Unified ICM Configuration

Configure Unified ICM Server

Procedure

Step 1   Log in to Operations Console and click **Device Management** > **Unified ICM**.

Step 2   Click **Add New**.

> **Note**   To use an existing ICM Server as a template for configuring a new ICM Server, select an ICM Server from the list of available Unified ICM Servers and click **Use As Template** and perform Steps 3 to 6.

Step 3   Click the **General** tab and enter the field values. See General Settings, on page 2.

Step 4   (Optional) Click the **Device Pool** tab and add the Unified ICM Server to a device pool. See Add Unified ICM to Device Pool, on page 2.

Step 5   Click **Save**.

Related Topics

General Settings, on page 2

Add Unified ICM to Device Pool, on page 2

ICM Server Settings

General Settings

Unified CVP provides VoIP routing services for the Unified CCE and Unified CCX products. Unified ICM provides the services to determine where calls should be routed. These calls can be routed to ACDs, specific agents, or to VRUs. However, the routing services themselves must be provided by an external routing client.

A Unified ICM Server is required in Unified CVP Comprehensive, Call Director, and VRU-Only call flow models.

To configure General settings on an ICM Server, on the **General** tab, enter the field values, as listed in the following table:

Table 1: Unified ICM—General Tab Configuration Settings

Field	Description	Default	Value	Restart Required
IP Address	The IP address of a Unified ICM Server	None	Valid IP address	No
Hostname	The name of the Unified ICM Server	None	Valid DNS name. It includes alphanumeric characters and a dash.	No
Description	Additional information about the Unified ICM Server	None	Up to 1024 characters	No
Device Admin URL	The URL for the Unified ICM Web configuration application.	None	Valid URL	No

Add Unified ICM to Device Pool

See Add or Remove Device From Device Pool.

Related Topics

Add or Remove Device From Device Pool

Configure ICM Settings for Standalone Call Flow Model

You can convert a configuration from a nonreporting configuration (that is, no Call Server is defined) to a Reporting or ICM Lookup Configuration. If you have configured Unified CVP for a Standalone call flow model without reporting, the version of the VXML Server you defined cannot be associated with a Call Server. This VXML Server definition is required for reporting and for the ICM Lookup. Hence, delete the existing VXML Server definition and begin with Step 4 to incorporate a Call Server, a Reporting Server, and ICM Lookup Configuration steps.

Variations	Applicable steps
Reporting	Steps 2, 5, and 6
Without Reporting	Not applicable
ICM lookup	Steps 1 to 7
All variations	Step 1

Procedure

Step 1   Create an application using Cisco Unified Call Studio and deploy it as a zip file.

Note
- For ICM Lookup, use the **ReqICMLabel Element**. This element has two exit states: **error** and **done**. The **done** state must connect to a transfer element to transfer the caller to **ReqICMLabel** as referenced by the **ReqICMLabel Element**.

- For details on the **ReqICMLabel Element**, see the Element Specifications for Cisco Unified CVP VXML Server and Unified Call Studio.

- For information about Unified Call Studio, see the User Guide for Cisco Unified CVP VXML Server and Unified Call Studio.

Step 2   Enable logging.

See the User Guide for Cisco Unified CVP VXML Server and Unified Call Studio for details on configuring loggers using Unified Call Studio.

Step 3   Enable the **CVPSNMPLogger** for SNMP monitoring.

Note   By default, **CVPSNMPLogger** is enabled when a new Unified Call Studio application is created and deployed to the VXML Server.

Step 4   Add and configure a standard Call Server and enable the ICM service. See Configure Call Server.

Step 5   Configure the VXML Server.

a) Log in to Operations Console, select **Device Management** > **VXML Server** and add a VXML Server with an associated Primary Call Server.

b) To enable reporting for this VXML Server, in the Operations Console, click the **Configuration** tab and select **Enable Reporting for this VXML Server**.

c) Add appropriate filtering.

Step 6   Deploy the Call Studio Application on the VXML Server.

a) Select **Device Management** > **VXML Server** in the Operations Console.

b) Select the VXML Server and click **Save and Deploy**.

Step 7   Using the ICM Script Editor, create a Unified ICME script that returns a label.

To transfer information from Unified ICME to the VXML Server in addition to the label, use the ToExtVXML 0 - 4 ECC Variables or Peripheral Variables 1 to 10. The format for using the ToExtVXML 0 to 4 is with name-value pairs that are delimited by semicolons.

Example:

```
ToExtVXML0 = "company=Cisco Systems;state=MA"
```

Use the Peripheral Variables 1 to 10 to pass information to the VXML Server. The values in these variables will be taken as is.

For information about creating a Unified ICME script that returns a label in, see the Unified ICME documentation.

For information about using the ReqICMLabel element, see Pass Data to Unified ICME, on page 30.

Related Topics

Configure Call Server

Configure ICM Settings for Comprehensive Call Flow Model for ICME and ICMH

Procedure

Step 1 Define Network VRUs, create an instance, and define a customer.

a) On Unified ICME or NAM, in the ICM Configuration Manager, select the **Network VRU Explorer** tool, define a Network VRU for the VRU leg and labels for each Call Server.

b) On the Cisco Intelligent Contact Manager (CICM) only, in the ICM Configuration Manager, select **Network VRU Explorer tool**, define a Network VRU for the VRU leg and labels for reaching the NAM.

For Steps 1(a) and 1(b), enter the following values:

- Type: **10**

- Name: *<Network VRU Name>*. For example: **cvp**

- Define a label for each Unified CVP Call Server that is handling the switch leg:

  - Label: *<Network Routing Number>*

  - Type: **Normal**

  - Routing client for Unified ICME or NAM: From the drop-down list, select the routing client configured for that Call Server peripheral.

  - Routing client for CICM only: From the drop-down list, select the INCRP routing client.

Note The Network VRU label in NAM and CICM must be same. Similarly, the Network VRU Names on the NAM and CICM should also be same.

Step 2 Configure the ICM VRU Label.

Step 3 Define network VRUs and peripheral gateways for the switch leg in the ICM Configuration Manager.

On Unified ICMH, on the NAM and CICMs, in the Network VRU Explorer tool, define one label for each Unified CVP Call Server or NIC routing client.

Note   Use the same Type 10 Network VRU that you defined in the Step 1 for the VRU leg.

For more information, see the ICM Configuration Guide for Cisco ICM Enterprise Edition.

Step 4   Set the client type for the INCRP NIC. On the CICM, in the ICM Configuration Manager, NIC Explorer tool, set the client type for the INCRP NIC. Select the **Client Type** as **VRU**.

Step 5   Define a VRU that uses INCRP. On the CICM, in the ICM Configuration Manager, Network VRU Explorer tool:

a) Define a Network VRU with a label that uses INCRP as its routing client.

Specify the following:

- Type: **10**

- Name: *<name of Unified CVP VRU>*

Example:

cvpVRU

b) Define a label for the NAM routing client.

