

Breakthrough

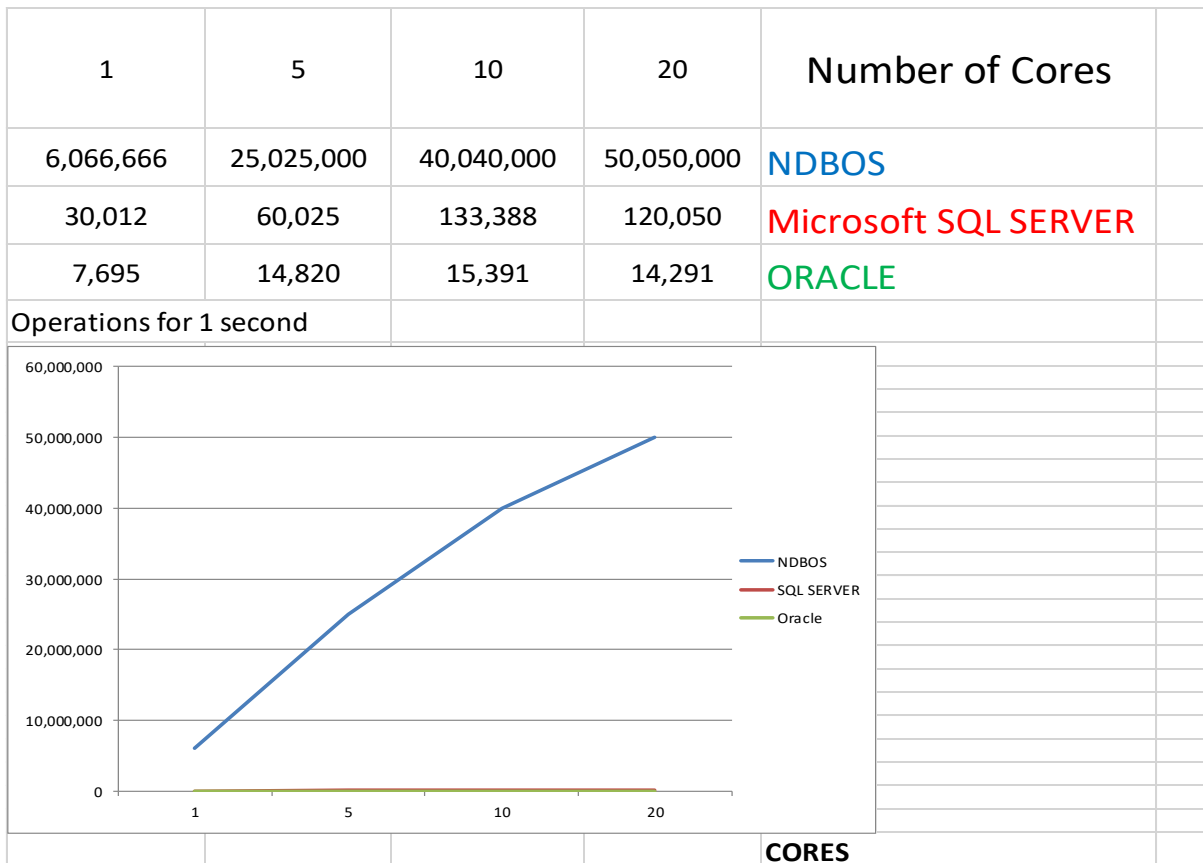
4/22/2023

Real-time Distributed SQL Database System

NDBOS- RINSSSLMCBTVPCCC

Overtaking state-of-the-art Databases!

Random Unique Insert Benchmark for one second



In order for NDBOS to insert 500,050,000 records per second, 200 cores are needed (two computers of 128 cores each). and so on!

