

# Backbone



Content often has many systemic consumers. These consumers are often separated by one or more barriers.

Our product removes these barriers and makes it easier for systems to share content.

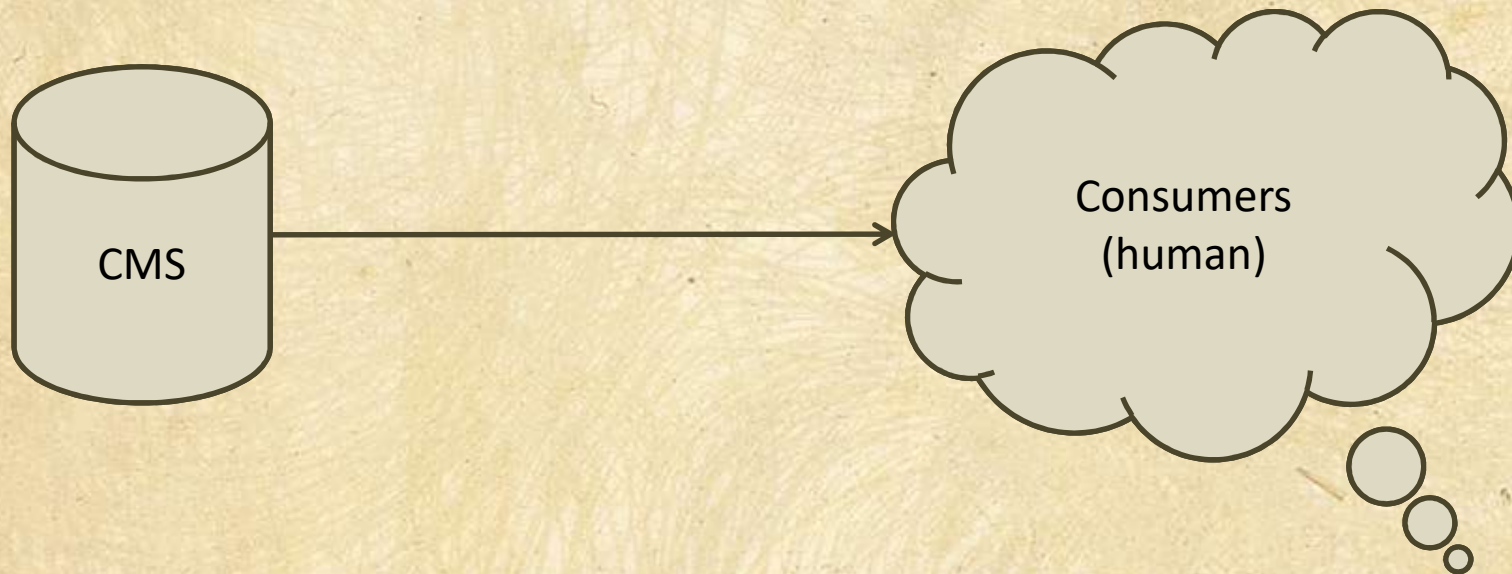


## *“Systemic Consumer”*

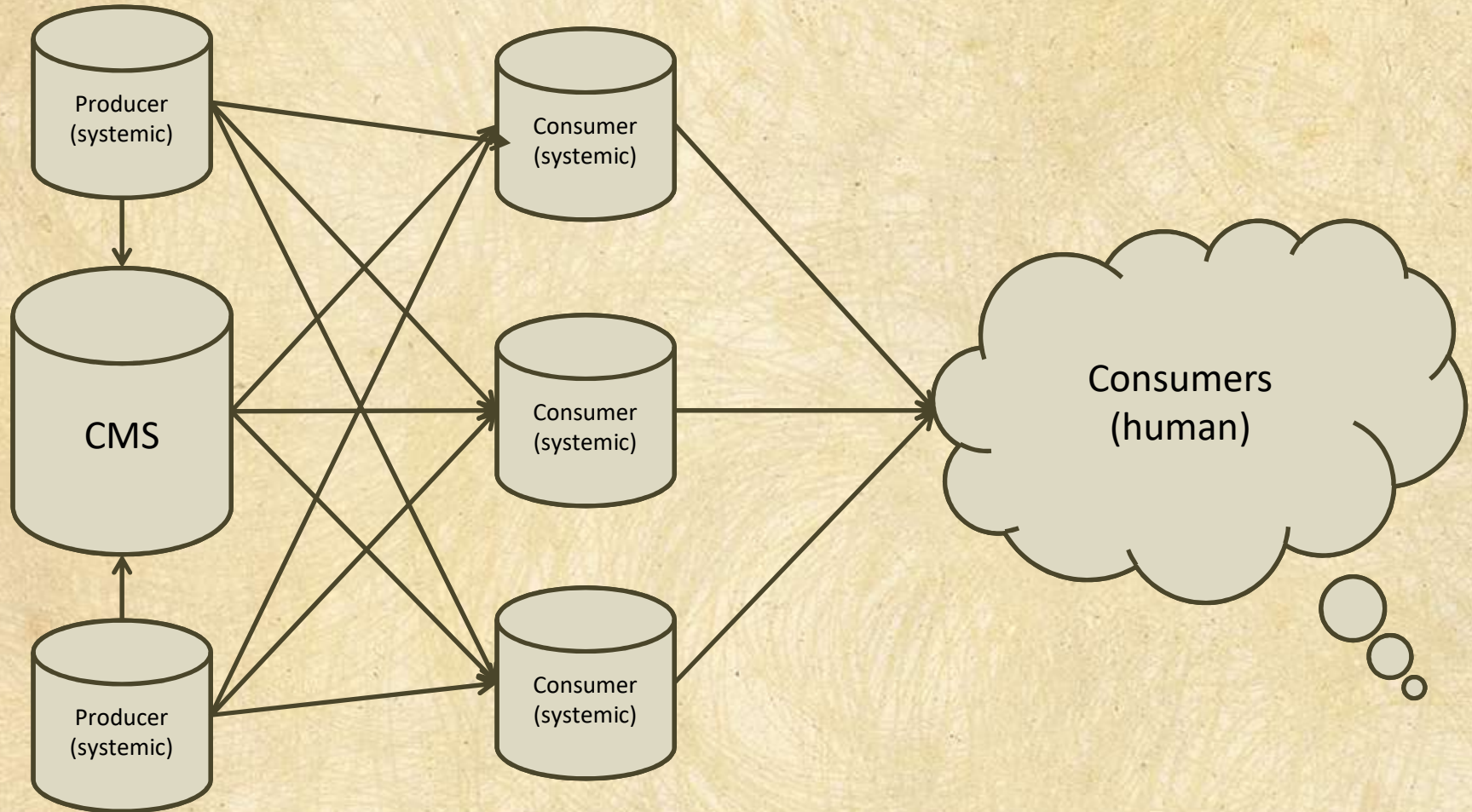
A system that acts on content in  
some way.



# The Simple View of Content



# The Enterprise View of Content





# Separated by Process

- ▶ Different installations and applications are often isolated by process on the same server
- ▶ Primary reasons:
  - ▶ Security
  - ▶ Stability
  - ▶ Architecture



# Separated by Server

- ▶ Different web sites and applications often run on different physical machines or different instances on the same VM



# Separated by Network Topology

- ▶ Different websites and applications exist in different network segments and locations
- ▶ Intranets vs. Extranets vs. Public Web Sites
- ▶ Internal network vs. DMZ



# Separated by Software Platform

- ▶ Multiple software platforms are not uncommon
  - ▶ CMS
  - ▶ Homegrown applications
  - ▶ Generated content
  - ▶ Third-party applications



# Scenario

Organization has a core CMS installation, and multiple applications running in separate processes on the same server.

The CMS publishes common navigation elements that all applications need to display.



# Scenario

Organization has multiple content-based websites.

An article lives in a single site, but each site should have the ability to replicate articles in any of the other sites when necessary.

These articles should be tied back to the original so if it changes, they receive the updates.