Specify the following:

- Type: **Normal**

- Label: *<Network Routing Number>*

- Routing client: **INCRP NIC**

For more information, see the ICM Configuration Guide for Cisco ICM Enterprise Edition.

Step 6   Configure Peripheral Gateways .

On the NAM, ICM Configuration Manager, **PG Explorer** tool, configure a peripheral gateway (PG) for the Unified CVP. Configure a PG for each Unified CVP Call Server as follows:

In the tree view pane, select the applicable PG.

Logical Controller tab:

- Client Type: **VRU**

- Name: A name descriptive of this PG

   For example: **<location>_A** for side A of a particular location

Peripheral tab:

- Peripheral Name: Descriptive name of this Unified CVP peripheral. For example: **<location>_<cvp1> or <dns_name>**

- Client Type: **VRU**

- Check the **Enable Post-routing** check box.

Advanced tab: Select the name of the Unified CVP VRU from the Network VRU field drop-down list. For example: **cvpVRU**

Routing Client tab:

- Name: By convention, use the same name as the peripheral

- Client Type: **VRU**

- If you are in a Unified ICMH environment and configuring the CICM, then do the following:

   - Do not check the **Network Transfer Preferred** check box.

   - Routing client: **INCRP NIC**

Step 7   Define a default network VRU on Unified ICME or the NAM, in the ICM Configuration Manager, the **System Information** tool:

a)   For Unified ICME or on the **CICM only**, define a default Network VRU.

Define the Default Network VRU: *<Network VRU Name>*. For example: **cvpVRU**

b)   If there are Routing Scripts on the **NAM**, define a default Network VRU.

For more information, see the ICM Configuration Guide for Cisco ICM Enterprise Edition.

Step 8   Configure dialed numbers, call types, and customers on the Unified ICME or Unified ICMH Server in the ICM Configuration Manager:

a)   **Dialed Number List Tool tab:** Configure the dialed numbers.
b)   **Call Type List tool tab:** Configure the call types.
c)   **ICM Instance Explorer tool tab:** Configure the applicable customers.

For more information, see ICM Configuration Guide for Cisco ICM Enterprise Edition.

Step 9   Install and configure one or multiple Call Servers.

Log in to the Operations Console and perform the following steps:

a)   Enable the ICM and SIP Services on the Call Server.

   - On the Operations Console, click **Device Management** > **Unified CVP Call Server**.

   - Check the **ICM** and **SIP** check boxes.

b)   Click **Device Management** > **Unified CVP Call Server** > **SIP**. Configure the SIP Service:

   - If you are using a SIP Proxy Server, enable the Outbound Proxy and select the SIP Proxy Server.

      Select the **SIP tab** and configure the following values:

      - Enable Outbound Proxy: **Yes**

      - Outbound Proxy Host: Select from drop-down list.

      - Configure Local Static Routes on the SIP Proxy Server itself.

   - If you are not using a SIP Proxy Server, configure Local Static Routes using the Dialed Number Pattern system configuration on the Operations Console. A Local Static Route must be configured for each SIP gateway or automatic call distributor (ACD) so that SIP endpoint can receive calls.

      Local Static Routes, Dialed Number (DN): Specify the dialed number pattern for the destination.

      Valid number patterns include the following characters:

      - Use the period or the **X** character for single-digit wildcard matching in any position.

Note   Small letter **x** cannot be used as a wildcard.

- Use the greater than (**>**), asterisk (*****), or exclamation mark (**!**) characters as a wildcard for zero or more digits at the end of the DN.

- Avoid the **T** character for wildcard matching.

- Dialed numbers must not exceed 24 characters.

- For valid format and precedence information about dialed numbers, see Valid Format for Dialed Numbers.

Example: **9>** (Errors are 9292 and ringtone is 9191)

For more information, see SIP Dialed Number Pattern Matching Algorithm.

The following static route configuration is incorrect because the least explicit routes must appear at the end. Load balancing or failover of calls require DNS SRV domain names, not multiple routes with the same DN Pattern, but a single route to an SRV domain name.

Incorrect Example:

```
1>,10.2.6.1
2>,10.2.6.2
3>,10.2.6.20
2229191>,10.2.6.241
2229292>,10.2.6.241
2229191>,10.2.6.242
2229292>,10.2.6.242
2>,ccm-subscribers.cisco.com
3>,ccm-subscribers.cisco.com
```

Correct static route configuration example:

```
22291>,cvp-ringtone.cisco.com
22292>,cvp-error.cisco.com
1>,ccm-subscribers.cisco.com
2>,ccm-subscribers.cisco.com
3>,ccm-subscribers.cisco.com
```

Note   "91919191>" pattern does not match the dialed number "91919191".

- Check the default values for the SIP Service and change, if desired.

c) Configure the ICM Service. Select **Device Management** > **CVP Call Server** > **ICM tab**, In the Maximum Length of DNIS field, enter the length of the Network Routing Number.

Example: For the Gateway dial pattern as 1800******, the maximum DNIS length is **10**.

Related Topics

Valid Format for Dialed Numbers
Set Up Ingress Gateway to Use Redundant Proxy Servers
Set Up Call Server with Redundant Proxy Servers
Local SRV File Configuration Example for SIP Messaging Redundancy
Load-Balancing SIP Calls
Cisco Unified SIP Proxy (CUSP) Configuration

Configure Common Unified ICMH for Unified CVP Switch Leg

Procedure

Step 1   On the **NAM**, in the ICM Configuration Manager, **Network VRU Explorer** tool

a)   Define a Network VRU for Unified CVP for Type as **10** and Name as **cvpVRU**.

b)   Assign labels. Define one **Label** per Unified CVP or NIC routing client. Select the Type as **Normal** and Label as Network Routing Number.

Step 2   Set the client type.

On the **CICM**, using the ICM Configuration Manager, **NIC Explorer** tool:

- Select the **Routing Client** tab for the INCRP NIC.

- Enter the Client Type as **VRU**.

Step 3   Define a Network VRU.

On the **CICM**, using the ICM Configuration Manager, **Network VRU Explorer** tool, define a Network VRU with a label that uses INCRP as its routing client.

Enter the following:

- Type: **10**

- Name: **cvpVRU**

- Define one **Label** for the NAM routing client:

  - Label: Network Routing Number

  - Type: **Normal**

  - Routing client: **INCRP NIC**

Step 4   Define the Peripheral Gateways (PGs).

On the **NAM**, using the ICM Configuration Manager, **PG Explorer** tool, configure a peripheral gate for each ICM Service to be used for a switch leg that is connected to each PG.

For each Unified CVP ICM Service connected to this PG, in the tree view pane, select the applicable PG.

On the **Logical Controller** tab, enter the following:

- Client Type: **VRU**

- Name: A name descriptive of this PG.

  For example: `<location>_A`, for side A of a particular location.

On the **Peripheral** tab, enter the following:

- Peripheral Name: A name descriptive of this Unified CVP peripheral, for example, `<location>_<cvp1>` or `<dns_name>`

- Client Type: **VRU**

- Check the **Enable Post-routing** checkbox

  On the **Advanced** tab, select the name **cvpVRU** from the Network VRU field drop-down list.

