WinCC Unified V19 Update 1 & 2

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Dagens **værter**

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Agenda

Et overblik over, hvor vi er i dag	Kompabilitet device version	Følg vores guide - optimer dit projekt
Nye funktioner: Cross hair bottom/Expressions med math/Resourcelist textlist/Faceplate update not visible/Color palette	PIU installer	Unified air
Redundans	Debug javascript	Datahub

Lad os få en status på *Familien* i dag

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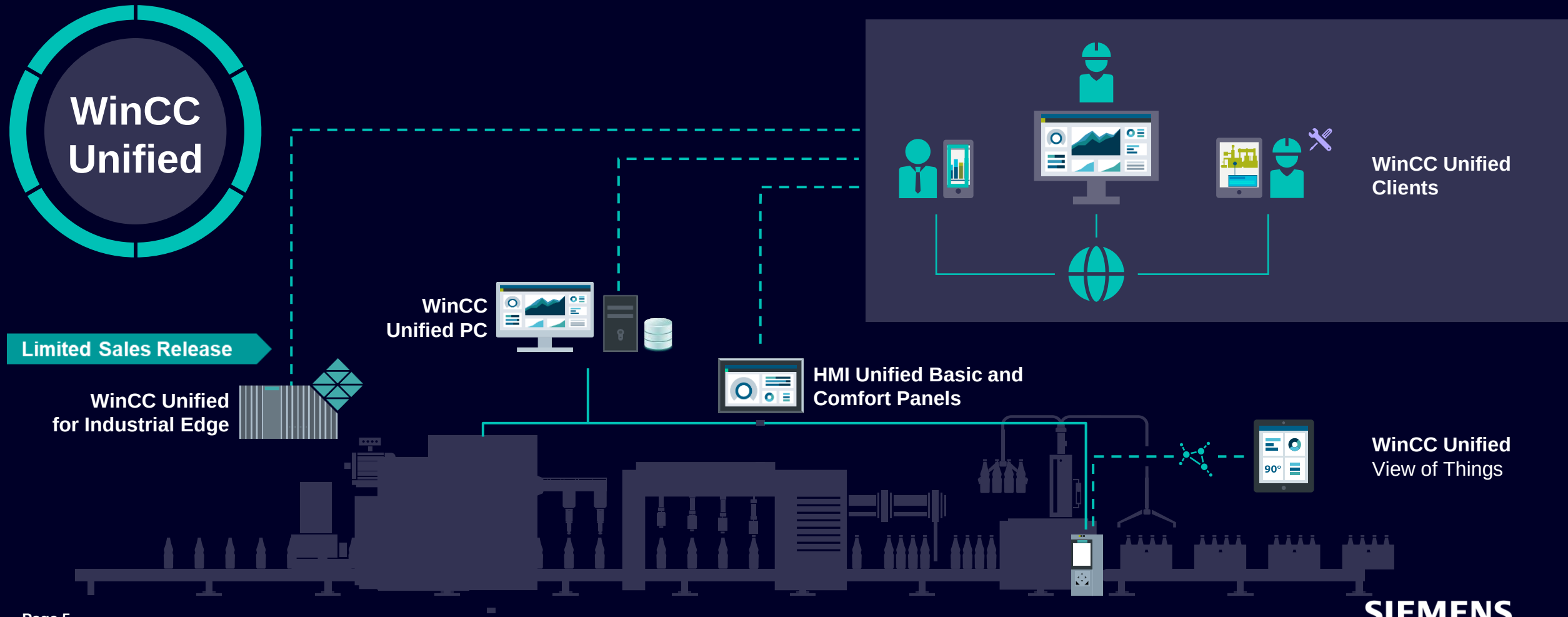
WinCC Unified System
Scalability – From machine to plant supervision



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Med så stor skalerbarhed

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Er det så enkelt at teste på en PC, men afvikle på et panel

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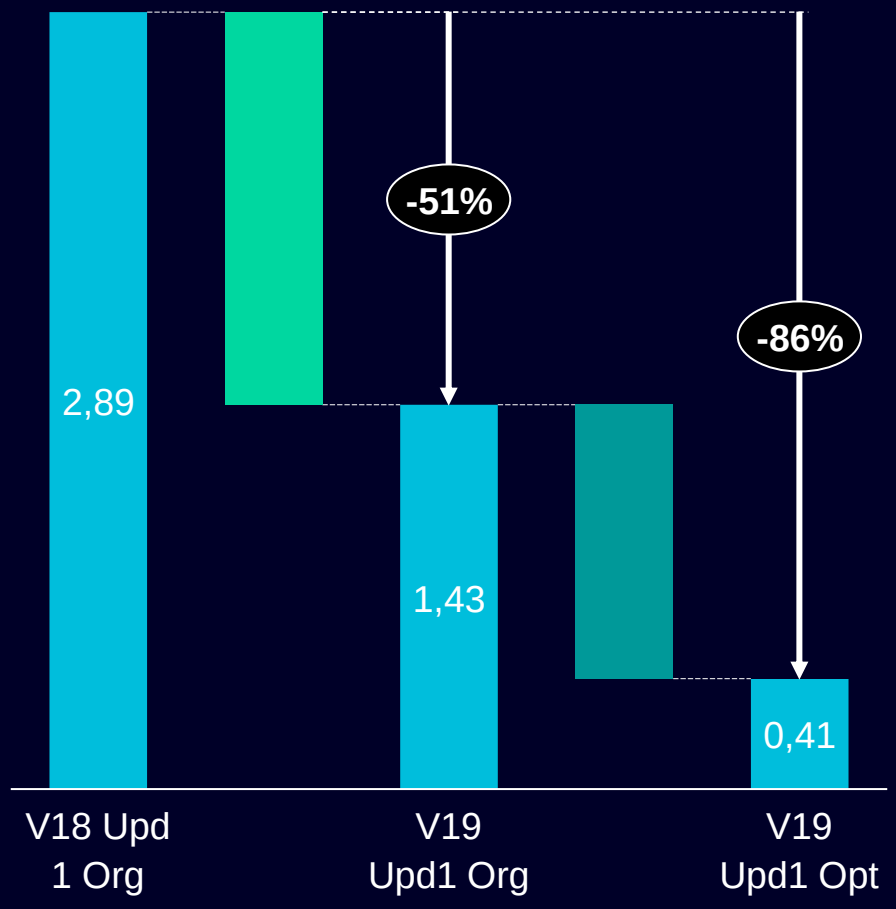
Significant Performance Improvements in Unified

