

NOVUS Ltd

Automation System Including Source Code For Multi-Channel Broadcasters or Broadcast Suppliers

7-Way Traffic System Interface
Satellite Record Management
Server Management and Dynamic Interface to Archive Management Middleware
Media Preparation
Schedule Management
Distributed Realtime Control with Automatic Failover Switching

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Executive Summary

Brief History

Frank Ivan and Mark Fine founded NOVUS Development in Denver, Colorado in 2000. In July of 2001 NOVUS entered into a development partnership with WXXI in Rochester, NY to co-develop the NOVUS System, the fully integrated, multi-channel automation system described in this document. In July of 2002 WXXI went live on the NOVUS System.

Over the next 3 years, the system was sold to and installed in 8 additional public stations. But NOVUS success hinged on a pending deal to the NY Times Broadcast Group to install the 8 NY Times stations and their Digital Operations Center. This deal never came to fruition for NOVUS on its own and eventually a triangular deal was struck that included NOVUS Development, WideOrbit Inc, and the NY Times Broadcast Group whereby NOVUS licensed the system to WideOrbit who in turn licensed it to the NY Times. This arrangement was culminated in early 2005 and since then, all of the NY Times stations have been implemented using WideOrbit's version of the system.

Business Proposition

Recently, NOVUS Ltd reacquired the International rights to the NOVUS System source code. NOVUS Ltd desires to license the system, including source code, to International Broadcasters and Broadcast Suppliers.

In addition to the NOVUS System source code, Frank Ivan, the author of the system and one of the top broadcast automation experts in the world, is available on a consulting basis.

System Highlights

State-of-the-Art and Portable	The Automation System was developed using object oriented C++ code predominantly under the Windows 2000 operating system. The NOVUS System was also developed to be portable so that it can be easily migrated to run under the LINUX operating system should the end user so desire.
Developed at Television Stations	Each Automation subsystem was developed in collaboration with the station engineers and operators at Rocky Mountain PBS in Denver, CO and WXXI TV in Rochester, NY.
Integrated Archive Management	The part of the AUTOMATION System that manages the movement of video between video servers (online storage) and archives (nearline storage), and interfaces with Avalon, has been working near flawlessly at Rocky Mountain PBS for over 5 years.
Sophisticated Use of Metadata	The AUTOMATION System attaches metadata to each video server clip that follows the clip into the archive. As a result, each clip can be played to air without having to access an external database. Use of metadata in this way also eliminates database synchronization problems.
Distributed Architecture with Automatic Failover	The AUTOMATION System employs a distributed architecture whereby realtime control is separate from schedule management and each device controlled has its own NOVUS RTP72 realtime control device. By virtue of this unique hardware approach, each RTP72 delivers powerful reliability features. With further development and by utilizing redundant Schedule Managers, dual LAN switches with crossover connectivity, and multiple LAN connections to each RTP72, all single points of failure could be eliminated.
Frame Accurate	Because each AUTOMATION RTP72 has its own processor with an embedded realtime operating system, true frame accuracy is achieved.
Tight Interface with Traffic	The AUTOMATION System has a seven-way traffic system interface including, the import of on-air schedules, record schedules, dub orders, and purge orders, and the export of exact program timings, purge confirmations and as-run/discrepancy logs.
Unique Features	The AUTOMATION System has a number of unique features including the ability to elegantly handle Voice over credits, live breaks and extended logo insertion.

System Overview

The AUTOMATION System is a group of integrated subsystems including:

- 7-Way Traffic Interface
- Satellite Record Management
- Server Management with Interface to Archive Management Middleware
- Media Preparation
- Schedule Management
- Realtime Control and Automatic Failover Switching

Technical Specifications

Operating systems:

- Predominantly Windows 2000
- Linux for Automation System server
- MCOS for Realtime Control embedded in RTP's

Software language: C++

Satellite Record Manager

The Satellite Record Manager, based on a self-generated record schedule or a schedule received from a traffic system, automates the recording of all programming from satellite. It controls the router directly or through Realtime Control, multiple receivers and tuners, video servers and VTRs. The Satellite Record Manager can execute as many simultaneous recordings as required on tape, video server, or both concurrently. While running the Satellite Record Manager, manual recordings may also be executed by going to the VDR panels on the video servers directly or by using the machine control window included with the system. The Satellite Record Manager exports timing orders for programs that have already been recorded to MediaPrep and can also be used to schedule dubs from tape to video server. The Satellite Record Manager also has the ability to switch a program to air while it's being recorded.

Server Management Interface with Secondary Storage Devices

The Automation System automatically manages the archiving and restoring of video material on video servers and dynamically manages video server storage. It also keeps mirrored video servers in balance. The Automation System interfaces to video servers and archive management systems via LAN connection.

All clip data, such as Title, Creation Date, Expiration Date, and Last Play Date are kept as metadata attached to the clip. The system continuously monitors the schedule files and assures that the required material is resident on the appropriate video server for on-air playback. If a clip is needed, the system looks for it on

other servers in the system. If it is found, it will schedule a copy and assign a priority based on the time the clip is first needed. If the clip is not on the video servers, it will schedule a restore from the archive, again assigning a priority based on the time the clip is needed.

