



Certified Capability List

This Capability List is based on a certification session performed by the *TALQ Certification Tool (v2.4.1-update.8)* on *2022-09-12 20:15:27.074 +0000*.

The Capability List is a consolidated list of TALQ features which are implemented in a product.

The tool has successfully performed *103 tests*.

Product details

Product Name Sicom CMS

Company Sicom Electronics SA

Type CMS

URL <https://talq-api:3000>

Notes

Generated on 2022-09-12 20:15:27.074 +0000

Supported profiles

- Environmental Monitoring
- Lighting
- Smart Parking
- Smart Traffic
- Waste Management

API version certified: 2.4.1

Certification performed by app version: 2.4.1-update.8

Capability list

Security

Enabled ✓

Functions

Basic

The Basic function describes the properties related to the physical asset to which the logical device is associated, such as identification (assetId) and location information.

Attributes

| # | Attribute | Description |
|---|-------------|---|
| ✓ | assetId | Customer identifier of the asset. If multiple devices have the same assetId it means they belong to the same asset. |
| ✓ | serial | Serial number of the device. |
| ✓ | hwType | Hardware type of the device. |
| ✓ | swVersion | Software version installed on the device. |
| ✓ | location | Latitude, Longitude and Altitude. [DEPRECATED: This attribute has been deprecated and it will be removed in the next MAJOR release. Please use the new LocationSensorFunction.location instead.] |
| ✓ | timeZone | Time zone of the device. Time zone may be expressed in two formats. <timezone> where <timezone> is a time zone as defined in the zone.tab of the IANA timezone database [IANA]; and stdoffset[dst[offset]][,start[/time],end[/time]] as defined by the Open Group for posix systems [POSIX]. [DEPRECATED: This attribute has been deprecated and it will be removed in the next MAJOR release. Please use the new TimeFunction.timeZone instead.] |
| ✓ | currentTime | Current time of the device defined as local time with time zone designator. [DEPRECATED: This attribute has been deprecated and it will be removed in the next MAJOR release. Please use the new TimeFunction.currentTime instead.] |

Events

| # | Event type | Description |
|---|------------------|---|
| ✓ | deviceReset | The physical device containing the logical device was reset |
| ✓ | batteryMode | Device operating in battery mode |
| ✓ | installationMode | Device is being installed |
| ✓ | maintenanceMode | Device is undergoing maintenance |

- ✓ cabinetDoorOpen Cabinet door is open. [DEPRECATED: This attribute has been deprecated and it will be removed in the next MAJOR release. Please use the new SegmentMonitor.cabinetDoorOpen instead.]
- ✓ batteryShutdown Indicates the device has shut down due to battery discharge
- ✓ locationUpdated Indicates the location of a device has changed.

Communication

The Communication Function contains attributes related to the communication within the ODN, and between ODN devices and Gateways. Although communication within the ODN is outside the scope of the TALQ Smart City Protocol, this Function enables access to a minimum set of configuration and state information of the ODN communication interface in order to facilitate system management from the CMS.

Attributes

| # | Attribute | Description |
|---|-----------------|--|
| ✓ | physicalAddress | Physical address of the device. For example, IEEE MAC address. This attribute can be used to map between logical and physical devices. The format is specific to the ODN implementation. |
| ✓ | parentAddress | TALQ Address of the parent device, e.g. gateway. It shall point to a specific communication function. |

Events

| # | Event type | Description |
|---|----------------------|---|
| ✓ | communicationFailure | This event is generated by the ODN when the communication function is not operating as expected |

Gateway

The Gateway function includes the necessary attributes to enable the communication between the CMS and the Gateway according to the TALQ Specification.