Reference MTP1200 Comfort: Average screen change time



- Latest Version = Best Performance
- Optimal performance with optimal Engineering
- Still potential found: further improvements to come

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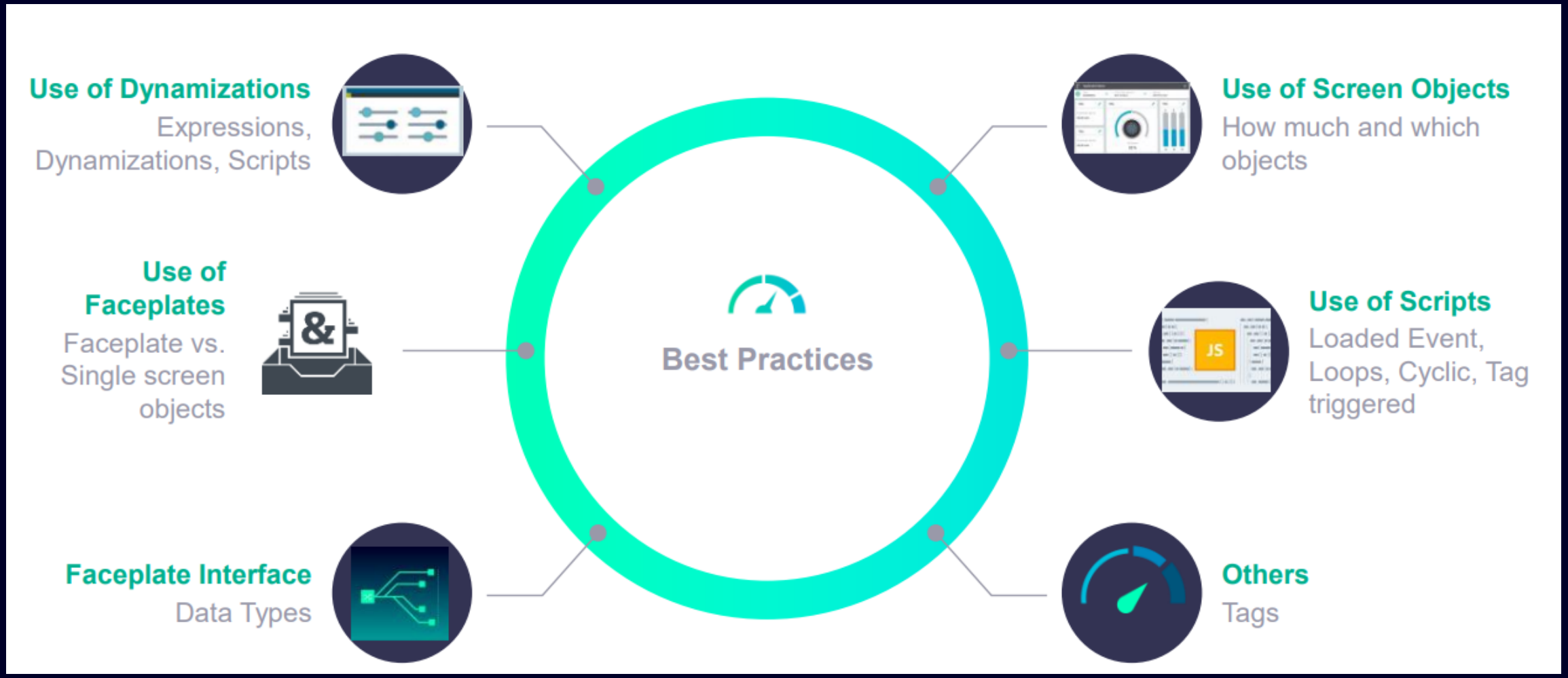
Men hvad kan du gøre selv?

Engineering guideline for WinCC Unified



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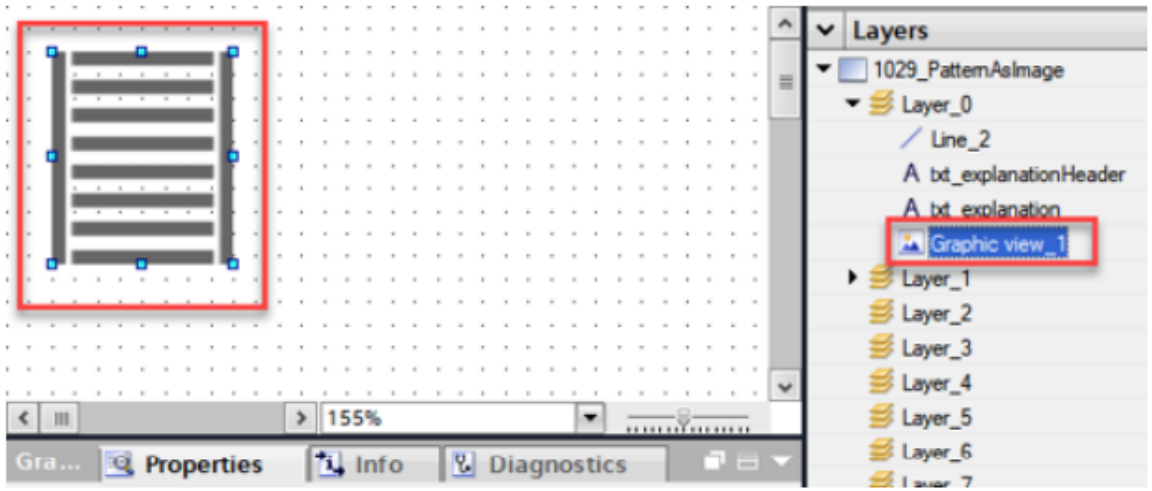
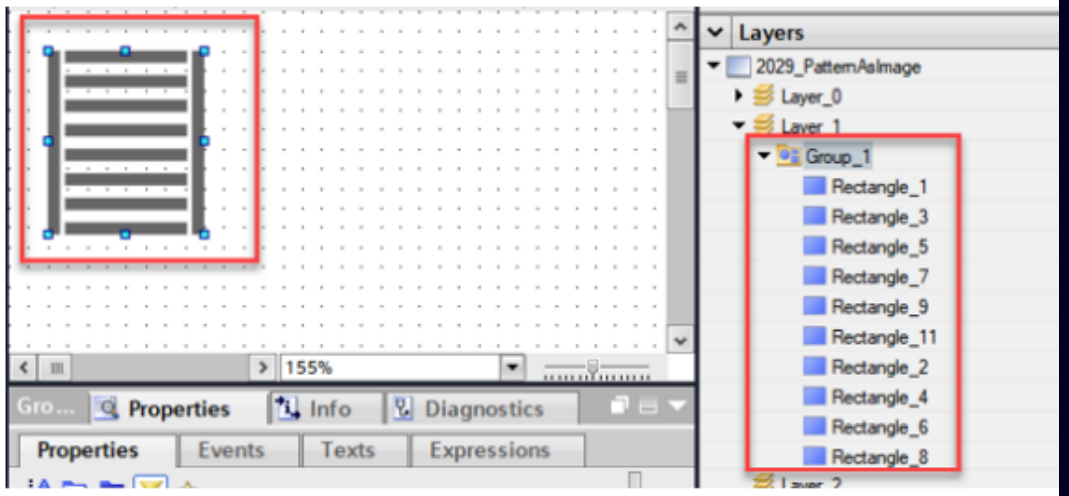
Eksempel