On the **Routing Client** tab, enter the following:

- Name: By convention, use the same name as the peripheral

- Client Type: **VRU**

- Do not check the **Network Transfer Preferred** check box.

ECC Payloads

You can define as many ECC variables as necessary. But, you can only pass 2000 bytes of ECC variables on a specific interface at any one time. To aid you in organizing ECC variables for specific purposes, the solution has *ECC payloads*.

An ECC payload is a defined set of ECC variables with a maximum size of 2000 bytes. You can create ECC payloads to suit the necessary information for a given operation. You can include a specific ECC variable in multiple ECC payloads. The particular ECC variables in a given ECC payload are called its *members*.

Note   For ECC payloads to a CTI client, the size limit is 2000 bytes plus an extra 500 bytes for the ECC variable names. Unlike other interfaces, the CTI message includes ECC variable names.

In certain cases, mainly when using APIs, you might create an ECC payload that exceeds the CTI Server message size limit. If you use such an ECC payload in a client request, the CTI Server rejects the request. For an OPC message with such an ECC payload, the CTI Server sends the message without the ECC data. In this case, the following event is logged, "CTI Server was unable to forward ECC variables due to an overflow condition."

You can use several ECC payloads in the same call flow, but only one ECC payload has scope at a given moment. TCDs and RCDs record the ID of the ECC payload that had scope during that leg of the call. The *Call.ECCPayloadID* variable contains the ID of the ECC payload which currently has scope.

In solutions that only use the default ECC payload, the system does not create an ECC variable that exceeds the 2000-byte limit for an ECC payload or the 2500-byte CTI Message Size limit. The system does this because it automatically adds all ECC variables to the default ECC payload if that is the only ECC payload.

If you create another ECC payload, the system no longer checks the 2000-byte limit when creating ECC variables. The system creates the ECC variables without assigning them to an ECC payload. Assign the new ECC variable to an appropriate ECC payload yourself through the ECC Payload Tool.

You can create and modify ECC payloads in the **Configuration Manager** > **List Tools** > **Expanded Call Variable Payload List** tool.

Default ECC Payload

The solution includes an ECC payload named "Default" for backward compatibility. If your solution does not require more ECC variable space, you only need the Default payload. The solution uses the Default payload unless you override it.

If your solution only has the Default payload, the solution automatically adds any new ECC variables to the Default payload until it reaches the 2000-byte limit.

Note You cannot delete the Default payload. But, you can change its members.

Important During upgrades, when the system first migrates your existing ECC variables to the Default payload, it does not check the CTI message size limit. The member names might exceed the extra 500 bytes that is allocated for ECC payloads to a CTI client. If the Default payload exceeds the limit, modify it to meet the limit.

In a fresh install, the Default payload includes the predefined system ECC variables. In an upgrade, the Default payload's contents depend on whether the starting release supports ECC payloads:

- **ECC payloads not supported**—During the upgrade, a script adds your existing ECC variables to the Default payload.

- **ECC payloads are supported**—The upgrade brings forward the existing definition of your Default payload.

Note If your solution includes PGs from a previous release that does not support ECC payloads, the Router always sends the Default payload to those PGs. Those PGs can properly handle the Default payload.

ECC Payload Node

The **ECC Payload** node is available from the **General** tab on the **Object Palette**:

Figure 1: Payload icon

Use this node to change the ECC payload that has scope for the following part of your script. Once you select an ECC payload, it has scope for all non-VRU operations until changed. You can select the ECC payload either statically or dynamically by the payload's EnterpriseName or ID.

Define Unified CVP ECC Variables

Set up the ECC variables that Unified CVP uses to exchange information with Unified ICME/ICMH.

Procedure

Step 1   On the ICM Configuration Manager, select **Tools** > **Miscellaneous Tools** > **System Information** and check the **Enable expanded call context** check box.

Step 2   On the ICM Configuration Manager, select **Tools** > **List Tools** > **Expanded Call Variable List**.

Step 3   In the Expanded Call Variable List window, enable the **Add** button by clicking **Retrieve**.

Step 4   Click **Add**.

The Attributes property tab is enabled.

Step 5   Create each of the variables in the following table by clicking **Save** after defining each variable.

| **Note** | If you change the configuration of any ECC variable with the Expanded Call Variable List tool, stop and restart the Unified CVP Call Server. |

| **Caution** | It is important that you enter the ECC's **Name** values listed in following table exactly as specified. If you do not, the Unified ICME/ICMH software does not communicate with the micro-applications on the ICM Service. |

Length values are more flexible. Unless the values listed in following table are noted as "required," the value in the Length column is the maximum that Unified ICMH can handle for that ECC. Specify a value between 1 and the maximum length.

| **Note** | In a Unified ICME/ICMH configuration, the ECC variable configuration, including the length, defined in the NAM must be defined same in the CICM. |
| | If you create or modify the ECC variables while the Unified CVP ICM Service is running, you must restart the VRU PG during non-production time or during a scheduled maintenance window for the changes to take full effect. To restart the VRU PG, access the service control of the PG in ICM and restart the ICM PIM and Unified CVP Call Server. |

Step 6   Click **Save** to apply your changes.

Table 2: Micro-Application ECCs

Name	**Length**	**Definition**
user.CourtesyCallbackEnabled	Required for using Courtesy Callback. Length:1	Used to determine if Courtesy Callback must be offered to a caller. Valid values are: "1" = Yes "0" = No
user.cvp_server_info	Length: 15	Used by Unified CVP to send the IP address of the Call Server sending the request to Unified ICME. Example: An IPv4 address like 192.168.150.181

Name	Length	Definition
user.microapp.currency	Value: 6	Currency type.
user.microapp.error_code	Value: 2	Return status error code to be returned from the Unified CVP to Unified ICME/ICMH upon a False return code in the Run Script Result.
user.microapp.fetchaudio	Recommended length: 20; but length depends on the filename.	Filename for audio to be played by the VXML gateway while the gateway loads and processes the requested resource when there is significant network latency. Default: none Example: "flash:holdmusic.wav" **Note** This feature is not supported in Cisco VVB.
user.microapp.fetchdelay	Length: 1	The length of time (in seconds) to wait at the start of the fetch delay before playing the audio specified by *user.microapp.fetchaudio*. This setting only takes effect if the value of fetchaudio is not empty. Default: 2 seconds; used to avoid a "blip" sound heard in a usual network scenario. Setting this value to zero plays hold music immediately, for a minimum of five seconds. Values: 1 to 9 **Note** This feature is not supported in Cisco VVB.
user.microapp.fetchminimum	Length: 1	The minimum length of time to play audio specified by *user.microapp.fetchaudio*, even if the requested resource arrives in the meantime. This setting only takes effect if value of fetchaudio is not empty. Default: 5 seconds Values; 1 to 9 **Note** This feature is not supported in Cisco VVB.