Attributes

| # | Attribute | Description |
|---|------------|---|
| ✓ | cmsUri | Base URI for TALQ communication that allows the Gateway to access the CMS. Must be an absolute URI. Other URI's for accessing CMS can be relative to this base. |
| ✓ | cmsAddress | CMS UUID address |
| ✓ | gatewayUri | Base URI for TALQ communication that allows the CMS to access the Gateway. Must be an absolute URI. Other URI's for accessing Gateway can be relative to this base. |

- | | |
|------------------|---|
| ✓ gatewayAddress | Gateway UUID address |
| ✓ crlUrn | URI where the Gateway can obtain the Certification Revocation List (CRL). |
| ✓ vendor | Vendor identification. |

Lamp Actuator

The Lamp Actuator function includes attributes related to lighting control and it represents the smallest unit for control purposes. In practice, however, a Lamp Actuator function can control combinations of several lamps and control gear but all in the same way, as if they are all one individual unit.

Attributes

| # | Attribute | Description |
|---|----------------------|---|
| ✓ | defaultLightState | Sets the default light output for the lamp actuator. This shall be applicable if no other command is active. This attribute shall be set to 100% as default value. |
| ✓ | targetLightCommand | Latest command for the lamp actuator. |
| ✓ | feedbackLightCommand | This attribute reflects the command in effect and it might deviate from the actualLightState due to propagation time or due to internal ODN specific mechanisms to handle the priority of the requests. |
| ✓ | actualLightState | This attribute should reflect the physical state of the light source as much as possible, including factors such as CLO. It may be calculated or measured, depending on the specific ODN implementation, which is outside the scope of this specification. |
| ✓ | calendarID | TALQ Address of the calendar controlling this lamp actuator. If this attribute is empty, the behavior shall be determined by the ODN. If the attribute is invalid, the ODN shall trigger a generic invalid address event and the behavior shall be determined by the ODN. |

Events

| # | Event type | Description |
|---|------------------|--|
| ✓ | lightStateChange | Light state has changed |
| ✓ | invalidCalendar | The lamp actuator function has been allocated a calendar that it cannot implement |
| ✓ | invalidProgram | The lamp actuator function has been allocated a control program that it cannot implement |

Lamp Monitor

The Lamp Monitor function enables monitoring of lamp parameters. A Lamp Monitor function should be associated with a specific lamp/control gear combination. Multiple lamp monitor functions may be implemented by a single device.

Attributes

| # | Attribute | Description |
|---|------------------|---|
| ✓ | numberOfLamps | Number of lamps being monitored by the lamp monitor function. |
| ✓ | operatingHours | Number of hours the lamp is on. This is the value used in CLO and may be set by the CMS. |
| ✓ | temperature | Temperature of the device implementing this function. [DEPRECATED: This attribute has been deprecated and it will be removed in the next MAJOR release. Please use the new TemperatureSensorFunction.temperature instead.] |
| ✓ | supplyVoltage | RMS supply volts when supplyType is AC, supply voltage (V) when supplyType is DC. |
| ✓ | supplyCurrent | RMS supply current (A) when supplyType is AC, supply current (A) when supplyType is DC. |
| ✓ | activePower | Active power. |
| ✓ | powerFactor | Active power/Apparent power. |
| ✓ | powerFactorSense | Phase sense of power factor. |
| ✓ | activeEnergy | Cumulative active energy (since installation or counter reset). |

Events

| # | Event type | Description |
|---|--------------------|--|
| ✓ | lampPowerTooHigh | Lamp power is greater than expected lamp power + lampPowerTolerance |
| ✓ | lampPowerTooLow | Lamp power is smaller than expected lamp power - lampPowerTolerance |
| ✓ | lampVoltageTooHigh | Level of lamp voltage (not supply voltage) is greater than highLampVoltageThreshold. |
| ✓ | lampVoltageTooLow | Level of lamp voltage (not supply voltage) is smaller than lowLampVoltageThreshold. |
| ✓ | currentTooHigh | Supply current is above the highCurrentThreshold defined in the lamp type |
| ✓ | currentTooLow | Supply current is below the lowCurrentThreshold defined in the lamp type |
| ✓ | powerFactorTooLow | The power factor is below powerFactorThreshold |
| ✓ | lampFailure | The lamp is not operating as it is supposed to |

