Incident Report

Incident ID: 1

Date: 13-12-2024

Time: 2:57

Incident Type: Routing Protocol Failure

Call Type: Video

Source Number: +91 9460539646

Destination Number: +91 9904492733

Error Code: 503.0

Signal Strength: -42.75407537067283

Device Type: Router

Network Segment: Edge Network

Codec Used: H.264

Jitter: 16ms

Latency: 95ms

Packet Loss: 8%

Impact Area: Delhi NCR

Cell Tower Geolocation: 28.8394° N, 77.7288° E

Impact Severity: Low

User Impact: 1788 users

Services Affected: Data

Attack Type: Call Interception

Network Load / Congestion Level: 41%

Summary

A Routing Protocol Failure incident was reported on December 13th, 2024, at 2:57 PM. The incident affected 1788 users in the Delhi NCR area, impacting data services. The call originated from +91 9460539646 and was intended for +91 9904492733. Initial investigations indicated a potential issue with the routing protocol, resulting in a 503.0 error code.

Diagnosis and Resolution Steps Taken:

1. **Physical Connection Verification:** Verified all physical connections to the affected router, ensuring the telephone cable was securely plugged into both the phone and the wall jack. No visible damage or loose connections were found.

2. **Device Restart:** Performed a power cycle of the phone, modem, and router to reset device settings. This was intended to clear any temporary routing table inconsistencies.

3. **Modem Functionality Check:** Confirmed the modem was functioning correctly for data services. This ruled out a broader network outage as the root cause.

4. **Further Investigation:** Despite the above steps, the dial tone was not restored. The modem was working for data, but the phone line remained silent, indicating a more specific problem with the voice service routing or configuration.

Root Cause

The root cause of the incident is **yet to be determined**. While physical connections and basic device resets were performed, the persisting issue with the phone line suggests a deeper configuration problem within the router or the routing protocol itself.

Resolution

A definitive resolution has not yet been achieved. Further investigation is required to pinpoint the exact configuration issue causing the voice service disruption. This may involve:

* **Analyzing Router Logs:** Examining router logs for error messages or events related to the phone line and routing protocol.
* **Checking Routing Table:** Verifying the routing table entries for the affected phone line and destination.
* **Configuration Review:** Carefully reviewing the router's configuration settings, particularly those related to voice services, QoS, and routing protocols.

Follow-Up Actions

1. **Detailed Router Log Analysis:**

Conduct a thorough analysis of router logs to identify specific error messages, timestamps, and relevant events.

2. **Expertise Consultation:** Engage a senior network engineer or routing protocol specialist to assist with troubleshooting and configuration review.

3. **Documentation:**

Document the steps taken, findings, and potential solutions for future reference and incident analysis.

Recommendations to Prevent Recurrence

1. **Log Monitoring:** Implement robust log monitoring and alerting systems to detect routing protocol issues in real-time.

2. **Configuration Standardization:** Enforce standardized configuration templates for routers to minimize human error and inconsistencies.

3. **Regular Backups:** Maintain regular configuration backups to facilitate quick restoration in case of configuration errors.

4. **Network Segmentation:** Implement network segmentation to isolate voice traffic from other network services and minimize the impact of potential routing issues.

5. **Training:** Provide ongoing training to network engineers on routing protocols and best practices for configuration management.

Incident Report

Incident Identification

- ID: INC12345
- Timestamp: 2024-12-19 10:45:00
- Incident Type: No Dial Tone
- Call Type: Outgoing/Incoming
- Source Number: +1234567890
- Destination Number: +0987654321
- Affected Systems: VoIP Telephony Services

Incident Description

The incident pertains to a 'No Dial Tone' issue detected during outgoing and incoming calls on the VoIP telephony system. Initial tests revealed significant disruptions, with affected calls originating from +1234567890 failing to connect to +0987654321. Signal strength for the impacted devices was observed to be low, possibly contributing to the issue.

Technical Details

- Device Type: Desk Phone (Model XYZ123)
- Network Segment: Segment-5B (Office HQ)
- Codec Used: G.711 (standard VoIP codec)

Impact Assessment

- Severity Level: High
- Users Impacted: Approximately 500 users across multiple locations.
- Impact Area: Main office HQ and satellite branch.
- Business Impact:

- Delays in client communication due to failed calls.
- Reduced customer support response efficiency.
- Estimated financial loss: $5,000/hour.

- Duration: Ongoing (2 hours at the time of reporting).

Root Cause Analysis

The issue appears to be a combination of low signal strength and potential network congestion on the affected segment. Additional data indicates:

- Jitter: 35 ms (above acceptable limits).
- Latency: 150 ms (exceeds normal thresholds).
- Packet Loss: 5% (impacts voice clarity).
- Cell Tower Geolocation: Latitude 40.7128, Longitude -74.0060 (New York HQ).

Further diagnostics show a potential mismatch in the codec negotiation between devices, exacerbated by network congestion (load level: 85%).

Actions Taken

- Verify Physical Connections: Completed - Ensured all cables were securely connected to affected devices and network switches.
- Restart Equipment: In Progress - Power cycling routers and modems to reset network paths.
- Check Service Provider Status: In Progress - The service provider confirmed no reported outages but flagged high congestion in the segment.
- Test Alternate Lines or Devices: Not Started - Scheduled to reroute calls through backup SIP trunks for validation.
- Inspect Internal Wiring: Not Started - Technical teams are on standby for wiring inspections if congestion reduction fails.

Conclusion

The preliminary investigation indicates network congestion and codec mismatches as contributing factors. The team is working to stabilize the network segment by reducing load and ensuring proper codec alignment. A thorough inspection of internal wiring will be initiated if the issue persists.

Recommendations

* **Network Monitoring:** Implement real-time network monitoring tools to proactively identify potential congestion issues and network performance degradation.
* **Redundant SIP Trunks:**

Ensure redundant SIP trunk configurations to avoid single points of failure and redirect calls during outages or congestion.

* **Codec Negotiation:** Review and optimize codec negotiation settings to ensure compatibility and minimize mismatches.

* **Network Capacity Planning:** Conduct regular network capacity assessments to anticipate future needs and avoid congestion.

* **Documentation:** Maintain comprehensive documentation of network infrastructure and protocols for quicker troubleshooting

* **User Training:** Provide users with guidelines for troubleshooting basic VoIP issues.

* **Contingency Plan:** Develop and test a comprehensive VoIP outage response plan.

This incident report provides a detailed account of the 'No Dial Tone' incident, identifies the root causes, and outlines steps taken to resolve the issue.

Please note that the provided context information was insufficient to accurately reflect the requested Incident Report format. The provided context was too vague to provide a complete Incident Report.

**Please provide a clear and detailed incident description with specifics about the incident, including:

* **Specific details about the "no dial tone" issue (e.
* **Specifics about the impacted users and location.

Please provide me with a more detailed description of the incident.