

HAUFE.Gruppe

welcome

## HAUFE CONTENT HUB – TURN CONTENT INTO APIS

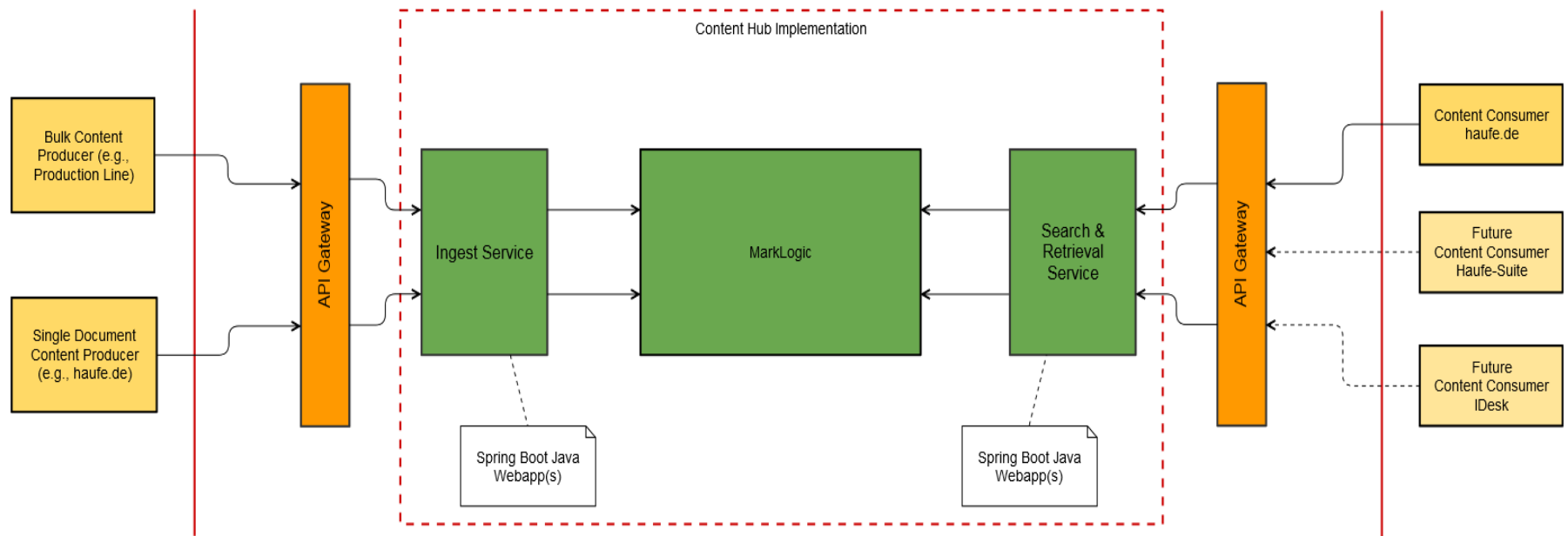
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# HAUFE CONTENT HUB



- > Central content discovery and exchange platform
  - > within the Haufe Group and
  - > with partners.
- > Developed under new Haufe Technology Strategy
- > First release planned summer 2016



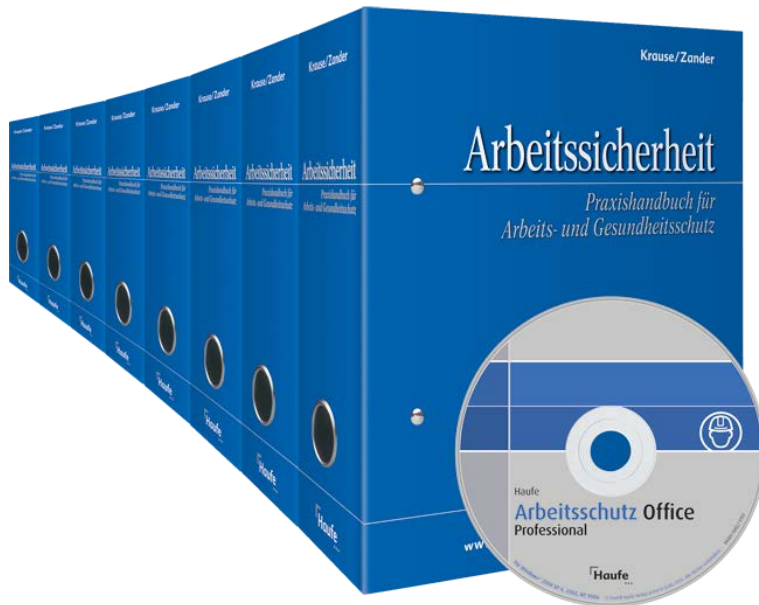
# SCENE SETTING: HAUFE GROUP

**HAUFE.**Gruppe

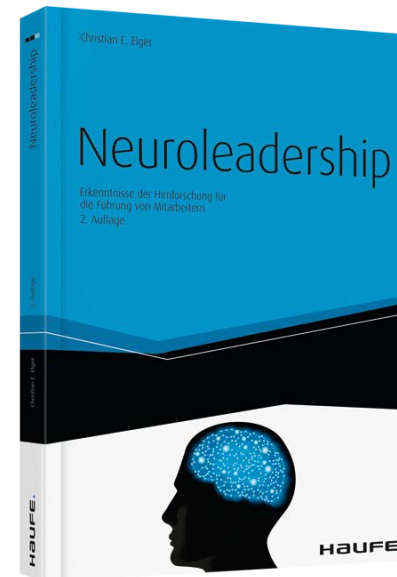
<b>CCP</b> Consultants, Corporations & Public Sector	<b>SBC</b> Small Businesses & Consumer	<b>RLN</b> Real Estate, Lawyers & Non Profit	<b>Akademie</b> Trainings, e-Learnings	<b>H2/H3</b> Product Innovation
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<b>Umantis</b> HR Software	<b>LSL</b> Literature Procurement	<b>VCW</b> Publisher (Controlling)	<b>HLRE</b> Real Estate Software	<b>Hammonia</b> Publisher (Real Estate)	<b>Haufe Inc.</b> US Market (HR)
<b>New Times</b> Corporate Publishing	<b>Schäffer- Poeschel</b> Publisher (Taxes, Law, Economics)	<b>Smart- steuer</b> Taxes SaaS	<b>Semigator</b> Trainings Procurement		

<b>HAUFE.</b>	<b>LexWARE</b>	<b>HAUFE. AKADEMIE</b>	 <b>Haufe Umantis</b> Talent Management	
 <b>Haufe-Lexware Real Estate AG</b>	<b>HAUFE.</b> Hammonia	<b>SCHÄFFER POESCHEL</b>	 <b>NEW TIMES</b>	<b>semigator.de</b> Das Seminar- und Weiterbildungsportal



