# ProLiant ML370G4 - Memory Configuration

**Memory Configuration**

## Overview
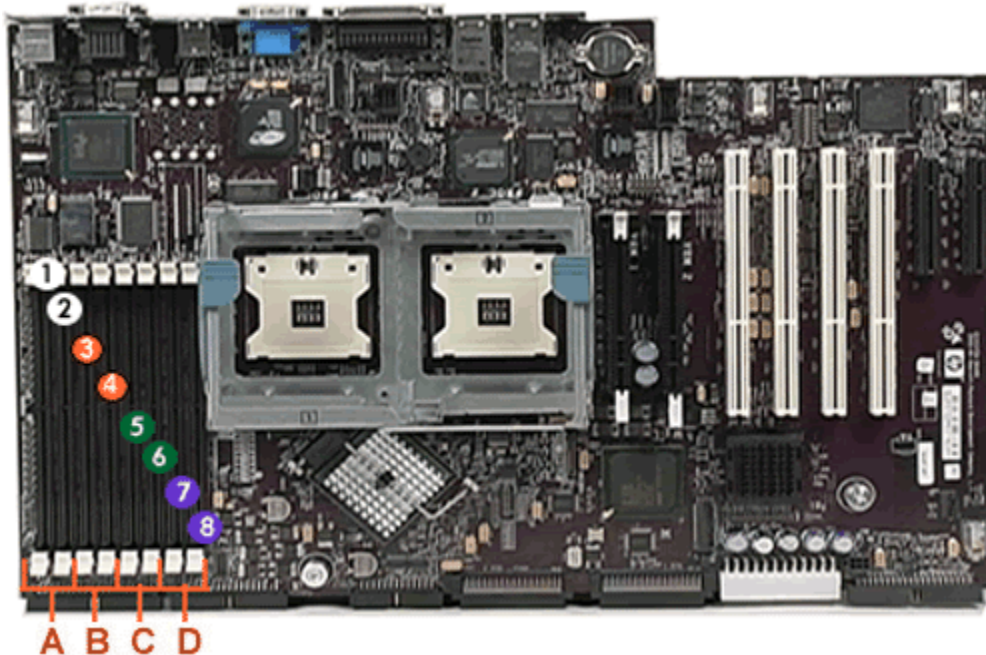


The ML370 G4 now supports 8 DIMM slots for a total of 4 banks for configuring online spare memory support.

The memory subsystem on the ML370 G4 provides speeds up to 400MHz to transfer data at 6.4GB/s which is twice the 3.2 GB/s speed supported by the ML370 G3. The ML370 G4 supports the latest memory technology, DDR-2.

The original double data rate (DDR) memory doubled the number of data transfers per clock cycle by sending data on both the rising and falling edge of each clock signal. The DDR-2 memory shipped with the ML370 G4 supports double the speed of original PC2100 DDR modules from 200MHz to 400MHz on PC2-3200R modules (shown at right).

Memory is expandable to 8GB with 1GB modules, up to 16GB with 2GM modules.

top

## Guidelines for installation

The guidelines are the same as for the previous model with the exception of the type of DIMMs supported.

- Install memory in equal identical pairs. A single non-interleaved configuration is not supported.
- Install only PC2-3200 Registered DDR2 DIMMs
- Install DIMMs in both slots within a bank. The must be identical.
- Install additional pairs in the next bank in sequential order.

top

## Online Spare Memory

A B C D

The ML370 G4 continues to offer online spare memory capability which allows a memory bank with a faulty DIMM to automatically fail over to a spare bank. In an online spare configuration, the ROM automatically configures the last populated bank as the spare memory. The ML370 G4 offers 4 banks: A, B, C, and D. If only banks A and B are populated, bank B is the spare bank. If banks A, B, C, and D are populated, bank D is the spare bank.

With three banks populated, the failure scenario works like this: if a DIMM in bank A or B reaches a predefined single-bit error threshold, the system management driver causes the ROM to start copying the contents of the failing bank to Bank C. During this time, the failing bank provides all read access. New data is written to both banks during the copy process. After the memory copying is complete, the ROM alerts the system management to switch to the spare bank.

At that point, no more reads or writes are made to the failing bank. All reads and writes are made to Bank C. During a scheduled shutdown, the failed DIMM can be replaced with a functioning DIMM. Then, when the server restarts, the memory banks resume their normal functions.

## Guidelines for Online Spare Memory

These are guidelines for installing online spare memory:

- Use RBSU to configure the system for online spare memory support.
- Then as you populate the DIMM slots, the ROM automatically configures the last populated bank as the spare memory bank.
- ROM must be current
- DIMMs installed in spare bank must be equal or greater capacity than the DIMMs installed in remaining banks.
- Online spare memory requires the installation of the System Management driver which is installed as part of the SmartStart assisted installation.

## Memory Configuration Chart

HP ProLiant ML370 G4 Models

**NOTE:  ProLiant ML370 G4 Factory Integrated Models**
Memory configurations listed do not apply to "Factory Integrated Models"

### Standard Memory

1GB PC2-3200R Memory comes installed (2 x 512-MB SDRAM)

### Standard Memory Replaced with Optional Memory

Up to 16GB of memory is available with the removal of the standard 1GB of memory and the optional installation of 16GB PC2-3200R Memory Option Kit (8 x 2GB)

| Memory | Slots | | | | | | | |
|--------|-------|--|--|--|--|--|--|--|
| | | | | | | | | |

|          | 1      | 2      | 3      | 4     | 5     | 6     | 7     | 8     |
|----------|--------|--------|--------|-------|-------|-------|-------|-------|
| Standard | 1 GB   | 512 MB | 512 MB | Empty | Empty | Empty | Empty | Empty | Empty |
| Optional | 7 GB   | 512 MB | 512 MB | 1 GB  | 1 GB  | 1 GB  | 1 GB  | 1 GB  | 1 GB  |
| Maximum  | 16 GB  | 2 GB   | 2 GB   | 2 GB  | 2 GB  | 2 GB  | 2 GB  | 2 GB  | 2 GB  |

**NOTE:  Memory Configuration Chart**
This chart does not represent all possible memory configurations.