If the clip is already on the server, the system verifies that it is the latest version. When the clip becomes available on the required server, the system sets its last play date to reflect the last time the clip will be played from this schedule. The system monitors the video servers for new clips recorded in the system. It attaches the metadata and schedules those clips for archiving if they are to be archived. It also copies new clips to any mirrored servers. Finally, the system watches the servers to determine if any clips are reaching the end of their retain window based on their last play date. If these clips are archived, they are deleted from the server.

As part of the process, the Automation System constantly monitors and displays video server disk utilization. When an operation is added, server space required for that operation is committed and will show up in the committed column of the display, along with the free and total space. The display also shows the percentage of uncommitted space, a calculation of free space less committed space, divided by total space. When the operation completes, all figures are automatically updated. The percent uncommitted will always reflect the percent of space still available. When it falls below a user-specified parameter, the system delays longer-term restores and copies in order to better conserve video server space.

The Automation System can search archive media and load or purge under manual control, if necessary. By modifying the look-ahead time value, NOVUS Digital Librarian has the ability to fine tune the time frame for media loading to server. This assures better server management and disk space utilization.

The Automation System provides a desktop tool for examining the state of video clips. The NOVUS Library Manager can be installed on any number of desktops for remote viewing and interaction with the NOVUS Digital Librarian. It integrates information available on the Digital Librarian with information contained in the MediaPrep database and allows clips to be loaded onto and removed from designated video servers.

The NOVUS Library Manager also provides tools for reviewing and managing clips on the NOVUS Digital Librarian. Clip information can be presented based on group or other parameters. For example, a list of clips with "soft" kill dates that have passed their expiration date can be selected for review. Alternatively, a list of clips that are nearing expiration can be displayed. Selections can also be made based on partial key matching (i.e. any clip with "Sesame" in the title). Statistical information like the number of clips and space occupied by the clips can be displayed and printed reports are available.

Media Preparation

NOVUS MediaPrep controls multiple VTRs and video servers for ingest via serial and LAN connection. Multiple workstations help eliminate the bottlenecks that are common in the material ingest process. There is a virtual control panel on each ingest PC to control the VTRs and quality control channels of the video servers. All material data is saved as metadata attached to each clip. NOVUS MediaPrep imports dub orders from the traffic system and exact timing information can be exported back to the traffic system's media database. NOVUS MediaPrep also imports timing orders from the NOVUS Satellite Record Manager. One feature, especially advantageous in public broadcast stations, is the ability to set the start and end times for VOC.

Schedule Management

The NOVUS Schedule Manager imports its schedule from the traffic system and exports an as-run schedule back to traffic system via the local area network. The system sends events to be executed to the NOVUS Realtime Control. These events include video server play commands, master switcher switch commands, logo insertions, audio cart play commands, and any other realtime events.

The NOVUS Schedule Manager runs on an NT or Windows 2000 system. Public-broadcast-station specific features include extended logo insertion, unstructured breaks, and timed voice-overs. Extended logo insertion is a feature that allows for the insertion of several logos during the play out of a program. These logos can start at a programmed time into the program, stay up for a programmed time and reappear at various times into the program.

The unstructured breaks feature allows a break to float. When the break is initiated, the system notes the playback point in the program and will resume playback at that point when the break ends. Thus, breaks can be initiated when desired -and run as long as desired- with the only consequence being the end time of the program changing.

Timed voice-overs take their start time, length, and clip id from the traffic system. They are automatically run at the end of a program with no operator intervention. NOVUS Schedule Manager accommodates an unlimited number of schedules/channels with up to 4 channels displayed on a single monitor. There is also a master schedule overview display of up to 16 schedules in a horizontal timeline format.

Realtime Control and Automatic Failover Switching

The heart of the NOVUS System is the NOVUS RTP72 realtime machine controller. This device interfaces to all equipment requiring realtime control including VTRs, keyers, character generators, routers, master control switchers, video servers or other equipment. The RTP72 has a Motorola Coldfire processor, a built-in two-port 10/100 Ethernet switch and 2 RS-422/RS-232 ports. The RTP72 has the advantage of being the approximate size of a cigarette box and has no fans, disks or other moving parts. It can be mounted near the equipment it is controlling and it requires no keyboard, mouse or monitor. It boots from its internal flash memory and new programs are downloaded to the flash from the Local Area Network. Configuration changes are made via a web browser.

The RTP72 runs under the Micro C/OS embedded realtime operating system. This operating system is designed to be used in dedicated devices like the RTP72. NOVUS Development adds additional applications to the RTP72 code to implement realtime device drivers for broadcast equipment. This allows the various NOVUS subsystems to share devices over the Local Area Network and overcome network

latency by storing device triggers as events to be executed by Micro C/OS in real time.

- The RTP72 is sufficiently inexpensive to allow the use of one device per broadcast device controlled, without undue impact on the overall system cost. Video servers are connected via RS-422 so that playout or recording is continued if the system is restarted. This type of connectivity also allows equipment to be shared by multiple playlists and other equipment.

- Plans that weren't completed include an automatic failover process that is made possible due to the unique design of the RTP72. The NOVUS System hardware configuration will include two distinct local area networks. Each PC connected to an RTP72 will be outfitted with two network interface cards and will connect to both networks. Each RTP72 will be connected to the local area networks by an on-board, 2-port network switch. In this way, if one of the LANs should fail, the other will take over automatically.

- Additionally, a redundant Schedule Manager PC can optionally monitor a Schedule Manager PC through a local area network connection. In the event of a main Schedule Manager PC failure, the mirrored Schedule Manager PC will automatically take over operation. This, coupled with the redundancy built into the file/database server, provides a reliable and economical failover solution.

