



Caller!

Tech Bulletin: Setting the SIP Gateway MAC & Destination IP on the Vertex

Step-by-step for every VoIP install — with the full Domino's Pulse 4.0 procedure

Internal Tech Bulletin — Updated 21JUL26 (orig. 16JUL26) | Sources: helpdesk tickets #307 (08MAY26), #356 (09JUN26); CRM lead 1376 (09JUN26); Wireshark captures 21-260112-41-66 (16JUL26), 21-260616-41-22 (21JUL26)

Two settings, two reasons. Every Vertex VoIP install requires two addresses to be correct before caller ID will flow to the POS. The **SIP Gateway MAC** tells the Vertex which device in the network is the SIP router, so it can tell inbound calls from outbound. The **Destination IP** (and matching Destination MAC) tells the Vertex where to send the caller ID UDP record. Get one wrong and the Vertex sees calls but the POS sees nothing — or vice versa.

1. The SIP Gateway MAC — What It Is and How to Get It

The Vertex monitors all SIP traffic that passes through its bridge ports. When an inbound call arrives, the SIP INVITE packet flows *from* the internet through the router *to* the phone. On the Ethernet segment the Vertex is watching, that packet's **source MAC address** is the router (the SIP Gateway). The Vertex needs to know this MAC so it can classify the INVITE as inbound rather than outbound.

There are two ways to get it:

Method A — Auto-Discovery in the Vertex Configuration Tool (VCT) (*preferred*)

Steps

1. Open the **Vertex Configuration Tool (VCT)** on a PC connected to the Vertex management port.
2. On the **Main** tab, click **Discover SIP Gateway**.
3. Have someone make an **inbound test call** to the store.
4. VCT captures the SIP INVITE, reads the source MAC, and fills in the **SIP Host MAC** field automatically.
5. If the discovered MAC matches the **Data Gateway MAC** (same router handles both), VCT will set the SIP Gateway MAC to `00:00:00:00:00:00` — that is correct; leave it.
6. Click **Program** to write the setting to the Vertex.

Method B — Manual Entry from a Wireshark / VCT Capture *(use when Auto-Discovery can't get an inbound call)*

Steps

1. In VCT, go to the **Advanced** tab. Unlock the unit (toggle from **L** to **U**).
2. Click **Start** under Network Packet Capture.
3. Have someone make an inbound call to the store. Let it ring twice, then answer or hang up.
4. Click **Stop and Save**, then **Copy Recent Capture**. Save the `.cap` file.
5. Open the `.cap` file in **Wireshark**. In the display filter bar type `sip` and press Enter.
6. Find a row showing **INVITE** (not REGISTER). Click that row.
7. In the Packet Details pane, expand **Ethernet II**. Read the **Source** MAC address — that is the SIP Gateway MAC.
8. Back in VCT, **Main** tab, paste that MAC into the **SIP Host MAC** field (format: `XX:XX:XX:XX:XX:XX`).
9. Click **Program**.

Live example — 16JUL26 capture (21-260112-41-66): 28 SIP packets, all UDP on port 5090 (RingCentral). Both Yealink SIP-T53W phones (IPs 10.1.10.147 and 10.1.10.107) send all traffic *through* the router MAC `3c:82:c0:81:54:19`. That MAC goes in the SIP Host MAC field. Protocol = UDP; port = 5090.

2. The Destination IP Address — Where the Vertex Sends Caller ID Records

Once the Vertex has identified an inbound call from the SIP traffic, it sends a UDP packet on port 3520 containing the caller ID record. That packet needs a destination IP and MAC — the address of the PC running the POS or caller-ID application.

Setting	Where in VCT	Default	When to change it
Destination IP	Data Output tab → IP Address field	<code>255.255.255.255</code> (broadcast)	Change to the POS workstation's specific IP when the switch filters broadcast packets, or when only one PC should receive records.
Destination MAC	Data Output tab → MAC Address field	<code>FF:FF:FF:FF:FF:FF</code> (broadcast)	Change to the POS workstation's MAC when going unicast. Get it with <code>ipconfig /all</code> on that PC (Physical Address).

Broadcast first. When setting up a new Pulse or POS install, set Destination IP to **255.255.255.255** and Destination MAC to **FF:FF:FF:FF:FF:FF** first. This gets records to every PC on the subnet immediately and confirms the Vertex is working before you worry about unicast targeting.