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Lidt nyt ☺

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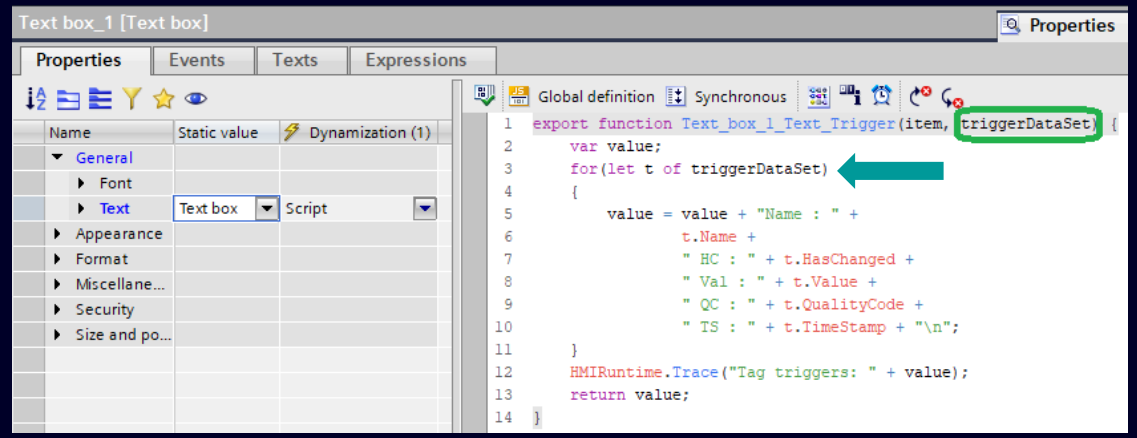
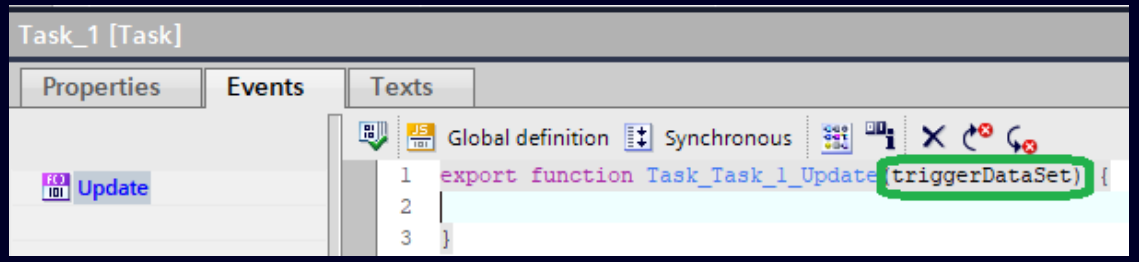
WinCC Unified V19 Update 2 - Standardization
Tag triggers for Screens and Scheduled Tasks