Name	Length	Definition
user.microapp.isPostCallSurvey	Length: 1	Used to determine if post call survey must be offered to a caller after the agent hangs up. Valid values: "y" or "Y" is "Yes" "n" or "N" is "No" Default value is "Yes"
user.microapp.locale	Value: 5	Locale, a combination of language and country which defines the grammar and prompt set to use.
user.microapp.media_server	**Required** for any IVR scripting. Maximum length: 210 characters Recommended length: 30	Root of the URL for all media files and external grammar files used in the script. HTTP and HTTPS schemes can be specified as: • HTTP scheme is specified as "http://<servername>" • HTTPS scheme is specified as "https://<servername>"
user.microapp.play_data	40	Default storage area for data for Play Data micro-application.
user.microapp.sys_media_lib	10	Directory for all system media files, such as individual digits, months, default error messages, and so forth.
user.microapp.app_media_lib	Maximum length: 210 characters Recommended length: 10	Directory for all application-specific media files and grammar files. You can also set this value to ".." (literally two periods in quotes), which bypasses the user.microapp.app_media_lib and user.microapp.locale ECC Variables when writing a URL path. For example, if you set the user.microapp.app_media_lib to "..", the path: http://server/locale/../hello.wav would really be: http://server/hello.wav
Note		The system and application media libraries need message and prompt files created or recorded for each locale that is referenced. For more information, see Pass Data to Unified ICME, on page 30.

Name	Length	Definition
user.microapp.grammar_choices	Configurable on Unified ICME. Maximum length: 210 characters.	Specifies the ASR choices that a caller can input for the Get Speech micro-application. Each option in the list of choices is delimited by a forward slash (/). **Note** If text is placed in this variable that is longer than the variable is configured to handle, only the first 210 characters are sent.
user.microapp.inline_tts	Configurable on the ICM. Maximum length: 210 characters.	Specifies the text for inline Text To Speech (TTS). **Note** If text is placed in this variable that is longer than the variable is configured to handle, only the first 210 characters are sent.
user.microapp.input_type	Value: 1	Specifies the type of input that is allowed. Valid contents are: • **D** - DTMF • **B** - (Both, the default) DTMF and Voice If you are not using an ASR, you can set this variable to D. If you are using an ASR, you can set the variable to either D or B. **Note** With input_mode set to "B" (both), either DTMF or speech is accepted, but mixed mode input is not. Once you begin entering with one mode, input using the other mode is ignored and has no effect.
user.microapp.caller_input	Configurable on Unified ICME/ICMH. Maximum length: 210 characters.	Storage area for any ASR input that is collected from Get Speech. **Note** Get Speech text results are written to this ECC variable. Results from Get Digits or Menu micro-applications are written to the CED.

Name	Length	Definition
user.microapp.pd_tts	Value: 1	Specifies whether Unified CVP's Text To Speech (TTS) or media files must be played to the caller. Valid contents are: **Y** - Yes, use TTS capabilities **N** - No, do not use TTS capabilities; play media files instead. **Note** Used only with Play Data micro-application.
user.microapp.UseVXMLParams	Value: 1	This parameter specifies the manner in which you pass information to the external VoiceXML. Set this parameter to either "Y" (for yes) or "N" (for no). Y uses the values in the user.microapp.ToExtVXML variable array. N appends the name/value pairs in user.microapp.ToExtVXML to the URL of the external VoiceXML. Default: "N"
user.microapp.ToExtVXML	210	This variable array sends information to the external VoiceXML file. Must be configured as Array variables, not Scalar variables, even if the array length is set to 1. For more information on user.microapp.ToExtVXML variable length, see the *Configure the CCE Script for Courtesy Callback* section.
user.microapp.FromExtVXML	210	This variable array returns information from the external VoiceXML file. Must be configured as Array variables, not Scalar variables, even if the array length is set to 1. See Pass Data to Unified ICME, on page 30 for more information. For more information on user.microapp.FromExtVXML variable length, see the *Configure the CCE Script for Courtesy Callback* section.

Name	Length	Definition
user.microapp.override_cli	Configurable on Unified ICME/ICMH. Maximum length: 200 characters.	Used by system to override the CLI field on outgoing transfers.
user.microapp.metadata	The variable length would usually be configured as 62 bytes, but if ECC space is restricted, you can configure it as 21 bytes.	Following the Menu (M), Get Data (GD) and Get Speech (GS) micro-applications, Unified CVP returns information about the micro-application that is run. The user.microapp.metadata ECC variable is structured as follows: m|con|tr|to|iv|duratn|vruscriptname
user.microapp.uui	Configurable on Unified ICME/ICMH. Maximum length: 131 characters.	Used to pass user-to-user information back to Unified CVP from Unified ICME/ICMH.
user.sip.refertransfer	Optional Maximum length: 1 character.	SIP Service uses REFERs when transferring to the agents: • y - Use REFER when transferring • n - Do not use REFER when transferring
user.suppress.sendtovru	Optional Length: 1	Suppress the Temporary Connect message generated by SendToVRU node (explicitly or implicitly, for example by a Translation Route to VRU node). Used in call flows where the Temporary Connect is generated right before the Connect message (that is, no Run Script messages expected) to avoid the extra overhead of setting up a VRU leg temporarily before the Connect arrives. Valid values are: "y" or "Y" (yes, suppress the message)
user.CxSurveyInfo	Optional Length: 50 bytes	This is an optional variable. It is required only when Webex Experience Management (WXM) is integrated with Unified CVP and Unified CCE. It contains data (Vertical bar-separated values) in the following format. AG=\<AgentSkillTargetID>|SG=\<SkilllGroupID>| PQ=\<PrecisoinQueueID>|AGT=\<AgentTeamID>

What to do next

Before you can use the new ECC variable, you must add it to an ECC payload.

Note   If your solution only has a Default payload, the solution automatically adds any new ECC variables to the Default payload until it reaches the 2000-byte limit.

Related Topics

Pass Data to Unified ICME, on page 30

Define ECC Payloads

You can create and modify ECC payloads in the **Expanded Call Variable Payload List** tool.

Note   The tool checks that the ECC payload does not exceed the 2000-byte limit only when you save your changes. The counters on the **Members** tab only show what the current size is with all the selected members. They are only informational and do not enforce the limit. The limit is enforced when you attempt to save the changes.

To define an ECC payload, you create the ECC payload and then add its members.

Procedure

Step 1   In the Configuration Manager, open **Tools** > **List Tools** > **Expanded Call Variable Payload List**.

The **ECC Payload List** window appears.

Step 2   Click **Retrieve** to enable adding ECC payloads.

Step 3   Click **Add**.

The **Attributes** property tab appears.

Step 4   Complete the **Attributes** property tab. See the *List Tools Online Help* for details on the **Attributes** property tab.

Step 5   On the **Members** tab, click **Add**.

A dialog box listing all the existing ECC variables appears.

Step 6   Select the members for your ECC payload and click **OK**.

Watch that the **ECC Variable Size** counter does not exceed 2000 bytes. For ECC payloads that go to CTI clients, watch that the **CTI Message Size** counter does not exceed 2500 bytes.

