



June/July
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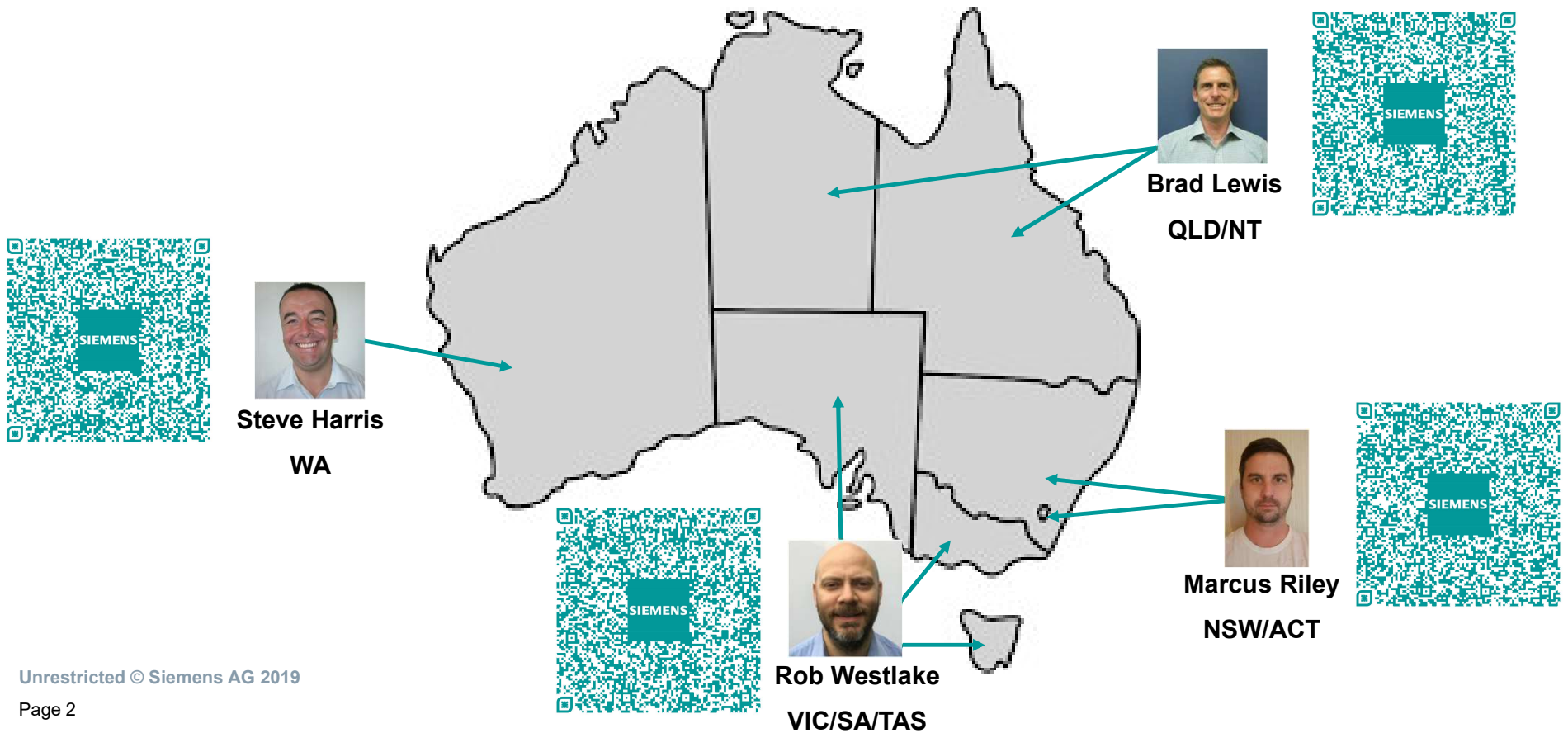
Basic PTP Via DNP3 TIA - Portal