Unified Basic Panel ✓ | Unified Comfort Panel ✓ | WinCC Unified PC ✓





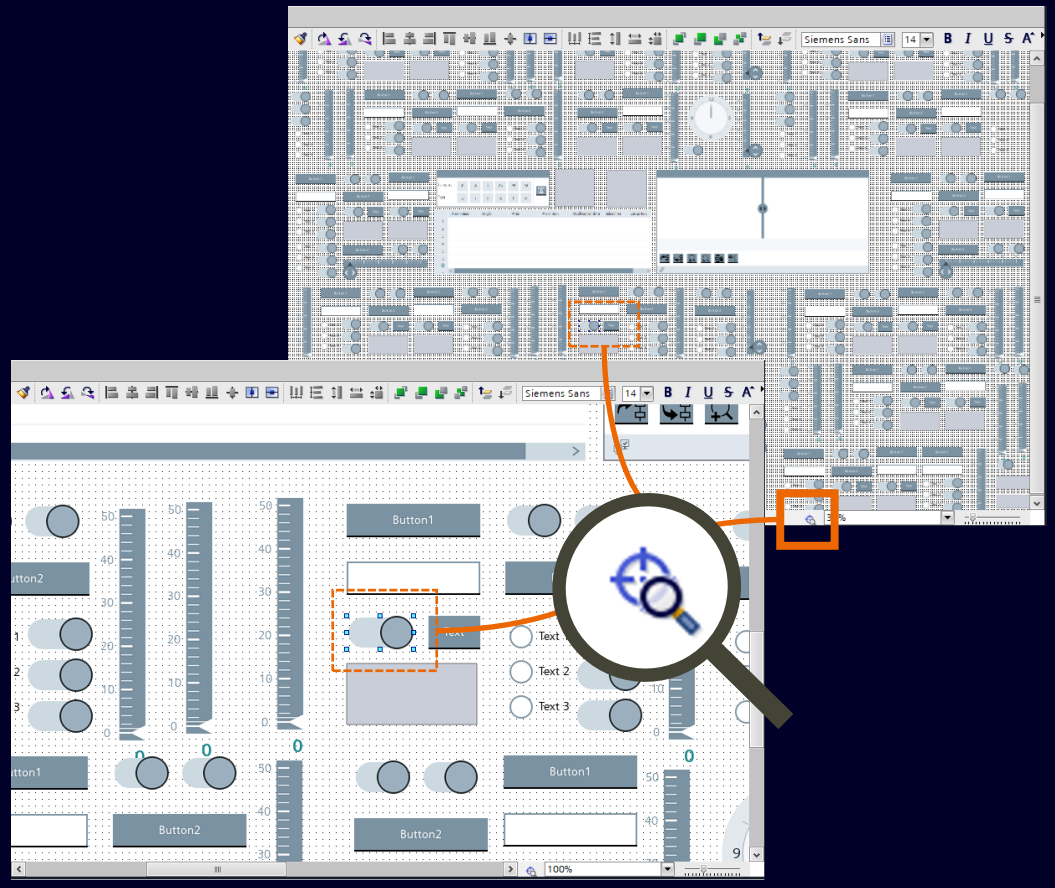
Pass tag trigger to a script / scheduled task

Trigger tags are available as parameters for script dynamizations and scheduled tasks:

- User can access all the trigger tags easily
- Check which tag triggered the script
- Check the triggered tags' attributes
  - Has changed
  - Value
  - QualityCode
  - Time stamp

WinCC Unified V19 Update 2 - Engineering Enhancements
Enhanced Screen Item Navigation and Crosshair Button

Unified Basic Panel ✓	Unified Comfort Panel ✓	WinCC Unified PC ✓



Jump to highlighted object in huge screens

Enhanced functionality when navigating screen items on a huge screen

- Crosshair button to center and zoom the selected screen item when working on the editor
- Auto zooming and centering on the selected screen item after the editor is opened (e.g. via global search, compiler, tab action)

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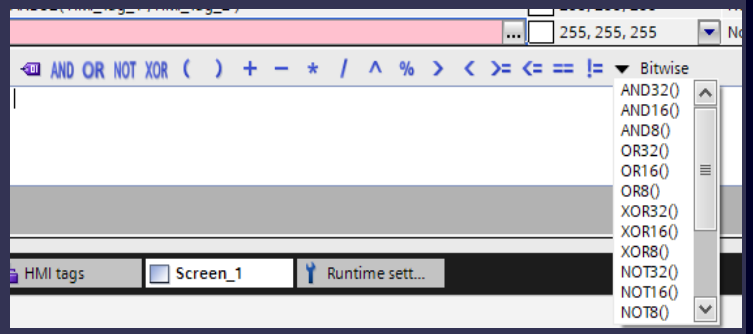
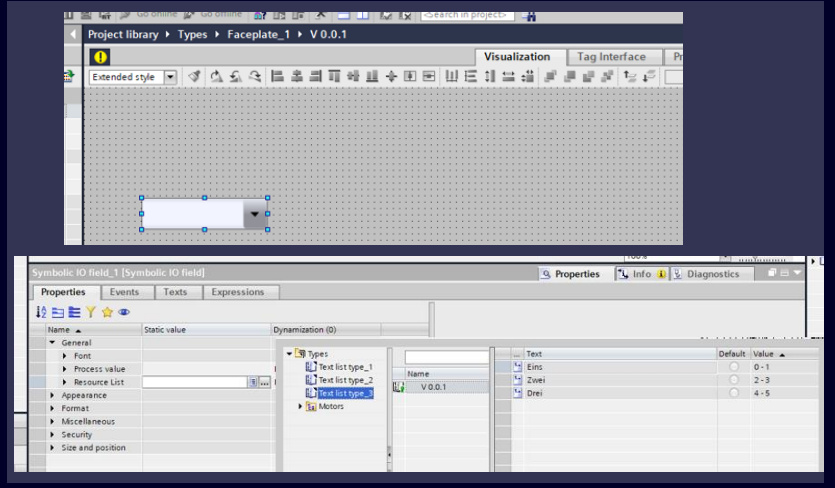
WinCC Unified System
New Features for projects with better performance



Optimization of expressions

- Mathematical operators
- Relations
- Bitwise functions
- Text property dynamization
- Optimization of editor

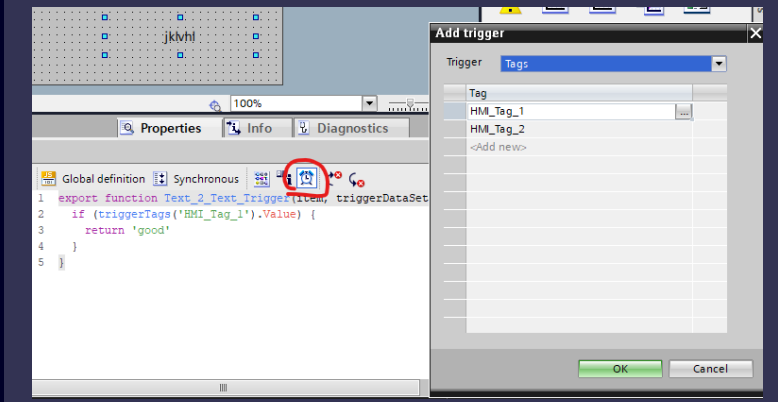
➔ No scripting needed in simple scenarios



