
Protocol "D"

TCP/IP Protocol for controlling the dynamic routing engine

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Overview

Messages to the DRouter dynamic routing service are by means of a TCP SOCK_STREAM connection to TCP port 23883 on the host server.

Messages have the following general syntax:

cmd-code [*arg*] [. . .]**CR/LF**

cmd-code A single word, containing no whitespace, case-insensitive.

arg Zero or more arguments, delimited by a **TAB** character (ASCII 9).

CR/LF The ASCII character **CR** (13) followed by **LF** (10).

Connection Management

Messages for managing connections to the service.

Exit

Exit

Drop the TCP connection and end the session.

Ping

Ping

Causes the remote end to return a PONG message.

Alarms

Messages for receiving alarms and querying alarm states.

List Clips

ListClips

Return a list of records delineating the currently available CLIP alarms, including current state.

| | |
|------------------|--|
| <i>CLIP</i> | The string CLIP |
| <i>host-addr</i> | The IPv4 address of the parent node, in dotted-quad notation. |
| <i>slot</i> | The slot position number of the destination on the parent node (zero-based). |
| <i>type</i> | The type of signal. Valid types are INPUT or OUTOUT. |
| <i>chan</i> | The audio channel. Valid types are LEFT or RIGHT. |
| <i>state</i> | The alarm state. 1 means the alarm is active, whereas 0 means that it is inactive. |

List Silences

ListSilences

Return a list of records delineating the currently available SILENCE alarms, including current state.

| | |
|------------------|--|
| <i>CLIP</i> | The string SILENCE |
| <i>host-addr</i> | The IPv4 address of the parent node, in dotted-quad notation. |
| <i>slot</i> | The slot position number of the destination on the parent node (zero-based). |
| <i>type</i> | The type of signal. Valid types are INPUT or OUTOUT. |
| <i>chan</i> | The audio channel. Valid types are LEFT or RIGHT. |

state The alarm state. 1 means the alarm is active, whereas 0 means that it is inactive.

List Tether

ListTether

Return a record delineating the current state of the tethering system, terminated by CR/LF. The record contains the following fields, delimited by TAB (ASCII 9):

TETHER The string TETHER.

Y|N Indicates if the local **drouterd**(8) instance is (Y) or is not (N) active.

Note

If tethering has been disabled in **drouter.conf**(5), then this command will always return Y.

Subscribe Clips

SubscribeClips

Return a list of CLIPADD records delineating the currently active clip alarms, each record terminated by CR/LF (see the description of the CLIP message in the section called “List Clips” for a breakdown of the supplied fields). Whenever a new clip alarm is added, a corresponding CLIPADD record will be sent, while changes to an existing clip alarm will cause a CLIP record to be sent. Removal of an alarm from the system will generate a corresponding CLIPDEL record, containing the following fields:

CLIPDEL The string CLIPDEL.

host-addr The IPv4 address of the parent node, in dotted-quad notation.

slot The slot position number of the destination on the parent node (zero-based).

type The type of signal. Valid types are INPUT or OUTOUT.

chan The audio channel. Valid types are LEFT or RIGHT.

Subscribe Silences

SubscribeSilences

Return a list of SILENCEADD records delineating the currently active silence alarms, each record terminated by CR/LF (see the description of the SILENCE message in the section called “List Silences” for a breakdown of the supplied fields). Whenever a new silence alarm is added, a corresponding SILENCEADD record will be sent, while changes to an existing silence alarm will cause a SILENCE record to be sent. Removal of an alarm from the system will generate a corresponding SILENCEDEL record, containing the following fields:

SILENCEDEL The string SILENCEDEL.

host-addr The IPv4 address of the parent node, in dotted-quad notation.

slot The slot position number of the destination on the parent node (zero-based).

type The type of signal. Valid types are INPUT or OUTOUT.

chan The audio channel. Valid types are LEFT or RIGHT.

Subscribe Tether

SubscribeTether

Return a record delinieating the current state of the tethering system, terminated by CR/LF (see the description of the ListTether message in the section the section called "List Tether" for a breakdown of the supplied fields). Whenever the state of the tethering system changes, a corresponding TETHER message will be sent.

Information

Messages for enumerating resources and getting system information.

