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Cloud Assignment 2

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Results From Md Hasibul Haque Zahid Intel Xeon E5-2651 v2 - Xen HVM domU - Intel 440FX 82441FX PMC 1 System - 11 Benchmark Results Ubuntu 22.04 - 6.2.0-1017-aws - GCC 11.4.0 CC24Assignment2 3 Systems - 11 Benchmark Results Ubuntu 22.04 - 6.2.0-1017-aws - GCC 11.4.0 CC24Assignment2 Intel Xeon E5-2686 v4 - Xen HVM domU - Intel 440FX 82441FX PMC Ubuntu 22.04 - 6.2.0-1017-aws - GCC 11.4.0 CC24Assignment2 Intel Xeon E5-2686 v4 - Xen HVM domU - Intel 440FX 82441FX PMC Ubuntu 22.04 - 6.2.0-1017-aws - GCC 11.4.0 More Results Comments

Fig: All the test result

1. T2.micro:

The t2.micro instance is notable for its cost-effectiveness, making it an attractive option for workloads with variable CPU requirements. Its ability to ramp up to higher CPU performance levels when needed strikes a balance between cost savings and sufficient computing power.

2. C7.medium:

The c7a.medium instance "provides a balanced mix of CPU, memory, and storage resources; it may be a good choice for workloads that require a moderate amount of each.7a.medium" may be a viable option because it provides adequate storage capacity and performance for my application's data requirements.

3. M1.small:

The m1.small instance was chosen due to its cost-effectiveness and versatility. Although it may not have the most recent features, it is still cost-effective for workloads that do not require the advanced capabilities of newer instance types. This makes it an ideal choice for applications that require a balanced mix of compute and memory resources.

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CC24Assignment2						
ρtslι	T2Micro	c7a medium	c7a.medium			
network-loopback: Time To Transfer 10GB Via Loopback	23.423	18.655	18.654			
john-the-ripper: Blowfish	1013	1532	1533			
encode-mp3: WAV To MP3	14.058	7.079	7.099			
openssl: RSA4096	122.3	696.5	696.7			
openssi: RSA4096	7927.1	16778.0	16764.2			
apache: 4	4960.39	8312.86	8356.09			
apache: 20	4959.81	8434.74	8633.86			
apache: 100	1388.53		8251.41			
apache: 200	369.89		7905.11			
apache: 500	437.90		7496.74			
apache: 1000	358.65		7307.72			
OpenBenchmarking.org						

Fig: Here are the results of T2 Micro and C7 medium

ptsl.	cd
network-loopback: Time To Transfer 10GB Via Loopback	17.29
john-the-ripper: Blowfish	1240
encode-mp3: WAV To MP3	11.85
openssl: RSA4096	147.4
openssl: RSA4096	9528
apache: 4	7251.
apache: 20	7377.
apache: 100	6890.2
apache: 200	6429.
apache: 500	6028.
apache: 1000	5824.

Fig: M1 Small

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- **1. OpenSSL (pts/openssl):** The C7 Medium instance excels, showcasing superior performance in RSA 4096-bit encryption. This can be attributed to its compute-optimized design, which is tailored for tasks demanding high processing power.
- 2. Memory Performance (pts/stream): Unfortunately I don't get any answer for this.
- **3. MP3 Encoding (pts/encode-mp3):** C7 Medium demonstrates efficiency in CPU-bound tasks, leading to faster MP3 encoding times compared to T2 Micro and M1 Small.
- **4. Apache Requests per Second (pts/apache):** The compute-optimized nature of C7 Medium likely contributes to its ability to sustain a higher number of requests per second in the Apache benchmark. This makes it a suitable choice for applications with high web server demand.
- **5. Network Loopback (pts/network-loopback):** Network loopback performance may not vary significantly across instance types, as it is often dependent on the underlying infrastructure rather than the instance type.
- **6. Password Cracking (pts/john-the-ripper):** C7 Medium's compute optimization is evident in its faster password cracking times, particularly with Blowfish options in John the Ripper.

So, the C7 Medium instance consistently outperforms T2 Micro and M1 Small across these benchmarks.

Run Management								
RESULT	PERFORMANCE PER	DATE	TEST					
IDENTIFIER DOLLAR RU		RUN	DURATION					
cd	0	January 31	36 Minutes					
Only show results matching title/arguments (delimit multiple options with a comma):								
Do not show results matching title/arguments (delimit multiple options with a comma):								

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HIGHLIGHT H	HIDE	RESULT	PERFORMANCE PER	DATE	TEST
RESULT F	RESULT	IDENTIFIER	DOLLAR	RUN	DURATION
		T2Micro	0	January 31	1 Hour, 22 Minutes
		c7a medium	0	January 31	18 Minutes
		c7a.medium	0	January 31	36 Minutes
		Invert Hiding All Results Option	Dollar v		46 Minutes

Fig: T2micro and c7 medium dollar cost

- Learned anything completely new: Throughout this assignment, I delved into the world of benchmarking and discovered the Phoronix Test Suite, a tool that was entirely new to me.
 Understanding how to evaluate VM performance and cost efficiency provided valuable insights into the practical aspects of cloud computing.
- 2. Surprises encountered during the assignment: One of the surprises for me was the vast array of VM types offered by AWS. Navigating through the options and understanding their implications on performance and cost was more intricate than I initially anticipated. It highlighted the depth of considerations involved in choosing the right resources for specific computing needs.
- 3. Challenges faced and why they were challenging: Setting up the benchmarking environment presented challenges, especially when installing the Phoronix Test Suite on the Ubuntu Server image. Overcoming compatibility issues and troubleshooting installation errors demanded careful attention and persistence. It was a challenging yet rewarding experience as it enhanced my problemsolving skills.
- 4. Satisfying aspects of the assignment: Successfully completing the benchmarks and analyzing the results was immensely satisfying. Being able to draw conclusions about the relative performance

and cost efficiency of different VMs felt like a practical application of the theoretical knowledge gained in the course. It showcased the real-world implications of the concepts we've been studying.

Warm Regards Md Hasibul Haque Zahid ID: 2302302