Textlists in Faceplates

configure textlist from library in faceplates & screens

➔ No scripting needed in simple scenarios



Tags as trigger tags

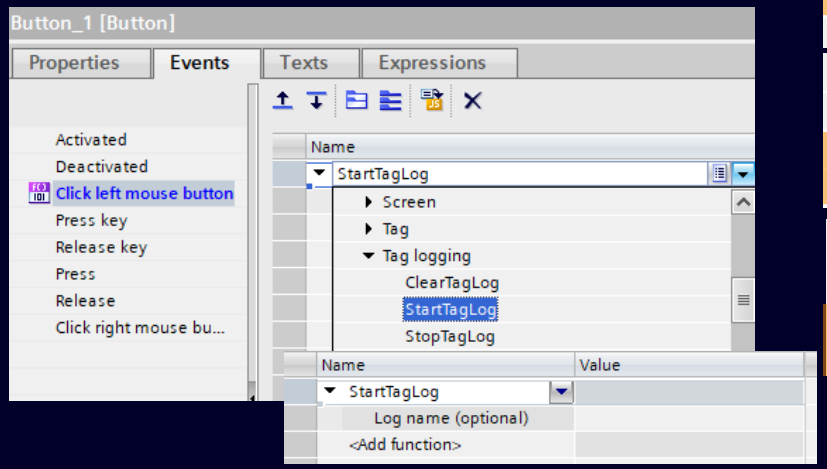
Access to tag triggers without needing to read within the scripts

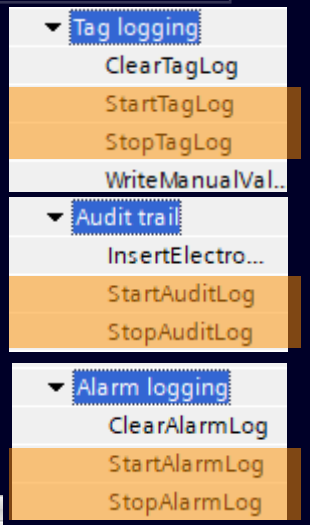
➔ Performance improvement within scripts

Available for PC & Panel (use device version 19.0.0.2)

WinCC Unified V19 Update 2 - Engineering Enhancements
System function for start / stop logging

Unified Basic Panel ✓ | Unified Comfort Panel ✓ | WinCC Unified PC ✓






```
export async function Button_3_OnTapped(item, x, y, modifiers, trigger) {
try {
    await HMIRuntime.TagLogging.SysFct.StartTagLog(undefined);
}
catch (err) { }

}
```

```
export async function Button_4_OnTapped(item, x, y, modifiers, trigger) {
try {
    await HMIRuntime.TagLogging.SysFct.StopTagLog(undefined);
}
catch (err) { }

}
```

Start and stop the logging in WinCC Unified

Stop and start the logging, if necessary, e.g.

- Only log over dedicated time
- Start log on a dedicated occurrence (Error on plant floor, Product category)
- Logging service for different production operation modes (log for Production, log for maintenance)

Start and stop is available for..

- Tag Logging
- Alarm Logging
- Audit Trail

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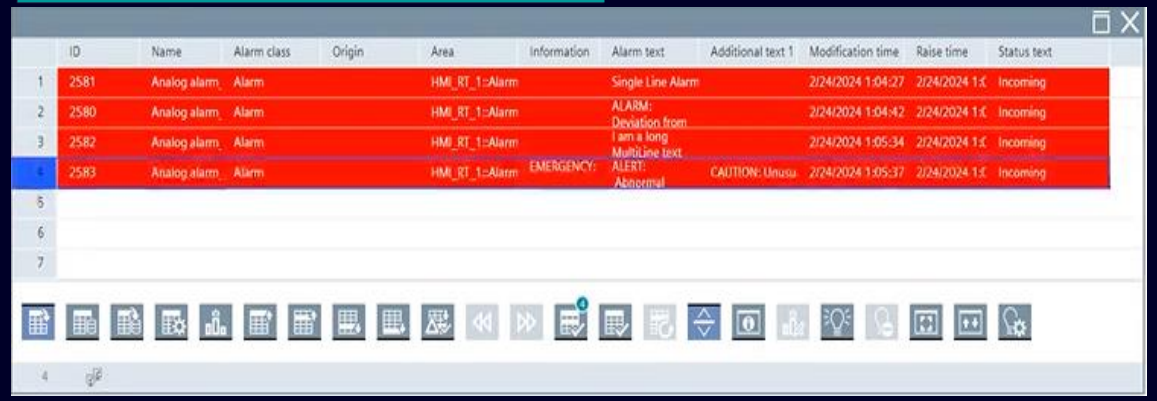
WinCC Unified V19 Update 2 - Engineering Enhancements
Alarm Control enhancements – multiline of alarms

Unified Basic Panel ✓	Unified Comfort Panel ✓	WinCC Unified PC ✓

Alarm control before automatic line break



Alarm control after automatic line break

Alarm Control - support of automatic multiline text

Alarm texts that are too long to be displayed in its column are automatically wrapped, so that the entire text can be read

- Text wrapping is supported for the following columns of Alarm - Information, Alarm Text & Additional Text 1 to 9
- In TIA Engineering while selection mode is set to "Single."
- When column with Alarm text configured with lengthy text is selected, Alarm text will be wrapped to fit in the increased row height.

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HMI Legacy “Jamen, det er jo ikke Unified”
Comfort 1st Basic 2nd Mobile 2nd

SIOS

Panel single images from SIOS

HMI PIU Tool

TIA Portal installation

~~V16.0~~

V16 UPD5

….

V16 UPD7

V17.0

V17 UPD1

….

