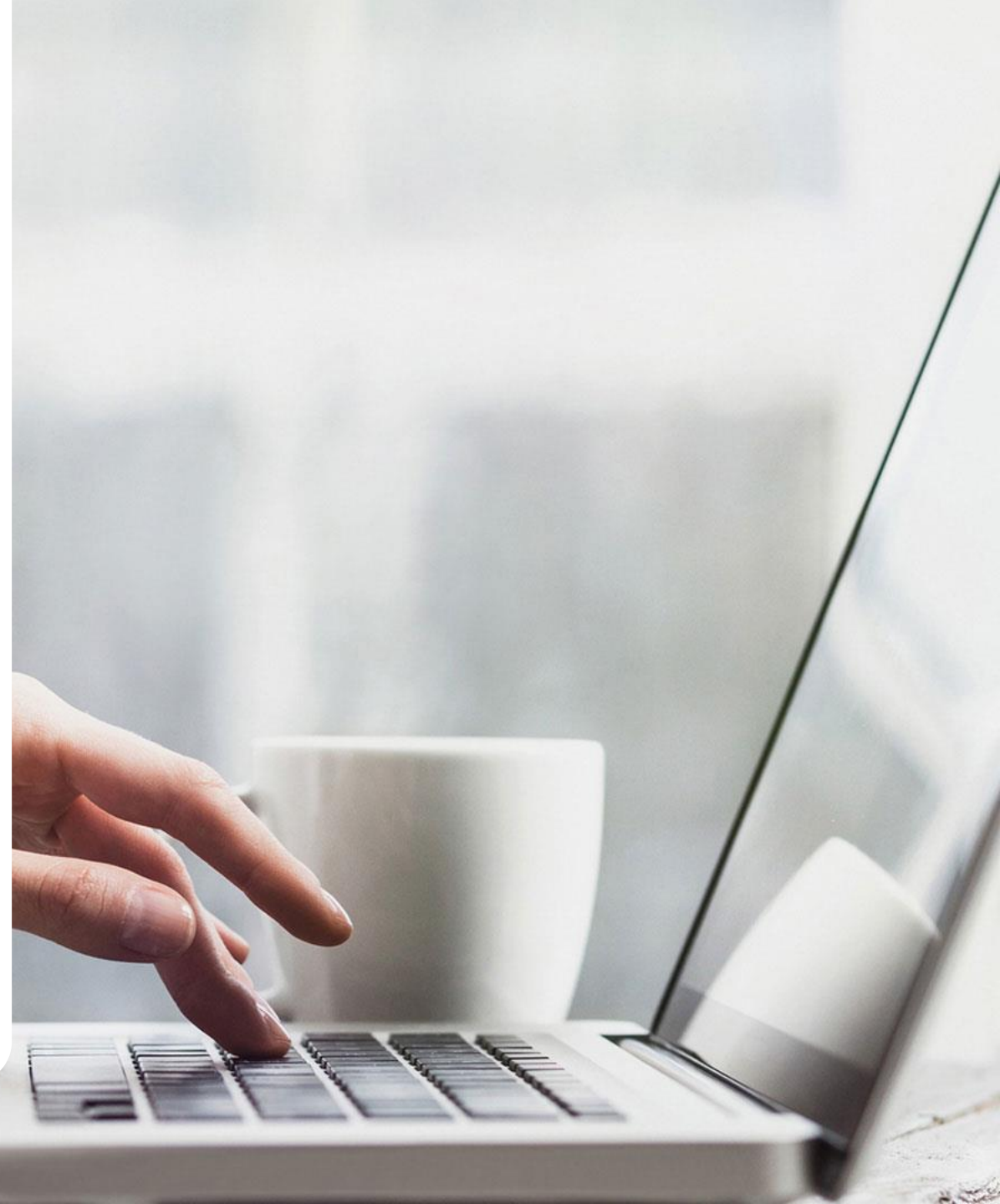


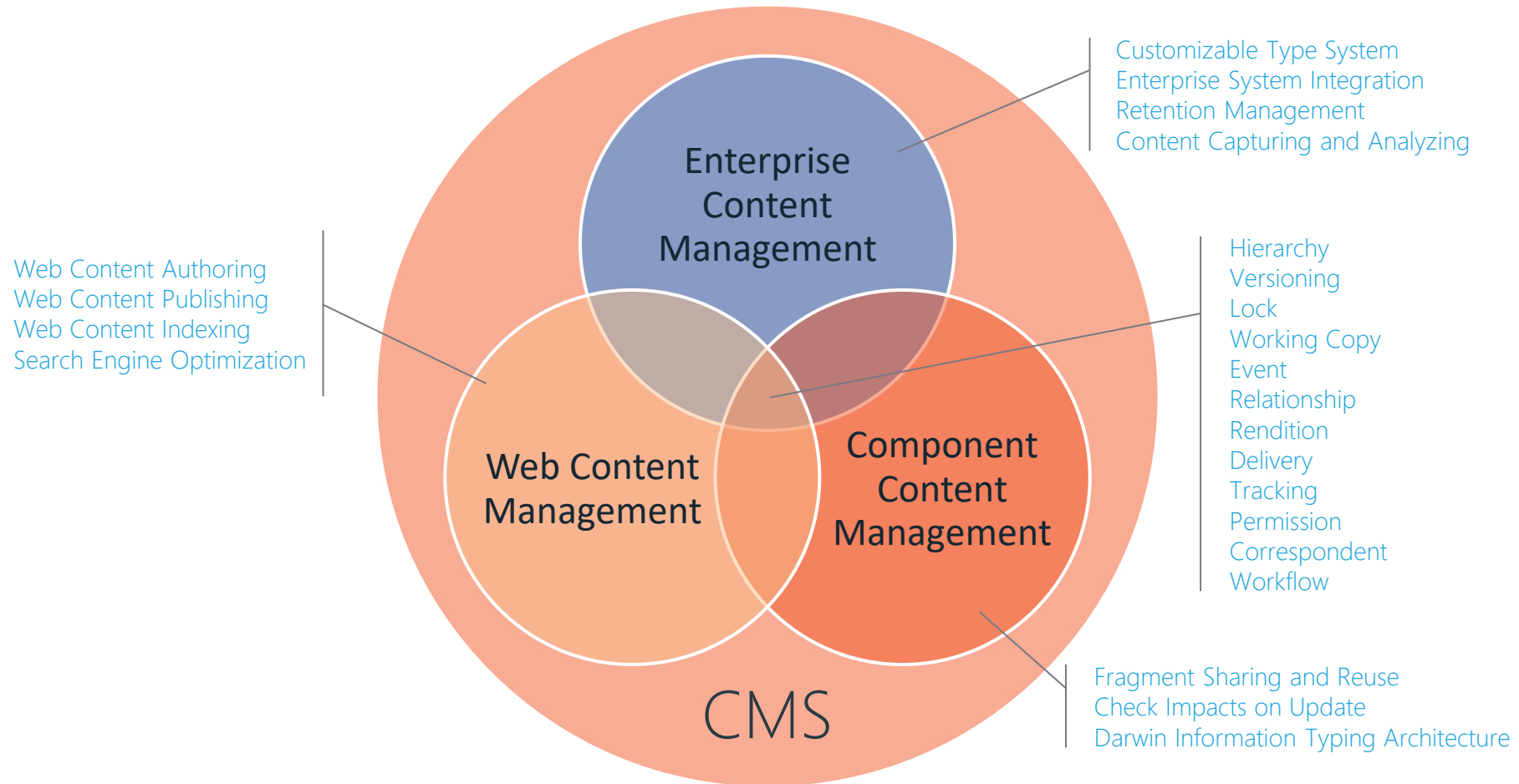


# Content Management Service 3.0

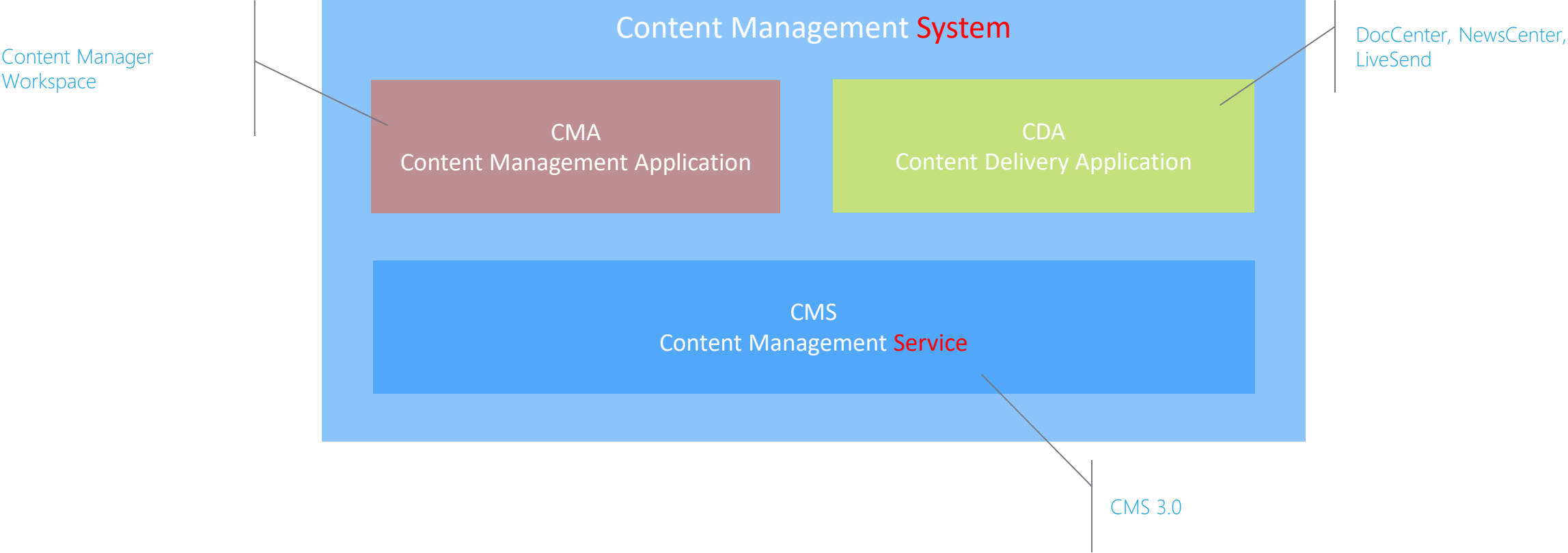
Walter Xin  
Sep 2020



