



CHAPTER 6

Cisco IPICS Licensing and Sizing Guidelines

This chapter provides information about how Cisco IPICS uses licensable features. It also provides information about resource usage and system sizing. Use this information to help plan your Cisco IPICS deployment.

This chapter includes these topics:

- [Resource and License Usage, page 6-1](#)
- [DS0 Usage, page 6-2](#)
- [Additional Planning and Sizing Guidelines, page 6-2](#)
- [Dial Port Licensing Details, page 6-4](#)

Resource and License Usage

To properly design a Cisco IPICS deployment, it is important to understand how resources are licensed and used. The Cisco IPICS license determines the number of concurrent land mobile radio (LMR) ports, multicast ports, PMC users, IP phone users, dial users, and ops views that are available for your system. The total number of LMR and multicast ports, PMC, IP phone, dial users, and ops views cannot exceed the number that is specified in the license or licenses that you purchased. Refer to the “Managing Licenses” section in *Cisco IPICS Server Administration Guide, Release 2.1(1)*.

Cisco IPICS licenses are used as follows:

- A single LMR (LMR port) license is used when a channel is enabled.
- A single PMC license is used each time that a PMC user logs in to the system. If a PMC user logs in several times, a license is used for each login instance.
- A single IP phone license is used each time that a Cisco Unified IP Phone user (PMC XML client) logs in to the system.
- A single multicast (multicast port) license is used when a VTG is activated.
- A single PSTN (dial user) license is used in each of the following scenarios:
 - One license is used for an active inbound call
 - One license is used for an active outbound call
- A single ops view license is used for each configured ops view

DS0 Usage

A single DS0 loopback pair is used in the following situations:

- For each remote channel on a PMC
- For each channel in an active VTG
- For each instance of an active VTG that is accessed by a dial-in or dial-out user, regardless of the number of users who are connected to the VTG

Additional Planning and Sizing Guidelines

To estimate the number of T1 DS0 loopback circuits that are required for the RMS components in a Cisco IPICS deployment, consider the following guidelines:

- Each RMS needs T1/E1 interface pairs with crossover cables to support DS0s for that RMS components location. Each RMS also require global resources.

For detailed information about locations, refer to [Cisco IPICS Server Administration Guide, Release 2.1\(1\)](#).

- When a PMC user connects remotely, the Cisco IPICS server allocates one DS0 loopback per channel. The allocation is performed upon successful authentication, even if the user has not activated the channel. Consider the total number of configured channels on the PMC, which may be more than currently displayed, depending on the PMC skin that is used.

Each channel that is associated with a PMC user ID consumes one DS0 resource when a user logs in with that ID and chooses the Remote location. For example, if a user ID has 10 associated channels, 10 DS0 resources are used when a user logs in with this ID and chooses the Remote location. If a PMC user has several associated channels but does not require all of these channels when logging in from the Remote location, you can conserve system resources by creating an alternate login ID for the user. Configure this alternate login ID with only the resources that the user needs when connecting to Cisco IPICS from a Remote location, and instruct the user to log in with this alternate ID when connecting from a Remote location.

[Table 6-1](#) shows the capacity of various servers for various Cisco IPICS features. To determine server capacity, we assign a maximum weight to each server, which is a measure of the number of units that the server supports. A unit is a value that indicates resource consumption on a server. Use the following equation to determine the number of combined features that a server supports:

$$(\text{WLIM} * [\text{number of simultaneously logged-in PMCs} / \text{Cisco Unified IP Phones}]) + (\text{WPEP} * [\text{number of policy engine ports}]) \leq \text{SMW}$$

where:

- WLIM is weight per simultaneously logged-in PMC / Cisco Unified IP Phone
- WPEP is weight per policy engine dial port
- SMW is server maximum weight

To ensure optimum performance, Cisco recommends that you adhere to the values that are documented in [Table 6-1](#). If you exceed these recommended values, you may experience degraded system performance or other failure conditions.

