

entando

ENTANDO DATA SHEET

ENTANDO: DXP PLATFORM FOR MODERN APPLICATION



Entando is the lightest open source Digital Experience Platform (DXP) for Modern Enterprise Applications. Our platform harmonizes user experience across enterprise omnichannel applications in a process we call UX Convergence, accelerating time to market and increasing development efficiency. Entando bridges the gap between business and IT by leveraging the new Modern Applications paradigm of software design, development, and deployment.

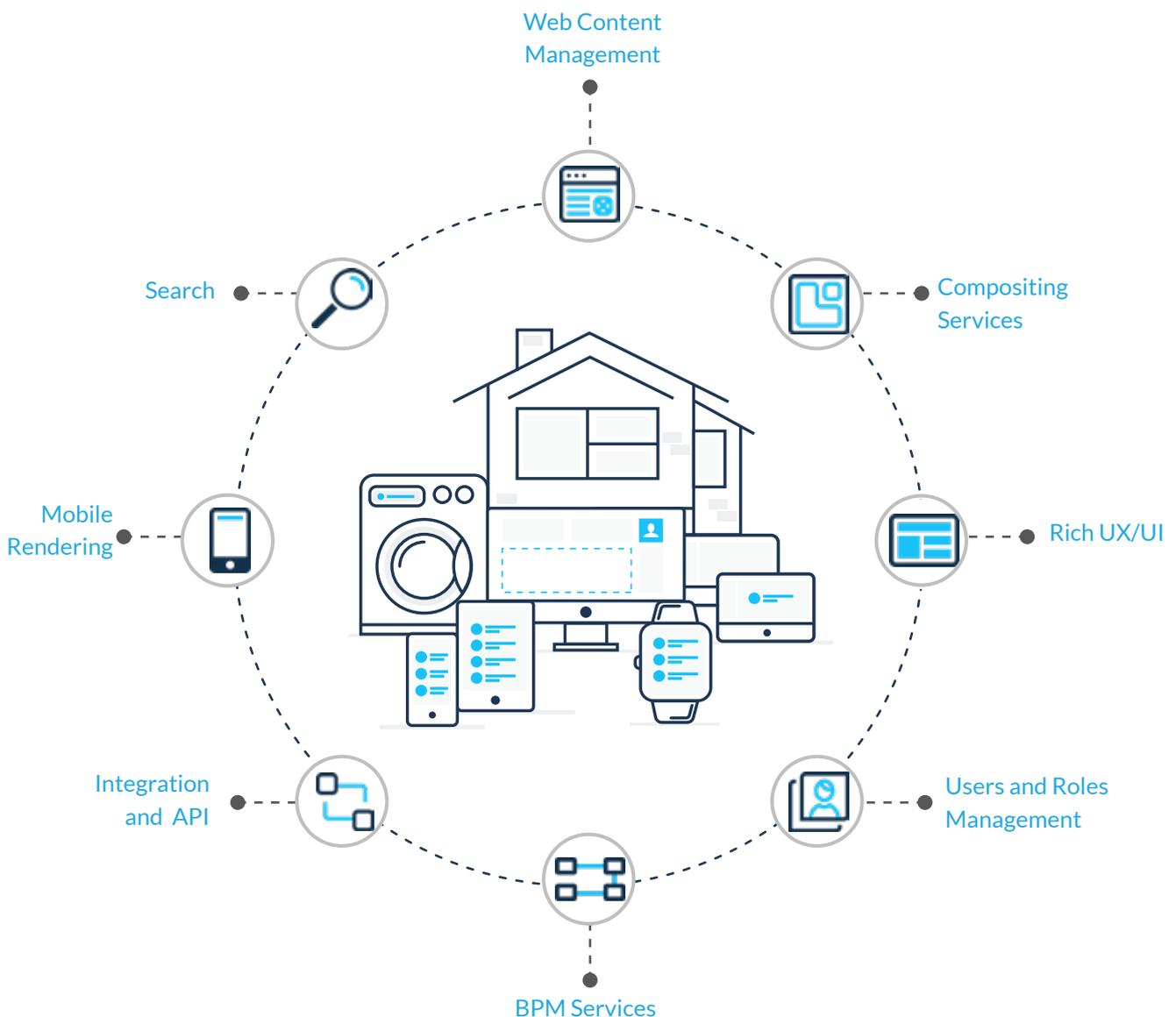


CAPABILITIES

Born as a framework for web applications and portals, Entando is evolving into a much richer platform for the rapid development of Modern Enterprise Applications based on containers that provide security, control, performance, and strong UX focus.

