For More Information

For detailed information about the Cisco IP Interoperability and Collaboration System (Cisco IPICS), and for additional information about radio and tone descriptor files, refer to the *Cisco IPICS Server Administration Guide, Release 2.1(1)*.

Refer to the following URL for the complete Cisco IPICS documentation set: http://www.cisco.com/en/US/products/ps7026/tsd_products_support_series_home.html

78-18325-01

Printed in the USA DOC-7818325=

QUICK START

Cisco IPICS Radio and Tone Descriptor File Examples

Overview

A radio descriptor is an .xml file that is used to control functions on a radio. It contains channel selectors (to change radio frequencies) and control tone sequences (to provide radio controls such as monitoring and scanning).

A tone descriptor is an .xml file that contains signals. Signals are associated with channels whether or not a radio is configured on the channels. Tone descriptors describe momentary signals that can be sent over-the-air on a selected frequency/channel or other devices.

Cisco IPICS allows you to create and/or modify existing radio and tone descriptor files in Cisco IPICS. This functionality can be useful, for example, if you want to add controls or signals, or change the duration of a tone.

Guidelines for Configuring Descriptor Files

The following guidelines apply to configuring radio and tone descriptor .xml file entries:

- For channel selectors and radio control functions (both stateful and simple) Cisco IPICS supports only RFC 2833 tone entries.
- You cannot enter more than six consecutive RFC 2833 tones in a tone control sequence.
- For signals, Cisco IPICS supports both RFC 2833 tone and RFC 2833 event (DTMF) commands.
- For tone signaling, you can enter more than six consecutive RFC 2833 tones only if the sixth tone event is separated by a pause entry (such as one ms) or a DTMF digit entry. Pauses are defined by a tone with a frequency of zero, as shown in the following example: <Rfc2833Tone db="0"frequency="0" duration="40" />
- There is no limit to the number of DTMF entries that are allowed in a signaling tone sequence.

Note: When you enter DTMF digits, be sure to configure a delay between the digits, as required by the local specifications. Most U.S. specifications require an interdigit delay of at least 40 ms.

- If you have a common tone control sequence that is used by multiple radio descriptors, you can add it to a tone descriptor and reference it from multiple radio descriptors. This tone control sequence does not display as a signal that is available to channels.
- You can add a signal in a radio descriptor, but the signal displays as a control in the Cisco IPICS; however, Cisco does not recommend this practice. A signal that is defined in the radio descriptor is available to the radio independently of the channel to which it is currently tuned.

Valid .xml Entries

Example 1 shows valid radio signaling .xml entries. Even though this example shows more than six consecutive RFC 2833 tone sequences, it is still valid because the tones are separated by a pause entry of at least 1 ms *(frequency = 0 tone)*

Example 1

```
<Signal shortName="TV"
longName="Start TV"
description="Start the Television">
    <Action type="pressed">
        <Command>
            <Rfc2833Tone db="0"
duration="40" frequency="100" />
            <Rfc2833Tone db="0"
duration="40" frequency="200" />
.
.
.
duration="40" frequency="600" />
            <Rfc2833Tone db="0"
duration="1" frequency="0" />
            <Rfc2833Tone db="0"
duration="40" frequency="700" />
            <Rfc2833Tone db="0"
duration="40" frequency="800" />
        </Command>
    </Action>
</Signal>
```

Invalid .xml Entries

The following .xml entry examples include invalid entries:

- Example 2—Shows more than six RFC 2833 tone entries as part of a radio signaling tone sequence and does not include any pause entries.
- Example 3—Shows DTMF events as part of a radio control tone sequence.
- Example 4—Shows more than six consecutive RFC 2833 radio control tone sequences.

Example 2

```
<Signal shortName="TV"
longName="Start TV"
description="Start the Television">
    <Action type="pressed">
        <Command>
            <Rfc2833Tone db="0"
duration="40" frequency="100" />
            <Rfc2833Tone db="0"
duration="40" frequency="200" />
            <Rfc2833Tone db="0"
duration="40" frequency="300" />
            <Rfc2833Tone db="0"
duration="40" frequency="400" />
            <Rfc2833Tone db="0"
duration="40" frequency="500" />
            <Rfc2833Tone db="0"
duration="40" frequency="600" />
            <Rfc2833Tone db="0"
duration="40" frequency="700" />
        </Command>
    </Action>
</Signal>
```

Example 3

```
<ChannelSelector label="F2">
    <Action type="tune">
        <CommandRef href="hlgt" />
        <Command>
            <Rfc2833Tone db="-10"
duration="40" frequency="1850" />
            <Rfc2833Event db="-30"
duration="200" event="5" />
        </Command>
        <CommandRef href="llgt" />
    </Action>
</ChannelSelector>
```

Example 4

```
<State shortName="On">
    <Action type="pressed">
        <Command>
            <Rfc2833Tone db="-10"
duration="200" frequency="1105" />
.
.
.
            <Rfc2833Tone db="-10"
duration="200" frequency="1605" />
            <Rfc2833Tone db="-10"
duration="200"frequency="1705"/>
        </Command>
    </Action>
</State>
```