RTP72 Advantages

NOVUS Satellite Record Manager

Aquarius - Record Management System - WXXI-TV
 File Edit Setup Control View Help
 09/20/2002 - 17:01:36

Start	Duration	Finish	Program	Episode	Xpndr	Rcvr	Dub Tape	Dub Src	Rcdr	Mat Id	Status
09/20/02 16:49:29	00:28:30	17:18:39	QUE PASA ROCHESTER? XXIX	2903				VTR3	SVR2-1	S-7101	Recording
09/20/02 17:00:00	00:29:00	17:29:40	RELIGION & ETHICS NEWSWEEKLY	603	502	NET7			SVR1-1	S-8045	Recording
09/20/02 17:00:00	00:29:00	17:29:40	GREAT LAKES GARDENER	120	512	NET8			SVR1-2	S-8053	Recording
09/20/02 17:00:00	00:29:00	17:29:40	GREAT LAKES GARDENER	120	512	NET8			VTR1		Recording
09/20/02 17:00:00	00:29:00	17:29:40	RELIGION & ETHICS NEWSWEEKLY	603	502	NET7			VTR2	S-8045	Recording
09/20/02 18:30:00	00:29:00	18:59:40	NIGHTLY BUSINESS REPORT XXII	22130	512	NET8			SVR1-2	S-7103	Ready
09/20/02 18:30:00	00:29:00	18:59:40	INSIDE WASHINGTON	1604	504	NET3			SVR1-1	S-8011	Ready
09/20/02 18:30:00	00:29:00	18:59:40	INSIDE WASHINGTON	1604	504	NET3			VTR2		Ready
09/20/02 19:28:00	00:01:00	19:29:40	NIGHTLY BUSINESS REPORT NEWS BRIEF	206	512	NET8			SVR1-1	S-8046	Ready
09/20/02 16:30:00	00:27:30	16:58:10	TO THE CONTRARY	1127				VTR2			Done
09/20/02 16:04:55	00:28:46	16:34:24	ZOOM	407	BT31434	VTR3	SVR2-1	S-1322			Done
09/20/02 16:00:00	00:29:00	16:29:41	JOURNAL	152			SVR1-1	S-7102			Done
09/20/02 15:00:00	00:29:00	15:29:42	MOTORWEEK	2203			VTR1				Done
09/20/02 15:00:00	00:29:00	15:29:41	MOTORWEEK	2203			SVR1-2	S-7128			Done
09/20/02 14:30:00	00:30:00	15:00:40	APTN/NEWS PM	20			VTR3				Recorder Stopped
09/20/02 14:30:00	00:26:46	14:57:26	UNCOMMON KNOWLEDGE	707			VTR1				Done
09/20/02 14:30:00	00:26:46	14:57:26	UNCOMMON KNOWLEDGE	707			SVR1-1	S-8044			Done
09/20/02 14:24:20	00:27:08	14:52:08	MARK KISTLER'S IMAGINATION STATION	442	P61031	VTR9	SVR2-1	S-4488			Dub Source Stopped
09/20/02 14:00:00	00:29:00	14:29:41	PBS PROMOS	4567			VTR2				Done

NOVUS Satellite Record Manager with Edit Window

Aquarius - Record Management System - WXXI-TV

File Edit Setup Control View Help

09/20/2002 - 17:01:36

Start	Duration	Finish	Program	Episode	Xpndr	Rcvr	Dub Tape	Dub Src	Rcdr	Mat Id	Status
09/20/02 16:49:29	00:28:30	17:18:39	QUE PASA ROCHESTER?XXIX	2903			VTR3	SVR2-1		S-7101	Recording
09/20/02 17:00:00	00:29:00	17:29:40	RELIGION & ETHICS NEWSWEEKLY	603	502	NET7			SVR1-1	S-8045	Recording
09/20/02 17:00:00	00:29:00									S-8053	Recording
09/20/02 17:00:00	00:29:00									S-8045	Recording
09/20/02 17:00:00	00:29:00									S-8045	Recording
09/20/02 18:30:00	00:29:00									S-7103	Ready
09/20/02 18:30:00	00:29:00									S-8011	Ready
09/20/02 18:30:00	00:29:00										Ready
09/20/02 19:28:00	00:01:00									S-8046	Ready

Edit Event

Type: Record Dub

Start Date: 09/20/02 Start Time: 17:02:58 Duration: 00:28:46 Media: S Recorder: SVR2-1 House Number: S-1322

Transponder: Dub Tape: BT31434 Cut: 1 Dub Source: VTR3 Archive Group: PTVLongSoft

Title: ZOOM Episode: 407 Stereo Caption SAP DVS

Description: NONE NOLA Code: ZZDM 000407

Play Date: 12/31/2100 Play Time: 23:59:59 VO Offset: 00:26:49 VO Duration: 00:00:24 Review Date: 03/06/2006 Purge Date: 03/07/2006 Purge Date Valid

Remark 1:
Remark 2:
Remark 3:

