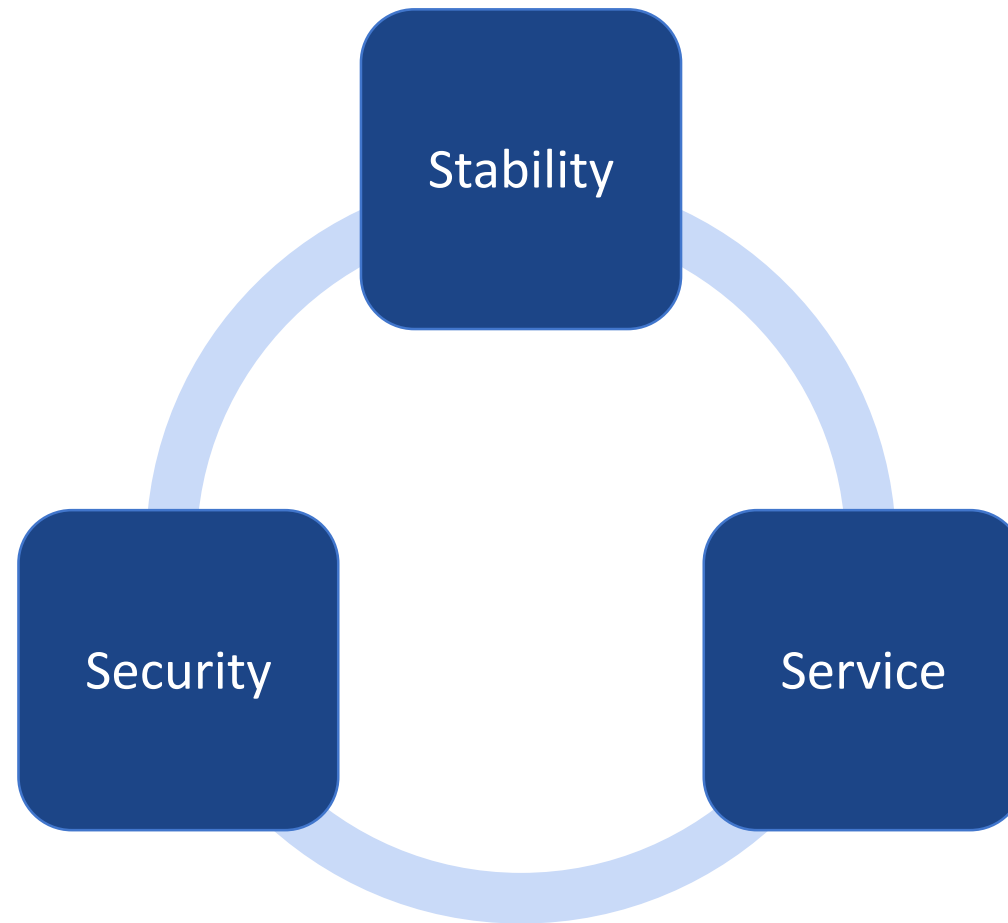
G **K R R O Y U S** P

vanke 万科


UNIVERSITY of LIMERICK
OLLSCOIL LUIMNIGH

 2019

Key Focus in 2018





Security

In 2017, Synology was authorized as a CNA by MITRE Corporation
In 2018, Became a member of FIRST, a global incident response community



Stability

DSM 6.2

71,000 NAS participated in the beta program

25,000 internal test items completed

A photograph of two men in a server room. The man in the foreground is bald with a beard, wearing a dark hoodie, and holding a laptop. The man behind him has grey hair and is wearing a light blue shirt and a grey blazer. They are both looking upwards and to the right, smiling. The background consists of rows of server racks with various cables and components visible.

Service

In DACH area,

Replacement Service on Next Business Day
by Technogroup

Training of Surveillance and Security partners
by wilkon Academy

The background of the slide features a hand reaching out to interact with a digital interface. Overlaid on this is a network diagram with a central cloud icon connected to several peripheral nodes. These nodes contain icons for a laptop, a smartphone, a document with a checklist, a person silhouette, and an envelope. Additionally, there are several padlock icons, some of which are highlighted with larger, semi-transparent circles. The entire scene is set against a dark blue gradient background.

What Would Be The Next Steps?

N

Networking



Multi-Cloud

A

Applications



Deep Learning

S

Storage



Mobility

DSM 7

Carefree and stable

Philip Rankers

Senior Produkt Manager DACH



Beta Programm

Beta Programm

- ▶ Beta Phase 1 = 3 Monate
- ▶ Beta Phase 2 = 3 Monate



Beta Programm

- ▶ 4 Beta Releases
- ▶ 71.000+ Community Tester



Rolling Release

► DSM7 Rollout

Rolling Release

1. Woche: Taiwan

● TAIWAN

Rolling Release

1. Woche: Taiwan

2. Woche: Japan, China, Süd Korea



A light gray world map serves as a background. In the East Asian region, four colored dots mark specific countries: a pink dot for Taiwan, and orange dots for China, South Korea, and Japan. The labels for these countries are placed next to their respective dots.

SÜD KOREA
CHINA
JAPAN
TAIWAN

Rolling Release



1. Woche: Taiwan
2. Woche: Japan, China, Süd Korea
3. Woche: Global
4. Woche: Taiwan
5. Woche: Japan, China, Süd Korea
6. Woche: Global





TOWER

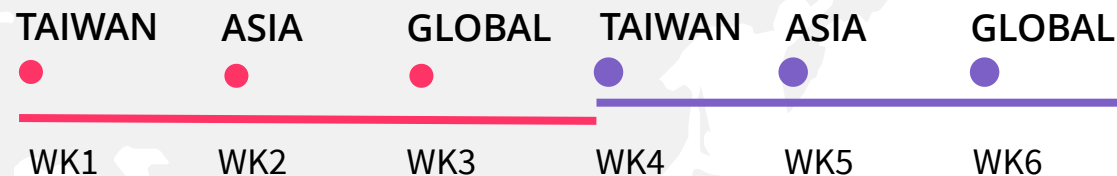


RACK

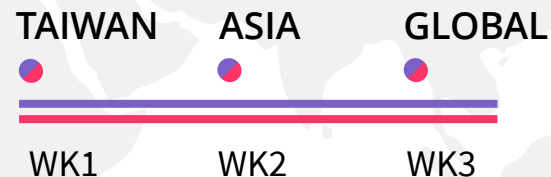
Rolling Release

► DSM 7 Release Pläne

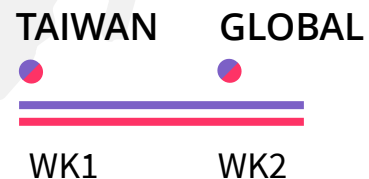
MAJOR & MINOR
7.0 / 7.X



MICRO
7.X.X



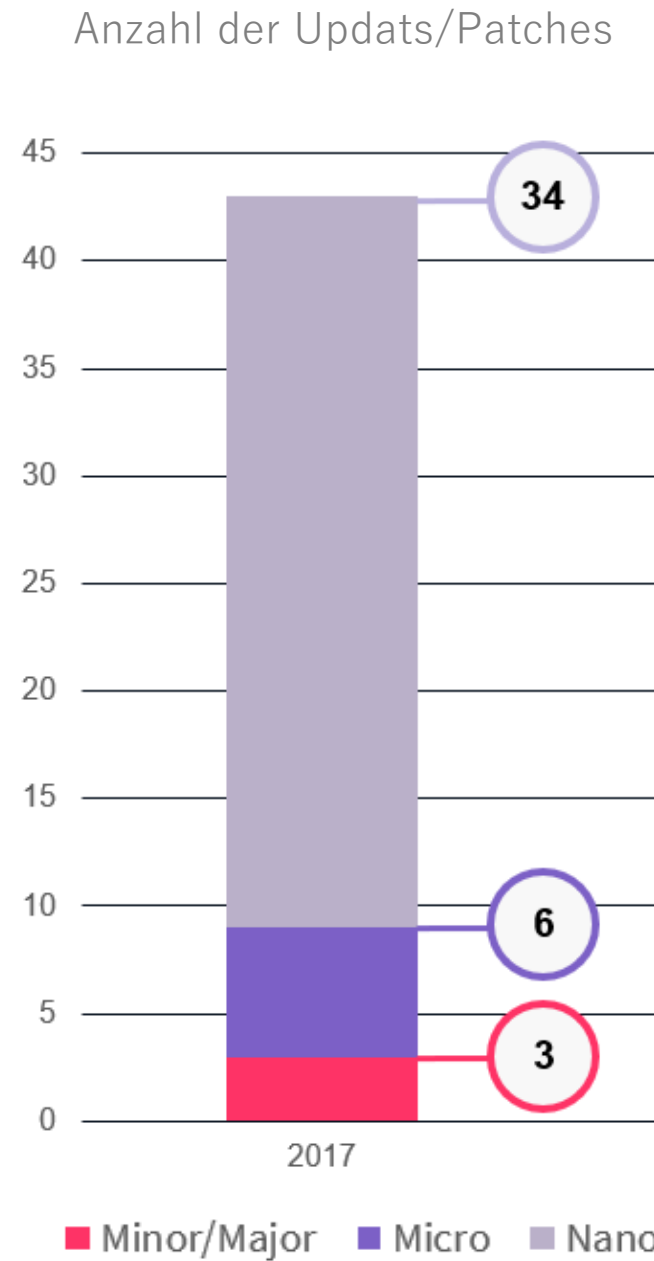
NANO
7.X U1



DSM Updates

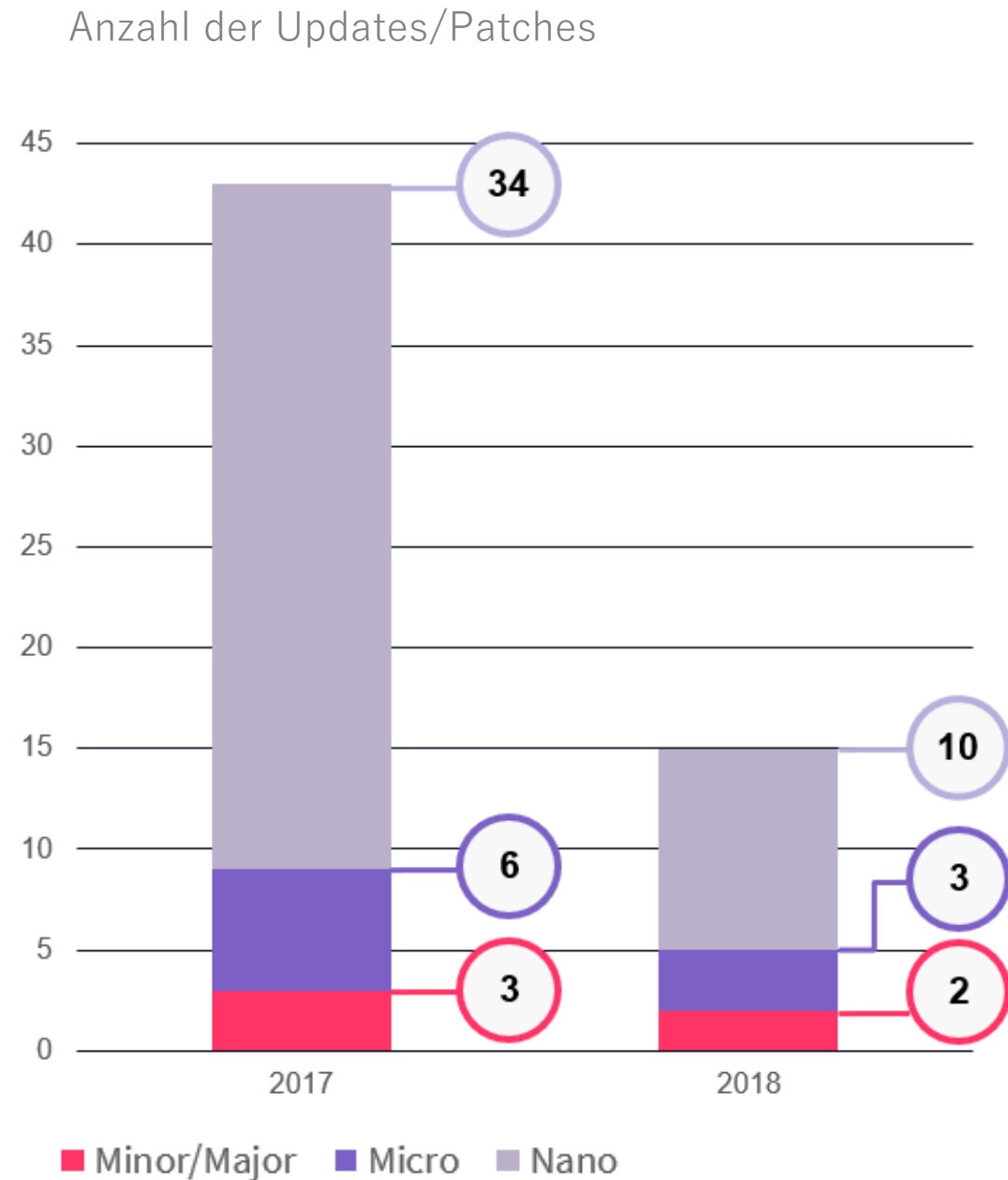
DSM Updates

► Updates 2017 (DSM6.2)



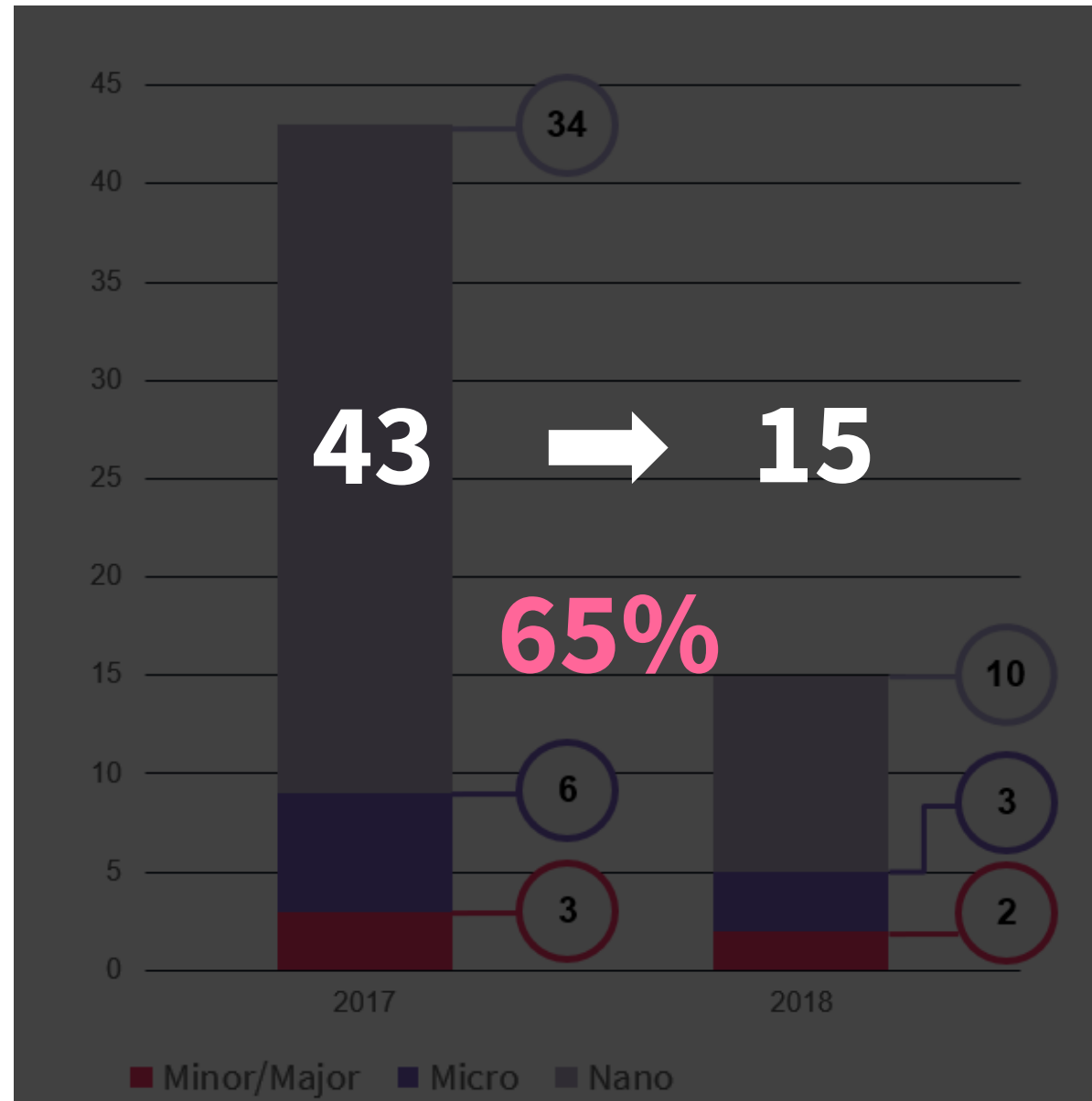
DSM Updates

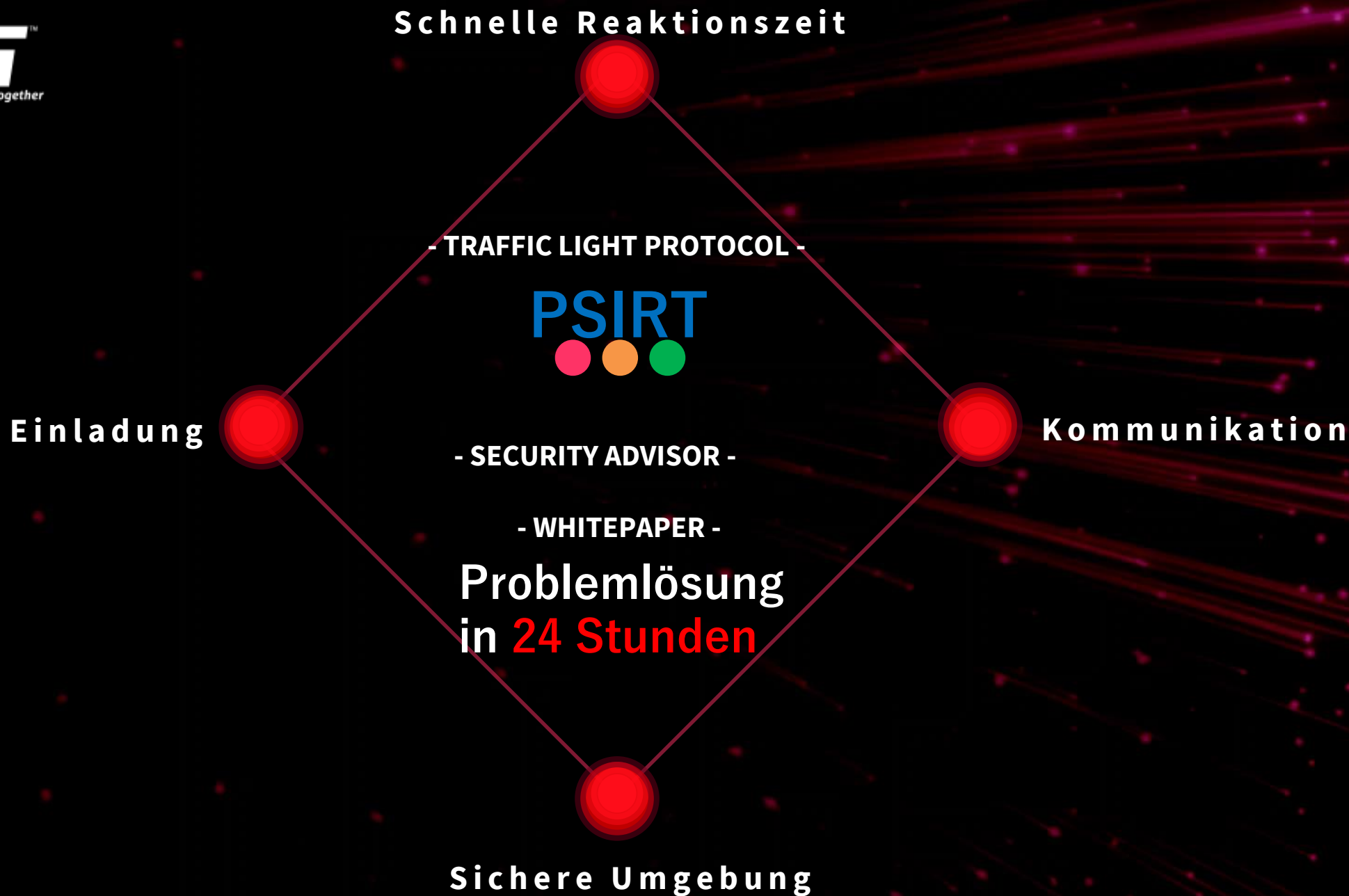
► Updates 2017 vs. 2018 (DSM6.2)



DSM Updates

► Updates 2017 vs. 2018 (DSM6.2)







Panasonic



Microsoft



amazon

Synology®



CISCO



Synology Bounty Programm



129

gemeldete Reports

DSM 7

Simple, yet powerful





Willkommen zum Synology Office
Server Düsseldorf

Zentrale File Server der Synology GmbH

Bitte melde dich an



Bleibe angemeldet

Anmelden

DSM 6.2 Login



Willkommen beim Synology Office Server Düsseldorf

Der zentrale Fileserver der Synology GmbH

[Log in to DSM](#)

[SSO Authentication](#)

Bitte melde Dich an

Benutzername

Passwort

☐ Bleibe angemeldet



DSM 7.0 Login

Hello there, welcome

The best storage space where we can share all our memories.

