FactoryTalk Optix

Reference Architectures

expanding **human possibility**®

PUBLIC

ROCKWELL AUTOMATION
GLOBAL PORTFOLIO
ENGINEERING
GPE

FactoryTalk Optix

Overview

General Information
FactoryTalk® Optix™ is a visualization platform that accelerates value delivery with modern technologies, innovative designs, and modular deployment options. The platform is designed to help improve user process, efficiency, and deliverables – in one easy to access tool. Users can take advantage of new levels of collaboration, scalability, and interoperability to achieve their HMI vision.

- **Cloud-enabled HMI platform** that allows design, test, and deployment of applications directly from a web browser when connected through FactoryTalk Optix Studio via FactoryTalk® Hub™. Disconnected design is also possible via an installable desktop application of FactoryTalk Optix Studio.

- **Unlimited extensibility** through web clients, full OPC UA compatibility, C# scripting, and MQTT. FactoryTalk Optix software is built entirely upon OPC UA specifications and natively integrates the OPC UA information model. Expand FactoryTalk Optix applications by incorporating MQTT protocols, integrating existing programs, or even automatically creating projects via scripting, during design, and during runtime.

- **Third-party support** via built-in drivers provide connectivity to both Rockwell Automation® and non-Rockwell Automation devices with support for the top industrial automation protocols.

- **Modular deployment** leveraging FactoryTalk Optix application scalability enables deploying only what is needed to the runtime application. This supports scaling of the hardware platform, opening up new options for IIoT and Edge visualization, connectivity, and analytics.

- **Remote management** through integration with the FactoryTalk® Remote Access™ solution provides secure management, with capabilities to update and maintain projects and troubleshoot and configure devices remotely. This includes inviting users to collaborate via FactoryTalk Hub.

FactoryTalk View Optix Application Examples

Runtime Lite HMI
This application is compact and modular being deployed in-chassis on a device like the Logix Embedded Edge Compute or another embedded compute device. Operation may be headless with clients connected only as needed.

Panel HMI
This application is an HMI solution deployed on an OptixPanel terminal, which is a closed embedded hardware solution optimized for FactoryTalk Optix runtime software. Users may select from the full range of FactoryTalk Optix features when deploying a runtime application on an OptixPanel user interface.

Station Runtime Standard
This application is an HMI solution running on an industrial PC and monitor, such as one from the ASEM™ 6300 line, with some client connectivity and extensibility.

Station Runtime Pro
This application is an HMI solution running on a single server PC with lots of client connectivity and extensibility.

Additional Information
- ❑ [FactoryTalk Optix Product Page](#)
- ❑ [FactoryTalk Optix Product Overview](#)
- ❑ [FactoryTalk Remote Access Product Page](#)
- ❑ [ASEM 6300 Product Page](#)
- ❑ [FactoryTalk Vault with Design Tools Product Page](#)

Rockwell Automation

FactoryTalk Optix

Technical Feature Highlights

- **Project Development**
  - FactoryTalk Optix Studio
    - Local installation
    - In web browser through FactoryTalk Hub
  - Build project dynamically, by scripting, or even at runtime
  - Collaboration & Revision Control
    - FactoryTalk Vault
    - GitHub
- **Runtime Deployment**
  - Locally from the computer hosting a local installation of FactoryTalk Optix Studio
  - Remotely from the cloud-hosted version of FactoryTalk Optix Studio
  - Panel • Station • Distributed (coming soon)
  - ARM and x86 architectures
  - Linux and Windows operating systems

- **Clients**
  - Native UI
  - Web – HTML5 UI - HTTPS
- **Graphics**
  - SVGs & Advanced SVGs
  - Responsive graphics adapt to screen size
  - Libraries of reusable content, custom templates, and style sheets
- **PDF Reports**
- **Dashboarding**
  - Data Grid
  - Trends
- **FactoryTalk Remote Access**
  - Included with OptixPanel terminal
  - Install separately for secure VPN access to other platforms

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FactoryTalk Optix
Technical Feature Highlights