OK Close Help

Start	Duration	Finish	Program	Episode	Xpndr	Rcvr	Dub Tape	Dub Src	Rcdr	Mat Id	Status
09/20/02 16:30:00	00:27:30										
09/20/02 16:04:55	00:28:46										
09/20/02 16:00:00	00:29:00										
09/20/02 15:00:00	00:29:00										
09/20/02 15:00:00	00:29:00										
09/20/02 14:30:00	00:30:00	15:00:40	APTN7/NEWS PM	20			VTR3				Recorder Stopped
09/20/02 14:30:00	00:26:46	14:57:26	UNCOMMON KNOWLEDGE	707			VTR1				Done
09/20/02 14:30:00	00:26:46	14:57:26	UNCOMMON KNOWLEDGE	707			SVR1-1	S-8044			Done
09/20/02 14:24:20	00:27:08	14:52:08	MARK KISTLER'S IMAGINATION STATION	442	P61031	VTR9	SVR2-1	S-4488			Dub Source Stopped
09/20/02 14:00:00	00:29:00	14:29:41	PBS PROMOS	4567			VTR2				Done

NOVUS MediaPrep

MediaPrep (Novus Development)

File Edit View Control Setup Operation Help

Access Information: Material ID: S-8065, Media Type (Destination): Video Server

Operator Identification: Dub: [], Entry: JN, Mark: SK

Title: THE CIVIL WAR, Description: A VERY BLOOD AFFAIR - 1862, Episode: 102P, Archive Group: PTVLongHard

Source Material Id: [], Cut Number: 0, Play Date: 01/01/2001, Review Date: 12/30/2005, Kill Date: 12/31/2005

Agency: [], VOC Start: 00:00:00:00, VOC Duration: 00:00:00:00, Segments: 2, Clip Duration: 01:09:20:20

Observe Kill Date: Des. Video Service: Secondary Audio: Stereo: Time Type: Time Code, Control Track

Frame Treatment: []

MediaPrep (Novus Development)

File Edit View Control Setup Operation Help

Access Information: Material ID: S-8065, Media Type (Destination): Video Server

Operator Identification: Dub: [], Entry: JN, Mark: SK

Title: THE CIVIL WAR, Description: [], Episode: [], Archive Group: []

Source Material Id: [], Cut Number: [], Play Date: [], Review Date: [], Kill Date: []

Agency: [], VOC Start: [], VOC Duration: [], Segments: [], Clip Duration: []

Observe Kill Date: Des. Video Service: Secondary Audio: Stereo: Time Type: Time Code, Control Track

Frame Treatment: []

Dub Orders

Material ID	Program Title	Source Material	Episode	Cut Number	Play Date	Length
S-7843	CROSSROADS CAFE	BT30401	113	1	11/21/2002	00:26:43:00
S-7842	EARTH REVEALED: INTRODUCTO...	VC60232	126	2	11/18/2002	00:28:53:00
S-7841	EARTH REVEALED: INTRODUCTO...	VC60232	125	1	11/18/2002	00:28:53:00
S-7840	DISCOVERING PSYCHOLOGY - UP...		122	0	11/18/2002	00:26:46:00
S-7839	DISCOVERING PSYCHOLOGY - UP...		121	0	11/18/2002	00:26:46:00
S-7838	WORLD OF ART	BT60442	106	1	11/17/2002	00:25:51:00
S-7837	WORLD OF ART	BT60441	105	1	11/17/2002	00:25:51:00
S-7836	OUT OF THE PAST: AN INTRODUC...	VC60181	108	1	11/17/2002	00:57:59:00
S-7835	PORTRAIT OF A FAMILY	VC60191	124	2	11/17/2002	00:28:45:00
S-7834	PORTRAIT OF A FAMILY	VC60191	123	1	11/17/2002	00:28:45:00
S-7780	ON COMMON GROUND	BT31148	111	1	12/31/2100	00:28:44:00
S-7758	WORLD OF ABNORMAL PSYCHOL...	BT60041	112	1	11/16/2002	00:58:50:00
S-7757	GROWING OLD IN A NEW AGE	VC60148	112	1	11/16/2002	00:57:46:00
S-7754	AMERICAN CINEMA	VC60077	110	1	11/15/2002	00:56:42:00
S-7753	HISTORY IN FOCUS	BT60012	7	1	11/14/2002	00:29:41:00
S-7752	HISTORY IN FOCUS	BT60719	6	2	11/14/2002	00:29:11:00
S-7751	HISTORY IN FOCUS	BT60719	5	1	11/14/2002	00:28:18:00
S-7749	HISTORY IN FOCUS	BT60708	4	2	11/14/2002	00:28:48:00
S-7748	HISTORY IN FOCUS	BT60708	3	1	11/14/2002	00:28:25:00
S-7747	CONNECT WITH ENGLISH	BT60290	105	1	11/14/2002	00:26:46:00
S-7746	CROSSROADS CAFE	BT30400	112	1	11/14/2002	00:26:36:00
S-7745	NATURIMAGES	BT90231	132	8	11/13/2002	00:05:52:00
S-7744	NATURIMAGES	BT90231	131	7	11/13/2002	00:05:58:00
S-7743	NATURIMAGES	BT90231	130	6	11/13/2002	00:05:55:00
S-7742	NATURIMAGES	BT90231	129	5	11/13/2002	00:05:55:00

Select Delete Hide

Status: Stopped

Device: VTR1

Clip: S-8065

Speed: [Slider]

Buttons: Mark VOC In, Mark In, Mark Out, Mark VOC Out, Jog, To VOC In, To In, STOP, Play, To Out, To VOC Out

