VRU Fails as Routing Client

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Introduction

This document provides a solution for call routing failure when you attempt to use a Voice Response Unit (VRU) as a routing client. The document also addresses issues with a VRU Peripheral Gateway (PG), which has been upgraded from Cisco Intelligent Contact Management (ICM) versions 2.5, 3.0, or 4.1.x to 4.5. The VRU PG fails to route calls appropriately after you upgrade to Cisco ICM 4.5, if the network VRU is not added for the routing client and the peripheral configuration does not show it as described in this document.

Note: When you create the network VRU type, select the type of VRU as required for your call routing requirements.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Cisco ICM PG functions
- VRU functions

Components Used

The information in this document is based on ICM version 4.5.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

Refer to the Cisco Technical Tips Conventions for more information on document conventions.

Before You Begin

Before you troubleshoot this problem, turn up the traces on the VRU PG and the Central Controller Router.

Turn Up Traces on the PG

On the VRU PG, in a duplex environment, you must determine which PG has the active Peripheral Interface Manager (PIM). Use the opctest utility in order to determine which PG has the active PIM.
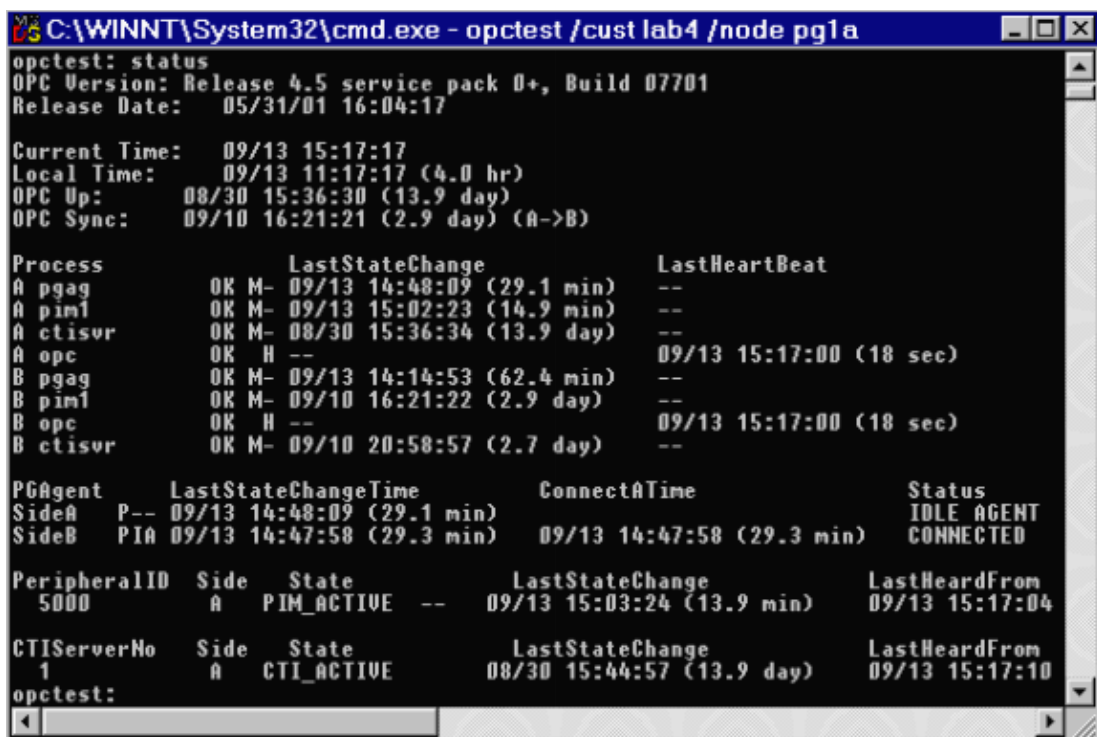
Complete these steps:

1. In a command window, on one of the PGs, run opctest:

   ```
   opctest/cust cust/node node
   ```

   Where *cust* is the customer instance and *node* is the PG node.

   For example: **opctest /cust lab4 /node pg1a**
2. At the **opctest** prompt, type the **status** command.

   In this example, notice that PeripheralID 5000 Side A is Active, which signifies an active PG. If your screen does not show Side A as Active, quit **opctest** and run it on the duplex partner PG.

