

## More Throughput, Fewer Servers

Maximize your workflow throughput and reliability with complete control over user access, load balancing, and failure recovery



As media companies generate increasing revenue through file-based workflows, they cannot afford interruptions or inefficiencies in their media processing. This is especially true in mission-critical commercial workflows, time-critical news workflows, and high-volume content repurposing environments. So much content is moving through these facilities that any workflow interruptions or inefficiencies would cause serious delays.

**Telestream Vantage® Enterprise Control** provides the highest degree of reliability and performance for mission-critical, 24/7 media processing workflows. Vantage Enterprise Control provides management layers and a suite of tools for analyzing and optimizing process efficiency, hardware utilization, user access, and failure recovery.

### No Single Point of Failure

Vantage Enterprise Control includes highly-resilient Vantage Array technology, which can cluster as many servers as necessary 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 system that will ever bring your system down. If any machine goes down, the system automatically recovers and keeps running.

### Optimize Server Utilization

All media processing tasks are not equal, and more than 60% of server CPU time can be wasted by traditional queue-based load balancing. Workflows with mixed video processing requirements and fluctuating media loads require task allocation that is not only aware of which servers are available, but also the nature of the tasks being assigned. Otherwise, servers may be over-allocated with too many heavy tasks, or under-allocated with insufficient work to keep them busy.

With Vantage Enterprise Control, optimal hardware utilization is achieved by using the industry's leading task scheduling. Load balancing is CPU-aware and network load-aware. Cost-based resource allocation allows administrators to assign a cost to each individual task in a workflow, and also to specify the capacity of each server in the system. When a job executes, each task in the job is independently load-balanced across available servers. Task allocation is done dynamically, and queues are re-balanced every time a task completes on any machine. Each server

optimizes its load, targeting the specified average capacity as indicated by the administrator. This ensures that servers are balanced appropriately based upon the actual processing requirements of their tasks.

Cost-based task scheduling also reduces the risk of server failure by avoiding CPU overloading. Unlike "round-robin" task scheduling, where server CPU or RAM may become overloaded, cost-based task scheduling allows administrators to target an optimal CPU utilization on every server. This avoids situations where servers may crash because they are asked to do too much work.

The ability to do more with fewer servers results in hardware cost savings, less rack space, lower cooling and power requirements, and reduces the chance of system failure because there are fewer servers involved.

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.

### Environmental Failure Recovery

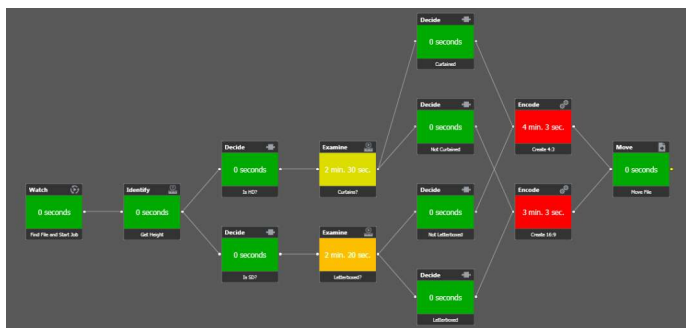
In mission-critical workflows, media processing throughput cannot be compromised even if external systems fail. The ability to recover from environmental failures, such as Internet loss or SAN disconnects, is necessary to ensure that a workflow is truly predictable and reliable. In today's demanding workflow environments, submitted media must be processed without requiring administrator oversight, no matter what challenges occur.

Vantage Enterprise Control achieves this goal with the ability to recover from external errors such as Internet, FTP, SAN, or other system failures. Automated task retries allow administrators to specify when failed tasks should be retried, and how many times to try before an external system is deemed fatally inaccessible. Customizable retry schedules ensure that recovery is appropriate for the type of failure – restarting in seconds when a SAN has a brief disconnect, or waiting hours (if necessary) in the case of a loss of Internet connectivity. This ensures that media submitted to a workflow will be processed in a predictable, reliable manner and delivers 24/7 hands-free operation where jobs will only fail if they are truly not recoverable.

### Workflow Analytics

With Vantage decision-making, one workflow may service multiple clients, multiple distribution channels and multiple media types. But which clients are the heaviest users? Which distribution channels are sent to the most? In sophisticated workflows, this type of analysis can provide valuable insights into workflow optimization.

Vantage Enterprise Control includes tools for analyzing workflow process utilization. Bottleneck analysis analyzes job history, presents the average times for each task in the process, and visually indicates the slowest steps in a workflow. Workflow execution analysis indicates which branches in a process are most commonly executed, indicating which clients, formats, and decisions are the most common. Real-time execution analysis also provides a single view of batch jobs, showing aggregate progress visually as they complete the workflow. Combining visual workflow design and powerful analysis tools, Vantage offers visibility into the true nature of the workflow.



### Team Management

In many operating environments, more than one operator, administrator, or department will rely upon Vantage. Having multiple workflow users introduces the need to control who can access which parts of the underlying system – partly to protect the system from accidental changes, and partly to ensure that end-users and operators only see what they care about.

Vantage Enterprise Control includes user accounts and the ability to set permissions for who can edit and view job status for each individual workflow in the system. Web-based job status views also provide customizable end-user access to see the jobs in their workflow, and user accounts can be used to determine who can access Vantage Workflow Portal operator interfaces. This ensures that operators, administrators and end-users only see the tasks, jobs and workflows which are relevant to them, and ensures that other parts of the system are protected.

### Distributed Licensing, N+1 Redundancy

Licenses for the actual Vantage Windows services are stored in the database, and can be acquired by services connected to that 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 Vantage system simply by adding additional machines to support licensed Vantage services.

### Shared Storage

Vantage systems managed by Vantage Enterprise Control require 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 NAS or fiber-attached 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.

### 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.

## Technical Specifications

### What's Included in Vantage Enterprise Control

#### System Optimization

- Customizable cost-based and CPU-aware task scheduling
- Ability to specify capacity for each server
- Workflow bottleneck analysis tools
- Real-time and historical workflow execution visualization

#### Team Management

- User accounts allowing controlled access to workflow design
- Customized web-based job status views
- Operator accounts for Workflow Portal, Workflow Designer, and Management Console

#### Environmental Failure Recovery

- Automated task retries in case of environmental failure
- Customizable schedules for task restarts

#### All Features of Vantage Array

- Ability to combine Vantage products into a multi-server cluster
- Peer-to-peer load balancing and failover with no single point of failure
- Distributed licensing with N+1 redundancy
- Support for mirrored databases

### 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, Standard or Enterprise

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

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