| | |
|----------------------------|---|
| ✓ highTemperature | Indicates temperature is above the high threshold |
| ✓ relayFailure | Set in case of internal relay is failing |
| ✓ absoluteLampPowerTooHigh | Indicates the power is above the lampPowerHighThreshold in the lamp type |
| ✓ absoluteLampPowerTooLow | Indicates the power is below the lampPowerLowThreshold in the lamp type |
| ✓ controlGearCommFailure | Indicates failure of the control gear |
| ✓ cyclingFailure | Indicates the lamp is constantly switching ON and OFF in an unexpected manner |
| ✓ supplyLoss | Indicates loss of mains power |
| ✓ contactorError | Indicates error in contactor |
| ✓ lampUnexpectedOn | Indicates lamp is unexpectedly on |
| ✓ leakageDetected | Indicates that an earth leakage fault has been detected |

Electrical Meter

The electrical meter function supports electrical metering capabilities including measurements of voltage, current, power, energy, and power factor. This function may be associated with Luminaire Controllers, Cabinet Controllers or electrical meters installed in switch boxes. ODNs may implement both single phase and three phase meters. Typically meters within a control device will be single phase and stand-alone meters. A street side cabinet may have single phase or three phase meters.

Attributes

| # | Attribute | Description |
|---|-------------------|--|
| ✓ | totalPower | Sum of the active power consumed on phase 1, 2 and 3, or just the power for a single phase meter. |
| ✓ | totalActiveEnergy | Total cumulative kWh measured by the meter since installation date (or counter reset). |
| ✓ | totalPowerFactor | Total active power divided by total apparent power. |
| ✓ | supplyVoltage | Average between Phase1 RMS Voltage, Phase2 RMS Voltage and Phase3 RMS Voltage, or in the case of a single phase meter just the RMS supply voltage. |
| ✓ | totalCurrent | Sum of the RMS currents on phase 1, 2 and 3. |
| ✓ | averageCurrent | Average RMS current on phase 1, 2 and 3. |

Events

| # | Event type | Description |
|---|------------|-------------|
|---|------------|-------------|

Photocell

A Photocell function models the capabilities of a photocell that can be used for lighting control. This function shall be supported by the CMS and optionally by the ODNs (Gateway).

Attributes

| # | Attribute | Description |
|---|-----------------|--|
| ✓ | onLevel | Illuminance level at which the photocell switches to on state. |
| ✓ | offLevel | Illuminance level at which the photocell switches to off state. |
| ✓ | photocellOutput | Output state of the photocell. Possible values are ON (means the illuminance level has fallen below the onLevel) and OFF (means the illuminance level has risen above the offLevel). |

Events

| # | Event type | Description |
|---|-------------------|--|
| ✓ | photocellOutputOn | The photocell output has changed to ON |

Light Sensor

A Light Sensor function models the output of light sensor. This function is optional for both CMS and Gateway, but when supported the requirements in this section shall apply.

Attributes

| # | Attribute | Description |
|---|--------------------|--|
| ✓ | levelHighThreshold | Light level above which a levelTooHigh event is triggered. |
| ✓ | levelLowThreshold | Light level below which a levelTooLow event is triggered. |
| ✓ | lightLevel | Illuminance level. |

Events

| # | Event type | Description |
|---|--------------|---|
| ✓ | levelTooHigh | Indicates the light level is above the levelHighThreshold |
| ✓ | levelTooLow | Indicates the light level is below the levelLowThreshold |

Binary Sensor

A Binary Sensor function can be used to model any sensor that provides a digital, binary output. This function is optional for both CMS and Gateway, but when supported the requirements in this section shall apply.