How to Set Destination IP & MAC in VCT

Steps

1. In VCT, click the **Data Output** tab.
2. Click the **Software Format Selector** button. Choose the customer's POS software from the left-hand list. (For Domino's Pulse, select **Pulse**.)
3. In the **IP Address** field, enter the destination IP.
4. In the **MAC Address** field, enter the destination MAC.
5. Confirm **Port** is set to **3520**.
6. Click **Program**.
7. Make a test call. The caller ID record should appear in the POS within 1-2 seconds of the first ring.

3. Domino's Pulse 4.0 — Full Procedure

Pulse 4.0 standard Ethernet settings (fleet-wide, all Domino's stores):

- Destination IP → **192.168.20.8** (Pulse host VM, Microsoft Hyper-V)
- Destination MAC → **00-15-5D-64-1E-11** (Hyper-V virtual adapter; **00-15-5D** = Microsoft OUI)
- UDP Port → **3520**
- SIP Gateway MAC → from a Wireshark capture at that specific store (varies per install)
- Vertex firmware → v143 or newer (required for Pulse 4.0 compatibility; ticket #356 09JUN26)

If **192.168.20.8** doesn't work initially, set Destination IP to **255.255.255.255** and Destination MAC to **FF:FF:FF:FF:FF:FF** as a test. If records appear in Pulse on the broadcast address, the Pulse network is filtering the unicast IP — check with Pulse tech support (contact: **Help@DominosPulse.com / 877-379-2379**) to confirm the correct IP for that store's Pulse host.

Step-by-Step: Pulse 4.0 Install

Phase 1 — Configure the Vertex (do this BEFORE connecting to the Pulse network)

1. Connect the Vertex to a standard router or the office network (not the Pulse/Meraki switch yet).

2. Connect your PC to the Vertex management port. Open VCT.
3. **Main tab:**
 - Network settings → **Static**. Assign the Vertex an IP on the Pulse subnet (e.g., 192.168.20.x).
 - Set **SIP Host MAC** (see Section 1 above to get it from a capture).
4. **Data Output tab:**
 - Software Format Selector → **Pulse**
 - IP Address → **192.168.20.8**
 - MAC Address → **00-15-5D-64-1E-11**
 - Port → 3520
5. Click **Program**. Verify settings read back correctly.

Phase 2 — Configure Pulse to Receive Caller ID

1. From the Pulse **Main screen**, select **Utilities** → **Service Manager**.
2. Log in with the Team Member punch-in/out code.
3. Find **Pulse Caller ID** in the service list and **Stop** it.
4. From the Pulse **Main screen**, select **Back Office** → **Setup**. Log in with the same credentials.
5. Go to **System** tab → **Devices** → **Caller ID**.
6. **Uncheck** “Use Caller ID remotely.”
7. **Check** “Enable Caller ID.”
8. Change the delivery method from Serial to **UDP**. Confirm port is 3520 .
9. Adjust Number of Lines if needed. Click **OK**.
10. Return to Service Manager and **Start** the Pulse Caller ID service.

Phase 3 — Move the Vertex to the Pulse Network

1. Move the Vertex data network cable to the Meraki / Pulse switch — **plug it into switch port #22**. This is the only port on the Pulse switch configured to receive CallerID data. Other ports will not pass the UDP 3520 traffic regardless of firewall rules.
2. Ensure the Pulse tech **allows UDP port 3520** inbound on the Meraki to port #22. This is blocked by default and was the root cause of ticket #307 (08MAY26). Without this, the Vertex sends records but Pulse never receives them.
3. Make a test call to the store. The caller ID pop-up should appear in Pulse within 1-2 seconds of the first ring.

Port #22 is required on the Pulse switch. The Vertex data network cable must connect to **switch port #22** — this is the only port configured to receive CallerID UDP data. Plugging into any other port will block delivery even if UDP 3520 is open on the Meraki. Confirmed 21JUL26.

Meraki firewall blocks UDP 3520 by default. This was the sole cause of the ticket #307 install taking two calls to resolve. Always confirm with the Pulse tech that they have opened UDP 3520 *specifically to port #22* on the Meraki before concluding the Vertex is misconfigured.

