Backup Strategy in Clientmanagement with Opsi and Bareos

OpenSource Backup Conference
27.09.2016

Speaker

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- **Development, Consulting, Training and Support**
- **@uib since 2003**

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Who is uib?

uib gmbh

- Founded 1995
- From the beginning main focus on Clientmanagement
- Open source oriented
- Developer and Maintainer of opsi
- 18 employees
- Based in Mainz / Germany

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Overview

- Motivation
- What is opsi?
- Why Client-Backup-Strategy?
- Bareos and opsi
- Backup-Strategies delivered with opsi

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Motivation

Main focus of backup and desaster recovery strategies on central services and infrastructures

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Motivation

A Client that have an issue can sometimes cost the company more money than a impact of an central service

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Motivation

Creating Backups for Clients can sometimes save lifes and jobs (ransomware and other cyberattacks)

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Motivation

Before you try to find a way to backup your Clients, you have to bring your client-infrastructure under control

OPSI

Enterprise-Ready Open Source Client-Management:

- Automatic OS-Deployment
  - Windows 7/8.1/10/2008r2/2012r2
  - Linux (Debian, Ubuntu, OpenSUSE, SLES...)
- Software-Deployment
- Configurationmanagement
- Hard- and Softwareinventory
- Licensemanagement

OPSI

Extendable with modules for free

- Multisite-Installation (many location setup)
- InstallationOnShutdown
- SoftwareOnDemand/Kioskmode
- UserProfileManagement
- Linuxclient-Management (15 Starts for free)

OPSI

Modules for Enterpriseinstallations

- MySQL-Data-Backend
- WAN/VPN-Module
- Opsi-Nagios-Connector
- WIM-Capture and Local-Image-Backup
- Linuxclient-Management
- Scalability-Solution for bigger installations (> 2000 Clients in a central configuration)

OPSI

Many Integrations with other Solutions

- Bareos Integration (Bareos)
- Opsi4ucs Integration (Univention)
- KIX Integration (c.a.p.e.IT)
- Nagios/Icinga/Icinga2-Integration (uib gmbh)
- Paedml Linux and Windows (Solution for schools LMZ Baden Würtenberg)
- Jenkins/open suse buildservice (uib gmbh)
- Many more

Clientbackup-Strategy

Data of a client can be split in groups

- Firmware (BIOS/UEFI)
- OS-DATA (Windows/Linux Systemfiles)
- Software/App-Data
- Userprofiles (System- and Software-Conf.)
- Userdata

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Clientbackup-Strategy

A client is not like a server

- Clients are not 24/7 Online (Accessable)
- Clients can be in and outside of the company
- Clients looks everytime different
- Clients has normally no fallback (RAID, Rendundant Powersupply, ...)

OPSI & Bareos

How OPSI and Bareos works together:

- Deploy the Backup-Agent for Bareos
- Deploy Bareos Server with l-bareos-server

API from OPSI and Bareos is JSON-RPC

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opsi-local-image

- Fast restore of modificated system to a initial state
- Fast change of different states or os-systems

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- Packagebased (unattended) installation:
  - Individuel selected drivers
  - Individuel selected software
  - SLOW!

opsi-local-image

- (Partitions) Image based installation:
  - FAST
  - wasteful driverservicing
    (if you have more than one hardwareprofile)
  - High network load on central deploying

opsi-local-image

- opsi-local-image
  - Individual selected drivers
  - Individual selected software
  - FAST
  - Low network load

