MemVerge MemoryViewer

Quick Start Guide

Introduction

MemVerge MemoryViewer (MVMV) is a utility for monitoring DRAM and PMem memory in a Linux server. MemoryViewer features include:

- Single-screen view of system resources including technical specifications of CPUs and DIMMs (DRAM and PMem)
- Performance monitoring at the process, CPU, DIMM, and system levels
- Integrated display of CPU utilization, memory usage, and memory "temperature," updated every 10 seconds
- Downloadable reports (in CSV format) of memory usage by individual processes

Prerequisites

You must have a server account with **`root`** or **`sudo`** privileges to install and run MemoryViewer.

Supported Systems

MemoryViewer supports physical or virtual servers with:

- CentOS, RHEL, Ubuntu, or Debian Linux
- DRAM and PMem, or DRAM only
- Second- or later-generation Intel® Xeon® CPUs for use with DRAM and PMem, or first-generation Intel® Xeon® and AMD CPUs for DRAM-only configurations

Installation

Install MemoryViewer using the package manager for your Linux distribution. The package manager checks dependencies and resolves them if necessary.

- For CentOS or RHEL, type: `sudo yum install <MVMV package>`
- For Ubuntu or Debian, type: `sudo apt install <MVMV package>` where `<MVMV package>` is the MVMV package for your Linux version.

Starting MemoryViewer

To start MemoryViewer on your host server, type: `mvmv server`

To specify a particular IP address and port on the host server (the default is 0.0.0.0:8080), type: `mvmv server –a <MVMV host IP address>:<port>`

Your firewall configuration must allow access to the port specified in the `mvmv server` command and to the IP address of the host running the MemoryViewer server.

License Activation

Although MemoryViewer is free to install and use, license activation is required. To obtain a license, open a browser and go to `http://<MVMV host>:<port>` where `<MVMV host>` is the name of the MemoryViewer host or its IP address, and `<port>` is the port number you specified when starting the MemoryViewer server.

If you have registered with the MemVerge License Management Center, enter your credentials at the sign-in screen. If not, follow the link to register. The MemoryViewer server automatically retrieves the license.

Using the MVMV GUI

If MemoryViewer is installed on a bare metal server and the license is activated, you see the *System Topology* tab and the *Process Monitor* tab. On a virtual server, only the *Process Monitor* tab is visible.

- Use the *System Topology* tab to view hardware configuration — CPUs, DRAM and PMem modules — and to display performance metrics as a continuously updated time series.
    - In Memory Mode, all DRAM capacity is used as cache for PMem. The DRAM bandwidth chart shows read and write cache hit ratios.
- Use the *Process Monitor* tab to view performance metrics for individual processes or groups of processes, and to download reports.
    - With multi-selection off, you monitor one process at a time. With multi-selection on, you monitor multiple processes although a maximum of 5 processes are displayed in the graph.
    - Select Top 10 memory consumers to monitor a dynamically changing list of processes ranked by their memory usage; the aggregate is displayed in the graph. Use Insight Group Settings to change 10 to a smaller or larger number.

Using the MVMV CLI

MemoryViewer also provides a Command Line Interface (CLI).

- From a terminal on the host running the MemoryViewer server, type:
  `mvmv -h`
  to see available commands and flags.
- Use the command:
  `mvmv license update -h`
  to see how to obtain a license from the MemVerge License Management Center.
- Use the command:
  `mvmv monitor -h`
  to see how to start process monitoring.

MVMV Version

This guide applies to MemoryViewer version 1.x