



**the**  
**COntent NEtwork SYStem**

Presented by Sandro Zic



Conference: UKUUG 2003, 2003/07/31-08/03  
Session: CONESYS, 2003/08/?  
Speaker: Sandro Zic, [sandro.zic@zzoss.com](mailto:sandro.zic@zzoss.com)  
Company: ZZ/OSS, [www.zzoss.com](http://www.zzoss.com)

## What is this session about?

A middleware and administration interface for distributed Content Management.



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## Background

- Started January, 2 years experience
- Version 1.0 ahead
- Joint Venture of
  - DAASI International
  - d-serv OHG Digital Services
  - ZZ/OSS Information Networking GbR
- [www.conesys.net](http://www.conesys.net)
- GPL/LGPL
- Linux, Apache, MySQL, LDAP, PHP, XML



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# Who is speaking?

- Sandro Zic
- Programmer, Author, CEO
- ZZ/OSS Information Networking GbR
- Tübingen/Germany
- [www.zzoss.com](http://www.zzoss.com)
- [sandro.zic@zzoss.com](mailto:sandro.zic@zzoss.com)



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# Who is listening?

Let's ask the audience:

- Who does software development?
- Who implements, administrates CMS?
- Who ever worked with Web Services?



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# What is a Content Network?

- A content network is a computer system where **digital objects** are **decoupled from the physical nodes** that carry them.
- Corresponding software frameworks allow for **integration** of text, image, videos, etc. **from remote or local sources** / legacy systems into another application.



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# Possible Applications

- Content Management Systems
- Knowledge Management Systems
- Intranet, Extranet, Branch Offices
- Groupware
- Digital Libraries, Pre-print Servers



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## Features

- cross-server information exchange
- helping programmers develop applications handling distributed data
- administrator GUIs to manage distributed data repositories



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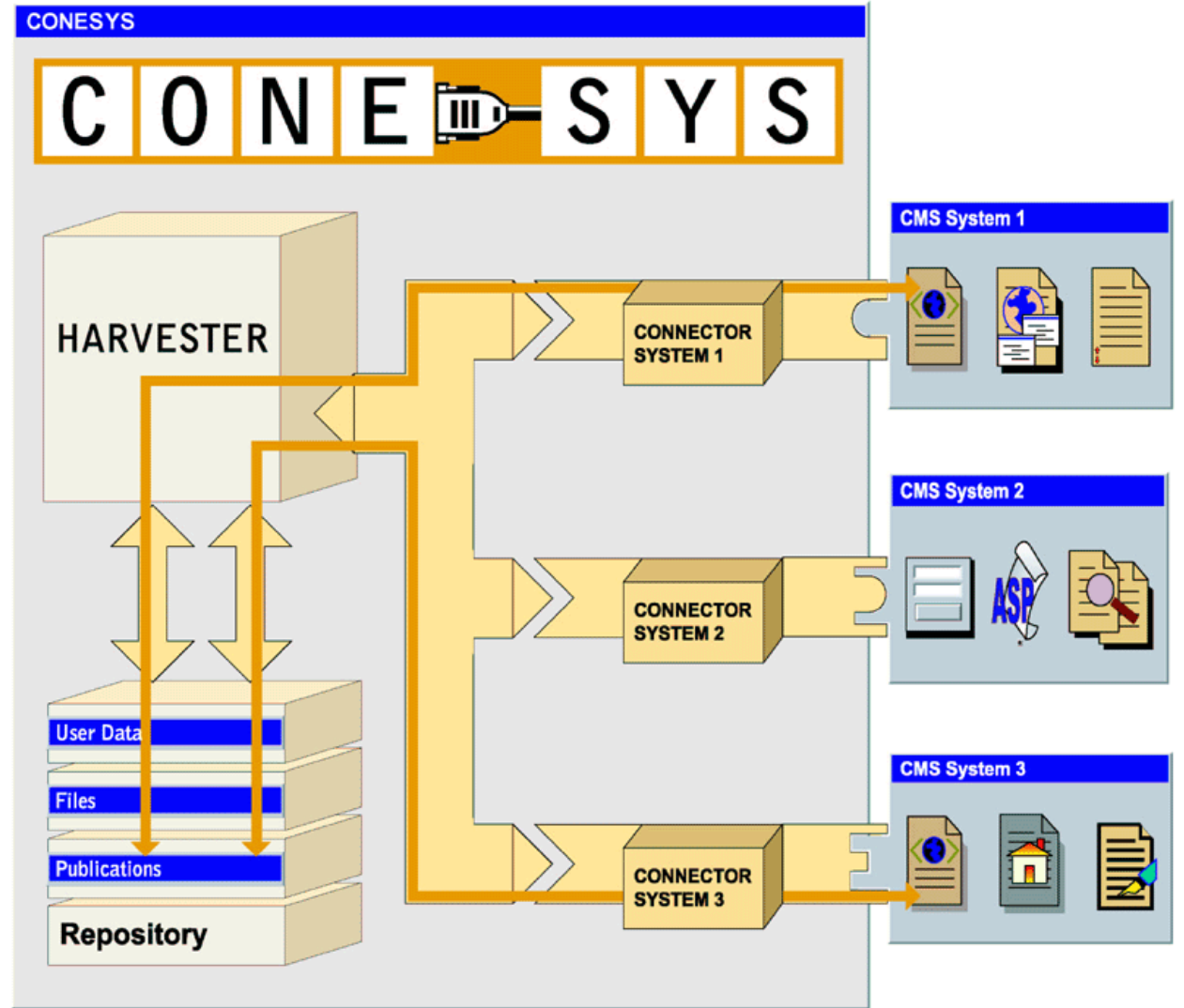