Monitor, Eject, Standby, Pause

Duration: 00:28:21:10, 00:40:59:10

For Help, press F1

NOVUS MediaPrep with Timing Order Screen

MediaPrep (Novus Development)
 File Edit View Control Setup Operation Help

Access Information: Material ID: S-8065, Media Type (Destination): Video Server
 Operator Identification: Dub: [], Entry: JN, Mark: SK

Title: THE CIVIL WAR, Description: A VERY BLOOD AFFAIR - 1862, Episode: 102P, Archive Group: PTVLongHard

Timing Orders

Material ID	Program Title	Play Date	Length	Record Source	Potential Problems
BRBB-3-70	SUNDAY BILLBOARD 22:00	12/31/2100	00:00:10:03		The record source is blank.
S-7102	JOURNAL	09/20/2002	00:29:00:00	SVR1-1	
S-7128	MOTORWEEK	09/21/2002	00:29:00:00	SVR1-2	
S-8044	UNCOMMON KNOWLEDGE	09/25/2002	00:26:46:00	SVR1-1	

Buttons: Select, Delete (Clip w/ Data), Delete (Data only), Hide

Seg #	Seg Title	Description	Start Time	End Time	Duration
1	THE CIVIL WAR	A VERY BLOOD AFFAIR - 1862	00:00:13:11	00:28:34:21	00:28:21:10
2	THE CIVIL WAR	A VERY BLOOD AFFAIR - 1862	00:29:09:09	01:10:08:19	00:40:59:10

Status: Stopped, Device: VTR1, Clip: S-8065
 Control Track: 00:00:00:00, Time Code: 06:59:08:04
 Buttons: Zero, Mark VOC In, Mark In, Mark Out, Mark VOC Out, To VOC In, To In, STOP, Play, To Out, To VOC Out

NOVUS Digital Librarian

Op	Needed	Priority	Clip	Title	Source	Dest	Size MB	Pct Done	Status
Restore	09/20/02 19:00:00	High - 4	S-5834	AMERICAN FAMILY		PROFILE2	4911	53%	Transferring Data
Archive	09/21/02 04:48:15	Make Room - 6	S-1322	ZOOM		PROFILE2	2359	100%	Transferring Data

Op	Clip	Title	Source	Dest	Finished	Size MB	Status	Error
Delete	S-8104	THE CIVIL WAR PL,EDGE BR	PROFILE2		09/20/02 16:54:38	629	Operation Done	
Archive	S-4488	MARK KISTLER'S IMAGINATI	PROFILE2		09/20/02 16:51:09	2232	Operation Done	
Restore	S-5834	AMERICAN FAMILY		PROFILE2	09/20/02 16:51:08	4911	Operation Failed	Archive Transfer Failed
Copy	S-1322	ZOOM	PROFILE1	PROFILE2	09/20/02 16:48:14	2359	Operation Done	
Delete	S-8104	THE CIVIL WAR PL,EDGE BR	PROFILE1		09/20/02 16:45:57	629	Operation Done	
Delete	S-7096	DRAGON TALES	PROFILE2		09/20/02 16:41:55	2448	Operation Done	
Remove	S-4488	MARK KISTLER'S IMAGINATI			09/20/02 16:41:49	2229	Operation Done	
Restore	S-5834	AMERICAN FAMILY		PROFILE2	09/20/02 16:41:24	4911	Operation Failed	Archive Transfer Failed
Copy	S-1322		PROFILE2	PROFILE1	09/20/02 16:38:56	2359	Operation Done	
Restore	S-5834	AMERICAN FAMILY		PROFILE2	09/20/02 16:35:10	4911	Operation Failed	Archive Transfer Failed
Delete	BR-KS-38	TREE CAT	PROFILE1		09/20/02 16:31:51	126	Operation Done	
Delete	BRB-305-1	ID BUMPER/ARTHUR	PROFILE1		09/20/02 16:30:18	34	Operation Done	
Delete	S-8038	CLIFFORD THE BIG RED DOG	PROFILE1		09/20/02 16:29:02	2453	Operation Done	
Restore	S-5834	AMERICAN FAMILY		PROFILE2	09/20/02 16:28:44	4911	Operation Failed	Archive Transfer Failed
Restore	S-5834	AMERICAN FAMILY		PROFILE2	09/20/02 16:24:01	4911	Operation Failed	Archive Transfer Failed
Archive	S-4488	MARK KISTLER'S IMAGINATI	PROFILE2		09/20/02 16:22:55	2232	Operation Done	
Restore	BR-B-398-87	NIXON PEABODY LLP		PROFILE1	09/20/02 16:16:06	27	Operation Done	
Restore	S-5834	AMERICAN FAMILY		PROFILE2	09/20/02 16:14:00	4911	Operation Done	
Archive	S-8104	THE CIVIL WAR PL,EDGE BR	PROFILE1		09/20/02 16:13:23	630	Operation Done	
Restore	BR-B-398-87	NIXON PEABODY LLP		PROFILE1	09/20/02 16:07:54	27	Operation Failed	Archive Transfer Failed
Restore	RRR-399-1	NEWS/SHOIR GENERIC OPEN/CI	PROFILE1		09/20/02 16:07:49	16	Operation Done	

NOVUS Digital Librarian with Server Capacity Window

Op	Needed	Priority	Clip	Title	Source	Dest	Size MB	Pct Done	Status
Restore	09/20/02 19:00:00	High - 4	S-5834	AMERICAN FAMILY		PROFILE2	4911	53%	Transferring Data
Archive	09/21/02 04:48:15	Make Room - 6	S-1322	ZOOM		PROFILE2	2359	100%	Transferring Data

