Centrally editing distributed content!

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Contentpool

An introduction
What is it?

• Central Contentpool platform distributes content to several websites and provides the editorial backend

• Easy reuse of content (articles, media, ...) on multiple websites
System overview

Editors -> Contentpool

Contentpool -> Satellites

Satellites
What is it?

- Central contentpool instance distributes content
- Web sites can communicate via API with the central instance and receive new content and content-updates
- Each website can share content with others
Why?

- Cost reduction via content reuse
- Simpler content workflow through centrally controlled content updates
- Time to market - faster creation of new websites through the use of existing content
- Display content on all digital end-devices
Case Study

Wirtschaftsverlag
Case Study: Wirtschaftsverlag

About

- Österreichischer Wirtschaftsverlag is Austria's biggest B2B publisher
- The Company is represented with 25 special interest magazines and several service portals (e.g. cloud-solutions for the automotive industry)
Case Study: Wirtschaftsverlag

Digital Strategy

- Company-wide content pool
- Increase coverage
- Create space for industry-related monetization
- Easy maintenance by editorial staff
- Use of all content-types on all publishing platforms
- Enriching content with metadata through semantic analysis
## Case Study: Wirtschaftsverlag

### Digital Strategy

<table>
<thead>
<tr>
<th>Content Management System</th>
<th>Content-Pool</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Mobile Optimization</td>
<td>- Semantic analysis</td>
</tr>
<tr>
<td>- Login area (Paywall)</td>
<td>- Enrichment of existing content</td>
</tr>
<tr>
<td>- People Tracking</td>
<td>- Delivery of related content</td>
</tr>
<tr>
<td>- Content tagging</td>
<td>- Automatically personalized content</td>
</tr>
<tr>
<td>- Dynamic, theme-based content compilation</td>
<td></td>
</tr>
</tbody>
</table>
Case Study: Wirtschaftsverlag

Contentpool
## Case Study: Wirtschaftsverlag

### CMS Evaluation: Short profile

<table>
<thead>
<tr>
<th>Ireds</th>
<th>Drupal</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Content hierarchical</td>
<td>- Content hierarchically &amp; theme based</td>
</tr>
<tr>
<td>- Closed Source, 1 Supplier</td>
<td>- Open Source - about 2000 developers</td>
</tr>
<tr>
<td>- Content very customizable</td>
<td>- Content categories are very individual.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wordpress</th>
<th>Typo3</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Content hierarchical</td>
<td>- Content hierarchical</td>
</tr>
<tr>
<td>- Open source</td>
<td>- Open source</td>
</tr>
<tr>
<td>- Content is strongly</td>
<td>- Content pages-based</td>
</tr>
<tr>
<td>standardized</td>
<td></td>
</tr>
</tbody>
</table>
Overview

- The Austrian Wirtschaftsverlag decided to work with the Open Source CMS Drupal 6 in 2011
- Oliver Berndt and Wolfgang Ziegler elaborated the concept for Contentpool 7 (Drupal 7) in 2013
- Contentpool 7 online since 2014
- The conceptual work for Contentpool 8 (Drupal 8/Thunder) started in 2016
Case Study: Wirtschaftsverlag

Contentpool 7
AUTOMOTIVE
Alle Fachmagazine

Hochvolt-Ausbildung
in 3 Modulen
Arbeiten mit E-Autos –
der Trend für Ihren Erfolg!

JETZT NEU!

AUTOMOTIVE
AKADEMIE

Top Videos

KFZ Wirtschaft
Film ab!
03.08.2017 | Aktuelles

Historischer Rückblick
05.07.2017 | Aktuelles

Toller ORF-Beitrag
01.06.2017 | Aktuelles

Zulassungsstatistik

AB €59,-
IM MONAT.*
Cyber Security
11. Oktober 2017 ab 16.00 Uhr, Linz

Gefahr Hackerangriff:
Wie Sie Ihr Unternehmen schützen können!

AB €95,-
IM MONAT.
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Contentpool 7

Selection of the section (Magazine)
Case Study: Wirtschaftsverlag

Contentpool 7

Selection of the primary section (Magazine) - Use of canonical tags to avoid duplicate content
Case Study: Wirtschaftsverlag

Contentpool advantages

- Central publishing and delivery based upon sections
- Easy deployment of new features on all sites
- Updates are instant on all sites and invalidate caches (including varnish)
- Easy to move articles or mediums across sites (e.g. Werbeentscheider)
Case Study: Wirtschaftsverlag

Team

- Oliver Berndt  Product Owner  media-c  former Head of Digital Services  Wirtschaftsverlag
- Wolfgang Ziegler  Technical Architect  drunomics
- Dominic Prüll  Technical Lead  Wirtschaftsverlag
- David Fröhlich  Web Development  W1 Omnichannel Marketing
- Aladin Chaibi  Content Management  Wirtschaftsverlag
Contentpool 8

The new Drupal 8 Distribution
Requirements & Goals (1)

- Contentpool is the central source of content
- Editors directly edit content on the contentpool
- Sites can fetch content based upon pre-defined filters (e.g. by channel, topic)
- Changes show up instantly after editing
- Full support for Thunder (Paragraphs, Media)
Requirements & Goals (2)

