

## Cisco VoiceXML Elements: Reference Table

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**Revised: October 2, 2009, OL-11175-01**

This appendix contains [Table B-1](#), the VoiceXML elements used by Cisco VoiceXML, and summarizes the elements and their attributes, and their corresponding parent and children elements in the *VoiceXML 2.1* W3C Candidate Recommendation (June 13, 2005) in alphabetical order.



**Note**

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If an unsupported element is used in a VoiceXML document, an error event is generated. However, there is a subset of unsupported elements which are ignored and for which error events are generated.

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Table B-1 Cisco VoiceXML Elements Reference Table

Element	Attributes	Parents	Children	Notes
<assign>	name expr	block catch error filled help if noinput nomatch	No children	Supported by Cisco VoiceXML.
<audio>	src fetchtimeout fetchhint maxage maxstale expr	block catch choice emphasis error field filled help if initial menu noinput nomatch object p paragraph prosody record s sentence subdialog transfer voice	audio break emphasis enumerate mark p paragraph phoneme prosody s say-as sentence value voice #pcdata	<ul style="list-style-type: none"> <li>• Audio file formats supported are audio/basic and audio/wav.</li> <li>• A uniform resource identifier (URI) in the &lt;audio src&gt; element can point to a block of speech markup data, but such support is dependent on, and conditional to the vendor's decision of where the &lt;audio src&gt; element can point.</li> <li>• The following codecs are supported for each file format: <ul style="list-style-type: none"> <li>- g711alaw</li> <li>- g711ulaw</li> <li>- g726r32</li> <li>- g726r24</li> <li>- g726r16</li> <li>- g728</li> <li>- g729r8</li> <li>- g729abr8</li> <li>- g729ar8</li> <li>- g729br8</li> <li>- g723r63</li> <li>- g723ar63</li> <li>- g723r53</li> <li>- g723ar53</li> </ul> </li> </ul> <p>The default codec is g729ar8.</p>

**Table B-1** Cisco VoiceXML Elements Reference Table (continued)

Element	Attributes	Parents	Children	Notes
<block>	name expr cond	form	pcdata assign audio cisco-typeaheadflush clear disconnect enumerate exit goto if log prompt reprompt return script submit throw var value #pcdata	Supported by Cisco VoiceXML.
<catch>	event count cond	field form initial menu object record subdialog transfer vxml	assign audio cisco-typeaheadflush clear disconnect enumerate exit goto if log prompt reprompt return script submit throw var value #pcdata	Supported by Cisco VoiceXML.

Table B-1 Cisco VoiceXML Elements Reference Table (continued)

Element	Attributes	Parents	Children	Notes
<choice>	dtmf accept next expr fetchaudio fetchhint fetchtimeout maxage maxstale	menu	audio break emphasis enumerate grammar mark p paragraph phoneme prosody s say-as sentence value voice #pcdata	Supported by Cisco VoiceXML.

Table B-1 Cisco VoiceXML Elements Reference Table (continued)

Element	Attributes	Parents	Children	Notes
<cisco-vcrcontrol>	action dtmf step scope	—	—	<ul style="list-style-type: none"> <li>• &lt;cisco-vcrcontrol&gt; is used to control the volume and rate of audio playback.</li> <li>• Grammar support is only for in-line DTMF grammar. External and ASR grammar is not supported. If &lt;prompt&gt; is the executable content, &lt;cisco-vcrcontrol&gt; grammar can be activated even if the input grammar is not activated.</li> <li>• TTS is not supported.</li> <li>• If the input accepted is not for &lt;cisco-vcrcontrol&gt;, the DTMF digits are saved to a typeahead buffer.</li> <li>• The value for the attribute scope is document or dialog. If scope is set to document, &lt;cisco-vcrcontrol&gt; is active in all dialogs of the current document and the applicable leaf document. If scope is set to dialog, &lt;cisco-vcrcontrol&gt; is active throughout the current form. If the value for scope is omitted, the attribute scope is resolved by the parent element.</li> <li>• Scope of &lt;vcrcontrol&gt; is applicable instead of scope of the grammar.</li> <li>• The attribute dtmf specifies the DTMF sequence for &lt;cisco-vcrcontrol&gt;. It does not take a regular expression. The value for dtmf is a single digit.</li> <li>• The value for the attribute action is rate or volume.</li> <li>• The attribute step changes the playout rate for rate control, and the playout volume for volume control.</li> </ul>
<clear>	namelist	block catch error filled help if noinput nomatch	—	Supported by Cisco VoiceXML.