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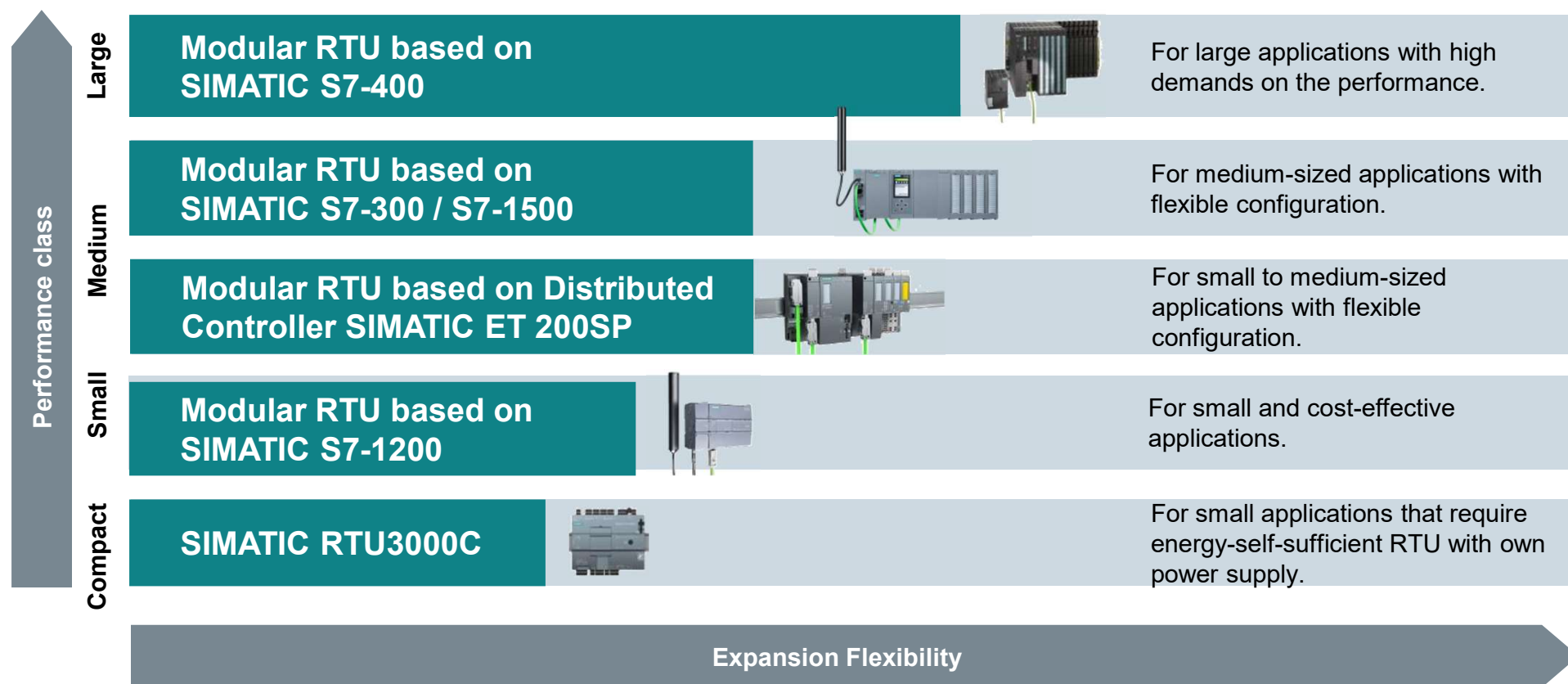
[siemens.com/telecontrol](https://www.siemens.com/telecontrol)

Application Engineering Team

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Positioning within Telecontrol RTU Portfolio



CP1243-1 DNP3 / CP 1243-1 IEC Highlights

Flexible choice of remote networks through industrial router e.g. Internet (DSL) or 2-/4-wire solutions with SHDSL



Data point configuration with STEP 7 in TIA Portal



Secure and fast connection for remote diagnostics



Gapless recording of all data and time stamping



Configurable SMS and E-mail alarm



Enhanced integration in the overall system through standard communication of S7-1200



IEC standard 60870-5-104

with CP 1243-1 IEC:



- Communication with control center, e.g., PCS 7, WinCC, or other control center system available on the market, is based on the IEC telecontrol protocol

Support of **DNP3** protocol with CP 1243-1 DNP3:



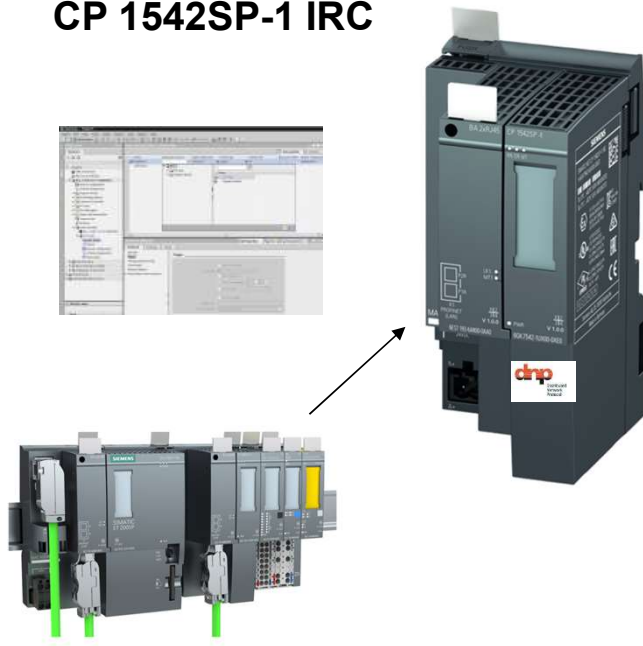
- Communication to control center is based on the established standard of the DNP3 specification 2 (2007/2009)
- Secure data transmission over long-distance networks thanks to security mechanisms, which have already been defined in the DNP3 standard (DNP3 Secure)
- Up to **500** Data points

