Operations

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API Additions or Changes

No changes were introduced in this release.

MIB Additions or Changes

No changes were introduced in this release.

Log Additions or Changes

Policy Builder and Control Center Activity Logs

Feature Summary and Revision History

Table 1: Summary Data

Applicable Product(s) or Functional Area	CPS
Applicable Platform(s)	Not Applicable
Default Setting	Enabled - Always ON
Related Changes in This Release	Not Applicable
Related Documentation	Not Applicable

Table 2: Revision History

Revision Details	Release
First introduced	19.4.0

Policy Builder Logging

- Login and logout message in audit logs is now written into separate audit log for easy tracing.

  - File location: `/var/log/broadhop/qns-audit-pb.log`

  - Logs are available in pcrfclient VMs.

  - When the log file reach 20 MB, it gets rotated. Maximum of five latest log files are available at a specific time.

  You need to enable the log information in `/etc/broadhop/logback-pb.xml` file.

  ```
  ================================================================
  <!-- UI Activity Loggers -->
  <logger name="com.broadhop.client.WorkspaceChooserDialog" level="info"><appender-ref
  ref="UI-ACTIVITY" /></logger>
  <logger name="com.broadhop.client.ui.framework.handlers.ExitHandler"
  level="info"><appender-ref ref="UI-ACTIVITY" /></logger>
  <!-- UI Activity Loggers -->
  ================================================================
  ```

- **Policy Builder publish logs in audit database:** User name is updated into the existing audit database entry.

  Enable Audit Database

  1. Enable the audit database logging by configuring the parameter in `/etc/broadhop/pb/pb.conf` file.

     `-Dua.client.submit.audit=true`

  2. Select the checkbox, **Log Read Request** in Policy Builder under **Systems** > *system name* > **Plugin Configuration** > **Audit Configuration**. For more information, see *Audit Configuration* sections in the *CPS Mobile Configuration Guide*.

Control Center Logging

- Login and logout message in audit logs is now written into separate audit log for easy tracing.

  - File location: `/var/log/broadhop/qns-audit-1.log`

  - Logs are available in Policy Server (QNS) VM.

  - When the log file reach 20 MB, it gets rotated. Maximum of five latest log files are available at a specific time.

  You need to enable the log information in `/etc/broadhop/logback-pb.xml` file.

  ```
  <!-- CC Login Logout -->
    <logger name="com.broadhop.ui.security.server.SessionConcurrencyManager"
  level="info"><appender-ref ref="UI-ACTIVITY" /></logger>
  <!-- CC Login Logout -->
  ```

• By default, Control Center activity logs are captured in Audit database.

SNMP Alarm Additions or Changes

The following table provides information on new/modified alarms:

Table 3: Alarm Additions or Changes

New/Modified Alarms	Release Introduced/ Modified	Applicable Product(s)/
SESSION_SHARD_UNREACHABLE	19.4.0	CPS
ADMIN_DB_MISSING_ SHARD_ENTRIES	19.4.0	CPS
MISSING_SESSION_INDEXES	19.4.0	CPS
MISSING_SPR_INDEXES	19.4.0	CPS
ProcessRestarted	19.4.0	CPS
Database Operation	19.4.0	CPS
SESSION_DB_LIMIT_EXCEEDED	19.4.0	vDRA
IPV6_DB_LIMIT_EXCEEDED	19.4.0	vDRA
IPV4_DB_LIMIT_EXCEEDED	19.4.0	vDRA
IMSIAPN_DB_ LIMIT_EXCEEDED	19.4.0	vDRA
MSISDNAPN_DB_ LIMIT_EXCEEDED	19.4.0	vDRA

For more information, see the following sections:

• *Application Notifications* table in the *CPS SNMP, Alarms, and Clearing Procedures Guide*

• *Clearing Procedures* chapter in the *CPS SNMP, Alarms, and Clearing Procedures Guide*

• *Testing Traps Generated by CPS* in the *CPS Troubleshooting Guide*

• *Application Notifications* table in the *CPS vDRA SNMP and Alarms Guide*

Statistics/KPI Additions or Changes

The following table provides information on new/modified statistics:

Table 4: Statistics Additions or Changes

New/Modified Statistics	Description	Applicable Product(s)/
ccri_db_limit_breached_total	This statistics displays the total number of requests rejected/forwarded due to database record limit breach. Request are forwarded to database in case of database limit breach and bindings are marked as best effort. Field in statistics: binding_type = session/ipv6/ipv4/ imsi_apn/msisdn_apn status = discard/forward	vDRA
db_stats_per_shard	The gauge statistics has been created for getting the number of records in each shard. This can be used to monitor the record distribution across shards (as seen from DRA VNF side). db_stats_per_shard Filter: sharddb – database name (drasessions, ipvbindings and so on) replicaSet – replica-set name for the physical shard (as configured in database at binding VNF side). **Sample query to get the record distribution across shards for session database:** *sum(db_stats_per_shard* *{sharddb="drasessions", replicaSet!=""})* *by (replicaSet)*	vDRA
ipv6_zone_based_ db_message_total	The IPv6 zone based database message total for all (insert/update/read/delete) database operations. Label: zone Type: Counter The source is JMX/Script	vDRA

New/Modified Statistics	Description	Applicable Product(s)/
relay_message_total	This statistics shows the total number of messages relayed on relay channel. Field in statistics: • endpoint: endpoint • relay_peer: relay peer • app_id: Application ID • direction: ingress/egress • message_type: request/answer	vDRA
priority_aar_count	This counter value increase when main thread pool queue gets full and AAR specific thread pool tarts processing AARs	vDRA
db_query_*	This counter is now migrated to the new metric style and two new statistics are added. db_query_total and following labels are added: • db (session/ipv6/ipv4/imsiapn/msisdnapn) • status (success/success.noentry/failed) • read_perf (primary/nearest/nearest+primary) • shard_type (mongo-sharding/app-sharding) db_query_duration_seconds with labels: • db (session/ipv6/ipv4/imsiapn/msisdnapn) • status (success/success.noentry/failed) • shard_type (mongo-sharding/app-sharding)	vDRA
mongodb_heartbeat_update_ success_<replicaSetName>	This counter continues increments when update operation is successful with respect to corresponding replica-set only.	CPS
mongodb_heartbeat_update _error_<replicaSetName>	This counter continues increments when update operation fails with respect to corresponding replica-set only.	CPS

New/Modified Statistics	Description	Applicable Product(s)/
mongo_client_reset _<replicaSetName>	This counter continues increments when mongo client establishes connection to the application re-initiated with respect to corresponding replica-set only.	CPS
mongo_client_reset_ fail_<replicasetSetName>	This counter continues increments when mongo client connection to the application re-initiated fails with respect to corresponding replica-set only. When it reaches the number of retry reset operation this counter stops increments.	CPS