Table 6-1 Cisco IPICS Capacity Matrix

Feature	MCS-7825	MCS-7845	Cisco IPICS-Mobile Platform (Panasonic Toughbook Model CF-29)	Cisco IPICS-Mobile Platform (Panasonic Toughbook Model CF-30)
Server weights				
Server maximum weight	1,000 units	1,500 Units	10 units	50 units
Weight per simultaneously logged-in PMC / Cisco Unified IP Phone	1 unit	1 unit	1 unit	1 unit
Weight per policy engine dial port	10 units	10 units	Not supported	10 units
Server capacities				
Maximum simultaneously logged-in PMCs / Cisco Unified IP Phones (including remote PMC per next row) ¹	1,000	1,500	10	10
Maximum simultaneously logged-in remote PMCs	15 with 8 channels each or 30 with 4 channels each No more than 30 total remote PMCs	25 with 8 channels each or 50 with 4 channels each No more that 50 total Remote PMCs	1 with 8 channels or 2 with 4 channels each No more than 2 total remote PMCs	1 with 8 channels or 2 with 4 channels each No more than 2 total remote PMCs
Maximum configured users	50,000	50,000	50	50
Maximum PMC user log-n rate	1 user every 2 seconds	1 user every 2 seconds	1 user every 2 seconds	1 user every 2 seconds
Maximum policy engine dial ports ¹	100	120	Not Supported	4
Maximum policy engine BHCC ²	1,350	1,650	Not Supported	55
Maximum LMR channels	1,500	1,500	10	10
Maximum configured VTG	150	150	10	10
Maximum active VTGs	40	60	10	10
Maximum active channels / VTGs	5	5	5	5

Table 6-1 Cisco IPICS Capacity Matrix (continued)

Feature	MCS-7825	MCS-7845	Cisco IPICS-Mobile Platform (Panasonic Toughbook Model CF-29)	Cisco IPICS-Mobile Platform (Panasonic Toughbook Model CF-30)
Maximum users / VTGs	25	35	5	5
Dispatcher activity (Dispatchers log in at 1 minute intervals. Each VTG activation and de-activation occurs between approximately 800 to 1,000 seconds)	Up to 40 dispatchers concurrently creating, activating, and deactivating VTGs every 15 minutes	Up to 60 dispatchers concurrently creating, activating, and deactivating VTGs every 15 minutes	Up to 3 dispatchers concurrently creating, activating, and deactivating VTGs every 15 minutes	Up to 3 dispatchers concurrently creating, activating, and deactivating VTGs every 15 minutes

1. The maximum number of simultaneously logged-in PMCs / Cisco Unified IP Phones and the maximum number of policy engine dial ports cannot be used concurrently.
2. BHCC = busy hour call completion.

Dial Port Licensing Details

A Cisco IPICS license for the policy engine includes licenses for the purchased number of Cisco IPICS dial ports. These licenses determine the total number of dial users (incoming and outgoing) who can be connected simultaneously.

Dial port usage can be partitioned per ops view. This way, a Cisco IPICS administrator can limit the number of Cisco IPICS dial port licenses in groups that are segmented by ops views.

Dial ports from the available dial pool are used by the currently executing policy notification or invite actions. If there are fewer dial ports available than what is needed, other policy actions will wait for a dial port to become available.

The recipient of a call must authenticate properly for the call to succeed. Otherwise, the call is considered unsuccessful and the system moves on to the next number that is configured in the dial preferences for the recipient. If you want the system to retry the same number, enter the same number again as a dial preference. The system attempts one call to each number in the dial preferences. It stops attempting calls when the recipient authenticates properly or when the system has tried all numbers.

Dial pool configurations are made in the Administration Console Ops View window. For detailed information, refer to the “Configuring and Managing Cisco IPICS Operational Views” chapter in *Cisco IPICS Server Administration Guide, Release 2.1(1)*.