4. General VoIP Install — Quick Reference Card

What you're setting	Field in VCT	Source / How to get it
SIP Gateway MAC	Main tab → SIP Host MAC	Wireshark INVITE packet source MAC, or VCT Auto-Discovery
Data Gateway MAC	Main tab → Data Gateway MAC	Auto-set when Vertex gets DHCP from router. If no DHCP, use VCT "Get DGM" button.
Destination IP	Data Output tab → IP Address	POS workstation IP, or 255.255.255.255 for broadcast. Domino's Pulse: 192.168.20.8 .
Destination MAC	Data Output tab → MAC Address	ipconfig /all on POS PC (Physical Address), or FF:FF:FF:FF:FF:FF for broadcast. Domino's Pulse: 00-15-5D-64-1E-11 .
Destination Port	Data Output tab → Port	Always 3520 for Pulse, Toast, HungerRush. ESC FieldEdge uses 6100 .
SIP Protocol	Advanced tab → SIP Mode	Confirm UDP vs TCP from Wireshark Protocol column. RingCentral typically UDP/5090.

5. Troubleshooting

Symptom	Likely Cause	Fix
Vertex shows calls in VCT live view but POS sees nothing	Wrong Destination IP or MAC — or firewall blocking UDP 3520	Set Destination to broadcast first (255.255.255.255 / FF:FF:FF:FF:FF:FF). If POS then sees it, go unicast. If still nothing, open UDP 3520 on the switch.
Pulse upgraded to 4.0 and pop-ups stopped	Vertex firmware too old; Pulse 4.0 requires v143+	Upgrade Vertex firmware to v143 (latest). Customer must upgrade; it is required for Pulse 4.0 (ticket #356 09JUN26).

Calls not showing in Vertex VCT live view at all	Wrong SIP Gateway MAC, or SIP not crossing the Vertex bridge ports	Re-run Wireshark capture and check the INVITE source MAC. Verify the Vertex is wired inline (not tapped to a span port) between the phones and the router.
Outbound calls appearing as inbound (wrong direction)	SIP Gateway MAC set to 00:00:00:00:00:00 when router and gateway are different devices	Set SIP Gateway MAC to the router's actual MAC from the Wireshark INVITE source.
Pulse records arriving but no caller name / number displayed	Caller ID format mismatch or Pulse Caller ID service stopped	Confirm Software Format Selector = Pulse. Restart Pulse Caller ID service in Service Manager.
UDP 3520 blocked by Meraki at a Domino's store	Meraki default policy blocks it to Pulse VLAN ports	Contact Pulse tech support (Help@DominosPulse.com / 877-379-2379) and request they open UDP 3520 inbound to the Vertex's Meraki port. This cannot be done without Pulse tech access.

6. Case History — Source Tickets

Date	Ticket / Lead	Customer	Issue & Resolution
08MAY26	Ticket #307	21-251117-41-78 (Mike)	Pulse switch blocking UDP 3520 to Vertex port on Meraki. Resolution: Pulse tech opened the port. Calls appeared immediately.
09JUN26	Ticket #356	TM Washington (Rehman) — 21-260429-41-25	Upgrade to Pulse 4.0 broke caller ID. Resolution: upgraded Vertex firmware to v143; set SIP Gateway MAC to d4:01:c3:1a:7d:8e (from Wireshark capture); changed Pulse destination from static IP to broadcast 255.255.255.255 — calls appeared in Pulse.
09JUN26	CRM Lead 1376	Domino's store 8479 (with Pulse / Message On Hold)	New Pulse 4.0 network — caller ID not reaching POS. Resolution: Rod + Pulse tech Chris Katopodis (Help@DominosPulse.com) set gateway MAC and broadcast destination together. Resolved same day.
16JUL26	Live call (this bulletin)	21-260112-41-66 (Yealink/RingCentral site)	SIP confirmed UDP/5090. SIP Gateway MAC = 3c:82:c0:81:54:19 (from Wireshark capture). Two phones: POS Extension (10.1.10.147) and Handheld 1 (10.1.10.107).

21JUL26	Live call — bulletin update	21-260616-41-22 (Pulse 4.0 site)	Vertex data network cable must be plugged into Pulse switch port #22 — the only port configured to receive CallerID UDP data. Confirmed via packet capture: Vertex MAC 38:94:ed:fb:86:e6 at 192.168.1.2 , gateway MAC 98:1e:19:43:bc:9a at 192.168.1.56 . Caller ID display was reversed (showing called-party instead of calling-party) due to SIP field mapping; resolved by correcting the switch port and Vertex SIP field configuration.
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