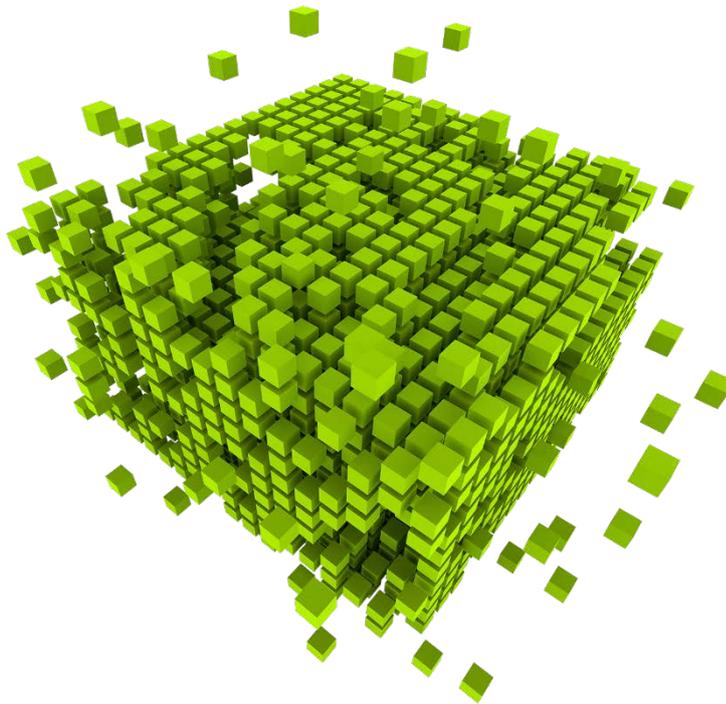


# iTernity iCAS

## Connecting SUSE Enterprise Storage



Software-defined archiving

## Content

1. Overview .....	3
2. Requirements.....	3
3. Architecture.....	3
4. Test Environment and Performance .....	4
4.1 Storage environment.....	4
4.2 iCAS server .....	4
4.3 Performance Values (API) .....	5
4.4 Performance Values (iFSG).....	5

## 1. OVERVIEW

This whitepaper provides recommendations and requirements for using SUSE Enterprise Storage as storage platform in the backend of iCAS. Please note that it is strictly required to follow the iCAS documentation especially the best practices, compliance guide and backup guide.

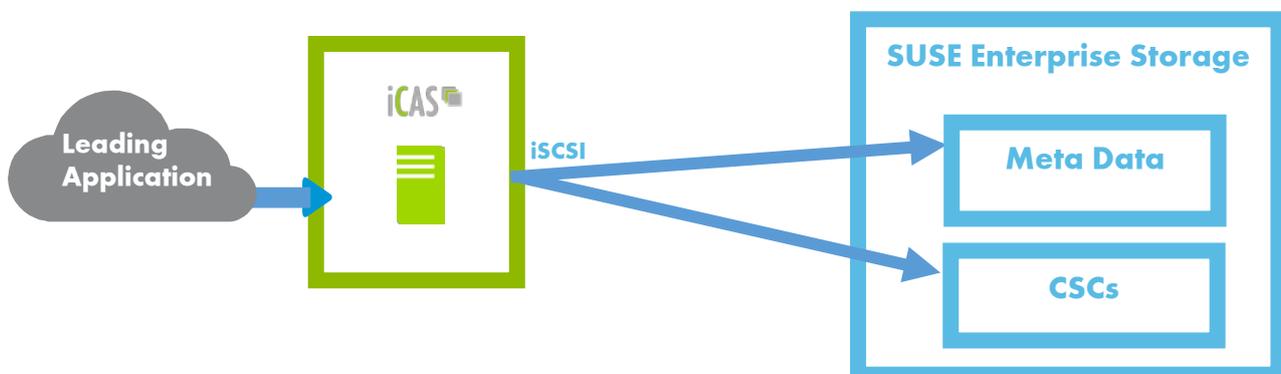
## 2. REQUIREMENTS

To use SUSE Enterprise Storage in the backend of iCAS the storage system has to be connected via the iSCSI connector to the iCAS server.

## 3. ARCHITECTURE

Generally, a leading application (ECM, E-Mail Archive, PACS, etc.) writes its data onto the iCAS server. As interface the iTernity File System Gateway (providing a SMB or NFS share) or the iCAS SOAP API can be used. iCAS generates its patented CSC container files and transfers these to the SUSE Enterprise Storage iSCSI interface used in the backend.

Please note that all data must run through the iCAS middleware. Data written directly to the backend storage is not protected by iCAS. It is also required to limit the access on the SUSE Enterprise Storage system to be only accessible by the iCAS server and the iCAS services.



## 4. TEST ENVIRONMENT AND PERFORMANCE

The validation of iCAS with SUSE Enterprise Storage was performed on the following test environment. The performance values based on this infrastructure and different test settings are listed below.

### 4.1 Storage environment

- 3x HPE Apollo 4200 nodes (also provided the three iSCSI gateways)
  - 2x Intel E5-2680 v3 processors
  - 320GB RAM
  - M.2 boot kit
  - 4x 480GB SSD
  - 24x 6TB SATA 7.2k drives
  - 1x 40Gb Dual port adapter
- 3x HPE Apollo 4510 nodes (also served as Ceph monitor nodes)
  - 2x e5-2690 v3 processors
  - 320GB RAM
  - M.2 boot kit
  - 4x 480GB SSD
  - 24x 6TB SATA 7.2k drives
  - 1x 40Gb Dual port adapter

This test environment was a high performance configuration.

Independent of the storage test environment please notice the currently recommended benchmark data published by SUSE. For the time of the performance tests these were:

- 1.5 GB RAM/TB of raw storage
- Redundant 10 Gb Ethernet connections

Please contact SUSE for the current recommendations.

### 4.2 iCAS server

- HPE ProLiant DL360
  - 1x Intel E5-2680 v3 processors

- 64GB RAM
- SSD for operating system drive
- 1x 40Gb Dual port adapter

### 4.3 Performance Values (API)

Average File Size	Write	Read
64 KB	28 MB/s	22 MB/s
1 MB	83 MB/s	55 MB/s
10 MB	109 MB/s	91 MB/s

### 4.4 Performance Values (iFSG)

Average File Size	Write	Read
64 KB	14 MB/s	5 MB/s
1 MB	44 MB/s	37 MB/s
10 MB	47 MB/s	92 MB/s

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