

Enforcement of TPS License

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This chapter describes the enforcement of transactions per second (TPS) based licensing, the new licensing model introduced in Cisco Access Registrar (CAR) 4.2.

The previous releases of CAR were following the conventional licensing model, namely, featured license. In a feature-based licensing model, there was access only to the licensed feature. From CAR 4.2, licensing is based on transactions per second. In this model, you will have access to all features of CAR. The transactions per second is maintained by the server.

TPS Licensing Features

Following are the features of TPS licensing.

- Every License will enable all features but with restriction enforced on the TPS.
- TPS is the number of packets flowing in to CAR 4.2. This is accounted by CAR irrespective of the feature being used.

Enforcement Rules

Any license enforcement is triggered only after CAR has observed increasing steady state in TPS. Increasing steady state is marked by the steady increase in incoming traffic (measured in TPS) beyond 80% of the licensed TPS for 20 minutes.

The following are the enforcement rules applied on reaching increasing steady state.

- When incoming traffic (measured in TPS) is greater than 80% of the licensed TPS, SNMP Trap will be generated for the first time on reaching the increased steady state. Warning message on the current license usage is logged for every 5 minutes.
- When incoming traffic (measured in TPS) is greater than 90% of the licensed TPS, SNMP Trap will be generated for the first time on reaching the increased steady state. Warning message on the current license usage is logged for every 5 minutes.
- When incoming traffic (measured in TPS) is greater than 100% of the licensed TPS, SNMP Trap will be generated for the first time on reaching the increased steady state. Error message on the current license usage is logged for every 5 minutes.
- When incoming traffic (measured in TPS) is greater than 110% of the licensed TPS, SNMP Trap will be generated for the first time on reaching the increased steady state.

**Note**

Steady state denotes continuous increase or decrease in the TPS within a given TPS range. For the purpose of enforcement of licensing in CAR 4.2, the range is always 80% and above. The enforcement begins after TPS reaches and is greater than 80% for a steady state of 20 minutes.

Notification Logs

A warning message is logged for every 5 minutes when the TPS count reaches an increased steady state, where, the TPS count is in the range of 80% to 100% of the licensed TPS.

An error message is logged for every 5 minutes when the TPS count reaches an increased steady state, where, the TPS count is in the range of 100% to 110% of the licensed TPS.

Notification - SNMP Traps

The **carLicenseUsage** trap is generated only after an increasing steady state is reached. Traps are generated only once in an increasing phase. The incoming traffic slabs defined for trap generation are 80%, 90%, 100%, and 110% of the licensed TPS.

If the TPS count drops below 80% of the licensed TPS for a steady state period of 20 minutes, CAR marks it as decreased steady state. Traps will be regenerated again only if CAR observes a decreased steady state followed by an increased steady state of TPS falling under the slab (say 80%).