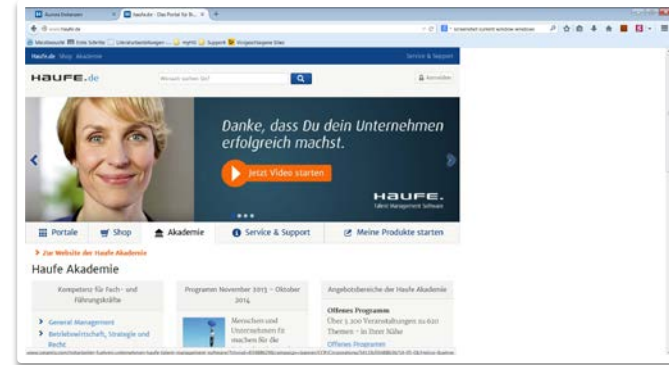
**Loose-leaf editions**  
**Desktop content databases (1990s)**



**Books**



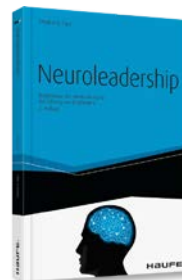
Online Content Databases



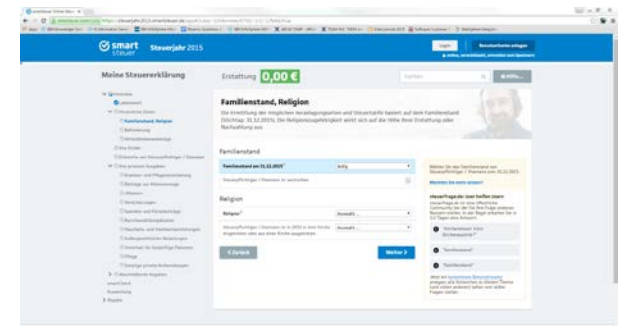
Haufe.de News Site



Booking platforms for seminars & trainings



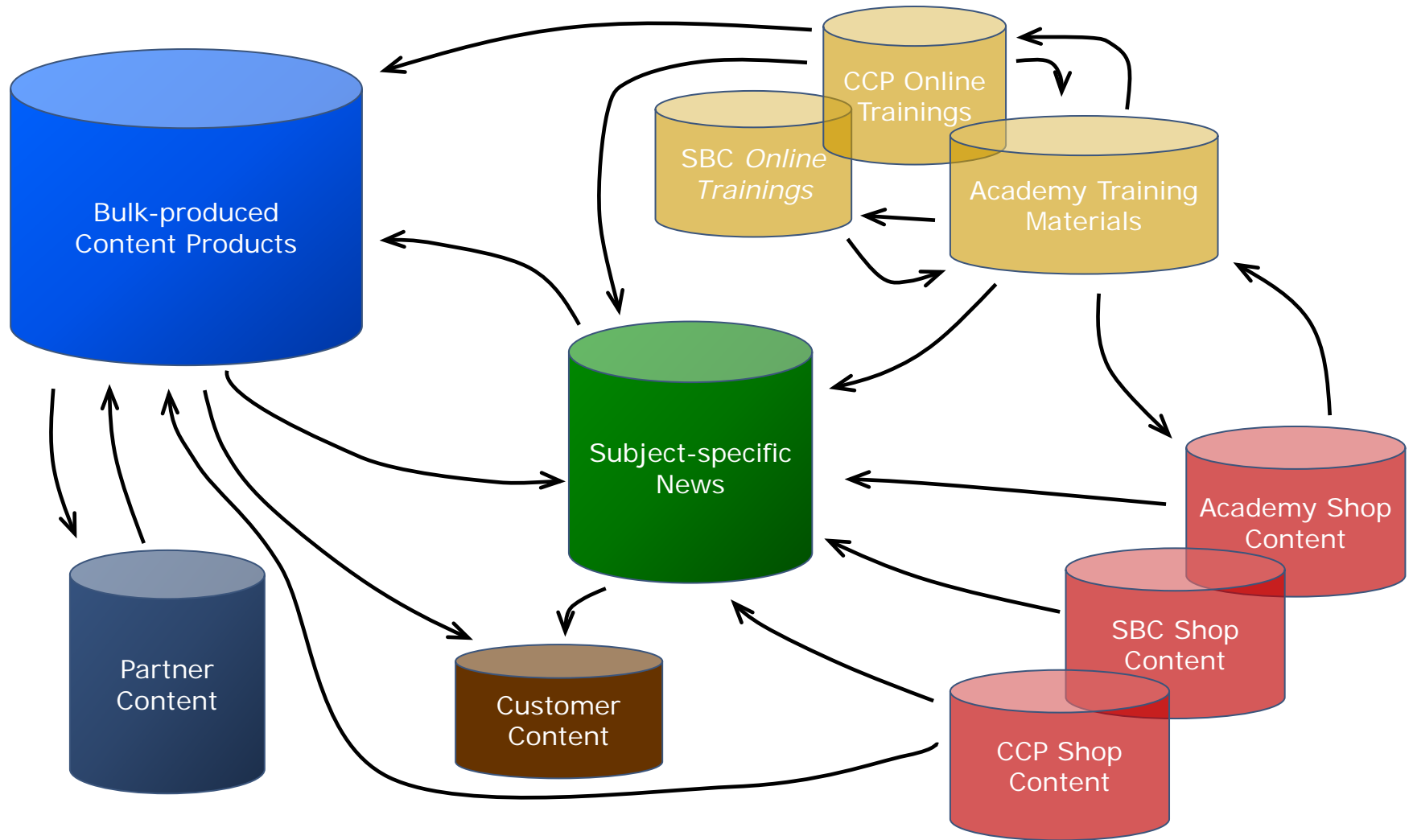
Books & Print Products



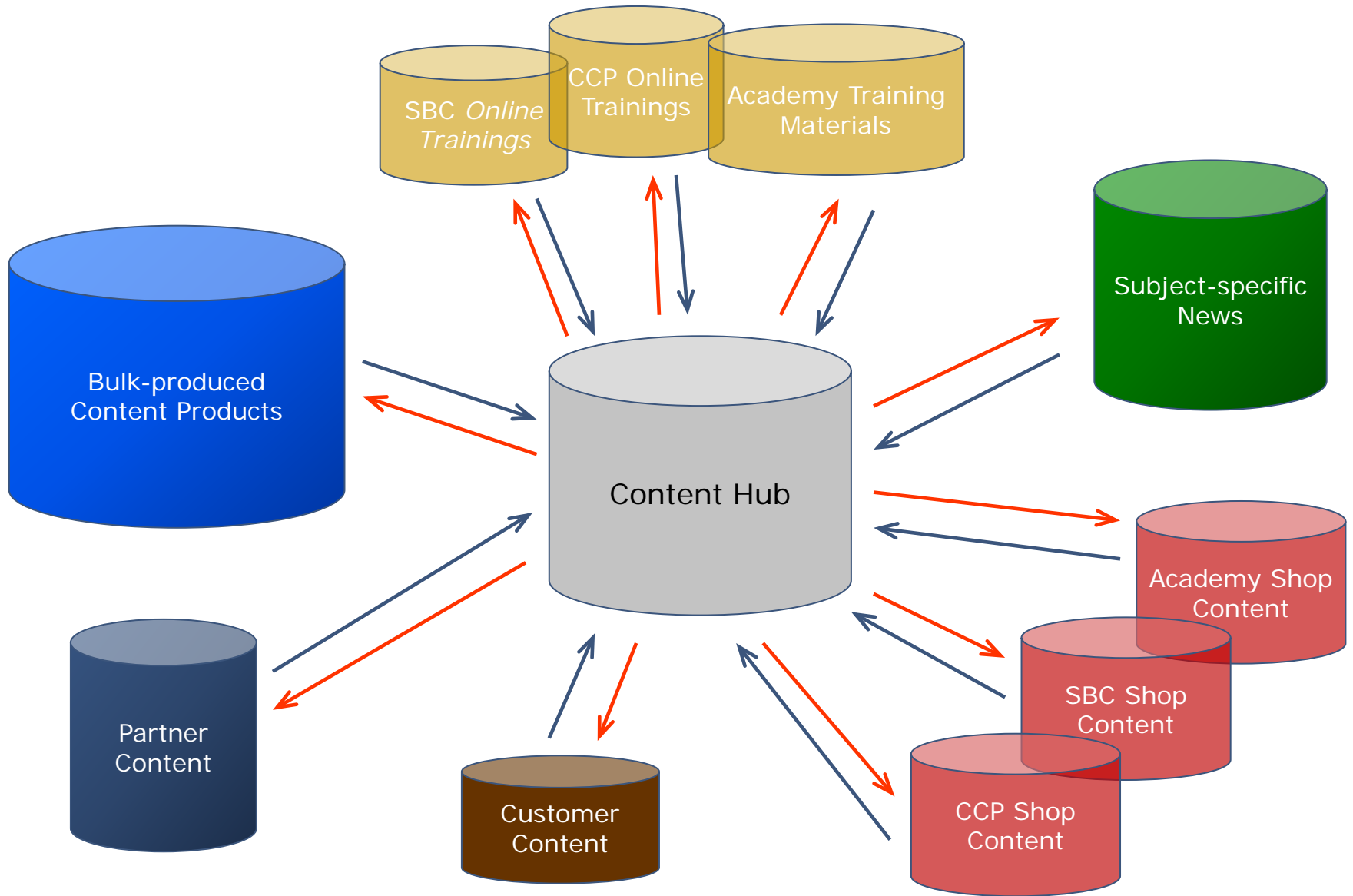
SaaS solutions (accounting, tax, HR, ...)

... and more!

