

**R22 Optimize xSeries Server & Workstation Performance With DDR2 / DDR400 Memory
by Mike Hyland, IBM**

DDR2 memory unleashed the full power of the Intel Processor with its 800MHz Front Side Bus by matching the processor FSB bandwidth of 6.4GBs with an equal, balanced 6.4GBs of memory bandwidth. In combination with the CPU and chipset, system memory is one of the key contributors to overall system performance. Nearly every application and system component, whether internal or external, accesses the system memory. Because the CPU uses system memory for temporary storage of application instructions, and computation results, having a fast access to system memory by the CPU will have a positive impact on the system application performance and improve the overall platform responsiveness.

DDR400 memory is the highest performing memory architecture available in the Intel server market today. One of the key DDR2 technology advance is the FBGA (Fine Pitch Ball Grid Array) packaging which allows for a slim module design that increases the air flow space between the memory module and the circuit board. This increased air flow equates to improved system thermal performance and reliability. In addition to these brief product highlights, you will learn more about:

- * DDR2 architecture and unique features and benefits
- * DDR400 memory advantages over previous SDRAM technologies
- * DDR2 technology impacts on system architecture
- * DDR400 system performance improvements
- * DDR 2 / DDR memory transition roadmap
- * DDR400 cost / price / parity comparisons
- * DDR2 memory option offerings
- * DDR400 — semiconductor industry perspective