Log in to DSM

SSO Authentication



Chat



Jenny

☐

Stay signed in

[Forgot your password?](#)



DSM 7.0 CHAT Login



CPU  1016 KB/s
RAM  768 KB/s



Control Panel



Package Center



File Station



Chat



Download Station



System Event

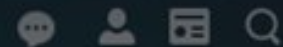
The package in "DS918+" is out-of-date.

Package Center

"PHP 7.0" is successfully installed.



CPU  1016 KB/s
RAM  768 KB/s



System Event

The package in "DS918+" is out-of-date.

Package Center

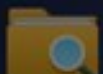
"PHP 7.0" is successfully installed.



Control Panel



Package Center



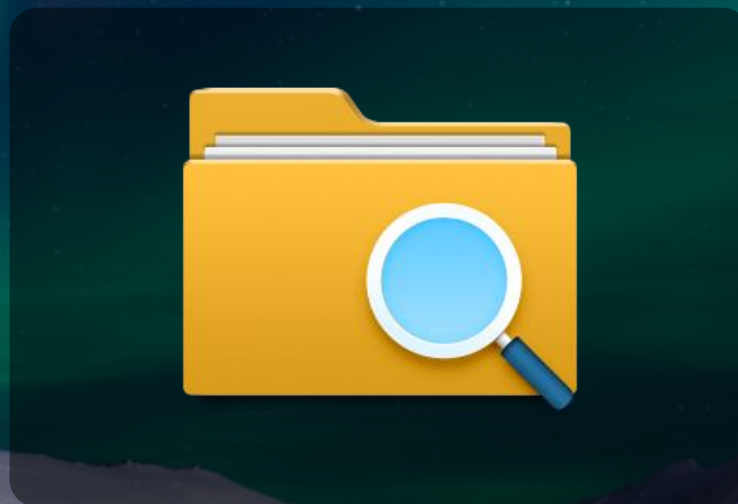
File Station



Chat

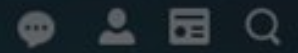


Download Station





CPU 1016 KB/s
RAM 768 KB/s



System Event

The package in "DS918+" is out-of-date.

Package Center

"PHP 7.0" is successfully installed.

Control Panel

• • • • •

Set up the DiskStation for syncing

Connection name:

Box

Local path:

/web

Remote path:

/BoxSync

Sync direction:

Bidirectional

☐ Enable advanced consistency check (more resources required)



☐ Data encryption

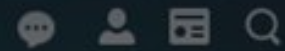
Schedule settings

Back

Next



CPU  1016 KB/s
RAM  768 KB/s



Control Panel



Package Center



File Station



Chat



Download Station

System Event

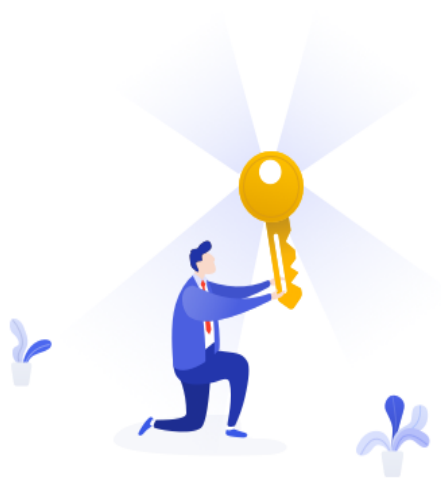
The package in "DS918+" is out-of-date.

Package Center

"PHP 7.0" is successfully installed.

Reset Password

Set a stronger password



Admin

New Password

.....

Submit

DS finder

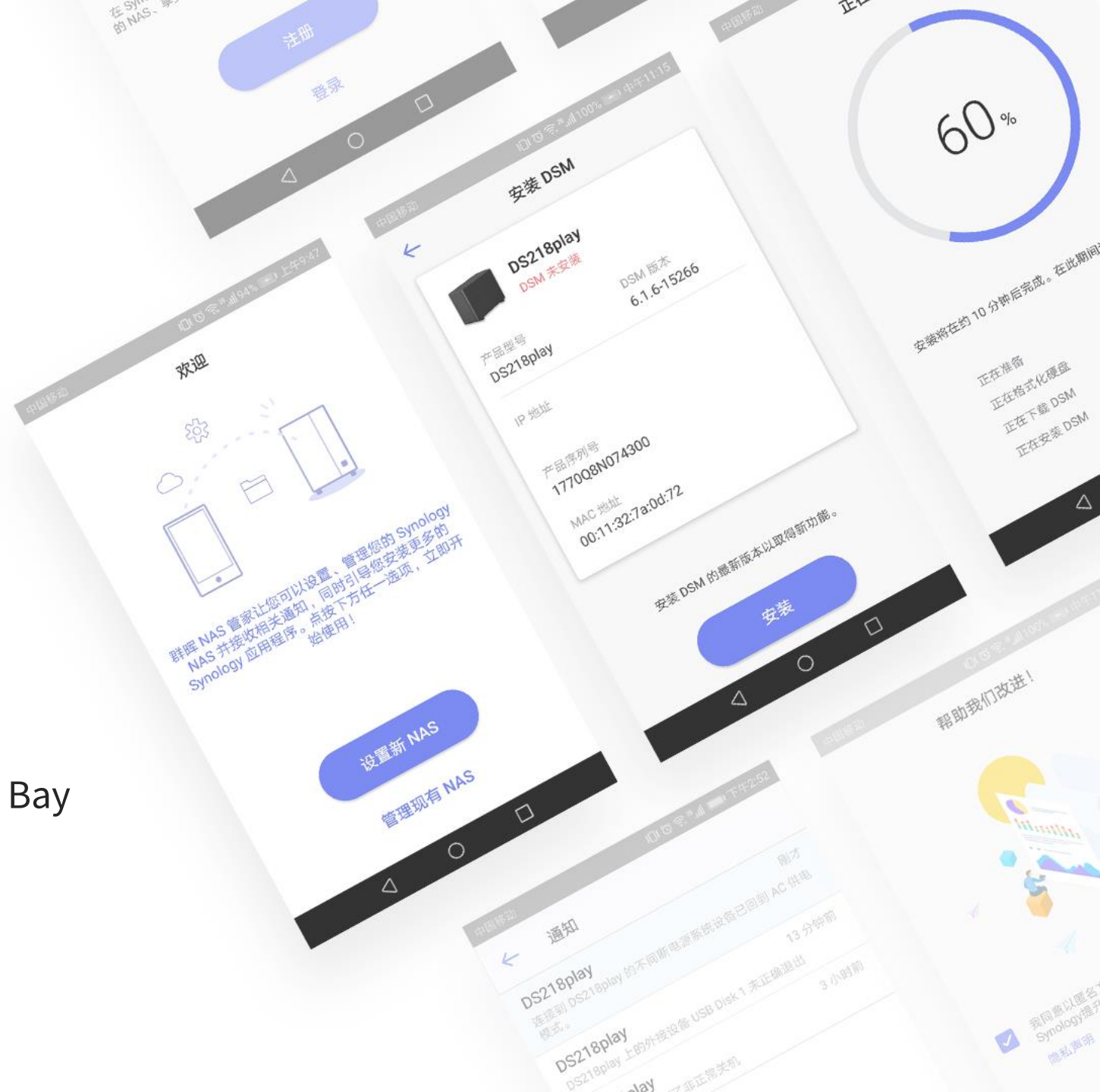
► Management to go



DS finder

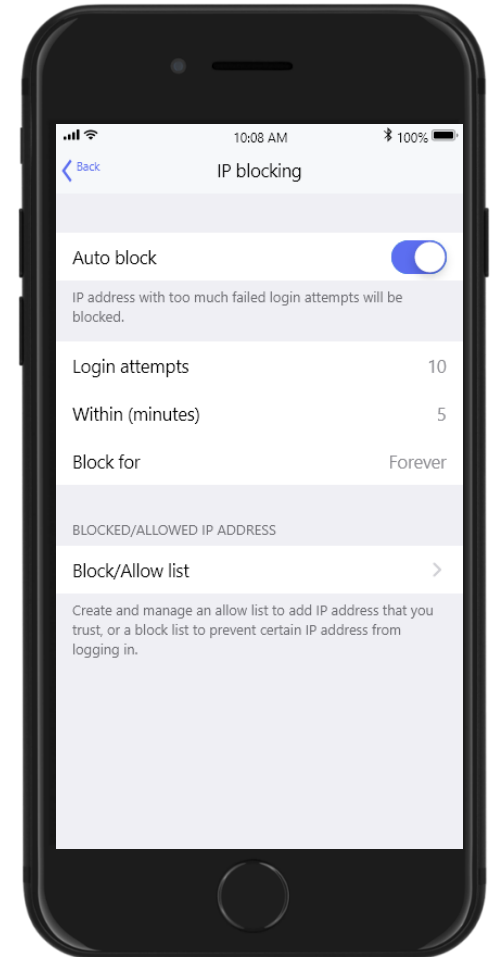
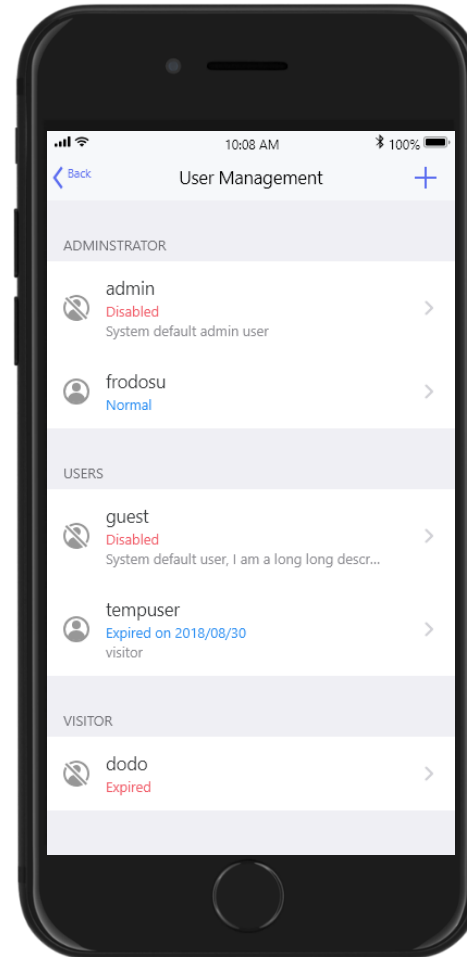
► DSM Installation

Zu Beginn für J, Value, Plus Serie bis 4 Bay



DS finder

- ▶ Benutzerverwaltung
- ▶ Sicherheit & Updates



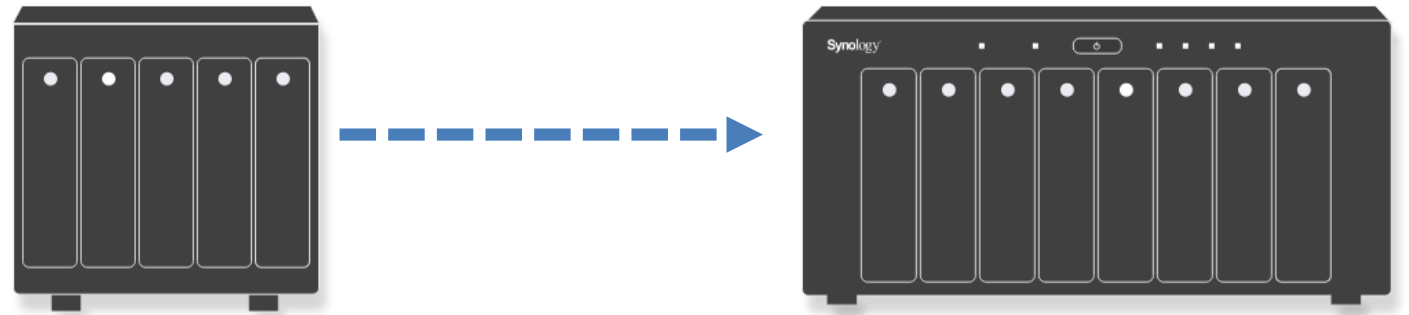
DS finder

► QR Code Login



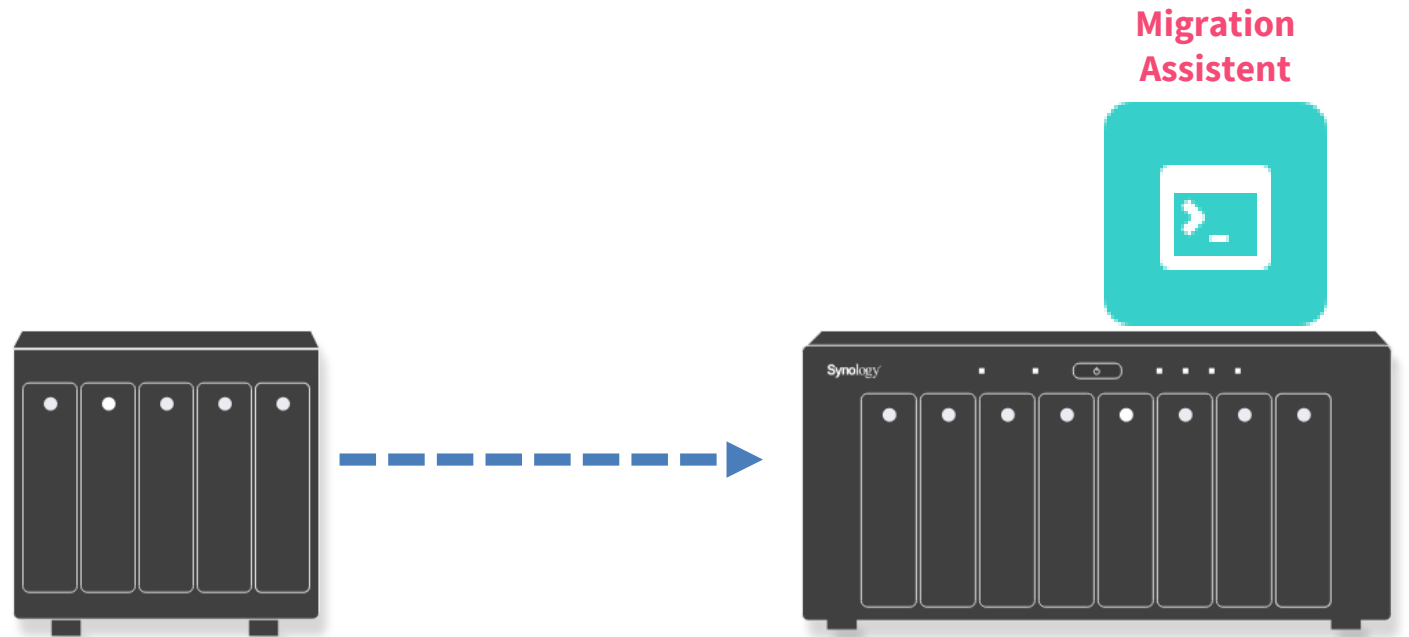
Migration

"1:1 Festplatten tauschen"