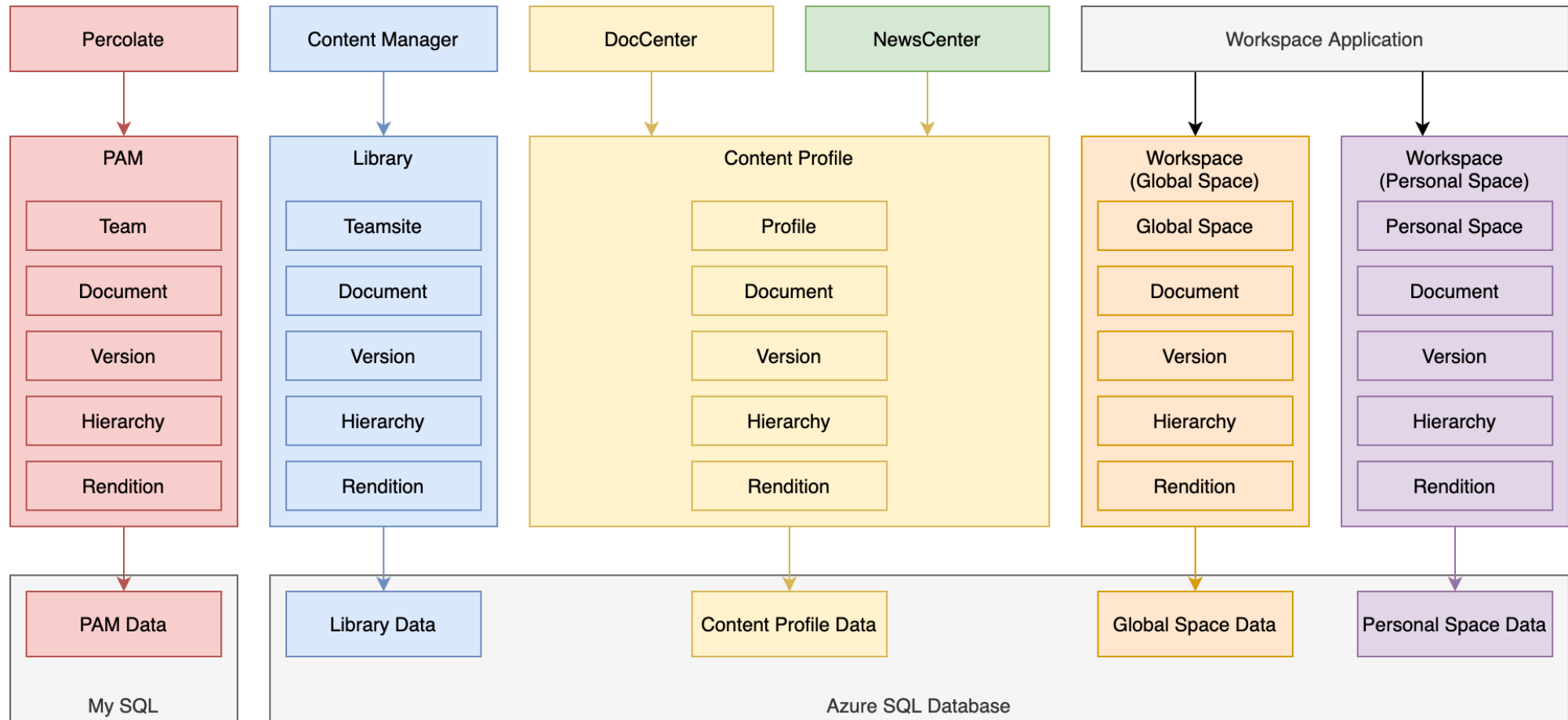
# Content Management System



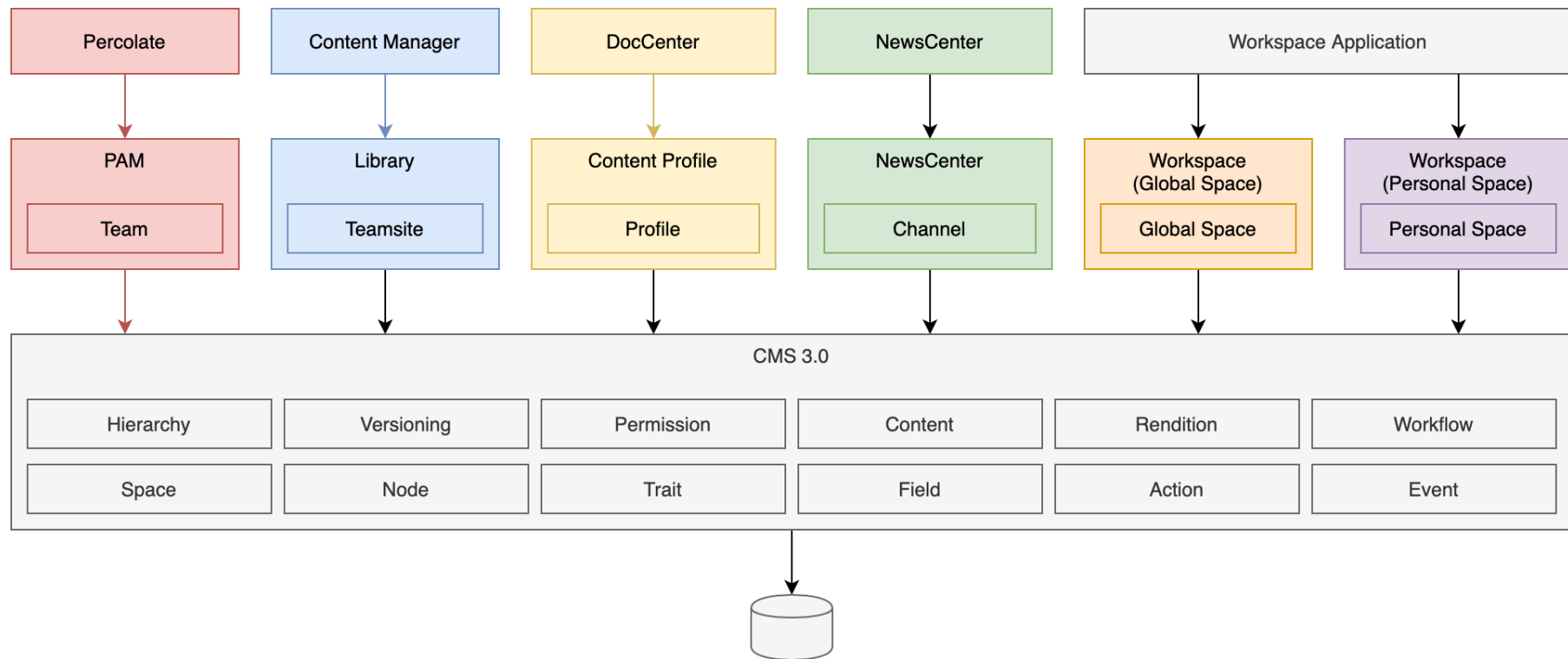
# System or Service



# Today: 5 CMA/CDA, 5 CMS



