

# IVR/VRU Service Level Reporting

Document ID: 20504

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## **Introduction**

This document describes the new Service Level Reporting which allows the Router to assign the call to different services and switch between Talk Time and Queue Time. In addition, Service Level Reporting provides real-time and historical data which can be displayed on call count information only.

## **Before You Begin**

### **Conventions**

For more information on document conventions, see the Cisco Technical Tips Conventions.

### **Prerequisites**

Readers of this document should be knowledgeable of the following:

- Time-Division-Multiplexing (TDM) Telephony to include Interactive Voice Response (IVR)
- Cisco Intelligent Contact Management (ICM) support and administration
- Service Level Reporting
- Voice Response Unit (VRU)

### **Components Used**

The information in this document is based on the software and hardware versions below.

- Cisco ICM version 4.1 Hotfix 53 and 54
- See Bill of Materials for Contact Center Software Applications for minimum hardware specs

The information presented in this document was created from devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If you are working in a live network, ensure that you understand the potential impact of any command before using it.

# IVR/VRU Service Level Reporting

In Cisco ICM version 4.1, ICM provides a level of reporting known as Service Level Reporting. Included is the addition of Queue Points (call "queuing" within Cisco ICM), Enterprise Agents (agents not on an Automatic Call Distributor (ACD)) and Cisco IP Contact Center (IPCC) agents (agents on a VoIP network). With the ability to display real-time values, information is accessible on these factors:

- Average Speed of Answer (ASA)
- Average Handle Time (AHT)
- Average delay
- Average talk time
- Calls in queue
- Calls talking
- Calls offered
- Calls handled
- Call abandoned
- Longest call in queue
- Service level — five minutes
- Service level — 30 minutes
- Service level — all day

Previously, the time the call spends at the VRU is counted as talk time for whatever service the **NewCall** or **RequestInstruction** (Translation Route to VRU) specifies. This new Service Level Reporting allows the router to assign the call to different Services and switch between talk time and queue time. In addition, it provides real-time and historical data which can be displayed on call count information only.

The Cisco ICM router can only use this feature through a **RequestInstruction** and is dependent upon the installation of the Cisco ICM version 4.1.4 with Hotfixes 53 and 54. The interim Service Level Reporting features are implemented in Cisco ICM version 4.1 SP4 with a limitation that it can only be used for calls delivered to an IVR/VRU through a Translation Route to the VRU Script Node in the Cisco ICM routing script. For implementation please see your account team.

To receive these hotfixes, open a service request with the Cisco World-Wide Technical Assistance Center (TAC). For information about the TAC, including information on how to open a case, please see How to Use the Cisco World-Wide Technical Assistance Center.

## Hotfix No. 53

The current Service Level Reporting for IVR/VRU devices in Cisco ICM version 4.1.4 is dependent upon the installation of Hotfix 53 and 54, which are listed below.

Hotfix No. 53	
Defect Number	CSCds02238
Requirements	This affects the VRU Peripheral Gateway (PG).
Files Affected	<ul style="list-style-type: none"><li>• opc.exe</li><li>• vrupim.exe</li></ul>
Depends on Hotfix Numbers	None

Reason	CSCds02238 – VRU Service Statistics Enhancements
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If another type of PG is located on the same PG system, you may need to upgrade this other PG to have Open Peripheral Controller (OPC) compatibility.

A later router hotfix is required to complete this fix, as there are changes in the router and the VRU PG to accommodate this enhancement.

The VRU PG provides service control reporting for service real time and half hour reporting, as well as termination call detail records. Without this enhancement, the time in queue is counted as talk time, and all abandons and routes are counted as disconnects. With this enhancement, the time in queue is tracked as queue time and, when a caller hangs up before being routed, the call is counted as abandoned. Our enhanced VRU Service Statistics only work on post route and translation route customer premise VRUs where the translation routes to VRU node (for example, the send-to-VRU node works the same as before). The changes that Hotfix No. 53 make allow the router to tell which service to attribute the call to, based on the service in the translation route to VRU node selection.