# COntent NEtwork SYStem

Distribute data  
between legacy  
systems

Multiple  
network  
topologies

DNS-like  
configuration



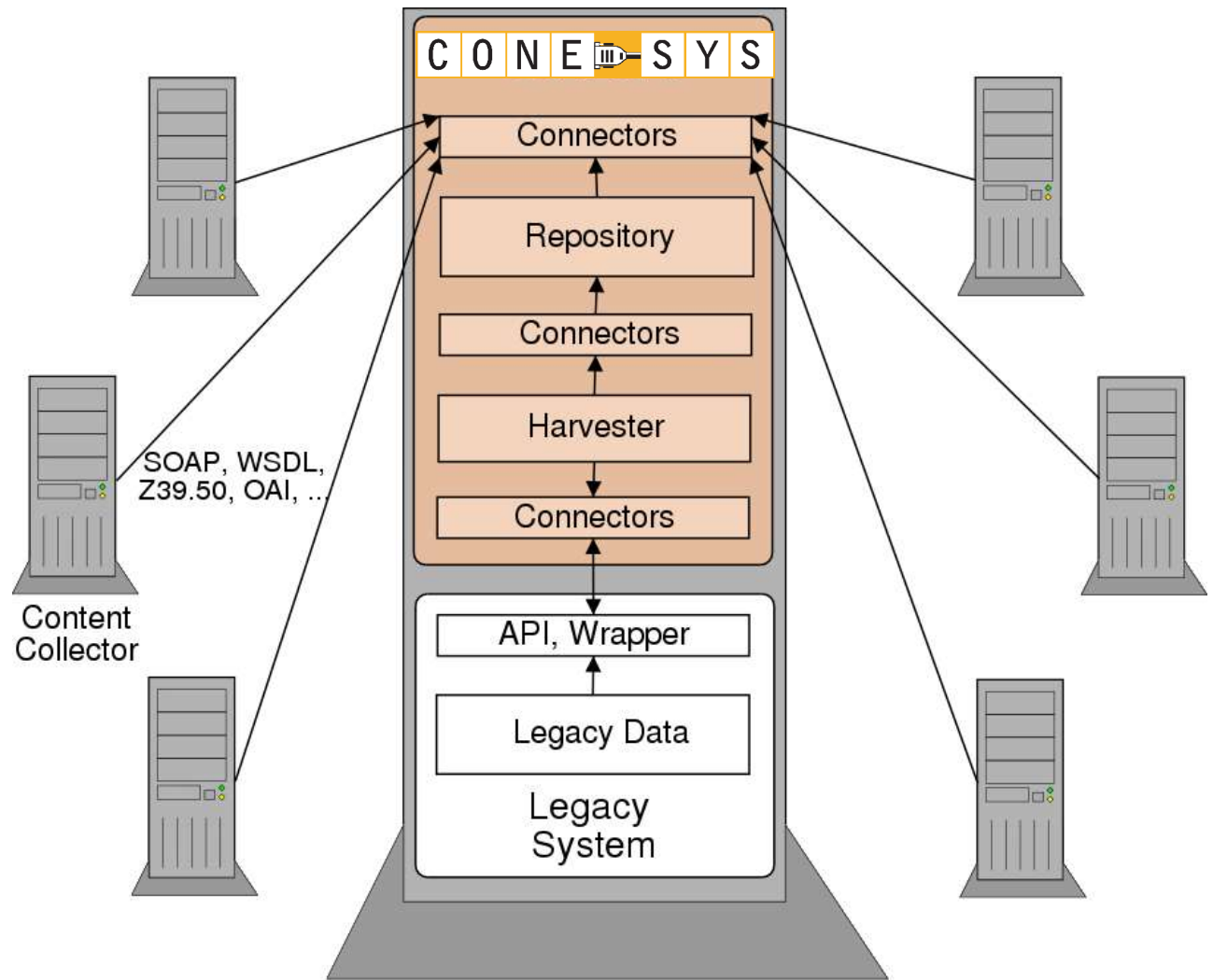
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# Content Provider