# SAME OLD STORY: CONTENT SILOS EVERYWHERE



# WELL-TRIED APPROACH: CONTENT HUB



## Composable Enterprise

Evolvable

Interoperability

Rapid Onboarding

Customer-centric

Operation at Scale

Open to Partners

Efficiency at Scale







Ease **Integration**



**Decouple** Service  
Consumers and Providers



**APIs**



**Insight** and **Control** over API  
success and usage



**Partnership** Development,  
Extend **Reach**

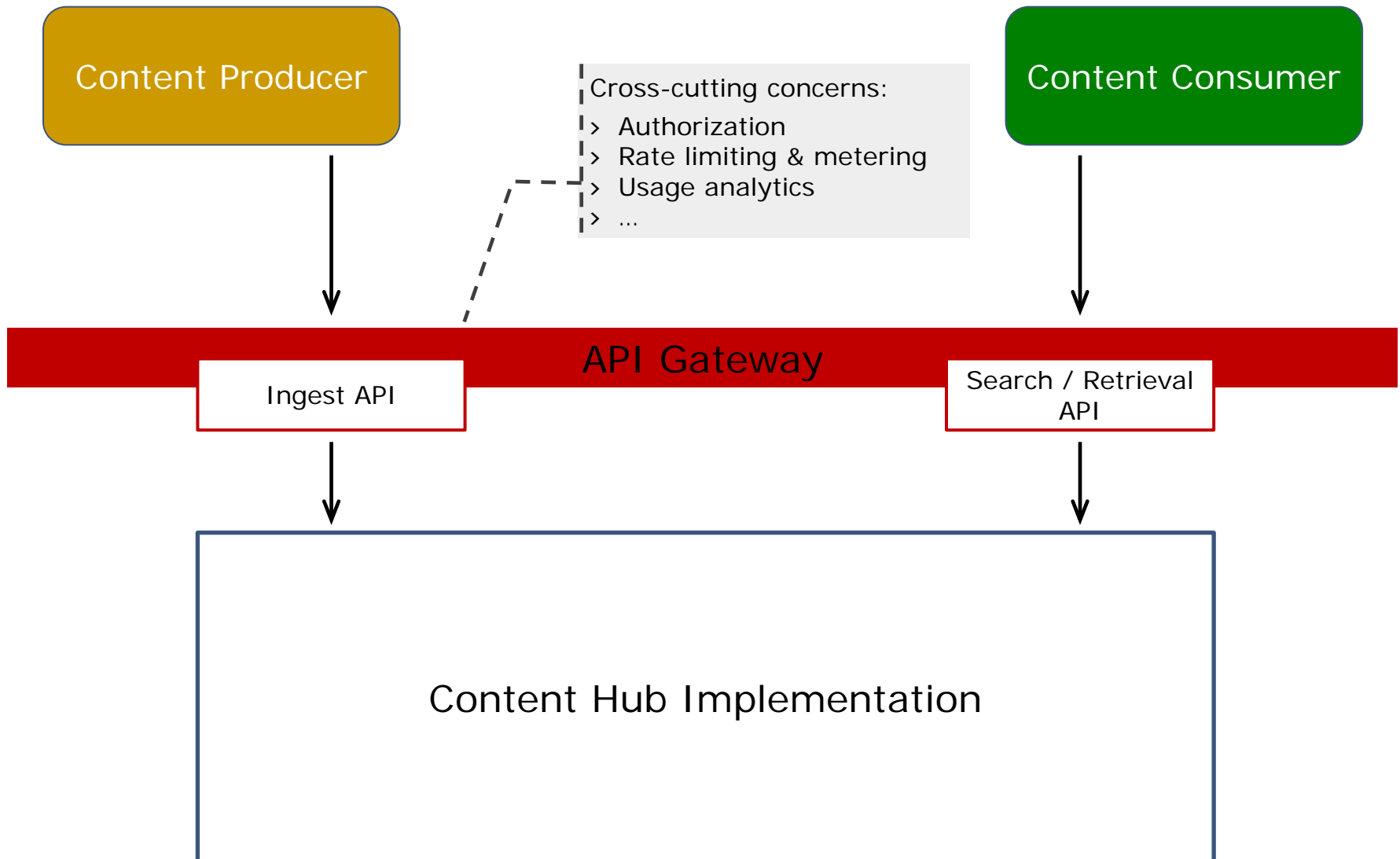


**Innovate** through Product  
Unbundling

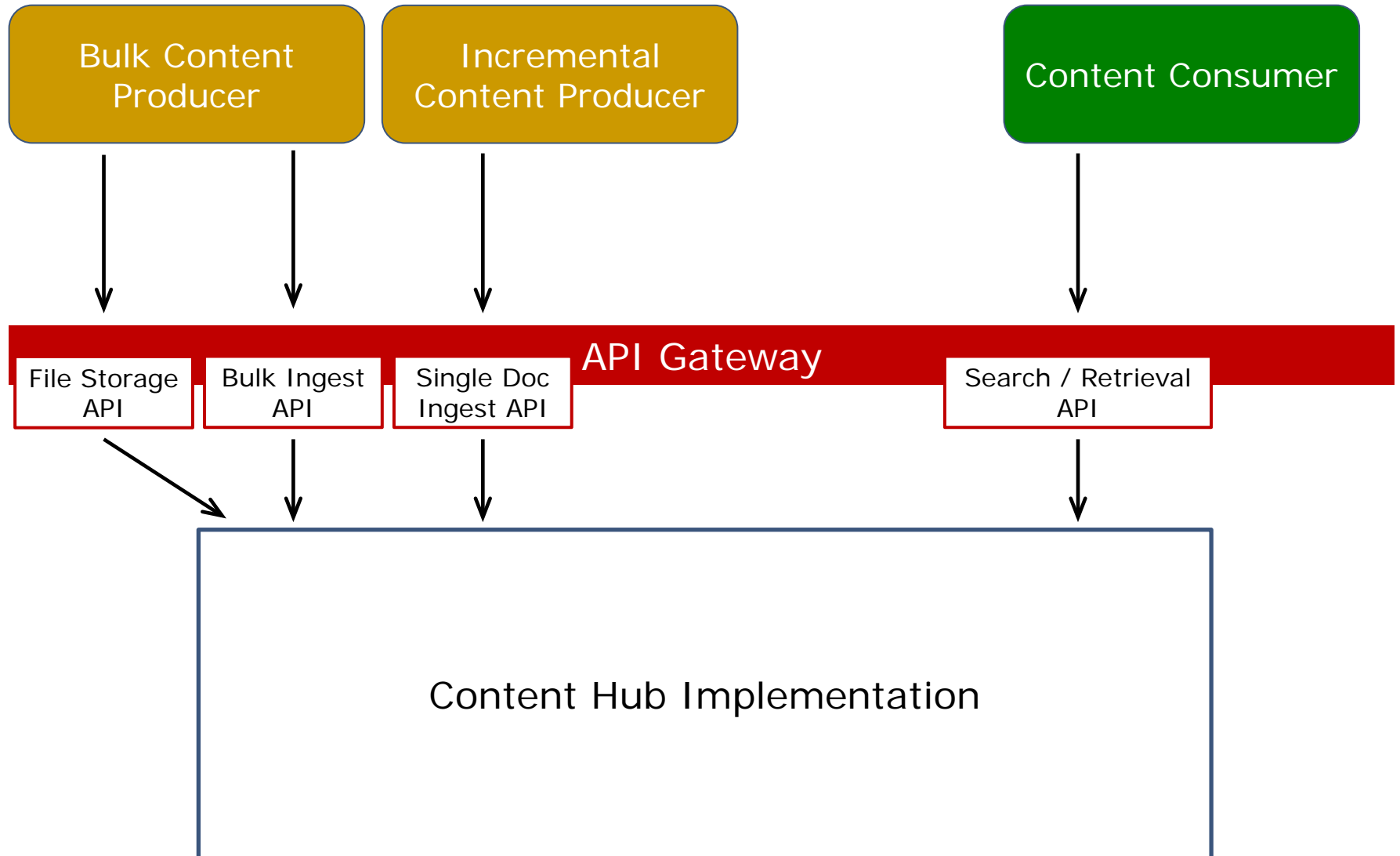


New **Business Models**

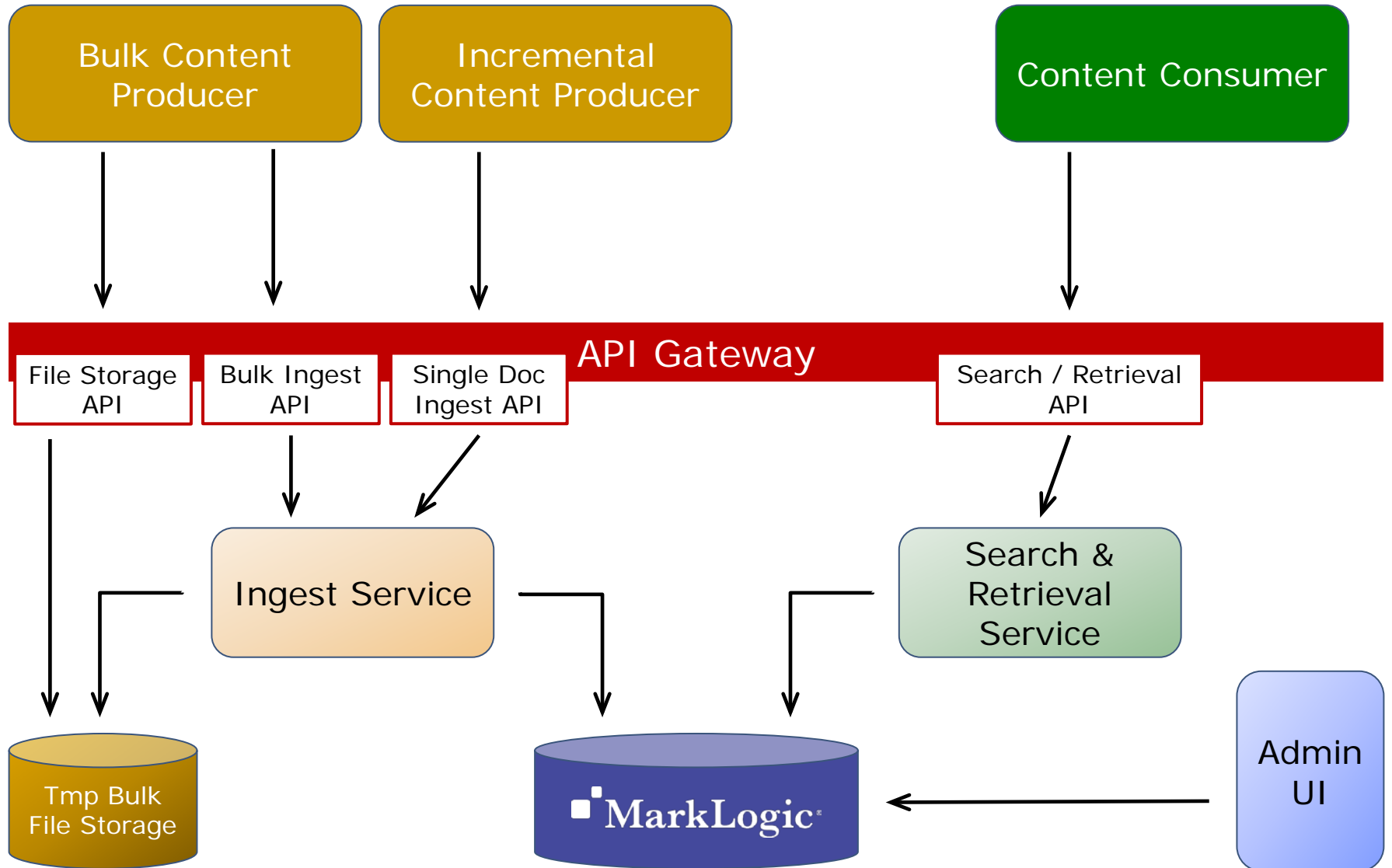
# CONTENT HUB BUILDING BLOCKS



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# CONTENT HUB BUILDING BLOCKS



## Guiding Principles:

- › **Outside-in approach:**  
Client convenience drives the API, don't leak implementation details!
- › **Ease of use:**  
Make client developers quickly productive:
  - › adhere to common conventions;
