Control Hub Analytics Showing Inflated Call Counts in Multi-Cluster Cloud Connected UC Environments

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Issue

Control Hub Analytics for Cloud Connected UC displays an abnormally high call volume (approximately 529 million calls) in an 18-cluster CUCM environment with two Session Management Edition (SME) servers. The reported call counts appear significantly inflated when compared to other call detail record (CDR) reporting systems such as ISI CDR, raising concerns about data accuracy and potential fraudulent activity. The discrepancy impacts the ability to accurately assess call usage patterns and validate legitimate call traffic.

Environment

- Cisco Unified Communications Manager (CUCM) multi-cluster environment with 18 clusters
- Two Session Management Edition (SME) servers
- Webex Control Hub with Cloud Connected UC Analytics enabled
- ISI CDR reporting system for call detail records comparison

Resolution

The investigation revealed that the inflated call counts in Control Hub Analytics are caused by the system design behavior in multi-cluster environments, combined with calls to inactive numbers.

These steps were taken to validate and understand the reported numbers.

Step 1: Validate Control Hub Analytics Data

Review the specific location in Control Hub Analytics where the high call volume is displayed:

Navigate to **Control Hub > Analytics > Cloud Connected UC > Call Volume Status** and examine the 12-month call data for all clusters.

Step 2: Compare with Alternative CDR Systems

Compare Control Hub Analytics data with ISI CDR reports for the same time period (30-60 days) to identify discrepancies in call counting methodologies.

Step 3: Analyze Call Traversal Behavior

The Connected UC TAC team analysis confirmed that Control Hub Analytics counts each call every time it traverses a cluster or leaf node. In multi-cluster environments, calls crossing between clusters are counted multiple times - once per cluster traversed - which significantly inflates the total call attempt numbers.

Step 4: Identify High-Volume Call Destinations

Review the top called numbers for the past 12 months to identify any unusual call patterns. In this case, a specific number (+12125621035) showed 48 million calls, which was identified as an out-of-service fax line receiving repeated call attempts.

Step 5: Validate Zero-Duration Call Counting

Confirm that calls with zero duration (failed or aborted attempts) are still counted as valid call attempts in Control Hub Analytics metrics, contributing to the inflated totals.

Step 6: Review Ingress Gateway and CUBE Utilization

Validate ingress gateway and CUBE utilization to correlate call attempts with Control Hub Analytics data and identify the source of calls to inactive numbers.

Step 7: Implement Call Remediation

Block or remediate calls to unused or inactive numbers at the ingress gateway or CUBE level to reduce unnecessary call attempts that contribute to inflated Analytics counts.

Cause

The inflated call counts in Control Hub Analytics are caused by these primary factors:

- **Multi-Cluster Call Traversal Counting:** Control Hub Analytics counts each call every time it traverses a cluster or leaf node. In environments with multiple clusters (18 in this case), a single call crossing between clusters is counted multiple times - once per cluster traversed - artificially inflating the total call attempt numbers.
- **Zero-Duration Call Inclusion:** Calls with zero duration (failed, aborted, or unsuccessful attempts) are still included as valid call attempts in Analytics metrics, contributing to higher totals.
- **Repeated Calls to Inactive Numbers:** High-volume call attempts to out-of-service numbers (such as inactive fax lines) generate repeated failed calls that traverse multiple clusters, significantly contributing to inflated call counts.

This behavior is by design in Control Hub Analytics and represents accurate counting within the system methodology, rather than a data error or software defect.

Related Content

- Analytics for Your Webex Cloud-Connected UC
- Cisco Technical Support & Downloads