Server	Total MB	Free MB	Committed MB	Pct Uncommitted
PROFILE1	127733	65544	0	51
PROFILE2	127733	35190	4911	23

Op	Clip	Title	Source	Dest	Finished	Size MB	Status	Error
Delete	S-8104	THE CIVIL WAR PLEDGE BR	PROFILE2		09/20/02 16:54:38	629	Operation Done	
Archive	S-4488	MARK KISTLER'S IMAGINATI	PROFILE2		09/20/02 16:51:09	2232	Operation Done	
Restore	S-5834	AMERICAN FAMILY		PROFILE2	09/20/02 16:51:08	4911	Operation Failed	Archive Transfer Failed
Copy	S-1322	ZOOM	PROFILE1	PROFILE2	09/20/02 16:48:14	2359	Operation Done	
Delete	S-8104	THE CIVIL WAR PLEDGE BR	PROFILE1		09/20/02 16:45:57	629	Operation Done	
Delete	S-7096	DRAGON TALES	PROFILE2		09/20/02 16:41:55	2448	Operation Done	
Remove	S-4488	MARK KISTLER'S IMAGINATI			09/20/02 16:41:49	2229	Operation Done	
Restore	S-5834	AMERICAN FAMILY		PROFILE2	09/20/02 16:41:24	4911	Operation Failed	Archive Transfer Failed
Copy	S-1322		PROFILE2	PROFILE1	09/20/02 16:38:56	2359	Operation Done	
Restore	S-5834	AMERICAN FAMILY		PROFILE2	09/20/02 16:35:10	4911	Operation Failed	Archive Transfer Failed
Delete	BR-KS-38	TREE CAT	PROFILE1		09/20/02 16:31:51	126	Operation Done	
Delete	BRB-305-1	ID BUMPER/ARTHUR	PROFILE1		09/20/02 16:30:18	34	Operation Done	
Delete	S-8038	CLIFFORD THE BIG RED DOG	PROFILE1		09/20/02 16:29:02	2453	Operation Done	
Restore	S-5834	AMERICAN FAMILY		PROFILE2	09/20/02 16:28:44	4911	Operation Failed	Archive Transfer Failed
Restore	S-5834	AMERICAN FAMILY		PROFILE2	09/20/02 16:24:01	4911	Operation Failed	Archive Transfer Failed
Archive	S-4488	MARK KISTLER'S IMAGINATI	PROFILE2		09/20/02 16:22:55	2232	Operation Done	
Restore	BR-B-398-87	NIXON PEABODY LLP		PROFILE1	09/20/02 16:16:06	27	Operation Done	
Restore	S-5834	AMERICAN FAMILY		PROFILE2	09/20/02 16:14:00	4911	Operation Done	
Archive	S-8104	THE CIVIL WAR PLEDGE BR	PROFILE1		09/20/02 16:13:23	630	Operation Done	
Restore	BR-B-398-87	NIXON PEABODY LLP		PROFILE1	09/20/02 16:07:54	27	Operation Failed	Archive Transfer Failed
Restore	RRR-399-1	NEWSHOUR GENERIC OPEN/C	PROFILE1		09/20/02 16:07:49	16	Operation Done	

NOVUS Schedule Manager

Novus Schedule Manager for: TV21 (Server)

File Edit View Control Report Setup Help

Auto 16:56:26 00:02:20

From: 09/20/2002 00:26:46
 To: 09/21/2002 23:59:52
 Count: Primary: 432 Total: 854

Schedul...	Mode	Duration	Video	A	Title	Descri...	Material ID	Seg	Status
16:53:02	J	00:05:44	NET2	F.	CYBERCHASE	COOL IT	501	1	OK
16:58:46	D	00:00:09	PDR1	F.	DAISY MARQUIS JONES FOUNDA...		BRB-398-10	0	OK
16:58:55	D	00:00:20	PDR1	F.	LITERACY FONDUE	RTL S...	BR-F3-48	0	OK
16:59:15	D	00:00:33	PDR1	F.	A-Z		BR-KS-11	0	OK
16:59:48	D	00:00:11	PDR1	F.	ID/GENERIC KIDS		BRB-305-33	0	OK
17:00:00	A	00:28:48	PDR1	F.	ZOOM	NONE	S-1322	1	OK
17:28:48	D	00:00:15	PDR1	F.	FLEA CIRCUS	RTL S...	BR-F3-44	0	OK
17:29:03	D	00:00:30	PDR1	F.	BEACH		BR-KS-59	0	OK
17:29:33	D	00:00:04	PDR1	F.	1/2 HOUR ID 1		BR-MID-1	0	OK
17:29:38	A	00:00:06	PDR1	F.	PRIMETIME GENERIC DAYPART		BRB-399-2	0	OK
17:29:44	D	00:00:15	PDR1	F.	RHBA-1		BR-B-398-20	0	OK
17:29:59	D	00:28:30	PDR1	F.	QUE PASA ROCHESTER? XXIX	HISPA...	S-7101	1	Clip <S-7101> not on archive, or on video s...