Attributes

| # | Attribute | Description |
|---|-----------|----------------------|
| ✓ | level | Sensor Output level. |

Events

| # | Event type | Description |
|---|----------------|---|
| ✓ | sensorOutputOn | Indicates the sensor output changed to ON |

Generic Sensor

A Generic Sensor function can be used to model any sensor that provides an analog or multilevel output. This function is optional for both CMS and Gateway, but when supported the requirements in this section shall apply.

Attributes

| # | Attribute | Description |
|---|--------------------|--|
| ✓ | levelHighThreshold | Threshold above which a levelTooHigh event is triggered. |
| ✓ | levelLowThreshold | Threshold below which a levelTooLow event is triggered. |
| ✓ | level | Sensor Output level. |

Events

| # | Event type | Description |
|---|--------------|---|
| ✓ | levelTooHigh | Indicates the sensor output level is above the levelHighThreshold |
| ✓ | levelTooLow | Indicates the sensor output level is below the levelLowThreshold |

Generic Actuator

The Generic Actuator function includes attributes related to generic control and it represents the smallest unit for control purposes.

Attributes

| # | Attribute | Description |
|---|---------------|---|
| ✓ | defaultState | Sets the default state output for the generic actuator. This shall be applicable if no other command is active. |
| ✓ | actualState | This attribute should reflect the physical state of the source as much as possible. It may be calculated or measured, depending on the specific ODN implementation, which is outside the scope of this specification. |
| ✓ | targetCommand | Latest command for the generic actuator. |

- ✓ **feedbackCommand** This attribute reflects the command in effect and it might deviate from the actualState due to propagation time or due to internal ODN specific mechanisms to handle the priority of the requests.
- ✓ **calendarID** TALQ Address of the calendar controlling this generic actuator. If this attribute is empty, the behavior shall be determined by the ODN. If the attribute is invalid, the ODN shall trigger a generic invalid address event and the behavior shall be determined by the ODN.

Events

| # | Event type | Description |
|---|---------------------|--|
| ✓ | stateChange | The state has changed. |
| ✓ | invalidCalendar | This event is generated when a calendar has been allocated and can not be implemented it. |
| ✓ | invalidProgram | This event is generated when a control program has been allocated and can not be implemented it. |
| ✓ | programChange | This event is generated when the control program applicable to the actuator has changed. |
| ✓ | calendarChange | This event is generated when the calendar applicable to the actuator has changed. |
| ✓ | targetCommandChange | This event is generated when the targetCommand has changed. |

Presence Sensor

The Presence Sensor function allows a CMS to detect presence. This function may be used in Parking Place detectors as well as in dynamic outdoor lighting scenario.

Attributes

| # | Attribute | Description |
|---|----------------|------------------|
| ✓ | presenceStatus | Presence status. |

Events

| # | Event type | Description |
|---|-----------------------|--|
| ✓ | presenceStatusChanged | Indicates the presence status changed. |

Movement Sensor

The Movement Sensor function allows a CMS to detect movement. This function may be used in a Waste Container sensor to detect that container gets emptied or is not in the proper position, as well as in asset

tracking applications.[DEPRECATED: This function has been deprecated and it will be removed in the next MAJOR release. Please use the new LocationSensorFunction instead.]

Attributes

| # | Attribute | Description |
|---|-------------------|--|
| ✓ | movementThreshold | Threshold above which a movementDetected event is triggered. |
| ✓ | movementDetected | Indicates the movement is above the movementThreshold. |

Events

| # | Event type | Description |
|---|---------------------|--|
| ✓ | movementDetected | Indicates the movement is above the movementThreshold. |
| ✓ | notInProperPosition | Indicates the sensor is not in proper position. |

Solar Battery Charger*

A solar battery charger is used to charge a battery with solar energy. Typical use cases are energy demanding off-grid applications like solar lighting, solar vehicle charging (cars and bikes), public transit information, traffic control, public security (CCTV) and many more.

