SARA

BY PURPLE BLOB.

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Introduction

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Introduction

Currently, there is a wide variety of IoT solutions, each with different types of information, communication technologies, and infrastructure needs.

This fragmented ecosystem is **inefficient** and complicated to manage, making it difficult to handle and analyze information.

To overcome these challenges, it is essential to have a flexible and **scalable IoT platform** that unifies the infrastructure and optimizes resource use, ensuring security and interoperability.

Sara is presented as that **comprehensive solution.**

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Introduction

From Purple Blob, we present SARA, an IoT platform based on **FIWARE** with high analytical capabilities that allows complete IoT solution management.

SARA arises from the needs of the public and industrial sectors as a unified platform capable of providing a set of tools for **data processing and visualization** in a homogeneous manner, regardless of their origin or provider.

Sara.
IoT Platform

Powered by
FIWARE

PURPLE
BLOB.

Introduction

Due to its modular nature and adaptable design, SARA adapts to **Smart City and Industry 4.0** needs, always ensuring maximum security, efficiency, and scalability.

Moreover, the use of open and interoperable standards gives the entire system **absolute flexibility** when using other existing solutions.

Diagram without IoT Platform

Different IoT Solutions

Separate Databases

Proprietary Applications

Specific Platforms

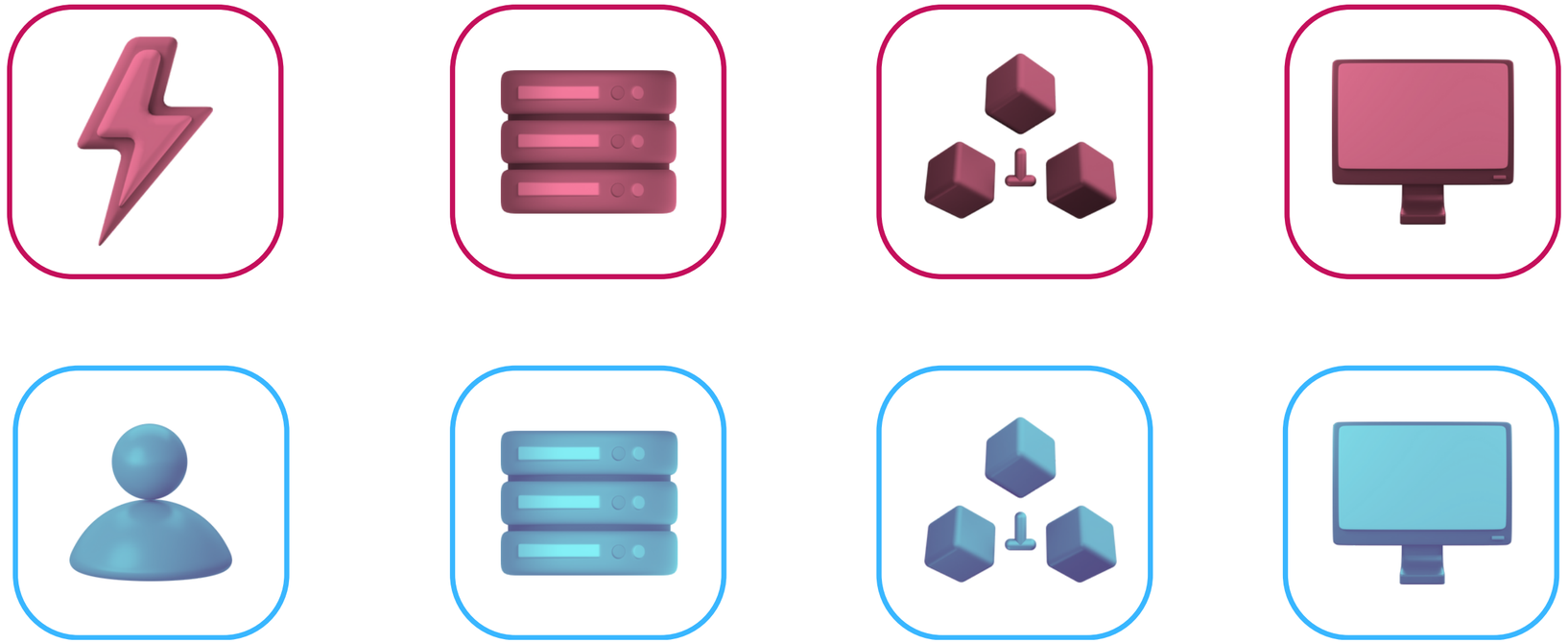
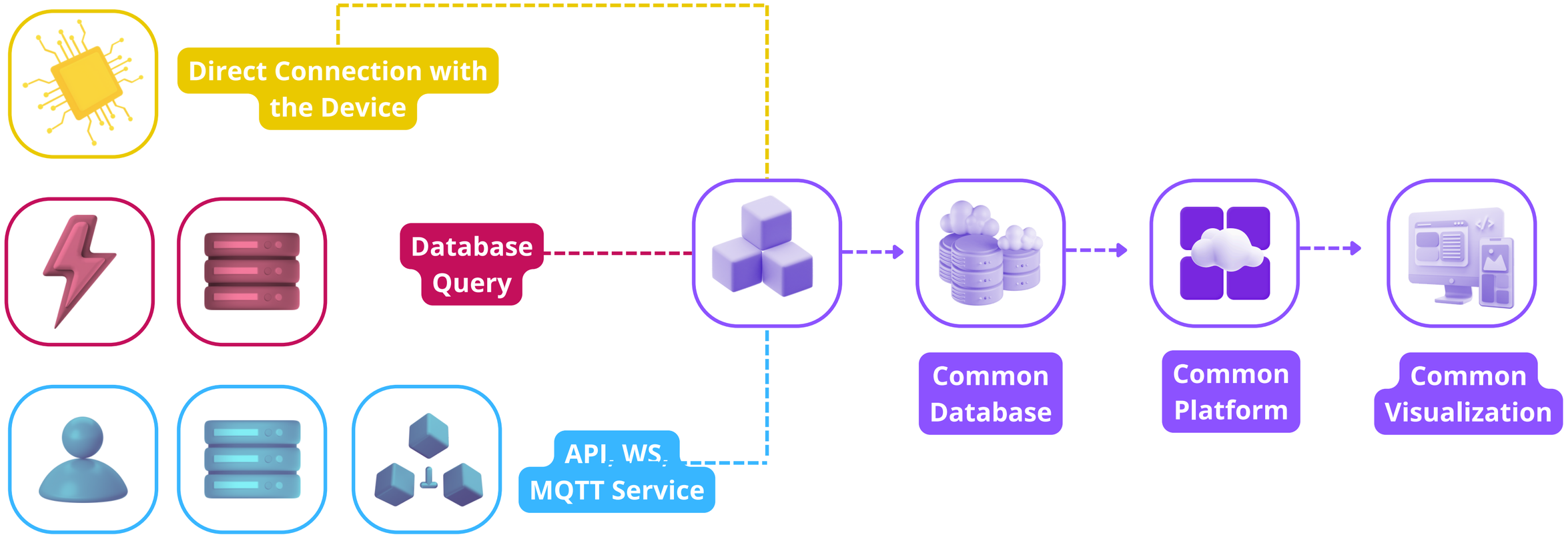