   At the **opctest** prompt type:

   ```
   debug /cstacer /cstaecr /pimmsg /inrcmsg /tpmsg
   ```

3. Quit **opctest**.

Turn Up Traces on the Routers

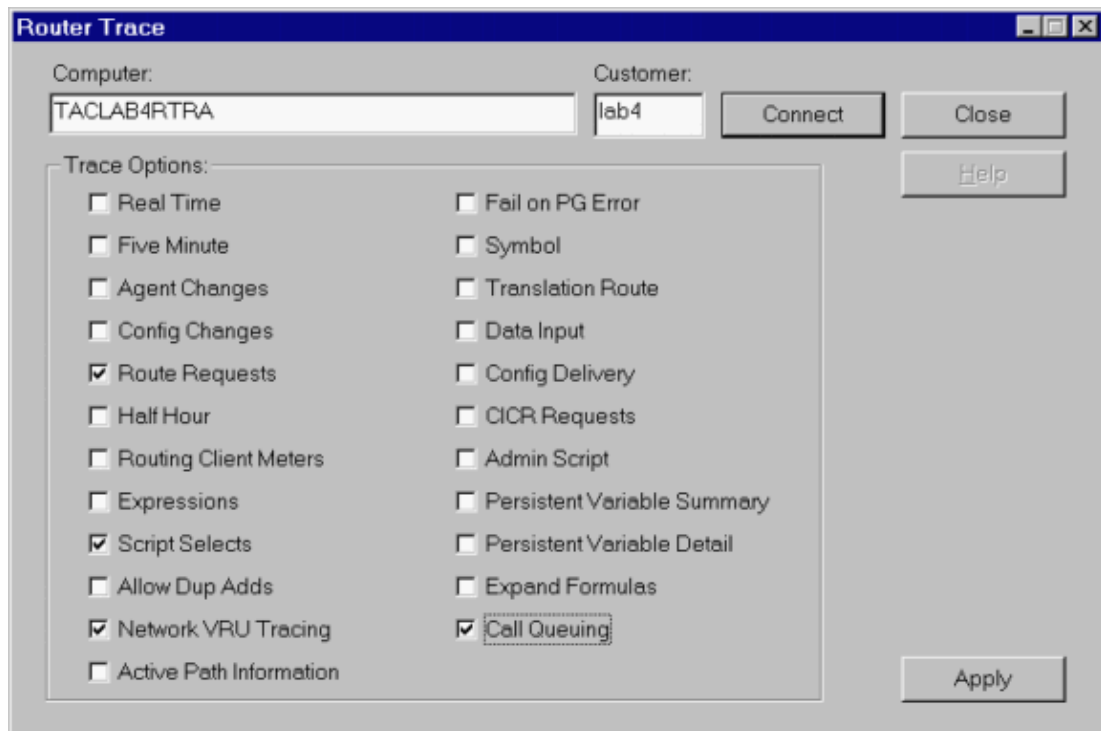Although the Routers are also duplexed, it is not necessary to determine which router is currently active.

Complete these steps in order to turn up traces on the router:

1. Choose **Start** > **Run**.
2. In the Run dialog box type:

    c:\icm\bin\rtrtrace
3. Click **OK**.

    The Router Trace Dialog box is displayed:

    Initially, all **Trace Options** are grayed out.
4. Ensure that the **Computer** and **Customer** names are populated. If not, type in the appropriate names.
5. Click **Connect**.
6. Check these check boxes:

    ♦ Route Requests
    ♦ Script Selects
    ♦ Network VRU Tracing
    ♦ Call Queuing
7. Click **Apply**.
8. Click **Close**.

Symptoms

On the active PG, the Open Peripheral Controller (OPC) process window displays a message similar to this:

```
08:41:01 pg2A-opc Trace ICR_DIALOG_FAIL::
  RCID=5001 callID=89207 XRefID=89 ErrorCode=11
```

In order to see this message, view the OPC log with the help of the dumplog utility. The RCID, callID, and the XRefID depend on your configuration.