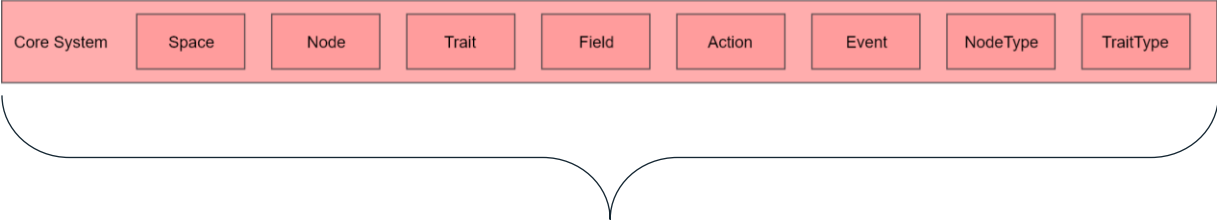
# What if ...



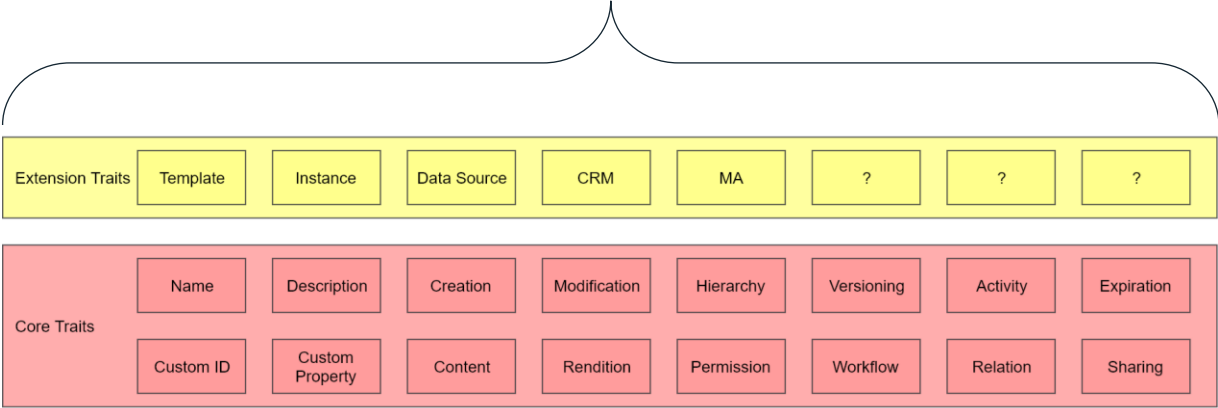
# Goal

- Free application from:
  - Reinvent common content management features (e.g. Versioning, Hierarchy, Permission, etc.)
  - Build correct tenant isolation, multi-tenant data management, and data security
  - Provide geo-replication to achieve best global access performance at same time fulfill any data residency needs
- Allow application to extend the capability beyond the built-in features & potentially share the capability across application.