Step 7   Click **Save** to apply your changes.

Metadata ECC Variable

Following the Menu (M), Get Data (GD) and Get Speech (GS) micro-applications, Unified CVP returns information about the micro-application that is run. This information is returned in the **user.microapp.metadata** ECC variable. Its format is defined in terms of a number of subfields, each separated by a vertical bar character ('|'). Also, the subfields are of fixed length in order to facilitate extraction either at reporting time or within the ICM routing script itself.

The **user.microapp.metadata** ECC variable is structured as follows:

m|con|tr|to|iv|duratn|vruscriptname

The following table shows the values for this variable:

Table 3: Metadata ECC Variable Values

Metadata	ECC Variable Value
m	D, V or N - Indicates whether the user responded with Voice (V), DTMF (D), or not at all (N). (Note that for the Menu micro-application, any successful single digit entry will result in m being set to V or D, even if the entry was an invalid menu selection.)
con	000 to 100 - Indicates the ASR percent confidence level at which the voice input was finally recognized. This field is only valid if m is Voice (V).
tr	00 to 99 - Indicates how many tries were required. 01 means user responded successfully after the first prompt.
to	00 to 99 - Indicates how many timeouts occurred. Does not include interdigit timeouts.
iv	00 to 99 - Indicates how many invalid entries were received, including interdigit timeouts.
duratn	000000 to 999999 - Indicates the micro-application duration in milliseconds. Duration is defined as the elapsed time between entering and exiting the RunExternalScript node, as measured in the IVR Service.
vru script name	Full name of the VRU script which was run. This is the only variable length field.

This ECC variable is optional. If you have used it, you must define it in the Unified ICME Expanded Call Context Variables configuration tool. Generally, the variable length to be configured is 62 bytes, but if ECC space is restricted, you can configure it as 21 bytes. This configuration drops the vruscriptname subfield. If you do define this variable, its contents get written to the Unified ICME database with every termination record, and can be used to provide a record of meta-information about the each input micro-application that is run.

Common Configuration for Differentiating VRUs Based on Dialed Number

As per the Network VRU configuration instructions, all callers are routed to the same VRUs (Unified CVPs) for VRU treatment purposes. Under this assumption, it is always simplest to rely on the system default Network VRU. However, it is sometimes necessary to differentiate the VRUs (Unified CVPs) based on dialed number.

Note This section is only applicable to call flow models which use the SendToVRU node to transfer the call to Unified CVP's VRU leg (it does not apply to Translation Route transfers).

For example, some calls need to assign different customers or applications to their own Unified CVP machines.

To configure Unified ICME to differentiate the VRUs, perform the following tasks:

- Configure more than one Network VRU.

- On Unified ICME, in the ICM Configuration Manager of the ICM Instance Explorer tool:

    - Configure one or multiple customers.

    - Configure the Network VRU for each customer if that customer wants to use in a Network VRU other than the default in future.

- Associate the dialed number(s) to the customer in the Dialed Number List tool.

- Since each configured VRU script is specific to one specified Network VRU, create a distinct set of VRU scripts for each Network VRU. Also, ensure that the ICM routing script calls the correct set of VRU scripts.

Configure ICM Settings for Call Director Call Flow Model

Procedure

Step 1 On the Unified CM server, CCMAdmin Publisher, perform the following SIP-specific action:

a) Add route patterns for outbound calls from the Unified CM devices using a SIP Trunk to the Unified CVP Call Server. Also, add a route pattern for error DN.

Select **Call Routing** > **Route/Hunt** > **Route Pattern** > **Add New** and add the following:

- Route Pattern: Specify the route pattern; for example: **3XXX** for a TDM phone that dials 9+3xxx and all Unified ICME scripts are set up for 3xxx dialed numbers.

- Gateway/Route List: Select the SIP Trunk defined in the previous substep.

Note For warm transfers, the call from one agent to another does not typically use a SIP Trunk, but you must configure the CTI Route Point for that dialed number on the Unified CM server and associate that number with your peripheral gateway user (PGUSER) for the JTAPI gateway on the Unified CM peripheral gateway. An alternative is to use the Dialed Number Plan on Unified ICME to bypass the CTI Route Point.

Step 2 Configure the peripheral gateways for the switch leg.

On Unified ICME, ICM Configuration Manager, **PG Explorer** tool:

a) Configure each peripheral gateway (PG) to be used for the **Switch** leg. In the tree view pane, select the applicable peripheral gateway, and set the following:

1. On the **Logical Controller** tab:

   • Client Type: **VRU**

   • Name: A name descriptive of this PG

   For example: **<location>_A** for side A of a particular location

2. On the **Peripheral** tab:

   • Peripheral Name: A name descriptive of this Unified CVP peripheral

   For example: **<location>_<cvp1> or <dns_name>**

   • Client Type: **VRU**

   • Select the check box: **Enable Post-routing**

3. On the **Routing Client** tab:

   • Name: By convention, use the same name as the peripheral.

   • Client Type: **VRU**

   For more information, see the ICM Configuration Guide for Cisco ICM Enterprise Edition.

   b) Configure a peripheral for each Unified CVP Call Server to be used for a Switch leg connected to each PG.

Step 3   Configure dialed numbers.

On the Unified ICME or Unified ICMH Server, in the ICM Configuration Manager, configure the following items:

a) **Dialed Number List Tool** tab: Configure the dialed numbers.
b) **Call Type List tool** tab: Configure the call types.
c) **ICM Instance Explorer tool** tab: Configure the applicable customers.

For more information, see the ICM Configuration Guide for Cisco ICM Enterprise Edition.

Step 4   Create a Routing Script.

On the Unified ICME or Unified ICMH Server in the ICM Script Editor tool:

Create a routing script that handles the incoming call. The routing script must run a Label node or Select node (node that returns a label right away).

Note   Do not use the Queue node in the routing script.

The label must be configured in the SIP Proxy Server to the IP address of the device that the label corresponds to. The Proxy Server is optional. If you do not have one, you must configure the Gateway dial-peer to point to the Call Server (refer to the first step in this process). Also, you must configure the **destination labels** in the SIP Service for the Call Server.

See the Scripting and Media Routing Guide for Cisco Unified ICM/Contact Center Enterprise & Hosted for more information.

Step 5   In the Operations Console, install and configure Call Servers.

a) Enable the ICM and SIP Services on the Call Server.

In the Operations Console, select **Device Management** > **Unified CVP Call Server**.

Select the check boxes: **ICM** and **SIP**

b) Configure the SIP Service:

Select **Device Management** > **CVP Call Server** > **SIP tab**.

- If you are using a SIP Proxy Server, enable the Outbound Proxy and select the SIP Proxy Server. If using a SIP Proxy Server, configure Local Static Routes on the SIP Proxy Server itself.

- If you are not using a SIP Proxy Server, configure Local Static Routes using the Dialed Number Pattern system configuration in the Operations Console. A local static route must be configured for each SIP gateway/ACD, SIP endpoint in order to receive calls.