On the router on which you turn up the traces, the router (RTR) process window displays a message similar to this:

```
No NetworkVRU configured for peripheral
  for VRU capable call on dialed number
1 from PG routing client BOCA_VRU2 (ID 5001).
11:50:29 ra-rtr Trace: Dialog (186 x 0: 0 0) sending dialog
  fail reason (11)
11:50:29 ra-rtr Trace: Router sending dialog fail reason
  (11) for dialog(186).
11:50:29 ra-rtr Trace: Deleting Dialog (186 x 0 : 0 0).
```

You can see this message also in the RTR log with the help of the dumplog utility.

Message Stream Changes

With traces turned up on the PG for the OPC process, you can see the call flow/message stream of the call. The message stream for Cisco ICM version 4.5 shows a message similar to this:

```
08:41:10 pg2A-opc Trace ICR_NEW_CALL_REQ(TRANSFER)::
  PID=5001 RCID=5001
CallID=41208 XRefID=41 DN=1 ANI=0 CED= RouteDevType=2 Orig=41
  Pri=0 RtrCallKey=(146346-5565)
SeqNo=2 Op=BLIND_TRANSFER OpFlags=COOP_NONE NICCalledPartyNumber=
  NICCallID={N/A}
PGCallID={PCID=5001 CID=5001 Remote=0,0 DlgID=0xa0f8 RemDlgID=0x0
  Grp=5001 Data=41
RtrData=0 ConnID=} RouteData=(DevNum=32809 DevType=70 DNIS=57666)
  ECCSize=0
```

The message stream for Cisco ICM version 4.0.3 and earlier shows a message similar to this:

```
12:29:19 pg4b-opc Trace: ICR_TRANSFER_CALL_REQ::
  PID=5003 RCID=5003
RoutedCall=(callID=36548 Device= DevType=Static) XrefID=36 DN=1 ANI=0
  CED= RouteDevType=2
Orig=36 Pri=0 RtrCallKey=(146337-22888) Seq#=2 RouteData=(DevNum=32804
  DevType=70 DNIS=58809)
```

Note: Notice the difference between version 4.5 and 4.0.3. The message stream for 4.5 uses the term **ICR_NEW_CALL_REQ(TRANSFER)**, whereas the message stream for 4.0.3 uses **ICR_TRANSFER_CALL_REQ**.

Reason

Cisco ICM version 4.5 requires additional configuration of the VRU in order to complete routing with a VRU as a routing client. In **ConfigICM**, there needs to be a Network VRU defined with a type of 6 (or based on your call routing requirements) and also the peripheral table needs to point to this new Network VRU.
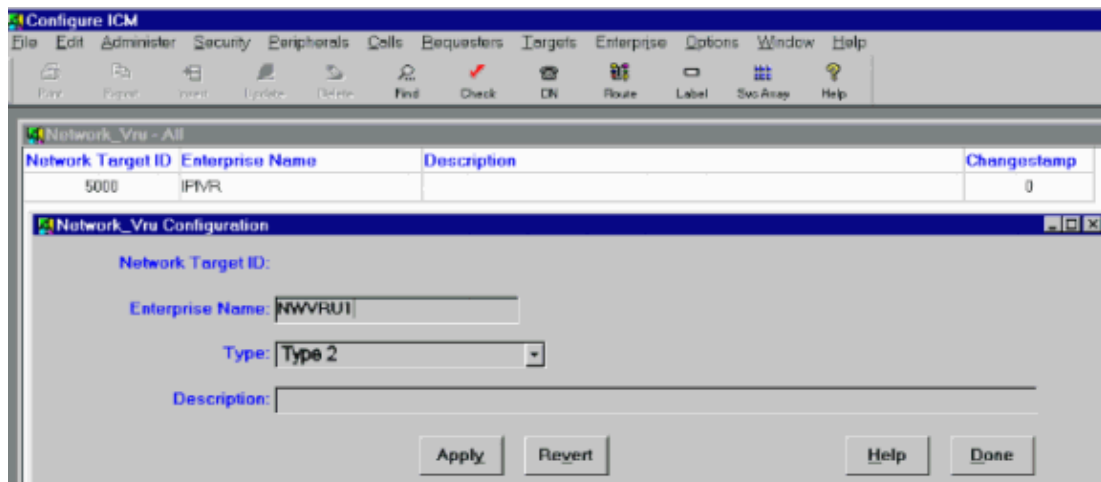
Solution

Complete these steps to fix this problem:

1. Create a Network VRU and modify the peripheral record to point to the new Network VRU. This

must be done on an Admin Workstation (AW).

