



Certified Capability List

This Capability List is based on a certification session performed by the *TALQ Certification Tool (v2.1.0)* on *2019-07-22 10:56:10.414 -0400*.

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

The tool has succesfully performed *29 tests*.

Product details

Product Name Trilliant Gateway

Company Trilliant

Type GATEWAY

Notes

Generated on 2019-07-22 10:56:10.414 -0400

Certification performed by app version: 2.1.0

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
✓	displayName	Display name of the asset.
✓	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.
✓	hwVersion	Hardware revision of the device.
✓	swType	Software type of device. This attribute may be useful if the same hardware supports multiple firmware versions with different functions.
✓	swVersion	Software version installed on the device.
✓	installationDate	The installation date of Physical Device.
✓	currentTime	Current time of the device defined as local time with time zone designator.

Events

#	Event type	Description
✓	deviceReset	The physical device containing the logical device was reset

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
✓	communicationType	Type of communication technology implemented by the ODN (e.g. power line, wireless).

- | | |
|-------------------|--|
| ✓ logicalAddress | Logical address for communication within the ODN scope (IP address, Short Address, ...). |
| ✓ 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. |

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 |
| ✓ | retryPeriod | Time duration before the Gateway retransmits a message for which expected response has not been received. |
| ✓ | crUrn | 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
✓	lampTypeId	TALQ Address of an existing lampType.
✓	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

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
✓	temperature	Temperature of the device implementing this function.
✓	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.
- ✓ **apparentPower** Apparent Power.
- ✓ **powerFactor** Active power/Apparent power.

Events

#	Event type	Description
✓	lampFailure	The lamp is not operating as it is supposed to

Services

Configuration Service

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

Options

#	Option	Value	Description
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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
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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"> EventRecordingMode VendorRecordingMode* ImmediateReportingMode 	Recording and Reporting modes supported
✓	maximumDataLogs		Maximum number of data loggers 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
✓	maximumNumberOfGroups		Maximum number of groups per Gateway
✓	maximumGroupSize		Maximum number of group members per group

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
✓	maxOperatingHours	Maximum number of operating hours that the lamp is supposed to live with a given specification

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

Command

Properties

#	Property	Description
✓	state	Light state to be applied to the lamp actuator
✓	cmsRefId	CMS reference, which can be used for data logging

*: 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 (*).

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