V17 UPD7

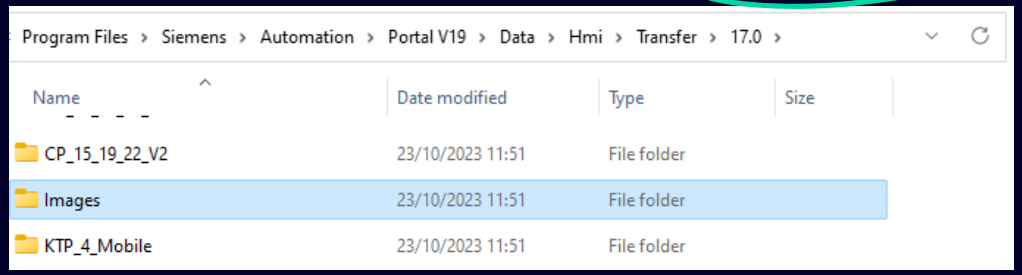
PIU HMI

TIA PORTAL SIEMENS

TIA V18

TIA V19

TIA V20



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Tilbage til Unified

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WinCC Unified RT Debugger

Visual Studio Code as development environment

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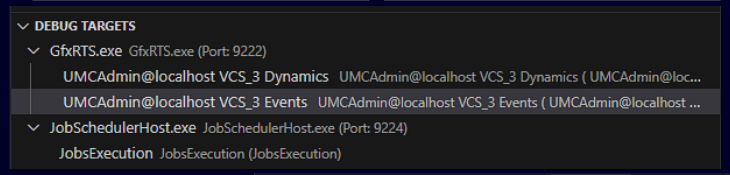
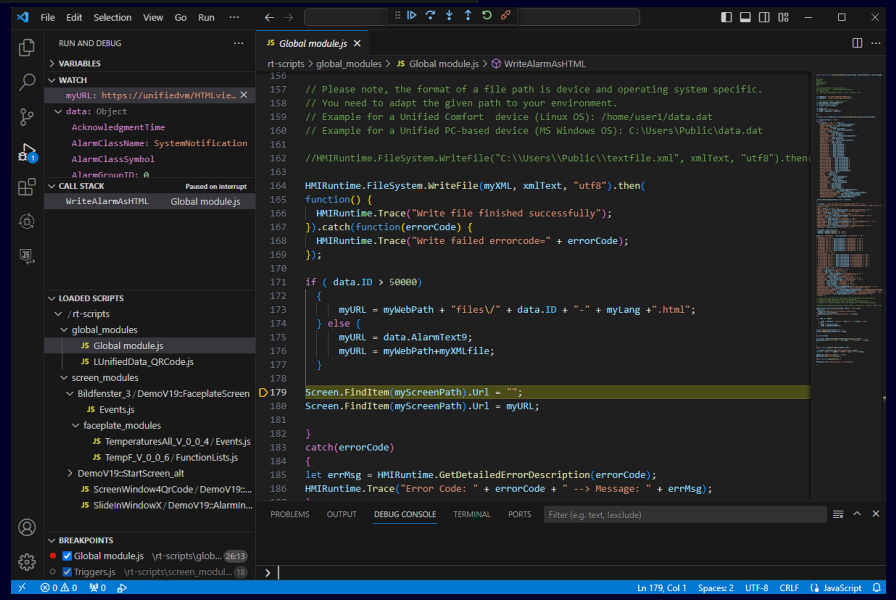
WinCC Unified – WinCC Unified RT Debugger
Visual Studio Code as development environment[1]

Unified Basic Panel ✗	Unified Comfort Panel ✗	WinCC Unified PC ✓
Simulation UBP ✓	Simulation UCP ✓	Simulation PC ✓





Visual Studio Code as debugging environment
Trace and debug Java scripts in a simulated or running WinCC Unified PC Runtime environment

Debug script code with VS Code
Select available target devices (WinCC Unified PC Runtime or RT Simulation) and identify scripts for dynamization of properties or events or scheduled tasks.
Debug the code that is being executed, by selecting variables to monitor, or by setting breakpoints.

Edit scripts to test changed code at runtime in VS Code
Apply minor changes in the scripting for testing purpose – without runtime persistency

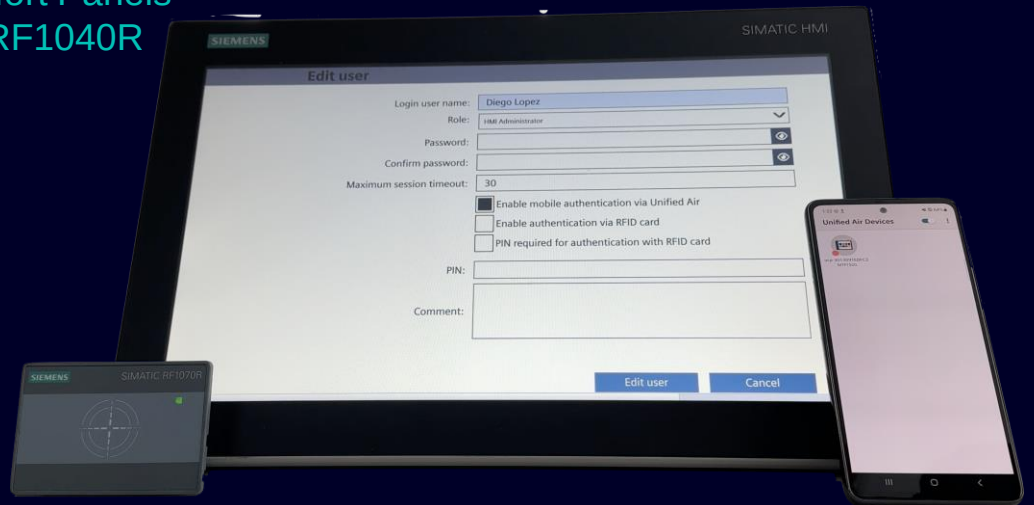
Download: SIOS (109826630)

WinCC Unified V19 Update 1 - SIMATIC Unified Air app (iOS, Android)
Biometric Authentication

New with V19 Update 1

Unified Basic Panel ✗	Unified Comfort Panel ✓	WinCC Unified PC ✗

HMI Unified Comfort Panels
+ RF1070R or RF1040R



SIMATIC Unified Air app

Authenticate to SIMATIC HMI Unified Comfort Panels using your mobile's fingerprint or face recognition sensor.