2. Open Configure ICM.

3. Go to the menu bar and choose **Targets** > **Network VRU**.
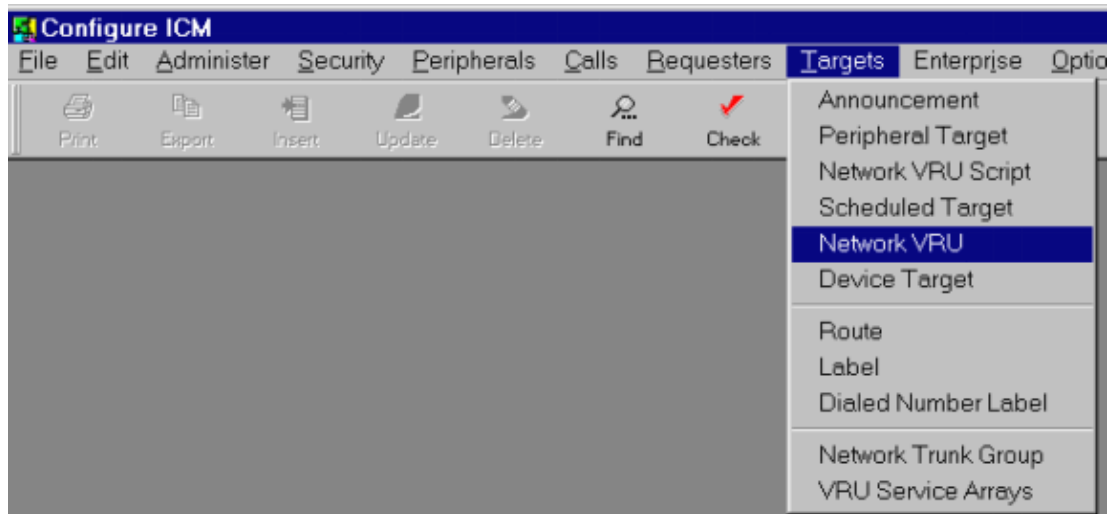
The Network_VRU–All dialog box is displayed.
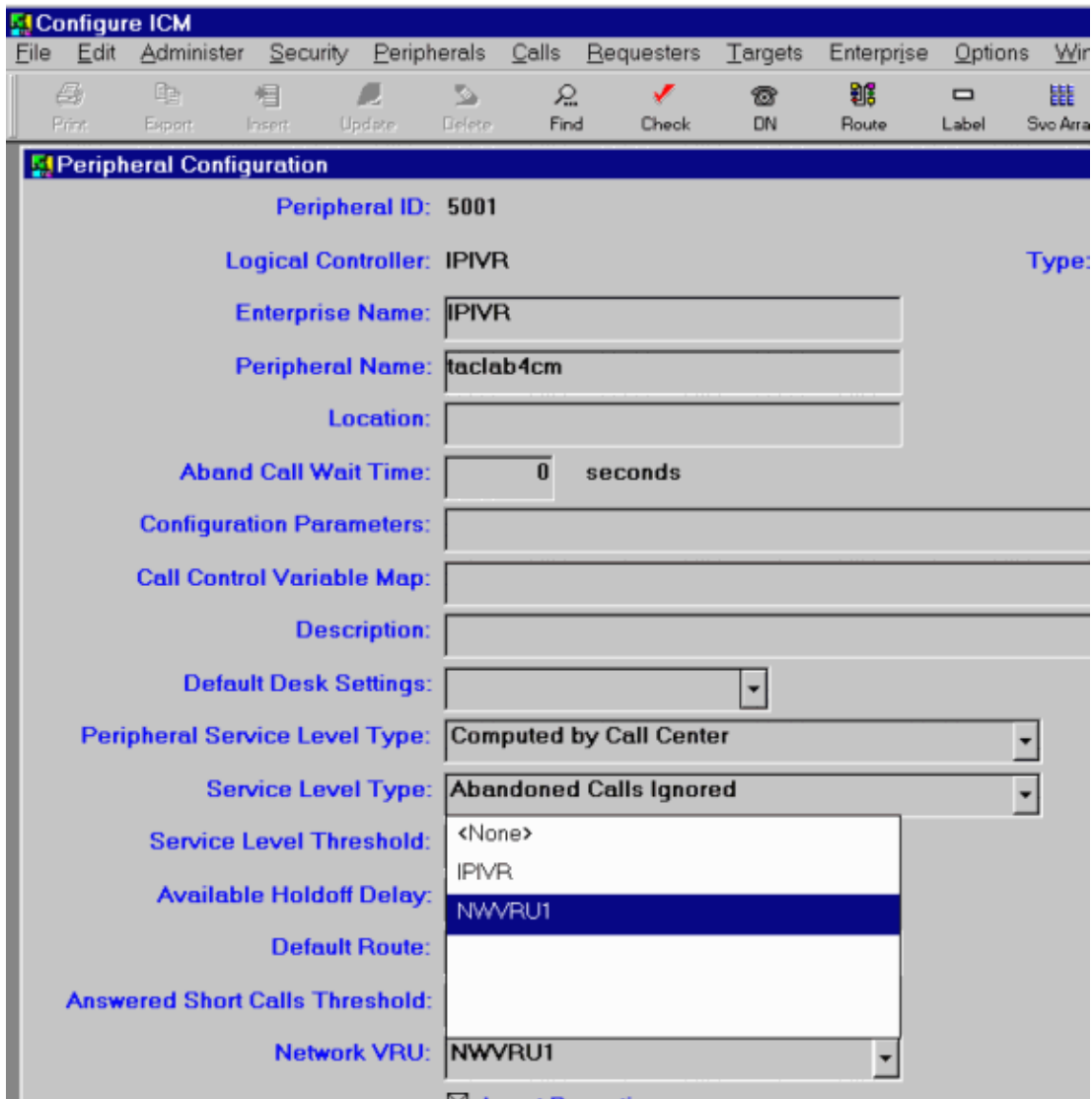
4. Click **Insert**.

