



**SLOVENSKI STANDARD**  
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**Odperta izmenjava podatkov v avtomatizaciji stavb, regulaciji in upravljanju stavb -  
Protokol regulacijske mreže - 10. del: Specifikacija spletnih storitev za protokol  
regulacijske mreže**

Open Data Communication in Building Automation, Controls and Building Management -  
Control Network Protocol - Part 10: Web Services for Control Networking Protocol  
Specification

Firmenneutrale Datenkommunikation für die Gebäudeautomation und  
Gebäudemanagement - Gebäude-Netzwerk-Protokoll - Teil 10: Spezifikation der  
Webdienste für das Kontrollnetzwerkprotokoll

Communication de données ouvertes dans le domaine de l'immoitique, du contrôle et de  
la gestion des bâtiments - Protocole de réseau de contrôle - Partie 10 : Services Web  
pour la spécification du protocole de réseau de contrôle

<https://standards.iteh.ai/catalog/standards/sist/b24c0327-b74a-4ce8-9de5-4d6cba2666a1/osist-pren-14908-10-2024>

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**ICS:**

35.240.67	Uporabniške rešitve IT v gradbeništvu	IT applications in building and construction industry
97.120	Avtomatske krmilne naprave za dom	Automatic controls for household use

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**DRAFT**  
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ICS

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Open Data Communication in Building Automation,  
Controls and Building Management - Control Network  
Protocol - Part 10: Web Services for Control Networking  
Protocol Specification

Firmenneutrale Datenkommunikation für die  
Gebäudeautomation und Gebäudemanagement -  
Gebäude-Netzwerk-Protokoll - Teil 10: Spezifikation  
der Webdienste für das Kontrollnetzwerkprotokoll

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 247.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

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## European foreword

This document (prEN 14908-10:2023) has been prepared by Technical Committee CEN/TC 247 "Building Automation, Controls and Building Management", the secretariat of which is held by SNV.

This document is currently submitted to the CEN Enquiry.

This document is part of the EN 14908 series, which consists of the following parts:

- EN 14908-1, *Open Data Communication in Building Automation, Controls and Building Management — Control Network Protocol — Part 1: Protocol Stack*
- EN 14908-2, *Open Data Communication in Building Automation, Controls and Building Management — Control Network Protocol — Part 2: Twisted Pair Communication*
- EN 14908-3, *Open Data Communication in Building Automation, Controls and Building Management — Control Network Protocol — Part 3: Power Line Channel Specification*
- EN 14908-4, *Open Data Communication in Building Automation, Controls and Building Management — Control Network Protocol — Part 4: IP Communication*
- EN 14908-5, *Open Data Communication in Building Automation, Controls and Building Management Implementation Guideline — Control Network Protocol — Part 5: Implementation*
- EN 14908-6, *Open Data Communication in Building Automation, Controls and Building Management — Control Network Protocol — Part 6: Application Elements*
- EN 14908-7, *Open communication in building automation, controls and building management — Control Network Protocol — Part 7: Communication via internet protocols*
- EN 14908-8, *Open Data Communication in Building Automation, Controls and Building Management — Control Network Protocol — Part 8: Communication using Broadband over Power Line Networks – with internet protocols*
- EN 14908-9, *Open Data Communication in Building Automation, Controls and Building Management — Control Network Protocol — Part 9: Wireless Communication in ISM bands*

## Introduction

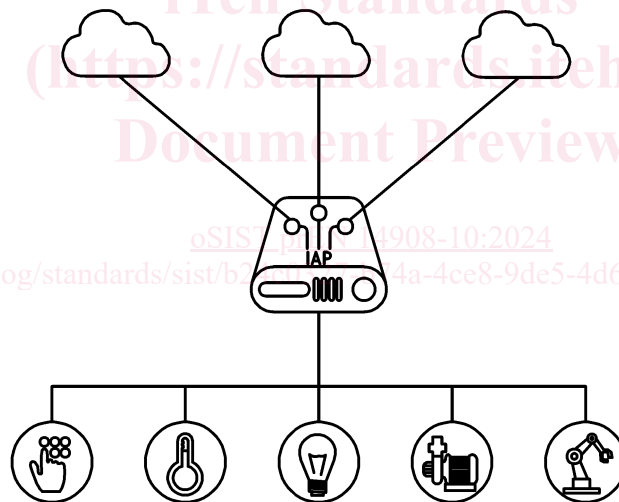
This document specifies the Internet of Thing IoT Access Protocol (IAP) as a standard web services application protocol based on MQTT (Message Queuing Telemetry Transport), and REST (Representational State Transfer) and WebSockets over HTTP or HTTPS transport protocols.

