



Node Data Collection

Cloud Insights

Tony Lavoie

February 27, 2020

This PDF was generated from https://docs.netapp.com/us-en/cloudinsights/task_config_telegraf_node.html on May 15, 2020. Always check docs.netapp.com for the latest.

Table of Contents

- Node Data Collection 1
 - Installation..... 1
 - Objects and Counters..... 1
 - Setup 4
 - MacOS Memory Usage..... 4

Node Data Collection

Cloud Insights gathers metrics from the node on which you install an agent.

Installation

1. From **Admin > Data Collectors**, click **+Data Collector**. Under **Hosts**, choose a platform.
2. Follow the instructions to configure the agent. The instructions vary depending on the type of Operating System or Platform you are using to collect data.

Objects and Counters

The following objects and their counters are collected as Node metrics:

Object:	Identifiers:	Attributes:	Datapoints:
Node Filesystem	Node UUID Device Path Type	Node IP Node Name Node OS Mode	Free Inodes Free Inodes Total Inodes Used Total Used Total Used
Node Disk	Node UUID Disk	Node IP Node Name Node OS	IO Time Total IOPS In Progress Read Bytes (per sec) Read Time Total Reads (per sec) Weighted IO Time Total Write Bytes (per sec) Write Time Total Writes (per sec) Current Disk Queue Length Write Time Read Time IO Time

Object:	Identifiers:	Attributes:	Datapoints:
Node CPU	Node UUID CPU	Node IP Node Name Node OS	System CPU Usage User CPU Usage Idle CPU Usage Processor CPU Usage Interrupt CPU Usage DPC CPU Usage

Object:	Identifiers:	Attributes:	Datapoints:
Node	Node UUID	Node IP Node Name Node OS	Kernel Boot Time Kernel Context Switches (per sec) Kernel Entropy Available Kernel Interrupts (per sec) Kernel Processes Forked (per sec) Memory Active Memory Available Total Memory Available Memory Buffered Memory Cached Memory Commit Limit Memory Committed As Memory Dirty Memory Free Memory High Free Memory High Total Memory Huge Page Size Memory Huge Pages Free Memory Huge Pages Total Memory Low Free Memory Low Total Memory Mapped Memory Page Tables Memory Shared Memory Slab Memory Swap Cached Memory Swap Free Memory Swap Total Memory Total Memory Used Total Memory Used Memory Vmalloc Chunk Memory Vmalloc Total Memory Vmalloc Used Memory Wired Memory Writeback Total Memory Writeback Tmp

Object:	Identifiers:	Attributes:	Datapoints:
Node Network	Network Interface Node UUID	Node Name Node IP Node OS	Bytes Received Bytes Sent Packets Outboud Discarded Packets Outboud Errors Packets Received Discarded Packets Received Errors Packets Received Packets Sent

Setup

Setup and Troubleshooting information can be found on the [Configuring an Agent](#) page.

MacOS Memory Usage

Cloud Insights (via Telegraf) and macOS report different numbers for memory usage. Both Telegraf and the Mac activity monitor use metrics gathered from *vm_stat*, however the total memory usage is calculated differently for each.

Telegraf calculates *Memory Used Total* as follows:

$$\text{Memory Used Total} = \text{Memory Total} - \text{Memory Available Total}$$

Where *Memory Available Total* is derived from the sum of "Pages free" and "Pages inactive" in *vm_stat*.

The Mac activity monitor, on the other hand, calculates Memory Used as follows:

$$\text{Memory Used} = \text{App Memory} + \text{Wired Memory} + \text{Compressed}$$

Where:

- *App Memory* is derived from the difference between "Anonymous pages" and "Pages purgeable" in *vm_stat*,
- *Wired Memory* is derived from "Pages wired down" in *vm_stat*, and
- *Compressed* is derived from "Pages occupied by compressor" in *vm_stat*.

Copyright Information

Copyright © 2020 NetApp, Inc. All rights reserved. Printed in the U.S. No part of this document covered by copyright may be reproduced in any form or by any means-graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system-without prior written permission of the copyright owner.

Software derived from copyrighted NetApp material is subject to the following license and disclaimer:

THIS SOFTWARE IS PROVIDED BY NETAPP “AS IS” AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp.

The product described in this manual may be protected by one or more U.S. patents, foreign patents, or pending applications.

RESTRICTED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.277-7103 (October 1988) and FAR 52-227-19 (June 1987).

Trademark Information

NETAPP, the NETAPP logo, and the marks listed at <http://www.netapp.com/TM> are trademarks of NetApp, Inc. Other company and product names may be trademarks of their respective owners.