Applications created with Entando can be deployed across **multiple channels** and **devices** and may serve **different audiences** such as employees, customers, consumers, business partners, suppliers, contractors, citizens, and students. **Process Driven Applications**, Content and Service Driven Applications and **IoT Applications** have thus far been the three main use case categories.

The platform includes services that provide basic out-of-the-box features that all modern web applications need, including **APIs and integration services**, **compositing**, **rich UX/UI**, **users and roles**, **Business Process Management**, **mobile rendering**, **web content management**, **search**, **collaboration** to more advanced capabilities such as a **security framework**, **cloud-native** features, **multitenancy**, and **CI/CD** processes.



ARCHITECTURE

Entando has a component-based architecture that allows developers to deploy and manage only the components needed for a given project, minimizing deployment size and application complexity. The component paradigm simplifies the management of the application development cycle, making the addition of new features or the extension of existing ones easier and faster. Finally, Entando enables collaborative development by allowing components to be built or modified by separate teams.

A COMPONENT-BASED PLATFORM

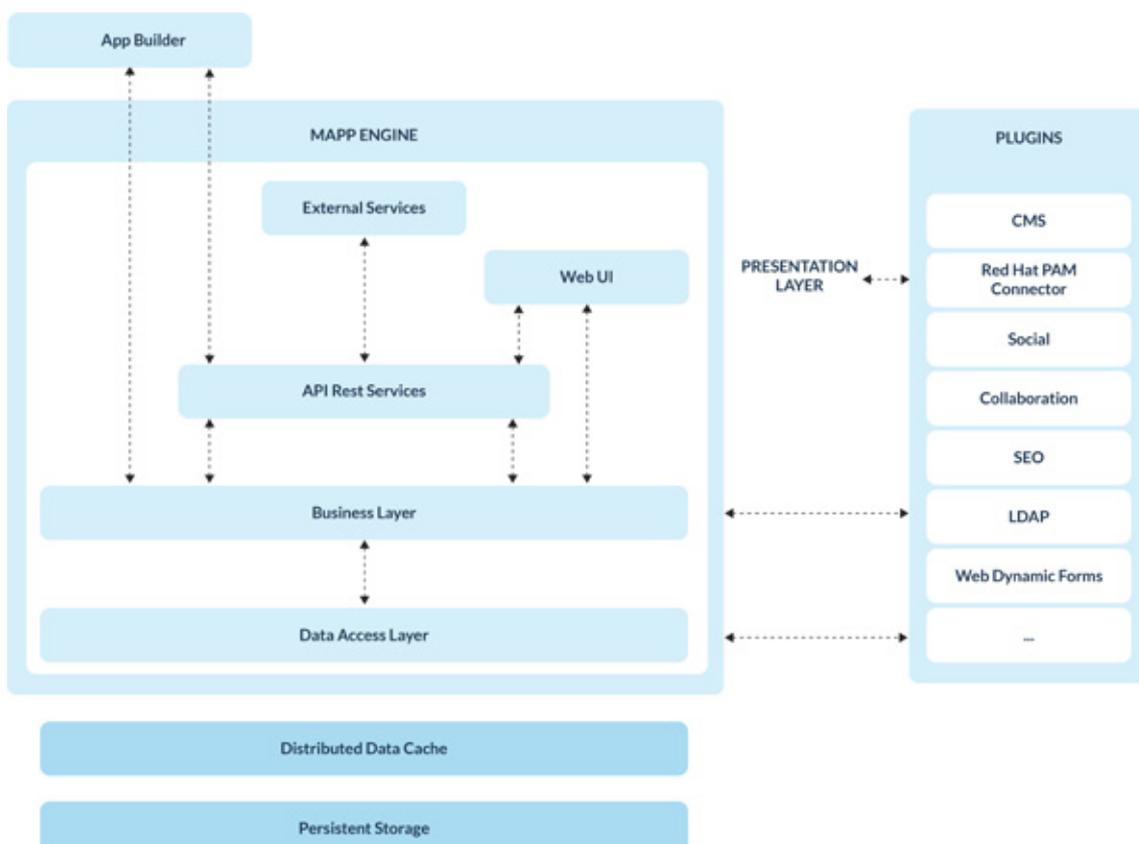
From an architectural standpoint, Entando is a lightweight component-based modern platform based on Java EE, built on top of Spring and designed to support any kind of front-end framework (AngularJS, React, Bootstrap, etc).