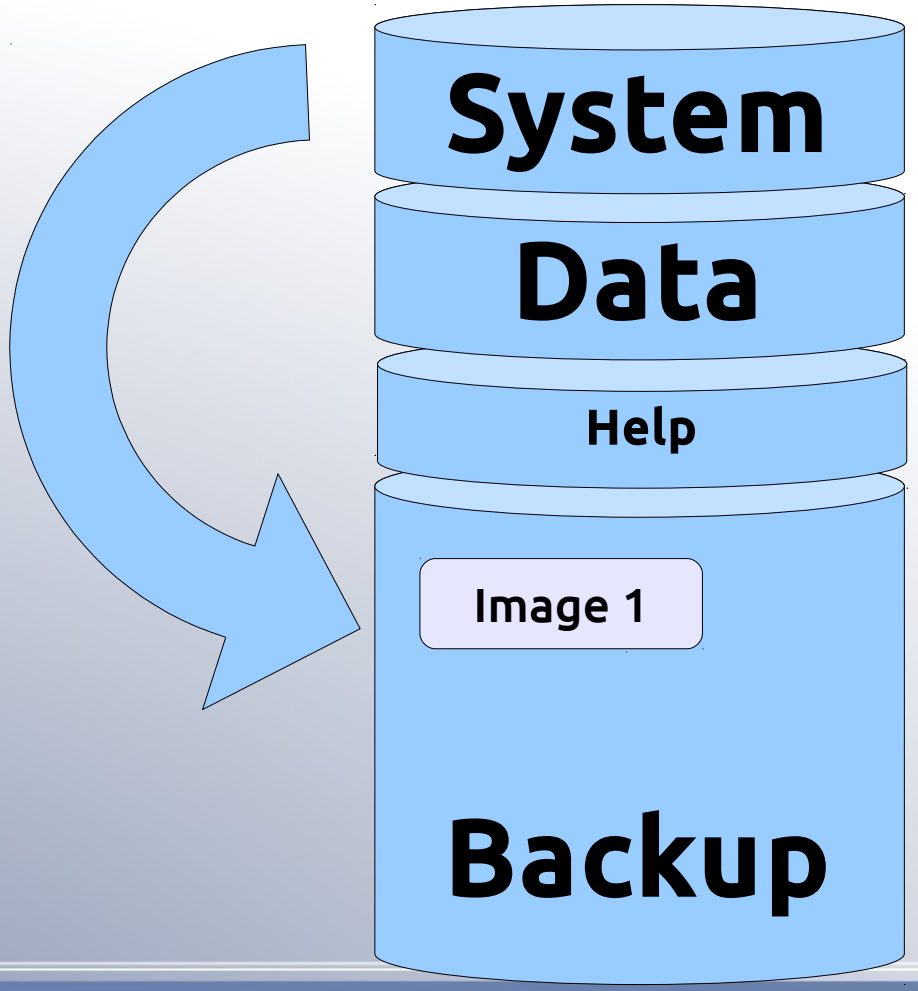
opsi-local-image

opsi-local-image

opsi-local-image

Backup
Image basiert

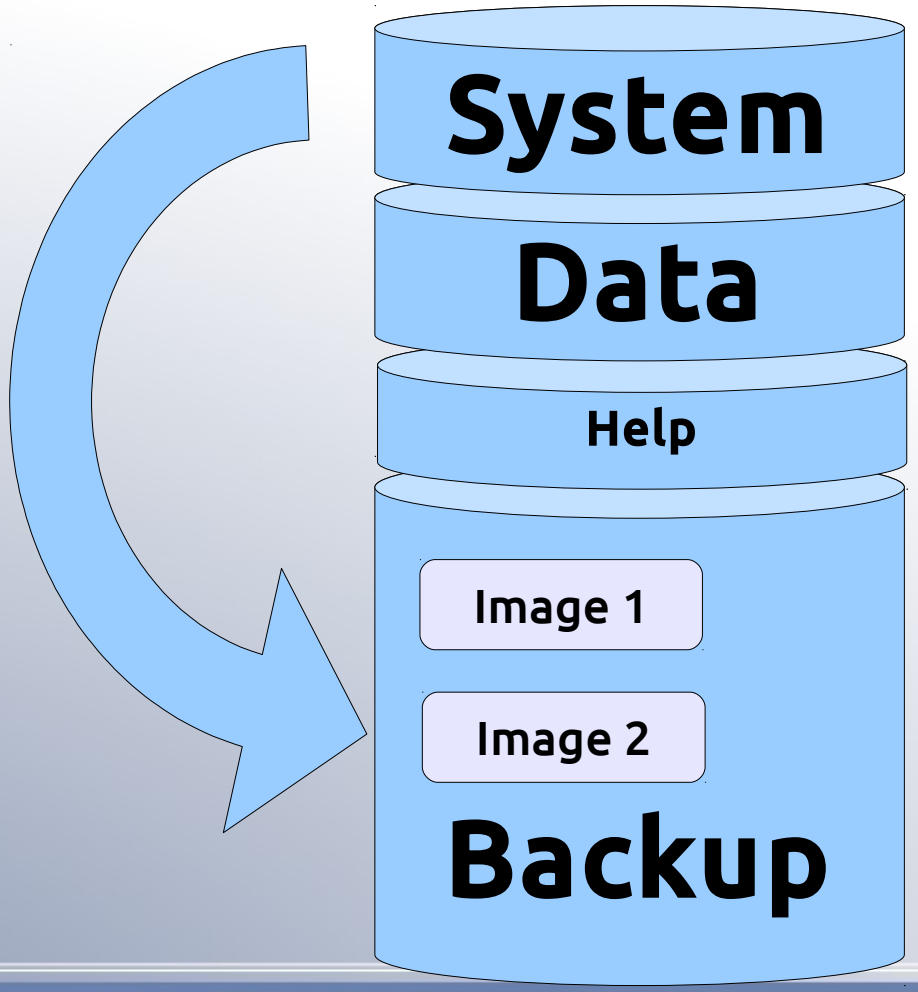
opsi-local-image-backup