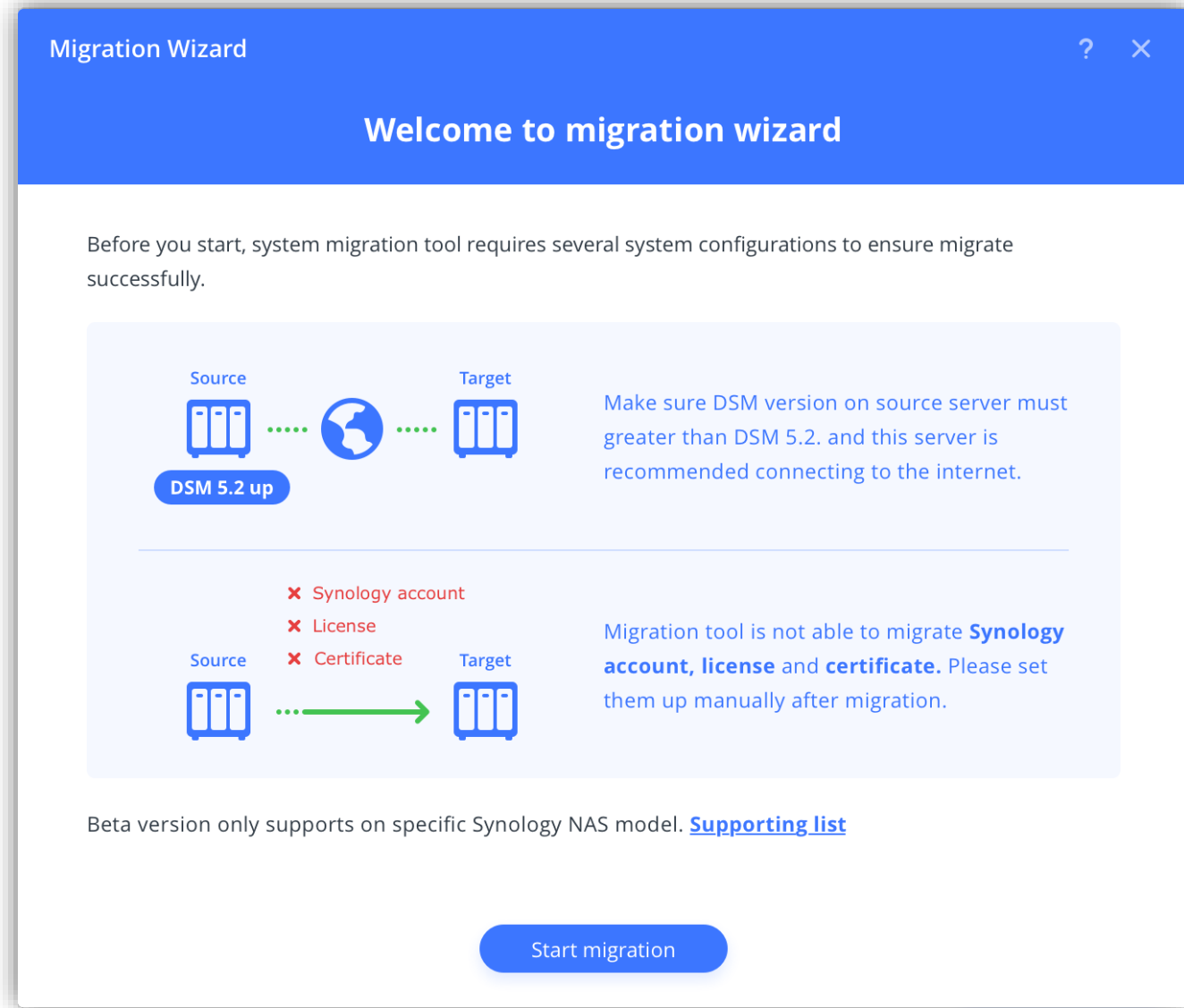
Migration Assistant

► System & Daten Migration



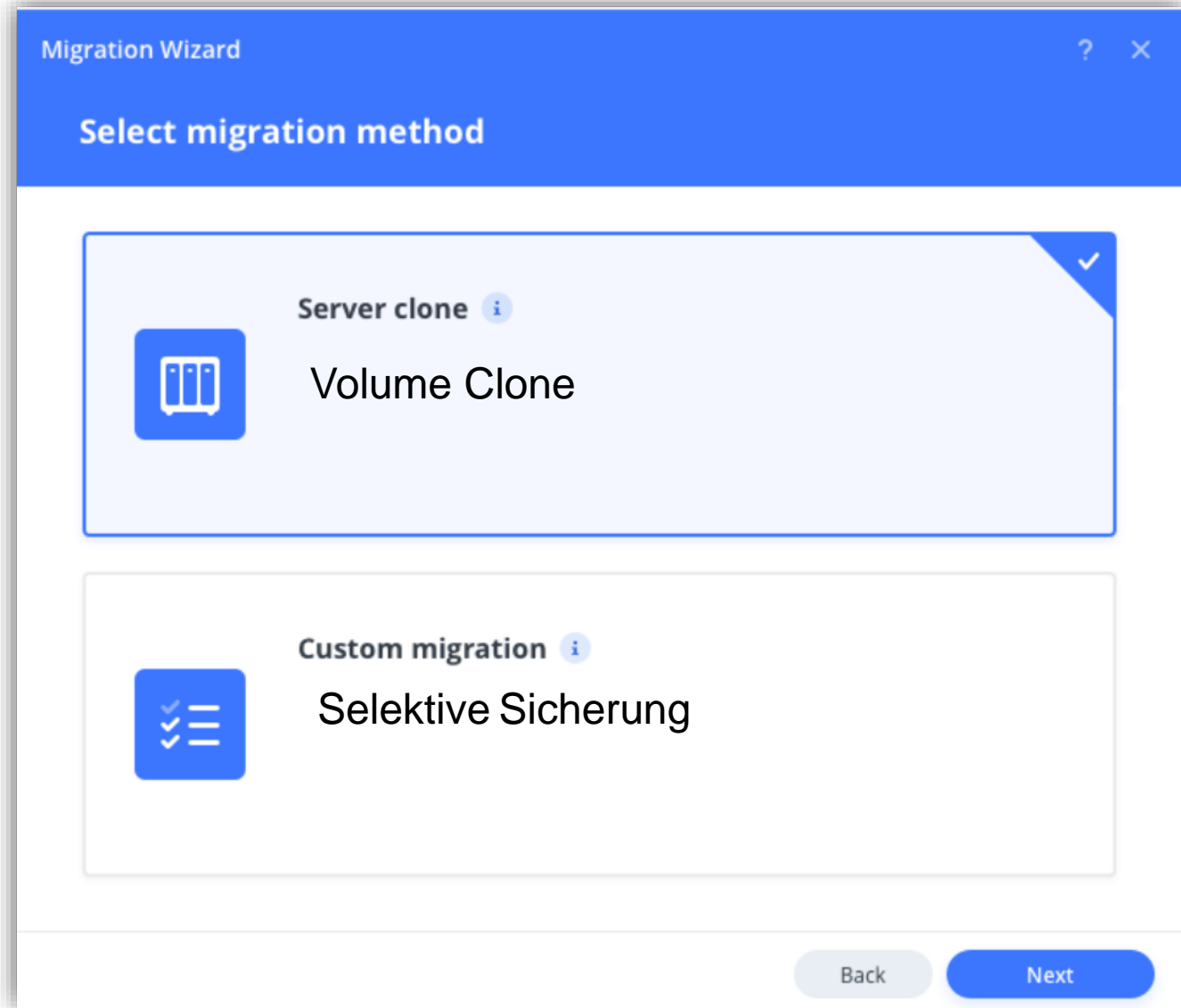
Migration Assistant

► Schritt für Schritt Anleitung



Migration Assistant

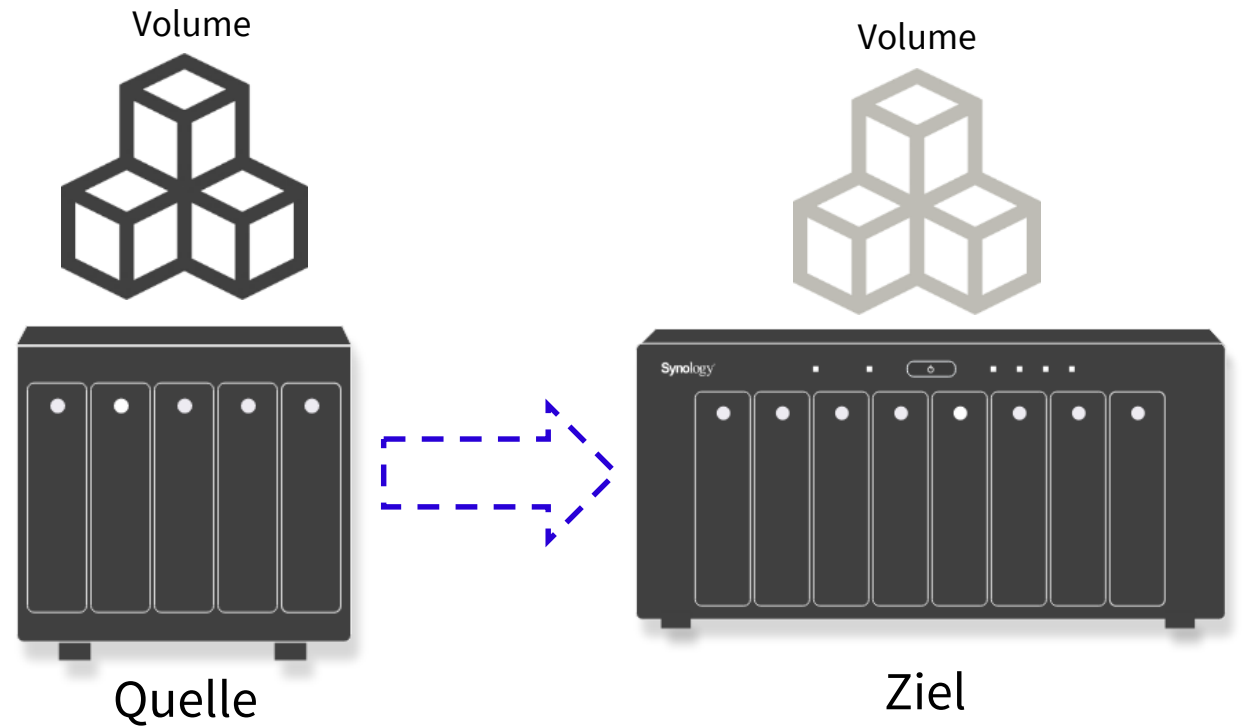
- ▶ Server Clone
- ▶ Custom Migration



Migration Assistant

► Server Clone

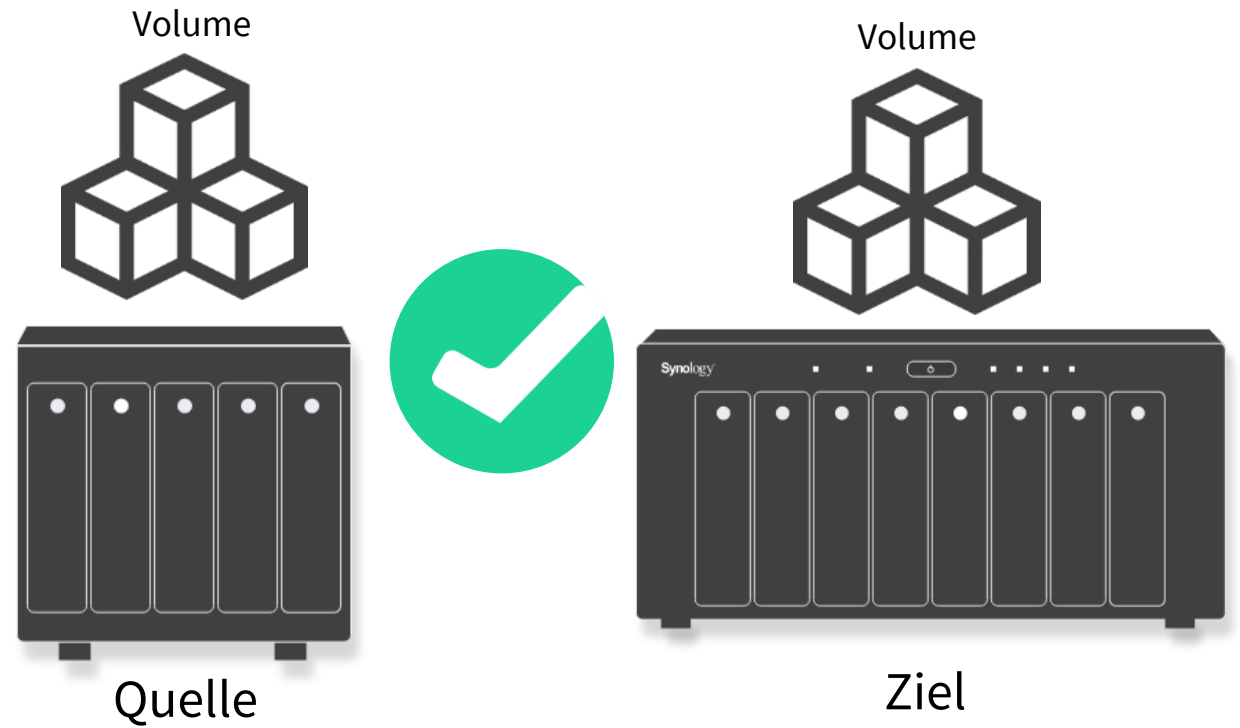
"1:1 Volume Clone auf gleiche Modell Architektur"



Migration Assistant

► Server Clone

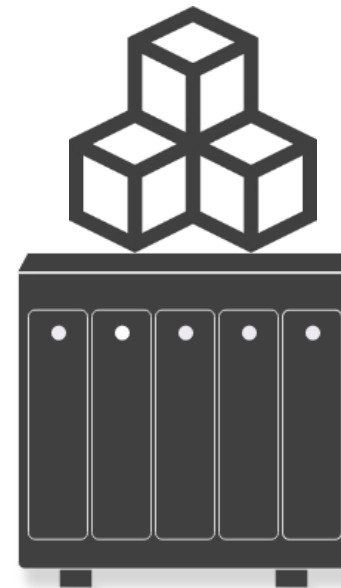
“Ideal um Systeme 1:1 zu migrieren”



Migration Assistant

► Custom Migration

“Flexible und Dateisystem unabhängig auf neues System migrieren.”

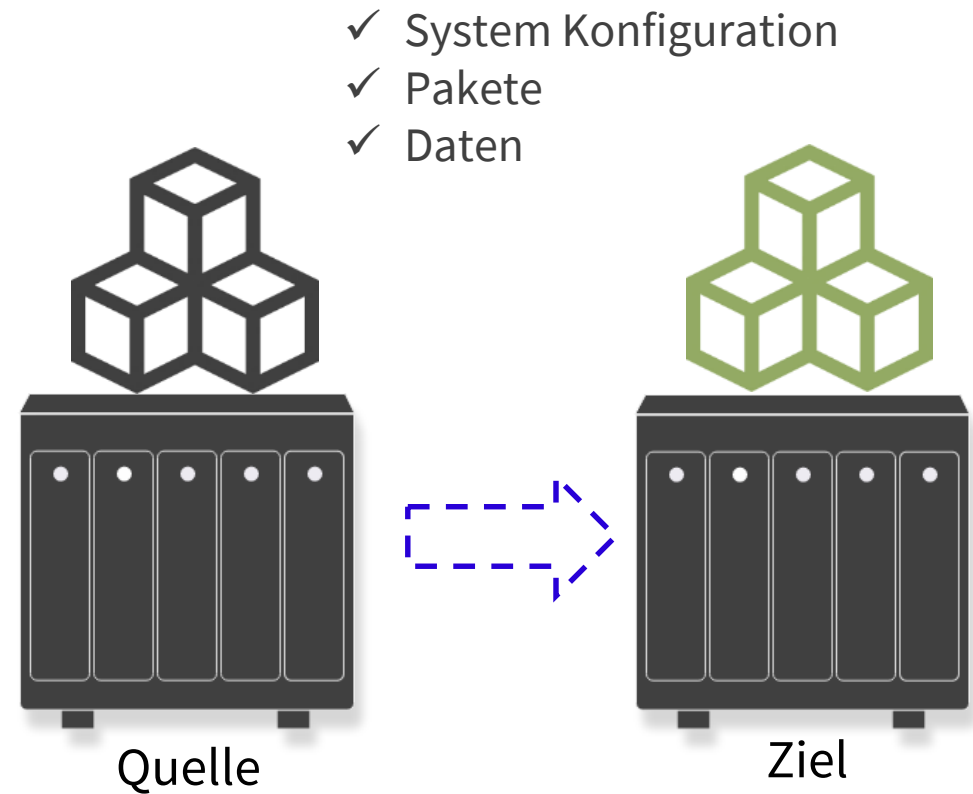


Quelle

Migration Assistant

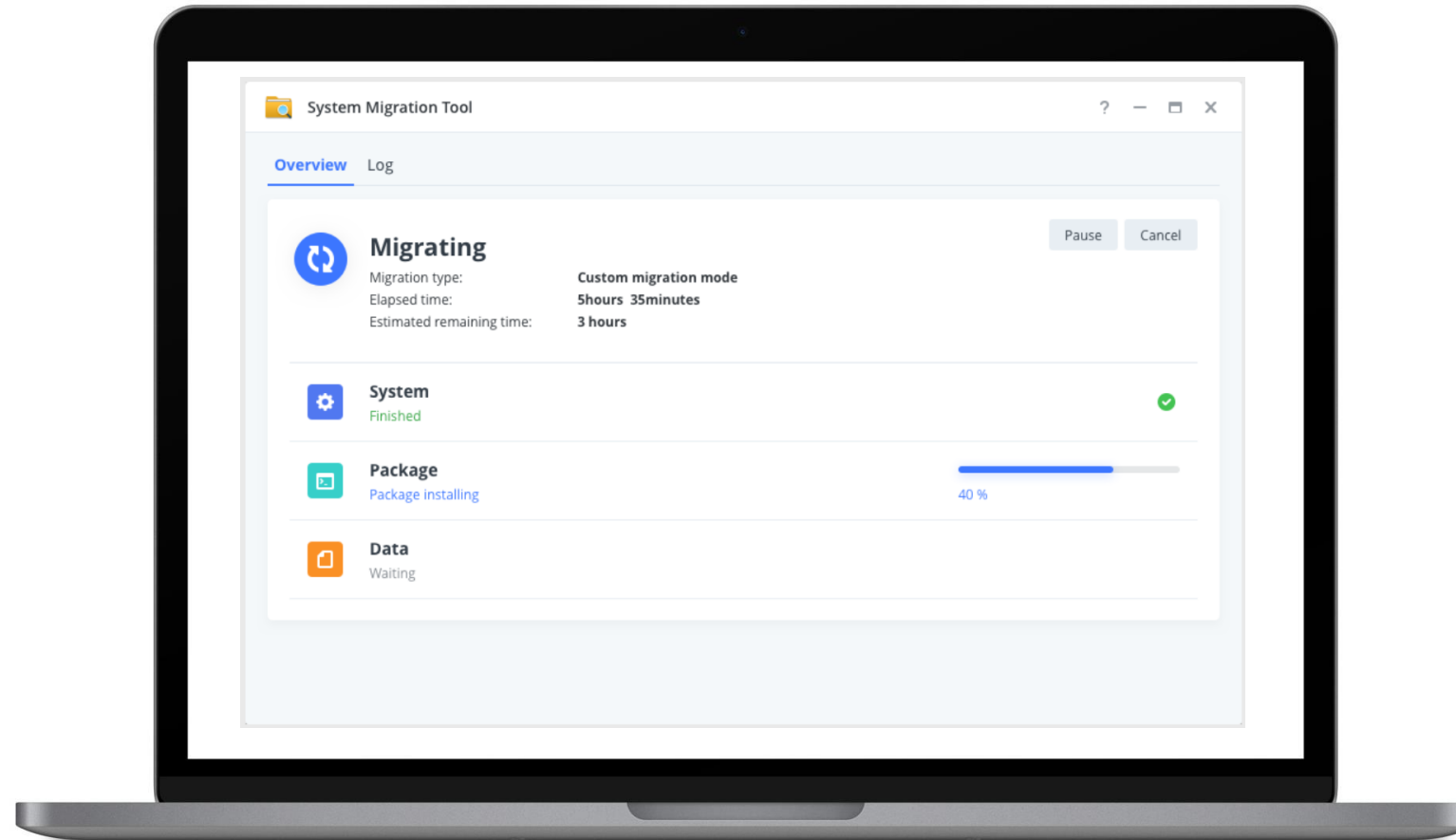
► Custom Migration

“Ideal um Systeme von ext4 auf btrfs zu migrieren”



