# What is an Application Composition Platform?

As the rate of market change accelerates, fast innovation is vital to the success of any enterprise. Whether they are adjusting to new user demands as a result of a global pandemic, seeking to enter a new territory, or responding to the competition of a rival business, the common need of enterprises is to update their large scale applications quickly in light of changing business requirements.

To that end, enterprises must enable platforms, processes, and people to support their evolving business requirements. Rising to these challenges effectively requires efficient vision for your organizational structure, as well as leveraging the right technology choices to enable you to execute that efficiency. To achieve this, we advocate for what Gartner has called a composable business philosophy. Composable business can be defined as "creating an organization made from interchangeable building blocks." These building blocks are organized around specific business capabilities.

From a technology perspective, composable business means creating an application architecture with end-to-end modularity using microservices and micro frontends, and leveraging a Kubernetes environment for automating the operations of those applications.

This process can become very complicated and can be difficult to manage, particularly when you're seeking to build your own solutions. This is where an application composition platform can help your enterprise to create a composable business and build better apps faster.

An **application composition platform** provides developers with tools to rapidly build, design, and assemble applications from micro frontends, microservices, and web content.

Built on the principles of modularity, application composition platforms (ACP) enable enterprises to promote developer productivity in a Kubernetes environment. An ACP can help your enterprise accelerate the speed with which you update applications, lower runtime costs, and streamline reliability and security through modularity.

# Why Your Architecture Should Be Modular

As the size and complexity of your applications grow along with your organization, they can become difficult to manage, update, and innovate on.

Modularity is a way of breaking down your application into discrete parts of the whole that can be individually managed and yet still integrated into the larger system. Modularity allows your enterprise to scale up without becoming bloated with bureaucracy and inefficiencies (or to remove those that already exist).

Here are 3 specific advantages of a modular architecture.
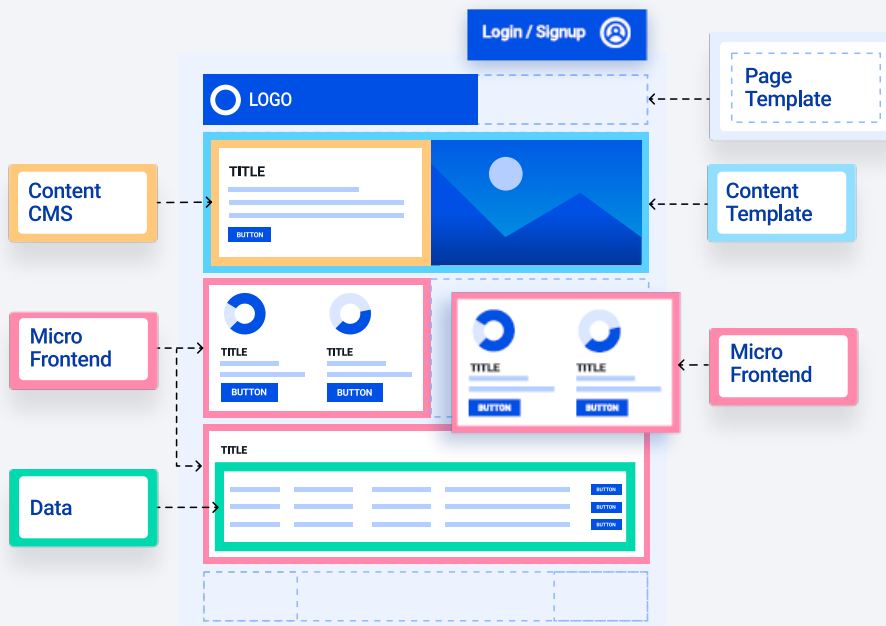


## 1. Team and technology independence

When you develop applications with modular components, you are able to separate out projects and organize them around specific business functions to streamline your processes. If your organization is large enough, you can even assign the management of these business functions to separate teams entirely.

This is beneficial for a number of reasons. Firstly, when you need to update an individual business function, you can do so independently from the other parts of your application without worrying about potentially negative effects it would otherwise cause.

