Breakthroughs In Big Memory

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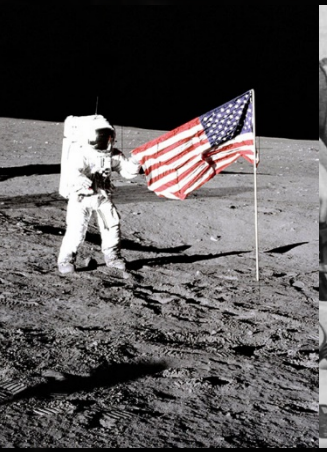
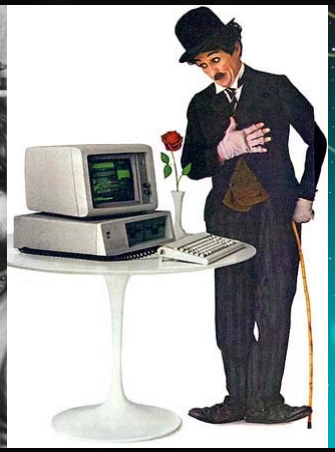
MemVerge

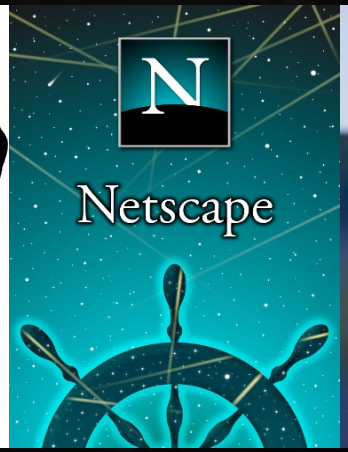
The Past 50 Years:
1969 - 2019

intel

1969 1970s 1980s 1990s 2000s 2010s



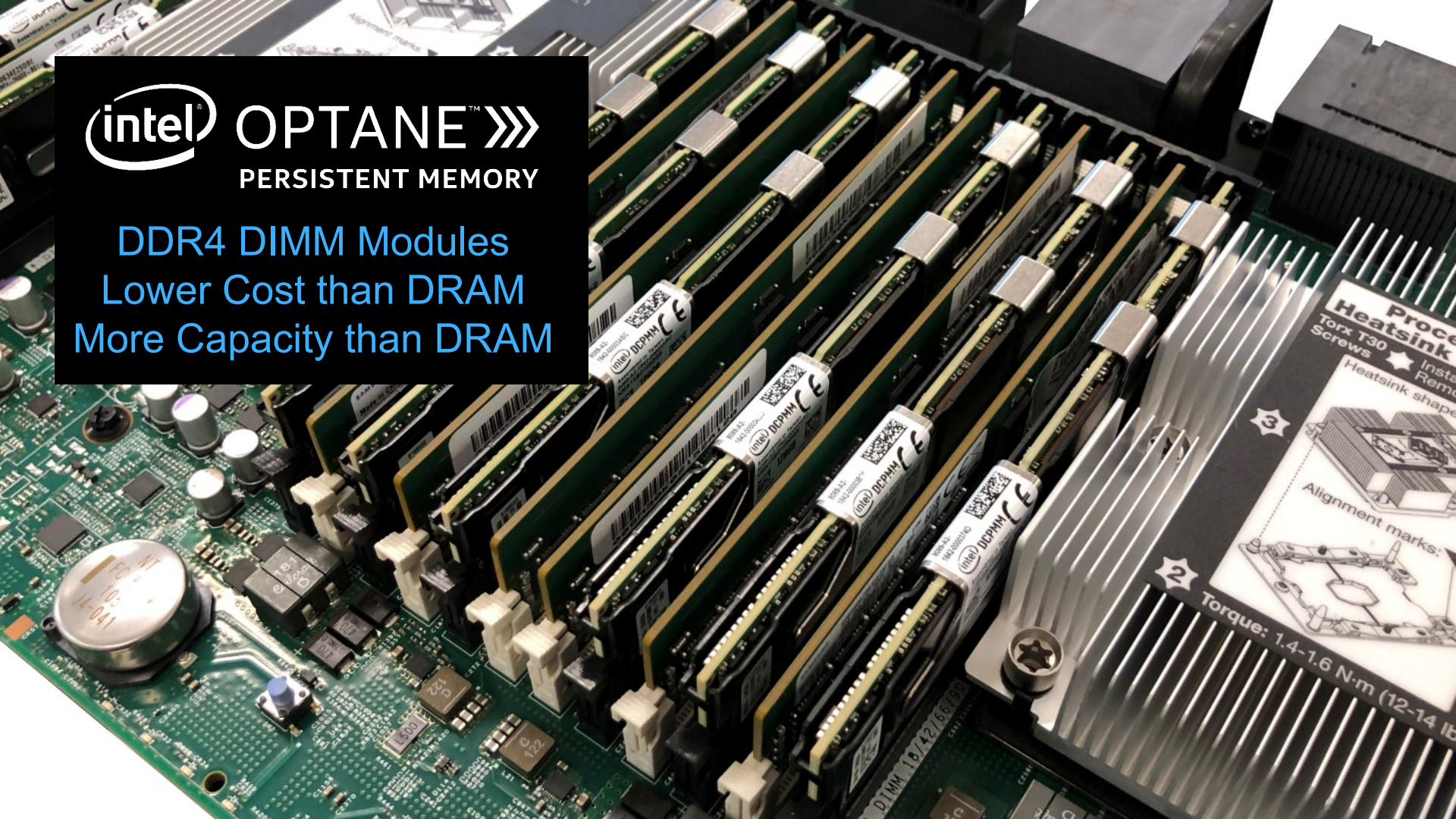




DRAM

1 Constant: Scarce and Volatile Memory

PMEM


intel OPTANE
PERSISTENT MEMORY
DDR4 DIMM Modules