opsi-local-image

Backup
Image basiert

opsi-local-image-backup



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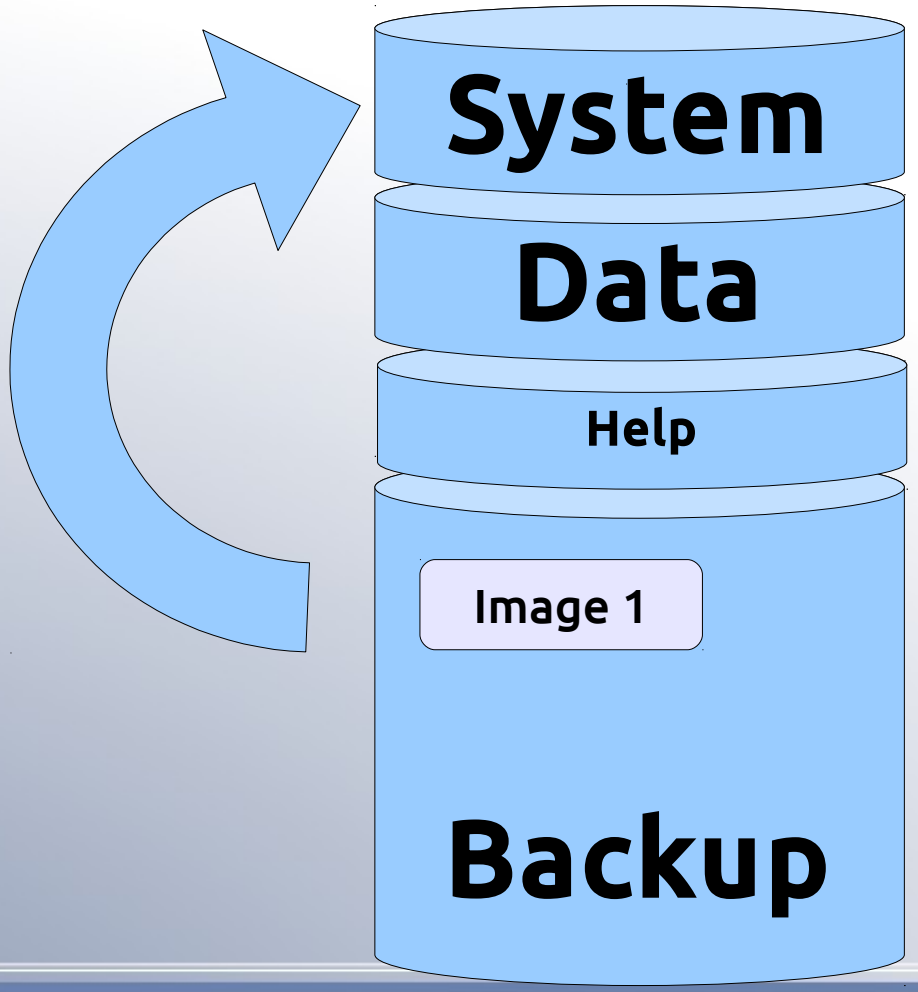
Restore
Image basiert