**Note:** This could be different than the service associated to the translation route.

When the router tells the VRU PG this, it sends up a Computer Supported Telephony Applications (CSTA) diverted message to change the service it is being attributed to. On post routes, the VRU can still opt to choose the service through peripheral service number mapping or use -1 in the peripheral service number and map the service through a Dialed Number Identification Service (DNIS)/peripheral target/route/service mapping in the Cisco ICM.

The other piece of this change is that the router tells the VRU Peripheral Interface Manager (PIM) when the call has entered the queue node on the script, and when it gets routed. When the call enters the queue node and the router instructs the VRU PIM, the VRU PIM sends up a CSTA queued event, and that time is counted as queued. The time prior to the queued event is counted as network delay time. If the call gets routed, the router tells the VRU PG and the VRU PG sends up a CSTA delivered event with the connection state set to **connected** so it looks like it is answered prior to disconnecting. If the caller hangs up before routing, it gets counted as an abandoned call.

Follow these instructions to install Hotfix No. 53:

1. Shut down all PG nodes on this platform.
2. Install the hotfix.
3. Install the registry key as follows:

```
HKEY_LOCAL_MACHINE\SOFTWARE\GeoTel\ICR\

```

- ◆ For customer instance use the ICM customer instance name.
- ◆ For node use the node number (PG1a or PG2a).
- ◆ Pim1 can be replaced by pim2, pim3 or however many PIMS you want to add this to.

The value to add is:

```
Name:      ServiceControlQueueReporting
Type:      REG_DWORD
Data:      0x1
```

In the above example, 1 means on, 0 means off.

If you do not need this feature, **no registry key** means the feature is not turned on.

4. Start the PG nodes on this platform.

**Note:** The key is not saved if you run **setup** again on this platform. The next service pack and future releases are going to have a place to select this option in the setup. If you want to save the key for easy reinstallation later, you can save it off or export it using **regedit** or **regedt32** tools.

## Hotfix No. 54

Hotfix No. 54	
Defect Number	CSCds02238
Requirements	<del>This requires an update to the router.</del>
Files Affected	router.exe
Depends on Hotfix Numbers	None
Reason	CSCds02238 – VRU Service Statistics Enhancements

To complete this enhancement, hotfix 53 must also be installed correctly on the service controlled VRU PG for customer premise VRUs (translation route and post routing VRUs). The VRU PG does provide service control reporting for service, real time and half hour reporting, as well as termination call detail records. Without this enhancement, the time in queue is counted as talk time, and all abandons and routes are counted as disconnects.

With this enhancement, the time in queue is tracked as queue time, and when a caller hangs up before being routed, the call is counted as an abandoned call.

Our enhanced VRU Service Statistics only works on post route and translation route customer premise VRUs where the translation route to VRU node (that is, the send to VRU node works same as before). The changes allow the router to tell which service to attribute the call to based on the service in the translation route to VRU node selection (note that this can be different than the service associated to the translation route). When the router tells the VRU PG which service to attribute the call to based on the service in the translation route to VRU node selection, the VRU PG sends up a CSTA diverted message to change the service that the call is being attributed to.

On post routes, the VRU still opts to choose the service using peripheral service number mapping, or use -1 in the peripheral service number and map the service using a DNIS/peripheral target/route/service mapping in the Cisco ICM. The other part of this change is that the router tells the VRU PIM when the call has entered the queue node on the script, and when it gets routed. When the call enters the queue node and the router instructs the VRU PIM, the VRU PIM sends up a CSTA queued event and that time is counted as queued. The time prior to the queued event is counted as network delay time. If the call gets routed, the router tells the VRU PG and the VRU PG sends up a CSTA delivered event with the connection state set to **connected** so it looks like it is answered prior to disconnecting.. If the caller hangs up before routing, the call is counted as an abandoned call.

Follow these instructions to install Hotfix No. 54:

1. Stop the router node.
  2. Install the hotfix.
  3. Start the router node.
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## Related Information

- [How to Use the Cisco World–Wide Technical Assistance Center](#)
  - [Bill of Materials for Contact Center Software Applications](#)
  - [Cisco ICM Software Quick Start Guide](#)
  - [Technical Support – Cisco Systems](#)
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Updated: Apr 28, 2005

Document ID: 20504

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