DUNE IP CONTROL DOCUMENTATION
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Introduction

Dune IP Control feature allows to send HTTP commands to Dune HD media
player which request the player to do various things, such as:
- Start playback of the given media content.
- Control the playback (pause, seek to a given position, etc).
- Report the current player status (current playback position, etc).
- Stop playback and switch to various player states (e.g. black screen,
  standby).

When IP Control functionality is enabled, an HTTP server is running inside
the player.
The HTTP server can be accessed via HTTP port 80.

Firmware and protocol versions

The first public firmware version which introduced IP Control version was
110127_2105_beta. In this firmware version, IP Control protocol version "1"
was
used.

Below is the information about IP Control features available in protocol
version "1". For information about changes and additional features introduced
in further firmware updates, please look at the end of the document.

Features in protocol version "1"
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HTTP-request examples

==== Start playback ====

http://10.0.0.1/cgi-bin/do?
cmd=start_file_playback&media_url=nfs://10.0.0.1:/VideoStorage:/SomeFolder/fi
le.mkv

http://10.0.0.1/cgi-bin/do?
cmd=start_dvd_playback&media_url=smb://10.0.0.1/VideoStorage/SomeFolder/DVDFo
lder

http://10.0.0.1/cgi-bin/do?
cmd=start_dvd_playback&media_url=storage_name://MyHDD1/SomeFolder/dvd_image.i
so

http://10.0.0.1/cgi-bin/do?
cmd=start_bluray_playback&media_url=nfs://10.0.0.1:/VideoStorage:/SomeFolder/
BlurayFolder

http://10.0.0.1/cgi-bin/do?
cmd=start_bluray_playback&media_url=nfs://10.0.0.1:/VideoStorage:/SomeFolder/
bluray_image.iso

http://10.0.0.1/cgi-bin/do?
cmd=start_file_playback&media_url=http://10.0.0.1/some_upnp_url_path

http://10.0.0.1/cgi-bin/do?

```
cmd=start_file_playback&media_url=http://www.someinternetradio.org/station1.m
p3

http://10.0.0.1/cgi-bin/do?
cmd=start_file_playback&media_url=nfs://10.0.0.1:/VideoStorage:/SomeFolder/fi
le.mkv&speed=0&position=0&black_screen=1&hide_osd=1&action_on_finish=restart_
playback

http://10.0.0.1/cgi-bin/do?
cmd=start_dvd_playback&media_url=nfs://10.0.0.1:/VideoStorage:/SomeFolder/DVD
Folder&speed=0&position=0&black_screen=1&hide_osd=1&action_on_finish=restart_
playback

http://10.0.0.1/cgi-bin/do?
cmd=start_dvd_playback&media_url=nfs://10.0.0.1:/VideoStorage:/SomeFolder/dvd
_image.iso&speed=0&position=0&black_screen=1&hide_osd=1&action_on_finish=rest
art_playback
```

Here:
- media_url: any media URL supported by Dune (search for "media_url" in the
  document http://dune-hd.com/firmware/misc/dune_folder_howto.txt) speed:
  -1024/-512/-256/-128/-64/0/64/128/256/512/1024 (0 = paused, 64 = 1/4x,
  256 = 1x, 1024 = 4x, -1024 = -4x).
- position: initial position (seconds).
- black_screen: 0|1 (1 means everything (video+OSD) is initially hidden by
  "black screen" - can be reset to 0 later via set_playback_state command).
- hide_osd: 0|1 (1 means OSD is initially hidden - can be reset to 0 later
  via set_playback_state command).
- action_on_finish: exit|restart_playback ("exit" means exit the playback
  in the usual way, "restart_playback" means go to the initial playback
  state).

NOTE: Not all parameters are supported for all file formats. For Blu-ray
playback, many parameters are not supported (in particular, black_screen
and hide_osd is not supported).

==== Control playback ====

```
http://10.0.0.1/cgi-bin/do?cmd=set_playback_state&speed=256&black_screen=0
http://10.0.0.1/cgi-bin/do?cmd=set_playback_state&position=1000
http://10.0.0.1/cgi-bin/do?cmd=set_playback_state&speed=0
http://10.0.0.1/cgi-bin/do?cmd=set_playback_state&skip_frames=-1
http://10.0.0.1/cgi-bin/do?cmd=set_playback_state&skip_frames=1
http://10.0.0.1/cgi-bin/do?cmd=set_playback_state&speed=256
http://10.0.0.1/cgi-
bin/do?cmd=set_playback_state&speed=0&position=0&black_screen=1
http://10.0.0.1/cgi-bin/do?cmd=set_playback_state&hide_osd=0
```

Here:
- speed, position, black_screen, hide_osd: the same as in
  "start_file_playback" command.
- skip_frames: -1|1 (can only be used when the playback is paused (speed =
  0); allows to navigate to next/prev key frame; is supported for DVD and
  MKV only).

```
http://10.0.0.1/cgi-bin/do?cmd=dvd_navigation&action=RIGHT
```
Here:
action: LEFT|RIGHT|UP|DOWN|ENTER