Migration Assistant

► Status Informationen



DSM 7

Enterprise ready



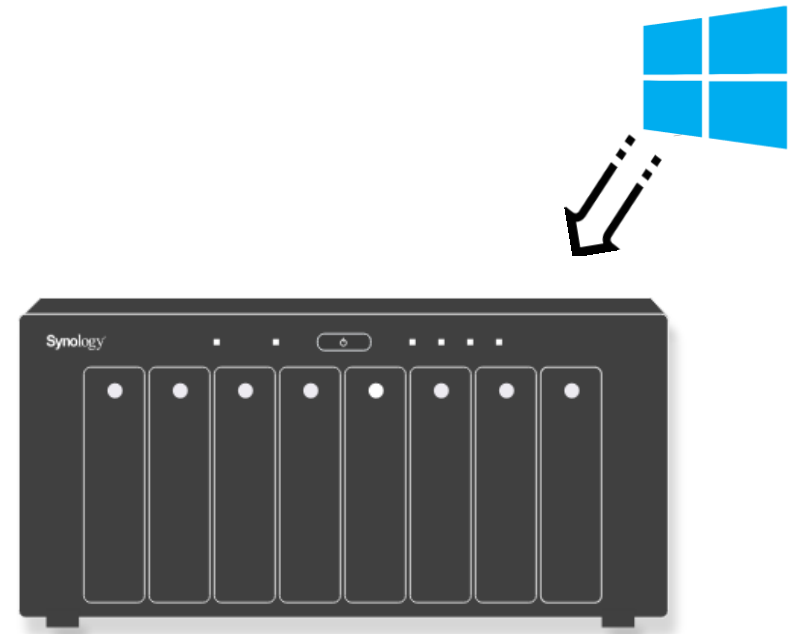
Active Directory



Active Directory

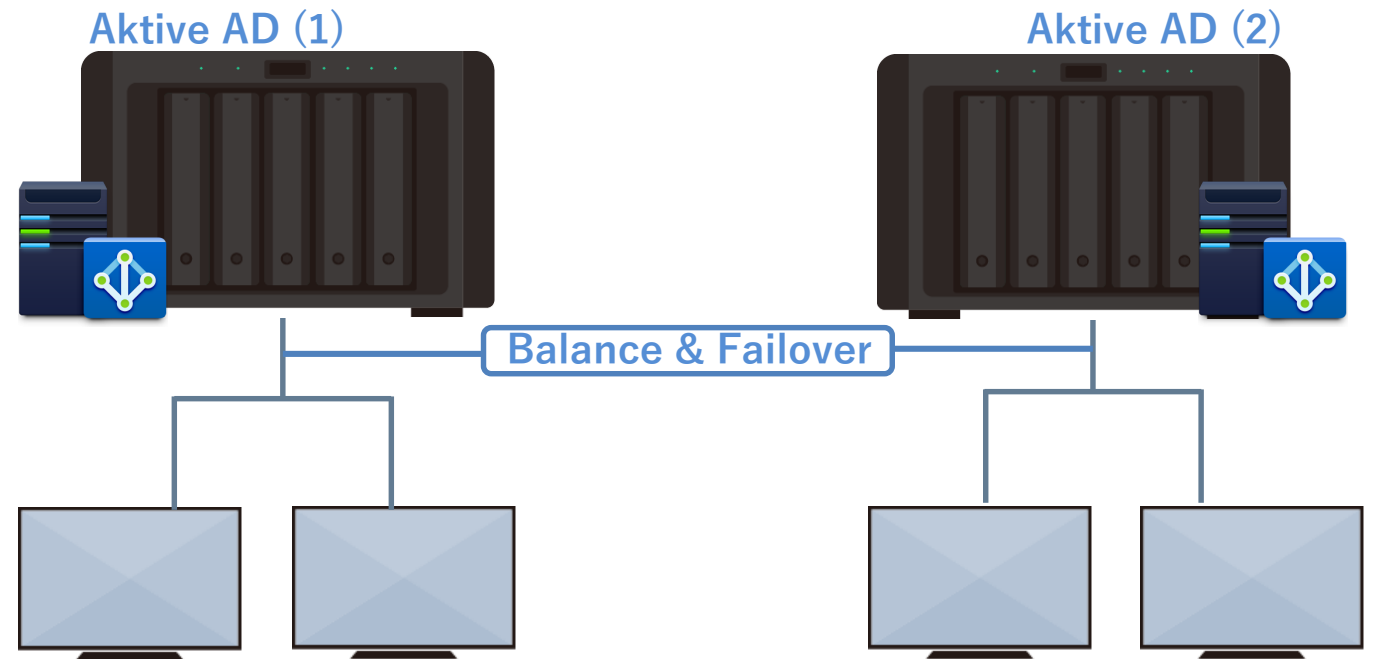
- ▶ Migration von AD zu Synology

“Einfacher Wechsel zu Synology Active Directory”



Active Directory

- ▶ Dual Controller
- ▶ Loadbalance & Failover

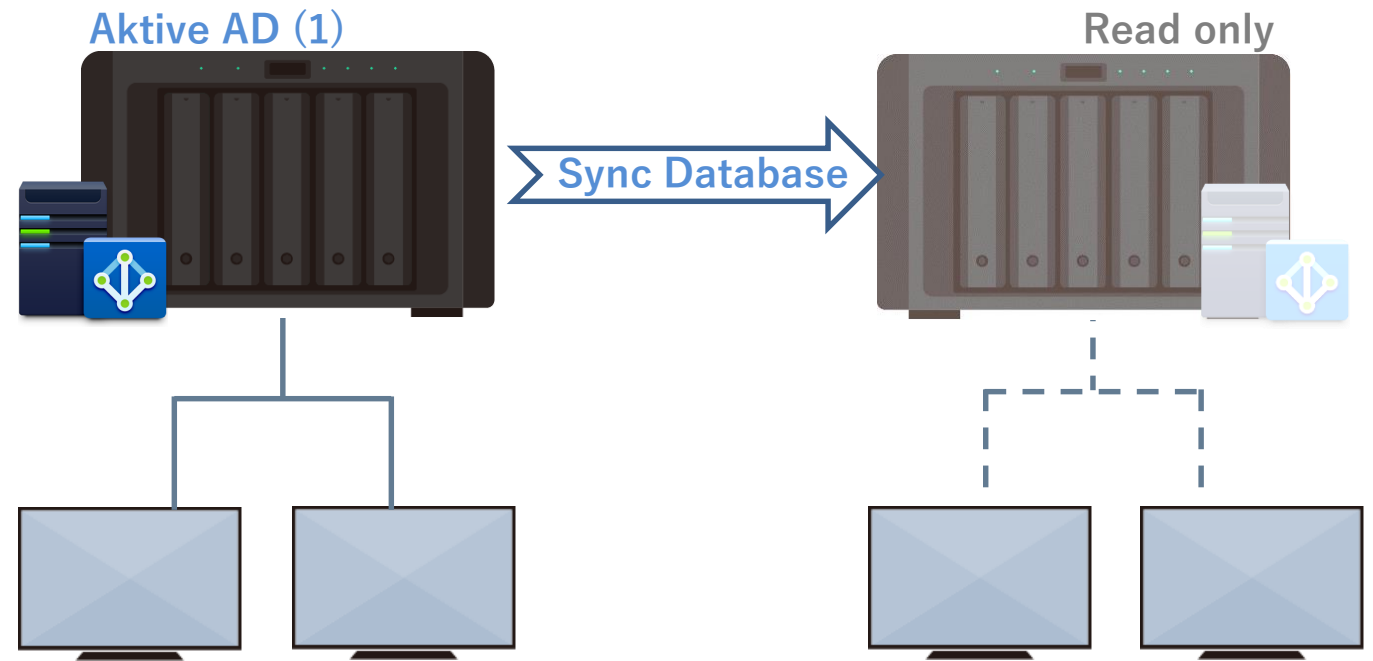


"Performance und Verfügbarkeit durch zwei Controller"

Active Directory

- Read only Domain Controller

“Ideal für mehrere Standorte”



Central Management

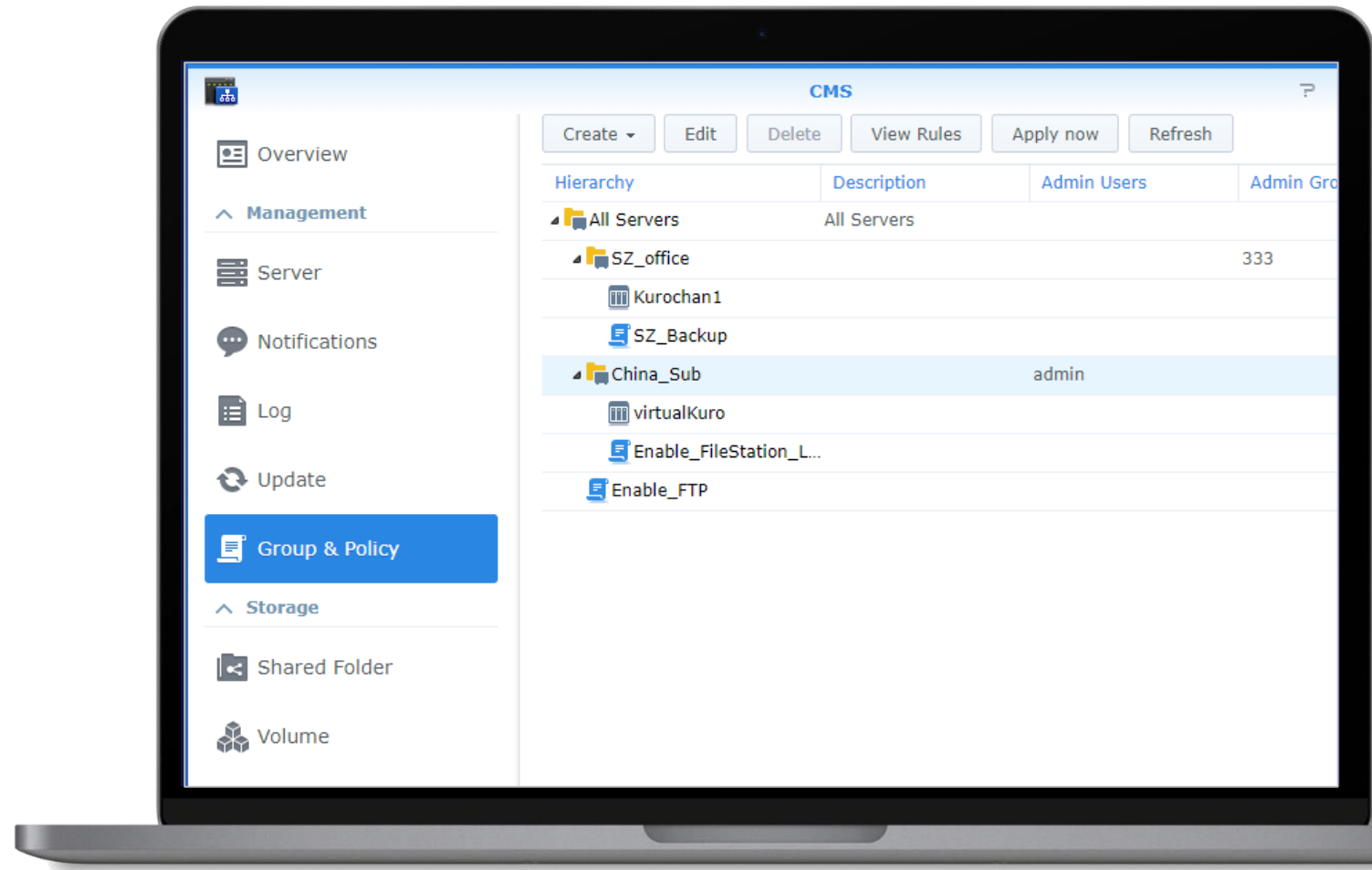


Central Management

10,000

Central Management

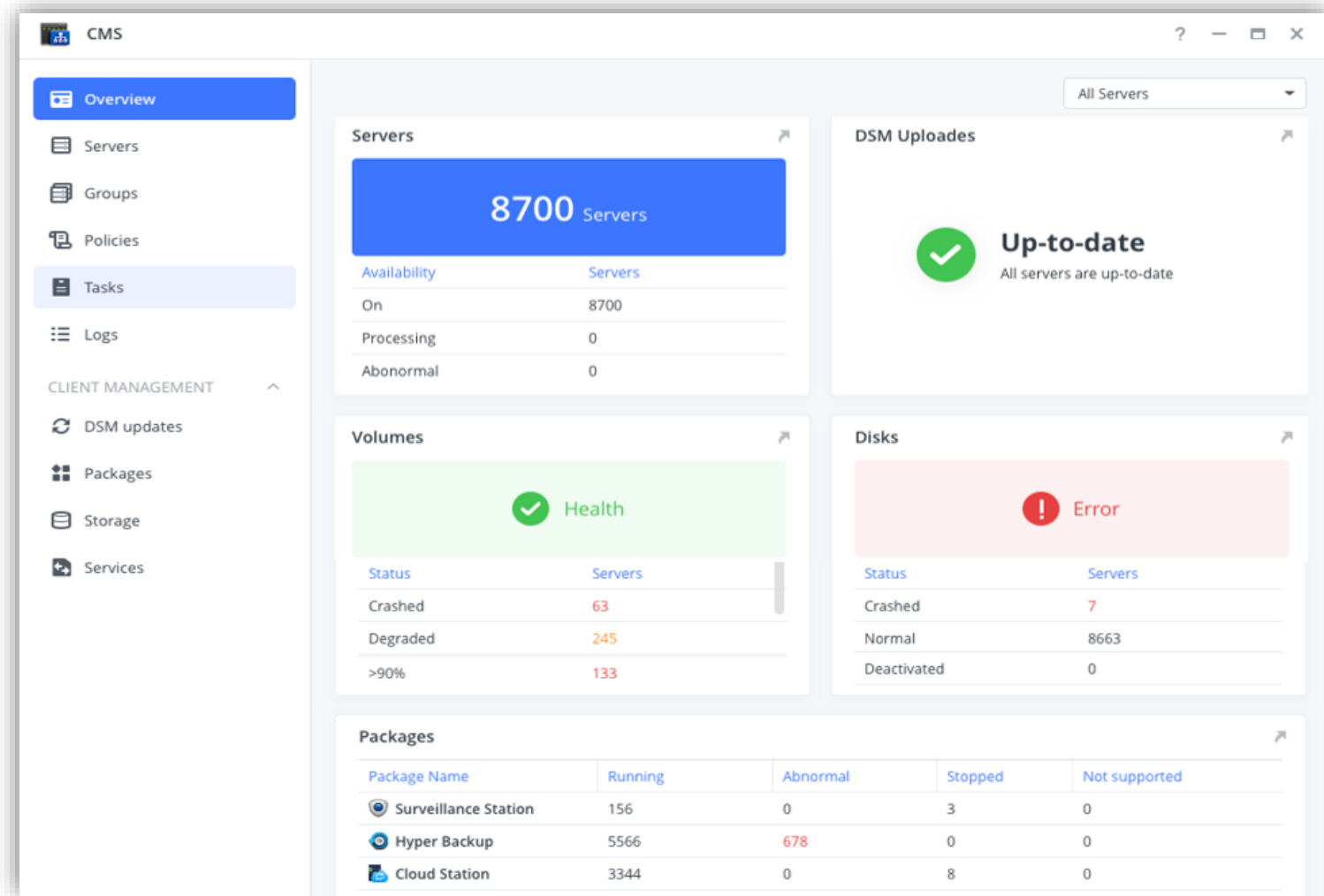
► Aktuelle User Interface



Central Management

► Neue User Interface

“Alle Infos in einer Übersicht”



Central Management

► Gruppen Management

CMS

- Overview
- Servers
- Groups**
- Policies
- Tasks
- Logs

CLIENT MANAGEMENT ^

- DSM updates
- Packages
- Storage
- Services

Groups Management Table:

Server groups	Description	Managed servers	Administrators
All servers	SD	573	MIS (Group)
System Division	ND	350	3 groups, 6
Taipei	--	170	Kerker (User)
SAC	--	888	Kerker (User)
China	--	666	MK (Group)
Network Division	--	--	--

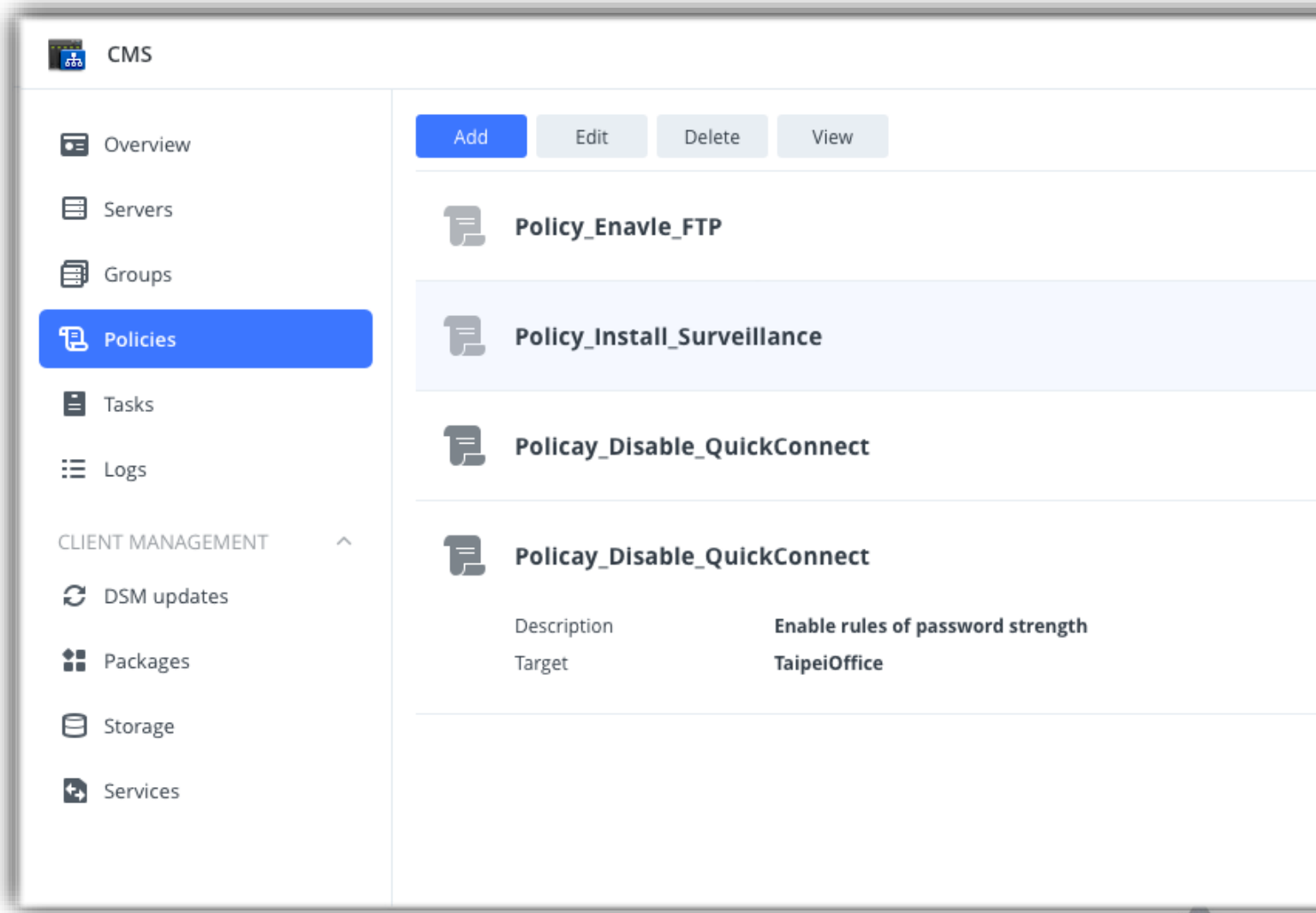
System Division Modal:

Name	Type
MIS	Group
MK	Group
UIUX	Group
Kerker	User
Olivia	User

Page 3 of 5 | Item per page: 10

Central Management

- ▶ Separate Policy Einstellungen



Central Management

► Aufgaben & Linux Skripte

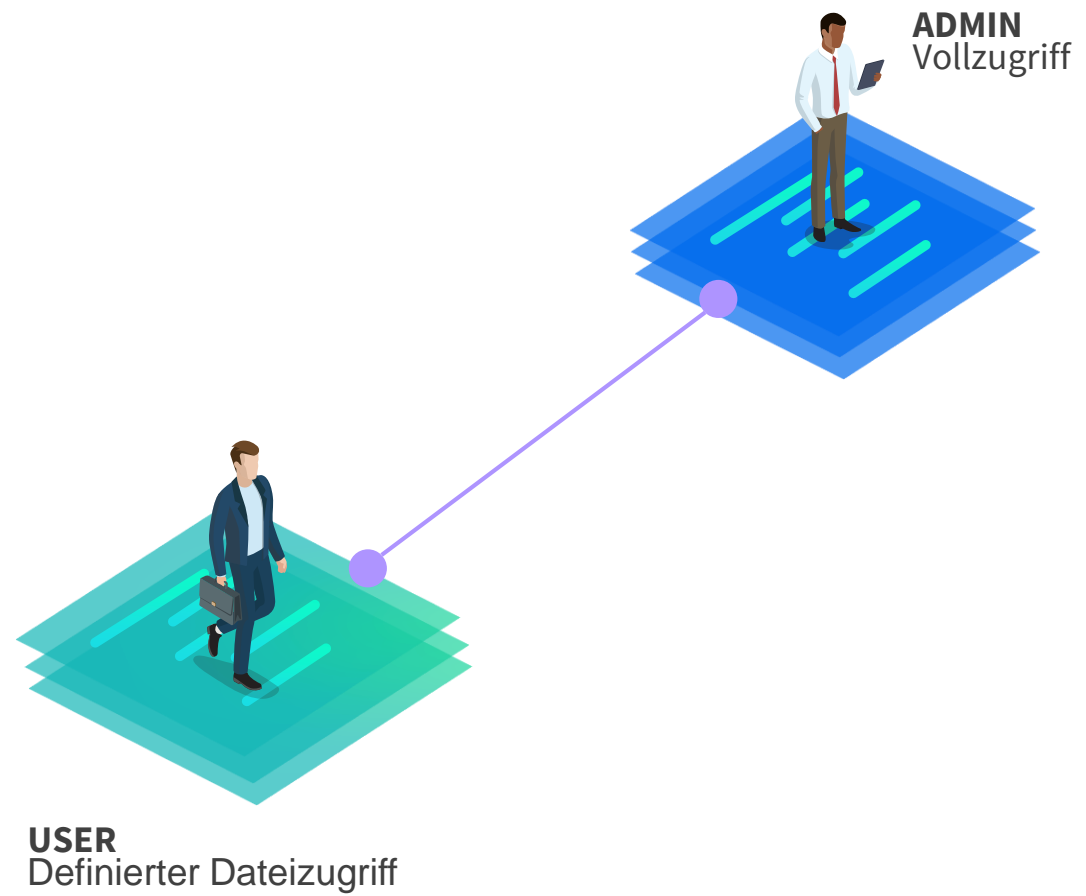
The screenshot displays the Synology CMS interface. On the left is a navigation sidebar with the following menu items: Overview, Servers, Groups, Policies, Tasks (highlighted in blue), Logs, CLIENT MANAGEMENT (with an expand/collapse arrow), DSM updates, Packages, Storage, and Services. The main content area has two tabs: 'Run a task' (active) and 'Script management'. Under 'Run a task', there are two task entries:

- HyperBackupInstall**: Indicated by a red exclamation mark icon. Targets: 350 servers. Description: --. Status: Done at 2018/5/9 20:06. Created time: 2018/6/20. A [view details](#) link is present.
- Surveillanceinstall**: Shown as a terminal window screenshot displaying a list of file paths being backed up, such as `/tmp/backup/conf/backup.conf`, `/tmp/backup/conf/restore.conf`, `/tmp/backup/conf/passwd`, `/tmp/backup/conf/security`, `/tmp/backup/conf/security/namespace.conf`, `/tmp/backup/conf/security/limits.conf`, `/tmp/backup/conf/security/namespace.test`, `/tmp/backup/conf/security/seperut.conf`, `/tmp/backup/conf/security/access.conf`, `/tmp/backup/conf/security/pak_etc.conf`, `/tmp/backup/conf/security/group.conf`, `/tmp/backup/conf/security/namespace.d`, `/tmp/backup/conf/security/time.conf`, and `/tmp/backup/conf/security/limits.d`. It also shows a 'total 4' and a 'Created time' field. A [view details](#) link is present.

At the bottom of the interface is a pagination bar with navigation arrows, page numbers 1, 2, 3 (highlighted), 4, 5, and more arrows. On the right side of the pagination bar, it says 'Item per page 100'. A small Linux penguin icon is visible in the bottom right corner of the terminal window.

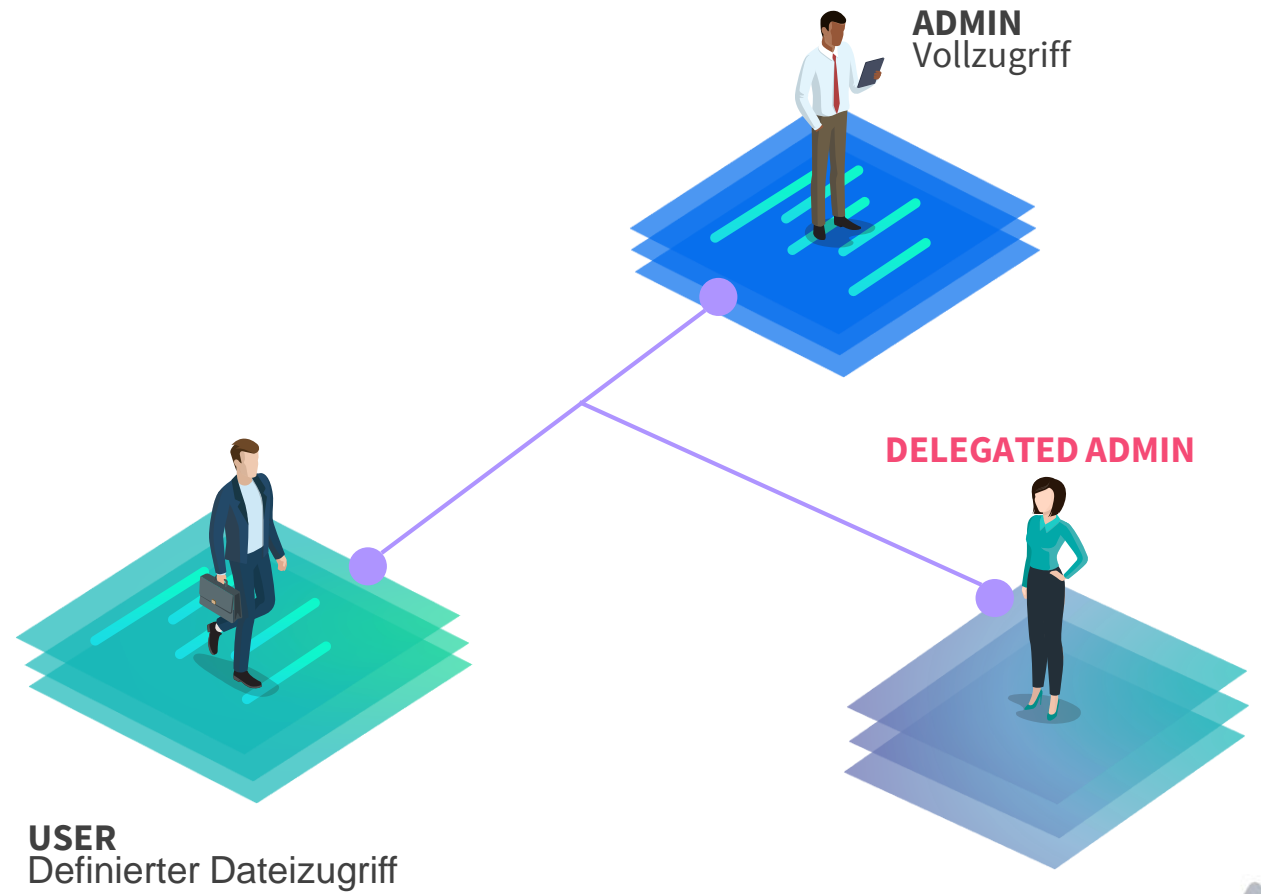
“Synology und benutzerdefinierte Skripte zentral verteilen”

Admin Delegation



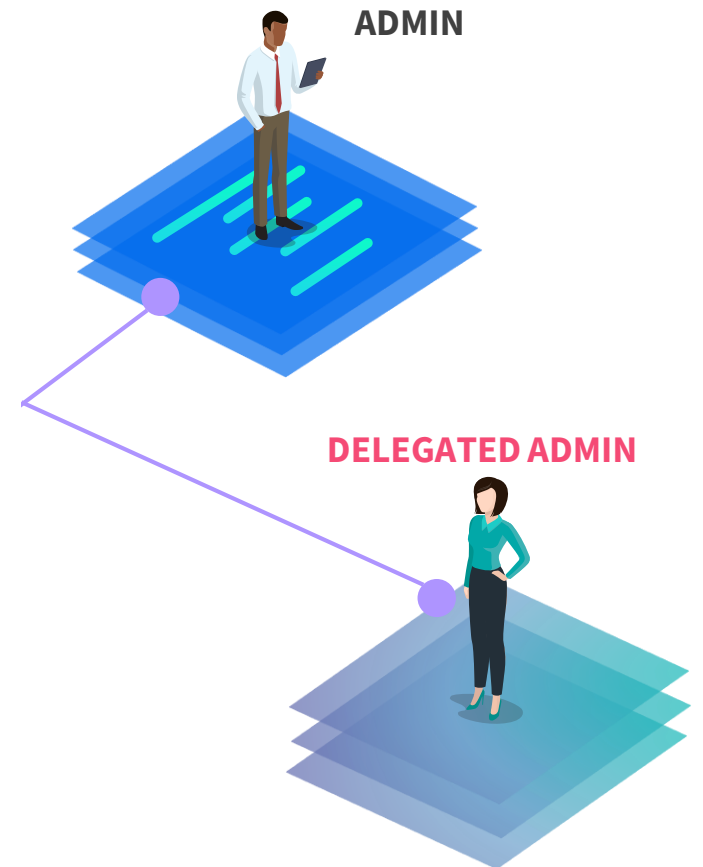
Admin Delegation

- ▶ Selektive Admin Rechte vergeben



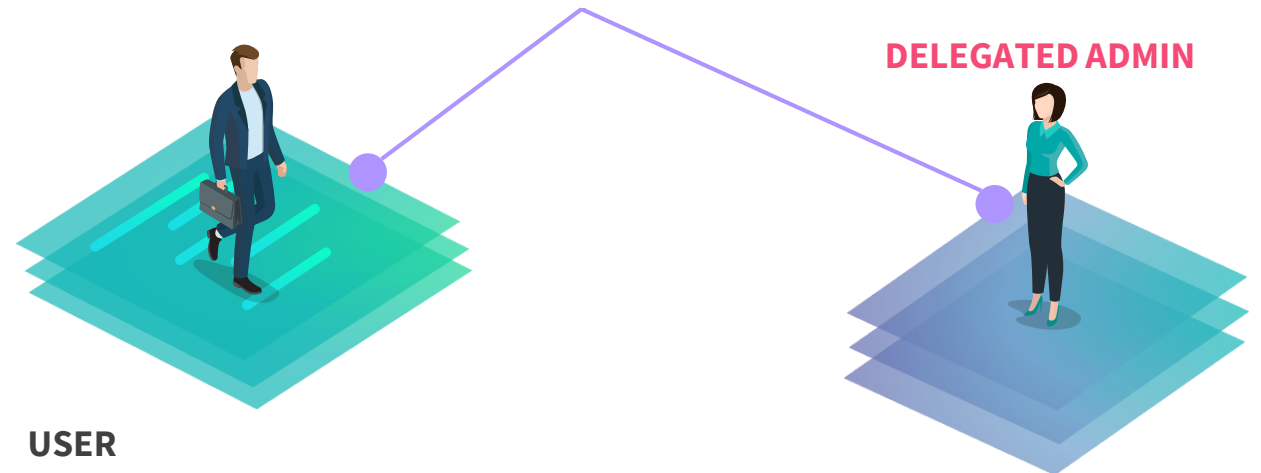
Admin Delegation

- ▶ Keine Admin Einstellungen ändern
- ▶ Keine eigene Privilegien ändern



Admin Delegation

- ▶ Kein Zugriff auf Home Ordner
- ▶ Privilegien zuweisen
- ▶ Logdaten aller Änderungen



DSM 7

ADMIN DELEGATION DEMO

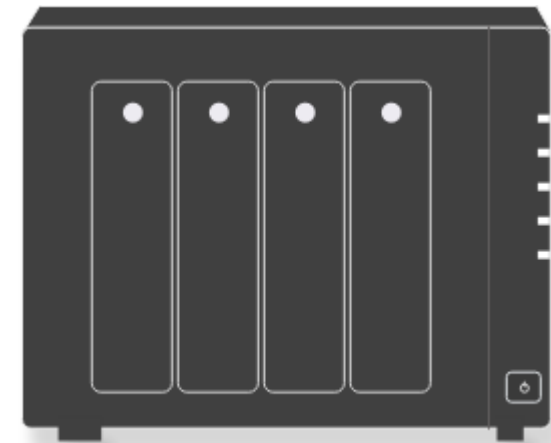
Simple, yet powerful



“Fehlerhafte HDDs werden erst bemerkt,
wenn der Status bereits sehr kritisch ist”

Disk Failure Prediction

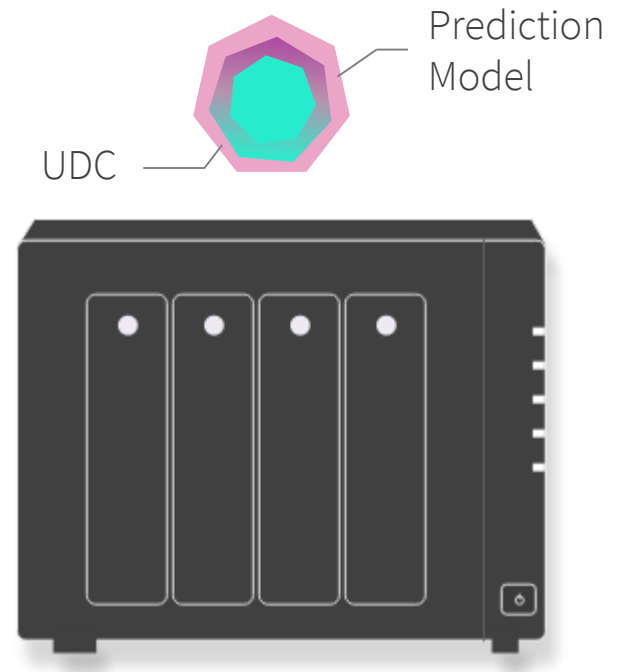
“Wissen, wann eine HDD einen kritischen Zustand erreicht”



Disk Failure Prediction

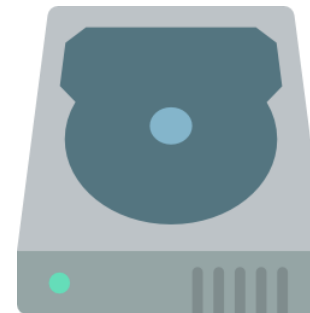
“Wissen, wann eine HDD einen kritischen Zustand erreicht”

Machine Learning



Disk Failure Prediction

▶ Anonyme Informationen



S.M.A.R.T.