- **Communications**
  - Rockwell Automation Ethernet/IP Driver
    - Support for Logix 5000® controllers
  - Third-party Drivers:
    - Modbus®
    - Siemens® S7TCP & S7 TiA PROFINET
    - Mitsubishi® MELSEC FX3U & MELSEC Q
    - Omron® Ethernet IP & Fins
    - Beckoff® TwinCAT
    - CODESYS®
    - Serial comms (custom)
  - MQTT
    - Support for MS IoT Hub & Mosquitto brokers
    - Pub/Sub capabilities

- **Communications (cont.)**
  - OPC UA
    - Server & Client
    - Full OPC UA compliance
    - Full support of companion specs
    - M2M (Machine to Machine)
  - **Databases**
    - Embedded – SQLite
    - ODBC – SQL Server & MySQL
  - **Data & Event Logging**
  - **Alarms & Alarm History**
  - **Recipes**
  - **FTP**
    - Server & Client
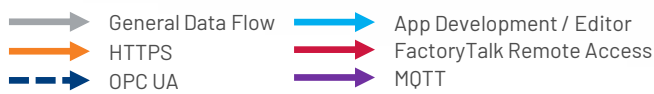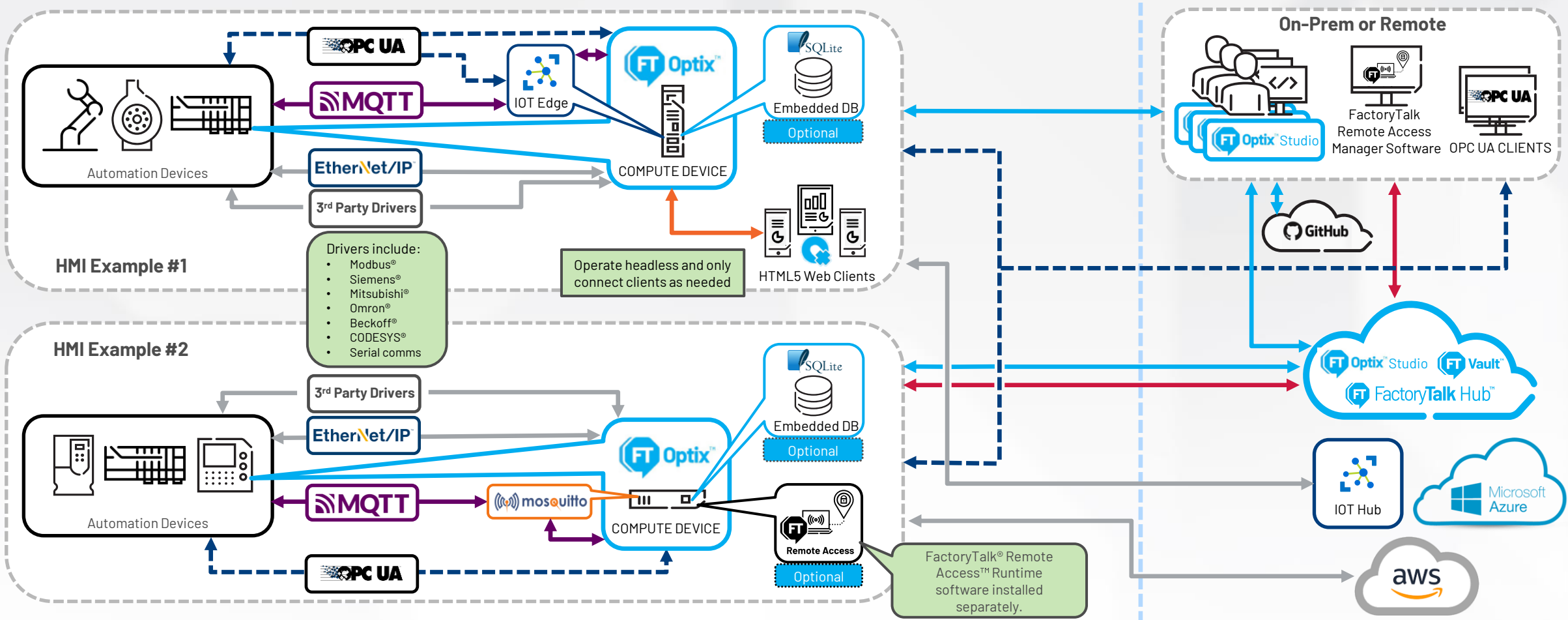
- **Auditing**
- **Security**
- **Locales**
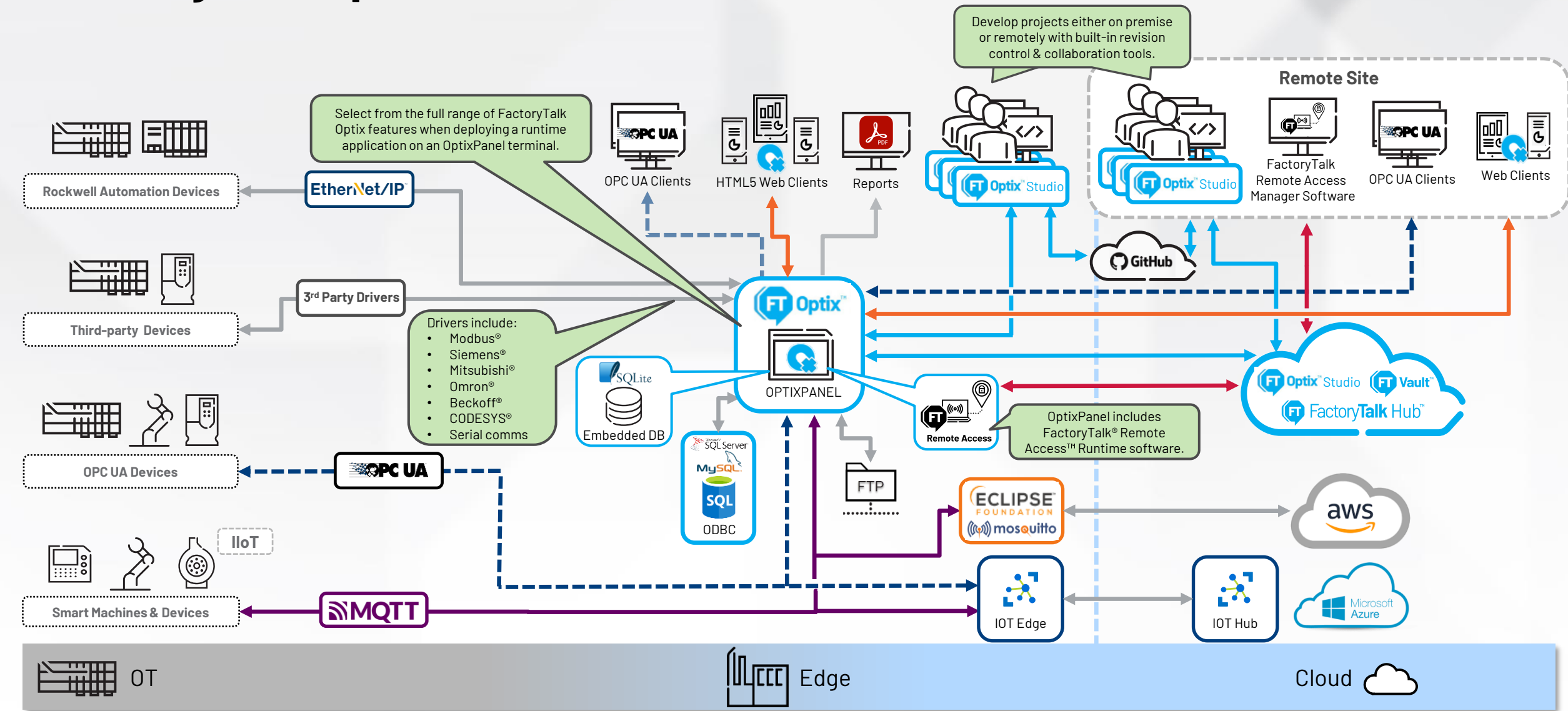 - Multi-language
  - Measurement units
- **C# Scripting**
  - Runtime NetLogic
  - Design time NetLogic