Scheduled	Mode	Duration	Video	A	Title	Descri...	Material ID	Seg	Status
16:58:46	D	00:00:09	PDR1	F.	DAISY MARQUIS JONES FOUNDA...		BRB-398-10	0	OK
16:58:55	D	00:00:20	PDR1	F.	LITERACY FONDUE	RTL S...	BR-F3-48	0	OK
16:59:15	D	00:00:33	PDR1	F.	A-Z		BR-KS-11	0	OK
16:59:48	D	00:00:11	PDR1	F.	ID/GENERIC KIDS		BRB-305-33	0	OK
17:00:00	A	00:28:48	PDR1	F.	ZOOM	DO NOT USE DVI NONE	S-1322	1	OK
17:28:48	D	00:00:15	PDR1	F.	FLEA CIRCUS	RTL S...	BR-F3-44	0	OK
17:29:03	D	00:00:30	PDR1	F.	BEACH		BR-KS-59	0	OK
17:29:33	D	00:00:04	PDR1	F.	1/2 HOUR ID 1		BR-MID-1	0	OK
17:29:38	A	00:00:06	PDR1	F.	PRIMETIME GENERIC DAYPART		BRB-399-2	0	OK
17:29:44	D	00:00:15	PDR1	F.	RHBA-1		BR-B-398-20	0	OK
17:29:59	D	00:28:30	PDR1	F.	QUE PASA ROCHESTER? XXIX	HISPA...	S-7101	1	
17:58:29	D	00:00:06	PDR1	F.	PRIMETIME GENERIC DAYPART		BRB-399-2	0	Clip <S-7101> not on archive, or on video server <SVR1.4>. Unable to locate meta-data for:S-7101 on video server or in database.

MANUAL AUTO PRESET ROLL HOLD

For Help, press F1

NOVUS Schedule Manager with Look Ahead Window Scrolled into the Future

Novus Schedule Manager for: TV21 (Server)

File Edit View Control Report Setup Help

Auto 16:55:20 00:03:26 From: 09/20/2002 00:26:46
 To: 09/21/2002 23:59:52
 Count: Primary: 432 Total: 854

Schedul...	Mode	Duration	Video	A	Title	Descri...	Material ID	Seg	Status
16:53:02	J	00:05:44	NET2	F.	CYBERCHASE	COOL IT	501	1	OK
16:58:46	D	00:00:09	PDR1	F.	DAISY MARQUIS JONES FOUNDA...		BRB-398-10	0	OK
16:58:55	D	00:00:20	PDR1	F.	LITERACY FONDUE	RTL S...	BR-F3-48	0	OK
16:59:15	D	00:00:33	PDR1	F.	A-Z		BR-KS-11	0	OK
16:59:48	D	00:00:11	PDR1	F.	ID/GENERIC KIDS		BRB-305-33	0	OK
17:00:00	A	00:28:48	PDR1	F.	ZOOM	NONE	S-1322	1	OK
17:28:48	D	00:00:15	PDR1	F.	FLEA CIRCUS	RTL S...	BR-F3-44	0	OK
17:29:03	D	00:00:30	PDR1	F.	BEACH		BR-KS-59	0	OK
17:29:33	D	00:00:04	PDR1	F.	1/2 HOUR ID 1		BR-MID-1	0	OK
17:29:38	A	00:00:06	PDR1	F.	PRIMETIME GENERIC DAYPART		BRB-399-2	0	OK
17:29:44	D	00:00:15	PDR1	F.	RHBA-1		BR-B-398-20	0	OK
17:29:59	D	00:28:30	PDR1	F.	QUE PASA ROCHESTER? XXIX	HISPA...	S-7101	1	Clip <S-7101> not on archive, or on video s...

Scheduled	Mode	Duration	Video	A	Title	Descri...	Material ID	Seg	Status
17:29:59	D	00:28:30	PDR1	F.	QUE PASA ROCHESTER? XXIX	HISPA...	S-7101	1	Clip <S-7101> not on archive, or on video s...
17:58:29	D	00:00:06	PDR1	F.	PRIMETIME GENERIC DAYPART		BRB-399-2	0	OK
17:58:35	D	00:00:15	PDR1	F.	RHBA-2		BR-B-398-21	0	OK
17:58:50	D	00:00:10	PDR1	F.	FRIDAY BILLBOARD 18:00		BRBB-3-42	0	OK
17:59:00	D	00:00:20	PDR1	F.	WALL \$TREET WEEK WITH FORT...		BR-C-40	0	Clip <BR-C-40> not on archive, or on video ...
17:59:20	D	00:00:30	PDR1	F.	LIFE 360 #113 (FRIDAY @ 11P)	TEN	BR-C-23	0	OK
17:59:50	D	00:00:09	PDR1	F.	BUMPER/LEGAL ID		BR-LID-32	0	OK
18:00:00	A	00:26:28	SAT1	F.	BBC WORLD NEWS	NONE	513	1	
18:26:28	D	00:00:10	PDR1	F.	FRIDAY BILLBOARD 18:30		BRBB-3-43	0	Video source <SAT1> does not match known sources.
18:26:38	D	00:00:20	PDR1	F.	WALL \$TREET WEEK WITH FORT...		BR-C-40	0	Clip <BR-C-40> not on archive, or on video ...
18:26:58	D	00:01:20	PDR1	F.	PICTURING WHAT MATTERS - MA...		BR-PWM-2	0	OK
18:28:18	D	00:00:30	PDR1	F.	LIFE 360 #113 (FRIDAY @ 11P)	TEN	BR-C-23	0	OK
18:28:48	D	00:00:30	PDR1	F.	THE CIVIL WAR		BR-KB-5	0	OK