This independence leads to faster time to market, an increased ability to update iteratively and experiment continuously, and less friction among your team or across separate teams.

Secondly, you can also be more flexible in the tools and frameworks you use to create different components. While the best practice is to standardize wherever you can, sometimes it's faster and easier not to. So rather than locking yourself into a particular way of doing things regardless of evolving development trends and the makeup of your team, you can remain technology agnostic through modularity.
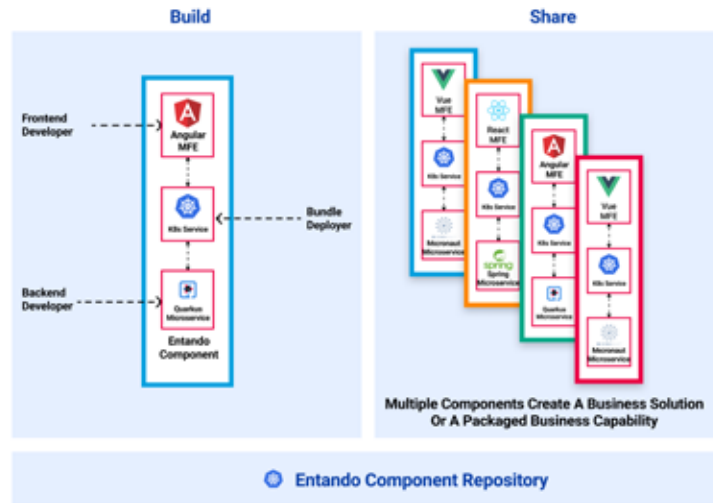


## 2. Resilience

In a modular architecture, the isolation of functionality also allows for isolation of failures. So if one part of your application fails, the rest of your application can continue to perform. Sometimes, the failure can even go largely unnoticed by users while your team is fixing it.

Furthermore, in a Kubernetes environment, if a particular service fails, your Kubernetes operator will have the ability to rectify the issue quickly––often times without a severe breakdown in your app's performance.



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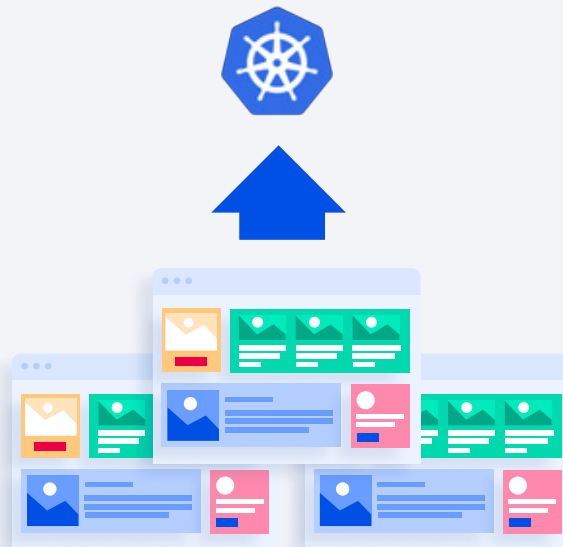
# 3. Manageable complexity and smarter scaling

