



# Smart Licensing

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## Implementation of Smart License session monitoring and alarms

### Feature History

Feature Name	Release Information	Description
<b>Implementation of Smart License session monitoring and alarms</b>	2025.03.0	This feature enables the CPC product, specifically the cnAAA application, to monitor active subscriber sessions. It compares these sessions against purchased smart license entitlements. The feature provides license management and session counting. It also triggers alerts when license limits are exceeded, which facilitates usage tracking and compliance without interrupting service.

Smart License implementation for cnAAA manages and monetizes the usage of the cnAAA application. It tracks active subscriber sessions against pre-defined license limits. This feature provides visibility into customer consumption patterns, triggers alerts when license thresholds breach, and supports a flexible, usage-based licensing model without interruption service.

### How Smart License implementation for cnAAA works

The Smart License implementation for cnAAA operates through several key processes to ensure compliance and session management:

- License acquisition and management
- Session monitoring and counting

- Behavior on license limit breach
- Evaluation mode
- Geo-Redundancy (GR) and High Availability (HA) support



**Note** By default, the base license count is set to 100, and the cnAAA\_1K license count is set to 1000.

**License acquisition and management:** The application supports offline Smart Licensing, requiring manual updates via the CSSM portal and Ops Center. Licenses are purchased in multiples of 1,000 sessions.

**Session monitoring and counting:** A session is created for each subscriber request such as RADIUS access. Active session details are stored in the CDL DB, a common database for local and GR sites. KPIs track active sessions and installed licenses cumulatively across GR sites. The system periodically fetches and compares license and session counts.

**Behavior on license limit breach:** The system does not block new sessions when the license limit is breached. It triggers an alarm and captures logs, allowing to monitor breaches.

**Evaluation mode:** The system enters evaluation mode if no licenses are installed, providing a default base license for 100 RADIUS sessions. Installing any license disables evaluation mode.

**Geo-Redundancy (GR) and High Availability (HA) support:** The feature supports cumulative session monitoring across GR sites. License details are stored in the SCDB-admin-db for failover. Mechanisms prevent redundant alarms from multiple Radius EP pods in a GR site.

## Configure the Ops Center for Smart License

To configure Smart Licensing for cnAAA, add these mandatory properties in Ops-Center:

### Before you begin

- Ensure the base cnAAA application pods are up.
- Enable RadiusEP pods via Ops-Center configuration if not already.

### Procedure

**Step 1** Enter this command to configure the geo site name:

```
engine <engine_name> properties GeoSiteName value <site_name>
```

**Step 2** Set the Smart Agent Entitlements Refresh Interval:

```
engine <engine_name> properties smartagent.entitlements.refresh.mins value <refresh_interval_in_minutes>
```

**Step 3** Enter this command to configure the Session Count Query Interval:

```
engine <engine_name> properties sessioncount.query.interval.mins value <session_refresh_time_in_minutes>
```

**Step 4** Enable the Smart License Feature:

```
engine <engine_name> properties cpc.smart.license.enabled value true
```

**Step 5** Set the Smart License KPI Interval for Radius EP:

```
radius properties smart.license.kpi.interval.mins value <kpi_refresh_time_in_minutes>
```

**Example**

This sample configuration shows the Smart License settings for the Ops Center:

```
engine my_engine_name properties GeoSiteName value SiteA
top
engine my_engine_name properties smartagent.entitlements.refresh.mins value 1440
top
engine my_engine_name properties sessioncount.query.interval.mins value 60
top
engine my_engine_name properties cpc.smart.license.enabled value true
top
radius properties smart.license.kpi.interval.mins value 5
top
```



**Note** To disable Smart Licensing, set the relevant property for both the engine and RADIUS to `false`.

## Smart License count KPI

This KPI verifies the smart license count. For GR setups, the license count is available separately for each site.

To view the smart license count, execute this command:

```
cloud-user@gamma-master-1:~$ kubectl exec -it radius-ep-2 -n pcf-gamma-cneps -- curl -G
http://127.0.0.1:9099/metrics|grep smart_license_reserved_count

# HELP smart_license_reserved_count Total Smart License Reserved Count
# TYPE smart_license_reserved_count gauge
smart_license_reserved_count{session_type="RADIUS",isSLEnabled="true",site="cumulative",}
2001200.0
smart_license_reserved_count{session_type="RADIUS",isSLEnabled="true",site="gamma_site1",}
2000100.0
smart_license_reserved_count{session_type="RADIUS",isSLEnabled="false",site="delta_site2",}
1100.0
```