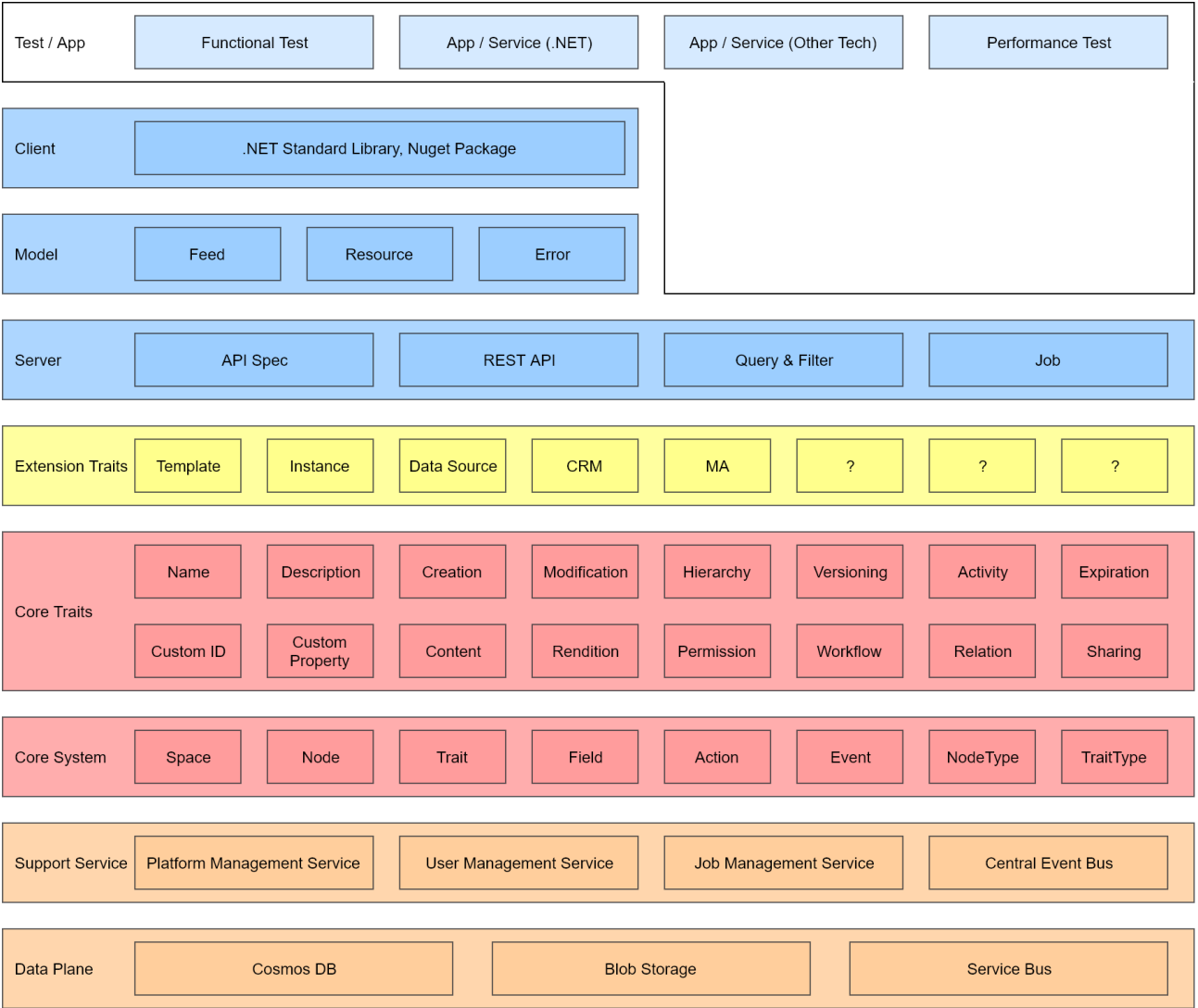
- Content Management Best Practice
- Multi-tier Tenant Isolation
- Flexible Geo-Replication
- Highly Extensible