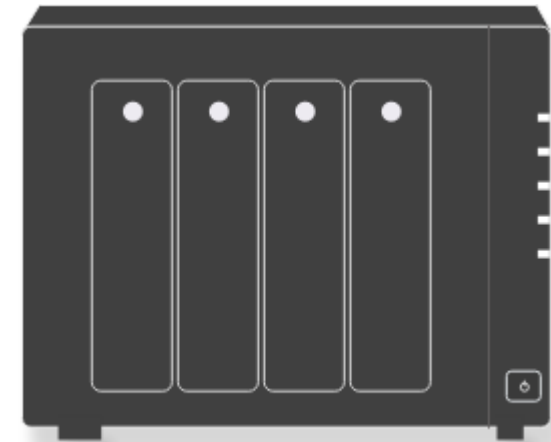
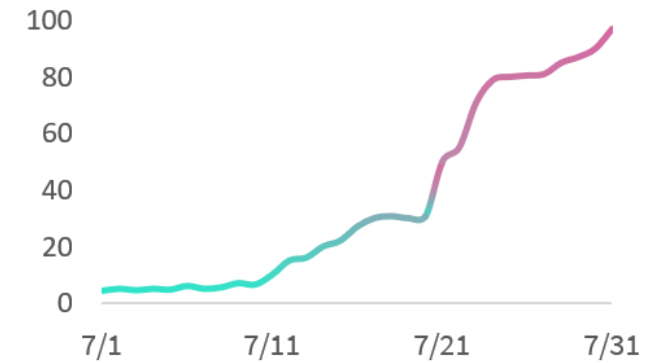
Kernel Error

Meta

Disk Failure Prediction

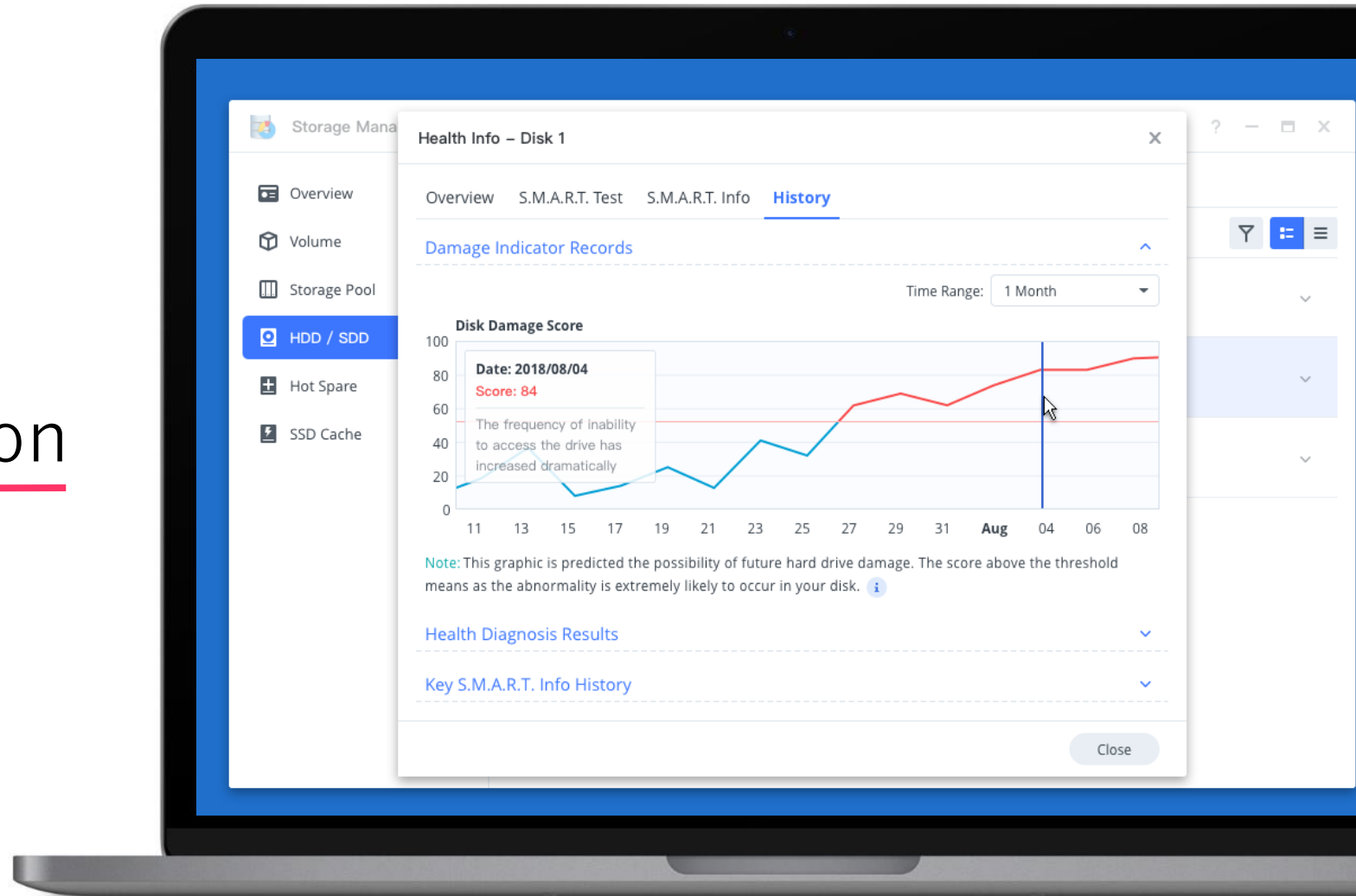
► Vorhersage Ergebniss

Prediction Result



Disk Failure Prediction

► Vorhersage im DSM



Disk Failure Prediction

► Trefferquote **90%**



36 HDDs im System

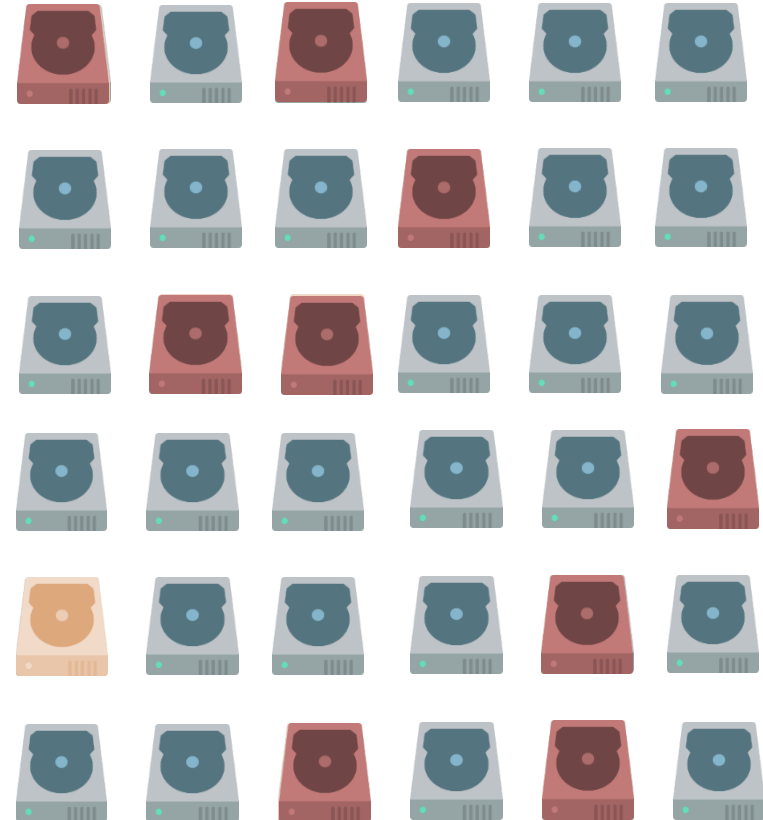
“9 von 10 Vorhersagen treffen zu”



10 HDDs als “Critical” markiert



9 “Critical” HDDs fallen aus



Disk Failure Prediction

Nicht erkannte HDDs = Kein Problem

S.M.A.R.T.



**IRONWOLF
HEALTH**



**“Nur mit klaren Informationen und
Instruktionen kann man schnell agieren”**

Detaillierte Informationen

“Wissen, was zu tun ist wenn Festplatten ausfallen”

Detaillierte Informationen

► Aktuelle Benachrichtigung

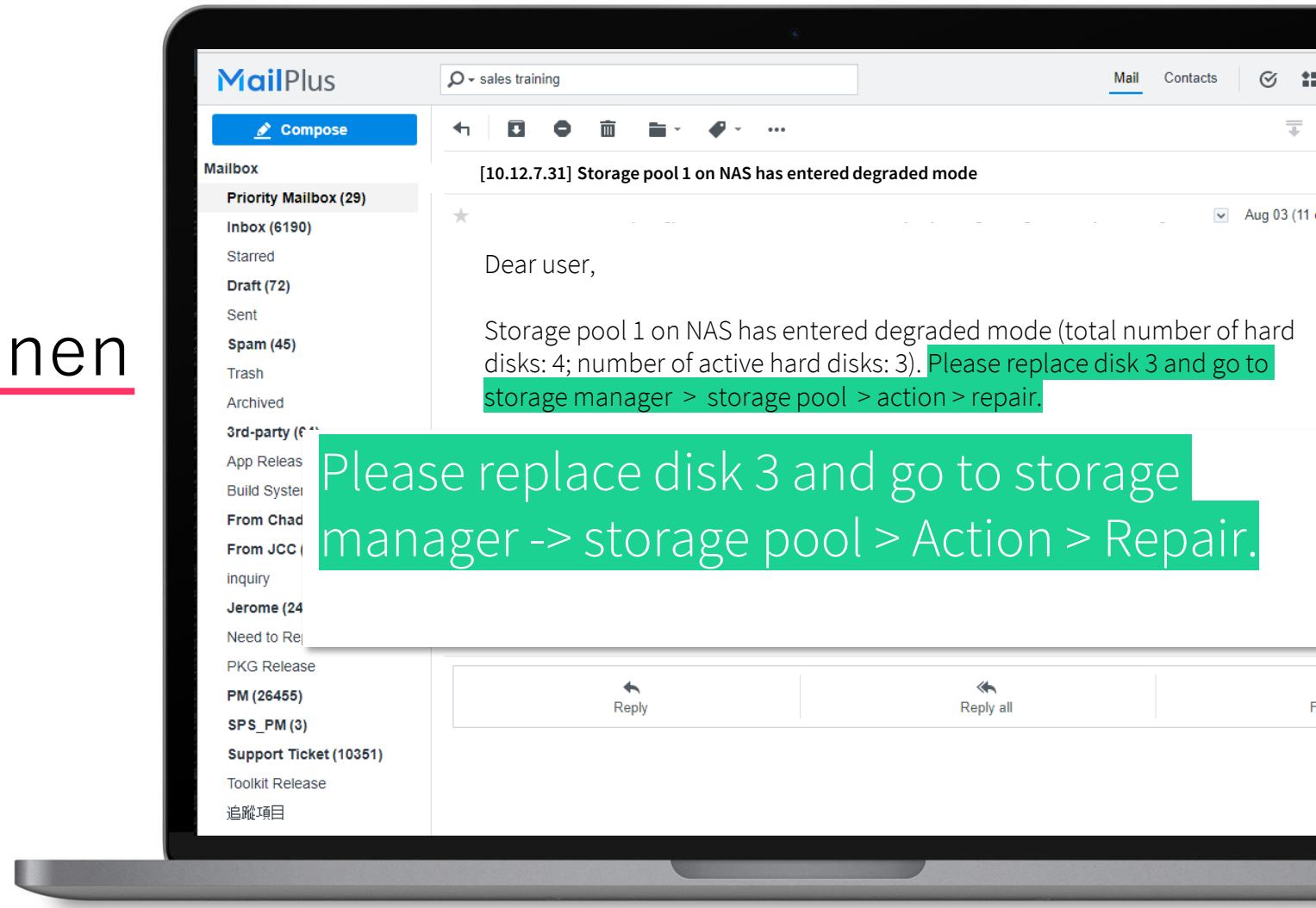
= Unklare Information



Detaillierte Informationen

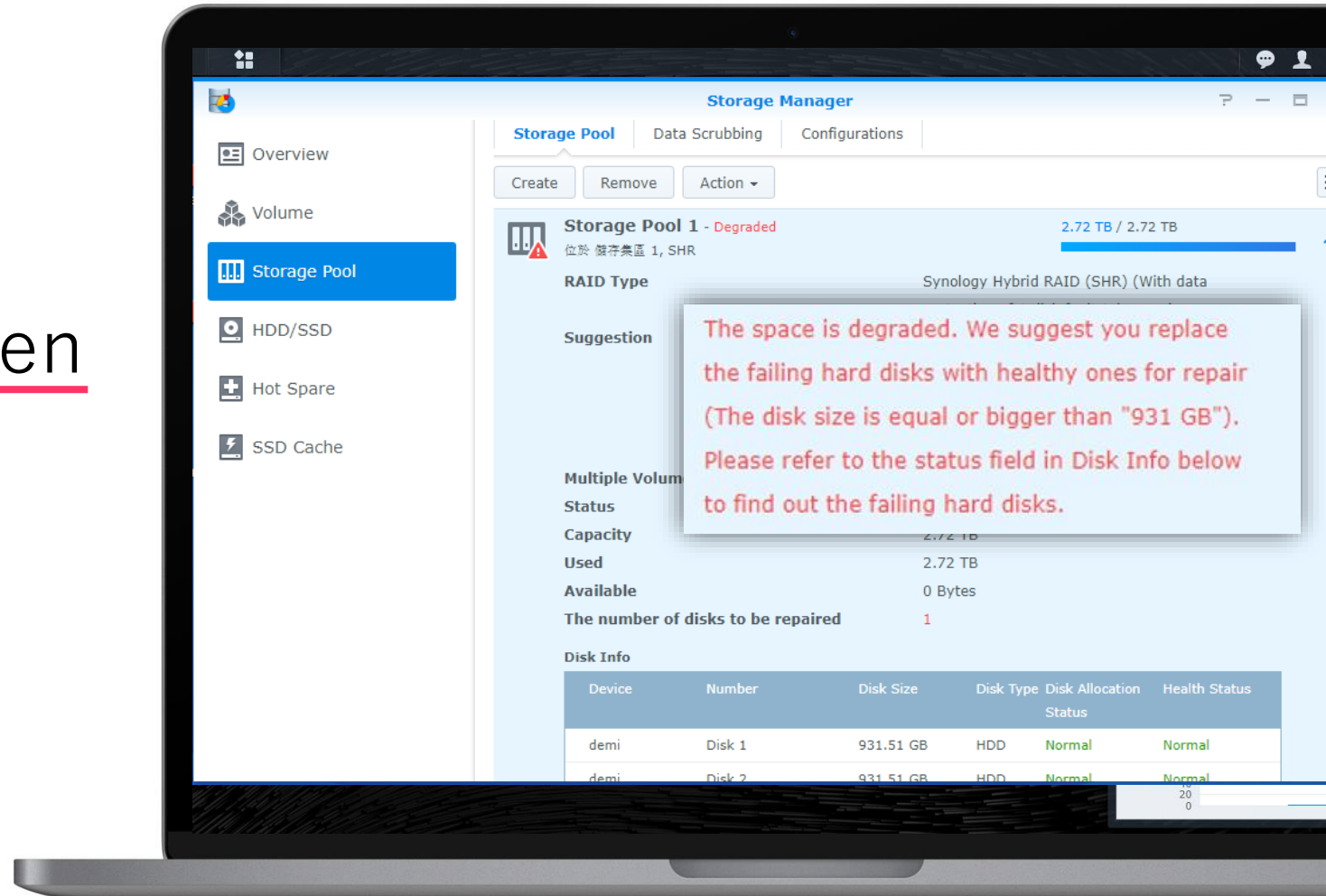
► DSM7 Benachrichtigung

= Klare Informationen



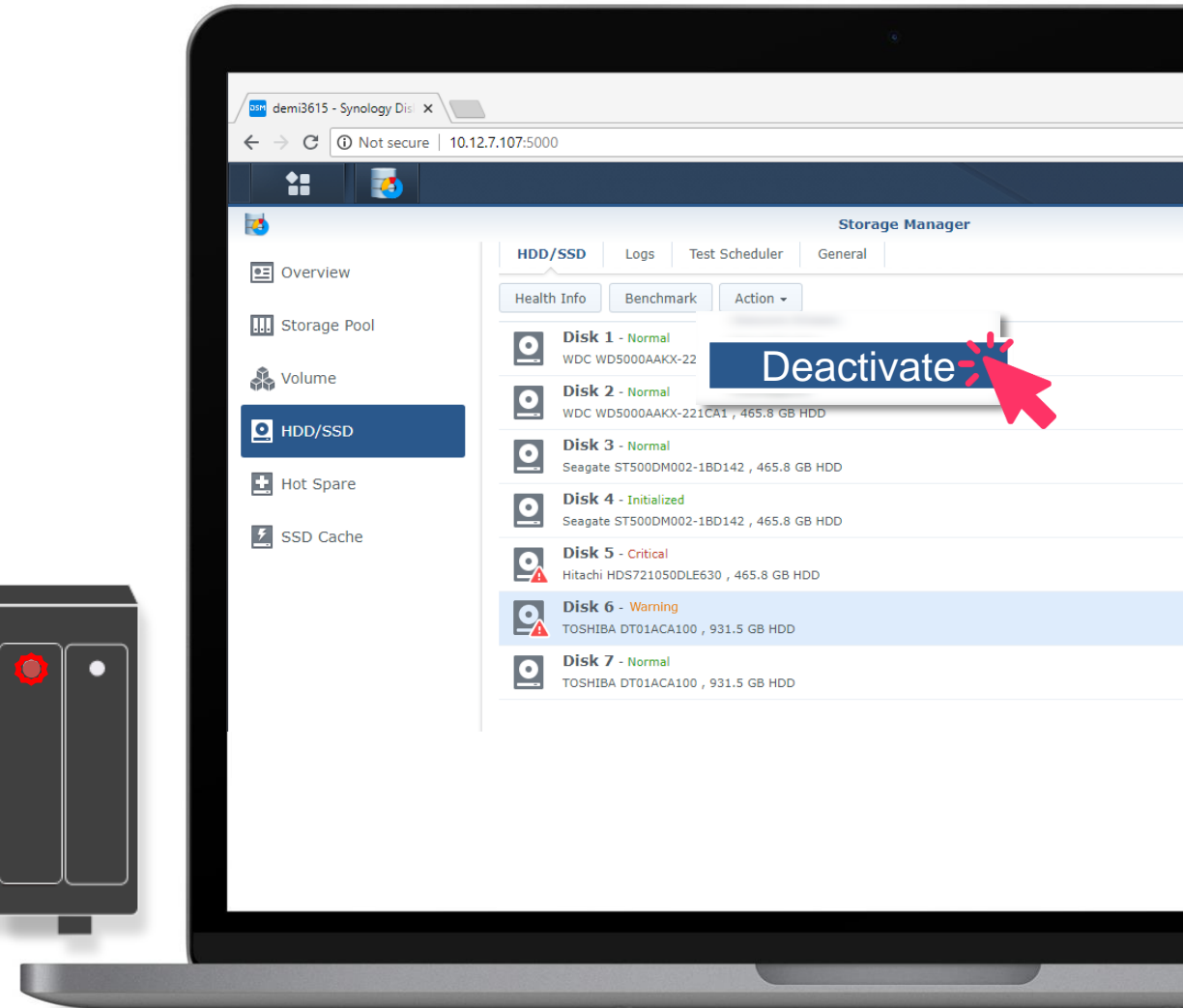
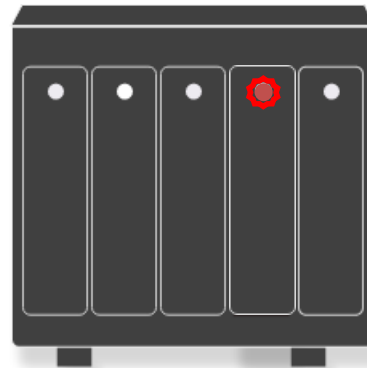
Detaillierte Informationen