- Check the default values for the SIP Service and change, if desired.

See the SIP Devices Configuration and SIP Dialed Number Pattern Matching Algorithm for detailed information.

c) Configure the ICM Service by setting the maximum length DNIS to the length of the Network Routing Number:

- Select **Device Management** > **CVP Call Server** > **ICM tab**.

- Set the Maximum Length of DNIS to length of the Network Routing Number.

Example: For the Gateway dial pattern as 1800******, the maximum DNIS length is 10.

For detailed information, see the *Operations Console Online Help*.

Related Topics

Set Up Ingress Gateway to Use Redundant Proxy Servers
Set Up Call Server with Redundant Proxy Servers
Local SRV File Configuration Example for SIP Messaging Redundancy
Load-Balancing SIP Calls
Cisco Unified SIP Proxy (CUSP) Configuration
Configure Custom Streaming Ringtones
SIP Dialed Number Pattern Matching Algorithm

Configure ICM Settings for VRU-Only Call Flow Model: Type 8

Procedure

Step 1   Perform Steps 1 to 4 of the Set Up Type 8 VRU-Only Call Flow Model for ICME and ICMH procedure.

Step 2   Define a Network VRU on Unified ICME or (for Unified ICMH) on the NAM and each CICM.

Using the ICM Configuration Manager, the Network VRU Explorer tool, specify the following:

- Type: **8**

> • Name: **cvpVRU**

Note   Although any name works, **cvpVRU** is used by convention, and is an example name referenced in this guide.

Step 3   Configure the Peripheral Gates (PGs) on Unified ICME or (for Unified ICMH) on each CICM.

a) Configure each PG.
b) Configure a peripheral for each Unified CVP ICM Service connected to each PG.

Use the ICM Configuration Manager, the **PG Explorer** tool. For each Unified CVP ICM Service connected to this PG, in the tree view pane, select the applicable PG and configure the following items:

Logical Controller tab:

> • Client Type: **VRU**
>
> • Name: A name descriptive of this PG
>
>   Example: `<location>_A` for side A of a particular location

Peripheral tab:

> • Peripheral Name: A name descriptive of this Unified CVP peripheral
>
>   Examples: `<location>_<cvp1>` or `<dns_name>`
>
> • Client Type: **VRU**
>
> • Select the checkbox: **Enable Post-routing**

Advanced tab:

> • From the Network VRU field drop-down list, select the name: **cvpVRU**

Routing Client tab:

> • Name: By convention, use the same name as the peripheral.
>
> • Client Type: **VRU**

Step 4   Configure a Service and Route for each VRU on Unified ICME or (for Unified ICMH) on each CICM.

Note   You can also use service arrays. See the Unified ICME documentation set for more information.

Using the ICM Configuration Manager, the **Service Explorer** tool, specify the following:

> • Service Name: **cvpVRU**
>
> • Route Name: **PeripheralName_cvpVRU**
>
> • Peripheral Number: **2**
>
>   Must match the "Pre-routed Call Service ID" in the Call Server configuration on the ICM tab in the Operations Console
>
> • Select the **Enable Post-routing** checkbox.

Step 5   Define trunk groups.

Note	Configure one Network Transfer Group and one associated Trunk Group for each VRU leg Unified CVP ICM Service.

Define and configure the network trunk group on Unified ICME or (for Unified ICMH) on each CICM.

Using the ICM Configuration Manager, the Network **Trunk Group Explorer** tool:

a) Identify the network trunk group.

- Network Trunk Group Name: A name descriptive of this trunk group

b) For each Unified CVP ICM Service for the VRU leg, configure an associated trunk group.

- Peripheral Name: A name descriptive of this trunk group

- Peripheral Number: **200**

  Must match the **Pre-routed Call Trunk Group ID** in the Call Server configuration on the ICM tab in the Operations Console

- Trunk Count: Select **Use Trunk Data** from the drop-down list

- Do not configure any trunks

Step 6 Define translation route(s).

Define and configure a Translation Route for each VRU Peripheral on Unified ICME or (for Unified ICMH) on each CICM.

On Unified ICME, ICM Configuration Manager, **Translation Route Explorer** tool:

a) Define a Translation Route for each VRU Peripheral. Specify the following:

Translation Route tab:

- Set the **Name** field to the name of the target VRU peripheral. (This is by convention; this value must be unique in the enterprise)

- Set the **Type** field to **DNIS** and select the Service defined in the previous step

b) Configure translation route and label information for each VRU peripheral. Complete the following:

Route tab:

- Set the **Name**: by convention, this is the name of the target VRU peripheral, followed by the DNIS that this route will use, for example, MyVRU_2000

  This value must be unique in the enterprise

- Service Name drop-down list, select: **PeripheralName.cvpVRU**

Peripheral Target tab:

- Enter the first DNIS that will be seen by the VRU that you will be using for this translation route.

Note	The DNIS pool used for each VRU peripheral must be unique

- From the drop-down list, select a **Network Trunk Group** which belongs to the target VRU

Label tab:

> • Enter the translation route label (which might or might not be the same DNIS you entered on the Peripheral Target tab)
>
> • Type: **Normal**
>
> • Routing Client: Select the NIC Routing Client

Note	• You must create an additional label for each NIC routing client.
	• Repeat the Route and corresponding Peripheral Target and Label information for each DNIS in the pool.

Step 7 Create VRU and routing scripts.

Create VRU scripts and routing scripts for IVR treatment and agent transfer on Unified ICME or (for Unified ICMH) on each CICM .

Using the ICM **Script Editor** tool, create the VRU scripts and routing scripts to be used for IVR treatment and agent transfer, as described in other sections of this manual and in the ICM manuals.

The VRU scripts are associated with the applicable Network VRU.

For example, **cvpVRU**

Use the ICM Script Editor's TranslationRouteToVRU node to connect the call to the Network VRU.

Step 8 Configure the ECC variables on Unified ICME or (for Unified ICMH) on the NAM and each CICM.

Using the ICM Configuration Manager, create the ECC variables.

For more information, see Define Unified CVP ECC Variables, on page 10.

Step 9 Configure dialed numbers and call types on Unified ICME or (for Unified ICMH) on the NAM and each CICM.

On Unified ICME, using the ICM Configuration Manager, configure dialed numbers and call types.

For more information, see ICM Configuration Guide for Cisco ICM Enterprise Edition.

Step 10 On Unified CM, configure Unified CM.

For more information, see the Unified CM user documentation.

Step 11 Install and configure the Call Servers.

Log in to the Operations Console, select **Device Management** > **CVP Call Server** and install and configure the Call Servers.

Check the **ICM** and **IVR** check boxes.

For detailed information, see the Operations Console online help.

Step 12 Configure the ICM service.

On the Operations Console, select **Device Management** > **CVP Call Server** > **ICM tab**. On **each** Unified CVP Call Server, configure the **ICM Service** by specifying the following required information:

a) VRU connection port number.