Attributes

| # | Attribute | Description |
|---|-------------------------|--|
| ✓ | inputVoltage | Measured DC voltage of the charger input (V). |
| ✓ | inputCurrent | Measured DC current of the charger input (A). |
| ✓ | outputVoltage | Output voltage (V). |
| ✓ | outputCurrent | Output current (A). |
| ✓ | chargerTemperature | Measured temperature of the charger circuit (C). [DEPRECATED: This attribute has been deprecated and it will be removed in the next MAJOR release. Please use the new TemperatureSensorFunction.temperature with applicationType=Charger instead.] |
| ✓ | PVTemperature | Measured temperature of the attached photovoltaic module (C). [DEPRECATED: This attribute has been deprecated and it will be removed in the next MAJOR release. Please use the new TemperatureSensorFunction.temperature with applicationType=PVT instead.] |
| ✓ | accumulatedEnergy | Accumulated energy yield since accumulatedSince (Wh). |
| ✓ | startChargeInputVoltage | Configuration parameter to set input voltage thresholds at different temperatures at which the battery charger shall start charging the battery (V, C). The values are stored as a list of KVPs (Key-Value Pair), where the key is the temperature and the value is the voltage. |

- ✓ **endChargeInputVoltage** Configuration parameter to set input voltage thresholds at different temperatures at which the battery charger shall cease charging the battery (V, C). The values are stored as a list of KVPs (Key-Value Pair), where the key is the temperature and the value is the voltage.

- ✓ **highTemperatureThreshold** Threshold above which the highTemperature event is triggered (C). [DEPRECATED: This attribute has been deprecated and it will be removed in the next MAJOR release. Please use the new TemperatureSensorFunction.temperatureTooHighThreshold instead.]

- ✓ **lowTemperatureThreshold** Threshold above which the lowTemperature event is triggered (C). [DEPRECATED: This attribute has been deprecated and it will be removed in the next MAJOR release. Please use the new TemperatureSensorFunction.temperatureTooLowThreshold instead.]

- ✓ **highPowerThreshold** Threshold above which the highPower event is triggered (W).

- ✓ **accumulatedSince** Indicates the date and time at which accumulatedEnergy is reset to zero. The Gateway may change this value with the actual one depending on implementation.

Events

| # | Event type | Description |
|---|-----------------|---|
| ✓ | highTemperature | Indicates the measured temperature is above the high temperature threshold. |
| ✓ | lowTemperature | Indicates the measured temperature is below the low temperature threshold. |
| ✓ | highPower | Indicates the power exceeds highPowerThreshold. |
| ✓ | charging | Indicates whether the battery is being charged. |

Battery Management System*

A battery management system is used to monitor the charging and discharging of a battery and protect the battery. Typical use cases are (off-grid) applications like solar lighting, solar vehicle charging (cars and bikes), public transit information, traffic control, public security (CCTV) and many more, where the battery is charged and discharged on a regular basis.

Attributes

| # | Attribute | Description |
|---|-----------|-------------|
|---|-----------|-------------|

