



## Complete Workflow Management

Total visibility and control of the workflow, for management of large-scale system deployments



As media companies generate increasing revenue through file-based workflows, they cannot afford interruptions or inefficiencies in their media processing. In large-scale media processing environments, the ability to visualize the health of participating systems is necessary for administrators to ensure that the workflow is operating smoothly. Overall system health is especially important 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® Master Control** is a management system that provides total visibility and system management for large-scale media processing environments. With all the features of Vantage Enterprise Control, and the addition of web-based system dashboards, historical job reporting, and integration with Agility 2G, Master Control offers the world's only truly scalable workflow automation system for file-based content production and multi-channel distribution workflows.

### Web-based System Dashboards

Today's large-scale video workflows typically involve two or more servers working in a cluster to perform media processing tasks. As system size increases, the task of watching multiple servers, multiple processes, and multiple 3rd-party systems becomes exponentially difficult. Tracking system health becomes very important, and system administrators must not only be able to log into each system remotely to correct errors, but use system metrics to predict potential system failures.

Master Control provides web-based dashboards specifically designed for managing large-scale video workflows. System health indicators summarize system performance and health statistics, and provide diagnostic tools to isolate and recover system inefficiencies. Statistics such as server queue length, processing load, and average percentage of errors allow administrators to detect servers which may be having trouble.

This allows you to proactively take steps to avoid system failures. Snapshot summary information allows system monitoring from across the room. Vantage Master Control allows you to comfortably track system health from a central location.



### Historical Job Reporting

Historical reporting of system capacity utilization, overall usage and throughput, distribution statistics and other measurements are essential for effective billing, capacity planning, and predictive maintenance. Vantage Master Control exports detailed job history, allowing for analysis of job metrics and metadata. Customer billing IDs may be attached to jobs and made available as part of a report. Job timing can be exported into spreadsheet software or custom reporting tools to determine average wait times, and for capacity planning.

### Combine Vantage and Agility 2G

Vantage Master Control includes support for command and control of Agility ECS networks within the Vantage environment. Vantage workflows may submit jobs directly to Agility profiles, and can take the output files from Agility jobs back into the Vantage workflow for analysis, QC, or packaging.

**No Single Point of Failure**

Master 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.

**Environmental Failure Recovery**

In mission-critical workflows, media processing throughput cannot be compromised even if external systems fail. In today's demanding workflow environments, submitted media must be processed without requiring administrator oversight, no matter what challenges occur. Master Control has the ability to recover from environmental failures such as Internet loss or SAN disconnects, ensuring that the workflow is truly predictable and reliable. Customizable, automated retry schedules ensure that error recovery is appropriate to each task in the workflow, and delivers 24/7 hands-free operation where jobs will only fail if they are truly not recoverable.

**Optimize Server Utilization**

All media processing tasks are not equal, and more than 60% of server CPU time can be wasted by traditional "round robin" 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 Master 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.

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.

**Distributed Licensing, N+1 Redundancy**

Licenses for the 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 more machines to support licensed Vantage services.

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**Shared Storage**

Vantage systems managed by Master 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 Master control****Web Dashboards**

- System health summary status for centralized or remote monitoring
- Ability to view and analyze statistics for each server in the system
- Remote job status monitoring

**Reporting**

- Export job history reports in CSV format for import into Excel or other spreadsheet software
- Review job metadata and execution times for capacity planning and client or departmental billing

**Integration with Agility 2G**

- Access Agility 2G profiles as part of a Vantage workflow
- Integrate Vantage decision-making, analysis and QC and visual process design with Agility 2G
- Dashboard Agility 2G and Vantage systems in a single web-based user interface

**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
- Lock workflows to protect process design

**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