BLACK BOX NETWORK SERVICES

ServSwitch™ iPATH Manager API

Application Programming Interface (API) Manual

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API Documentation

API version: 2

Changelog

v2 (IPATH v2.3) - added *get_devices, get_channels, connect_channel, disconnect_channel*. Updated version compatibility information.
v1 (IPATH v1.3) - added *login, logout, get_presets, connect_preset, disconnect_preset*

Methods

login
logout
get_devices
get_channels
get_presets
connect_channel
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login

This method was last updated in API version 1, and is compatible with API requests from version 1 onwards.

The API will require a valid IPATH user's login credentials to be presented in the first request. The API will return an authentication code, which must be passed in all future requests. This authentication code can be re-used until a logout request is made, at which point the authentication code will no longer be valid.

The concept of an "anonymous user" can apply to the API. If no login username and password are provided, the API will return an authentication token for the anonymous user (either the same one as for the OSD, or else an "anonymous API user" account can be created).

Input parameters:
- username
- password
- v (the IPATH API version this request is designed for)

Output values:
- timestamp - the current server time
- version - the current API version number
- token - an authentication code for future API requests
- success

NOTE: login examples are on the next page.

Examples

Input:
/api/?v=1&method=login&username=xxxxx&password=xxxxx

Output:
```
<api_response>
        <version>1</version>
        <timestamp>2012-12-14 12:12:12</timestamp>
        <success>1</success>
        <token>5cf494a71c29e9465a57a81e0a2d602c</token>
</api_response>
```
or
```
<api_response>
        <version>1</version>
        <timestamp>2012-12-14 12:12:12</timestamp>
        <success>0</success>
        <errors>
                <error>
                        <code>2</code>
                        <msg>Invalid username or password</msg>
                </error>
        </errors>
</api_response>
```

logout

This method was last updated in API version 1 and is compatible with API requests from version 1 onwards.

The authentication token provided by the login function can be used until the logout function is called.

Input parameters:
- token
- v (the IPATH API version this request is designed for)

Output values:
- timestamp - the current server time
- success - 0 = fail, 1 = success

Examples

Input:
/api/?method=logout&token=xxxxx&v=1

Output:
```
<api_response>
    <version>1</version>
    <timestamp>2011-02-04 15:24:15</time>
    <success>1</success>
s</api_response>
```

or

```
<api_response>
        <version>1</version>
        <timestamp>2012-12-12 12:12:12</timestamp>
        <success>0</success>
        <errors>
                <error>
                        <code>3</code>
                        <msg>Error logging out (you may already have logged out)</msg>
                </error>
        </errors>
</api_response>
```

get_devices

This method was last updated in API version 2 and is compatible with API requests from version 2 onwards.

This function returns a list of devices.

Input parameters:
- token
- v (the IPATH API version this request is designed for)
- device_type ('rx' = receivers, 'tx' = transmitters. Default = 'rx')
- filter_d_name (Optional. Device name search string)
- filter_d_description (Optional. Device description search string)
- filter_d_location (Optional. Device location search string)
- sort (Optional. Sort results by 'name'/'description'/'location'. Default = 'name')
- sort_dir (Optional. Sort direction for results 'asc'/'desc'. Default = 'asc')
- status (Optional. '','outdated_iPATH_ip','rebooting','offline','outdated_firmware','invalid_backup_firmware','rebooting','upgrading'
- show_all (Optional. If set and not blank, shows all receivers, not just those the logged-in user is permitted to use)
- page (page number to start showing results for, default = 1)
- results_per_page (number of results per page, default = 1000)

Output values:
- version - the current API version number
- timestamp - the current server time
- success
- page (page number)
- results_per_page (number of results per page, default = unlimited)
- total_devices - the total number of devices
- count_devices - the number of devices on this page
- for each device:
    - attribute: item (e.g. 17th device)
    - d_id (device id)
    - d_mac_address (device MAC address)
    - d_name (device name)
    - d_description (device description)
    - d_location (device location)
    - d_online (0 = offline, 1 = online, 2 = rebooting, 3 = factory_resetting, 4 = firmware_upgrading, 6 = running backup firmware)
    - d_type (rx, tx)

- d_version (1 = ACR1000A, 2 = ACR1002A)
- d_variant ('', 'b' = ACR1002A)
- d_ip_address
- d_configured (0 = no, 1 = yes)
- d_valid_firmware (0 = no, 1 = yes)
- d_valid_backup_firmware (0 = no, 1 = yes)
- d_firmware (firmware version, e.g. 2.5.17879)
- d_backup_firmware (backup firmware version)
- d_date_added (Date device added to iPATH network e.g. 2012-07-13 22:17:22)