- Support for custom data structures
  - Cover custom fields and paragraphs
  - Cover other entities/data besides articles
- Content can be re-used by non-Drupal sites
- Provide an API for 3rd-parties
System overview

Editors

Contentpool

Satellites
Lessons learned from Drupal 7

- Drupal 7 contentpool using remote entities & central Solr

- Avoid a run-time dependency on the contentpool
  - Satellites must keep working when the contentpool is down; e.g. for a maintenance update

- Avoid strong coupling between contentpool & satellites
  - Avoid changes that require orchestrated updates
  - Ease development of satellites
Content replication

- Store content again on satellite sites
- Replicate / synchronize changes to satellites
- Avoid conflicts by preventing changes on satellites!
- UX: When trying to edit content on satellites
  redirect editors to the contentpool

✔ No run-time dependency!
Implementing replication

- Don’t – it’s done!
- Robust replication powered by the Replication module
- Implements CouchDB replication protocol
  - via RelaxedWS
- Module suite around the Deploy module and the Workflow initiative
- http://www.drupaldeploy.org/
Replication module

Pros:
- Robust and tested replication based upon entity revisions
- Don’t re-invent the wheel, join forces
- Extensible thanks to existing integrations with Content moderation & Workspace

Cons:
- Difficult to setup → taken care of by the distribution!
Contentpool – The distribution!

• Builds upon the Thunder distribution
  – Working out-of-the-box functionality
  – Functionality needed by publishing sites is pre-configured (Media, Paragraphs, Better Admin Theme)
  – Provides sensible defaults that can be altered as needed

• Extended it with a pre-configured Replication module suite

... and some code to adjust it to the use case!
Contentpool – Replication features

- Replicates articles and taxonomies (channels) to satellites
- Extends the replication to include necessary referenced entities (Media entities, Tags, ...)
- Allows filtering replicated articles by channel
  - Feature works with all term-relationships of articles
  - UI for configuring filters
Replication filter selection

- UI powered by vue-treeselect.js.org
  - Works well for high amount of terms
- Fetches from the contentpool via API
- Support for hierarchical filters
  - Subscribe to the parent term to get articles of all children
- Filter by any term reference field of articles
  - OR matching → Subscribe to channel and topics.
Replication filter

Channel
Replicate content if it is associated with any of the selected terms.

Bauzeitung

Automotive
- KFZ-Wirtschaft

Bauforum
- Bauzeitung
- Tischlerjournal

Replicate content if it is associated with any of the selected terms.

Themen
Replicate content if it is associated with any of the selected terms.

Select...
Contentpool Client module

- Adds in everything that’s necessary for a satellite
  - Replication module suite
  - Data model as needed for the replication
  - Provides replication filter form

- Makes it easy to connect to a contentpool:

  drush cps https://replicator:PASS@example.com/relaxed
Distribution development status

- Working alpha version
  - Replication
  - Automated test-coverage
  - TODO: API for 3rd parties (JSON API)
- Current release: 1.0.0-alpha2
- Under development – stable release until end of 2018!
- Next: Replication edge-cases & initial sync performance
Replication: There are many details...

- Data structure must match! (mostly)
  - Fields must match or be excluded!
  - Extend contentpool_data_model as needed
- Files get replicated and stored on satellites
- URL patterns are not replicated – satellites are in control!
- Canonical URL Meta-Tag needed for SEO [wip]
Loose coupling?

• **Problem:**
  - Every change on the data structure needs to be deployed to all the satellites

• **Solution:**
  - Simplify the required data structure and avoid changes
Loose coupling: Avoid data structure changes

• Observation:
  – After setting up article data structure (with metadata) most changes concern paragraphs & article rendering

• Conclusion:
  – Do not replicate paragraphs as Drupal entities
  – Provide pre-rendered default markup for paragraphs
  – Provide a JSON structure for paragraphs for custom rendering
Pre-rendering paragraphs: Custom elements

- New module: drupal.org/project/custom_elements
- Provide custom markup

  `<pg-image data-img-src="/path/to/image"
  data-field-copyright="(c)drunomics GmbH"
  data-field-caption="Beautiful image!" />

- Render custom markup with JavaScript (Vue.js, ReactJS, ...)
- Provide JavaScript assets for simple default rendering
  - includes (un-branded) default styling
  - Avoid re-implementation of article rendering across systems!
Coming: Custom elements for sharing with 3rd party sites

- API for fetching latest X teasers of channel Y
  - Skip replication for 3rd parties, but cache responses.

- Results contain pre-rendered teasers
  - as custom elements
  - ready-to-go Javascript for rendering
  - can be loaded server-side or fully client-side
Single Sign-on across sites?

- Centralized access and authorization control
- Automated session pickup makes switching sites convenient
- Solution for Drupal 7 exists, but...

missing piece of the puzzle for Drupal 8!
Our Vision: Contentpool extensions

- Kick-start satellite sites!
  - Ready-to-go package
  - Customizable theme for small and medium-sized publishers
  - With content analysis and ad-server integration

- Co-operations with Industry Partners:
  - Fast an easy creation of new magazine websites in the cloud
  - Integration of an innovative web-to-print solutions for standardized magazine productions
Thank you!

- Questions?
- Feedback? Do you have different use-cases?