List Destinations

ListDestinations

Return a list of records delinieating the currently available destinations, terminated by CR/LF. Each record contains the following fields, delimited by TAB (ASCII 9):

| | |
|--------------------|---|
| <i>DST</i> | The string DST. |
| <i>host-addr</i> | The IPv4 address of the parent node, in dotted-quad notation. |
| <i>slot</i> | The slot position number of the destination on the parent node (zero-based). |
| <i>host-name</i> | The host name of the parent node. Depending upon system configuration, this could be the name as programmed in the node or the name as reported via a DNS PTR lookup. |
| <i>stream-addr</i> | The IPv4 address of the stream configured to be received, in dotted-quad notation. |
| <i>dest-name</i> | The name of the destination. |
| <i>channels</i> | The number of channels capable of being received by this destination. Possible values include 1, 2 or 8. |

List GPIs

ListGpis

Return a list of records delinieating the currently available GPIs, terminated by CR/LF. Each record contains the following fields, delimited by TAB (ASCII 9):

| | |
|------------------|---|
| <i>GPI</i> | The string GPI. |
| <i>host-addr</i> | The IPv4 address of the parent node, in dotted-quad notation. |
| <i>slot</i> | The slot position number of the GPI on the parent node (zero-based). |
| <i>host-name</i> | The host name of the parent node. Depending upon system configuration, this could be the name as programmed in the node or the name as reported via a DNS PTR lookup. |

| | |
|-------------|---|
| <i>code</i> | A string representing the state of the GPI lines, in the format <code>xxxxxx</code> . |
|-------------|---|

List GPOs

ListGpos

Return a list of records delinieating the currently available GPOs, terminated by CR/LF. Each record contains the following fields, delimited by TAB (ASCII 9):

| | |
|----------------------|---|
| <i>GPO</i> | The string GPO. |
| <i>host-addr</i> | The IPv4 address of the parent node, in dotted-quad notation. |
| <i>slot</i> | The slot position number of the GPO on the parent node (zero-based). |
| <i>host-name</i> | The host name of the parent node. Depending upon system configuration, this could be the name as programmed in the node or the name as reported via a DNS PTR lookup. |
| <i>code</i> | A string representing the state of the GPO lines, in the format <code>xxxxxx</code> . |
| <i>name</i> | The name of the GPO entry. |
| <i>src-host-addr</i> | The IPv4 address of the source GPI node, in dotted-quad notation. |
| <i>src-slot</i> | The slot position number of the source GPI on the source node (zero-based). |

List Nodes

ListNodes

Return a list of records delinieating the currently available nodes, terminated by CR/LF. Each record contains the following fields, delimited by TAB (ASCII 9):

| | |
|------------------|--|
| <i>NODE</i> | The string NODE. |
| <i>host-addr</i> | The IPv4 address of the node, in dotted-quad notation. |
| <i>host-name</i> | The host name of the node. Depending upon system configuration, this could be the name as programmed in the node or the name as reported via a DNS PTR lookup. |
| <i>dev-name</i> | The LWRP device name. |
| <i>src-slots</i> | The number of source slot positions. |
| <i>dst-slots</i> | The number of destination slot positions. |
| <i>gpi-slots</i> | The number of GPI slot positions. |
| <i>gpo-slots</i> | The number of GPO slot positions. |

List Sources

ListSources

Return a list of SRC records, delinieating the currently available sources, terminated by CR/LF. Each record contains the following fields, delimited by TAB (ASCII 9):

| | |
|-----------------------|---|
| <i>SRC</i> | The string SRC. |
| <i>host-addr</i> | The IPv4 address of the parent node, in dotted-quad notation. |
| <i>slot</i> | The slot position number of the source on the parent node (zero-based). |
| <i>host-name</i> | The host name of the parent node. Depending upon system configuration, this could be the name as programmed in the node or the name as reported via a DNS PTR lookup. |
| <i>stream-addr</i> | The IPv4 stream address in dotted-quad notation. |
| <i>stream-name</i> | The name of the stream. |
| <i>stream-enabled</i> | The current state of the stream. 1 if enabled or 0 if disabled. |
| <i>channels</i> | The number of channels being carried by the stream. Possible values include 1, 2 or 8. |
| <i>block-size</i> | The number of PCM24 frames carried by each RTP packet. Possible values include 12 (Live Stereo), 60 (8 Channel Surround) and 240 (Standard Stereo/Mono). |

Subscribe Destinations

SubscribeDestinations

Return a list of DSTADD records delinieating the currently available destinations, each record terminated by CR/LF (see the description of the DST message in the **ListDestinations** command for a breakdown of the supplied fields). Whenever a new destination is added, a corresponding DSTADD record will be sent, while changes to an existing destination will cause a DST record to be sent. Removal of a destination from the system will generate a corresponding DSTDEL record, containing the following fields:

| | |
|------------------|--|
| <i>DSTDEL</i> | The string DSTDEL. |
| <i>host-addr</i> | The IPv4 address of the parent node, in dotted-quad notation. |
| <i>slot</i> | The slot position number of the destination on the parent node (zero-based). |