Lower Cost than DRAM
More Capacity than DRAM
Torx T30
Screws
Heatsink shape
Alignment marks:
Torque: 1.4-1.6 N·m (12-14

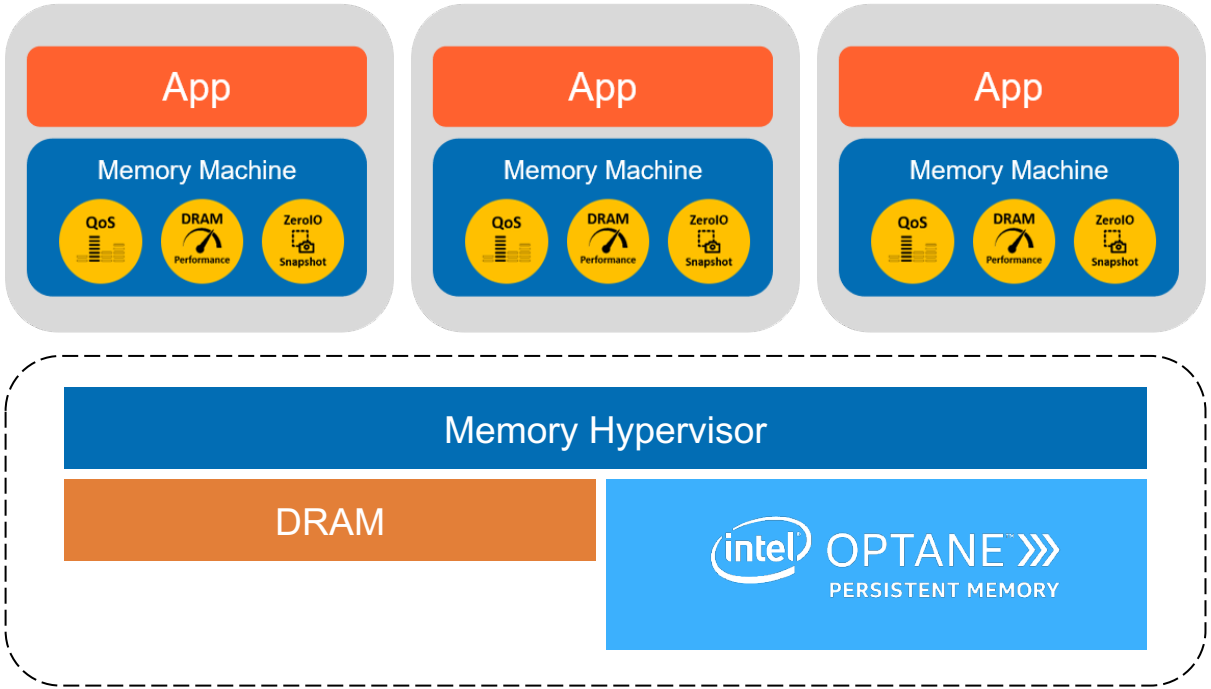
The Present: 2020

MemVerge | intel

Opening the door to Big Memory

A world of abundance, persistence and high availability

Software-Defined Memory – Memory Machine™



- No application change needed
- DRAM Performance
- High Availability in Memory
- Significant TCO Savings