Communication processor CP 1542SP-1 IRC

Distributed Controller SIMATIC ET 200SP as RTU in telecontrol applications

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CP 1542SP-1 IRC



Feature/ Function

- The CP 1542SP-1 IRC allows the use of Distributed Controller SIMATIC ET 200SP as Remote Terminal Unit (RTU) in telecontrol applications with both standardized protocols DNP3 and IEC 60870-5-104 and TeleControl Basic protocol
- Data buffering and automated time stamping and support of **1500** data points
- Data point configuration in STEP 7

Benefit

- Connection of Distributed Controller SIMATIC ET 200SP to control center according DNP3 or IEC 60870-5-104.
- Connection of substations (RTUs) based on SIMATIC ET 200SP for simple remote control systems with TeleControl Server Basic.
- Gapless and comprehensible data recording.
- Easy commissioning without programming.

SIMATIC TIM 1531 IRC

Benefits

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TIM 1531 IRC



Feature / Function

Use in telecontrol solutions as a station module for SIMATIC S7-1500 or as a node/control center

Data buffering of telegrams/data points including timestamps

Remote configuration and FW update of TIM 1531 IRC, diagnostics and monitoring over WAN

Path redundancy

Engineering with TIA Portal V16

Benefits

▶ Extension of existing telecontrol systems with S7-1500 stations

▶ Reliable storage of the data to be transmitted, even in the case of disconnections

▶ Saving of travel expenses

▶ Media redundancy provides a higher availability, even if the primary connection fails

▶ Centralized and convenient engineering of the telecontrol network saves time and money

Telecontrol in TIA Portal

DNP3 configuration in portal

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The screenshot displays the Siemens TIA Portal interface for configuring Telecontrol networks. The main window is titled 'Totally Integrated Automation PORTAL'. The left pane shows a 'Network overview' with a topology diagram of a control network. The right pane is divided into several sections: 'TeleControl connections', 'Route', and 'Connection details'. The 'TeleControl connections' table lists connections between PLCs and control centers. The 'Route' table shows the network paths. The 'Connection details' table provides specific parameters for the selected connection.

| Name | Protokoll | Startpunkt | Teilnehmern... | Endpunkt | Teilnehmern... |
|-----------------|-----------|------------|----------------|-----------------------------|----------------|
| TC_Conn_PLC1_CC | S7T | PLC_1 | 3 | Control_Center_S7-1500... | 4 |
| TC_Conn_PLC2_CC | S7T | PLC_2 | 1 | Control_Center_S7-1500_w... | 4 |
| TC_Conn_PLC3_CC | S7T | PLC_3 | 2 | Control_Center_S7-1500_w... | 4 |

| Priorität | Name | Modulnamen | Teilnehmernummer | Netze |
|-----------|---------|---|---------------------|---------------------|
| 1 | Route_1 | PLC_1 > TIM 1531 IRC_1 > Masterstation_TIM 1531 IRC > Control_Center... | 3 > 1001 > 1004 > 4 | IE_1_(LAN) > WAN... |
| 2 | Route_2 | PLC_1 > TIM 1531 IRC_1 > Masterstation_TIM 1531 IRC > Control_Center... | 3 > 1001 > 1004 > 4 | IE_1_(LAN) > WAN... |

| Position | Modulname | Teilnehmern... | Stationsname | Schnittstelle | Schnittstellentyp | Modus | Netzwerk |
|----------|-----------------------------|----------------|-------------------------|----------------------------|-------------------|---------|------------------------|
| | PLC_1 | 3 | S71500ET200M-Station... | PROFINETSchnittstelle_1... | Ethernet | Neutral | IE_1_(LAN) |
| | TIM 1531 IRC_1 | 1001 | S71500ET200M-Station... | EthernetSchnittstelle_1... | Ethernet | Neutral | IE_1_(LAN) |
| | TIM 1531 IRC_1 | 1001 | S71500ET200M-Station... | EthernetSchnittstelle_3... | Ethernet | Neutral | WAN_1_Internet_ID... |
| | Masterstation_TIM 1531 L... | 1004 | Masterstation_S7-1500 | EthernetSchnittstelle_3... | Ethernet | Neutral | WAN_1_Internet_ID... |
| | Masterstation_TIM 1531 L... | 1004 | Masterstation_S7-1500 | EthernetSchnittstelle_1... | Ethernet | Neutral | IE_2_(LAN)_Ctrl_Cen... |
| | Control_Center_S7-1500... | 4 | S71500ET200M-Station... | PROFINETSchnittstelle_1... | Ethernet | Neutral | IE_2_(LAN)_Ctrl_Cen... |

Telecontrol network view

Editor telecontrol connections

Display of configured telecontrol connections

Display of connection details for the selected telecontrol connection

Thank you for your attention! → LIVE DEMO



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