- Built into Unified Comfort Panels from V19 Update 1
- Biometric data never leaves your mobile device
- Find nearby Unified Comfort Panels and visualize whether someone, no one, or yourself is logged in
- Support of Local User Management
- Compatible with SIMATIC RF1000 readers as Bluetooth dongles
  (requires additional software)
- Securely connect nearby devices through Bluetooth Low Energy with encrypted communication. Works completely offline, no internet required

→ Available via SIOS #109827772

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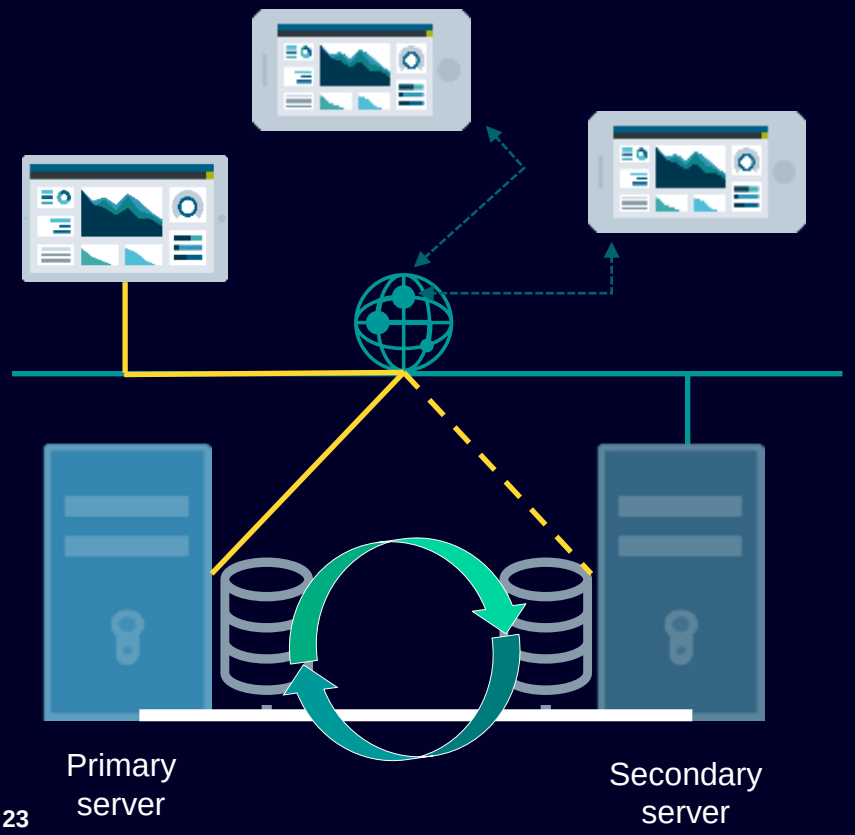
WinCC Unified Redundancy

Unified Basic Panel	Unified Comfort Panel	WinCC Unified PC
✗	✗	✓



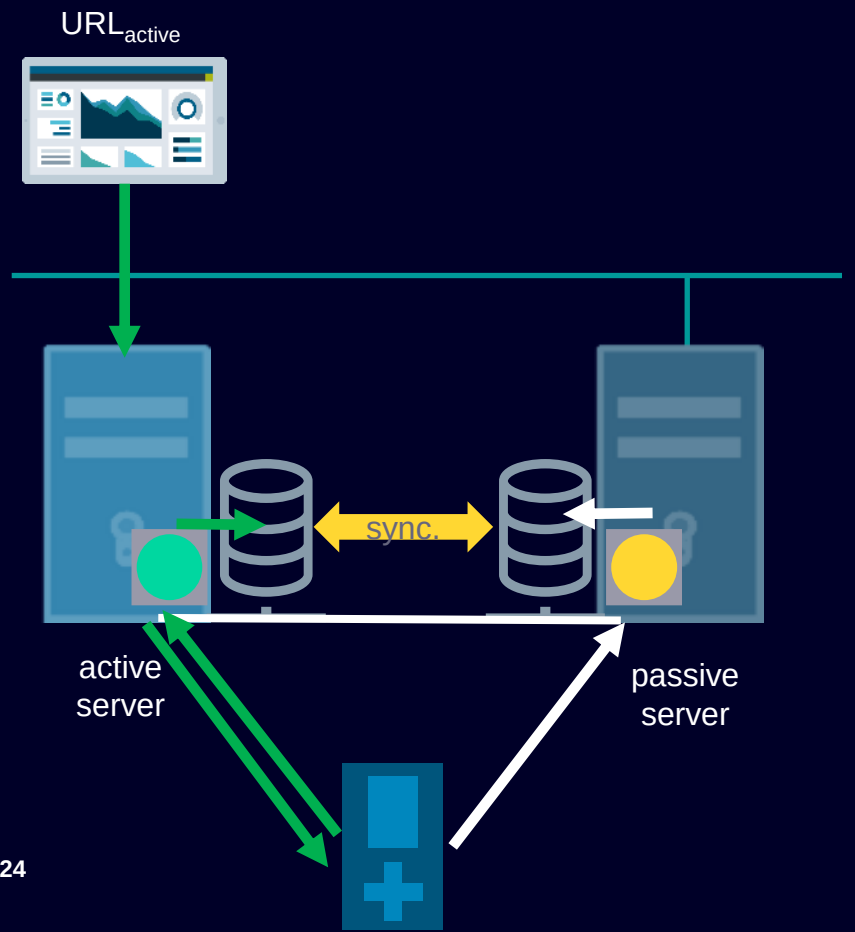
Keep the operation running even on hardware failure

- Automatic switch-over to a hot stand-by server on failure to enable the continuation of production
- No loss of archived data on switch-over
  - Archived tags
  - Archived alarms
  - Audit trail
- Attached clients switch over to the new primary server in case on server failure

Redundancy – Special Sales Release with V19 Upd2

WinCC Unified
Redundancy – main benefits of Unified Redundancy

Unified Basic Panel	Unified Comfort Panel	WinCC Unified PC
✗	✗	✓



Hot standby is a hardware independent solution for high availability.