As has been stated above, modularity is a way to help you manage the complexity of your code and your organization's user needs and expectations. When you develop modular components that are then composed into application, your codebases are smaller and more manageable.
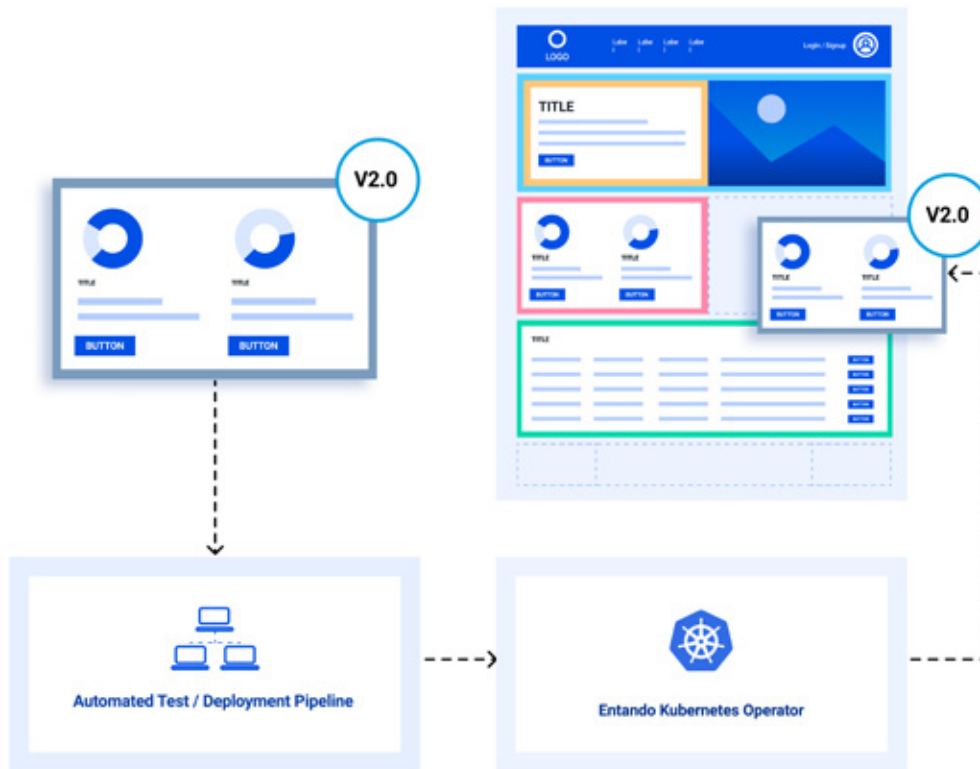


You also have the ability to scale your application more efficiently. Scaling a monolith on Kubernetes means replicating the entire application, driving up cost dramatically. By having a modular architecture, you have the ability to scale only the containers that need more horsepower.
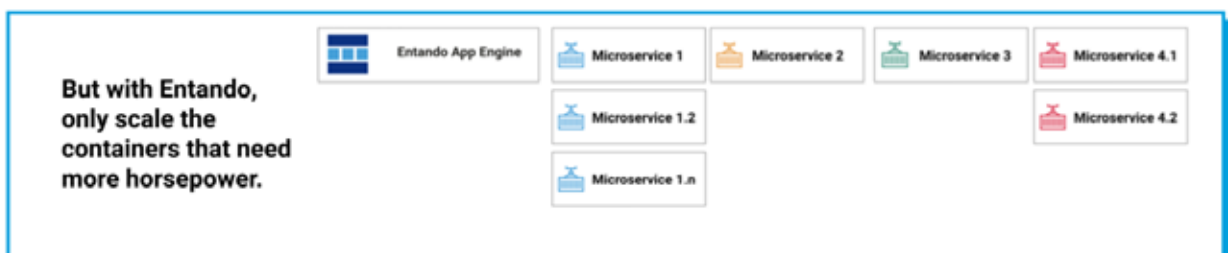
# Features of an ACP

The principles of composable business and modularity will help your organization to respond to business needs more quickly, and an application composition platform provides the tools you need to do that in an integrated stack.

## Tools to quickly generate components

An application composition platform provides tools not only to empower you to build modular components, but to do so quickly and in a standardized way. At Entando, we do this by providing a component generator that leverages and extends the functionality of JHipster to quickly generate components from customized templates.

## Interface to compose applications

Once you have created your components, an application composition platform provides you the ability to more easily assemble those components into a cohesive application.

## Component Repository

One of the strengths of building in components is that they are reusable across applications. An application composition platform provides a repository for you to efficiently manage, catalog, and reshare components across different projects and even across different teams.

## Identity Management

Identity management is a standard requirement for the vast majority of enterprise applications. An application composition platform provides you the ability to implement role based authorization out of the box.