Diagram with IoT Platform



SARA's Capabilities and Features

SARA's Features

Resource Efficiency

Unifies all necessary infrastructure into a minimum number of servers and databases, allowing for more efficient resource use.

Data Consumption and Service

Allows data consumption and service from different media and modalities (REST API, MQTT, Web Service...), facilitating integration with different devices and applications.

Adaptability and Scalability

Adaptable to different needs and can be scaled to support large volumes of data.

Audit

keeps a history of performed activities, enabling audits for certifications, responsibility clarification, and platform security.

Security

Offers a high level of security through its user management and control.

Visualization

Customizable interface for monitoring stored data, enabling the creation of graphs and visualizations for data representation.

SARA's Capabilities

Alert System

Can report through different channels such as SMS, email, or chat apps and notify immediately.

Open Data

Data publication on a fully customizable open data portal, achieving convenient, effective, and secure data democratization.

Integration

Can integrate with any solution that can adapt to the system

Storage

Real-time storage system and auxiliary relational databases, allowing storage of any type of data without affecting performance.

Analytics

Offers advanced analytics capabilities, such as visualization, predictive analysis, Data Mining, data transformation, Big Data processing, etc.

Business Intelligence

Can apply integrated Business Intelligence techniques.

SARA's Operation

SARA's Operation

SARA's main tasks are to **collect, analyze, and serve information** from a large number of applications and users of different natures.

SARA's Operation: Example

Imagine an IoT solution for energy measurement that periodically reports energy consumption levels. The SARA system manages the inclusion and status of all devices, collecting and storing data, and can apply different analyses.

For example:

Consumption Alerts

SARA allows **setting maximum consumption limits.**

If these limits are exceeded, an alarm is generated.

For example, an SMS can be sent in real-time to the manager to solve the problem immediately.

Historical Analysis

Analyzes historical data stored in the system, detecting patterns such as peak consumption hours and making monthly consumption predictions.

These analyses are visually represented and made available to authorized users.

Sara's Operation: Example

Data Integration and Aggregation:

The real advantage of SARA lies in its ability to aggregate data from different sources. For example, relating machine usage to energy consumption, SARA can **generate predictive models** that optimize industrial operation.

Benefits of the Centralized Platform

The more data we integrate into the same platform, the higher the performance we can achieve.

To achieve this operation, SARA offers a set of advanced analysis tools along with user and device management, visualization, and interoperability, allowing multiple solutions and users to be unified in a secure, efficient, and straightforward manner.

SARA's Modular Architecture

To achieve complete adaptability, SARA consists of **independent modules** that can mostly act independently.

This architecture allows customized use for each situation and maximum resource efficiency

User Management

To centralize various solutions while ensuring maximum security and interoperability, SARA offers fully customizable user management.

This management is compatible with widely used authentication systems, such as LDAP repositories and OAuth 2.0.

SARA allows differentiating users both at the individual and organizational levels, ensuring that each user has access only to the elements they need.

This ensures secure and efficient access control, adapted to the specific needs of each user and organization.

SARA's Modes

SARA's Modes

SARA is offered in three different modes, each with different modules initially integrated.
All modes allow future expansions through simple integrations and adaptations.

SARA BASIC

- Integration with up to three available data sources.
- Big Data analytics, CEP engine, and Business Intelligence module.
- Visualization platform with real-time dashboards and control platform.
- User management for up to 3 organizations and 200 users.
- Two levels of administration (platform and system).

SARA PRO

- All features of SARA Basic.
- Integration of an additional data source.
- Multimedia processor.
- Open Data portal (integration or CKAN generation).
- Initial creation of analyses, visualizations, and dashboards.
- Unlimited number of organizations and users.

SARA PREMIUM

- In this mode, we adapt SARA to your specific needs, extending and customizing tools for each organization.

SARA offers a comprehensive, secure, and efficient IoT solution, adaptable to various industrial and Smart City needs.

Its ability to integrate, analyze, and visualize data from multiple sources makes it a powerful tool for optimizing management and decision-making.

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