The following property is only returned for transmitters:

- count_transmitter_channels (the number of channels containing this transmitter)

The following properties are only returned for receivers:

- con_start_time (start time of last connection e.g. 2012-09-07 13:33:17)
- con_end_time (empty if connection still active, else date/time the connection was ended e.g. 2012-09-07 13:33:17)
- con_exclusive (0/1 - if the last connection is/was in exclusive mode)
- con_control (0/1 - if the last connection has/had USB enabled)
- u_username (username of the user who initiated the last connection)
- u_id (user ID of the user who initiated the last connection)
- c_name (name of the channel last connected)
- count_receiver_groups (the number of receiver groups this receiver is a part of)
- count_users (the number of users who have access to this receiver)

Examples

Input:
/api/?v=2&method=get_devices&token=xxxxx
/api/?v=2&method=get_devices&device_type=tx&page=2&results_per_page=3&token=xxxxx

Output:

```
<api_response>
    <version>2</version>
    <timestamp>2012-09-12 14:56:11</timestamp>
    <success>1</success>
    <page>2</page>
    <results_per_page>3</results_per_page>
    <total_devices>12</total_devices>
    <count_devices>3</count_devices>
    <devices>
        <device item="4">
            <d_id>170</d_id>
            <d_mac_address>00:0F:58:01:6E:3D</d_mac_address>
            <d_name>RX 123</d_name>
            <d_online>1</d_online>
            <d_type>rx</d_type>
            <d_version>2</d_version>
            <d_variant></d_variant>
            <d_ip_address>10.10.10.66</d_ip_address>
            <d_description></d_description>
            <d_location>Server Rack 3</d_location>
            <d_configured>1</d_configured>
            <d_valid_firmware>1</d_valid_firmware>
```

```
                    <d_valid_backup_firmware>1</d_valid_backup_firmware>
                    <d_firmware>2.3.16682</d_firmware>
                    <d_backup_firmware>2.3.16682</d_backup_firmware>
                    <d_date_added>2012-07-14 01:37:07</d_date_added>
                    <con_exclusive>0</con_exclusive>
                    <con_control>1</con_control>
                    <con_start_time>2012-09-07 13:33:19</con_start_time>
                    <con_end_time/>
                    <u_username>admin</u_username>
                    <u_id>1</u_id>
                    <c_name>Channel 1</c_name>
                    <count_receiver_groups>1</count_receiver_groups>
                    <count_users>1</count_users>
                    <custom_settings>0</custom_settings>
            </device>
    </devices>
</api_response>

<api_response>
    <version>2</version>
    <timestamp>2012-09-12 14:56:11</timestamp>
    <success>1</success>
    <page>1</page>
    <results_per_page>1</results_per_page>
    <total_devices>1</total_devices>
    <count_devices>1</count_devices>
    <devices>
            <device item="1">
                    <d_id>64</d_id>
                    <d_mac_address>00:0F:58:01:56:85</d_mac_address>
                    <d_name>TX 456</d_name>
                    <d_online>0</d_online>
                    <d_type>tx</d_type>
                    <d_version>1</d_version>
                    <d_variant></d_variant>
                    <d_ip_address>1.1.201.31</d_ip_address>
                    <d_description></d_description>
                    <d_location></d_location>
                    <d_configured>1</d_configured>
                    <d_valid_firmware>1</d_valid_firmware>
                    <d_valid_backup_firmware>1</d_valid_backup_firmware>
                    <d_firmware>2.1.15747</d_firmware>
                    <d_backup_firmware>2.1.15747</d_backup_firmware>
                    <d_date_added>2012-07-13 17:50:04</d_date_added>
                    <count_transmitter_channels>3</count_transmitter_channels>
                    <custom_settings>0
                    </custom_settings>
            </device>
    </devices>
</api_response>
```

get_channels

This method was last updated in API version 2 and is compatible with API requests from version 2 onwards.

This simple function returns a list of channels available to the authenticated user, for a specific receiver.

