

Mainframe Channel Connections Software Feature Capacity Guidelines

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Introduction

This document provides a simple set of guidelines for estimating the Cisco Mainframe Channel Connections (MCC) Dynamic Random–Access Memory (DRAM) configuration requirements to run the following Cisco MCC software feature sets:

- TCP/IP offload feature.
- Cisco Systems Network Architecture (SNA) feature.
- TN3270 feature.
- Cisco MultiPath Channel (CMPC)/CMPC+ feature.

Before You Begin

Conventions

For more information on document conventions, see the Cisco Technical Tips Conventions.

Prerequisites

There are no specific prerequisites for this document.

Components Used

This document is not restricted to specific software and hardware versions.

CMCC Memory Configurations

The Channel Interface Processor 2 (CIP2) card can be ordered with the following DRAM configurations:

- 32 MB

- 64 MB
- 128 MB

The Enterprise System Connection (ESCON) Channel Port Adapter Version 4 (ECPA4) comes standard with 128 MB of memory and has no additional memory option.

For more information, refer to the following document:

High-Performance ESCON Channel Port Adapter Version 4

Memory Requirements for CMCC Software Features

Base DRAM Requirements for Feature Sets

Feature	Base DRAM Requirement
Base DRAM requirement for all Cisco MCC features	3.5 MB
Additional DRAM requirement for TCP/IP offload Feature	1.5 MB
Additional DRAM requirement for each offload device configured	1.0 MB
Additional DRAM requirement for Cisco SNA Feature	4.0 MB
Additional DRAM requirement for TN3270 Feature	10.0 MB
Additional DRAM requirement for CMPC/CMPC+ feature	8.0 MB
Additional DRAM requirement for each TG configured	0.4 MB

Incremental DRAM Requirements (per resource)

Feature	Base DRAM Requirement
DRAM requirement per Telnet session	6 KB
DRAM requirement per all other TCP sessions	96 KB
DRAM requirement per Logical Link Control (LLC) session	12 KB
DRAM requirement per inactive Logical Unit (LU) for TN3270 session	1 KB
DRAM requirement per active LU for TN3270 screen session	3 KB
DRAM requirement per active LU for TN3270 type3 printing	12 KB

DRAM requirement per active LU for TN3270 INDS\$FILE transfer	
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	12 KB
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Formulas for Computing DRAM Requirements

Offload Feature Only

$$3.5 \text{ MB} + 1.5 \text{ MB} + (1 \text{ MB} * \text{offload devices configured}) + \\ (6 \text{ KB} * \text{telnet-sessions}) + \\ (96 \text{ KB} * \text{other-tcp-sessions})$$

CSNA Feature Only

$$3.5 \text{ MB} + 4.0 \text{ MB} + (12 \text{ KB} * \text{llc-sessions})$$

Offload and CSNA Feature Concurrently

$$3.5 \text{ MB} + 1.5 \text{ MB} + 4.0 \text{ MB} + (1 \text{ MB} * \text{offload devices configured}) + \\ (6 \text{ KB} * \text{telnet-sessions}) + \\ (64 \text{ KB} * \text{other-tcp-sessions}) + \\ (12 \text{ KB} * \text{llc-sessions})$$

TCP Offload Only Examples

Example Requirements 1

The following are the requirements for TCP offload only:

- TCP/offload feature only.
- One offload device configured.
- 512 Telnet sessions.
- 96 FTP sessions.
- DRAM Required:

$$3.5 \text{ MB} + 1.5 \text{ MB} + (1 * 1 \text{ MB}) + (512 * 6 \text{ KB}) + (96 * 96 \text{ KB}) = \\ 18 \text{ MB}$$

- Minimum Hardware Configuration: Cisco MCC with 32 MB DRAM.