# Scenario

Organization has multiple applications generating data which needs to be displayed on their intranet.

Organization may have other systems in the future that will want to consume this data, and wants to avoid hard-binding the applications to the intranet.

# Scenario

Organization has multiple blogs, each with their own RSS feed. Additionally, the organization has multiple Twitter accounts.

Organization wants to display a consolidated RSS feed of all blog posts and Twitter feeds in one location



# Scenario

Organization has a Terms and Conditions document stored in a Microsoft Word document in their ECM system.

This document needs to be displayed on every corporate website as HTML content.

# Scenario

Organization has multiple internal blogs on different platforms, servers, and network locations.

Each blog post is tagged by subject matter.

Organization wants to be able to query a consolidated index of blog posts to find all posts tagged with X across the enterprise.



Sharing content between multiple consumers can be difficult.



Every system potentially has to know how to talk to every other system.



Adding another system means  
integrating that system with all the  
others.

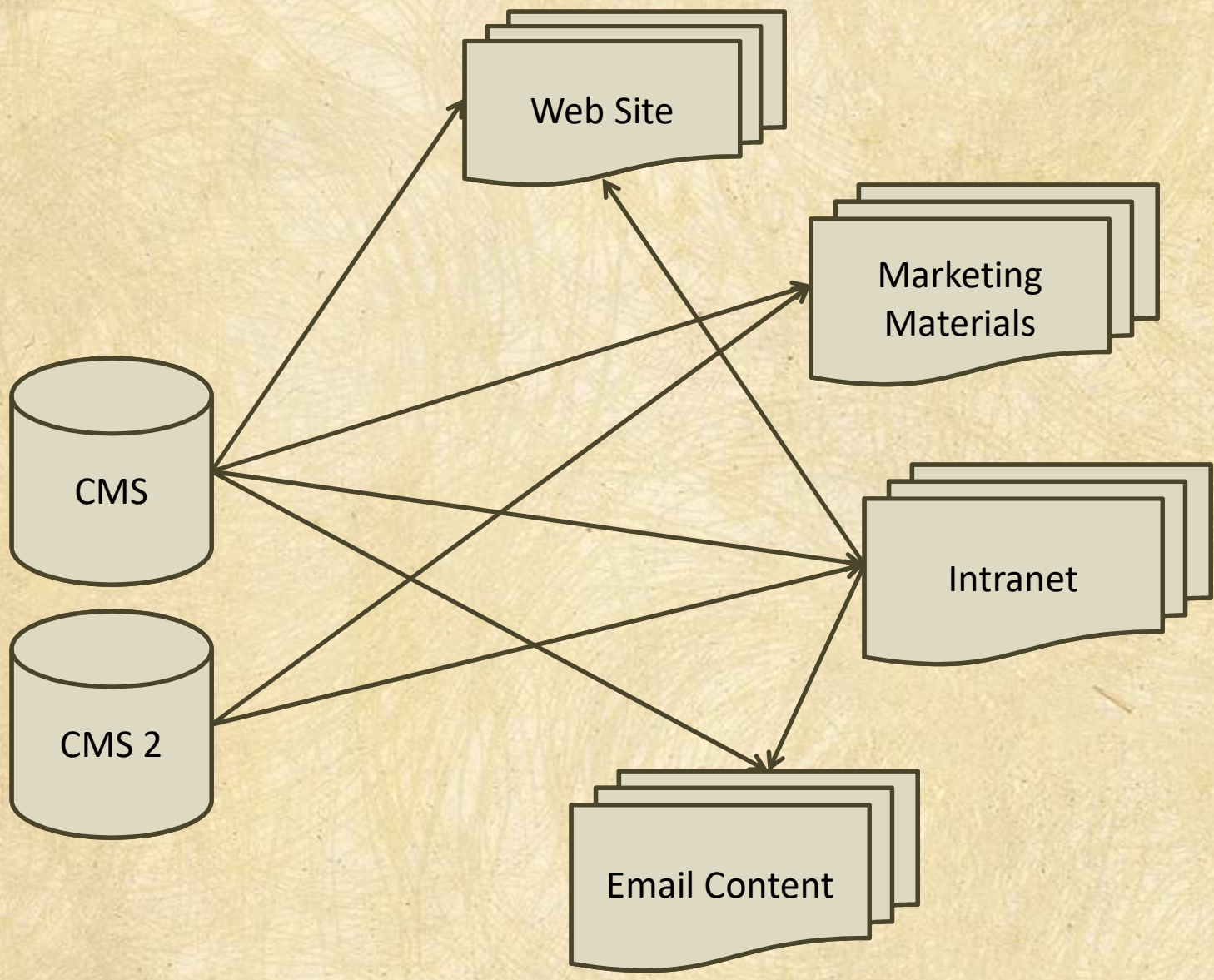
$$N \times (N-1)$$

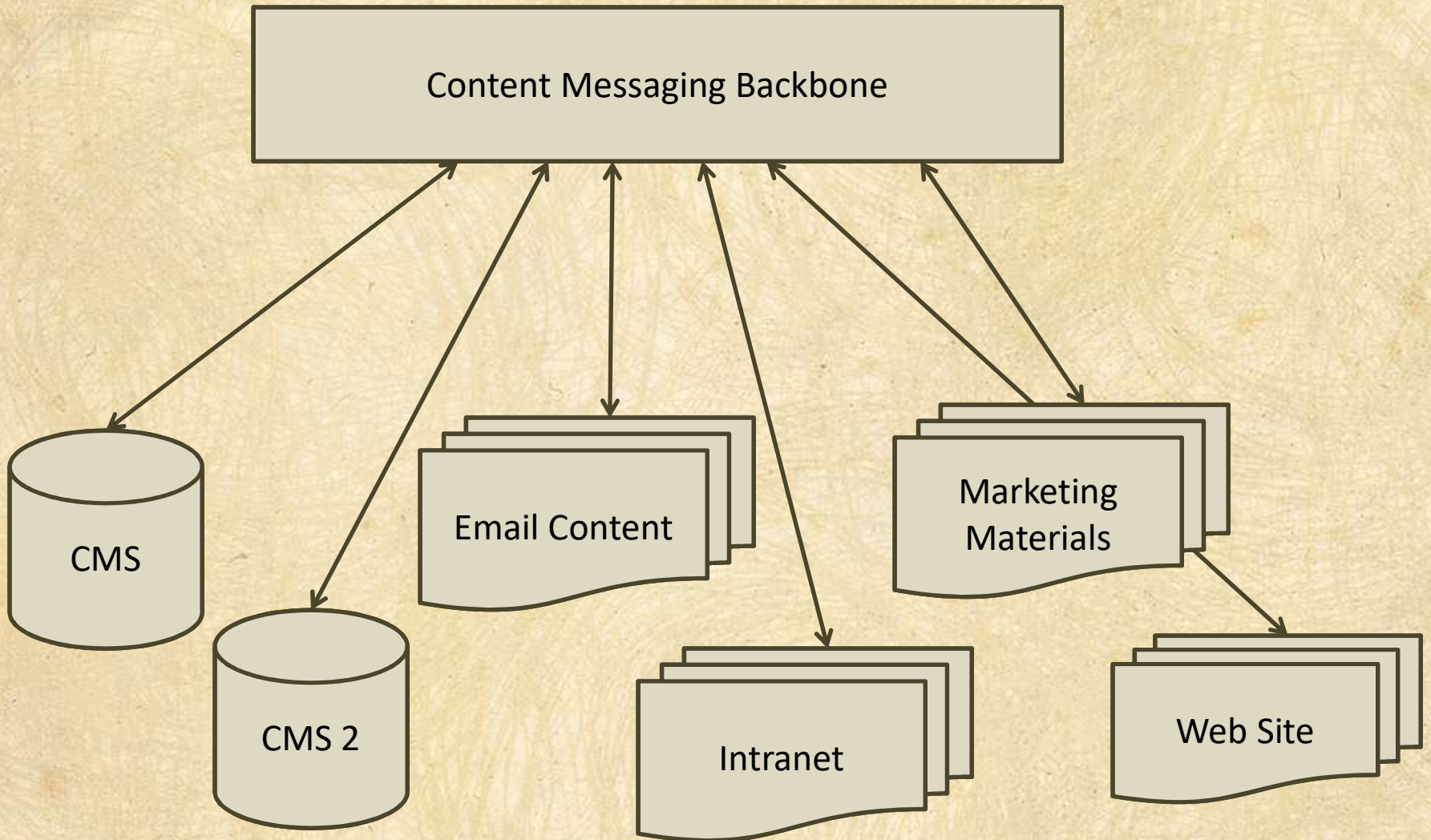


*Solution:*

A content messaging backbone for  
WCM.









In its simplest form, the backbone is a “holding pen” for content.

System A can inject content into it, and System B can get content out of it.



Any system now just has to know  
two things:

1. Put content into the backbone
2. Get content out of the backbone



Adding a new system just means  
making sure it can talk to the  
backbone.

$N \times (N-1)$  becomes just  $N$



# Services Provided

- ▶ Content Intake
- ▶ Content Transformation
- ▶ Content Retrieval
- ▶ Content Serving



# Definition of “Content”

- ▶ A single record is divided into multiple “fields”
- ▶ A field is:
  - ▶ An array of bytes
  - ▶ A mime type
  - ▶ An optional encoding
    - ▶ UTF-8 is assumed



# Expected Content

- ▶ Text/HTML fragments
- ▶ Images
- ▶ Structured XML
- ▶ Binary content files



# Content Intake

- ▶ Systems will be able to inject content into the backbone via multiple methods
  - ▶ SOAP
  - ▶ REST
  - ▶ HTTP POST
  - ▶ SFTP
- ▶ “Ping and Pull”



# Content Transformation

- ▶ Transformations change content after intake and before output
- ▶ Multiple transformations can be chained for a single piece of content
- ▶ A transformation might generate multiple content outputs



# Sample Transformations

- ▷ Resize image (into multiple sizes)
- ▷ Convert Microsoft Office to HTML
- ▷ Transform XML against XSL
- ▷ Correct hyperlinks
- ▷ Change CSS styles
- ▷ Replace text
- ▷ Consolidate XML / RSS
- ▷ Index text



