Certified Capability List

This Capability List is based on a certification session performed by the *TALQ Certification Tool (v2.4.1-update.5) on 2022-08-15 02:14:14.737 +0000.*

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

The tool has succesfully performed *35 tests*.

Product details

Product Name	Leotek-Gateway
Company	Leotek Electronics USA LLC
Type	GATEWAY
Notes	
Generated on	2022-08-15 02:14:14.737 +0000
Supported profiles	• Lighting
API version certified:	2.4.1
Certification performed by app version:	2.4.1-update.5

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.
✔	hwVersion	Hardware revision of the device.
✔	swVersion	Software version installed on the device.
✔	installationDate	The installation date of Physical 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.]
✔	deviceReset	The physical device containing the logical device was reset.
✔	softwareUpdating	Indicates software updating is in progress.
✔	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

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.
✔	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
✔	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.
✔	lightStateChange	Light state has changed.

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
✔	lampTypeId	TALQ Address of an existing lamp type. If not set to a valid value, this shall be the lamp type used in the lamp actuator. If this attribute is not supported in the implementation, the lamp monitor shall use the lamp type specified in the corresponding lamp actuator.
✔	operatingHours	Number of hours the lamp is on. This is the value used in CLO and may be set by the CMS.
✔	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.

✔	lampVoltageTooHigh	Level of lamp voltage (not supply voltage) is greater than highLampVoltageThreshold.
✔	lampVoltageTooLow	Level of lamp voltage (not supply voltage) is smaller than lowLampVoltageThreshold.
✔	lampFailure	The lamp is not operating as it is supposed to (e.g. the lamp is broken). This event shall be used to detect a situation where the lamp (or LED module(s)) should be lit, but produce no light. This could be detected by the current flowing or power consumed.
✔	currentTooHigh	Supply current is above the highCurrentThreshold defined in the lamp type.
✔	currentTooLow	Supply current is below the lowCurrentThreshold defined in the lamp type.
✔	supplyLoss	Indicates loss of mains power.
✔	supplyVoltageTooHigh	Level of supply voltage is above the highLampVoltageThreshold.
✔	supplyVoltageTooLow	Level of supply voltage is below the lowSupplyVoltageThreshold.
✔	highSupplyVoltageThreshold	Supply voltage above which the supplyVoltageTooHigh event is triggered.
✔	lowSupplyVoltageThreshold	Supply voltage below which the supplyVoltageTooLow event is triggered.

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

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
✔	supportedTypes	• AbsoluteActivePeriod • ccDate* • ccDay*	Control Program and calendar options supported are defined by announcing support for the given modes
✔	maximumCalendars		Maximum number of calendars supported
✔	maximumPrograms		Maximum number of control programs supported
✔	maxProgramsPerCalendar		Maximum number of control programs per calendar
✔	maxSwitchPointsPerProgram		Maximum number of switching points per control program
✔	maxActivePeriodsPerProgram		Maximum number of active periods per control program
✔	dayOffset	• 0	Offset of start of day
✔	ccDateSupport		Indicates the ccDate options supported
✔	ccDaySupport		Indicates the ccDay options supported
✔	programSecondsSupported*		Indicates whether the field of seconds is supported in programs.

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	• EventRecordingMode • PeriodicRecordingMode • VendorRecordingMode • ImmediateReportingMode • ScheduledReportingMode	Recording and Reporting modes supported
✔	maximumDataLogs		Maximum number of data loggers supported
✔	minCollectionTime		Base time between sampling and being able to report attributes specified in a data logger
✔	minCollectionTimePerAttribute		Additional time per attribute instance between sampling and being able to report the attribute

✔	samplingPeriodSupported	Indicates whether the ODN supports periodic sampling for a data logger in periodic recording mode
✔	attributeScopeSupported	Indicates whether the ODN supports filtering attributes by scope (attributeScope); for a data logger in periodic or vendor recording mode.

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

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

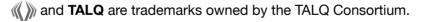| #	Property	Description
✔	eventType	Identifier of event reported
✔	srcAddress	Address of Logical device or function within a logical device which is the source of the event or to which this event applies
✔	attributes	A sequence of attribute values logged together with the event

Command

Properties

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

Group

Properties

#	Property	Description
✔	address	Group address
✔	members	TALQ Addresses of members of the group
✔	purpose	Main purpose 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 (*).

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