



Expand Your Vantage Workflow

Combine Vantage servers into a resilient array,
to efficiently and reliably automate file-based media workflows



Telestream Vantage® Array combines multiple Vantage systems into a network for scalability and N+1 redundancy. It extends the power of any Vantage system from a single server to an array of servers working together to process jobs efficiently and reliably.

Task-level load balancing distributes individual tasks within each job across all servers for reliable, high-volume output. Auto-failover protection ensures that if any one server – or even software service – should fail, unfinished tasks within each job are resubmitted so that the entire job can be completed without interruption. Support for SQL Database Mirroring ensures that all job information is backed up with automatic recovery mechanisms in case any server fails in the Vantage Array.

No Single Point of Failure

Vantage Array can be scaled from two to as many servers as you need to meet your workflow throughput requirements. Distributed control in a peer-to-peer redundancy architecture ensures that there is no single point of failure in the Vantage Array that will ever bring your system down. If any machine goes down, the system automatically recovers and keeps running.

How It Works

Vantage Array is a collection of Windows servers running Vantage Windows services, which communicate with each other across a network. As each step in a job executes, tasks are individually allocated to servers based upon each machine's queue, and its actual CPU and network load, dynamically balancing system queues as the job executes.

Best in Class Customer Support

You can rest assured that our highly-skilled technical team will be available to provide the quick and comprehensive support and guidance you need to fully leverage the power of your Telestream product.

Failover Management

Vantage Windows services within an array are in constant communication with each other, monitoring each other's health. Should one of the Vantage Windows services within the array fail, no further jobs will be assigned to it. Further, any active tasks – including watch actions – being performed by that service will dynamically fail over to one of the remaining services in the array, and processing continues.

If an entire Vantage server fails, all executing services on that server will be recovered in the same manner.

Load Balancing

Vantage Array CPU-aware task scheduling offers significant throughput advantages over traditional “round robin” load balancing. In Vantage, jobs are initiated either manually, through the SDK, or through a Watch action. When a job executes, each task in the job is independently load-balanced across available servers. Server choice is based upon server queue length, and the CPU and network load on the servers at the time of balancing; when a server is chosen, the task is added to that server's queue. As each subsequent task is allocated, updated metrics for each server are considered, automatically re-balancing system queues.

Load balancing is performed in a peer-to-peer fashion, where the Windows service completing each task is responsible for choosing the next machine. This avoids “master control” bottlenecks and creates a highly resilient workflow automation system.

Priority and Automatic Pause-And-Resume

Tasks can be prioritized so that a higher priority task coming into a machine will advance to the head of the queue for processing.

To further optimize job performance, high-priority transcoding tasks will also automatically pause lower-priority tasks; those tasks will resume automatically once the higher-priority task is complete.

Task Routing

Load balancing can also be influenced using Qualification Rules applied to each Vantage Windows service participating in the array. This allows the administrator to route tasks with specialized needs to those servers or services in the array which can best fulfill them.

For example, tasks that require a fiber connection may be directed to servers that have the necessary connection. Alternatively, servers may be allocated exclusively for high priority jobs, or jobs where the media duration is long.

Database Mirroring

Vantage Array supports the use of SQL Standard and Enterprise database mirroring to ensure that database failure does not affect workflow performance. Particularly, the SQL “Mirror with Witness” model is supported and ensures that Vantage is connected to a highly resilient and failsafe database.

Distributed Licensing, N+1 Redundancy

Licenses for the Vantage Windows services are stored in the database. In the case of service or server failure, licenses acquired by the affected services are released back into the

database, allowing other machines in the array to acquire them. This allows true N+1 redundancy within the array simply by adding additional Vantage Array machines to support licensed Vantage services.

Shared Storage

Vantage Array requires shared storage, as each task may be independently load balanced, and all files involved in the job must be available over the network. Telestream recommends a high-speed fiber-attached NAS or SAN as the shared storage environment.

Vantage has been qualified with EMC, XSAN (StorNext) and Rorke storage environments. For more information about Rorke and EMC storage solutions, please contact Telestream for ordering information.

Job and System Status and Monitoring

The Vantage Management Console allows a full system view of all running Vantage Windows services and jobs in the array. Active tasks can be seen and sorted by service type or machine execution.

In the Vantage Workflow Designer, individual jobs and their tasks can be visualized as they are running. Color-coding indicates task state, and the machine assignment for each task can be seen.

Technical Specifications

Whats Included in Vantage Array

Load Balancing

- CPU-aware task scheduling
- Task-level load balancing: One job can be serviced by multiple servers
- Queue re-balancing after every task completes
- Automatic pause-and-resume accelerates high-priority transcoding

Redundancy

- Failover protection in case of server failure
- Peer-to-peer architecture with no single point of failure
- Distributed licensing with N+1 redundancy
- Support for mirrored Microsoft SQL databases

Centralized Administration

- Management Console allows easy addition of machines, licenses
- Centralized file access permissions for all machines in the array

System Requirements

Operating System: Windows Server 2003, 2008

Minimum Server: Dual, Quad-Core Processors, 4GB Memory

High-Speed NAS or SAN storage recommended

GigE Ethernet adapter

Database: SQL 2008 Express, Standard or Enterprise

Client OSs: XP SP3, Vista, Windows 7, Server 2003, 2008

Specifications and pricing subject to change without notice. Copyright © 2011 Telestream, Inc. Telestream and Vantage are registered trademarks of Telestream, Inc. All other trademarks are property of their respective owners.

October 2011