The platform is managed via Entando's web-based App Builder utility that provides the base features for design time development such as rapid prototyping, an integration and extension framework, and support for UI/UX and run time with configuration parameters.

Developers are free to apply a component-based modern approach to the design, development, assembly, and deployment of enterprise applications without constraints.

PLATFORM ARCHITECTURE

The Entando Architecture consists of three main sections: MApp Engine, App Builder, Web UI.



MApp Engine

The MApp Engine represents the heart of the Entando platform. Based on Spring, it provides the main out-of-the-box application services for developing applications. It includes control hooks to manage all enterprise Entando services (e.g. user registration, user authentication, events notification, system actions tracking). It also provides interfaces to manage integration with a wide range of applications, through REST APIs, RSS, or Enterprise Service Bus (ESB) web services and access to all features from a single point of entry. The Engine also exposes interfaces for secure application development and safe administration.

App Builder

The App Builder allows users to manage all services provided by the Engine and by installed components. This includes a graphical interface to manage users, groups, roles, user profiles, languages, software component configurations (e.g., plugin configuration), REST APIs, multimedia assets, CMS data, and all of the other data and platform assets exposed by Entando. Developers can extend the App Builder to expose configuration and management of their own components.

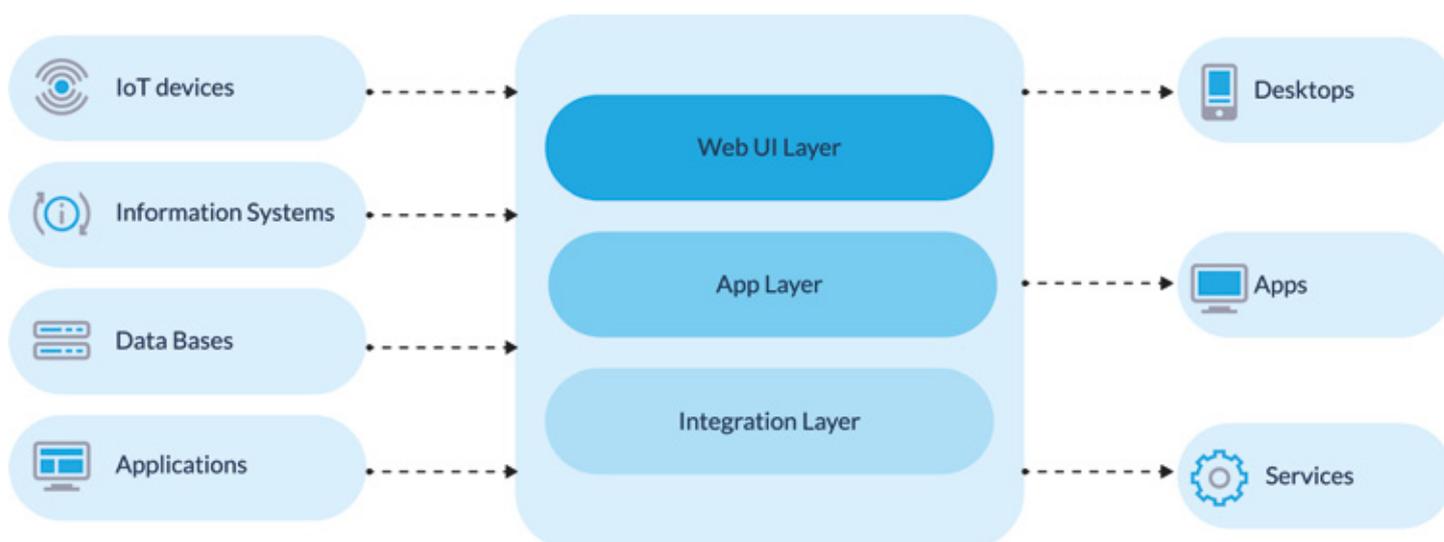
Web UI

The Web UI provides the infrastructure to render an application developed using Entando including the assembling of the pages, widgets, components, and all other user facing data.

AN “OPEN” APPROACH

