



**Hasso
Plattner
Institut**

IT Systems Engineering | Universität Potsdam

WebDAV as network storage

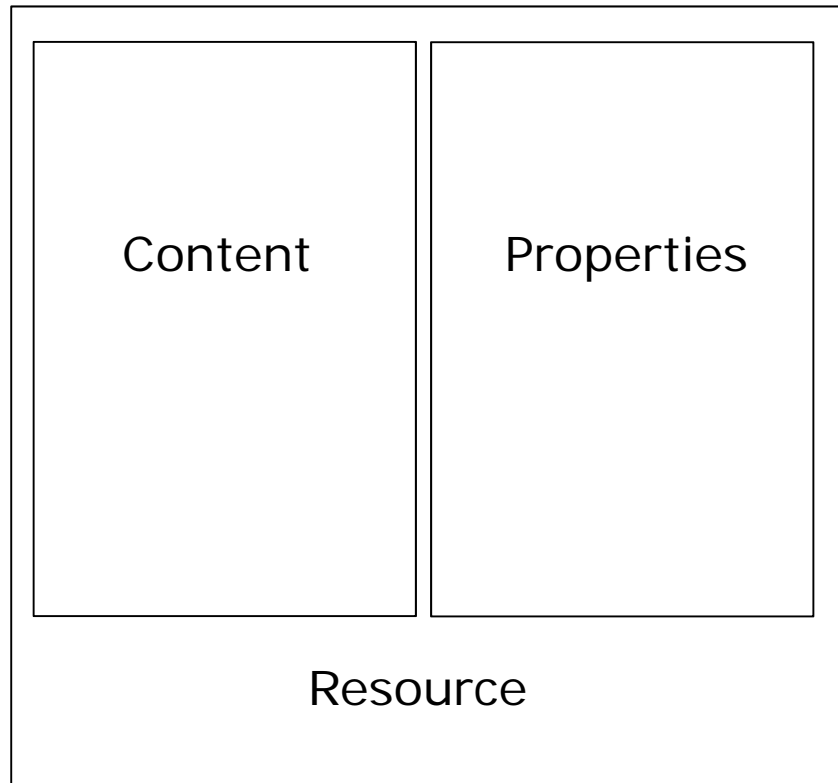
WebDAV

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- “Web-based Distributed Authoring and Versioning”
- online harddisk
- XML und HTTP
- Specification: RFC 4918

Basic concepts of WebDAV

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Collection

Operations

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- All HTTP operations
- PROPFIND: properties of a resource, content of a collection
- PROPPATCH: update or delete properties on a resource
- MKCOL: create collection
- COPY
- MOVE
- LOCK
- UNLOCK

Access Control

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- Based on access control lists (ACL)
 - Grant and denial of rights
 - Owner/group/all
- Single list items: Access control element (ACE)

Access Control

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```
<D:ace>  
  <D:principal>  
    <D:property> <D:owner/> </D:property>  
  </D:principal>  
  <D:grant>  
    <D:privilege> <D:read/> </D:privilege>  
  </D:grant>  
</D:ace>
```

Access Control

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```
<D:ace>  
  <D:principal>  
    <D:property> <D:owner/> </D:property>  
  </D:principal>  
  <D:deny>  
    <D:privilege> <D:all/> </D:privilege>  
  </D:deny>  
</D:ace>
```

WebDAV servers

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- several WebDAV implementations:
 - Zope
 - Microsoft IIS
 - Apache module mod_dav

- Apache
 - most stable
 - best RFC implementation (standard WebDAV)

WebDAV clients

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- Windows Explorer
- Microsoft Office
- Mac OS X Finder
- WebDAV Explorer
- cadaver

Network file system

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- Security
- User management
- User rights management
- Quota management

RFCs for a network file system

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- RFC 3744: Access Control Protocol
- RFC 4331: Quota and Size Properties
- No (stable) support

Catacomb

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- Replacement for Apache mod_dav module
- Stores data in database instead of filesystem
- Most interesting feature: ACP support
- But: work in progress
- <http://catacomb.tigris.org/>

Summary

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- WebDAV: standardized way for online storage
- Many useful extensions not yet implemented

- NFS with WebDAV theoretically possible
- No sufficient support so far