Quick-MB: A Micro Benchmarking tool for lite Vms

1 INTRODUCTION

Quick-MB is a Microbenchmarking application that may be used to benchmark a variety of VMs, ranging from those with 0.25 GB of RAM to those with 8 GB of RAM and one or more cores, as well as Docker containers. Additionally, it can be used to benchmark computers with x86 and ARM architectures. Almost all debian-based operating systems, While the bulk of benchmarking tools fail in ARM or Cli settings, the Quick -MB works with virtually all VMs in the micro, small, and medium range offered by various cloud operators.

2 IMPLEMENTATION

To benchmark the light Machines The tool performs the set of tasks on the machines and monitors the three main attributes.

1. Time elapsed during the task
2. Average Percentage of Processor utilized during the task
3. Average Percentage of memory utilized during the task

Based on the previous Benchmarking done we divided the tasks in two categories as described in figure 1.

1. Data Processing Strength
2. Computational Strength

3 RESULTS

The tool produces results in the form of files that contain information on the operations, the length of time it took to complete the tests, and the strain placed on the memory, CPU, and swap during the test.Throughout the test, the tool generates a detailed report on the machine's performance every second.It creates a number of files that give information about the machine's performance that is task- and resource-specific.

The tool creates a matrix that sums up resource performance in the end.

In addition, the tool displays a thorough image of the machines' hardware and software configuration.

4 USES

While other benchmarking tools struggle to test smaller machines and VMs, Quick-MB is able to do so. It also works with a variety of machines provided by several cloud vendors, including AWS, MS Azure, Oracle Cloud, GCP, and IBM Cloud.

Quick-MB can complete the benchmarking in minutes as opposed to hours as with standard methods.

5 FUTURE SCOPE

The tool can be used by businesses that employ micro, small, and medium virtual machines (VMs), such as AWS t2 micro, GCP e2, and many more in the same market. The generated findings can also be used to compare the aforementioned virtual machines to virtual machines offered by other cloud vendors.

The debian-based distros presently offer the utility. It may one day be created for both Windows OS and Redhat-based distros.

The findings are only shown in matrix form for now, however they may eventually be posted on web servers and exhibited in graphical formats.