Table B-1 Cisco VoiceXML Elements Reference Table (continued)

Element	Attributes	Parents	Children	Notes
<data>	src name srcexpr method namelist enctype fetchaudio fetchint fetchtimeout maxage maxstale	block catch error filled foreach form help if noinput nomatch vxml	—	W3C Document Object Model (DOM) is not supported. If the name attribute is set, an error.unsupported.data.name event is thrown.
<disconnect>	cisco-gtd namelist	block catch error filled help if noinput nomatch	—	Supported by Cisco VoiceXML. For more information on the attribute cisco-gtd, see the <a href="#">“Using &lt;transfer&gt; and &lt;disconnect&gt; for GTD Manipulation”</a> section on page 1-109 in Chapter 1, “Cisco VoiceXML Features.”
<else>	no attributes	if	—	Supported by Cisco VoiceXML.
<elseif>	cond	if	—	Supported by Cisco VoiceXML.
<enumerate>	no attributes	block catch choice emphasis error field filled help if initial menu noinput nomatch object p paragraph prosody record s sentence subdialog transfer voice	audio break emphasis enumerate mark p paragraph phoneme prosody s say-as sentence value voice #pcdata	Supported by Cisco VoiceXML.

Table B-1 Cisco VoiceXML Elements Reference Table (continued)

Element	Attributes	Parents	Children	Notes
<error>	count cond	field form initial menu object record subdialog transfer vxml	exit goto if log prompt reprompt return script submit throw var value #pcdata	Supported by Cisco VoiceXML.
<exit>	expr namelist	block catch error filled help if noinput nomatch	—	Supported by Cisco VoiceXML.
<field>	name expr cond type slot modal	form	audio catch enumerate error filled grammar help link noinput nomatch option prompt property value #pcdata	Supported by Cisco VoiceXML.

Table B-1 Cisco VoiceXML Elements Reference Table (continued)

Element	Attributes	Parents	Children	Notes
<filled>	mode namelist	field form	assign cisco-typeaheadflush clear disconnect enumerate exit goto if log object prompt record reprompt return script subdialog submit throw transfer var value #pdata	Supported by Cisco VoiceXML.



Table B-1 Cisco VoiceXML Elements Reference Table (continued)

Element	Attributes	Parents	Children	Notes
<foreach>	array item	block catch error filled help if noinput nomatch prompt	audio assign clear data disconnect exit foreach goto if log metadata prompt reprompt return script submit throw var p s break emphasis mark phoneme prosody say-as voice sub	Supported by Cisco VoiceXML.
<form>	id scope	vxml	block catch error field filled grammar help initial link noinput nomatch object property record script subdialog transfer var	Supported by Cisco VoiceXML.

Table B-1 Cisco VoiceXML Elements Reference Table (continued)

Element	Attributes	Parents	Children	Notes
<goto>	next expr nextitem exprite fetchaudio fetchhint fetchtimeout maxage maxstale	block catch error filled help if noinput nomatch	—	Supported by Cisco VoiceXML.
<grammar>	xml:lang src scope type mode root version weight fetchhint maxage maxstale ruleref tag-format xml:base srcexpr	choice field form link record transfer	import metadata rule #pcdata	<ul style="list-style-type: none"> <li>The attribute weight is ignored.</li> <li>Cisco supports XML and regular expression (regex) grammars. <ul style="list-style-type: none"> <li>Cisco supports Nuance extensions for XML grammar.</li> <li>Cisco supports regex grammar for DTMF input. See the <a href="#">“Grammar Support”</a> section on page 1-23 in Chapter 1, <a href="#">“Cisco VoiceXML Features”</a> for details.</li> </ul> </li> <li>The attribute xml:base declares the base URI from which relative URIs in the &lt;grammar&gt; element are resolved. This base declaration has precedence over the &lt;vxml&gt; base URI declaration. If a local declaration is omitted, the value is inherited down the document hierarchy.</li> </ul>
<help>	count cond	field form initial menu object record subdialog transfer vxml	audio assign cisco-typeaheadflush clear disconnect enumerate exit goto if log prompt reprompt return script submit throw var value #pcdata	Supported by Cisco VoiceXML.

