memory for maximum uptime
In our information-driven age, powerful High Performance Computing (HPC) platforms are processing massive amounts of data in an effort to unlock its value. To yield the insights necessary to move humankind forward, HPC solutions constantly evolve.

Optimizing the reliability of the memory sub-system for maximum uptime is critical to success.

INDUSTRY STANDARD RELIABILITY LEVELS FOR MEMORY FALL SHORT

Current accepted Defective Parts per Million (DPPM) rates create challenges for HPC applications:

- Delays Platform Bring Up
- Inflates Maintenance Costs
- Reduces System Yield Rate
Zefr (Zero Failure Rate) - eliminating over 90% of memory reliability failures.

**Zefr SCREENS MEMORY TO REAL-WORLD CONDITIONS**

Zefr Memory has been intensely processed to filter out weak memory modules. The Zefr Process combines five key testing ingredients.

- Extended Time
- Elevated Temperature
- High Speed
- Demanding Test Scripts
- Server Motherboards

**Zefr BENEFITS**

- Increase ROI
- Maximize HPV Yield Rate
- Accelerate the “Time-To-Insight”

**Zefr CASE STUDY**

A HPC System Integrator built identical systems with standard memory and Zefr memory.

**SHIPPED**

- 18,384 STANDARD RDIMMs
- 18,384 Zefr RDIMMs

**BUILD**

- CLUSTER A 1,532 NODES
- CLUSTER B 1,532 NODES

**FIELD FAILURES SINCE PLATFORM BRING UP**

- 360 STANDARD RDIMMs
- ZERO Zefr RDIMMs

TEN (12) 16GB RDIMMs PER NODE
To learn more, visit smartm.com/technology/Zefr

With Zefr Memory, our High Performance Computing System came up fast, completed the acceptance-criteria period flawlessly, and has consistently operated reliably running our mission-critical jobs without disruption.

William Wu
VP Products, Penguin Computing