decisyon

App Composer

Decisyon App Composer

Technology Overview

Introduction

Decisyon App Composer (DAC) is a visual app development environment offering built-in end-to-end functionality for developing and deploying any industrial IoT (IIoT) application. DAC's intuitive and simple drag & drop applications development and deployment solution allows everyone - from hardcore programmers to business analysts - to rapidly build IoT solutions that consume and orchestrate real-time data, visualize and analyze that data, provide fact-based insight and then team decision making and execution via a unique collaborative space.

System Description

DAC provides a unified environment for building IoT solutions that can:

1. Connect data, people, processes and sensor/device (things) at any level of your organization in real or near real-time.

2. Free up information from the applications and data sources that hold scattered data throughout a company and the web - without having to re-architect the IT infrastructure.

3. Assemble, visualize and analyze a variety of data types and sources for deeper insight, and then plan around that information in a collaborative workflow that matches how organizations really work, not how other vendors' applications work.

4. Make a decision and execute it back into the underlying systems directly within the same environment.

5. Change, modify or enhance workflows with speed and agility, so you can easily adapt to changing market conditions and seize new business opportunities.

DAC offers a highly collaborative portal that integrates structured, semi-structured and unstructured data from devices and sensors. It also offers transactional functionality and connects everything for the organization's internal players and external partners.

DAC's Key Differentiators

- Easily construct powerful apps from end to end - all the way from data collection to action; deploy out-of-the-box functionality such as aggregation, visualization, analysis, rule-based decisions and execution of those decisions

- No knowledge of coding is required, so you can build application pages in just hours, rather than weeks

- All data types required to manage a full business process can be ingested and operated on: IoT data, enterprise data, unstructured data, social analytics

- Open architecture enables you to leverage external services that complement robust native functionality

- Unique team collaboration portal allows global access and analysis of real-time data

DAC Components

DAC has three components:
Design Studio (DS), DAC Runtime (RT), and Metadata (DAC-MD).

DAC Design Studio (DS):

DAC Design Studio is a powerful and feature-rich environment for the high speed development, configuration and administration of data-intensive IoT business applications.

Written in Java, it is a standalone application that inherits the portability and independence of platform and technology. Simple and intuitive in design, DS enables easy extraction of insight from data via high-level ROLAP widgets and tools and development of rich user interfaces by using modern front-end frameworks and development methodologies. DS provides the access management (authorization) capabilities necessary to publish and distribute information to users based on their functional roles.

DAC Runtime (RT):

DAC-RT, the runtime component, offers sophisticated functions to end users for visualizing and interacting with presentation objects. Additionally, it allows for full navigation and customization of app pages, BI, reports and overall applications. All the analysis generated on the DAC platform is fully navigable: users can leverage drilling, pivoting, slice-and-dice and sorting functions. They can also reorganize any data view with simple drag-and-drop moves or by clicking on toolbar icons to obtain visualizations that meet their needs. Reports developed on the DAC platform can be exported in the most popular formats such as Adobe PDF or Microsoft Excel. This enables data and analyses to be easily shared across organizations.

DAC Metadata (DAC-MD):

DAC Metadata is a schema that stores the design information and system configuration of the application. DAC interacts with the database that contains the configuration proprietary tables (Metadata) and reads all the information needed for the platform to create pages and operate dynamically.

Platform Extensions

DAC's platform extensions further expand the capabilities of the main components:

- **SDK (Software Development Kit)** allows you to create Java code snippets using DAC objects. With a few lines of code, you can create programs that allow you to use DAC objects such as reports, notifications, alerts, etc. that can be pushed to DAC-RT. This makes this new functionality immediately available on the web without the need for manual deployments.

- **Widget Designer** is a powerful online development environment that provides a feature-rich toolset to build complex applications with sophisticated user interfaces and data connectors to access diverse data sources. The development environment is based on Angular and can be extended with any third party services and front-end libraries.
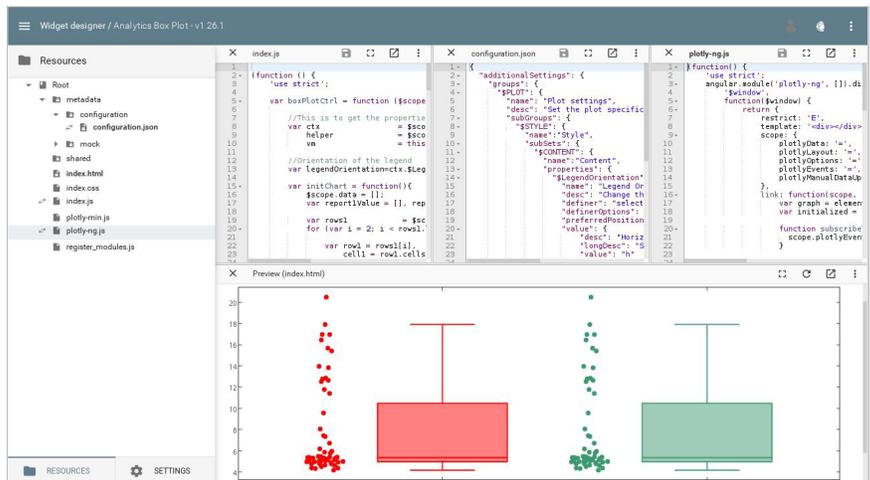
DAC Technology Stack