Example Requirements 2

- TCP/offload feature only.
- Four offload devices configured.
- 8192 Telnet sessions.
- 200 FTP sessions.
- DRAM Required:

$$3.5 \text{ MB} + 1.5 \text{ MB} + (4 * 1 \text{ MB}) + (8192 * 6 \text{ KB}) + (200 * 96 \text{ KB}) = \\ 77 \text{ MB}$$

- Minimum Hardware Configuration: Cisco MCC with 128 MB DRAM.

Example Requirements 3

- TCP/offload feature only.
- Two offload devices configured.
- 2048 Telnet sessions.

- 256 FTP sessions.
- DRAM Required:

$$3.5 \text{ MB} + 1.5 \text{ MB} + (2 * 1 \text{ MB}) + (2048 * 6 \text{ KB}) + (256 * 96 \text{ KB}) = 43.5 \text{ MB}$$

- Minimum Hardware Configuration: Cisco MCC with 64 MB DRAM.

CSNA Only Examples

Example Requirements 4

- Cisco SNA Feature Only.
- 1024 LLC connections.
- DRAM Required:

$$3.5 \text{ MB} + 4.0 \text{ MB} + (1024 * 12\text{KB}) = 19.5 \text{ MB.}$$

- Minimum Hardware Configuration: Cisco MCC with 32 MB DRAM.

Example Requirements 5

- Cisco SNA feature only.
- 3072 LLC connections.
- DRAM Required:

$$3.5 \text{ MB} + 4.0 \text{ MB} + (3072 * 12\text{KB}) = 44 \text{ MB}$$

- Minimum Hardware Configuration: Cisco MCC with 64 MB DRAM.

TN3270 Only Examples

Example Requirements 6

- TN3270 feature only.
- 8000 active LUs for regular screen sessions (need 32 PUs and 255 LUs per PU).
- 32 LLC sessions.
- DRAM Required:

$$3.5 \text{ MB} + 4.0 \text{ MB} + 10.0 \text{ MB} + (32 * 12\text{KB}) + (8000 * 3\text{KB}) = 41.5 \text{ MB}$$

- Minimum Hardware Configuration: Cisco MCC with 64 MB DRAM.

Example Requirements 7

- TN3270 feature only.
- 4000 active LUs for regular screen sessions.
- 100 LUs for type3 printing.
- 100 LUs for ind\$file transfer (need 17 PUs and 255 LUs per PU).
- 17 LLC sessions.
- DRAM Required:

$$3.5 \text{ MB} + 4.0 \text{ MB} + 10.0 \text{ MB} + (17 * 12\text{KB}) + (4000 * 3\text{KB}) + (100 * 12\text{KB}) + (100 * 12\text{KB}) = 32 \text{ MB}$$

- Minimum Hardware Configuration: Cisco MCC with 32 MB DRAM.

Mixed Feature Examples

Example Requirements 8

- Cisco SNA and TCP offload Features Running Concurrently.
- Four offload devices configured.
- 4096 Telnet sessions.
- 96 FTP sessions.
- 2048 LLC sessions.
- DRAM Required:

$$3.5 \text{ MB} + 1.5 \text{ MB} + 4.0 \text{ MB} + (4 * 1 \text{ MB}) + (4096 * 6 \text{ KB}) + (96 * 96 \text{ KB}) + (2048 * 12 \text{ KB}) = 71 \text{ MB}$$

- Minimum Hardware Configuration: Cisco MCC with 128 MB DRAM.

Example Requirements 9

- Cisco SNA and TCP offload Features Running Concurrently
- One offload device configured.
- 256 Telnet sessions.
- 64 FTP sessions.
- 1536 LLC sessions.
- DRAM Required:

$$3.5 \text{ MB} + 1.5 \text{ MB} + 4.0 \text{ MB} + (1 * 1 \text{ MB}) + (256 * 6 \text{ KB}) + (64 * 96 \text{ KB}) + (1536 * 12 \text{ KB}) = 36 \text{ MB}$$

- Minimum Hardware Configuration: Cisco MCC with 64 MB DRAM.

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