Entando was created to deliver enterprise-scale business applications. As such, a fundamental principle of Entando’s is openness: open APIs, pluggable architecture, and cloud-nativity. The result of this openness is greater flexibility to add specialized tools and ease of building new process-oriented applications or integrating into your existing environment and processes. Additionally Entando applications are omnichannel and can be delivered on a wide range of platforms, such as browsers, apps, or even integrated into other services via APIs.

A multi-source and omni-channel platform



Applications built on Entando can natively communicate with external systems for data sourcing, access to proprietary data, and integration with custom delivery channels.

Data normalization and the decoupling of data from its presentation are the keys to allowing components and widgets built for Entando to be re-used across all applications and platforms in the enterprise.

FEATURES



Entando comes with built in features that can be extended by adding additional components to the core.

Platform

- REST APIs
- Authentication and authorization
- Caching
- Multitenancy (via multisite plugin)
- Search indexing
- Cloud deployment
- Analytics
- Business Process Management (BPM) integration
- Data abstraction layer
- Integration adapters

UX Design

- Page designer with drag and drop features
- Page preview
- Widget based UI
- Responsive design support
- Support for modern UI framework (e.g., React, AngularJS)
- Template engine
- Multilanguage support (i18n)
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Users and Authorization

- Identity management
- Role/group-based access control
- Centralized authentication
- User registration

Contents & Data

- Content and digital assets management
- Content and data types
- Content workflow
- Content versioning
- Content scheduling
- Content classification (taxonomy and facet-based navigation)
- Web form management
- Fast content editing
- Georeferenced content
- Search Engine Optimization (SEO)

