



NETLIST

# HyperCloud™ 16GB 2 vRank DDR3 RDIMM

Product Brief

Netlist introduces HyperCloud™ memory technology that enables 384 GigaBytes (GB) of DRAM to be populated in a dual socket server. This achievement makes possible unprecedented server performance for datacenter applications.

## Breaking the Memory Barrier with Rank Multiplication

This advanced technology breaks the 192GB memory-barrier in dual socket servers. The new DDR3 RDIMM presents two virtual ranks (vRanks) to the Memory Controller Hub (MCH), allowing four 16GB 2 vRank DIMMs per channel. Using Netlist's patented rank multiplication technology, 16GB two virtual rank (four physical ranks) RDIMMs can fully populate a dual socket server with 288GB of memory (up to 384GB in 24 slot systems).

## Maximum Data-Rate with Load Reduction

In addition, the HyperCloud memory rank multiplication implements load reduction for higher data speeds. Servers populated with four DIMMs per channel can operate at the maximum data-rate of 1333MT/s providing maximum memory bandwidth and increased server performance.

## Datacenter Savings with Server Optimization

Servers are typically underutilized due to memory bottlenecks. HyperCloud memory solves this problem by offering the highest DRAM capacity and memory bandwidth possible which maximizes server utilization and increases computational power. Optimal server utilization is especially important in server virtualization, memcache, database, and high performance computing applications.

## Features

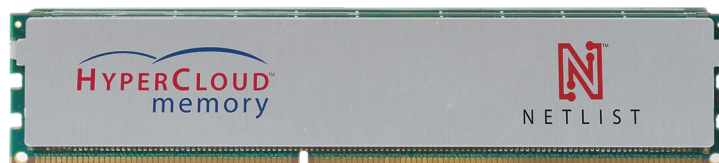
- 4GB, 8GB, 16GB 2 vRank module options
- Rank multiplication
- Load reduction
- Increases DRAM server capacity up to 384GB
- Supports 4 DIMMS per channel at 1333MT/s
- RoHS 6/6
- JEDEC compatible

## Benefits

- Increases server performance
- Provides lower power
- Reduces TCO
- Lowers memory costs

## Applications

- Virtualization
- Search
- Cloud computing
- High performance computing
- Video services
- Memcache appliances
- Online gaming



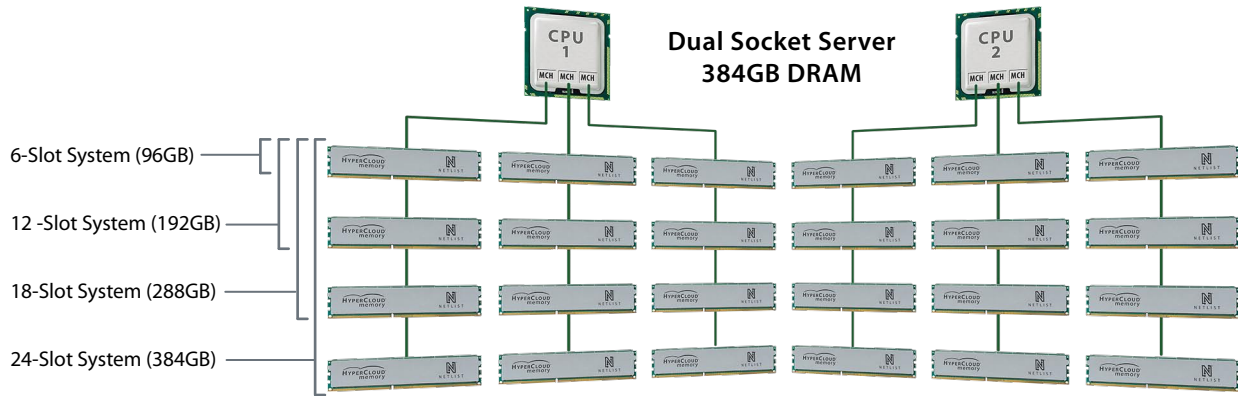
## Optimal DRAM Server Capacity with HyperCloud Technology

Netlist HyperCloud memory allows one, two, three or four DIMMs per channel to be populated with the maximum density and highest memory bandwidth vs standard JEDEC RDIMMs. HyperCloud rank multiplication technology presents two virtual ranks (four physical ranks) or one virtual rank (two physical ranks) to the Memory Controller Hub (MCH).

Speed	Physical Rank	Virtual Rank <sup>1</sup>	2 DIMMs Populated		3 DIMMs Populated		4 DIMMs Populated	
			Standard	Netlist	Standard	Netlist	Standard	Netlist
DDR3-800	2R	–	JEDEC	JEDEC	JEDEC	JEDEC	JEDEC	JEDEC
	4R	2R	JEDEC	JEDEC	N/A	HyperCloud	N/A	HyperCloud
DDR3-1066	2R	1R	JEDEC	JEDEC	N/A	HyperCloud	N/A	HyperCloud
	4R	2R	N/A	HyperCloud	N/A	HyperCloud	N/A	HyperCloud
DDR3-1333	2R	1R	N/A	HyperCloud	N/A	HyperCloud	N/A	HyperCloud
	4R	2R	N/A	HyperCloud	N/A	HyperCloud	N/A	HyperCloud

<sup>1</sup> Applies to HyperCloud.

DRAM capacities of 96GB, 192GB, 288GB, and up to 384GB per dual socket server are possible utilizing 16GB 2 vRank HyperCloud RDIMMs.



Product Description	Form Factor	Ordering Number
4GB 1333MHz 2Rx8 (1Gb) DDR3	Planar LP	NMD517G31207HD10
8GB 1333MHz 2Rx8 (2Gb) DDR3	Planar LP	NMD1G7G32507HD10
8GB 1333MHz 2Rx4 (1Gb) DDR3	Planar-X LP	NMD1G7G3250DHD10
16GB 1333MHz 2Rx4 (2Gb) DDR3	Planar-X LP	NMD2G7G3510DHD10



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