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FactoryTalk Optix: Runtime Lite HMI Reference Architecture
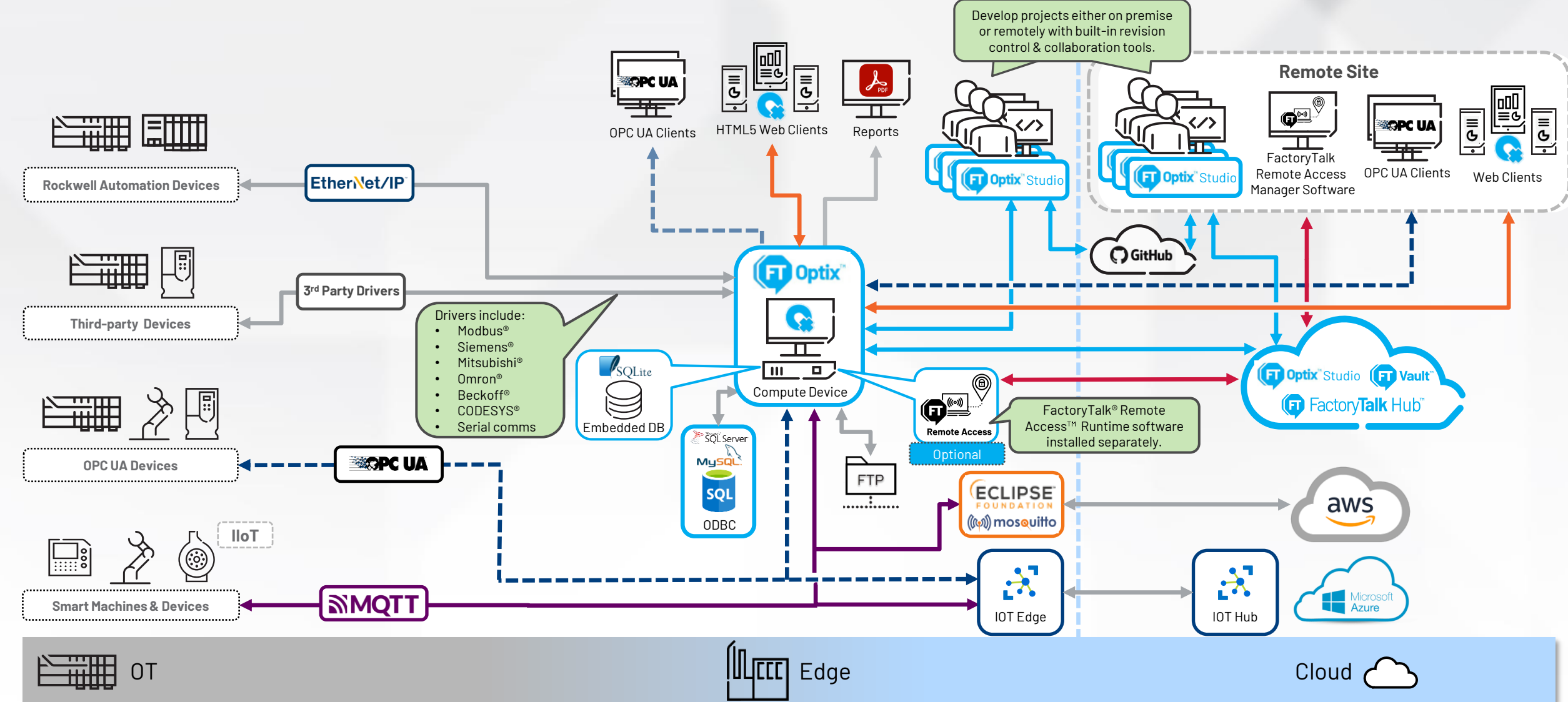
FactoryTalk Optix: Panel HMI Reference Architecture