| | |
|-----------------------------------|--|
| ✓ batteryChemistry | Attribute to define the battery chemistry. (e.g.: Lead Acid, Lithium-Iron-Phosphate (LiFePO4), Nickel-Metal-Hydrid (NiMH), Lithium-Titanate-Oxide (LTO), ...) |
| ✓ nominalVoltage | Attribute to set the nominal voltage of the battery in V (at room temperature). This can be used to calculate the capacity and to configure the BMS. |
| ✓ nominalCapacity | Attribute to set the nominal capacity of the battery in Ah (at room temperature). |
| ✓ batteryVoltage | Measurement of the battery voltage in V |
| ✓ batteryCurrent | Measurement of the battery current in A. This value can be negative due to polarity. |
| ✓ batteryLevel | Percentage |
| ✓ estimatedCapacity | This attribute gives an estimated remaining capacity of the battery in Ah. This depends very much on the wear and age of the battery. |
| ✓ temperature | Temperature at the battery in C. [DEPRECATED: This attribute has been deprecated and it will be removed in the next MAJOR release. Please use the new TemperatureSensorFunction.temperature with applicationType=Battery instead.] |
| ✓ batteryEOCVoltageTemperatureMap | End of charge voltages (V) of the battery for various temperatures (C) |
| ✓ batteryEODVoltageTemperatureMap | End of discharge voltages (V) of the battery for various temperatures (C) |
| ✓ batteryFullThreshold | Level threshold to indicate that the battery is full. |
| ✓ batteryEmptyThreshold | Level threshold to indicate that the battery is empty. |
| ✓ overCurrentChargeThreshold | Maximum charge current threshold (A) |
| ✓ overCurrentDischargeThreshold | Maximum discharge current threshold (A) |
| ✓ highTemperatureThreshold | Threshold above which the highTemperature event is triggered (C). [DEPRECATED: This attribute has been deprecated and it will be removed in the next MAJOR release. Please use the new TemperatureSensorFunction.temperatureTooHighThreshold instead.] |

Events

| # | Event type | Description |
|---|--------------|--------------------------------------|
| ✓ | batteryFull | Indicates that the battery is full. |
| ✓ | batteryEmpty | Indicates that the battery is empty. |

- ✓ **overCurrentCharge** Indicates that the charge current is higher than the threshold.
- ✓ **overCurrentDischarge** Indicates that the discharge current is higher than the threshold.
- ✓ **highTemperature** Indicates that the measured temperature is higher than the threshold.

Fluid Level Sensor*

The Fluid Level Sensor function allows to collect data and events about fluid levels. It could be used to measure fluid levels in channels, lakes, containers, etc.

Attributes

| # | Attribute | Description |
|---|----------------------------|--|
| ✓ | fluidLevelTooHighThreshold | Threshold above which fluidLevelTooHighThreshold is triggered. In meters |
| ✓ | fluidLevelTooLowThreshold | Threshold below which fluidLevelTooLowThreshold is triggered. In meters |
| ✓ | distanceSensorBottom | Distance between the sensor and the bottom of the channel, lake, container, etc. In meters |
| ✓ | fluidLevel | Fluid level in meters |

Events

| # | Event type | Description |
|---|-------------------|---|
| ✓ | fluidLevelTooHigh | Triggered when fluidLevel is above fluidLevelTooHighThreshold |
| ✓ | fluidLevelTooLow | Triggered when fluidLevel is below fluidLevelTooLowThreshold |

pH Sensor*

The pH Sensor allows to measure the pH and sends events if the value is above/below the configured thresholds.

Attributes

| # | Attribute | Description |
|---|----------------------|--|
| ✓ | pH | pH value. |
| ✓ | pHHighLevelThreshold | Threshold above which a pHTooHigh (too Alkaline) event is triggered. |
| ✓ | pHLowLevelThreshold | Threshold below which a pHTooLow (too Acidic) event is triggered. |

Events

| # | Event type | Description |
|---|------------|---|
| ✓ | pHTooHigh | Indicates the pH measure is above the pHHighLevelThreshold, that is too alkaline. |
| ✓ | pHTooLow | Indicates the pH measure is below the pHLowLevelThreshold, that is too acidic. |

Simple Actuator

The Simple Actuator function includes attributes related to generic control and it represents the smallest unit for control purposes.

