

Enhanced SendDigits URI XML Service Interface Application Note



Target Audience: Unified Communication XML Application developers

Concept: This document was created by the Cisco Voice Technology Group as part of a series of documents to provide information and implementation guidance on new XML application interface objects as they become available.

The XML Service Interface documentation and SDK are updated as new versions of Cisco Unified Communication Manager are released. In between releases of Cisco Unified Communication Manager, new releases of IP phone firmware are also released. Some of these IP phone firmware releases may contain enhancements to the XML Service Interface. This series of XML service interface applications notes has been produced as a way of making these enhancements available to the developer community as early as possible.

The information contained in this application note will be incorporated into the next release of the XML application interface documentation and the SDK. At that time, the information in this document will be deprecated, but until that time this document acts as the reference documentation for the XML Service Interface API being described.



Enhanced SendDigits URI

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Introduction

The SendDigits URI instructs the phone to send a specified sequence of DTMF digits in-band within the media stream of the current active (streaming) call.

The SendDigits URI accepts a single, required “DTMF sequence” parameter which can contain the standard DTMF digits 0123456789*#ABCD, as well as commas (.). Commas will introduce 1 second pauses in the playout of the DTMF sequence. Any invalid characters in the sequence will simply be ignored. An empty sequence (either specified as empty in the URI or resulting in empty due to invalid characters being stripped) will have the same result as a non-empty sequence – if there is an active call, it will return a “success” status, otherwise it will return an error.

Audible feedback to the user can be enabled or disabled and an optional application ID can be specified to ensure that the DTMF digits will only be sent to the call which is associated with a specific application.

Syntax

SendDigits:{dtmfSequence}:{audibleFeedback}[:{applicationId}]

{dtmfSequence}

Description: The sequence of DTMF digits to be sent

Type: String



Values/Range: minLength=0, no maxLength, can only contain
0123456789#*ABCD,
Default-value: N/A

{audibleFeedback}

Description: Whether or not to provide audible feedback to the user as the DTMF digits are dialed

Type: Boolean

Values/Range: 0, 1 (0=false 1=true)

Default-value: 0

{applicationId} (Optional)

Description: Application ID of the application associated with the call which must receive the digits.

Type: String

Values/Range: minLength=0, maxLength=64; cannot contain colons

Default-value: <null> which indicates the current active call should receive the digits, regardless of its application association, if any.

Sample Usage

The following Calling-Card example will:

- Connect to a 800 calling card service (using the Dial URI)
- Application waits/sleeps a couple seconds to give call time to connect
- Dial the destination number, ensuring that the digits can only be dialed on this app's call
- Pause 2 seconds
- Dials the calling card number
- Pause 1 second
- Dials the pin number

```
<CiscoIPPhoneExecute>  
  <ExecuteItem URL="Dial:918005551212:1:Cisco/Dialer"/>  
</CiscoIPPhoneExecute>
```

(wait a couple seconds for call to connect)

```
<CiscoIPPhoneExecute>  
  <ExecuteItem  
URL="SendDigits:6185551212,,987654321,1234:1:Cisco/Dialer"/>  
</CiscoIPPhoneExecute>
```



Pre-requisites

This XML Service Interface API, requires IP phone firmware 8.3(2) or later. For the availability of the 8.3(2) phone firmware, please consult www.cisco.com or contact the Developer Support team in order to obtain an early release of this phone firmware.

http://www.cisco.com/en/US/products/svcs/ps3034/ps5408/ps5418/serv_home.html

NOTE: Phone Firmware 8.3(2) contains an updated XML parser, with more rigid enforcement of the XML schema. XML applications that have been written to earlier versions of the XML parser, may encounter exceptions if they do not conform the XML schema. It is recommended that any existing XML applications be validated with the new XML parser before trying to enhance the XML application to use this new XML Service Interface API.

For details on the new XML parser, please consult the XML Service Interface Application note entitled **IP Phone Services XML Schema Enforcement**

Supported Platforms

The following models of IP phones will support this XML Service Interface API, 7906, 7911, 7931, 7941, 7961, 7970, and 7971.

The 7905, 7912, 7920, 7940, 7960 and 7985 will not support this XML Service Interface API

Error and Response

When the SendDigits URI is invoked via an Execute object, it will use the standard URI Status and Data values in ResponseItems:

Condition	Status	Data
Executed successfully	0 (Success)	Success
URI syntax is invalid	1 (Parse error)	Invalid URI
URI is not supported	6 (Internal Error)	URI not found
Unable to execute URI because there currently is no active (streaming) call.	6 (Internal Error)	No Active Call
Unable to execute URI because the current active (streaming) call is not associated with the specified application.	6 (Internal Error)	No Active Call for Application
Phone is temporarily unable to execute URI	6 (Internal Error)	<reason for failure>



due to some other transient issue		
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Debug / Logging

Any error conditions are sent to the logging service at level ERROR.

Additional References

Cisco IP phone Services along with developer resources such as the SDK to assist developers in getting started with applications and documentation on the various URIs and XML Objects that are supported in the IP phones are available at the link posted below.

http://www.cisco.com/en/US/products/sw/voicesw/ps556/products_programming_usage_guide_book09186a00807a34b9.html

In recent years, Cisco has introduced a new generation of desktop IP phone models, the 7906, 7911, 7931, 7941, 7961, 7970 and 7971. These new models of phones have been introduced as a platform in which new features can be introduced, and on which new applications can be built. The introduction of these new generation IP phones has also provided an opportunity to increase the range of XML objects and URIs that are supported. The introduction of enhancements to IP phone services is also the time to remind application developers, of the XML schema that is defined for the IP phone services. This schema is published at the following location, and has been since initial release

http://www.cisco.com/en/US/products/sw/voicesw/ps556/products_programming_usage_guide_chapter09186a00807a352c.html

Please contact the developer support team and gain more information about Developer services and access to early deployment phone loads.

http://www.cisco.com/en/US/products/svcs/ps3034/ps5408/ps5418/serv_home.html