Table B-1 Cisco VoiceXML Elements Reference Table (continued)

Element	Attributes	Parents	Children	Notes
<if>	cond	block catch error filled help noinput nomatch	assign audio cisco-typeaheadflush clear disconnect else elseif enumerate exit goto if prompt reprompt return script submit throw value var #pcdata	Supported by Cisco VoiceXML.
<initial>	name expr cond	form	audio catch enumerate error help link noinput nomatch prompt property value #pcdata	Supported by Cisco VoiceXML.
<link>	next expr event dtmf fetchaudio fetchhint fetchtimeout maxage maxstale	field form initial vxml	grammar	Supported by Cisco VoiceXML.

Table B-1 Cisco VoiceXML Elements Reference Table (continued)

Element	Attributes	Parents	Children	Notes
<log>	label expr	block catch error filled help if noinput nomatch	value #pcdata	Supported by Cisco VoiceXML.
<mark>	nameexpr	—	—	Supported by Cisco VoiceXML.
<menu>	id scope dtmf accept	vxml	audio catch choice data enumerate error help noinput nomatch prompt property value #pcdata	Supported by Cisco VoiceXML.
<meta>	name content http-equiv	vxml	—	Supported by Cisco VoiceXML.
<metadata>		foreach grammar prompt vxml	any element	Supported by Cisco VoiceXML.
<noinput>	count cond	field form initial menu object record subdialog transfer vxml	audio assign cisco-typeaheadflush clear disconnect enumerate exit goto if log prompt reprompt return script submit throw var value #pcdata	Supported by Cisco VoiceXML.

Table B-1 Cisco VoiceXML Elements Reference Table (continued)

Element	Attributes	Parents	Children	Notes
<nomatch>	count cond	field form initial menu object record subdialog transfer vxml	audio assign cisco-typeaheadflush clear disconnect enumerate exit goto if log prompt reprompt return script submit throw var value #pcdata	Supported by Cisco VoiceXML.
<object>	name expr cond classid codebase codetype data type archive fetchhint fetchtimeout maxage maxstale	form	audio catch enumerate error filled help noinput nomatch param prompt property value #pcdata	<ul style="list-style-type: none"> <li>• Supported by Cisco VoiceXML.</li> <li>• Cisco objects are: <ul style="list-style-type: none"> <li>– Authorization</li> <li>– Authentication</li> <li>– Handoff</li> <li>– Sentevent</li> </ul> </li> </ul>
<option>	dtmf value accept	field	#pcdata	Supported by Cisco VoiceXML.
<param>	name expr value vlauetype type	object subdialog	—	Supported by Cisco VoiceXML.

Table B-1 Cisco VoiceXML Elements Reference Table (continued)

