

# Addressing the Challenges of High Performance Computing with IBM Innovation and iDataPlex: Take Advantage of Cooler, Denser, and More Efficient Compute Power

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In 2008 IBM shattered the U.S. patent record becoming the first company to surpass 4,000 patents in a single year - the 16th consecutive year that IBM has achieved U.S. patent leadership. Come learn how IBM has leveraged our deep Research and Development innovation to deliver the iDataPlex server solution. With over 40 patented innovations, the iDataPlex product is one of the x86 first clean-sheet designs optimized for energy efficient High Performance Computing.

IBM has built iDataPlex from the ground up to maximize data center density, optimize server deployment efficiency, to use less energy, be easy to service and to lower your high performance computing expenses. The IBM innovation in the iDataPlex solution results in up to 40% less energy consumption (when compared to equivalently configured standard 1U servers), enables you to efficiently deploy racks of servers at a time and offers an option to virtually eliminate special data center air conditioning. This presentation will cover these features and explore the technology behind the iDataPlex High Performance Computing alternative.

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Gregg McKnight  
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Gregg McKnight is Vice President for IBM System x and BladeCenter Development. Based in Research Triangle Park, North Carolina, USA, Gregg leads the Mechanical Design, Power and Thermal Engineering teams for System x and BladeCenter products. In addition Gregg has leadership responsibility for the System x and BladeCenter Energy Efficiency initiative and Emerging Technologies for IBM's multi-billion-dollar x86 business. This is the fastest growing server segment in the world.

Having joined IBM in 1984, Gregg has nearly 25 years of experience in x86 server development. His consistent and outstanding technical achievements over the years have earned Gregg the title of IBM Distinguished Engineer, one of the company's top technical honors. Gregg provides leadership on complex projects in everything from product development to customer solutions and he engages in daily work on applied technology. Gregg is a hands-on practitioner who takes new technologies and makes them real for colleagues and customers by implementing new processes and architecting new products. Prior to becoming Vice President of Mechanical, Power and Cooling Development, Gregg was Chief Technology Officer for the IBM System x group. In that role, Gregg was the lead systems architect on the revolutionary new iDataPlex sever program designed for Internet-scale and HPC data centers.

Gregg earned a Bachelor's degree in Physics from Edinboro University of Pennsylvania and a Masters in Electrical Engineering from Penn State University.

With extensive experience in server systems architecture, systems design,

and systems performance, Gregg has been instrumental in the development and energy efficiency optimization of IBM's System x and BladeCenter systems.

In his personal life, Gregg enjoys his family, running, and cycling; he thrives on technology and is an instrument-rated pilot.

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