Attributes

| # | Attribute | Description |
|---|-----------------|---|
| ✓ | defaultState | Sets the default state output for the simple actuator. This shall be applicable if the actuator is not under an override control (OverrideCommand). |
| ✓ | actualState | This attribute should reflect the physical state of the source as much as possible. It may be calculated or measured, depending on the specific ODN implementation, which is outside the scope of this specification. |
| ✓ | targetCommand | Latest command for the simple actuator. |
| ✓ | feedbackCommand | This attribute reflects the command in effect and it might deviate from the actualState due to propagation time or due to internal ODN specific mechanisms to handle the priority of the requests. |

Events

| # | Event type | Description |
|---|---------------------|---|
| ✓ | stateChange | The state has changed. |
| ✓ | targetCommandChange | This event is generated when the targetCommand has changed. |

Time*

The Time function includes attributes related to generic control and it represents the smallest unit for control purposes.

Attributes

| # | Attribute | Description |
|---|-----------|-------------|
|---|-----------|-------------|

- ✓ **timeZone** Time zone of the device. Time zone may be expressed in two formats. where is a time zone as defined in the zone.tab of the IANA timezone database [IANA]; and stdoffset[dst[offset][,start[/time],end[/time]]] as defined by the Open Group for posix systems [POSIX].
- ✓ **currentTime** Current time of the device defined as local time with time zone designator.

Events

| # | Event type | Description |
|---|------------|-------------|
|---|------------|-------------|

- | | | |
|---|----------------------|--|
| ✓ | lastSyncError | This event is generated when the latest time synchronization operation failed. |
|---|----------------------|--|

Segment Monitor*

The Segment Monitor function enables monitoring of segment parameters. Multiple segment monitor functions may be implemented by a single device.

Attributes

| # | Attribute | Description |
|---|-----------|-------------|
|---|-----------|-------------|

- | | | |
|---|-------------------------|---|
| ✓ | applicationType | Application Type of the segment monitor depending on the use case. E.g.: "Road Lighting, Architecture Lighting" |
| ✓ | segmentReference | Reference of the segment monitor depending on the use case. E.g.: "Segment A1" |
| ✓ | numberOfLoads | Number of loads being monitored by the segment monitor function. |

Events

| # | Event type | Description |
|---|------------|-------------|
|---|------------|-------------|

- | | | |
|---|------------------------------|---|
| ✓ | cabinetDoorOpen | Cabinet door is open. |
| ✓ | circuitBreakerTripped | Indicates that the circuit breaker has tripped |
| ✓ | leakageDetected | Indicates that an earth leakage fault has been detected. |
| ✓ | localOverride | Indicates that there is a local override (ON, OFF) or no override |
| ✓ | switchingErrorOff | Indicates error in switching circuit. For instance, if a contactor or relay is used, it may be stuck in OFF position. |
| ✓ | switchingErrorOn | Indicates error in switching circuit. For instance, if a contactor or relay is used, it may be stuck in ON position. |

Services

Configuration Service

The TALQ Configuration Service enables discovery and configuration of devices and services

Options

| # | Option | Value | Description |
|---|--------|-------|-------------|
|---|--------|-------|-------------|

Control Service

The Control service describes the mechanisms to operate the actuator functions in order to enable schedule based and override control

Options

| # | Option | Value | Description |
|---|--------|-------|-------------|
|---|--------|-------|-------------|

Events

| # | Event Type | Description |
|---|-----------------|--|
| ✓ | invalidCalendar | An invalid calendar has been provided by the CMS to the ODN |
| ✓ | invalidProgram | A control program has been provided by the CMS, which cannot be implemented by the ODN |

Data Collection Service

The TALQ Data Collection Service is a provision to configure how ODN measurements, status information and events are logged, and when or under what conditions the logged data is transferred to the CMS

Options

| # | Option | Value | Description |
|---|----------------|---|---|
| ✓ | supportedModes | <ul style="list-style-type: none"> VendorRecordingMode EventRecordingMode ImmediateReportingMode | Recording and Reporting modes supported |

Events

| # | Event Type | Description |
|---|---------------------|--|
| ✓ | invalidLoggerConfig | The CMS has provided a data logger configuration that cannot be implemented by the ODN |

