

# Silicon Graphics® Video Server Toolkit

## Distribute Data, View Video



### *Foundation for flexible video server solutions*

Silicon Graphics Video Server Toolkit is the multi-channel video playback and record software that unifies Silicon Graphics Origin™ servers and digital media components. It allows application developers and system integrators to create powerful, high-performance solutions for multichannel, multiformat video serving. This toolkit enables industry-leading automation systems and third-party applications to trigger video playout under frame-accurate control through digital video I/O options on Silicon Graphics servers. It enables rapid video solution creation, reduces the cost of application development, and provides the power and scalability that your customers require.

### **Breakthrough Solutions**

Video Server Toolkit enables Silicon Graphics Artisan developers and solution partners to build multichannel solutions for digital news production, store and forward, and program playout applications. This provides a robust framework to deliver solutions in news operations, Near Video on Demand (NVOD), and post-production environments. Video Server Toolkit supports multiple video formats, video I/O, and data networking I/O, simultaneously or independently. This approach provides an insurance policy against changes in standards and formats.

### **Managing Video as Data**

Silicon Graphics is the only vendor that gives you the tools to create a wide array of breakthrough solutions using virtually the same digital media components and

the same control protocols. This allows you to distribute data and view video as appropriate. Join industry leaders in building video serving solutions using the Silicon Graphics video computing platform.

### **Features**

Video Server Toolkit offers the right features to architect high-performance video serving solutions:

- Multiple video format and video I/O support—Provides flexibility by allowing you to choose from the following formats: ITU-R 601; 2:1 lossless coding using Silicon Graphics Rice technology; DVCPRO-25; MPEG-2 playback using DVB-ASI and MPEG-2 decoders
- Automation control support—Provides Louth VDCP command support and Silicon Graphics MVCP support for control of the server by many standard broadcast automation systems
- Sony/P2 RS-422 control support: Control an Origin server like a VTR using standard Sony 9-pin protocol; Control a VTR using the Origin server with standard Sony 9-pin protocol
- SMPTE 305M support for 4x transfer using SDTI
- In-point and out-point manipulation—Trim clip in and out points after they have been recorded into the server
- Back-to-back clip playback—Cue multiple clips on the same port for seamless playout. Supports Viewgraphics MediaSplice technology for seamless splicing in MPEG-2 domain
- StudioCentral™ Library support—Transfer clips to and from StudioCentral managed archives for tightly coupled integration with tertiary storage
- Platform optimization—Video Server Toolkit takes advantage of Silicon Graphics digital media infrastructure to maximize the industry-leading throughput capabilities of Origin servers

### **Getting Started**

The Video Server Toolkit is available to Silicon Graphics Artisan developers. It runs on Origin servers for field implementation and O2™ workstations for development purposes. More information on the Video Server Toolkit can be found on the Silicon Graphics Developer Program Web site, [www.sgi.com/developers](http://www.sgi.com/developers). The Silicon Graphics Developers program provides documentation, tips, and sample code to make your solutions as easy to build as possible. Contact your local Silicon Graphics representative or the Developer Program to get started.

# Video Server Toolkit I.I

## Technical Specifications

Note: All specifications assume Origin200™ GIGACHannel™ as the hardware platform. Information for Origin2000™ based specifications is available upon request

### HARDWARE SUPPORT

Hardware platform	Origin200 GIGACHannel, single or dual tower configuration (2-4 CPU), IRIX® 6.4
RAID storage support	Up to 4 RAID-3 or RAID-0 arrays
Storage interface	Fibre Channel, UltraSCSI
Networking	100Base-TX, 1000Base-SX, Fibre Channel

### SUPPORTED VIDEO DEVICES

#### Silicon Graphics DIVO XIO

- Up to 4 cards supported per GIGACHannel, up to 8 cards per dual GIGACHannel system
- SMPTE 259M serial digital interface (BNC)
- ITU-R Rec. BT.601-4 encoding
- 2:1 Lossless Coding (RICE)
- 8 or 10 bit I/O resolution
- 525/59.94 and 625/50
- SMPTE 272M embedded audio I/O (Four 20-bit channels)
- Simultaneous independent input and output

#### Silicon Graphics DIVO-DVC XIO

- Up to 4 cards supported per GIGACHannel, up to 8 cards per dual GIGACHannel system
- DVCPRO encode and decode
- DIF format support
- SMPTE 259M serial digital interface (BNC)
- SMPTE 305M SDTI for 4X transfer
- ITU-R Rec. BT.601-4 encoding
- 2:1 Lossless Coding (RICE)
- 8 or 10 bit I/O resolution
- 525/59.94 and 625/50
- SMPTE 272M embedded audio I/O (Four 20-bit channels) in uncompressed and RICE mode
- Simultaneous independent input and output

#### Viewgraphics MediaPump MP403 PCI

- Up to 3 cards supported per Origin200 only
- DVB-ASI (output only)
- MediaSplice technology for seamless splicing
- 50Mbps total aggregate output per card
- Multiplex multiple SPTS streams into MPTS
- Coaxial output interface (BNC)

#### Vela Research SCSI attached 4-channel MPEG-2 Decoder

- Up to 3 Vela Research quad decoders per SCSI channel (external to GIGACHannel)
- 4 channels analog composite output per decoder (BNC)
- 12 Mbps maximum MPEG-2 data rate decoded
- User selectable decoded video or genlock video (BNC) to video output
- Four 15-pin D-shell connectors for Balanced Stereo Audio

### SUPPORTED AUDIO DEVICES

#### Silicon Graphics Digital Audio PCI Card

- Up to 4 cards per GIGACHannel, up to 8 cards per dual GIGACHannel system
- 2 channels AES/EBU I/O (BNC)
- 8 channels ADAT Optical I/O (24-bit) (EIAJ RCZ-6901 fiber optic connector)
- Genlock to video reference to sync audio channels to video channels

### VIDEO FORMAT SUPPORT TABLE

Video Format	Number of channels	Video I/O	Control	Timecode I/O	Reference (Genlock)	Audio
Uncompressed (DIVO, DIVO-DVC)	1-8 record and 1-8 play	ITU-R BT.601-4 4:2:2 8-bit 4:2:2 10-bit SMPTE 259M-C	Louth Sony/ P2 MVCP	VITC	SDI Analog	24-bit 48kHz AES3-ID (2ch) SPDIF (8ch) ADAT (8ch) 20-bit 48kHz SMPTE 272M (4ch)
Rice (2:1 Lossless) (DIVO, DIVO-DVC)	1-8 record and 1-8 play	ITU-R BT.601-4 4:2:2 8-bit 4:2:2 10-bit SMPTE 259M-C	Louth Sony/ P2 MVCP	VITC	SDI Analog	24-bit 48kHz AES3-ID (2ch) SPDIF (8ch) ADAT (8ch) 20-bit 48kHz SMPTE 272M (4ch)
DVCPRO-25 (DIVO-DVC)	1-8 record and 1-8 play	ITU-R BT.601-4 4:2:2 8-bit 4:2:2 10-bit SMPTE 259M-C SMPTE 305M	Louth Sony/ P2 MVCP	VITC	SDI Analog	24-bit 48kHz AES3-ID (2ch) SPDIF (8ch) ADAT (8ch)
MPEG-2 Analog (Vela 4ch decoder up to 12)	4-48 play	NTSC Composite PAL Composite	Louth MVCP	None	Analog	Balanced analog
MPEG-2 DVB (Viewgraphics MediaPump up to 3)	8-24 play (@6Mbps)	ASI	MVCP	None	None	Contained in MPEG transport stream



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