MANUAL AUTO PRESET ROLL HOLD

For Help, press F1

NOVUS Schedule Manager with Clip Browse Window

Novus Schedule Manager for: TV21 (Server)

File Edit View Control Report Setup Help

Auto 16:55:20 00:03:26 From: 09/20/2002 00:26:46 To: 09/21/2002 23:59:52 Count: Primary: 432 Total: 854

Schedul...	Mode	Duration	Video	A	Title	Descri...	Material ID	Seg	Status
16:53:02	J	00:05:44	NET2	F.	CYBERCHASE	COOL IT	501	1	OK
16:58:46	D	00:00:09	PDR1	F.	DAISY MARQUIS JONES FOUNDA...		BRB-398-10	0	OK
16:58:55	D	00:00:20	PDR1	F.	LITERACY FONDUE	RTL S...	BR-F3-48	0	OK

Browse For Clip Selection

Match Clip Length: 00:00:20:00

Clip Length Range: 00:00:00:00 Min 00:03:35:00 Max

Material Type: ANY Title (substring): THE CIVIL WAR Material Id: NOLA Code:

Found 36 / 6663 matches

Material ID	Media	Seg	Program Title	Length	Description	NOLA Code
S-9065	Video Server	1	THE CIVIL WAR	00:28:21:10	A VERY BLOOD AFFAIR - 1862	CIVW_000102P1
S-9065	Video Server	2	THE CIVIL WAR	00:40:59:10	A VERY BLOOD AFFAIR - 1862	CIVW_000102P1

Novus Schedule Manager for: TV21 (Server)

File Edit View Control Report Setup Help

Auto 16:55:20 00:03:26 From: 09/20/2002 00:26:46 To: 09/21/2002 23:59:52 Count: Primary: 432 Total: 854

Schedul...	Mode	Duration	Video	A	Title	Descri...	Material ID	Seg	Status
16:53:02	J	00:05:44	NET2	F.	CYBERCHASE	COOL IT	501	1	OK
16:58:46	D	00:00:09	PDR1	F.	DAISY MARQUIS JONES FOUNDA...		BRB-398-10	0	OK
16:58:55	D	00:00:20	PDR1	F.	LITERACY FONDUE	RTL S...	BR-F3-48	0	OK
16:59:15	D	00:00:33	PDR1	F.	A-Z				
16:59:48	D	00:00:11	PDR1	F.	ID/GENERIC KIDS				
17:00:00	A	00:28:48	PDR1	F.	ZOOM				
17:28:48	D	00:00:15	PDR1	F.	FLEA CIRCUS				
17:29:03	D	00:00:30	PDR1	F.	BEACH				
17:29:33	D	00:00:04	PDR1	F.	1/2 HOUR ID 1				
17:29:38	A	00:00:06	PDR1	F.	PRIMETIME GENERIC DAYPART				
17:29:44	D	00:00:15	PDR1	F.	RHBA-1				
17:29:59	D	00:28:30	PDR1	F.	QUE PASA ROCHESTER? XXIX				

Event Dialog

House Number: S-9009 NOLA code: BELN 000122 Agency Code: Video Source: PDR1 Audio Source: F

Title: BETWEEN THE LIONS Description: RED HAT, GREEN HAT Segment: 1

Mode: Scheduled Date/Time: 09/20/2002 13:00:00 Scheduled Duration: 00:28:46:04 Start of Clip: 00:00:00:00

Transition Type: Cut Speed: Unspecified Pattern: 0 Program Type: Program Announcement Type: Program

Discrepancy: Discrepancy Code: Ran Code: Ran

Actual Run-time: 09/20/2002 13:00:00:080 Actual Duration: 00:28:46:04

Log ID: 153 Log Date/Time: 09/20/2002 13:00:00 Log Duration: 00:28:46:04

OK Cancel Details..

Scheduled	Mode	Duration	Video	A	Title	
17:29:59	D	00:28:30	PDR1	F.	QUE PASA ROCHESTER? XXIX	
17:58:29	D	00:00:06	PDR1	F.	PRIMETIME GENERIC DAYPART	
17:58:35	D	00:00:15	PDR1	F.	RHBA-2	
17:58:50	D	00:00:10	PDR1	F.	FRIDAY BILLBOARD 18:00	
17:59:00	D	00:00:20	PDR1	F.	WALL \$TREET WEEK WITH FOR	
17:59:20	D	00:00:30	PDR1	F.	LIFE 360 #113 (FRIDAY @ 11P)	
17:59:50	D	00:00:09	PDR1	F.	BUMPER/LEGAL ID	
18:00:00	A	00:26:28	SAT1	F.	BBC WORLD NEWS	
18:26:28	D	00:00:10	PDR1	F.	FRIDAY BILLBOARD 18:30	
18:26:38	D	00:00:20	PDR1	F.	WALL \$TREET WEEK WITH FOR	
18:26:58	D	00:01:20	PDR1	F.	PICTURING WHAT MATTERS - MA...	BR-PWM-2 0 OK
18:28:18	D	00:00:30	PDR1	F.	LIFE 360 #113 (FRIDAY @ 11P)	TEN BR-C-23 0 OK
18:28:48	D	00:00:30	PDR1	F.	THE CIVIL WAR	BR-KB-5 0 OK

MANUAL AUTO PRESET ROLL HOLD

For Help, press F1