Input parameters:
- token
- v (the iPATH API version this request is designed for)
- page (page number to start showing results for, default = 1)
- results_per_page (number of results per page, default = 1000)
- device_id (ID of the receiver that this channel will be connected to. Recommended to ensure full checks for connection mode availability.
- filter_c_name (channel name search string)
- filter_c_description (channel description search string)
- filter_c_location (channel location search string)
- filter_favorites (set this non-empty to only show a user's favorites)

Output values:
- version - the current API version number
- timestamp - the current server time
- success
- page (page number)
- results_per_page (number of results per page, default = unlimited)
- count_channels - the number of channels on this page, available to the authenticated user
- for each channel:
    - attribute: item (e.g. 17th channel)
    - c_id (channel id)
        - c_name (channel name)
        - c_description (channel description)
        - c_location (channel location)
        - c_favorite (true if this channel is in the user's favorites, 0-9 if it's a numbered shortcut)
    - view_button (disabled/enabled/hidden - whether the user can connect to the preset in view-only mode.
      disabled = no, because something is in use by someone else. hidden = never. enabled = yes.
      If the device_id of the proposed receiver to be used in the connection is not provided, this will not necessarily be an accurate indication of whether other connections may actually interfere)
    - shared_button (disabled/enabled/hidden - as above, but in shared mode)
    - exclusive_button (disabled/enabled/hidden - as above, but in exclusive mode)

Examples

Input:
/api/?v=2&method=get_channels&token=xxxxx

Output:
```
<api_response>
    <version>2</version>
    <timestamp>2012-12-14 12:12:12</timestamp>
    <success>1</success>
    <page>1</page>
    <results_per_page>10</results_per_page>
```

```
        <count_channels>2</count_channels>
        <channel item="1">
                <c_id>3</c_id>
                <c_name>Channel 1</c_name>
                <c_description>Description for Channel 1</c_description>
                <c_location>Location of Channel 1</c_location>
                <c_favorite>false</c_favorite>
                <view_button>disabled</view_button>
                <shared_button>disabled</shared_button>
                <exclusive_button>disabled</exclusive_button>
        </channel>
        <channel item="2">
                <c_id>5</c_id>
                <c_name>Channel 2</c_name>
                <c_description>Description for Channel 2</c_description>
                <c_location>Location of Channel 2</c_location>
                <c_favorite>2</c_favorite>
                <view_button>disabled</view_button>
                <shared_button>enabled</shared_button>
                <exclusive_button>hidden</exclusive_button>
        </channel>
</api_response>
```

get_presets

This method was last updated in API version 1 and is compatible with API requests from version 1 onwards.

This simple function returns a list of presets available to the authenticated user.

Input parameters:
- token
- v (the iPATH API version this request is designed for)
- results_per_page (number of results per page, default = 1000)
- page (page number to start showing results for, default = 1)

Output values:
- version - the current API version number
- timestamp - the current server time
- success
- page (page number)
- results_per_page (number of results per page, default = unlimited)
- total_presets - the total number of presets available to the authenticaed user
- count_presets - the number of presets on this page, available to the authenticated user
- for each connection_preset:
    - attribute: item (e.g. 17th preset)
    - cp_id (preset id)
    - cp_name (preset name)
    - cp_description (preset description)
    - cp_pairs (the number of channel-receiver pairs in this preset)
    - problem_cp_pairs (the number of channel-receiver pairs that are misconfigured (e.g. receiver offline, receiver not defined)

- count_active_cp (the number of channel-receiver pairs in this preset that are already connected)
- connected_rx_count (the number of receivers in this preset that are already connected)
- view_button (disabled/enabled/hidden - whether the user can connect to the preset in view-only mode. disabled = no, because something is in use by someone else. hidden = never. enabled = yes)
- shared_button (disabled/enabled/hidden - as above, but in shared mode)
- exclusive_button (disabled/enabled/hidden - as above, but in exclusive mode)

Examples

Input:
/api/?v=1&method=get_presets&token=xxxxx

Output:

```
<api_response>
        <version>1</version>
        <timestamp>2012-12-14 12:12:12</timestamp>
        <success>1</success>
        <page>1</page>
        <results_per_page>10</results_per_page>
        <total_presets>2</total_presets>
        <count_presets>2</count_presets>
        <connection_preset item="1">
                <cp_id>3</cp_id>
                <cp_name>Preset 1</cp_name>
                <cp_description>Description for Preset 1</cp_description>
                <cp_pairs>1</cp_pairs>
                <problem_cp_pairs/>
                <count_active_cp/>
                <connected_rx_count>1</connected_rx_count>
                <view_button>disabled</view_button>
                <shared_button>disabled</shared_button>
                <exclusive_button>disabled</exclusive_button>
        </connection_preset>
        <connection_preset item="2">
                <cp_id>4</cp_id>
                <cp_name>Preset 2</cp_name>
                <cp_description>Description for Preset 2</cp_description>
                <cp_pairs>2</cp_pairs>
                <problem_cp_pairs/>
                <count_active_cp/>
                <connected_rx_count/>
                <view_button>enabled</view_button>
                <shared_button>hidden</shared_button>
                <exclusive_button>hidden</exclusive_button>
        </connection_preset>
</api_response>
```

connect_channel

This method was last updated in API version 2 and is compatible with API requests from version 2 onwards.