TECHNICAL HIGHLIGHTS

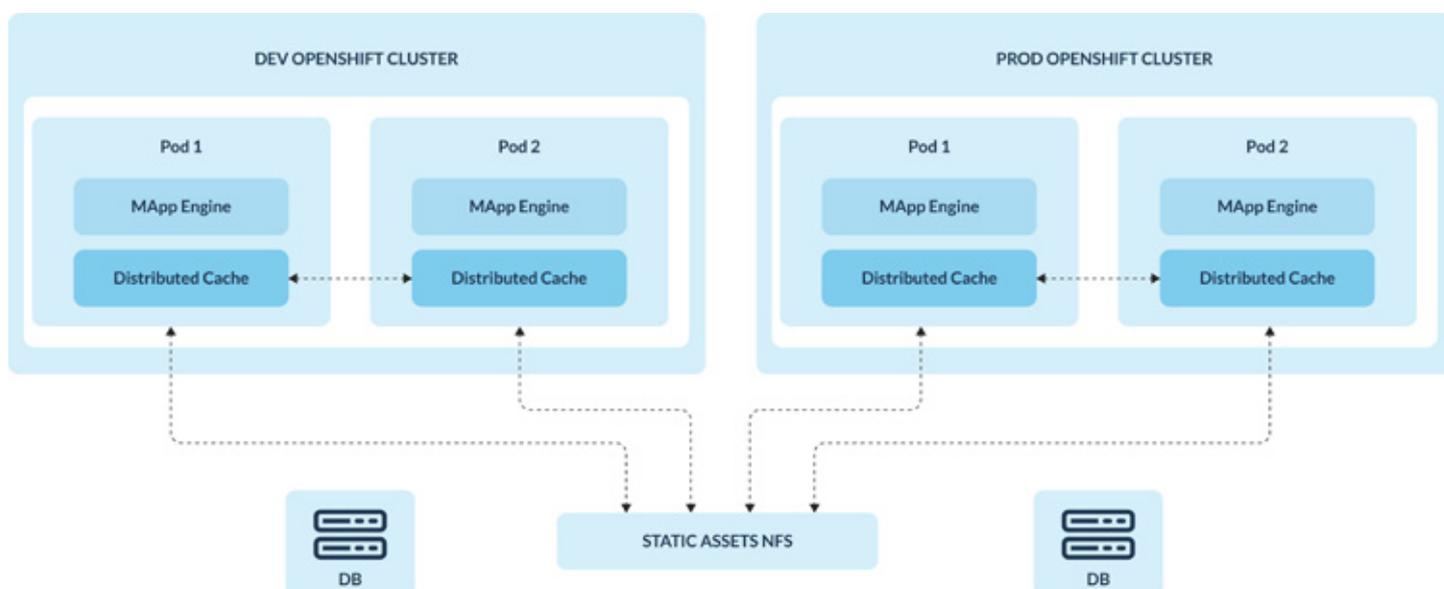
COMPONENTS AND COMPONENT DEVELOPMENT

Components are classified as either Plugins or UI Bundles. A Plugin is a software component that adds to or implements specific features in an existing application (e.g., LDAP, a plugin that allows centralized authentication and user group management). A UI Bundle is a combination of UI elements, content and data structures to build your application's user interfaces (e.g., Page Layout, a UI bundle that deals with the arrangement of visual elements on an application page according to market best practices).

Entando provides a component generation framework that can be used to create the scaffolding and layout required for an Entando component. There are also reference component implementations available in the open source community.

CLOUD NATIVE

Entando supports a cloud-native deployment architecture on OpenShift using a distributed data cache for shared session and data storage. The cache implementation in the reference implementation is built using Infinispan but the cache itself can be changed via configuration.



DEPLOYMENT

An application built using Entando can be deployed on the following application servers and architectures:

- JBoss EAP 7.1
- Wildfly 12
- Tomcat 8
- Jetty (development/quick start)

Builds for WAR files specific to each of the above deployments are provided as part of the Entando application build infrastructure.

Entando supports database deployment on:

- MySQL 5.7+*
- PostgreSQL 9.4+
- Derby (development/quick start)

Generally, other databases are known to work for persistent storage for an Entando application. However, only the three databases above are certified as part of Entando QA.

**MySQL is not compatible with deployment in a clustered environment in OpenShift.*

DOCKER

Applications built using Entando can also be built and deployed into a Docker container. For Docker, Entando provides:

- An extensible Docker base image
- A source-to-image (S2I) builder for Docker
- Example Docker images for all runnable processes in the architecture