- Details im Storage Pool



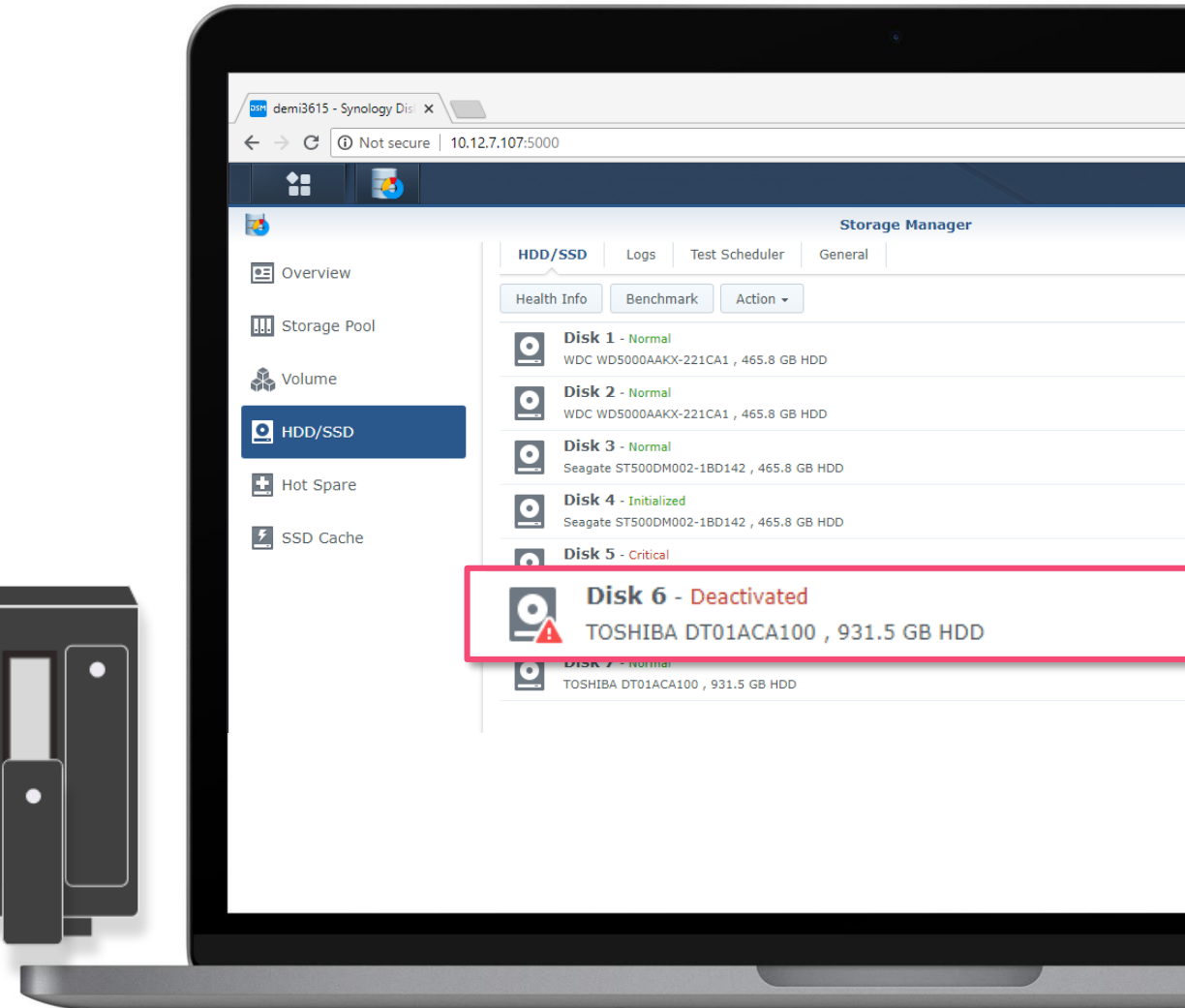
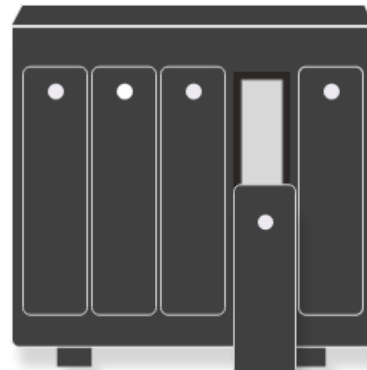
Defekte HDD identifizieren

- Einfache HDD Übersicht



Defekte HDD identifizieren

► HDD entfernen



“Wenn der **Storage Pool degradiert** ist, steigt
das **Risiko auf Datenverlust**”

Optimierte RAID Reparatur

- ▶ Fast Rebuild

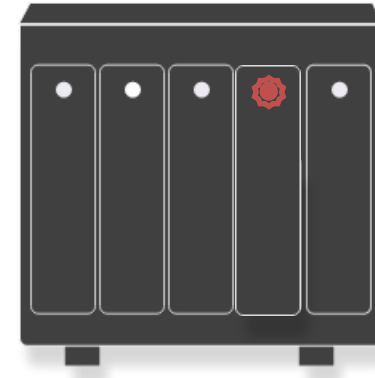
*Ungenutzte Blöcke
werden nicht kopiert*

3 x 5TB HDD / RAID 5 / 40% Kapazitätsnutzung

10 Stunden → **4** Stunden

Optimierte RAID Reparatur

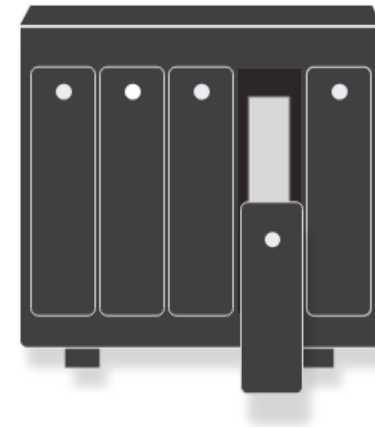
- ▶ Auto Repair



Optimierte RAID Reparatur

- ▶ Auto Repair

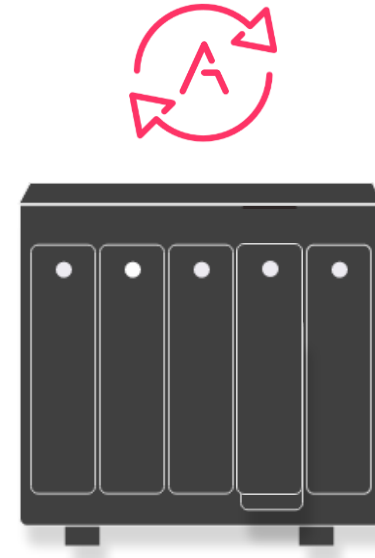
“Wenn HDD im gleichen Slot getauscht wird”



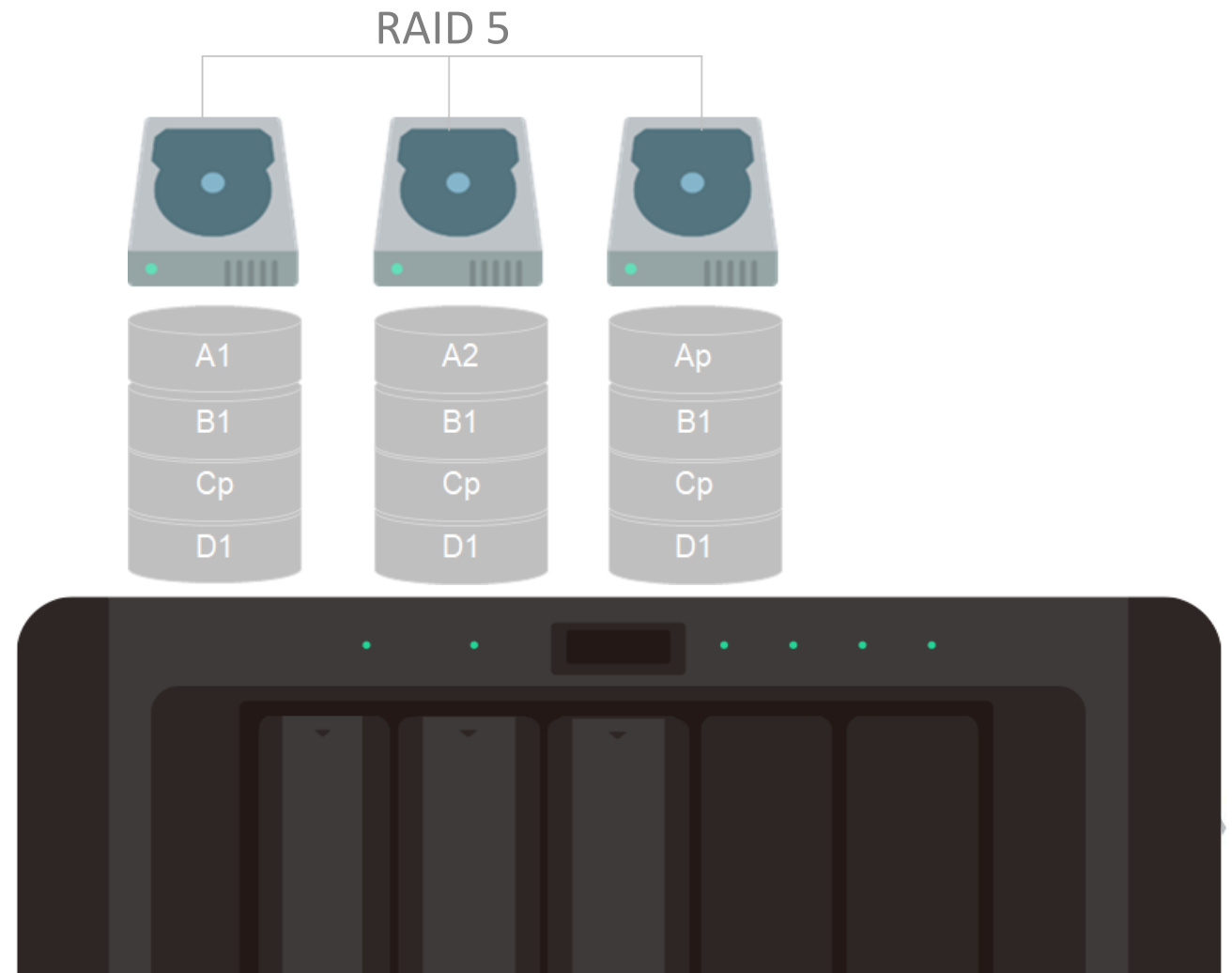
Optimierte RAID Reparatur

- ▶ Auto Repair

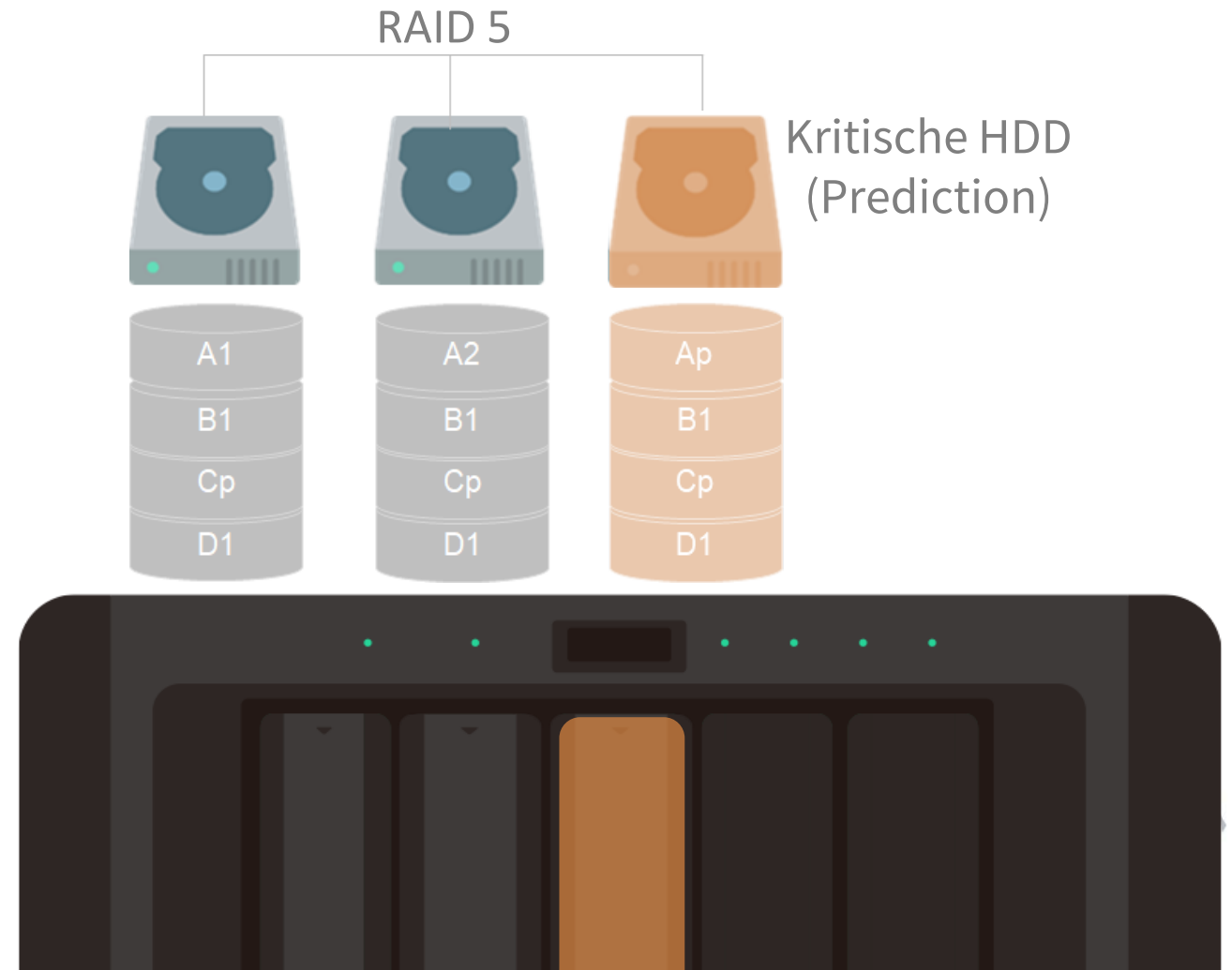
“Wenn HDD im gleichen Slot getauscht wird”