  - › provide reasonable defaults;
  - › provide developer guides and comprehensive documentation;
- › **Self-descriptive:**  
Clients learn about potential next steps from embedded hypermedia controls.



## Haufe API style guide

### Introduction

Purpose of this style guide is to gather a list of rules, best practices, resources and our way of creating REST APIs in **Haufe Group**. The style guide addresses API Designers, mostly developers and architects, who want to design an API. Intention is to ease the design process by providing helpful rules to create a successful API that your customers will love. The style guide focuses on **REST APIs** cause this is the preferred way to expose APIs to our services.

Public at <http://dev.haufe.com/api-style-guide/>

› **“Customer” interviews:**

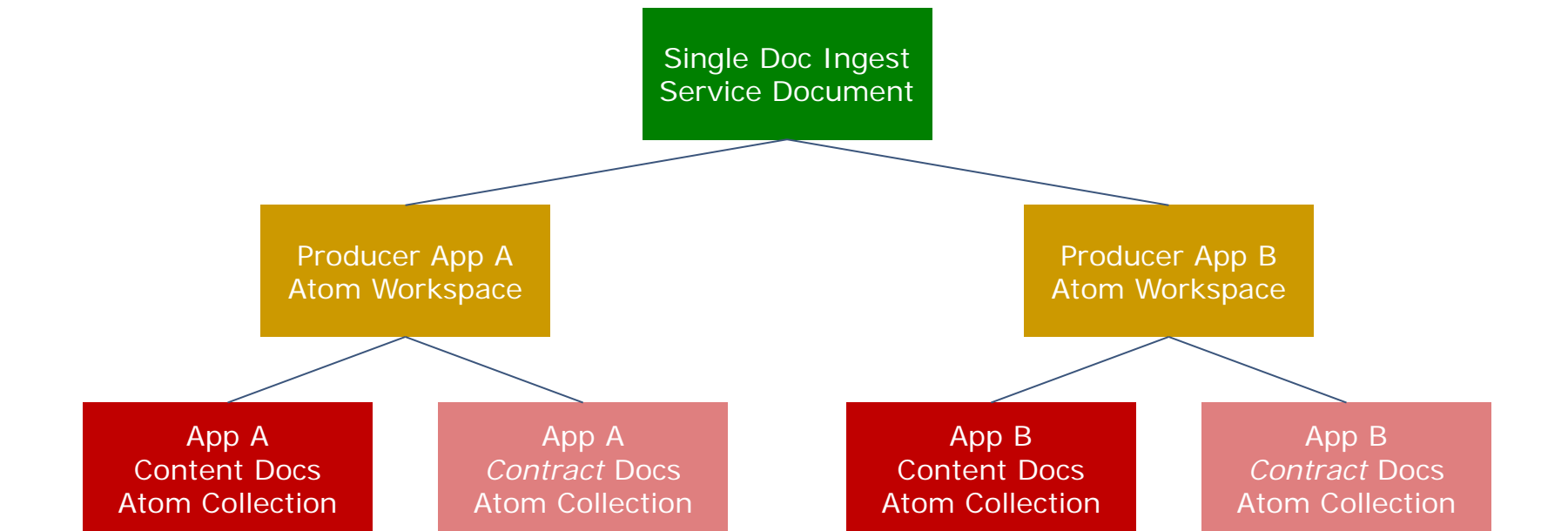
- › Standard features (full-text search, wildcards, constraints, faceting, pagination, ...)
- › Group-by / result aggregation
- › Suggest
- › Search expression language:
  - › Inspired by **well-known search APIs**
  - › Lends itself to **OpenSearch descriptions**
- › Results returned as **OpenSearch v1.1 response** based on Atom collections

Hit #	Doc Id	Score	Property
1	23.4.67	0.9746	a
2	20.1.08	0.9255	b
3	43.9.64	0.8843	a
4	30.9.53	0.8802	c
5	20.2.30	0.7945	b
6	18.7.42	0.7769	d



Hit #	Doc Id	Score	Property
1 (1)	23.4.67	0.9746	a
(3)	43.9.64	0.8843	a
2 (2)	20.1.08	0.9255	b
(5)	20.2.30	0.7945	b
(9)	21.5.23	0.5810	b
3 (4)	30.9.53	0.8802	c

- › **Synchronous**
- › Based on the **Atom Publishing Protocol**
  - › Every producing application has its own set of Atom Pub feeds.
  - › Document ingest uses the usual Atom publishing operations.
  - › UBER (Uniform Basis for Exchanging Representations) data embedded into Atom service document provides request template for Atom extension (document lookup).
  - › Supports (but does not require) XML-binary Optimized Packaging (XOP) for attached blobs.