OPENSIFT

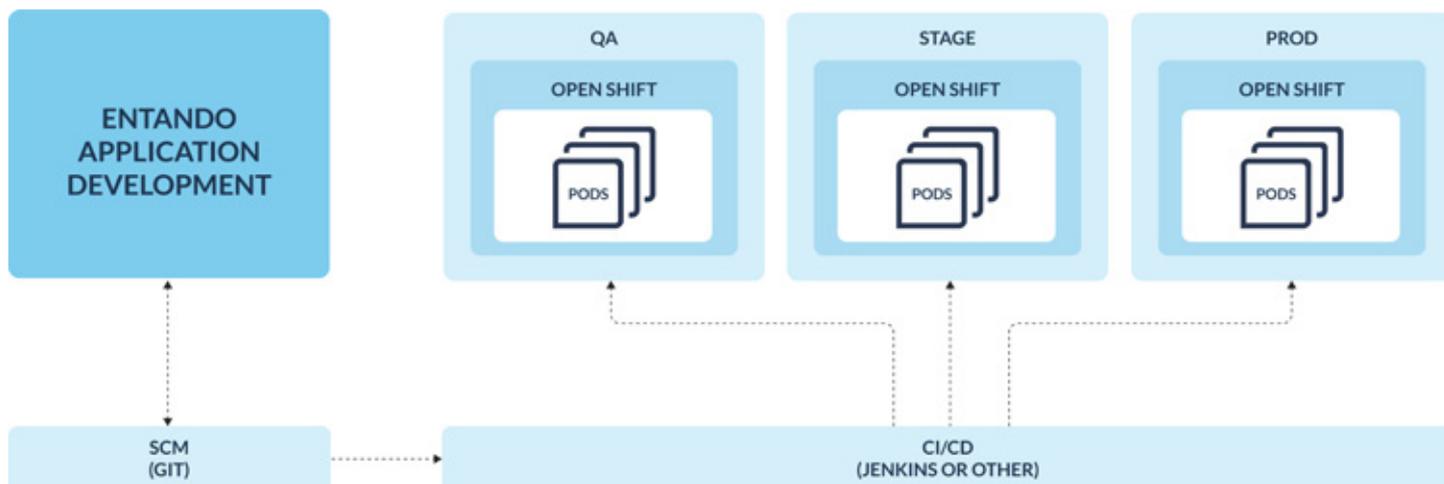
Applications developed using Entando are built to be natively deployable to OpenShift, the industry's most comprehensive enterprise Kubernetes platform.

Once an Entando application has been created, Entando builds and maintains OpenShift catalog images for Wildfly 12 and JBoss EAP 7.1. Those images can be used to deploy and manage Entando applications. The images are published and available on the Red Hat OpenShift catalog for the EAP image and on DockerHub for the Wildfly 12 image.

MODERN TOOLS

Applications developed using Entando can be managed and deployed via CI/CD pipelines using Docker or custom build jobs. For example, an application can be built and tested using Jenkins, then a Docker image created, and that image is automatically deployed into an OpenShift environment. An Entando application can be built and deployed in an environment that makes sense for your production environment.

An example CI/CD pipeline for an Entando application deployed to OpenShift.



OPEN SOURCE

Entando is committed to creating and growing a vibrant open source software community. New contributions to the software are welcome from Entando's users, customers, and partners. Details on contributing and support can be found on Entando's GitHub pages and at <https://central.entando.com>. Entando's open source software is made available under LGPL v2.1 and MIT licenses.

BENEFITS FOR DEVELOPERS

1 READY MADE, REUSABLE COMPONENTS

Entando contains a rich set of building blocks in its source code, template, UI elements, and processes that, once used for an application, can be reused, resulting in consistent time savings.

2 LESS CODE, HIGHER EFFICIENCY

Teams are more productive than if they were using older, monolithic software thanks to visual interfaces, drag and drop tools, widgets, and plugins that reduce hand coding to a minimum.

3 LIGHTWEIGHT AND CUSTOMIZABLE

Adding new specifications and features to a lightweight core is easy and can be done quickly. This means avoiding unnecessary loads and interdependencies typical of the old monolithic platforms.

4 MODERN TOOLS

Entando's application offers an advanced, Modern Applications base. It's cloud-native, allowing it to fully perform in a cloud environment and take advantage of cloud features like limitless computing power, high availability and no-downtime maintenance. It's DevOps compliant, breaking down walls between software developers and software operations to ensure a superior user experience. And it iterates based on the CI/CD method, reducing difficulty and mistakes by increasing the frequency of your product releases.

5 COMPATIBLE WITH ANY FRONT END FRAMEWORK

Companies can either use the Entando platform's native tools for maximum efficiency, or any front-end technology, such as React or AngularJS, without any limit for maximum customization. This allows you to focus on designing and assembling applications, not on creating code from scratch.

6 FLAT LEARNING CURVE

Low-code tools - including an App Builder running in drag-and-drop mode, plugins, widgets, mini-apps, and UX packages - make the platform easy to learn and use in very little time.

7 SPEED

Entando gets you to production faster with best of breed technologies including the quick start capability of React and Angular to build new widgets and plugins.

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