Develop projects either on premise or remotely with built-in revision control & collaboration tools.

Select from the full range of FactoryTalk Optix features when deploying a runtime application on an OptixPanel terminal.

Remote Site

FactoryTalk Remote Access Manager Software

OPC UA Clients

Web Clients

Rockwell Automation Devices

EtherNet/IP

OPC UA Clients

HTML5 Web Clients

Reports

Optix Studio

Optix Studio

GitHub

3rd Party Drivers

Third-party Devices

FT Optix

Drivers include:
- Modbus®
- Siemens®
- Mitsubishi®
- Omron®
- Beckoff®
- CODESYS®
- Serial comms

SQLite

OPTIXPANEL

Embedded DB

Remote Access

OptixPanel includes FactoryTalk® Remote Access™ Runtime software.

FT Optix Studio   FT Vault

FT FactoryTalk Hub

OPC UA Devices

OPC UA

SQL Server

MySQL

SQL

ODBC

FTP

ECLIPSE FOUNDATION mosquitto

aws

IIoT

Smart Machines & Devices

MQTT

IOT Edge

IOT Hub

Microsoft Azure

OT

Edge

Cloud

General Data Flow	App Development / Editor	Testing Level: Feature
HTTPS	FactoryTalk Remote Access	
OPC UA	MQTT	

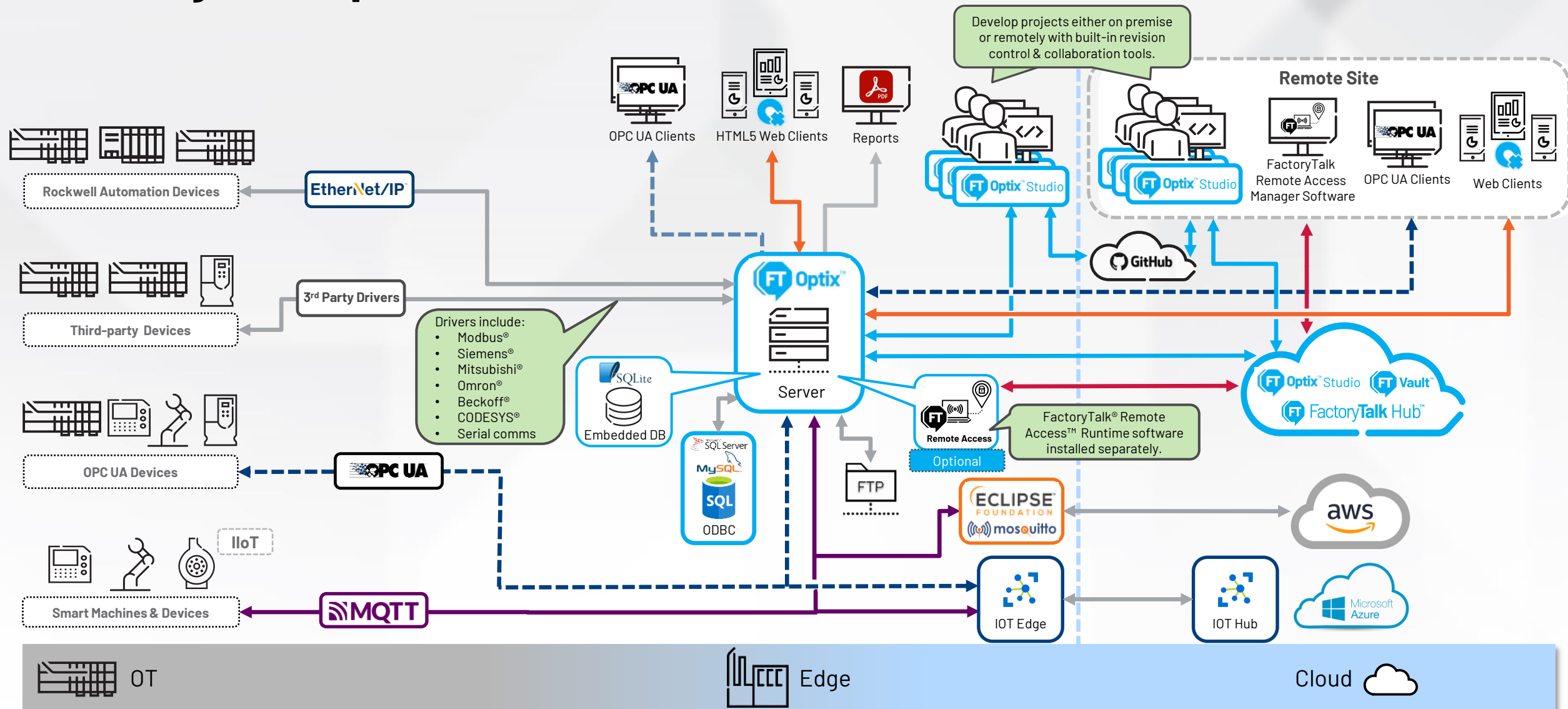PUBLIC • Copyright ©2024 Rockwell Automation, Inc.   6

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FactoryTalk Optix: Station Runtime Standard HMI Reference Architecture

FactoryTalk Optix: Station Runtime Pro HMI Reference Architecture