› **Asynchronous**

- › Bulk ZIP archives: Multiple GByte (up to millions of XML documents + some binaries)
- › Producer does not necessarily control publication

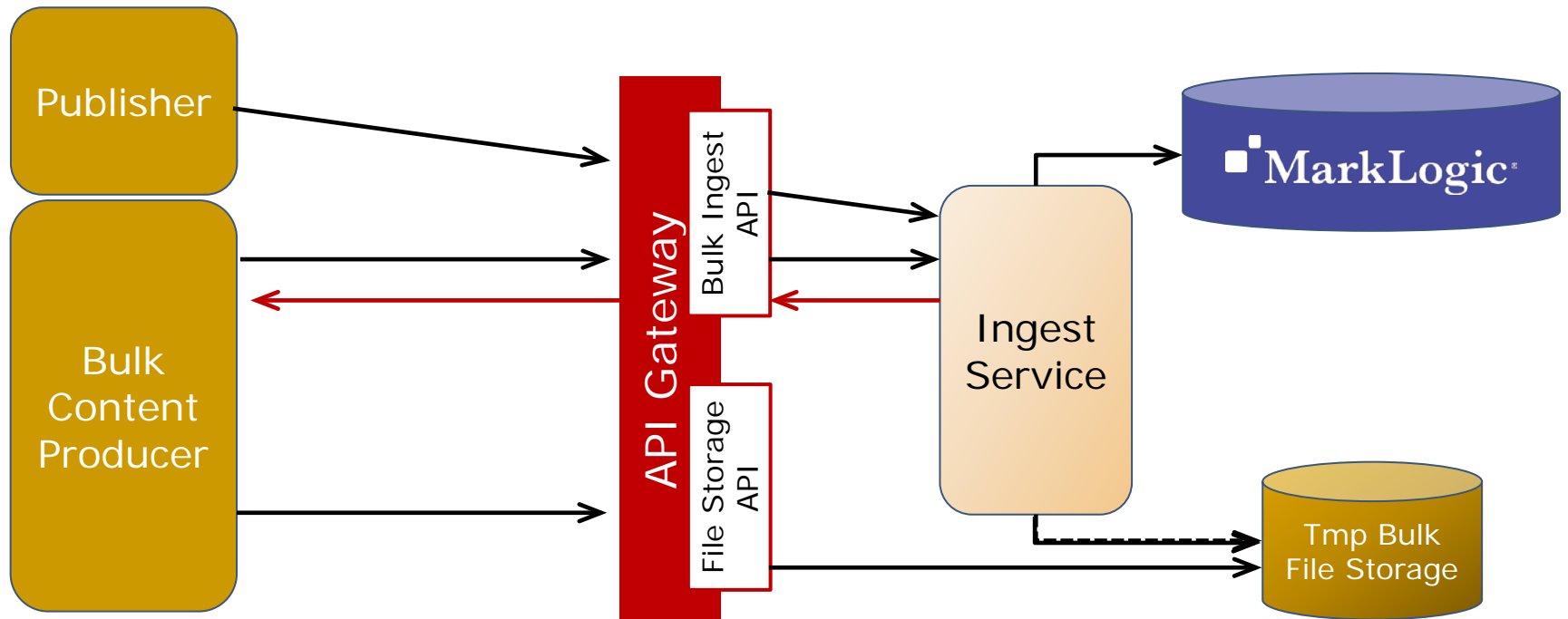
1. Create ingest job

Response: job ID, storage URL

2. Upload archive to storage URL

3. Approve ingestion

4. Ingest archive when scheduled

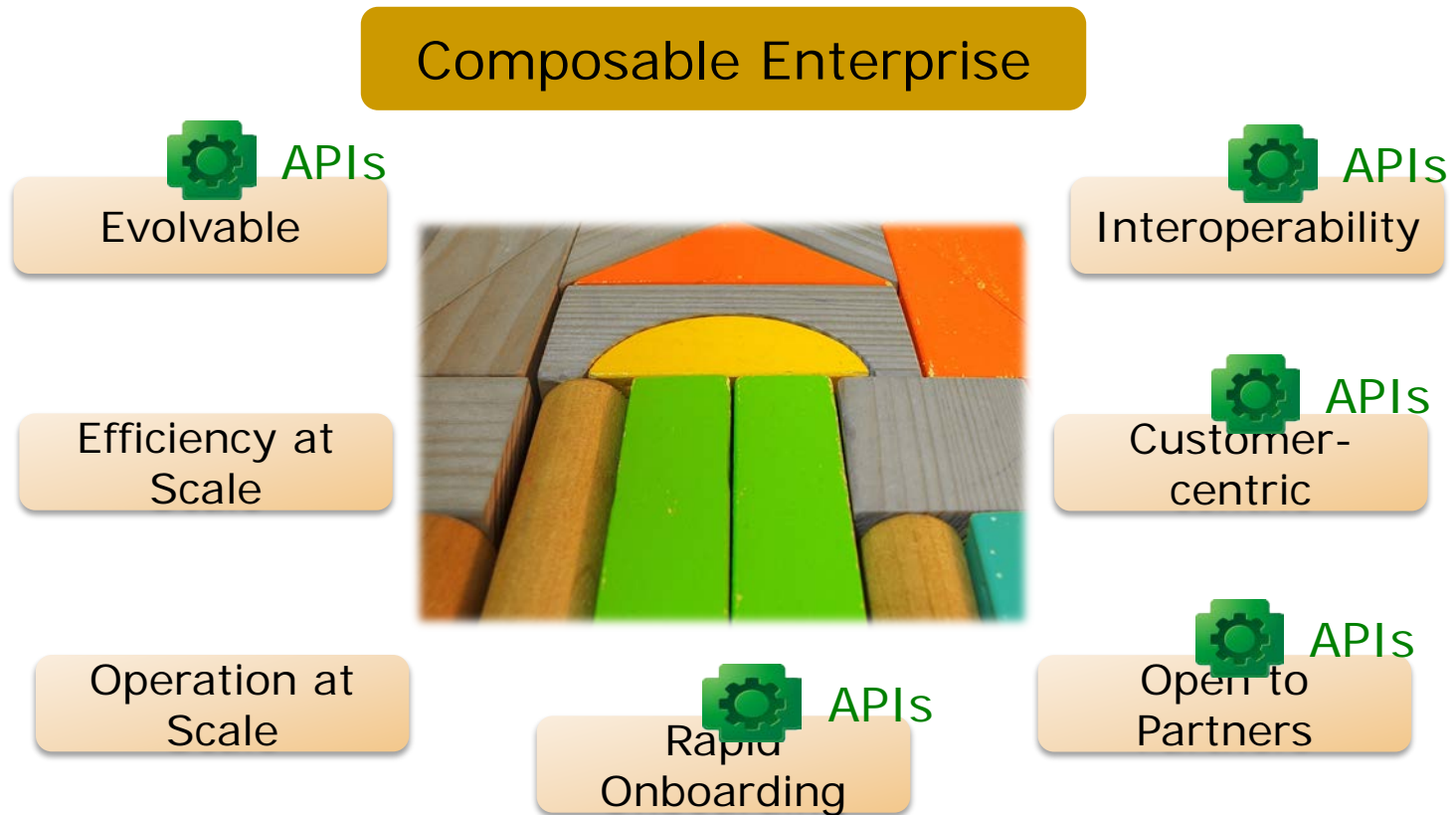




## Tech Strategy:

Efficiency and operation at scale by

- > fully automated
- > cloud deployments.