Element	Attributes	Parents	Children	Notes
<prompt>	bargein bargeintype cond cont timeout xml:lang cisco-vcrprompt cisco-rate xml:base cisco-maxtime	block catch error field filled help if initial menu noinput nomatch object record subdialog transfer	audio break emphasis enumerate foreach mark metadata p paragraph phoneme prosody s say-as sentence value voice #pcdata	<ul style="list-style-type: none"> <li>The hotword value of the bargeintype attribute is only supported through Media Resource Control Protocol version 2 (MRCP v2) which is supported in Cisco IOS Release 12.4(15)T and later releases.</li> <li>SSML elements are supported by the ASR and TTS servers.</li> <li>The attribute cisco-vcrprompt must be set to TRUE before using the &lt;cisco-vcrccontrol&gt; element to control the volume and rate of audio playback. The default value is FALSE.</li> <li>The attribute cisco-rate is the playout rate. The absolute value ranges from -4 to +4.</li> <li>The attribute cisco-maxtime is the playout time for Real-Time Streaming Protocol (RTSP) live streaming in seconds. Values range from 0 to 43200. Live streaming stops when cisco-maxtime expires or bargein occurs. If cisco-maxtime is zero or no value is set, live streaming plays indefinitely.</li> </ul>

Table B-1 Cisco VoiceXML Elements Reference Table (continued)

Element	Attributes	Parents	Children	Notes
<property>	name value	field form initial menu object record subdialog transfer vxml	—	<ul style="list-style-type: none"> <li>• The following properties are not supported: <ul style="list-style-type: none"> <li>– maxspechtimeout</li> <li>– bargeintype</li> <li>– audiofetchhint</li> <li>– documentfetchhint</li> <li>– grammarfetchhint</li> <li>– grammarmaxage</li> <li>– grammarmaxstale</li> <li>– objectfetchhint</li> <li>– objectmaxage</li> <li>– objectmaxstale</li> <li>– scriptfetchhint</li> </ul> </li> <li>• The following specific Cisco properties are supported: <ul style="list-style-type: none"> <li>– com.cisco.tts-server</li> <li>– com.cisco.asr-server</li> <li>– com.cisco.asr-builtin-grammar</li> <li>– com.cisco.media-logging-id</li> <li>– com.cisco.record_maxtime</li> <li>– com.cisco.record_type</li> <li>– com.cisco.record_finalsilence</li> <li>– com.cisco.mta.send.mdn_username</li> <li>– com.cisco.mta.send.mdn_hostname</li> <li>– com.cisco.mta.send.from_username</li> <li>– com.cisco.mta.send.from_hostname</li> <li>– com.cisco.mta.send.server</li> <li>– com.cisco.mta.send.subject</li> <li>– com.cisco.mta.send.origin_prefix</li> <li>– com.cisco.mta.send.dsn_delay</li> <li>– com.cisco.mta.send.dsn_failure</li> <li>– com.cisco.mta.send.dsn_success</li> </ul> </li> </ul>

Table B-1 Cisco VoiceXML Elements Reference Table (continued)

Element	Attributes	Parents	Children	Notes
				<ul style="list-style-type: none"> <li>The recordutterance property is not supported for &lt;record&gt; and &lt;transfer&gt;. The recordutterance property requires an HTTP server on your automatic speech recognition (ASR) server. You must install and start your HTTP server before the recordutterance property can be supported</li> </ul>



Table B-1 Cisco VoiceXML Elements Reference Table (continued)

Element	Attributes	Parents	Children	Notes
<record>	name expr cond modal beep maxtime finalsilence dtmfterm type dest cisco-recordbeep cisco-recordbeepinterval	form	audio catch enumerate error filled grammar help noinput nomatch prompt property value #pcdata	<ul style="list-style-type: none"> <li>• Cisco extension is cisco-destexpr.</li> <li>• The finalsilence attribute specifies the waiting time in seconds for the gateway before terminating the recording. A non-zero value of final silence, which is the default value, indicates no silence detection.</li> </ul> <p><b>Note</b> Voice activation detection (VAD) must be enabled on the VoIP dial peer when final silence detection is needed to terminate a voice recording. See the <i>Cisco IOS TCL and VoiceXML Application Guide</i> for your Cisco IOS software release for details.</p> <ul style="list-style-type: none"> <li>• The name\$.dest shadow variable is not supported.</li> <li>• Voice recording supports the following codecs: <ul style="list-style-type: none"> <li>– g711 u-law</li> <li>– g723.1</li> </ul> </li> <li>• The attribute cisco-recordbeep is a boolean variable. When the value is set to “true,” a beep sound is sent back to the user every x seconds during recording. The number of seconds between beeps is specified in the cisco-recordbeep interval attribute.</li> </ul> <p><b>Note</b> All codecs are supported on the PSTN call leg. The G.711 u-law, G.711 a-law, G.729r8, G.723r53, and G.723r63 codecs only are supported on the VoIP call leg.</p> <ul style="list-style-type: none"> <li>• The attribute cisco-recordbeepinterval is the time in seconds to specify the interval between beeps for cisco-recordbeep attribute. The default and maximum value is 15 sec; the minimum value is 5 sec. If a value smaller than the minimum is specified, it will be changed to the minimum value. If a value greater than the maximum is specified, it will be changed to the maximum value.</li> </ul>

