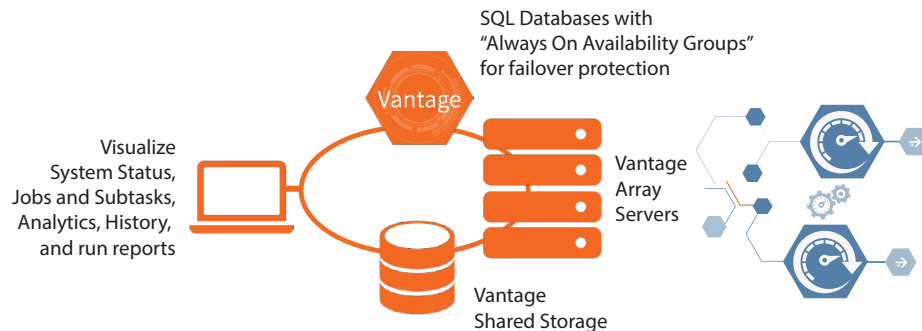


# Vantage Array

Product Sheet



## Expand your Vantage Workflow

Combine Vantage servers in 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.

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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 “*Always On Availability Groups*” 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

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 or single “control server” 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

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.

### 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 automatically fail over to one of the remaining services in the array, and processing continues.

If an entire Vantage server fails, all executing tasks 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. 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.

### Advanced task scheduling

Reduce the total number of servers required with the Advanced Task Scheduling option. If a Vantage Array processes many different types of jobs, this option can increase overall throughput by 30-50%, reducing server, cooling and power requirements. Administrators specify the "cost" of each task, and the "capacity" of each server; Vantage then optimizes task scheduling to ensure even distribution of work across all machines.

### 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 Run On Rules applied to any task in a workflow. 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.

### Always On Availability Groups

Vantage Array supports the use of *Always On Availability Groups* to ensure that database failure does not affect workflow performance. An availability group supports a failover environment for a discrete set of user databases, known as availability databases, that fail over together.

### 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 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.

## Job and System Status and Monitoring

The Vantage Management Console allows a desktop view of all running Vantage services and jobs in the array. The optional web-based System Dashboard allows remote job status, system health and server maintenance.

Individual jobs and their subtasks can be visualized in the Vantage Workflow Designer. Alternatively, add the Reporting and Analytics option to allow spreadsheet job history reporting and heat maps showing processing times.

## 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.

## What's 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 "Always On Availability Groups" for SQL Server
- Lightspeed Server jobs can fall back to CPU-only mode

## Centralized Administration

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

## Optional Features

- Advanced Task Scheduling
- Web System Health and Status Dashboarding
- Reporting and Analytics

## System Requirements

### Vantage:

**Operating System:** Windows Server 2012 R1 and R2, or Server 2016 (Standard or Data Center Edition)

**Minimum Server:** Dual, Six Core Processors - or better (a total of 12 cores or more is recommended), with 16 GB DDR Memory

**Recommended Server:** Telestream Lightspeed Server with GPU acceleration; High-Speed NAS or SAN storage recommended; GigE Ethernet adapter

### SQL Database Dedicated Server:

**Operating System:** Windows Server 2012 R1 and R2, or Server 2016 (Standard or Data Center Edition)

**Minimum Server:** Four Core Processor - or better with 16 GB DDR required memory. 32 GB DDR is recommended for Domains with high job volume.

**Database:** SQL 2012, SQL 2014 Standard or Enterprise, SQL 2016 Standard or Enterprise, SQL Express 2016

**Client OSs:** Windows 10, Windows 7, 8, Server 2012 R1 and R2, or Server 2016 (Standard or Data Center Edition)