==== Stop playback / switch to various player states ====

```
http://10.0.0.1/cgi-bin/do?cmd=black_screen
```
Stop playback (if any), go to the global "black_screen" state.

```
http://10.0.0.1/cgi-bin/do?cmd=main_screen
Stop playback (if any), go to the main screen of the player's menu

http://10.0.0.1/cgi-bin/do?cmd=standby
Stop playback (if any), go to standby state.


==== Emulate a command from Remote Control ====


http://10.0.0.1/cgi-bin/do?cmd=ir_code&ir_code=F40BBF00
Here:
- ir_code: 4-byte NEC IR code supported by Dune (see
  http://dune-hd.com/support/rc), with bytes written in the opposite order
  (e.g. RC button "1" = 00 BF 0B F4 => F40BBF00).


==== Getting player status ====


http://10.0.0.1/cgi-bin/do?cmd=status
Do nothing, just return to the current player status.

Command execution timeouts
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The client gets response either when the command execution completes, or on
timeout. The default timeout is 20 seconds. If timeout occurs, the
"timeout" status is returned to the client, and the command execution is
continued by the player; if needed the client can then poll the player with
the "status" command to wait for the player to change its state as the
result of this command. There is a special parameter "timeout", which
allows to specify any other timeout (seconds) (1 sec is minumum).

Example of "timeout" parameter usage:
http://10.0.0.1/cgi-bin/do?
cmd=start_file_playback&media_url=nfs://10.0.0.1:/VideoStorage:/SomeFolder/fi
le.mkv&speed=0&black_screen=1&hide_osd=1&timeout=1

HTTP-response syntax
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<?xml version="1.0" ?>
<command_result>
<param name="protocol_version" value="1"/>
<param name="command_status" value="ok"/>
<param name="player_state" value="dvd_playback"/>
<param name="playback_speed" value="256"/>
<param name="playback_duration" value="5183"/>
<param name="playback_position" value="3000"/>
<param name="playback_dvd_menu" value="0"/>
<param name="playback_is_buffering" value="0"/>
</command_result>

Here:
- protocol_version: 1
- command_status: ok|failed|timeout
- player_state:
file_playback|dvd_playback|bluray_playback|black_screen|standby|navigator

If command_status is "failed", the response also contains the
following parameters:
- error_kind:
unknown_command|invalid_parameters|illegal_state|internal_error|operation_fai
led
- error_description: some text

If player_state is "file_playback" or "dvd_playback", the response
```

also contains the following parameters:
- playback_speed: -1024/-512/-256/-128/-64/0/64/128/256/512/1024
- playback_duration: duration in seconds (-1 or 0 if unknown)
- playback_position: position in seconds (-1 if unknown)
- playback_dvd_menu: 0|1 (1 means DVD-menu is currently shown)
- playback_is_buffering: 0|1 (1 means buffering is in progress)

Quick recommendations for using Dune as an embedded playback device
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- Set the setting "Setup / Misc / Power Management / Power on" to "Black
  screen". => Dune will not show its menu by default on boot.

- To play a M2TS file, send the NFS URL pointing to the file to Dune using
  "start_file_playback" HTTP command.

- To control the playback (pause, seek, etc), use "set_playback_state" HTTP
  command.

- To stop the playback, use "black_screen" (or "standby") HTTP command.

- To implement any other things not explicitly supported by the HTTP
  protocol, use "ir_code" HTTP comand to emulate RC button presses.

Changes and new features, introduced in firmware updates
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Protocol "2" (starting with firmware version 111122_0159_beta)

    - Improved reporting of current state during playback of IPTV streams.
    - Added information about available audiotracks during playback.
    - Added the possibility to configure the following playback parameters
      (via "set_playback_state"):
      - video_enabled
      - video_zoom
      - video_fullscreen
      - video_x
      - video_y
      - video_width
      - video_height
      - volume
      - mute

Protocol "3" (starting with firmware version 120531_2200_beta)

==== Start playback of playlist ====

http://10.0.0.1/cgi-bin/do?
cmd=start_playlist_playback&media_url=nfs://10.0.0.1:/VideoStorage:/SomeFolde
r/mymovies.m3u&start_index=2

http://10.0.0.1/cgi-bin/do?
cmd=start_playlist_playback&media_url=nfs://10.0.0.1:/VideoStorage:/StarWars&
start_index=3

http://10.0.0.1/cgi-bin/do?
cmd=start_playlist_playback&media_url=nfs://10.0.0.1:/VideoStorage:/SomeFolde
r/mymovies.m3u&start_index=0&speed=0&position=0&black_screen=1&hide_osd=1

==== Start playback of media_url with media kind autodetect (file/DVD/BD)
====

```
http://10.0.0.1/cgi-bin/do?
cmd=launch_media_url&media_url=nfs://10.0.0.1:/VideoStorage:/SomeFolder/file.
mkv

http://10.0.0.1/cgi-bin/do?
cmd=launch_media_url&media_url=smb://10.0.0.1/VideoStorage/SomeFolder/DVDFold
er

http://10.0.0.1/cgi-bin/do?
cmd=launch_media_url&media_url=nfs://10.0.0.1:/VideoStorage:/SomeFolder/blura
y_image.iso
```

==== Start FlashLite app ====

```
http://10.0.0.1/cgi-bin/do?
cmd=launch_media_url&media_url=swf://nfs://10.0.0.1:/MiscStorage:/FlashApps/a
irplane.swf:::flash_param1=value
```

NOTE: See http://dune-hd.com/support/flash for more details on SWF URL
syntax.

==== Start web browser with given URL ====

```
http://10.0.0.1/cgi-bin/do?
cmd=launch_media_url&media_url=www://http://google.com
```

```
http://10.0.0.1/cgi-bin/do?
cmd=launch_media_url&media_url=www://http://10.0.0.1/WebApps/my.html:::fullsc
reen=1&webapp_keys=1&zoom_level=100
```

NOTE: See http://dune-hd.com/support/misc/media_url.txt for more details on
WWW URL syntax.

==== Get/set current text editor state ====

```
http://10.0.0.1/cgi-bin/do?cmd=get_text
```
Returns the currently being edited text string as value of "text" param.
Returns "failed" command status if there is no active text editor.

```
http://10.0.0.1/cgi-bin/do?cmd=set_text&text=some_text_string
```
Replaces the currently edited text string with the given text string.
Returns "failed" command status if there is no active text editor.
Here:
- text: the text string to be assigned (UTF-8).