DAC has a microservices architecture with an extensive scalability and superior performance under heavy load. It is written in Java, HTML 5, CSS 3 and can run on any SQL database. It has built-in data connectors to all major business systems and over 30 major databases such as Oracle, SQL Server, and SAP Hana and offers REST API endpoints.

You can deploy DAC on different cloud services. You may choose to host your solutions on nearly any public or virtual private cloud (VPC), including AWS, other PaaS platforms such as Predix or on premises in your own data center.

DAC on Platform as a Service (PaaS)

DAC is the only comprehensive visual app development environment available on PaaS such as Predix. It works as an enabling layer that empowers everyone to leverage all underlying PaaS capabilities in conjunction with all Decisyon native services, accelerating time to develop and deploy, and achieve the desired business outcomes. It offers a high degree of flexibility in developing IIoT solutions for both developers and business users without requiring coding. Applications built with DAC are readily deployed into the cloud with a single click. DAC's seamless integration will help accelerate the time to develop and deploy apps without going through long, error prone and laborious software development life cycle. As a result, you can concentrate effort solely on building solutions rapidly instead of spending time coding/debugging/testing/releasing cycles.

DAC allows direct binding with PaaS credentials, security, Time Series and Asset data.

DAC's unified framework leverages the PaaS and native micro-services, allowing the end user to share knowledge and collaborate around real-time data to arrive at faster and smarter decisions. Those developers who desire further customization have the power to customize the code in key areas.
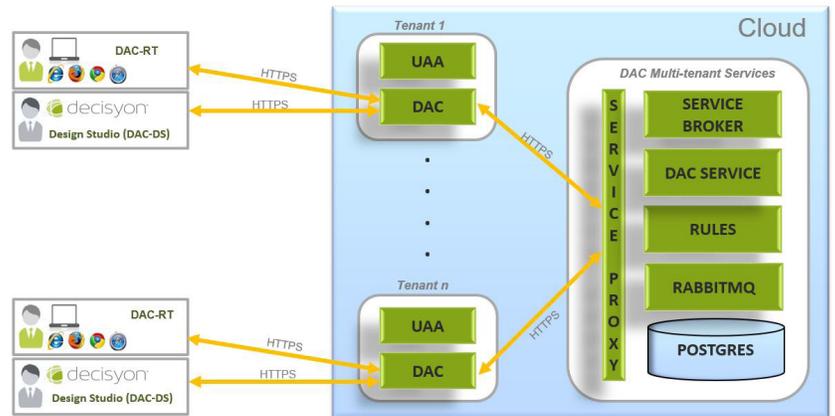
There are many advantages to using DAC to accelerate development:

- Provides an intuitive Visual App Dev Environment: simply drag & drop, test and deploy

- Empowers everyone to leverage the underlying PaaS services to build IIoT solutions

- Ingests real-time structured and unstructured data and runs on all major SQL databases

- Contains end-to-end, out-of-the-box functionality for big data & analytics

- Offers catalog of Decisyon native and PaaS microservices and widgets

- Features built-in Data Orchestration, BI, Analytics, Rules Engine, Collaboration, Decision & Action

- Already in production in over 200 clients in numerous industries such as Aviation, Renewable Energy, Transportation, Manufacturing, Pharma, Retail, Healthcare, and Supply Chain

About Decisyon

Decisyon enables business users to rapidly build solutions using a code-free visual software development environment. Our products accelerate your data journey from aggregation to visualization, insight, analysis and decision thru action. Decisyon offers the leading code-free visual software development environment for mission critical enterprise operations requiring real-time awareness and adaptability to their business operations and processes. We have developed and deployed many vertical solutions for the manufacturing, renewable energy, aviation, pharmaceutical, financial services, transportation and automotive industries. With built-in microservices such as data management, BI, mashboarding, rules engine, collaboration and execution, Decisyon offers a dramatic increase in speed to outcome for building and modifying vertical solutions. Decisyon's products and software solutions, ideally suited for IIoT applications running on any PaaS, are used in over 200 companies globally. Decisyon is headquartered in San Francisco, California.

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