**Overview for Asterisk bulk calling with an ISP number:**

Asterisk is acting as a **PBX (Private Branch Exchange)** system. When we run the bulk call script, Asterisk will:

1. **Register with the ISP SIP Server:** Authenticate using the ISP-provided number.
2. **Initiate Calls:** Generate calls to multiple numbers using the SIP trunk.
3. **Route Calls via SIP Trunk:** Use the configured SIP trunk to send calls through the ISP.
4. **Playback Message (Optional):** Optionally play an audio file or test call tone.

**Key Components Explained:**

**1. SIP Trunk (sip.conf):**

* **Purpose:** Connects Asterisk to our ISP for making outbound calls.
* **Configuration**:

register => ISPUSERNAME:ISPPASSWORD@ISP\_SERVER\_IP

* **Register:** Authenticates with the ISP using the provided credentials.
* **Fromuser:** The number provided by our ISP used for outgoing calls.
* **Host:** The ISP's SIP server IP.

### ****2. Dial Plan (****extensions.conf****):****

* **Purpose:** Controls how calls are handled once they reach Asterisk.
* **Configuration:**

[from-trunk]

exten => \_X.,1,Dial(SIP/${EXTEN}@mysiptrunk)

exten => \_X.,n,Hangup()

* from-trunk: Call context defined for incoming/outgoing calls.
* exten => \_X.: Matches any number dialed.
* Dial(SIP/${EXTEN}@mysiptrunk): Dials the number using the SIP trunk.

### ****3. Bulk Call Python Script:****

* **Purpose:** Automates multiple calls by interacting with Asterisk via CLI.
* **Workflow:**

os.system(f"asterisk -rx 'channel originate SIP/{phone\_number}@mysiptrunk application Playback hello-world'")

* The script uses asterisk -rx to send commands to the Asterisk CLI.
* channel originate: Generates a new call.
* Playback hello-world: Plays a test audio file after connecting.

### ****4. Call Flow Example:****

1. **User runs the script.**
2. Asterisk **authenticates with the ISP** using the credentials in sip.conf.
3. For each number, Asterisk **initiates a call** using the command sent from Python.
4. The call is **routed through the SIP trunk**.
5. If the call connects, **Asterisk plays an audio file** (hello-world).
6. The **result is logged** in the Python script for success/failure.

## ****How to Verify if Calls Are Working?****

* Run: sudo asterisk -rvvv (Opens Asterisk CLI)
* Check active calls: core show channels
* Call success/failure logs: Check the **Python log file** (bulk\_call\_log.txt).