Random Unique Select Benchmark for one second

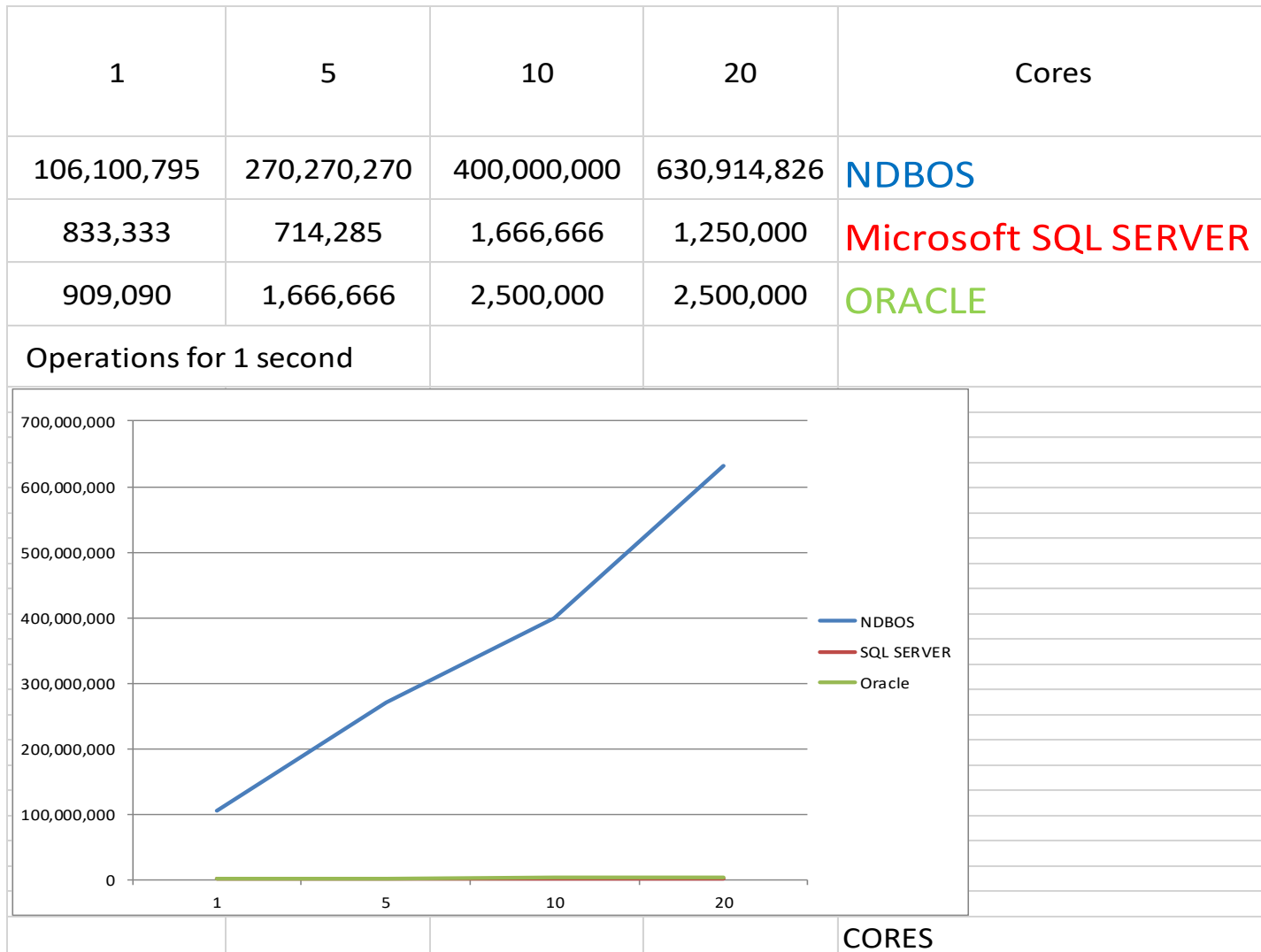
1	5	10	20	Cores
360,036	1,639,344	2,597,402	3,418,803	NDBOS
14,123	48,020	60,025	57,166	Microsoft SQL SERVER
16,445	23,539	24,010	31,592	ORACLE
Operations for 1 second				

The graph illustrates the performance of three database systems in terms of operations per second (OPS) as the number of cores increases from 1 to 20. The Y-axis represents the number of operations, ranging from 0 to 4,000,000. The X-axis represents the number of cores. NDBOS (blue line) shows a significant increase in OPS, reaching approximately 3,418,803 operations at 20 cores. In contrast, Microsoft SQL SERVER (red line) and Oracle (green line) show very low and relatively constant OPS, with SQL SERVER reaching about 57,166 and Oracle about 31,592 operations at 20 cores.

Cores	NDBOS	Microsoft SQL SERVER	Oracle
1	360,036	14,123	16,445
5	1,639,344	48,020	23,539
10	2,597,402	60,025	24,010
20	3,418,803	57,166	31,592

In order for NDBOS to select 30,418,803 records per second, 200 cores are needed (two computers of 128 cores each). and so on!

Sequential Select Benchmark for one second



In order for NDBOS to select 6,300,914,826 records per second, 200 cores are needed (two computers of 128 cores each). and so on!

