ownCloud @ SCALE14X

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ownCloud community manager
About Me
Agenda

• Why
  • This privacy thing

• What
  • Introducing ownCloud

• How
  • ownCloud and Pie
    • Western Digital and ownCloud
  • Scaling ownCloud
Why ownCloud?
Who is safe?

"If privacy is outlawed, only outlaws will have privacy."
- from the PGP manual
Welcome to ownCloud!

About ownCloud

- File sync and share
- Open Source
- Easy to use
- Easy to install
- Easy to extend
- >8 million users!
Easy to use

• Easy to deploy: LAMP
• Easy to improve on or inspect: PHP, JS, CSS
• All-platform access
• Scale from Raspberry Pi to CERN
ownCloud Apps

apps.owncloud.com
Yours

- Open Source
- 8 million users
- Since 2010
  - 900+ contributors, >300 in last year
  - github.com/owncloud
  - ownCloud Inc. for enterprise
Stats from projects.bitergia.com/ownCloud
ownCloud -- For end users
# Sharing

![ownCloud Sharing Interface]

- **Files**
  - All files
  - Favorites
  - Shared with you
  - Shared with others
  - Shared by link
  - External storage

## Files List:

- **Documents**: 9.4 MB, 7 minutes ago
- **important documents**: 74.5 MB, 2 hours ago
- **Photos**: 663 kB, 21 days ago
- **pretty pictures**: 27.1 MB, 21 days ago
- **lorum ipsum.txt**: 7 kB, 6 days ago
- **my latest thoughts.txt**: <1 kB, 44 minutes ago
- **our popcorn.jpg**: 6.8 MB, 23 days ago
- **ownCloud Manual.pdf**: 2.1 MB, 21 days ago
- **ownCloudUserManual.pdf**: 2.1 MB, 21 days ago
- **release blog.txt**: 61 kB, 31 minutes ago

## Permissions:
- **Alien**
  - Notify by email: unchecked
  - Can share: checked
  - Can edit: unchecked

- **admin (group)**
  - Notify by email: unchecked
  - Can share: checked
  - Can edit: checked

- **Shared with you by Rosa Parks**
- **Shared with others**

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[owncloud.org]

[Sharing Interface Image]
Syncing apps
Features
More apps
App management
ownCloud--For administrators
Management

Mail templates

<table>
<thead>
<tr>
<th>Theme</th>
<th>Template</th>
</tr>
</thead>
<tbody>
<tr>
<td>default</td>
<td>Sharing email</td>
</tr>
</tbody>
</table>

```php
<?php
print_unescaped($l->t("Hey there.

just letting you know

if ( isset($l['expiration']) )

print_unescaped($l->t("The share will expire on %s.

arr

print_unescaped("\n
\n
"));

$p($l->t("Cheers!");
```

Reset

Email Server

- **Send mode**: smtp
- **Encryption**: None
- **From address**: mail@example.com
- **Authentication method**: None
- **Server address**: smtp.example.com

Server-to-Server Sharing

- **Allow users on this server to send shares to other servers**
- **Allow users on this server to receive shares from other servers**

Cron

- **Last cron was executed at December 16, 2014 14:15.**
- **AJAX**
- **Webcron**
  - cron.php is registered at a webcron service to call cron.php every 15 minutes over http.
- **Cron**
  - Use system’s cron service to call the cron.php file every 15 minutes.

Security

- **Enforce HTTPS**
  - Forces the clients to connect to ownCloud via an encrypted connection.
Control Sharing

Sharing
- Allow apps to use the Share API
- Allow users to share via link
  - Enforce password protection
  - Set default expiration date
- Enable User External Storage
  - Allow users to mount the following
    - Amazon S3 and compliant
    - Dropbox
    - FTP
    - Google Drive
    - OpenStack Object Storage
    - ownCloud
    - SFTP
    - WebDAV

- Expire after 7 days
- Enforce expiration date
- Allow resharing
- Restrict users to only share with users in their groups
- Allow users to send mail notification for shared files
- Exclude groups from sharing

These groups will still be able to receive shares, but not to initiate them.
# User management

<table>
<thead>
<tr>
<th>Group</th>
<th>Count</th>
<th>Username</th>
<th>Full Name</th>
<th>Password</th>
<th>Groups</th>
<th>Group Admin</th>
<th>Quota</th>
<th>Storage Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Everyone</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admins</td>
<td>2</td>
<td>game player</td>
<td>game player</td>
<td></td>
<td>Gamers, Home users</td>
<td>Group Admin</td>
<td>Default</td>
<td>/var/www/</td>
</tr>
<tr>
<td>Developers</td>
<td></td>
<td>jos</td>
<td>jos</td>
<td></td>
<td>admin, Management</td>
<td>Group Admin</td>
<td>Default</td>
<td>/var/www/</td>
</tr>
<tr>
<td>Gamers</td>
<td>NaN</td>
<td>tester 1</td>
<td>tester 1</td>
<td></td>
<td>testers</td>
<td>Group Admin</td>
<td>Default</td>
<td>/var/www/</td>
</tr>
<tr>
<td>Home users</td>
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<td></td>
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<tr>
<td>testers</td>
<td>NaN</td>
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<td></td>
</tr>
</tbody>
</table>
Let's talk Pi
## Comparison

<table>
<thead>
<tr>
<th>Dual 1ghz A7</th>
<th>Quad 900mhz A7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mali 400 mp2</td>
<td>VideoCore IV</td>
</tr>
<tr>
<td>1gb DDR3</td>
<td>1gb DDR2</td>
</tr>
<tr>
<td>1000mbit RJ45 direct</td>
<td>100mbit RJ45 hub</td>
</tr>
<tr>
<td>1x SATA II</td>
<td>4x USB 2.0 hub</td>
</tr>
<tr>
<td>2x USB 2.0 direct</td>
<td>MicroSD, HDMI, 3.5mm</td>
</tr>
<tr>
<td>1x USB 2.0 OTG</td>
<td></td>
</tr>
<tr>
<td>SD, HDMI, 3.5mm</td>
<td></td>
</tr>
</tbody>
</table>
Installing ownCloud on a Pi
The Pi Cluster
Let's talk SCALABILITY

Some basics:

• Apache, MySQL, are you crazy?
• PHP 7?
• Redis?
One device/server

- Linux
- Apache, mod_php
- MySQL
- Btrfs for backup!
- Session management
Let's split up

High Availability Setup
• 2 DB servers (master/slave)
• NFS storage server
• LDAP server
• 2-4 application servers
• 1 HA proxy
Load balancing, DB Cluster

Load balancer
• HAPerxy
• SSL termination
• Sticky sessions

Database
• MySQL/MariaDB
• Galera master/slave

Backup
database slave, NFS snapshot,
LDAP, Memcache, ...

• Read-only slaves on application servers
• REDIS & APCU
  ‒ Redis for file locking and distributed
  ‒ APCU for local
• Ceph, Elastic Storage

1000 users, 200TB storage
Real Big Stuff
Federation
Ye Olde Cloud
Private Clouds
Federated Clouds
And security...
Questions???
In action

• Germany: NorthRein Westphalia
• Global: Open Cloud Mesh
• Brazil, India...
Get it

• owncloud.org
• owncloud.org/install
• demo.owncloud.org
• owncloud.org/contribute
• doc.owncloud.org
• owncloud.com