## WCMS

While an application composition platform is built for developers, it can also be utilized by business users. A WCMS enables the non-technical members of your team to update content.
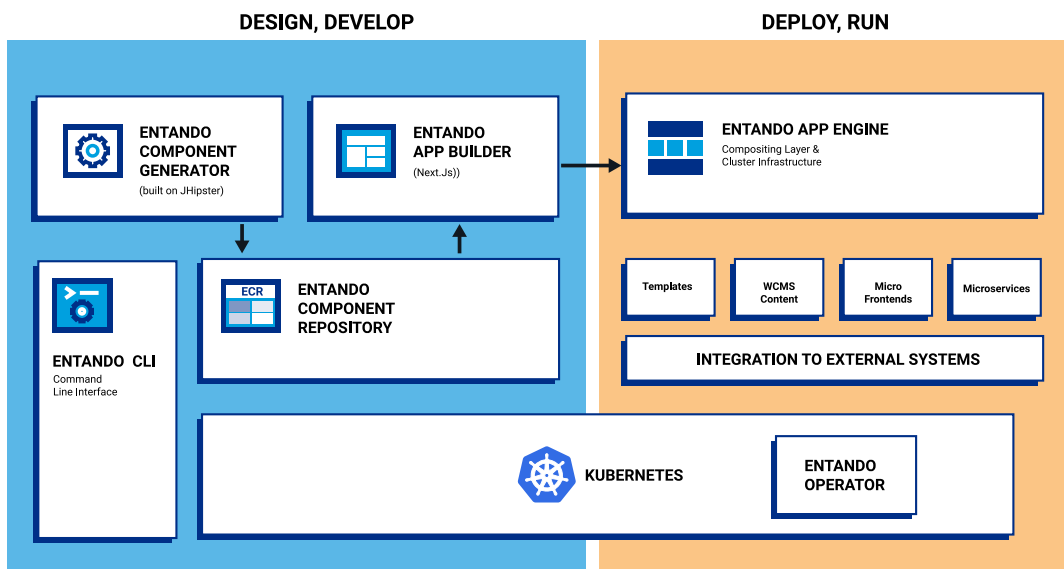
# Why to Consider Purchasing an Application Composition Platform

It's certainly true that you can build modular components simply by using the frameworks of your choice, rather than a platform. But then you will need to manage the complexities of that architecture, how components are routed, delivered and communicate with one another, as well as how to share common components across projects.

You will also need to build or buy your own identity management system and integrate it. And if you have any business users who are required to regularly update content, the same goes for a WCMS.

At that point, you have built your own platform. And you may want to do that.

But if you would rather have this functionality provided to you in a cohesive platform backed by a team of experts who offer enterprise support and professional services, consider purchasing an application composition platform like Entando.

DESIGN, DEVELOP | DEPLOY, RUN

**ENTANDO COMPONENT GENERATOR** (built on JHipster)

**ENTANDO APP BUILDER** (Next.Js))

**ENTANDO APP ENGINE** Compositing Layer & Cluster Infrastructure

**ENTANDO CLI** Command Line Interface

ECR **ENTANDO COMPONENT REPOSITORY**

Templates | WCMS Content | Micro Frontends | Microservices

**INTEGRATION TO EXTERNAL SYSTEMS**

KUBERNETES | **ENTANDO OPERATOR**

## Build modular applications on Kubernetes with Entando

If you run containerized deployments, you understand the benefits of Kubernetes. You also understand how complicated it can be and how difficult it can be to gain developer adoption. It feels like there should be an easier way.

That's why we created a platform that makes it easy to build applications on Kubernetes using modular components.

Entando is an application composition platform for building enterprise web apps on Kubernetes. We want to change the way enterprises think about building their apps, sites, and portals in order to promote developer productivity in a Kubernetes environment.

With Entando, you can:

• Bootstrap an application from a customized template.

• Accelerate app development to update iteratively.

• Simplify deployments by abstracting the complexity of Kubernetes.

We integrate trusted open source technologies and extend their functionality to give you a cohesive and streamlined developer experience with easy-to-use patterns. From deploying on Kubernetes to creating modular backend and frontend architectures using your current technologies, Entando helps you at every layer of the stack.

Entando is open source with available enterprise support and services. Begin developing on the platform today, and get a quote to see how our team can help your enterprise build better apps, sites, and portals––faster.

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