opsi-local-image-restore

Method:
image-restore

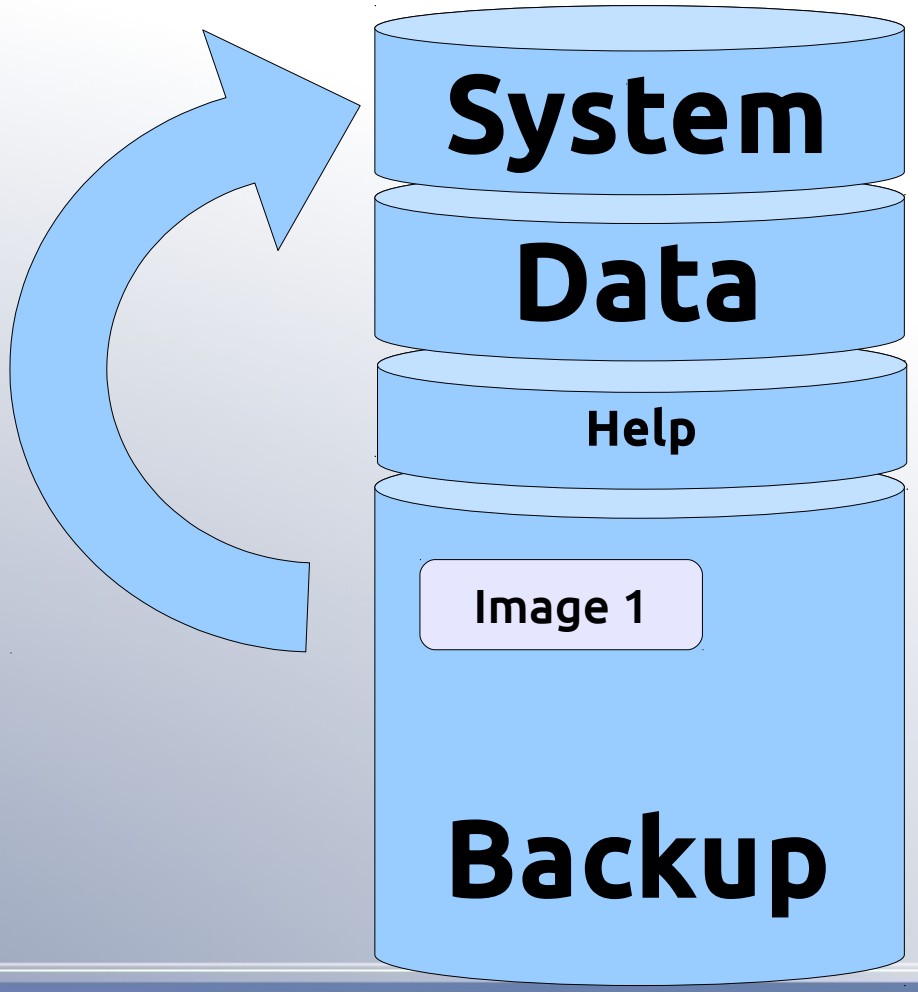


opsi-local-image

Restore
Differenz basiert

opsi-local-image-restore

Method:
Rsync

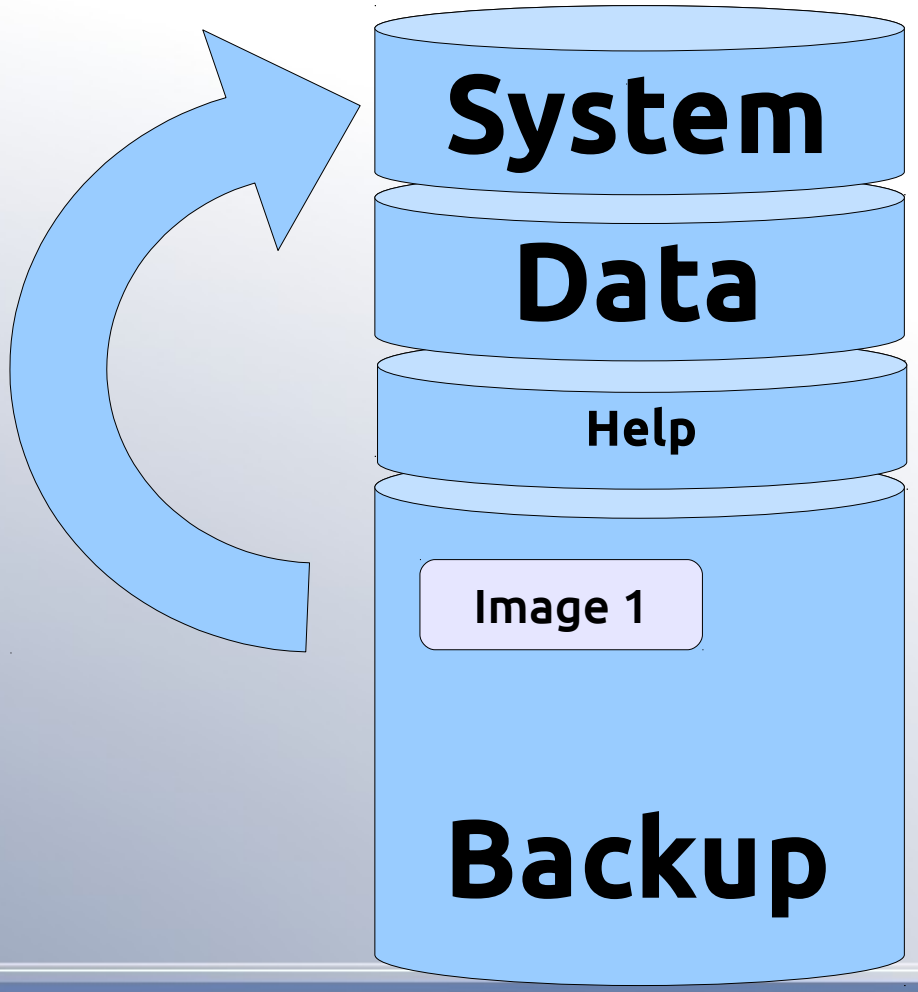


