

# Blades—An Emerging System Design Model for Economic Delivery of High Performance Computing

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## Abstract

*During the recent rise and subsequent fall of the internet bubble, a new computer system design model emerged, primarily from venture capital start-ups. Bladed Systems, dense arrays of single board computers housed in a common chassis, seemed a promising way for service providers to keep pace with the anticipated dot.com inspired build-out. The blades were dense, low bandwidth and low in computational power, but they were suited to rapid deployment of masses of content delivery.*

*Along with other lessons learned as the 'irrational exuberance' faded and unviable business models and their edge applications were winnowed from data centers, the designers of bladed systems began to realize that blades had the potential to move from 'edge-only' applications into high performance enterprise, communication, and technical compute. All leading manufacturers now have high performance blade designs either in design or shipping now. Key to the high performance blade are shifts in the processor, storage, networking and management technologies from those utilized in first generation blades. These shifts could enable bladed systems to delivery multi-system compute arrays at appreciably lower total cost of ownership.*