This simple function connects a receiver to a channel.

Input parameters:
- token
- v (the iPATH API version this request is designed for)
- c_id - the ID of the channel (acquired from get_channels)
- rx_id - the ID of the receiver (acquired from get_receivers)
- view_only (optional, 0/1 - defaults to 0)
- exclusive (optional, 0/1 - defaults to 0)

Output values:
- version - the current API version number
- timestamp - the current server time
- success (0 = fail, 1 = success)
- errors (optional, if anything went wrong with connecting the channel)

Examples

Input:
/api/?v=2&method=connect_channel&token=xxxxx&c_id=1&rx_id=2&exclusive=1

Output:
```
<api_response>
        <version>2</version>
        <timestamp>2012-12-12 12:12:12</timestamp>
        <success>1</success>
</api_response>
```

or

```
<api_response>
        <version>2</version>
        <timestamp>2012-12-12 12:12:12</timestamp>
        <success>0</success>
        <errors>
                <error>
                        <code>231</code>
                        <msg>ERROR - exclusive connection not available</msg>
                </error>
        </errors>
</api_response>
```

connect_preset

This method was last updated in API version 1 and is compatible with API requests from version 1 onwards.

This simple function connects all channel-receiver pairs in a preset.

Input parameters:
- token
- v (the iPATH API version this request is designed for)
- id - the ID of the preset (acquired from get_presets)
- view_only (optional, 0/1 - defaults to 0)
- exclusive (optional, 0/1 - defaults to 0)
- force - whether to ignore errors with some of the preset's pairs or not

Output values:
- version - the current API version number
- timestamp - the current server time
- success (0 = fail, 1 = success)
- errors (optional, if anything went wrong with connecting the presets)

Examples

Input:
/api/?v=1&method=connect_preset&token=xxxxx&id=1&force=1

Output:
```
<api_response>
        <version>1</version>
        <timestamp>2012-12-12 12:12:12</timestamp>
        <success>1</success>
</api_response>
```

or

```
<api_response>
        <version>1</version>
        <timestamp>2012-12-12 12:12:12</timestamp>
        <success>0</success>
        <errors>
                <error>
                        <code>210</code>
                        <msg>A Receiver is in use by another User</msg>
                </error>
        </errors>
</api_response>
```

disconnect_channel

This method was last updated in API version 2 and is compatible with API requests from version 2 onwards.

This function disconnects a receiver, a number of receivers, or all connected receivers.

Input parameters:
- token
- v (the iPATH API version this request is designed for)
- rx_id (ID(s) of the receiver, as an integer, or comma-separated set of integers. Optional.
- force - whether to disconnect existing connections by other users, or for off-line receivers

Output values:
- version - the current API version number
- timestamp - the current server time
- success (0 = fail, 1 = success)
- errors (if anything failed, details are returned here)

Examples
Input:
/api/?v=2&method=disconnect_channel&token=xxxxx&rx_id=1
/api/?v=2&method=disconnect_channel&token=xxxxx&rx_id=1,2,3
/api/?v=2&method=disconnect_channel&token=xxxxx&force=1

Output:
```
<api_response>
        <version>2</version>
        <timestamp>2012-12-12 12:12:12</timestamp>
        <success>1</success>
</api_response>
```

disconnect_preset

This method was last updated in API version 1 and is compatible with API requests from version 1 onwards.

This function disconnects all channel-receiver pairs in a preset, or disconnects ALL connections in the whole Agility network.

Input parameters:
- token
- v (the iPATH API version this request is designed for)
- id (optional. If not supplied, all connections will be ended)
- force - whether to ignore errors with some of the preset's pairs or not

Output values:
- version - the current API version number
- timestamp - the current server time
- success (0 = fail, 1 = success)
- errors (if anything failed, details are returned here)

Examples

Input:
/api/?v=1&method=disconnect_preset&token=xxxxx&id=1&force=1

Output:
<api_response>
<version>1</version>
<timestamp>2012-12-12 12:12:12</timestamp>
<success>1</success>
</api_response>

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ACR1000A-CTL API, version 1