Random Unique Delete Benchmark for one second

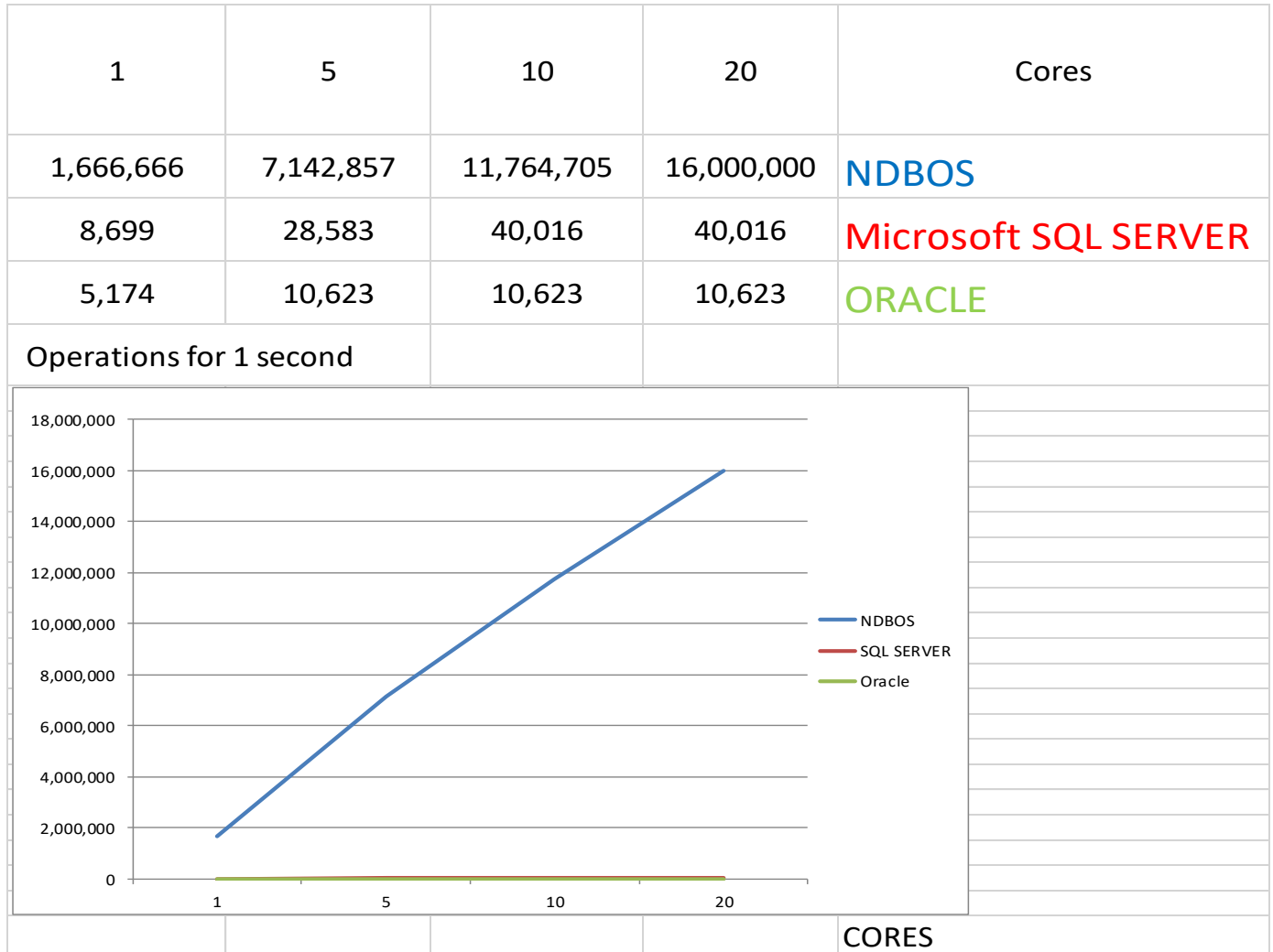
1	5	10	20	Cores
1,576,377	11,440,000	19,066,666	25,025,000	NDBOS
9,306	31,592	42,875	42,875	Microsoft SQL SERVER
8,279	15,796	13,488	13,642	ORACLE
Operations for 1 second				

The graph plots 'Operations for 1 second' on the y-axis (0 to 30,000,000) against 'CORES' on the x-axis (1, 5, 10, 20). Three data series are shown: NDBOS (blue line), SQL SERVER (red line), and Oracle (green line). NDBOS shows a significant increase in operations as the number of cores increases, reaching approximately 25,025,000 operations at 20 cores. SQL SERVER and Oracle show very low and relatively constant operation counts across all core counts, indicating much lower performance in this benchmark.

CORES	NDBOS	SQL SERVER	Oracle
1	1,576,377	9,306	8,279
5	11,440,000	31,592	15,796
10	19,066,666	42,875	13,488
20	25,025,000	42,875	13,642

In order for NDBOS to delete 250,025,000 records per second, 200 cores are needed (two computers of 128 cores each). and so on!

Update Unique Key Benchmark for one second



In order for NDBOS to update 160,000,000 records per second, 200 cores are needed (two computers of 128 cores each). and so on!

Store Procedure (update + delete) Benchmark for one second

1	5	10	20	Cores
1,818,181	7,850,980	13,346,666	19,066,666	NDBOS
6,002	21,827	29,280	30,782	Microsoft SQL SERVER
5,432	7,503	8,057	8,111	ORACLE
Operations for 1 second				

Cores	NDBOS	SQL SERVER	Oracle
1	1,818,181	6,002	5,432
5	7,850,980	21,827	7,503
10	13,346,666	29,280	8,057
20	19,066,666	30,782	8,111

In order for NDBOS to perform 190,066,666 store procedure per second, 200 cores are needed (two computers of 128 cores each). and so on!

Platform: CPU: Intel Core i9-12900K

DISK: Samsung 980 Pro 1TB PCIe 4.0 NVMe SSD MZ-V8P1T0BW

OS: Windows 11

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