Table B-1 Cisco VoiceXML Elements Reference Table (continued)

Element	Attributes	Parents	Children	Notes
<reprompt>	no attributes	—	—	Supported by Cisco VoiceXML.
<return>	event namelist	block catch error filled help if noinput nomatch	—	Supported by Cisco VoiceXML.
<script>	src charset fetchhint fetchtimeout maxage maxstale srcexpr	block catch error filled form help if noinput nomatch vxml	#pcdata	Supported by Cisco VoiceXML.
<subdialog>	name expr cond namelist src method enctype fetchaudio fetchtimeout fetchhint maxage maxstale	form	audio catch enumerate error filled help noinput nomatch param prompt property value #pcdata	Supported by Cisco VoiceXML.
<submit>	next express namelist method enctype fetchaudio fetchhint fetchtimeout maxage maxstale	block catch error filled help if noinput nomatch	—	To submit a RAM recording to an external server with the POST method, the enctype must be multipart/form-data.

Table B-1 Cisco VoiceXML Elements Reference Table (continued)

Element	Attributes	Parents	Children	Notes
<throw>	event eventexpr message messageexpr	block catch error filed help if noinput nomatch	—	Supported by Cisco VoiceXML.
<transfer>	name expr cond dest destexpr bridge connecttimeout maxtime transferaudio cisco-gtd transferaudio aai aaiexpr type	form	audio catch enumerate error filled grammar help noinput nomatch prompt property value #pcdata	<ul style="list-style-type: none"> <li>• A Cisco feature is the implementation of Cisco longpound (long-#) attribute.</li> <li>• For more information on the attribute <i>cisco-gtd</i>, see the “Using &lt;transfer&gt; and &lt;disconnect&gt; for GTD Manipulation” section on page 1-109 in Chapter 1, “Cisco VoiceXML Features.”</li> <li>• The following specific Cisco telephony attributes are supported: <ul style="list-style-type: none"> <li>– cisco-username</li> <li>– cisco-ani</li> <li>– cisco-aniexpr</li> <li>– cisco-anitype</li> <li>– cisco-aniplan</li> <li>– cisco-anipi</li> <li>– cisco-anisi</li> <li>– cisco-desttype</li> <li>– cisco-destplan</li> <li>– cisco-rdn</li> <li>– cisco-rdnexpr</li> <li>– cisco-rdntype</li> <li>– cisco-rdnplan</li> <li>– cisco-rdnpi</li> <li>– cisco-rdnsi</li> <li>– cisco-redirect-reason</li> </ul> </li> </ul>

Table B-1 Cisco VoiceXML Elements Reference Table (continued)

Element	Attributes	Parents	Children	Notes
<value>	expr	—	audio block catch choice emphasis enumerate error field filled help if initial log menu noinput nomatch object p paragraph prompt prosody record s say-as sentence subdialog transfer voice	Supported by Cisco VoiceXML.
<var>	name expr	block catch error filled form help if noinput nomatch vxml	—	Supported by Cisco VoiceXML.

Table B-1 Cisco VoiceXML Elements Reference Table (continued)

Element	Attributes	Parents	Children	Notes
<vxml>	version base xml:lang application xml:base xmlns	—	catch data error form help link menu meta metadata noinput nomatch property script var	Supported by Cisco VoiceXML.

