A Kind of Generic Real-time Dependable Server Architecture with Low Fault-latency Using COTS Components

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ABSTRACT

Most of the highly dependable servers were customized, which resulted in long development period, high cost and made the servers lag behind technology progress and application requirements. To overcome the plight, a significant and feasible solution is to use COTS components including COTS hardware and software, which will substantially shorten development period and lower the cost while obtaining the requested dependability and performance. By designing Intelligent Fault Management Hardware Module and using low latency high-speed proprietary network to parallelize normal operation with fault handling algorithm, the paper puts forward a generic server architecture with low fault-latency GRDS-LFT that is highly dependable, real-time, upgradeable, inexpensive and based on COTS components.

Keywords: Generic, COTS component, fault-tolerant, intelligent, server.