opsi-local-image

Restore
Differenz basiert

opsi-local-image-restore

Method:
Rsync



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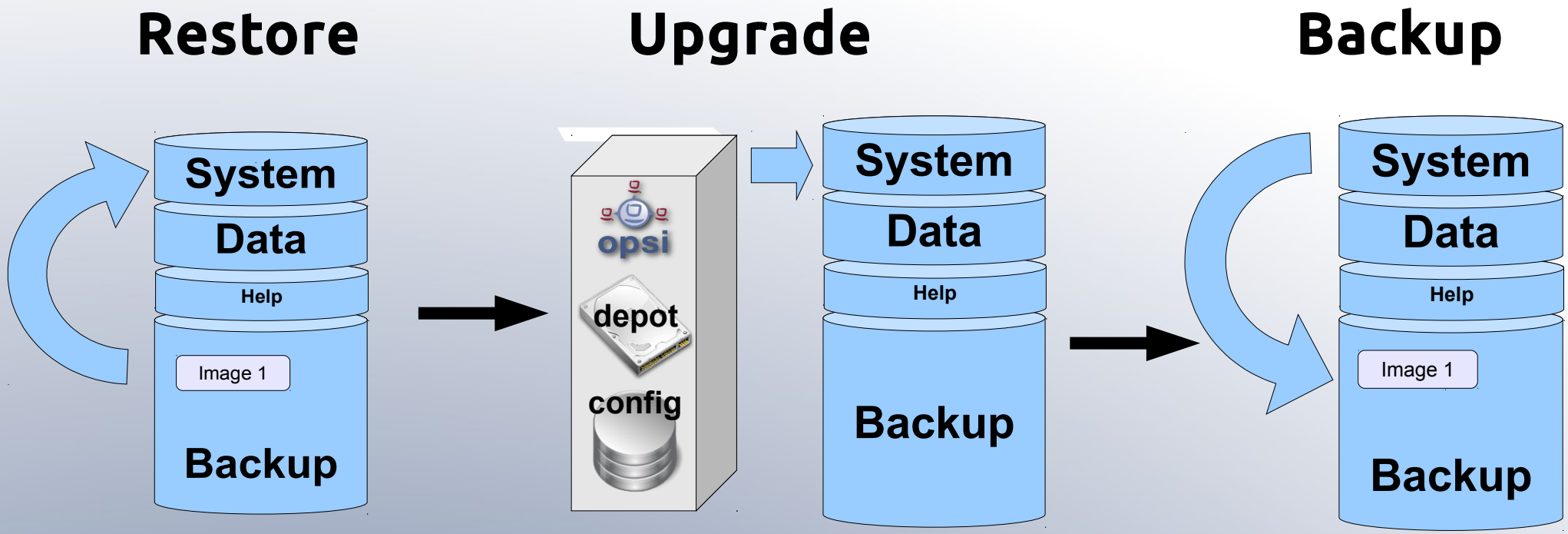