Offers data to remote servers

Interoperable interfaces

Local harvesting of legacy data



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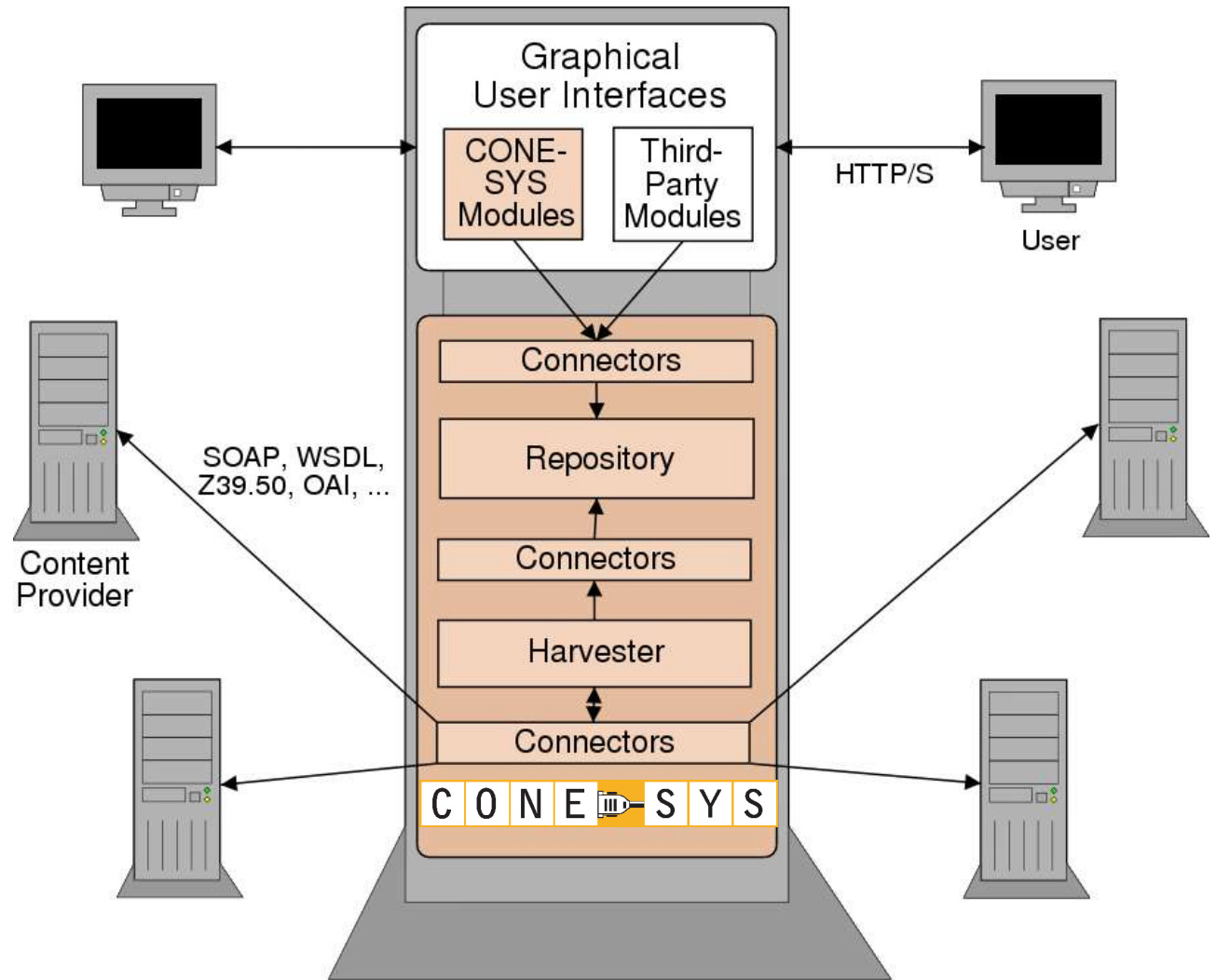
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# Content Collector