Set the VRU Connection Port to match the VRU connection Port defined in ICM Setup for the corresponding VRU peripheral gateway (PIM).

b) Maximum Length of DNIS.

Set the maximum length DNIS to a number which is at least the length of the translation route DNIS numbers.

Example: if the Gateway dial pattern is 1800******, the maximum DNIS length is 10.

c) Call service IDs: New Call and Pre-routed.

Enter the new and pre-routed call service IDs. Configure the ports for both groups according to the licenses purchased, call profiles, and capacity by completing the required fields on this tab.

d) Trunk group IDs: New Call and Pre-routed.

- Enter the new and pre-routed call trunk group IDs

- Configure the group number for the Pre-routed Call Trunk group. The group number must match the trunk group number in the Network Trunk group used for the translation route

- Configure the number of ports according to the licenses purchased and capacity

- Configure each of the numbers used for translation routes. (The "New Call" group is not used since the calls are being sent to the VRU (Unified CVP) after some initial processing by the NIC/Unified ICME)

e) Dialed numbers used in the translation route.

Add the dialed numbers in the DNIS field.

f) Check the default values of the other settings and change, if desired.

Step 13 Configure the IVR Service.

On the Operations Console, select **Device Management** > **CVP Call Server** > **IVR** tab.

Check the default values and change, if desired.

Refer to the Operations Console online help for information about other settings you might want to adjust from their default values.

Step 14 (Optional) Configure the Reporting Server.

In the Operations Console, select **Device Management** > **CVP Reporting Server** > **General tab**:

a. Configure the Reporting Server.

b. Select a Call Server to associate with this Reporting Server.

c. Check the default values of the Reporting properties and change, if desired.

For more information, see Reporting Guide for Cisco Unified Customer Voice Portal

VoiceXML Gateway Configuration Examples

Example Gateway Settings for Type 8 Call Flow Model

The first part of the following example provides the basic configuration for setting a VoiceXML gateway:

- Applies a timestamp to debugging and log messages

- Turns on logging

- Turns off printing to the command line interface console

- Sends RTP packets

- Configures ASR/TTS Server

- Configures gateway settings

The last part of this example provides the following:

- Initiates the VoiceXML leg

- Plays a .wav file that enables caller to hear message from critical_error.wav

- Logs errors on the gateway when the call fails

```
service timestamps debug datetime msec
service timestamps log datetime msec
service internal
logging buffered 99999999 debugging
no logging console
ip cef
no ip domain lookup
ip host tts-en-us <IP of TTS or MRCP Server>
ip host asr-en-us <IP of ASR or MRCP Server>
voice rtp send-recv
!
voice service voip
allow-connections h323 to h323
signaling forward unconditional
h323
sip
min-se 360
header-passing
voice class codec 1
codec preference 1 g711ulaw
codec preference 2 g729r8
!
ivr prompt memory 15000
ivr prompt streamed none
ivr asr-server rtsp://asr-en-us/recognizer
ivr tts-server rtsp://tts-en-us/synthesizer
mrcp client timeout connect 10
mrcp client timeout message 10
mrcp client rtpsetup enable
rtsp client timeout connect 10
rtsp client timeout message 10
vxml tree memory 500
http client cache memory file 500
http client connection timeout 60
http client response timeout 30
http client connection idle timeout 10
gateway
timer receive-rtcp 6
!
ip rtcp report interval 3000
application
service new-call flash:bootstrap.vxml
service cvperror flash:cvperror.tcl
service handoff flash:handoff.tcl
```

Example of Dial-peer for ICM VRU Label for Type 8 Call Flow Model

The following example provides the configuration for an ICM VRU label dial-peer for the Type8 Unified CVP VRU-Only call flow model:

```
dial-peer voice 777 voip
 description ICM VRU label
 service bootstrap
 voice-class codec 1
 incoming called-number <your sendtovru label pattern here>
 dtmf-relay rtp-nte
 no vad
 !
```

Related Topics

Configure ICM Settings for VRU-Only Call Flow Model: Type 7

Procedure

Step 1 Perform Steps 1 to 4 of the Set Up Type 8 VRU-Only Call Flow Model for ICME and ICMH procedure.

Step 2 Configure each PG.

On the **NAM**, ICM Configuration Manager, **PG Explorer** tool:

a) Configure each PG to be used for the **VRU Client** leg.
b) Configure a peripheral for each Unified CVP ICM Service to be used as a VRU leg connected to each PG.

For each Unified CVP ICM Service connected to this PG, in the tree view pane, select the applicable PG.

Logical Controller tab, configure:

- Client Type: **VRU**

- Name: A name descriptive of this PG

  For example: `<location>_A` for side A of a particular location

Peripheral tab, configure:

- Peripheral Name: A name descriptive of this VRU peripheral.

  For example: `<location>_<cvp1>` or `<dns_name>`

- Client Type: **VRU**

- Select the checkbox: **Enable Post-routing**

Routing Client tab:

- Name: By convention, use the same name as the peripheral.

• Client Type: **VRU**

Step 3   Define a Network VRU and labels.

On the **CICM**, ICM Configuration Manager, **Network VRU Explorer** tool, define a Network VRU for the VRU leg and labels for reaching the NAM.

Specify the following:

- Type: **7**

- Name: **cvpVRU**

Note	This name is used by convention. Although any name will do, since it is referenced elsewhere in this document, **cvpVRU** is assumed.

- Define a **Label** for the NAM.

   - Label: Network routing number

   - Type: **Normal**

   - Routing client: Select the INCRP Routing Client from the drop-down list.

Step 4   Define a Network VRU and a label for each NIC.

On the **NAM**, ICM Configuration Manager, **Network VRU Explorer** tool, define a Network VRU and a label for each NIC that is using this VRU.

Specify the following:

- Type: **7**

- Name: **cvpVRU**

Note	This name is used by convention. Although any name will work, since it is referenced elsewhere in this document, **cvpVRU** is assumed.

- Define a **Label** for each NIC that is using this VRU:

   - Label: Network routing number

   - Type: **Normal**

   - Routing client: Select the Routing Client for that NIC from the drop-down list.

Note	Ensure the Network VRU label is identical in the NAM and CICM. The Network VRU Name must be same to avoid confusion.

Step 5   If there are Routing Scripts on the NAM, define a default Network VRU.

On the **NAM**, ICM Configuration Manager, **System Information** tool, in the General section:

- Define the Default Network VRU: **cvpVRU**

Step 6   Define a default VRU.

On the **CICM**, ICM Configuration Manager, **System Information** tool, in the General section:

• Define a default Network VRU: **cvpVRU**

Step 7   Create the VRU and routing scripts.

On the **CICM**, ICM **Script Editor** tool:

Create the VRU scripts and routing scripts to be used for IVR treatment and agent transfer, as described in other sections of this manual and in the Unified ICME manuals. The VRU scripts are associated with the applicable Network VRU, that is, **cvpVRU**.

Use the ICM Script Editor's SendToVRU node to connect the call to the Network VRU.