opsi-local-image-capture

Snapshot of running installation

- sysprep: Depersonalization
- capture: Capture Installation into a wim
  - Prepare of WinPE (bootimage)
  - Doing during WinPE run

opsi-local-image-capture

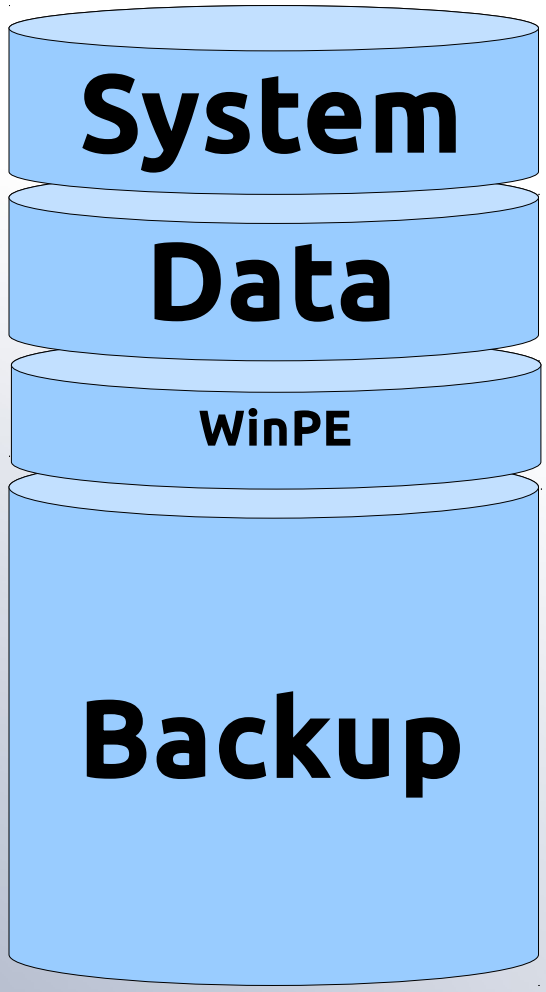
sysprep

Depersonalization

Localbootproduct:

opsi-local-image-sysprep:

* Creates Backup
* Deactivating opsi-client
* Sysprep
* Start Netboot: opsi-local-image-capture



opsi-local-image-capture

capture 1

Vorbereitung PE-Boot

Netbootproduct:

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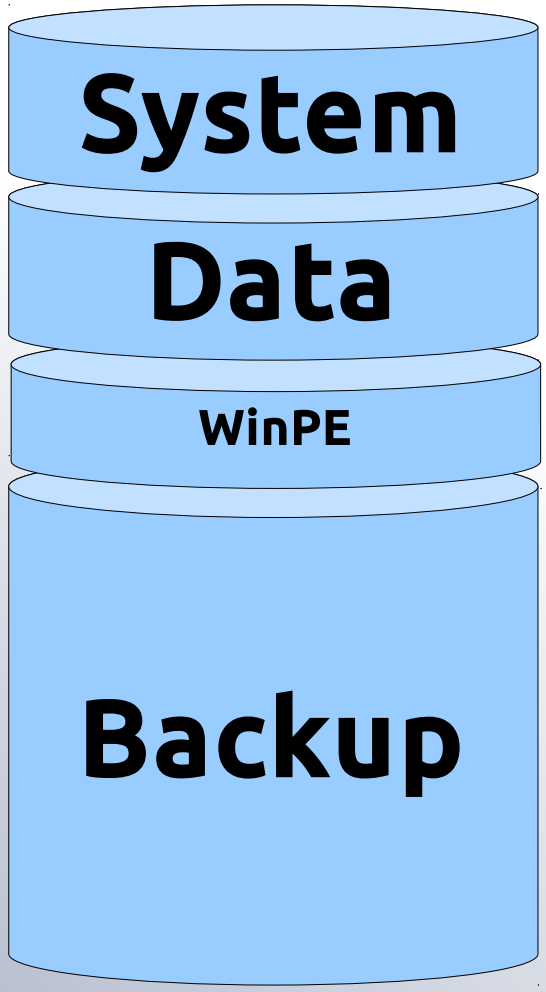
* Acativating PE-Boot
* Patching the PE
* Reboot (start PE)