Festplatten Replikation



Festplatten Replikation

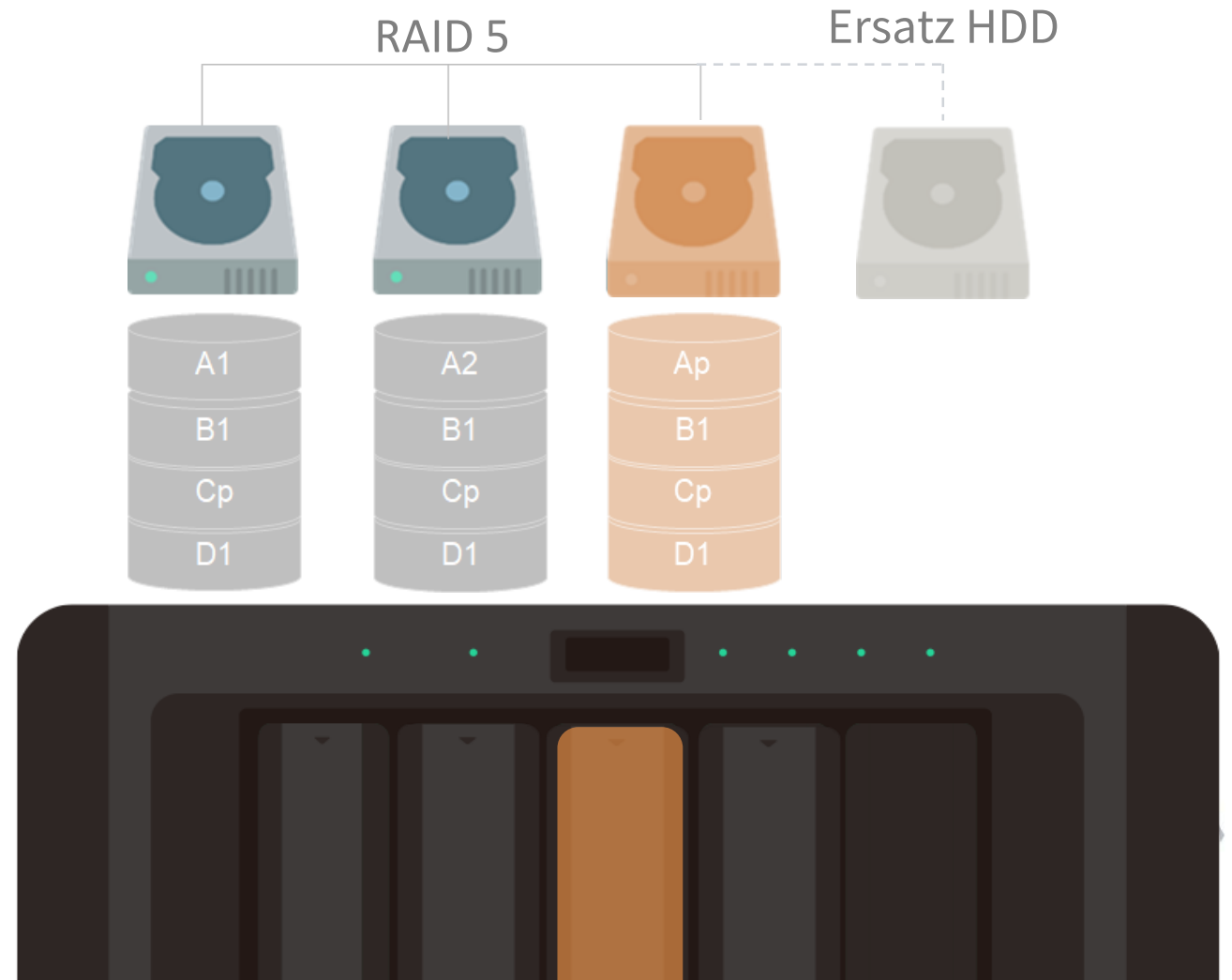


Festplatten Replikation

- ▶ Ersatz HDD einbauen

oder

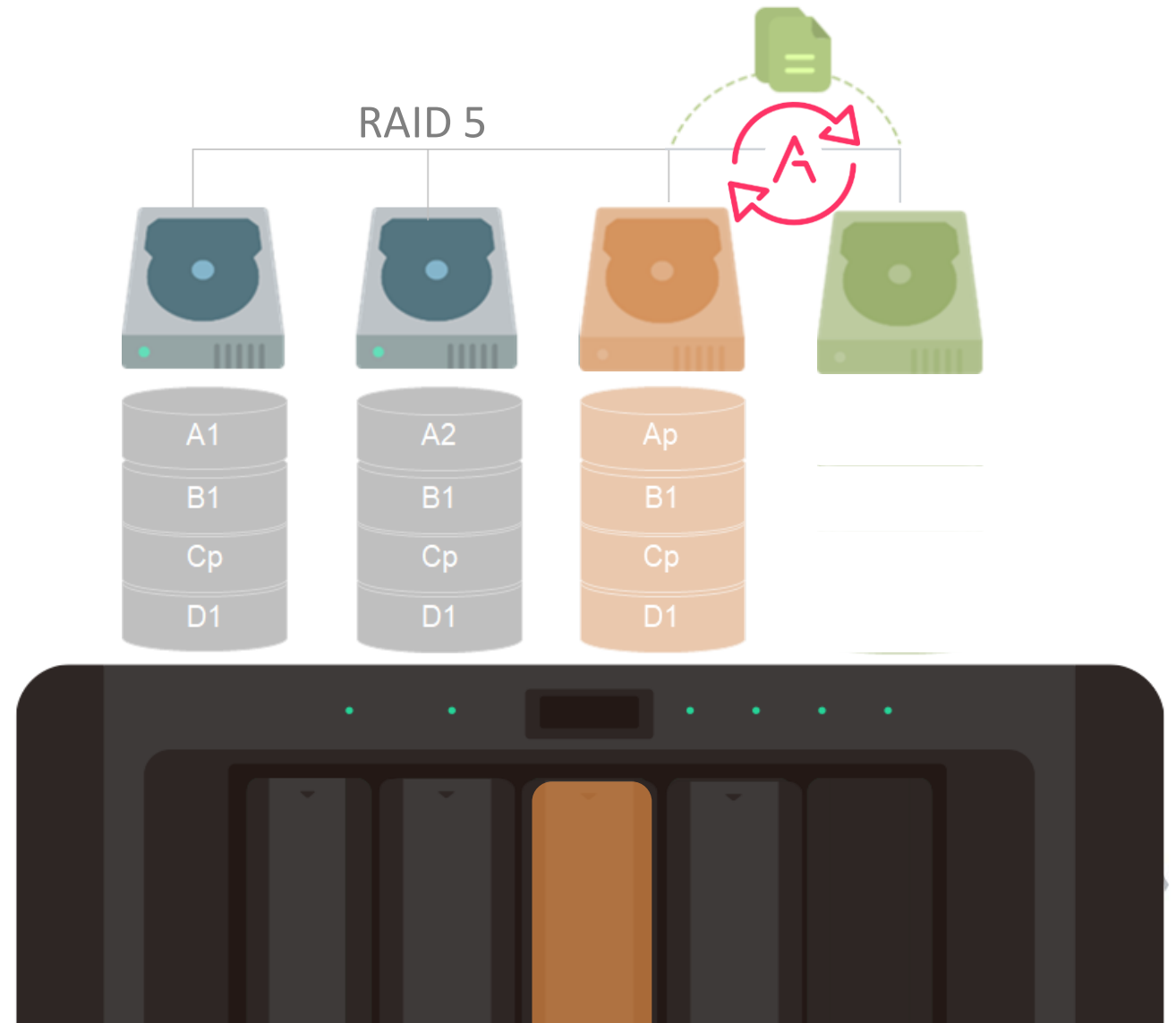
- ▶ Hot Spare HDD



Festplatten Replikation

► Auto Replikation

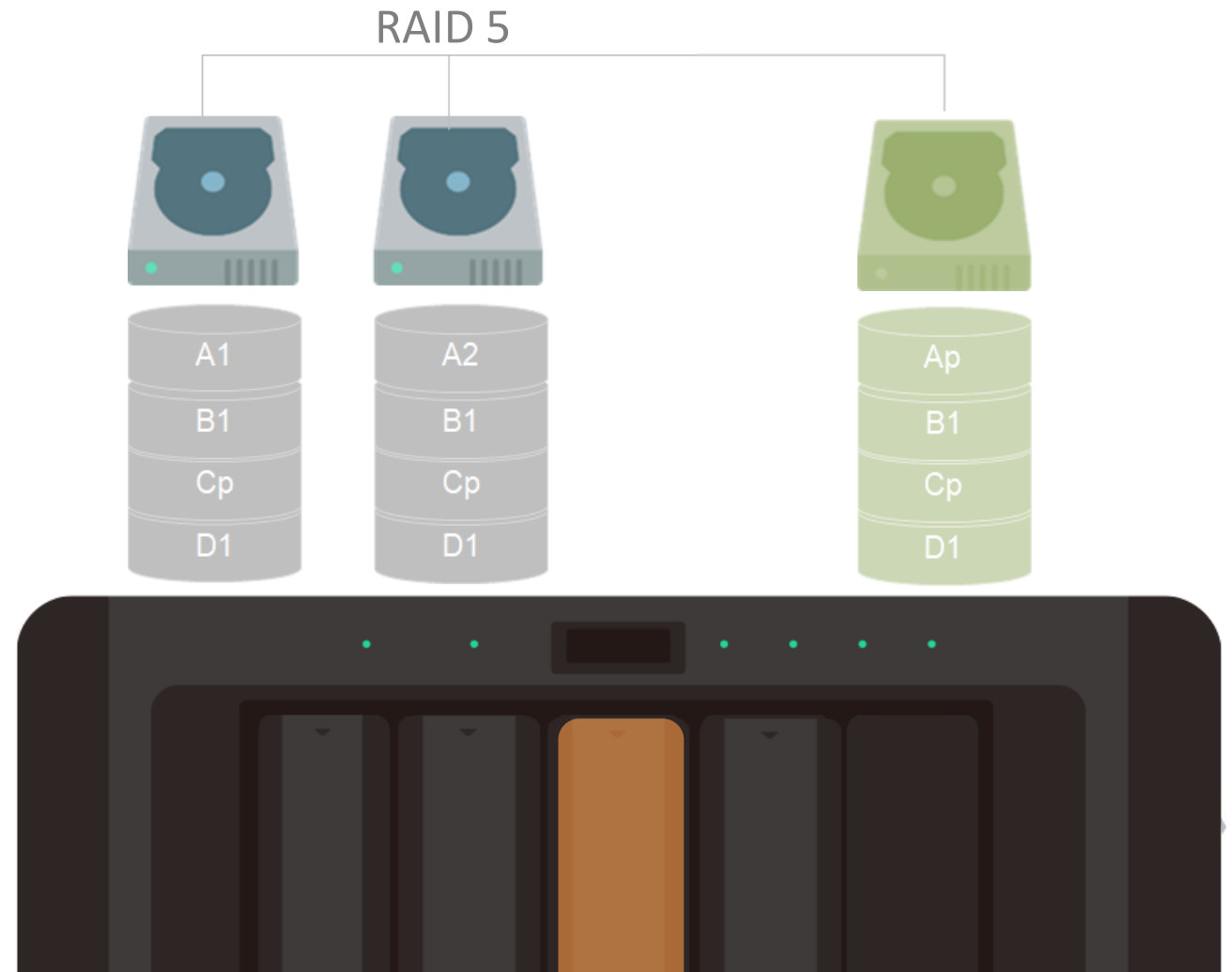
„Inhalt wird auf neue Festplatte repliziert“



Festplatten Replikation

► Auto Replikation

„RAID ohne Degradierung repariert“



RAID Reparatur Optimierungen RECAP

Degradierung verringern

Fast
Rebuild

Auto
Repair

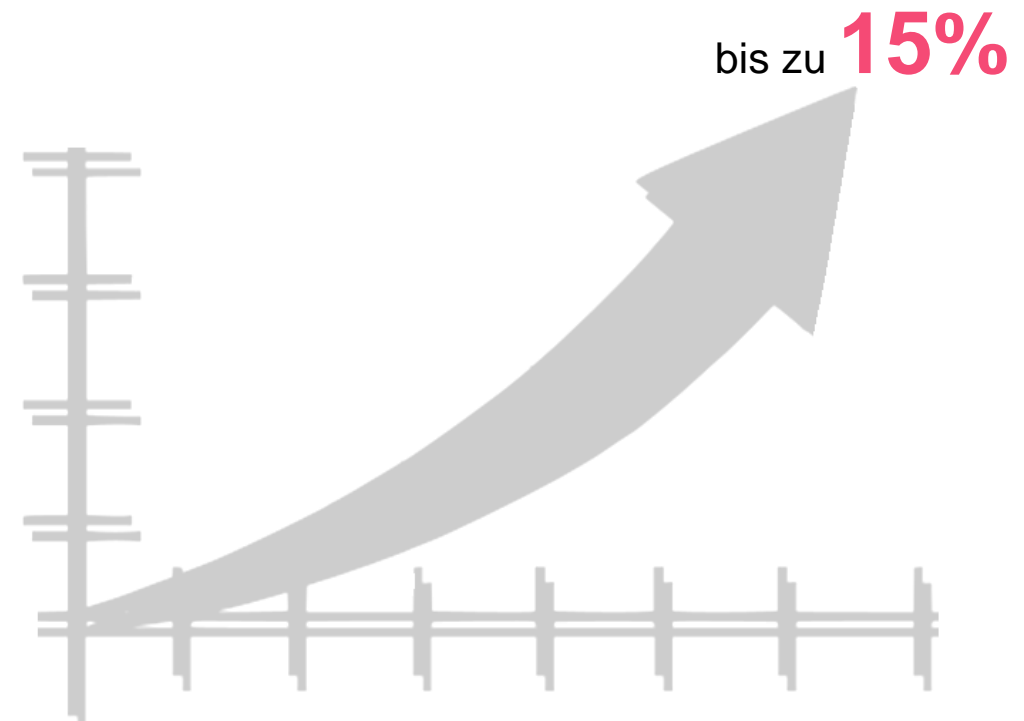
Degradierung vorbeugen

HDD
Replikation

Performance Optimierungen

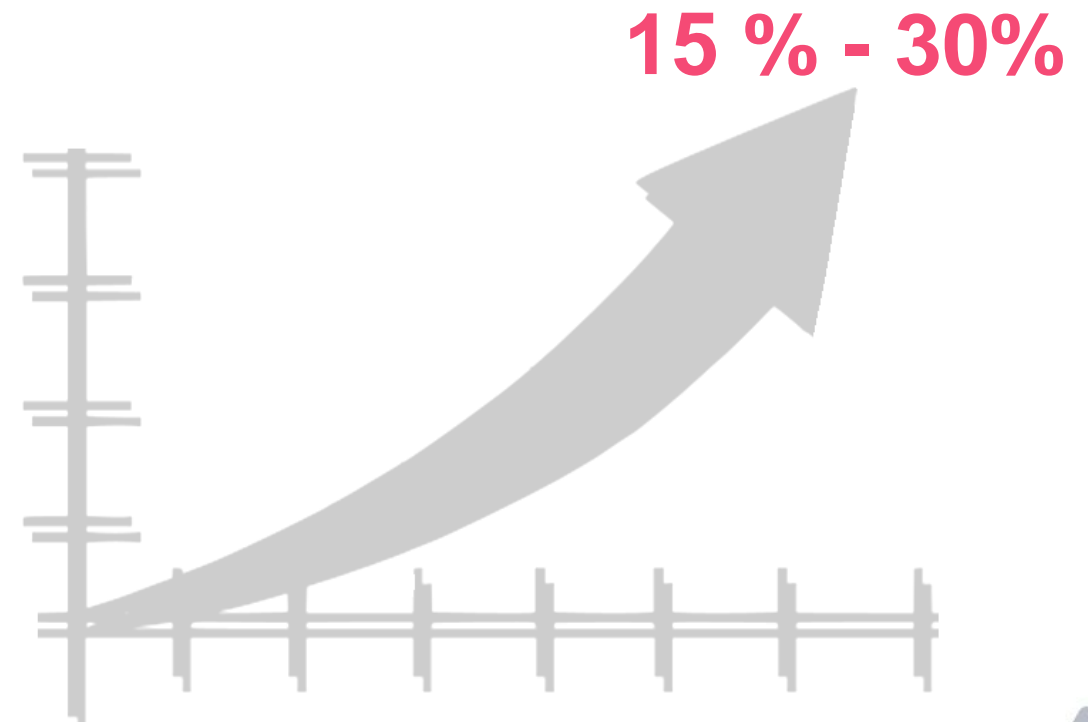
RAID Performance

- ▶ Single RAID Optimierung



RAID Performance

- ▶ BTRFS Small File Upload
 - ▶ File Station Upload
 - ▶ Upload verschlüsselte Ordner



SSD Read Write Cache

▶ RAID 1 / 5 / 6 / 10

“Flexible Cache RAIDs”

Enterprise RW Cache

RAID 10

SSD Read Only Cache

- ▶ Read Only cache
 - ▶ RAID 0 / 1

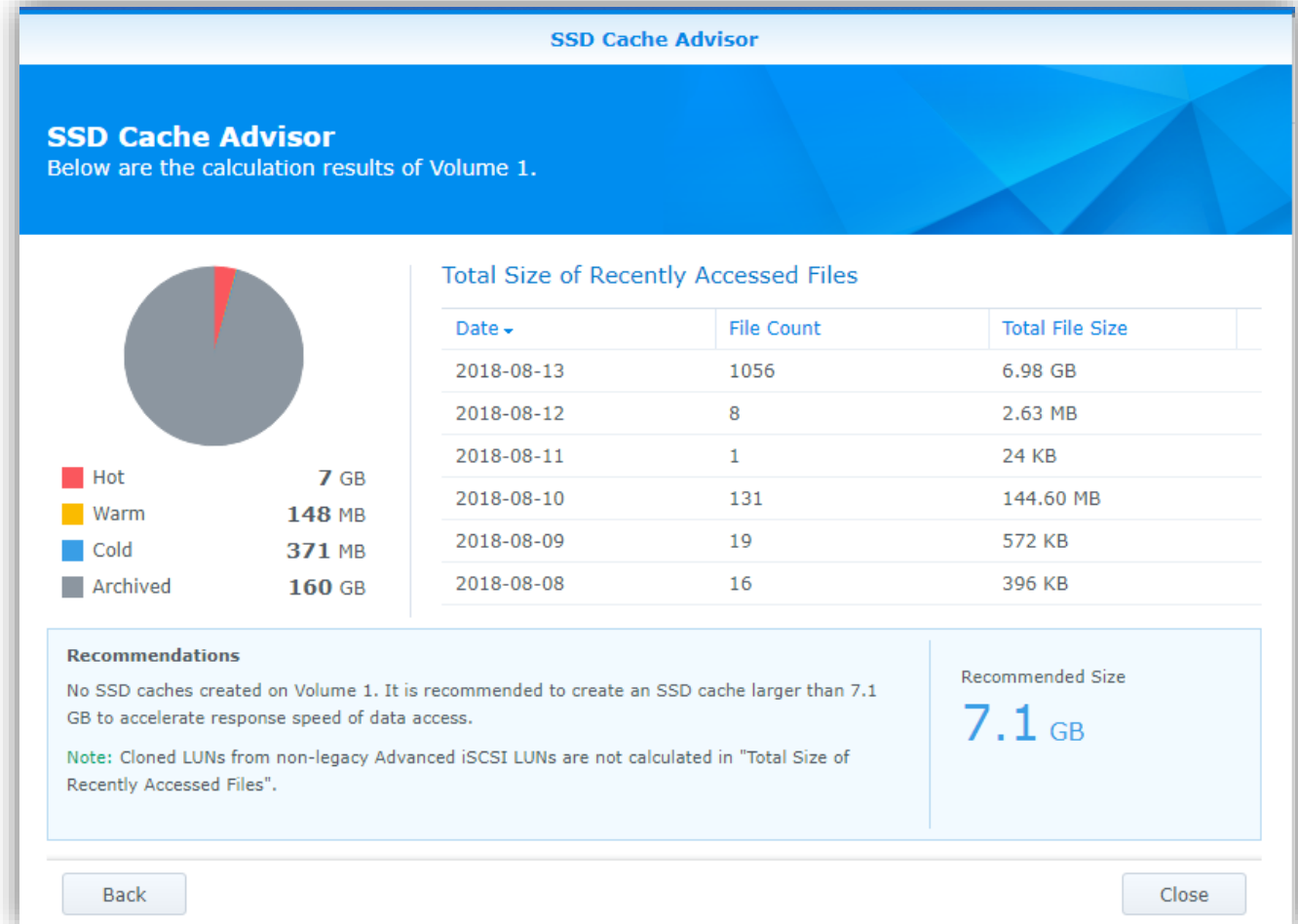
“Flexible Cache RAIDs”

Geschützter RO Cache

RAID 1

SSD Cache Ratgeber

- ▶ Bessere Erkennung von Hot Data



Cache Erstellung

- ▶ Keine Service Beeinträchtigung
wenn Cache erstellt / entfernt wird

“Erhöhte Service Verfügbarkeit”

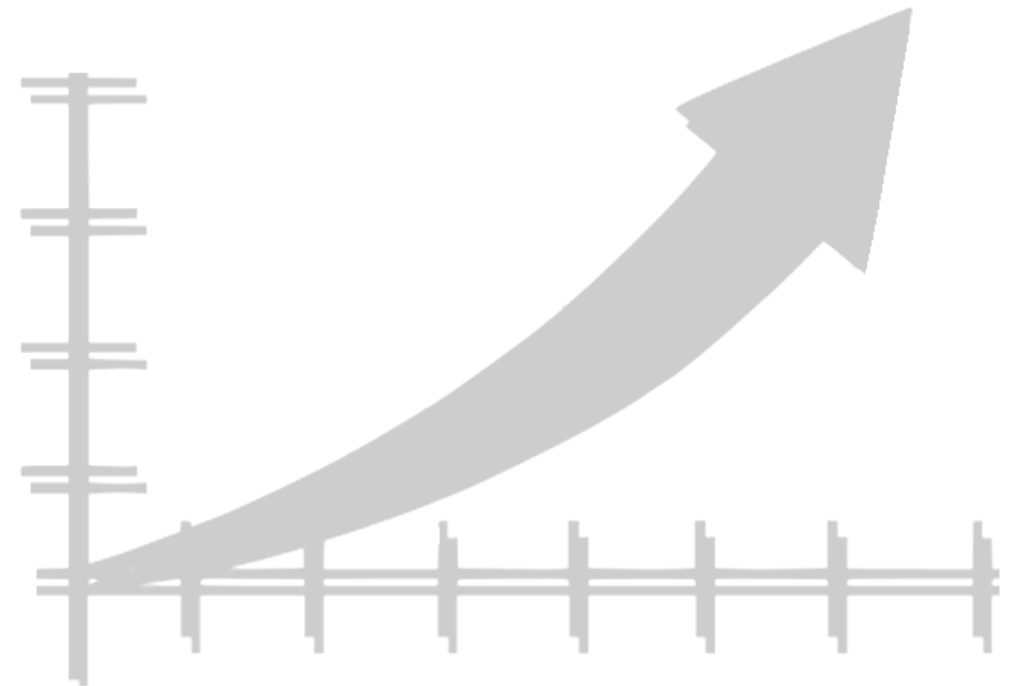
Keine Service Ausfallzeit



ISCSI Performance

- ▶ Single LUN Write Performance

Bis zu **20%** mehr IOPS



SHA 2.0

DSM 6.2

- ▶ Optimierte Cluster Aufbau
- ▶ Reduzierte Downtime



SHA 2.1

DSM 7.0

- ▶ Netzwerk Einstellungen modifizierbar
 - Hostname, Subnet, IP Adresse,
 - Gateway, MTU, DNS Server



SHA 2.1

DSM 7.0

- ▶ Cluster SNMP Status



DSM 7

Carefree and stable
Simple, yet powerful
Enterprise ready



Unified Controller – UC300



Carefree
powerful
Enterprise



Unified Controller – UC300



Dual Active High Availability Controller

Dedizierter ISCSI Server



Unified Controller – UC300

Dual Active Hardware

- ▶ Zwei getrennte aktive Systeme
- ▶ DSM auf Sata DOM
- ▶ Skalierbar



Unified Controller – UC300

Dual Active Features

- ▶ Zentrales Management
- ▶ Balance & Failover
- ▶ Non Disruptive ISCSI Service



Unified Controller – UC300



Demo