# WHAT DO WE WANT TO ACHIEVE?

In May 2016, Haufe  
Api Management  
Deployment took  
15 secs



Speed

- Make it repeatable
- Write it down
- Include testing
- Start early in the process
- Automate

Reduce Error



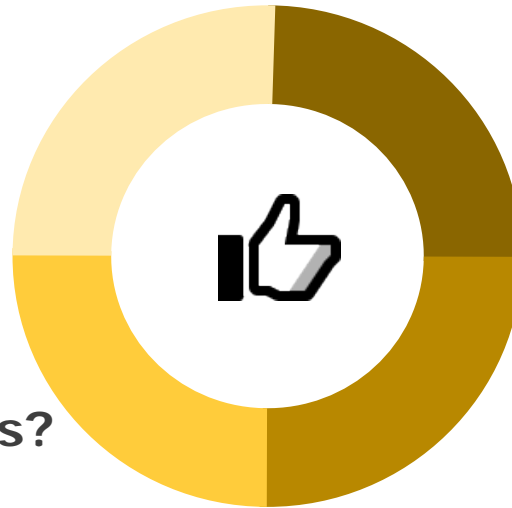
**\$ Business Value In  
Manual Deployments?**



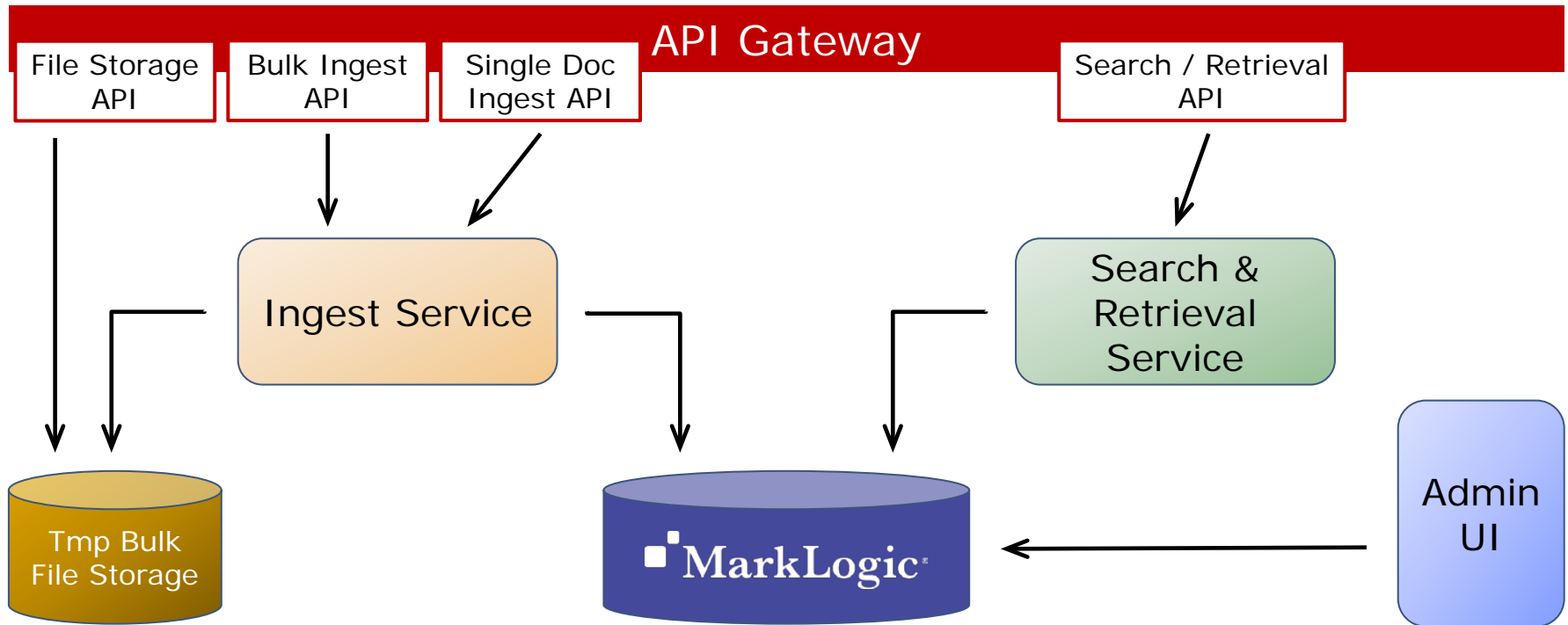
Prepare For Change

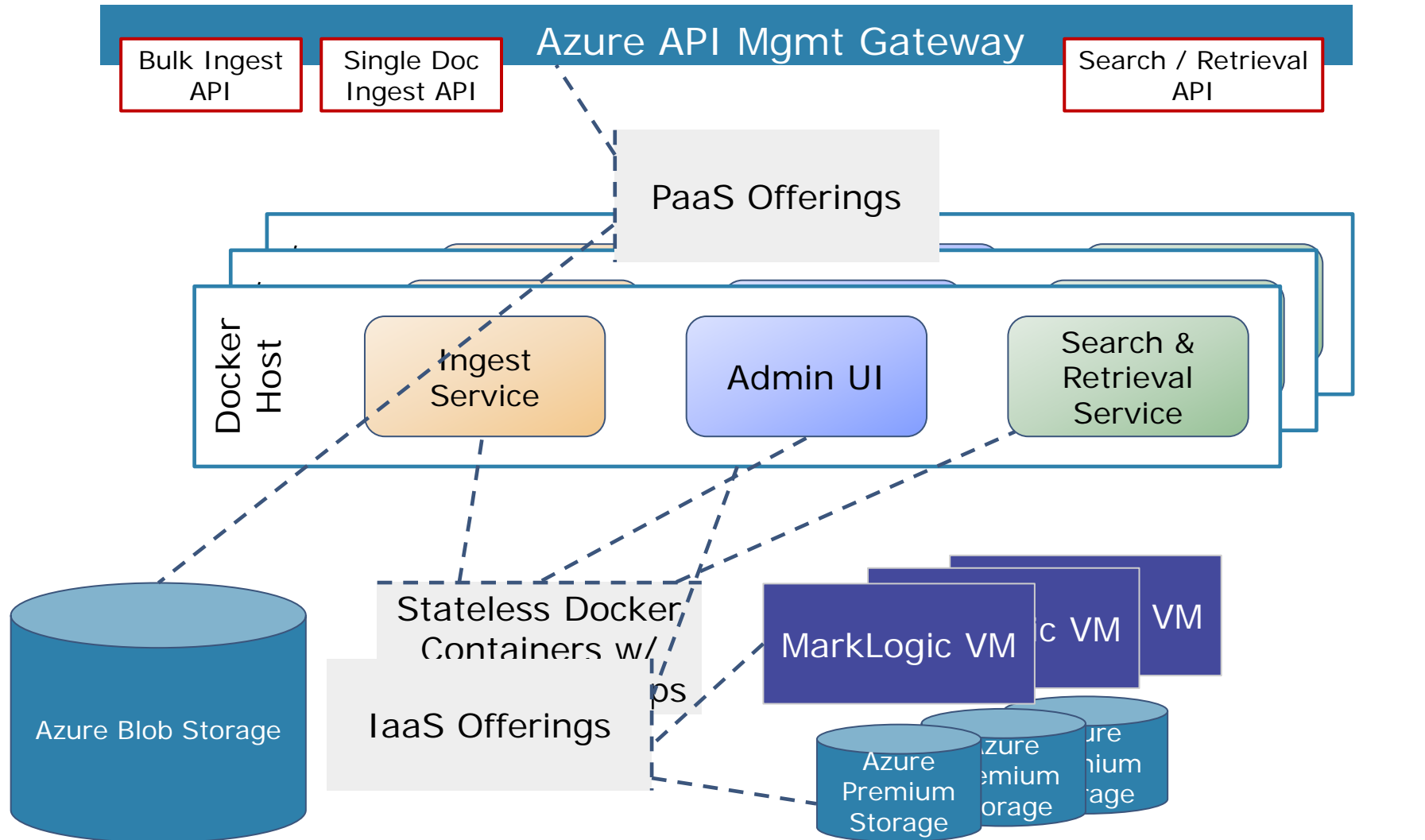


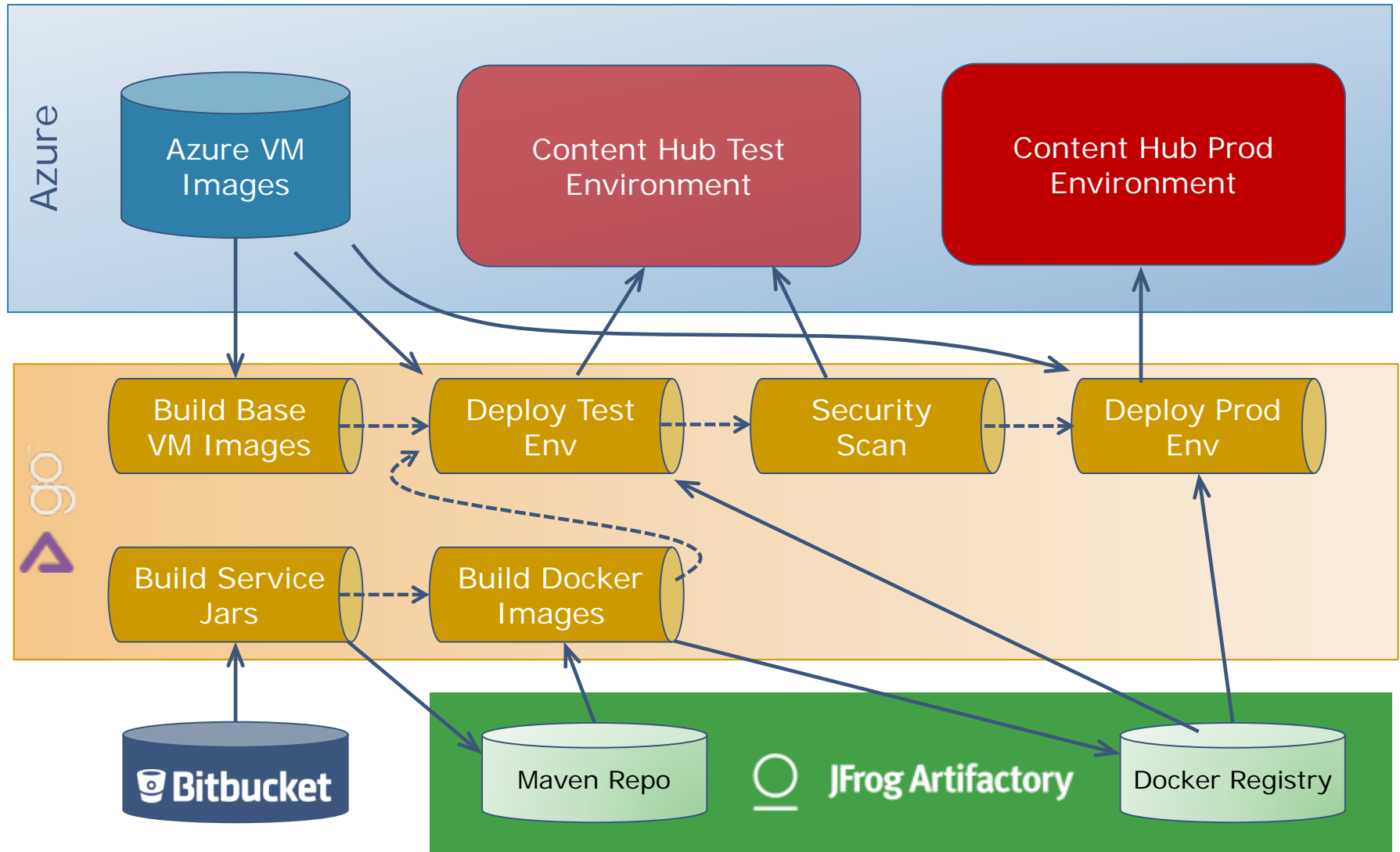
- Hosted, on premise, cloud(s)
- Different technologies
- Business scenarios change



# AZURE DEPLOYMENT: Building Blocks Become...







## Exposing APIs only:

- › Decoupled Content Hub implementation from clients;
- › Freed implementation from cross-cutting requirements (authorization, rate limiting, usage analytics etc.)
- › Simplifies on-boarding of new clients and reaching out to new partners

## Fully automated cloud deployments:

- › Developed in collaboration with operations partner Ebcont;
- › Up-front effort, expected to amortize soon;
- › Reproducible environments;
- › Unburdens dev / ops team;
- › Security scans shifted into the build pipeline;
- › Precondition for operating and evolve the application at scale (with a small team)