Subscribe GPIs

SubscribeGpis

Return a list of GPIADD records delinieating the currently available GPIs, each record terminated by CR/LF (see the description of the GPI message in the **ListGpis** command for a breakdown of the supplied fields). Whenever a new GPI is added, a corresponding GPIADD record will be sent, while changes to an existing GPI will cause a GPI record to be sent. Removal of a GPI from the system will generate a corresponding GPIDEL record, containing the following fields:

| | |
|------------------|---|
| <i>GPIDEL</i> | The string GPIDEL. |
| <i>host-addr</i> | The IPv4 address of the parent node, in dotted-quad notation. |

slot The slot position number of the GPI on the parent node (zero-based).

Subscribe GPOs

SubscribeGpos

Return a list of GPOADD records delineating the currently available GPOs, each record terminated by CR/LF (see the description of the GPO message in the **ListGpos** command for a breakdown of the supplied fields). Whenever a new GPO is added, a corresponding GPOADD record will be sent, while changes to an existing GPO will cause a GPO record to be sent. Removal of a GPO from the system will generate a corresponding GPODEL record, containing the following fields:

GPODEL The string GPODEL.

host-addr The IPv4 address of the parent node, in dotted-quad notation.

slot The slot position number of the GPO on the parent node (zero-based).

Subscribe Nodes

SubscribeNodes

Return a list of NODEADD records delineating the currently available nodes, each record terminated by CR/LF. Subsequently, for each newly detected node, a corresponding NODEADD record will be sent, while changes to an existing node will cause a NODE record to be sent. Removal of a node from the system will generate a corresponding NODEDEL record with the following fields:

NODEDEL The string NODEDEL.

host-addr The IPv4 address of the node, in dotted-quad notation.

Subscribe Sources

SubscribeSources

Return a list of SRCADD records delineating the currently available sources, each record terminated by CR/LF (see the description of the SRC message in the **ListSources** command for a breakdown of the supplied fields). Whenever a new source is added, a corresponding SRCADD record will be sent, while changes to an existing source will cause a SRC record to be sent. Removal of a source from the system will generate a corresponding SRCDEL record, containing the following fields:

SRCDEL The string SRCDEL.

host-addr The IPv4 address of the parent node, in dotted-quad notation.

slot The slot position number of the source on the parent node (zero-based).

Commands

Messages for changing the state of managed resources.

Clear Audio Crosspoint

ClearCrosspoint *dst-host-addr dst-slot*

Clear the source to be received by an audio destination --i.e. mute the destination.

dst-host-addr The IPv4 address of the destination node, in dotted-quad notation.

dst-slot The slot position number of the destination on the parent node (zero-based).

Clear GPIO Crosspoint

ClearGpioCrosspoint *gpo-host-addr gpo-slot*

Clear the source to be received by a GPO.

gpo-host-addr The IPv4 address of the GPO node, in dotted-quad notation.

gpo-slot The slot position number of the GPO on the parent node (zero-based).

Set Audio Crosspoint

SetCrosspoint *dst-host-addr dst-slot src-host-addr src-slot*

Set the source to be received by an audio destination.

dst-host-addr The IPv4 address of the destination node, in dotted-quad notation.

dst-slot The slot position number of the destination on the parent node (zero-based).

src-host-addr The IPv4 address of the source node, in dotted-quad notation.

src-slot The slot position number of the source on the parent node (zero-based).

Set GPIO Crosspoint

SetGpioCrosspoint *gpo-host-addr gpo-slot gpi-host-addr gpi-slot*

Set the source to be received by a GPO.

gpo-host-addr The IPv4 address of the GPO node, in dotted-quad notation.

gpo-slot The slot position number of the GPO on the parent node (zero-based).

gpi-host-addr The IPv4 address of the GPI node, in dotted-quad notation.

gpi-slot The slot position number of the GPI on the parent node (zero-based).

Set GPO State

SetGpoState *gpo-host-addr gpo-slot code*

Set the state of a GPO device.

gpo-host-addr The IPv4 address of the GPO node, in dotted-quad notation.

gpo-slot The slot position number of the GPO on the parent node (zero-based).

code A string representing the state of the GPO lines, in the format xxxxx.

Set Virtual GPI State

SetGpiState *gpi-host-addr gpi-slot code*

Set the state of a virtual GPI device.

gpi-host-addr The IPv4 address of the virtual GPI node, in dotted-quad notation.

gpi-slot The slot position number of the virtual GPI on the parent node (zero-based).

code A string representing the state of the GPI lines, in the format `xxxxxx`.