5. Enter a unique name in the Enterprise Name field.

6. Click the down arrow for **Type** and select the VRU type for your routing requirements.

7. Click **Apply**.

8. Click **Done**.

9. Go to the menu bar and choose **Peripherals** > **Peripheral**.
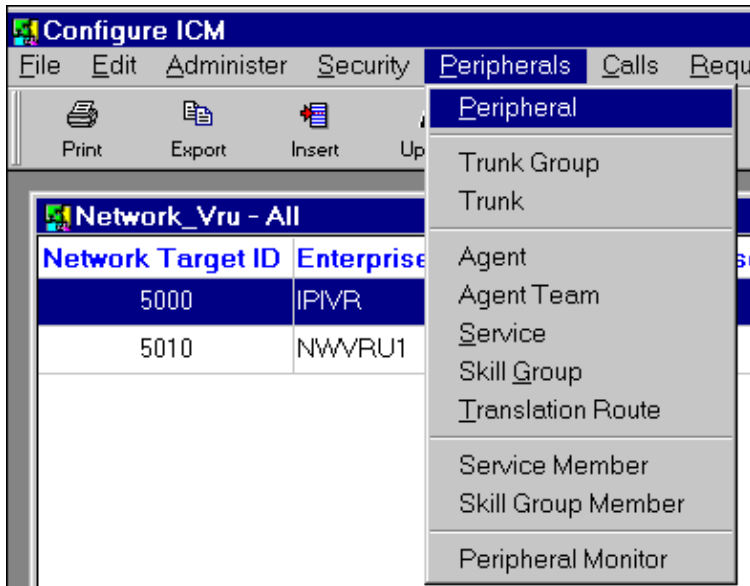
The Peripheral−All dialog box is displayed.

10. Double−click on the peripheral associated with the VRU PG.

11. Click the down arrow for the **Network VRU**, and choose the newly created **Network VRU**.

12. Click **Apply**.

13. Click **Done**.
14. Close Configure ICM.

Note: These changes are transparent and do not require a restart or reset of any Cisco ICM services. The changes affect the router configuration and are effective as soon as you save the changes. When the router configuration has been changed, the Dialog Failure does not occur, and the label is returned to complete successful routing of calls with the VRU as the routing client.

Related Information

- **Using the OPC Test Command Line Utility**
- **How to Use the Dumplog Utility**
- **Cisco ICM Software IPCC Administrator Guide**
- **Technical Support & Documentation – Cisco Systems**

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