Memory Machine™ Software is Generally Available

Standard Edition

The best way to implement PMEM

- 3X Memory Size
- 30-50% Memory Cost Savings
- DRAM-Performance

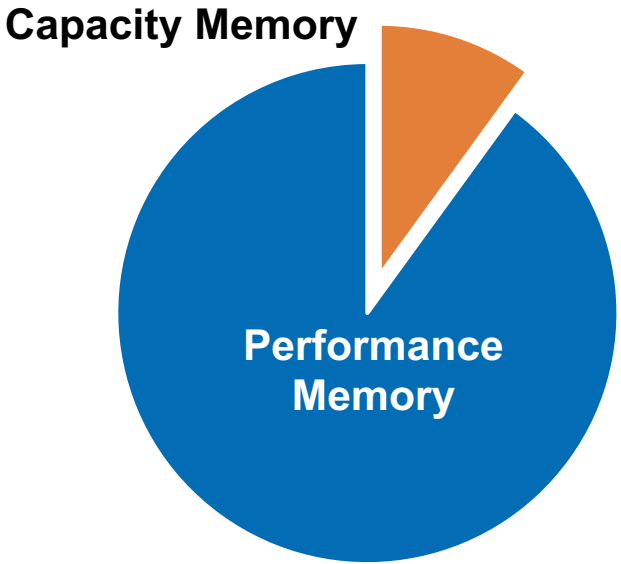
Advanced Edition

Makes memory highly available

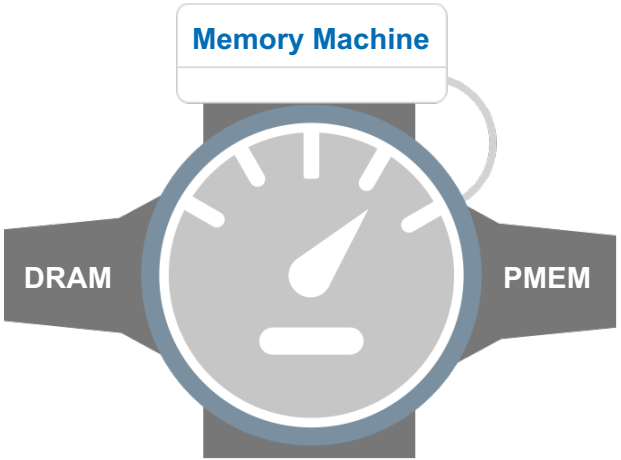
- ZeroIO™ In-Memory Snapshot
- Fast Crash Recovery
- Thin-Clones

PMEM Should Be Considered for Every Refresh

The huge Performance Memory opportunity can be addressed today with Intel + MemVerge



Key to success is finding optimum DRAM / PMEM Mix for lowest cost and DRAM performance



MemVerge

Enables Same Memory – Lower Cost

Model 1:

Xeon Gold 6240

1536 GB DRAM

$77,912.84

Model 2:

Xeon Gold 6240

1664 GB DRAM & PMEM

Including MemVerge SW

$67,561.66

Savings: $10,351 per server

Total Cost of Ownership (TCO) Analysis

Model 1: DRAM Only

	Unit Cost	Unit Capacity	Quantity	Cost	Total Capacity
Hardware - XEON Gold 6240	$ 21,633.00		1	$ 21,633.00	
DRAM - 64 GB DIMM	$ 2,011.99	64	24	$ 48,287.76	1536
Support				$ 6,992.08	
MemVerge SW				$ -	
Annual Power + Cooling Costs	$ 1,000.00			$ 1,000.00	
Rack Unit Costs				$ -	
Total Cost of Ownership				**$ 77,912.84**	**1536**

Model 2: DRAM/PMEM/MemVerge

	Unit Cost	Unit Capacity	Quantity	Cost	Total Capacity
Hardware - XEON Gold 6240	$ 21,633.00		1	$ 21,633.00	
DRAM - 32 GB DIMM	$ 1,202.99	32	12	$ 14,435.88	384
PMEM - 128 GB DIMM	$ 1,929.99	128	10	$ 19,299.90	1280
Support				$ 5,536.88	
MemVerge SW	$ 4.00		1664	$ 6,656.00	
Annual Power + Cooling Costs					
Rack Unit Costs				$ -	
Total Cost of Ownership				**$ 67,561.66**	**1664**

MemVerge

Enables Double the Memory – Same Cost

Model 1:
Xeon Gold 6240
768 GB DRAM
$56,555.24

Model 2:
Xeon Gold 6240
1472 GB DRAM & PMEM
Including MemVerge SW
$56,431.79

704GB More Memory!