Gathers data from remote servers

Interoperable interfaces

Remote harvesting



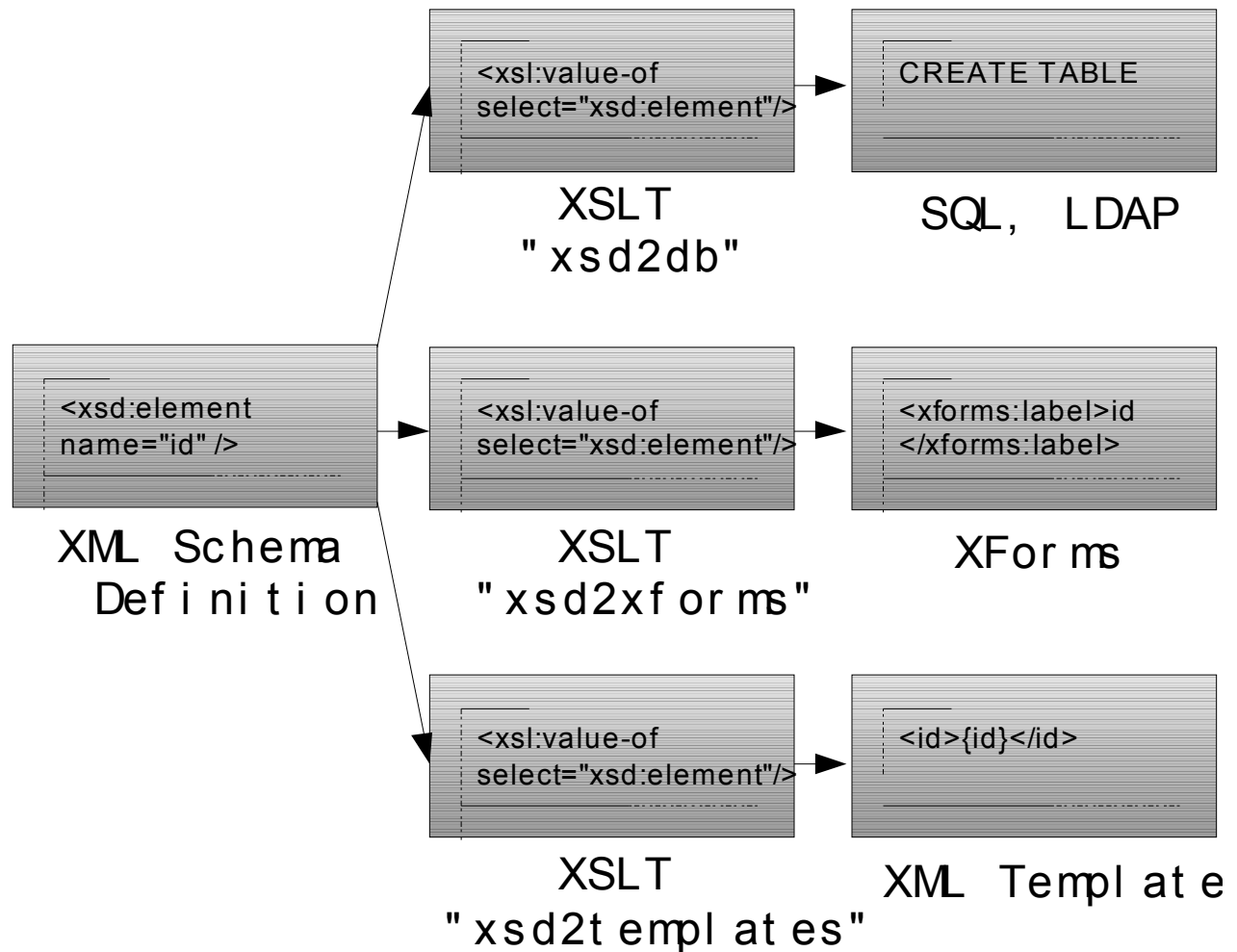
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# Repository Toolkit