Note   A RunVRU Script or Queue node is an `implicit` SendToVRU node, although error handling will be easier if the explicit `SendToVRU` node is used.

Step 8   Configure the ECC variables.

On the **NAM** and **CICM**, ICM Configuration Manager, configure the ECC variables.

For more information, see Define Unified CVP ECC Variables, on page 10.

Step 9   Configure dialed numbers and call types.

On the **NAM** and **CICM**, ICM Configuration Manager, configure dialed numbers and call types.

For more information, see ICM Configuration Guide for Cisco ICM Enterprise Edition

Step 10   Define customers.

On the **NAM** and **CICM**, ICM Configuration Manager:

a) If necessary, differentiate VRUs (Unified CVPs) based on dialed number.
b) Define customers and their Network VRU.

For more information, see Common Configuration for Differentiating VRUs Based on Dialed Number, on page 18.

Step 11   On Cisco Unified CM, configure Unified CM.

For more information, see the Unified CM user documentation.

Step 12   Install and configure the Call Server.

In the Operations Console, select **Device Management** > **CVP Call Server**.

a) Install and configure the Call Server.
b) To enable the ICM and IVR Services on the Call Server, select the **ICM** and **IVR** check boxes.

Step 13   Configure the ICM Service for each Call Server.

In the Operations Console, select **Device Management** > **CVP Call Server** > **ICM tab**. For each Unified CVP Call Server, configure the **ICM Service** by specifying the following required information:

a) VRU connection port number.

Set the VRU Connection Port to match the VRU connection Port defined in ICM Setup for the corresponding VRU peripheral gateway (PIM).

b) Set the maximum length DNIS to the length of the Network Routing Number.

Example: if the Gateway dial pattern is 1800******, the maximum DNIS length is 10.

c) Call service IDs: New Call and Pre-routed.

Enter the new and pre-routed call service IDs. Configure the ports for both groups according to the licenses purchased, call profiles, and capacity by completing the required fields on this tab

d) Trunk group IDs: New Call and Pre-routed.

Enter the new and pre-routed call trunk group IDs. Configure the group number for the Pre-routed Call Trunk group. The group number must match the trunk group number in the Network Trunk group used for the translation route.

Configure the number of ports according to the licenses purchased and capacity. Configure each of the numbers used for translation routes. (The `New Call` group is not used because the calls are sent to the VRU (Unified CVP) after an initial processing by the NIC/Unified ICME).

e) Check the default values of other settings and change, if desired.

Step 14   Configure the IVR service.

In the Operations Console, select **Device Management** > **CVP Call Server** > **IVR** and configure the **IVR Service**.

Check the default values and change, if desired.

See the Operations Console online help for information about settings.

Step 15   (Optional) Configure the Reporting Server.

On the Operations Console, select **Device Management** > **CVP Reporting Server** > **General** and configure the Reporting Server.

a) Configure the Reporting Server.
b) Select a Call Server to associate with this Reporting Server.
c) Check the default values of the Reporting properties and change, if desired.

For more information, see Reporting Guide for Cisco Unified Customer Voice Portal available at https://www.cisco.com/c/en/us/support/customer-collaboration/unified-customer-voice-portal/products-user-guide-list.html.

Related Topics

Pass Data to Unified ICME

In the Unified CVP VXML Server (standalone) with ICM Lookup call flow model, Unified ICME sends a label to Unified CVP. This process requires the following configuration:

The Standalone with Request ICM Label variation of the Standalone call flow model performs a route request to Unified ICME, and then Unified ICME starts a script (new call). Unified ICME sees whatever the device puts in the new call message, then Unified ICME chooses a target, such as an agent, and sends a label back to the device. That route request to Unified ICME sends other information, such as ECC variables. Unified

ICME can pass other ECC variables to Unified CVP. Also, you need to configure a Unified CVP VXML Server in the Unified CVP Call Server for the call flow model.

Configure the Connections

The following procedure describes how to set up a VXML Server that connects to a Call Server through the ICM Service, and the connection from the ICM Service to the peripheral gateway.

✎

Note   The VRU PIM initiates the connection from the PG to the Call Server. The ICM Service listens for a connection from the VRU PIM.

Procedure

Step 1   Start the VXML Server. The VXML Server starts the VoiceXML Service using the DataFeed mechanism or the ReqICMLabel element.

The ReqICMLabel element allows a Call Studio script to pass caller input, call variables, and External Call Context (ECC) variables to a Unified ICME script. The ReqICMLabel must be inserted into a Call Studio script as a decision element. In Call Studio, the returned Unified ICME label contains a result which can be used by other elements in the same application, such as the Transfer or Audio element. The Transfer element sends instructions to the IOS Voice Browser to transfer the caller to the desired location.

After the VoiceXML Service starts, it starts communicating with the ICM Service.

Step 2   Log in to the Operations Console and configure a Call Server and ICM service. See Configure Call Server. See the Unified ICME documentation for instructions on configuring the VRU PIM to connect to a VRU. For example, Unified CVP.

Related Topics
  Configure Call Server

Configure a Gateway for IP to TDM Calls

The following components are required for the gateway to process IP to TDM calls:

  • Phones and numbers must be configured on the TDM switch.

  • Gateway must be defined on Unified CM.

  • Route pattern on the Unified CM that sends the call to the gateway.

  • Dial peer on the gateway that sends calls that must be configured.

  • Dial 888800605x on the IP phone (this is a specific physical phone extension).

Procedure

Step 1   Configure the gateway to send the call to a particular Unified CVP VXML Server application, as follows:

```
dial-peer voice 8888 voip
service [gateway application name]
incoming called-number 888800....
dtmf-relay rtp-nte
codec g711ulaw
no vad
```

Step 2   To match the number in the Unified CVP VXML Server transfer node and send it out the T1 port to the G3 to its destination, use the following configuration:

```
dial-peer voice 8880 pots
destination-pattern 888800....
incoming called-number
direct-inward-dial
port 1/0:D
```

Configure a Cisco Multiservice IP-to-IP Gateway for Unified CM Connections

For information on configuring the Cisco IOS gateway for Unified CM connections, see the Cisco Multiservice IP-to-IP Gateway Software documentation.

Configure SNMP Monitoring for the Unified CVP VXML Server

When a Call Studio application is created, the simple network management protocol (SNMP) monitoring for the VXML Server is provided. **CVPSNMPLogger** is enabled when a new Call Studio application is created and deployed to the Unified CVP VXML Server. **CVPSNMPLogger** logs error events received from the VXML Server. For example, using this process you can configure to send a page to a technical support representative when a particular error alert is triggered on the customer site.

Procedure

Step 1   To view **CVPSNMPLogger** for the Unified CVP VXML Server, access the Call Studio interface.
Step 2   From Call Studio for each Call Studio application, right-click the application and select **Properties** > **Cisco Unified CVP** > **General Settings**.

CVPSNMPLogger appears in the **Loggers** drop-down box.

⚠️

Caution   Do not remove **CVPSNMPLogger** because doing so disables viewing of SNMP events and alerts.