- Two WinCC Unified servers **connected to each other**
  - Both servers are operating permanently .
  - Only one server is always active.
  - The second server synchronizes the data at runtime with the primary.
- Definition of active server is determined by the health of the system.
  - The “healthier” system becomes active
  - Active server failure → "on the fly" switch to the passive server
    - taking over control
    - becomes the active server (failover).
- Connection to the PLC
  - Both servers are connected and receive data from the PLC
  - Only the Active Server forwards commands / requests to the PLC

WinCC Unified V19 Update 2
Redundancy – Functional scope

Data redundancy:

- Logging of process values and alarms
- Pending alarms and current process values (external and internal tags)
- Audit trails

Communication:

- S7-1200, S7-1500, S7-300, S7-400

UI Redundancy

- Base UI Redundancy

Manual sequentiell full download to server pairs

Requirements

- Database Logging (MS SQL)
- Both PCs
  - need to be time synchronized
  - same hardware and operating system installation
  - configured identical
- Automated client switchover only with central user management

Limitations – what`s not support:

- OPC UA and 3rd party connections
- System and Process Diagnostics
- Options: Parameter Control, Report Execution, Collaboration, PI Options
- Unified Data Hub must not run in parallel

Redundancy – Special Sales Release with V19 Upd2

WinCC Unified Data Hub

Central Archive using WinCC Unified Data Hub

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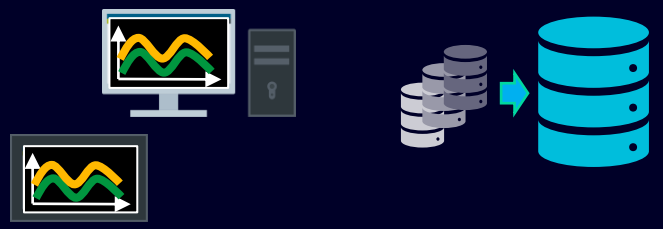
WinCC Unified Data Hub
Central archive based on WinCC Unified Runtime

Long term data-based (MS SQL) Archive for WinCC Unified Panel & PC

Forward data to IT using WinCC Unified standard Interfaces



SIMATIC WinCC Unified Data Hub

Transparency in production is a basis for more productivity along with the best possible quality

One Interface between shop floor and data layer

No data loss due to local buffering in case of communication failure

Connectivity via WinCC Unified field access

Use WinCC Unified standard tools for data analysis on UDH Server and UDH Client

Based on WinCC Unified PC Runtime Architecture

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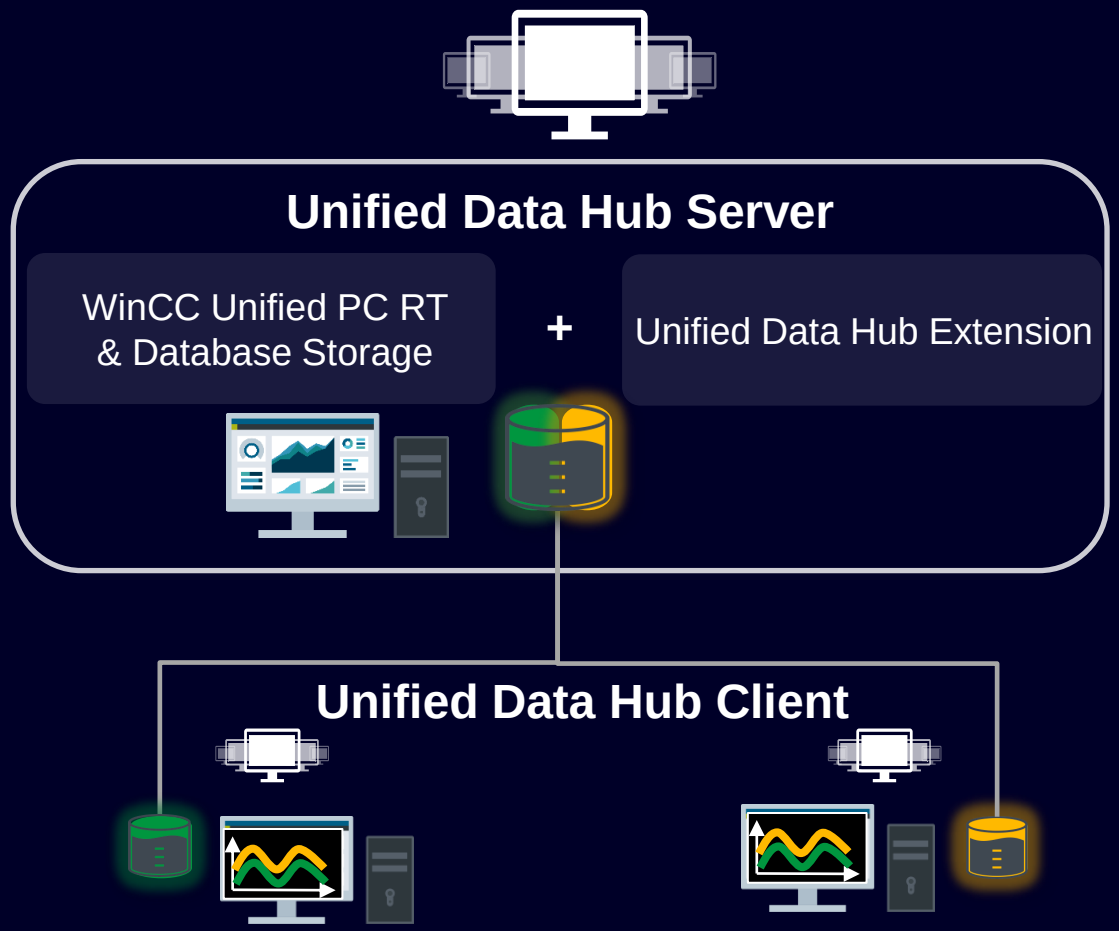
WinCC Unified Data Hub
Maximum integration in WinCC Unified architecture



WinCC Unified Data Hub Server

- WinCC Unified RT Basic package
  - Local connectivity (S7,…)
  - Included Web Clients
  - ….
- Data Base Storage
- Data Hub Extension

Data Hub Client

- WinCC Unified device

Engineering in TIAP

- Configuration of long term relevant data logs on Data Hub Client

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