Quickly set up new repositories

XML Schema Definition for repository elements

Automagic installation

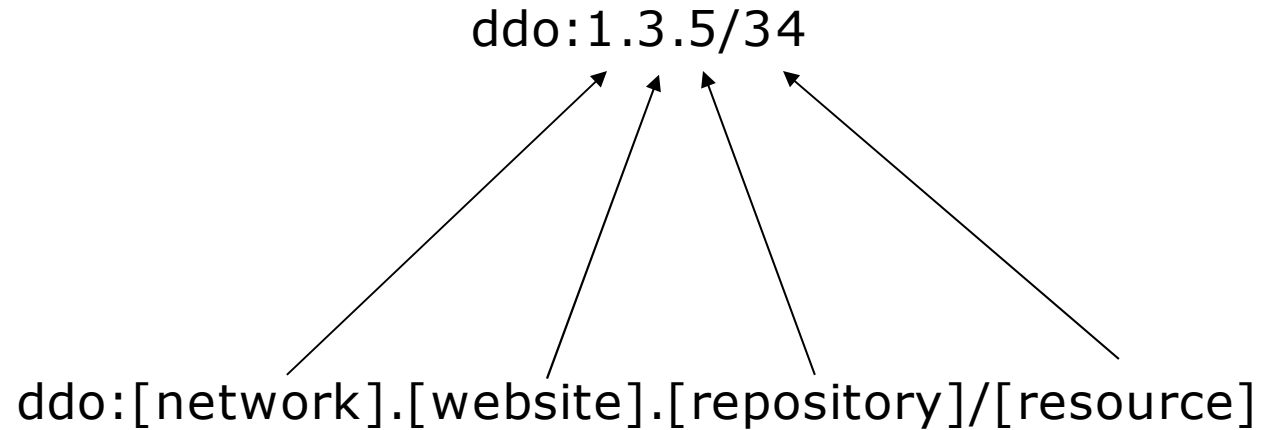


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# Distributed Digital Objects

IP-Address for digital objects

Used by repositories, harvester, resolver



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# Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH)

- <http://www.openarchives.org>
- Implementation by ZZ/OSS:
  - <http://www.sf.net/projects/oai-pear>
  - <http://oai-pear.sourceforge.net>



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# GetRecord Request

```
http://example.com  
?verb=GetRecord  
&identifier=oai:arXiv.org:cs/0112017  
&metadataPrefix=oai_dc
```



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# GetRecord Response



```
<OAI-PMH ... >
  <responseDate>2002-02-08T08:55:46Z</responseDate>
  <request verb="GetRecord"
    identifier="oai:arXiv.org:cs/0112017"
    metadataPrefix="oai_dc">http://arXiv.org/oai2</request>
  <GetRecord>
    <record>
      <header>
        <identifier>oai:arXiv.org:cs/0112017</identifier>
        <datestamp>2001-12-14</datestamp>
        <setSpec>cs</setSpec>
        <setSpec>math</setSpec>
      </header>
      <metadata>
        ...
      </metadata>
    </record>
  </GetRecord>
</OAI-PMH>
```



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# GetRecord Response



```
<OAI-PMH ... >
  ...
  <GetRecord>
    <record>
      ...
      <metadata>
        <oai_dc:dc ...>
          <dc:title>Using Structural Metadata to Localize
Experience of Digital Content</dc:title>
          <dc:creator>Dushay, Naomi</dc:creator>
          <dc:subject>Digital Libraries</dc:subject>
          <dc:date>2001-12-14</dc:date>
        </oai_dc:dc>
      </metadata>
    </record>
  </GetRecord>
</OAI-PMH>
```



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# Questions?

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