Total Cost of Ownership (TCO) Analysis

Model 1: DRAM Only

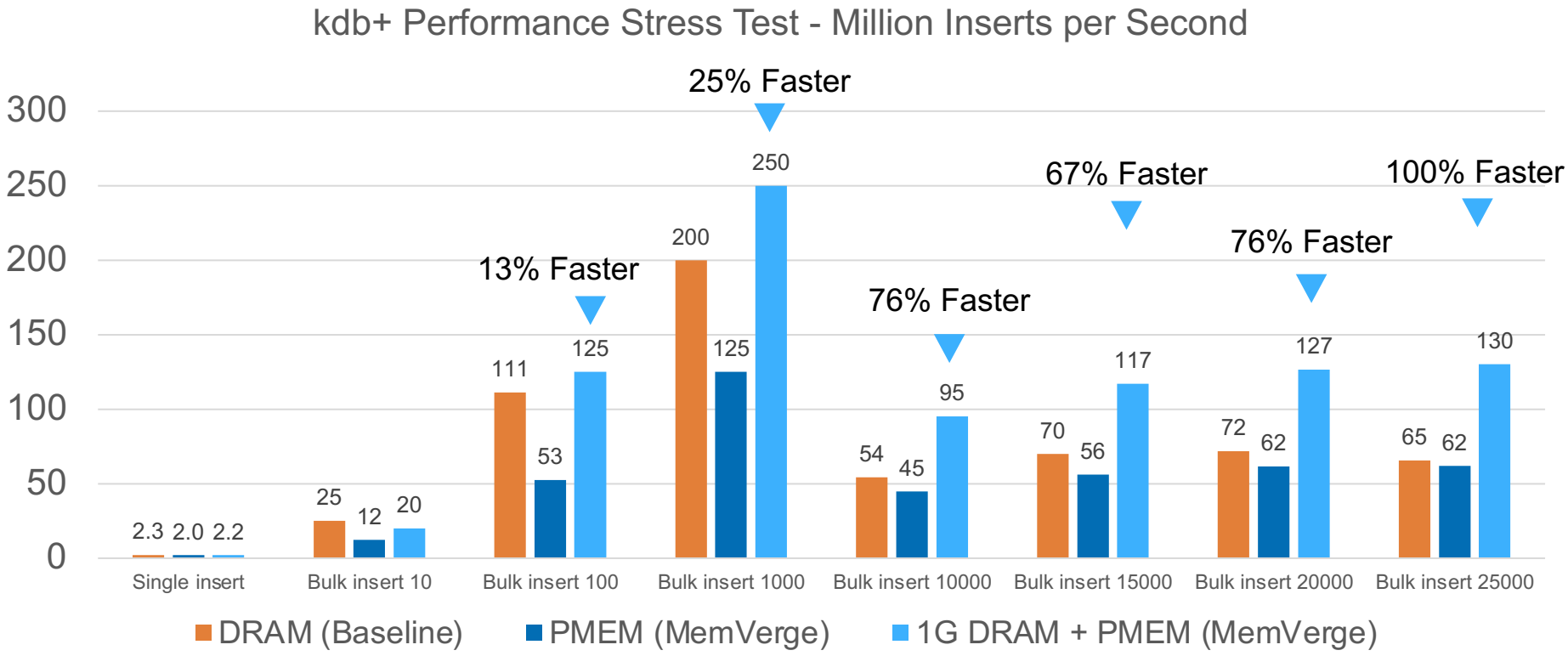
	Unit Cost	Unit Capacity	Quantity	Cost	Total Capacity
Hardware - XEON Gold 6240	$ 21,633.00		1	$ 21,633.00	
DRAM - 32 GB DIMM	$ 1,202.99	32	24	$ 28,871.76	768
Support				$ 5,050.48	
MemVerge SW				$ -	
Annual Power + Cooling Costs	$ 1,000.00			$ 1,000.00	
Rack Unit Costs				$ -	
Total Cost of Ownership				**$ 56,555.24**	**768**

Model 2: DRAM/PMEM/MemVerge

	Unit Cost	Unit Capacity	Quantity	Cost	Total Capacity
Hardware - XEON Gold 6240	$ 21,633.00		1	$ 21,633.00	
DRAM - 16 GB DIMM	$ 418.00	16	12	$ 5,016.00	192
PMEM - 128 GB DIMM	$ 1,929.99	128	10	$ 19,299.90	1280
Support				$ 4,594.89	
MemVerge SW	$ 4.00		1472	$ 5,888.00	
Annual Power + Cooling Costs					
Rack Unit Costs				$ -	
Total Cost of Ownership				**$ 56,431.79**	**1472**

MemVerge

Enables PMEM as Fast or Faster than DRAM



MemVerge

*Not a STAC benchmark

Memory Machine™ Customers

"MemVerge's Memory Machine software demonstrates marked performance gain over other in-memory infrastructure while displaying lower jitter and increased determinism." - Dominick Paniscotti, CTO of MemX

"MemVerge Memory Machine's ZeroIO Snapshot capability dramatically improves performance of new applications, reducing the time to recovery from hours to seconds." - Nicola Carotti, Head of Cloud and Hybrid Datacenter, Banca Intesa Sanpaolo.

Thank-you

Try it

Contact andrew.degnan@memverge.com to sign-up for a PoC

Memory Machine Datasheet

View our Nasdaq Soptlight:

https://youtu.be/HIPqyJtd7sQ

MemVerge TCO Calculator:

https://www.surveymonkey.com/r/TCO-Calculator