On Demand Data Request Service

This service provides the mechanism to access attributes in the logical devices by requesting attribute values from the ODN

Group Management Service

This service provides the mechanisms to define and manage groups

Options

| # | Option | Value | Description |
|---|--------|-------|-------------|
|---|--------|-------|-------------|

Data Package Transfer Service*

This service provides a mechanism to transfer data packages containing ODN vendor specific information to the Gateway via the CMS

Events

| # | Event Type | Description |
|---|----------------------|---|
| ✓ | releaseMismatch | The release indicated as expected does not match the actual release of the Gateway. |
| ✓ | changeReleaseFailure | Change release failed. Operation is rolled back. |
| ✓ | packageChangeFailure | A Package change operation failed. Operation is rolled back. |
| ✓ | changingRelease | Indicates the Gateway is in the process of changing release. |
| ✓ | packageDownloaded | Indicate the Gateway has downloaded a package. |

Test Service

This service provides a mechanism to reduce the human intervention during the certification tests, enabling the certification tests to maximise automation

Objects

Lamp type

Properties

| # | Property | Description |
|---|-------------|--|
| ✓ | name | Descriptive name of the lamp type |
| ✓ | address | TALQ Address of the lamp type |
| ✓ | controlType | Type of control/dimming interface between the lamp actuator function and the control gear or within the control gear in case lamp actuator is embedded in the control gear |

Event log data

Properties

| # | Property | Description |
|---|--------------|---|
| ✓ | eventType | Identifier of event reported |
| ✓ | srcAddress | Address of Logical device or function within a logical device which is the source of the event or to which this event applies |
| ✓ | startEndFlag | If the event denotes either the start or end of a 'special' period, this flag shall be included |

Command

Properties

| # | Property | Description |
|---|------------|---|
| ✓ | state | Light state to be applied to the lamp actuator |
| ✓ | reason | Indicates the command was triggered by override, sensor or control program |
| ✓ | cmsRefId | CMS reference, which can be used for data logging |
| ✓ | refAddress | Reference to the source of the command, e.g. sensor or control program |
| ✓ | start | Time when the control action resulting from command shall start. This attribute is used only with override commands to set a time to start an override action. If not specified, the override command starts immediately. |

- ✓ expiration Time when the control action resulting from command shall be terminated. This attribute is used only with override commands to set a time to stop an override action. After the expiration of an override command, the system should go back to the state defined by the active control program. If not specified, there is no expiration for the override command.

- ✓ rampToLevelTime* The time (in seconds) taken for the value to ramp to the specified level. The change will be finished rampToLevelTime seconds after: the scheduled time if the change comes from a control program; the reception of the request, or the command.start time attribute, if the change comes from an override command, or; the sensor event is raised if the control is sensor-based. If actions related to one command remain to be completed when a subsequent command is received, the subsequent command shall take precedence.

- ✓ rampFromLevelTime* The time (in seconds) taken for the value to ramp to the specified level. The change will be finished rampFromLevelTime seconds after: the scheduled time if the change comes from a control program; the reception of the request if the change comes from an override command; expiry of the related command, or; the sensor event is lowered and the hold time subsequently expires if the control is sensor-based. If actions related to one command remain to be completed when a subsequent command is received, the subsequent command shall take precedence.


Group

Properties

| # | Property | Description |
|---|----------|--|
| ✓ | address | Group address |
| ✓ | members | TALQ Addresses of members of the group |

: The Certification Test Tool is designed to provide a high level of confidence that complementary systems can communicate successfully. As both the protocol and the test tool evolve, all mandatory and other core tests are confirmed by comparison with real-life scenarios (plug-fest or similar). Some tests of optional and more peripheral features may not yet have been confirmed in this way; such features are identified with an asterisk ().

This Capability List is based on a certification session performed by the TALQ Certification Tool (v2.4.1-update.8) on 2022-09-12 20:15:27.074 +0000.

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