



High-availability Server Solutions for the DeltaV System

The purpose of this whitepaper is to help customers understand the technical differences between the Stratus and Dell servers so that they can choose the right tool for their solutions.



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Contents

Introduction.....	3
Hardware Options	3



Introduction

The DeltaV system can use a range of server computer platforms (the Batch Executive, Continuous Historians, OPC data servers and the ProfessionalPLUS Station¹) to meet specific needs of critical applications.

The purpose of this whitepaper is to provide technical hardware availability information concerning the different server computer solutions that are available. This will allow users to make informed decisions on which server platform is appropriate for the different availability requirements they might have for various DeltaV solutions.

The Stratus ftServer W series platform is a fault-tolerant server that provides the highest effective availability. It is provided as a fault tolerant solution that includes onsite installation services and automatic alerts that report faults back to our supplier. With this server's redundant hardware, a single component failure will not cause an interruption of service. The server is also designed to provide continuous operation even during installation of the replacement part.

The type of general-purpose business servers that also can be used with the DeltaV system can provide component redundancy in typical higher failure rate areas such as disk storage, power supplies and fans. These servers are designed so that a component failure in one of these areas should not cause an interruption of service even during component replacement. However, solid-state components such as the motherboard, CPU, and RAM are not redundant. Therefore, a failure in these components would cause an immediate interruption in service. These servers are not considered fault-tolerant because of these potential sources of interruption.

Hardware Options

The following table (next page) provides a comparison of the available solutions and should be considered carefully when purchasing the hardware for the DeltaV system. The lost production cost in dollars/hour could be applied to the effective availability average estimate in order to arrive at a monetary cost for each solution. Note that there are also non-financial reasons for selecting a high availability server, such as maintaining data for regulatory purposes or for product verification requirements that also need to be considered in this process.



	Stratus ftServer W Series Solution	Standard business server w/out RAID	Standard Business server with RAID
Uptime % estimate	99.9997 ²	99.975 ³	99.997 ³
Effective Availability (Avg. Estimate)	.01752 hrs	.24 hrs	.175 hrs
Installation Service	Included	Project Cost	Project Cost
Auto Alert on Failure (Requires Modem line)	Included	N/A	N/A
Next day repair/replacement	Included	Included	Included
Training	Stratus-specific	Standard / generic	Standard / generic
On site spare parts necessary	No	Yes	Yes
Interruption of service on failure	No	Possible	Possible
Interruption of service on recovery	Possible	Possible	Possible

¹ The ProfessionalPLUS Station is not supported on the Stratus ft Server hardware.

² Actual empirical availability – see www.stratus.com for details on how this is calculated.

³ Availability and downtime calculations for standard business server are based upon available theoretical data for typical servers used in general business applications. This data does not represent availability for any specific server brand or specific product. Availability calculation also assumes a 4 hour mean time to repair (MTTR) (Availability = MTBF/MTBF+MTTR). Longer MMRT times will decrease the availability percentage and increase the effective availability.