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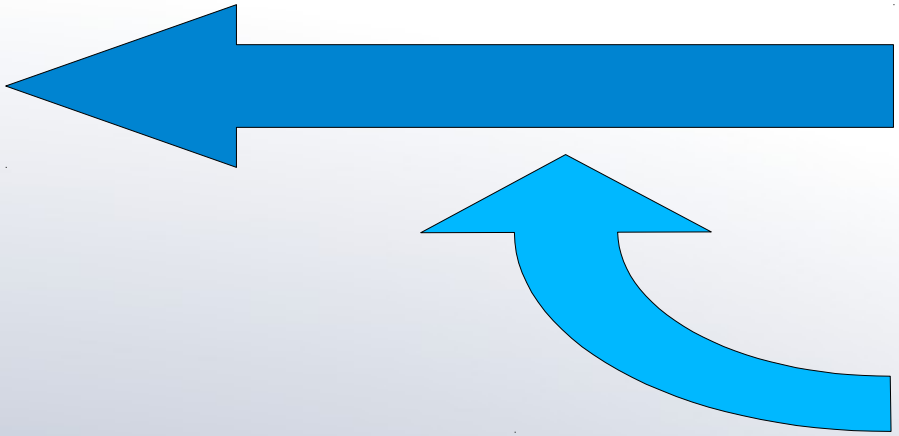

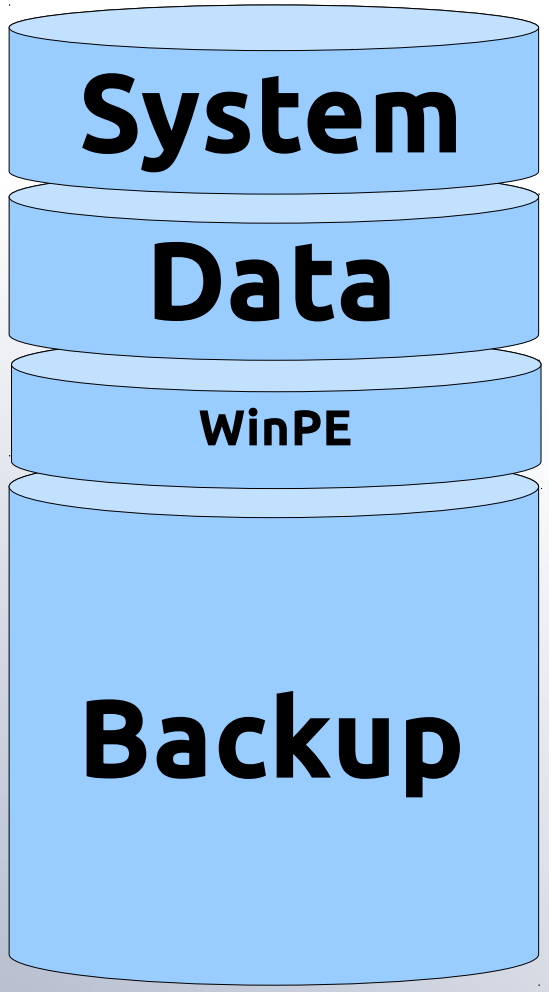

capture 2

PE-Boot

No product:

* mounted Depot_RW-Share
* Capture (install.wim)
* post products (Restore)
* Logfiles zum Server

Sources
(may the source be with you)

Documentation:

- http://www.opsi.org/en/documentation-info

Community:

- https://forum.opsi.org/

Source:

- https://github.com/opsi-org
- https://svn.opsi.org/

Evaluation:

- http://www.opsi.org/en/download

Thank you for your attention

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