MQTT, REST, and WebSockets are widely used today for the IoT, but they are low-level protocols with no standardization in the application data and service requests sent using the protocols. IAP delivers that standardization for control and automation networks.

IAP provides secure and open access to the most complex building automation and control systems, enabling integration of existing controls and automation systems with emerging analytics and AI applications that can transform operations from a closed single-protocol loop to an intelligent multi-protocol system.

EN 14908-10 IoT Access Protocol (IAP) web services are an open and extensible standard designed for residential, commercial, and industrial control and automation applications using the EN 14908-1 control network protocol and related protocols to provision and manage IoT devices, to access and update data from the devices, and to aggregate data from diverse devices and protocols for delivery to external applications and services.

IAP web services are typically implemented on a central gateway or edge server that communicates with multiple sensor, actuator, and controller edge devices using one or more drivers such as EN 14908-1, and also interfaces with one or more enterprise and cloud services or applications. The following diagram illustrates a gateway or edge server that uses IAP to communicate with edge devices and cloud services.



**Figure 1**

This document is for software developers and web-page authors. It documents three APIs: *IAP/MQ*, which uses MQTT (Message Queuing Telemetry Transport) as the transport protocol, *IAP/REST* (*REpresentational State Transfer*), which uses REST over HTTP or HTTPS, and *IAP/WS* (WebSockets), which uses WebSockets over HTTP or HTTPS. These APIs are typically implemented on a gateway or edge server that interfaces with edge devices such as energy meters, motion sensors, temperature sensors, HVAC controllers, water heaters/boilers, lighting controllers, refrigeration controllers, variable-frequency drives, motion controllers, and switches. The gateway or edge server typically communicates with the edge devices using a variety of building controls communication protocols including EN 14908-1 control network protocol, BACnet (ISO 16484-5), Modbus, EnOcean, and LoRaWAN.

This document consists of the following four main sections:

- IAP API Fundamentals;
- IAP/MQ API;
- IAP/REST API;
- IAP/WS API.

**iTeh Standards**  
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**Document Preview**

[oSIST prEN 14908-10:2024](https://standards.iteh.ai/catalog/standards/sist/b24c0327-b74a-4ce8-9de5-4d6cba2666a1/osist-pren-14908-10-2024)

<https://standards.iteh.ai/catalog/standards/sist/b24c0327-b74a-4ce8-9de5-4d6cba2666a1/osist-pren-14908-10-2024>

**prEN 14908-10:2023 (E)****1 Scope**

This document specifies an open and extensible standard for residential, commercial, and industrial control and automation applications using the EN 14908-1 control network protocol and related protocols (EN 14908-2 to EN 14908-9) to provision and manage IoT devices, to access and update data from the devices, and to aggregate data from diverse devices and protocols for delivery to external applications and services.

The web services as specified in this document are typically implemented on a central gateway or edge server that communicates with multiple sensor, actuator, and controller edge devices using one or more drivers such as EN 14908-1, and typically also interfaces with one or more enterprise and cloud services or applications.

**2 Normative references**

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 14908-1, *Open Data Communication in Building Automation, Controls and Building Management — Building Network Protocol — Part 1: Protocol Stack*

EN 14908-5, *Open Data Communication in Building Automation, Controls and Building Management Implementation Guideline — Control Network Protocol — Part 5: Implementation*

EN 14908-6, *Open Data Communication in Building Automation, Controls and Building Management Implementation Guideline — Control Network Protocol — Part 6: Application elements*

**3 Terms and definitions**

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <https://www.iso.org/obp/>

— IEC Electropedia: available at <https://www.electropedia.org/>

**3.1****Message Queuing Telemetry Transport****MQTT**

lightweight publish-subscribe, machine to machine network protocol for Message queue/Message queuing service

**3.2****REpresentational State Transfer****REST**

software architectural style that describes a uniform interface between physically separate components, often across the Internet in a client-server architecture

**3.3****Internet Access Protocol****IAP**

open and extensible protocol designed for the Internet of Things to provision and manage devices, and to access and update data from the devices