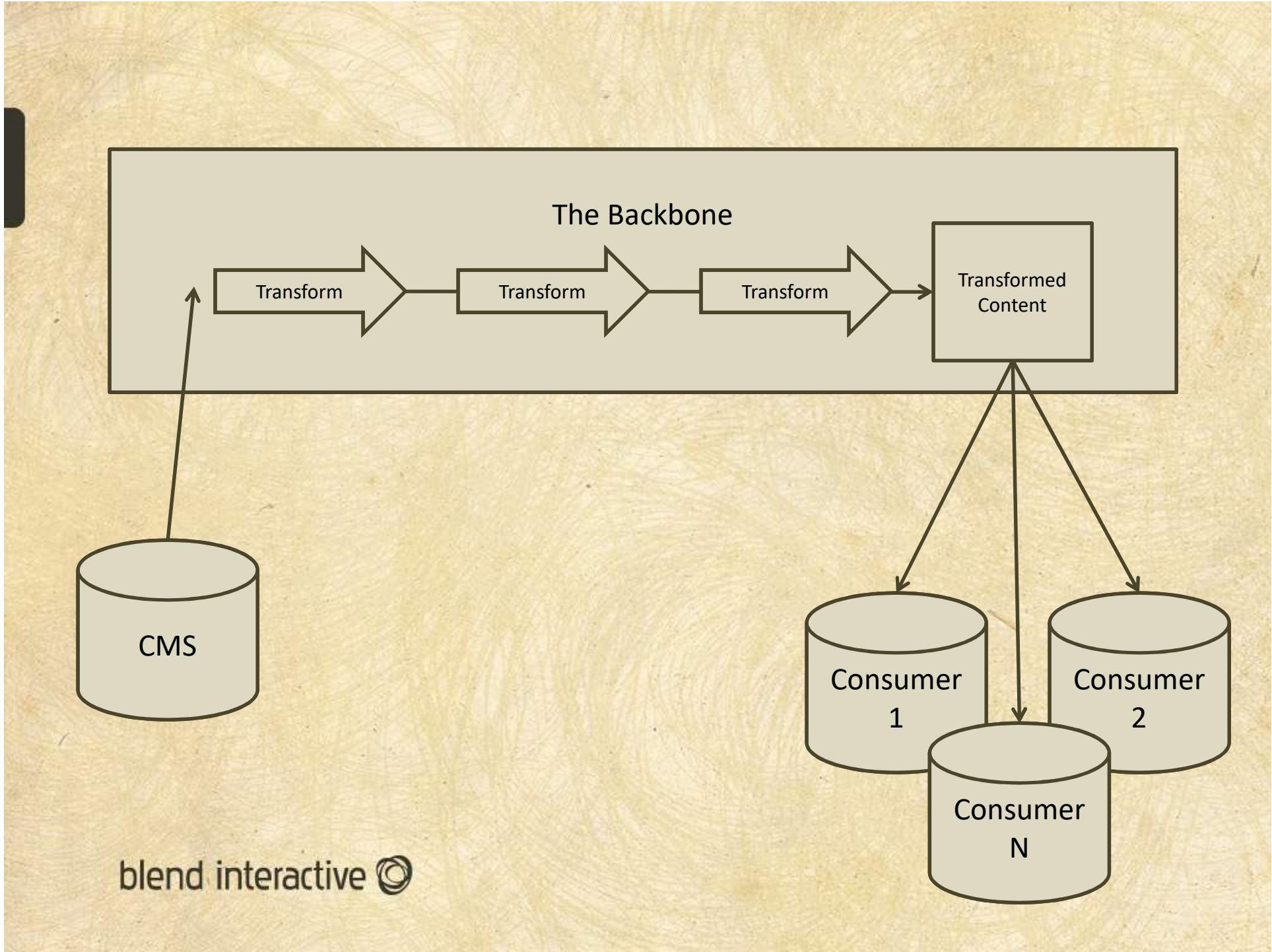
# Content Retrieval/Serving

- ▶ Content can be retrieved by consumers in multiple ways
  - ▶ SOAP
  - ▶ REST
  - ▶ SFTP
- ▶ Content can be served directly from the backbone via HTTP GET



# Content Synchronization

- ▶ Consumers can choose to replicate backbone content locally to a consuming system
  - ▶ Avoid dependencies
  - ▶ Increase performance
  - ▶ Increase fault tolerance.
- ▶ The backbone would be queried on a timed basis and altered content would be synchronized
- ▶ “Dropbox for Content”





# Example

When the global navigation is updated, CMS injects a fragment of HTML into the backbone.

The backbone transforms this content to make the relative links (“/”) absolute (http://).

The transformed HTML is then available for inclusion by consumers.

# Example

When modified, the ECM injects a Microsoft Word document into the backbone.

The backbone extracts HTML content from this Word document and cleans it.

This HTML is then available for inclusion by consumers.



# Customers

- ▶ CMS Vendors
- ▶ CMS Integrators
- ▶ CMS Customers



# Messaging: Vendors / Integrators

- ▶ “This will help you sell more software and services by removing a common barrier to projects and sales.”



# Messaging: Customers

- ▶ “This will give you greater control and manageability over your own content by allowing you to single-source more of your content.”



# Marketing Challenges

- ▶ Potential customer base is limited; a very enterprise play
- ▶ More of a platform than a product; usage is very abstract
- ▶ Solving these problems can be very lucrative for integrators
  - ▶ We're essentially asking them to share revenue
- ▶ Simple problems in this space are easy to solve



# Delivery Models

- ▶ SaaS/Cloud
  - ▶ Monthly fee which scales by number of content objects stored and serving traffic
- ▶ Installed
  - ▶ Flat fee with X% subscription
- ▶ Professional Services