# CMS is an Object Database with Content Management Flavor

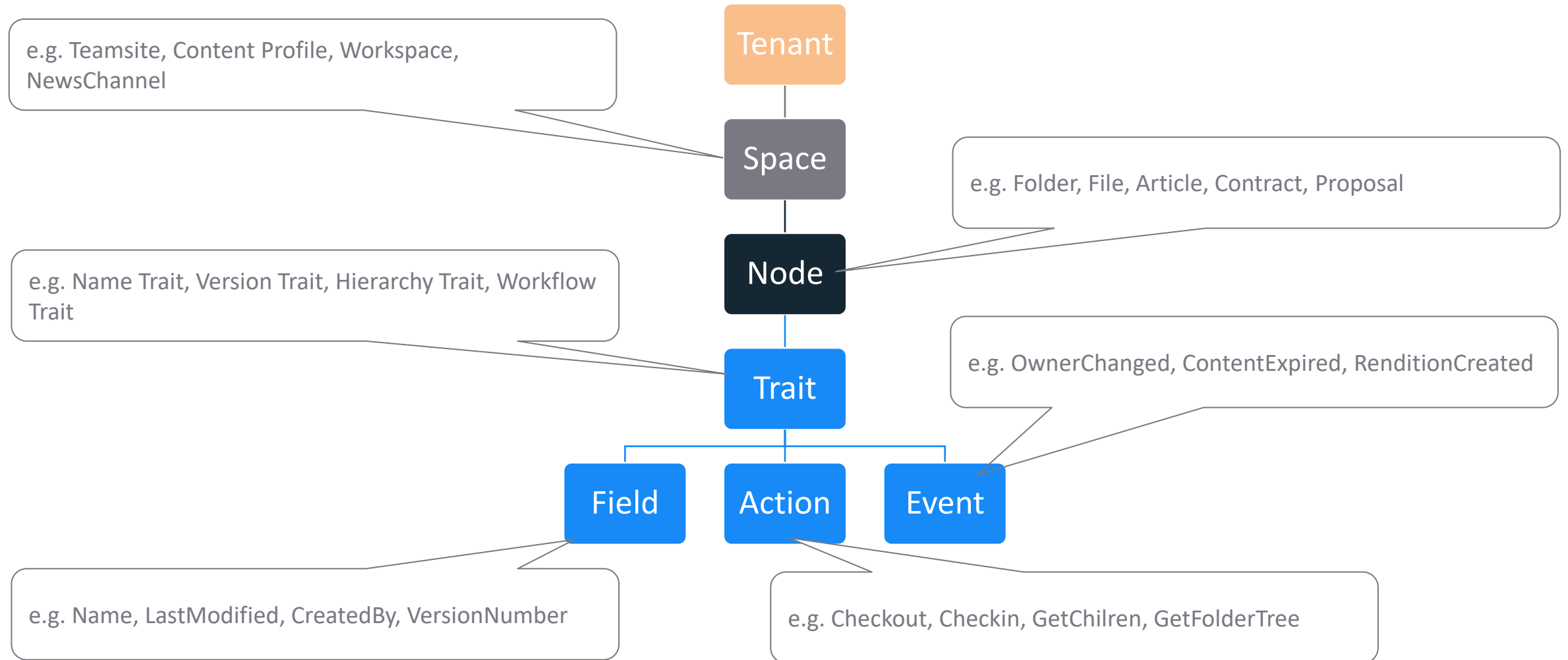


# Architecture





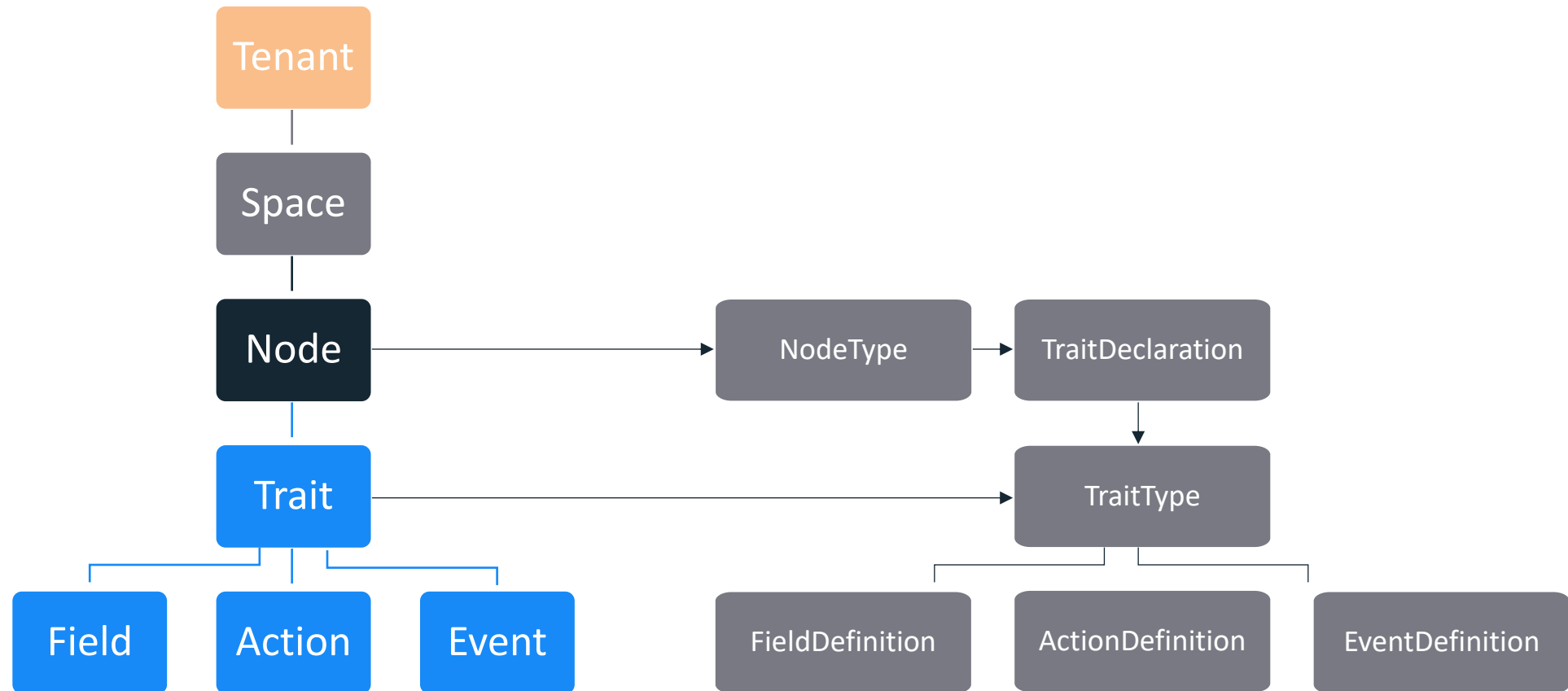
# Core Concept



# Core API

Action	Path	
GET	/tenants/{tenantId}/spaces	List/Query spaces
POST	/tenants/{tenantId}/spaces	Create space
GET	/tenants/{tenantId}/spaces/{spaceId}	Read space
PUT	/tenants/{tenantId}/spaces/{spaceId}	Update space
DELETE	/tenants/{tenantId}/spaces/{spaceId}	Delete space
GET	/tenants/{tenantId}/spaces/{spaceId}/nodes	List/Query nodes
POST	/tenants/{tenantId}/spaces/{spaceId}/nodes	Create node
GET	/tenants/{tenantId}/spaces/{spaceId}/nodes/{nodeId}	Read node
PUT	/tenants/{tenantId}/spaces/{spaceId}/nodes/{nodeId}	Update node
DELETE	/tenants/{tenantId}/spaces/{spaceId}/nodes/{nodeId}	Delete node
GET	/tenants/{tenantId}/spaces/{spaceId}/nodes/{nodeId}/traits/{traitId}/actions/{actionId}	Trigger trait action
POST	/tenants/{tenantId}/spaces/{spaceId}/nodes/{nodeId}/traits/{traitId}/actions/{actionId}	Trigger trait action

# Type System



# Type Query API

Action	Path	
GET	/nodeTypes	List built-in node types
GET	/nodeTypes/{nodeTypeId}	Get built-in node types
GET	/traitTypes	List built-in trait types
GET	/traitTypes/{traitTypeId}	Get built-in trait types
GET	/tenants/{tenantId}/nodeTypes	List tenant specific node types
GET	/tenants/{tenantId}/nodeTypes/{nodeTypeId}	Get tenant specific node types
GET	/tenants/{tenantId}/traitTypes	List tenant specific trait types
GET	/tenants/{tenantId}/traitTypes/{traitTypeId}	Get tenant specific trait types

In CMS 3.0 we will only provide built-in types, introduce new type or modify existing type function will be introduced in CMS 3.5

# Duck Typing

If it walks like a duck, swims like a duck, and quacks like a duck, then it probably is a duck.

NodeType is just a template

- Help to auto generate traits
- Enforce rules like "file node must have a content trait"
- Avoid code like "if (nodeType == "file") do this"

Trait is the soul

- Behavior is controlled by trait
- Trait can be added later
- E.g. Unversioned node to versioned node