Simple Device Discovery Protocol

API Document

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SDDP Deliverables

SDDP files

SddPServer.c - Sample code.
SddP.h- Main header file.

Data Structures

SDDPHandle is an object for SDDP data structures provided to SDDP API calls.
Note that all API functions take SDDPHandle as an argument.

API Functions

SDDPInit

Function to initialize the SDDP handle

Parameters

Handle – pointer to a new handle to SDDP. Caller must free with SDDPShutdown

Returns

SDDP_STATUS_SUCCESS – On Success

SDDPSetHost

Sets the hostname for SDDP to advertise

Parameters

Handle – Handle to SDDP
Host – Hostname to use – will be copied.

Returns

SDDP_STATUS_SUCCESS – On Success
SDDP_STATUS_INVALID_PARAM - On invalid parameters.

Note

The host in SDDP must be a globally unique value but it is not required to be the actual hostname of the product.

SDDPSetDevice

Sets up the device information for SDDP to advertise

Parameters

handle – handle to SDDP
index – index of device (usually 0), but there can be multiple devices.
product_name - Product name for SDDP search target - i.e."c4:HC1000HomeController”
primary_proxy - Control4 primary proxy type - i.e. "TV"
proxies - All Control4 proxy types support - i.e. "TV,DVD"
manufacturer - Manufacturer - i.e. "Control4"

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model - Model number - i.e. "C4-105HCTV2-EB"
driver - Control4 driver c4i - i.e. "Control4TVGen.c4i"
Config-URL – URL to device management UI – i.e. http://<host>/netconf/
max_age - Number of seconds advertisement is valid (e.g. 1800)

Returns

SDDP_STATUS_SUCCESS – On Success
SDDP_STATUS_INVALID_PARAM - On invalid parameters.

SDDPStart

Function to initialize the SDDP module. Note the SDDPSetProductDevice() call may be used to alter the device descriptor advertised over SDDP later.

Parameters

Handle – handle to SDDP

Returns

SDDP_STATUS_SUCCESS - On success
SDDP_STATUS_INVALID_PARAM - On invalid parameters.
SDDP_STATUS_NETWORK_ERROR - Could not initialize or send on network
SDDP_STATUS_TIME_ERROR - Time API not implemented

SDDPTick

Function that handles the processing of incoming and outgoing SDDP packets. This should be called regularly by the application. This function does no blocking. If a select is used, it can gate the call to this tick based upon the sddp_state->network_info sockets.

Parameters

handle – handle to SDDP

Returns

SDDP_STATUS_SUCCESS - On success
SDDP_STATUS_INVALID_PARAM - On invalid parameters.
SDDP_STATUS_NETWORK_ERROR - Could not initialize or send on network

SDDPIdentify

Sends an SDDP identify. This is very similar to an notify, but is typically triggered by a user event, such as a UI or physical button push. This sends a packet with the X-SDDPIDENTIFY: TRUE to notify a controller of the identify event on the device.

Parameters

Handle –handle to SDDP

Returns

SDDP_STATUS_SUCCESS - On success
SDDP_STATUS_NETWORK_ERROR - Could not initialize or send on network

SDDPLeave

Function that sends byebye but leaves SDDP initialized: keeps the socket(s) open and continues to send automatic advertisements. This is intended to be used prior to shutting

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down or disconnecting from a project, but does not mean the device is no longer present on the network. The last is to send a 'byebye' leave notification prior to leaving a network.

Parameters

Handle –handle to SDDP

Returns

SDDP_STATUS_SUCCESS - On success
SDDP_STATUS_NETWORK_ERROR - Could not initialize or send on network

SDDPShutdown

Shutdowns the SDDP service, sends byebye, and then closes sockets halting SDDP automatic advertisements. After calling this, the application must call SDDPInit to reinitialize.

Parameters

Handle – Pointer to handle to SDDP. Handle will be made invalid.

Returns

SDDP_STATUS_SUCCESS - On success
SDDP_STATUS_INVALID_PARAM - On invalid parameters.

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Glossary

The following terms and concepts are used in both the SDDP API document (this document) and the SDDP Specification document. This section lists those items and how they are addressed in both locations.

Host
The host name of a device. For example, `HomeController-000FFF001234`.
If you have previously implemented UPnP, this value is the same as the Host value used by SSDP. Control4 recommends that you use the MAC Address of the device for this value if you have not previously implemented UPnP or SSDP

Product Name
Product Name is identical to the **Type** header data point found in the specification document. This value reflects the search type as specified in the `<search_type>` tag in the c4i file for the device. Device type values are a unique identifier for a kind of device. Device types are organized in name spaces, separated by a : (colon) character, for example `"c4:HC1000HomeController"` Please see the specification document for driver requirements regarding `<search_type>`

Primary Proxy
This value indicates the primary proxy type. If the device driver contains several proxies defined in the `<Proxies>` section, the primary proxy value will always be the proxy listed first.

Proxies
This contains a comma-separated list of proxies that are supported. This list should only contain proxies as defined in the c4i, but it may only be a subset of what is in the c4i.

Manufacturer
This header contains the name of the manufacturer of the device. This value must be quoted.

Model
This header contains the model of the device. This value must be quoted.

Driver
This header contains the file name of the c4i driver. This file name must match the driver file name that is used on the C4 online driver database. This value must be quoted.

Config-URL
This contains the URL to the device's http accessible management user interface. If the device has no management UI, this can be omitted.

Max-Age
The number of seconds that this information may be cached.

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