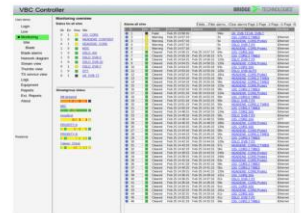


Bridge Technologies VBC

VBC CONTROLLER SERVER



The VideoBRIDGE Controller (VBC) offers central management and status displaying of all monitored services, providing a window into the performance of the television distribution operation. The VBC gives unprecedented insight into network health and the flow of all types of media streams throughout the network. Key elements in the VBC include: configuration management, stream performance comparison at multiple points, worst-performer identification, drill-down analysis, stream and service status monitoring, graphical alarm historical data-display with the Microtimeline™ technology, Visio™ map import with active alarm indication, trend graphing over up to two years, SNMP multi-destination trap forwarding, alarm logging and SLA report generation. VBC has a built in MAPs view, allowing to geotag probe locations and display alarms in a map view.

Timeline view on ARCHIVE Servers, enables storage of monitoring data for long periods of time allowing operators to compare various values between them; for example EPG, jitter, media loss rate, thumbnails, audio levels, VMAF and MOS scores.

RDW (Remote Data Wall) is a display technology controlled by the VBC, allowing you to create a visual representation of network activity, enabling potential problems to be rapidly identified and appropriate corrective action taken.

OVERVIEW

The VBC provides multiple views to make it simple to obtain system status overview, and it makes previously unintelligible data meaningful. Error patterns are easily discovered, meaning that an error may be quickly pin-pointed and corrected.

As the VBC can be used for both high level monitoring and detailed signal inspection, it provides a common monitoring GUI for both non-technical staff and system engineers; this facilitates communication within the organisation. Multiple browser-based clients can connect to the server through HTTP. Full access control with individual user preferences and setup is available.

Only users with administrator rights are allowed to define new equipment sites consisting of one or more VideoBRIDGE devices. Individual users are allowed to control already registered devices and to view gathered statistical data on a per site basis. Multiple site data views, combined with strict user access control, all add up to provide flexibility and uncompromising security.

The integrated Reports function, enable automatic or custom generation of enterprise level reports that visualise system performance trends in addition to presenting vital parameters, such as service availability for both management and engineering use. The Reports give full SLA and proof-of-delivery functionality to the VBC system.

With the TS service view option the VBC can present individual services inside transport streams from all probes for monitoring and comparison. The Service thumbs view displays thumbnail pictures for individual services, including services within an MPTS stream, provided that one or more VB288 Content Extractors are present in the configuration.

VBC Controller

BRIDGE TECHNOLOGIES

LOGIN

LIVE

MONITORING

BLADE ALARMS

GRAPHICS VIEW

STREAM VIEW

THUMBS VIEW

SERVICE VIEW

THUMBS

SELECTED

MAP

PDF

PDW

EQUIPMENT

ALARM SETUP

TIMELINE

REPORTS

EXT. REPORTS

MAIN

Lat/lon	Now	I.F.	Service	#	Lat/lon	Now	I.F.	Service	#	Lat/lon	Now	I.F.	Service	#	Lat/lon	Now	I.F.	Service	#
1		SAT	Euronews	1	38		SAT	C-Move Sport 1 HD	1	75		SAT	Euronews	1	112		SAT	Kanal 3 HD Austria	1
2		SAT	ADN News Channel	1	39		PTV	C-Move Sport 1 HD	1	76		COFDM	Euronews	1	113		COFDM	Kanal 3 HD	1
3		SAT	ADN TV HD	1	40		SAT	C-Move Sport 2	1	77		SAT	Euronews 1 HD (H)	1	114		SAT	Euronews 1 HD	1
4		SAT	ADN Zeeuws	1	41		SAT	C-Move Sport 1 HD	1	78		SAT	Euronews 2 HD (H)	1	115		SAT	Euronews 2 HD	1
5		SAT	ADN TV	1	42		SAT	C-Move Sport 1 HD	1	79		SAT	Euronews 2 HD (S)	1	116		SAT	Euronews 2 HD	1
6		E-PTV	Al Jazeera	1	43		E-PTV	Cartoon Network	1	80		SAT	Euronews HD	1	117		COFDM	Metacast	1
7		E-PTV	Al Jazeera Channel	1	44		SAT	CANAL HD (S)	1	81		SAT	Euronews HD (S)	1	118		COFDM	MAX	2
8		E-PTV	AL Jazeera HD	1	45		PTV	Cartoon Network	2	82		QAM	Euronews HD	1	119		E-PTV	MAX HD	1
9		E-PTV	AL Jazeera HD	1	46		SAT	CANAL	1	83		COFDM	FSM	1	120		SAT	MAX HD	1
10		SAT	ADN TV	1	47		E-PTV	CANAL Europe	1	84		SAT	FSM HD	1	121		QAM	MAX HD	1
11		E-PTV	ADN 3	1	48		PTV	CANAL Europe	2	85		SAT	FSM	1	122		SAT	MAX HD	1
12		COFDM	Animal Planet	2	49		PTV	CANAL International	3	86		PTV	FSM	2	123		E-PTV	MAX HD (H)	1
13		SAT	Animal Planet HD	1	50		COFDM	Cinecity Central	1	87		SAT	FSM and Hutton	1	124		E-PTV	MAX HD (S)	1
14		E-PTV	Animal TV	1	51		E-PTV	Cinecity International	1	88		PTV	FSM and Hutton	2	125		COFDM	National Geographic	1
15		QAM	BBC Sport	1	52		SAT	Cinecity	1	89		COFDM	FSM	1	126		SAT	National	1
16		QAM	BBC Earth	1	53		SAT	Deutsche Welle (Europe)	1	90		SAT	FSM (S)	1	127		SAT	National	1
17		E-PTV	BBC Earth HD	1	54		COFDM	Discovery	1	91		COFDM	FSM	1	128		SAT	National	1
18		COFDM	BBC World News	1	55		E-PTV	Discovery Science	1	92		SAT	GALAXY	1	129		SAT	National	1
19		SAT	Boomerang	1	56		SAT	Discovery Science	1	93		PTV	GALAXY	2	130		SAT	National	1
20		E-PTV	Boomerang Europe TV	1	57		PTV	Discovery Science	1	94		E-PTV	HISTORY HD	1	131		SAT	National	1
21		PTV	Boomerang Europe TV	3	58		E-PTV	Discovery World	1	95		SAT	Home & Garden TV	1	132		SAT	National	1
22		SAT	Buehler	1	59		SAT	Discovery World	1	96		SAT	Home TV	1	133		SAT	National	1
23		PTV	Boomerang	1	60		COFDM	Discovery Channel	2	97		SAT	IQ Investigation Discovery (H)	1	134		COFDM	National	1
24		COFDM	C-Move HD	2	61		SAT	Discovery Channel (H)	1	98		SAT	JM	1	135		SAT	National	1
25		SAT	C-Move HD	1	62		SAT	Discovery Junior	1	99		SAT	Kanal 1 HD	1	136		COFDM	National	2
26		SAT	C-Move HD	1	63		SAT	Discovery Junior	1	100		SAT	Kanal 1 HD - Test	1	137		SAT	National	2
27		SAT	C-Move HD	1	64		SAT	JM	1	101		SAT	Kanal 1 HD - Test	1	138		COFDM	National	2
28		SAT	C-Move HD	1	65		SAT	DOQ	1	102		SAT	Kanal 2 HD	1	139		SAT	National	2
29		SAT	C-Move HD	1	66		PTV	DOQ	2	103		SAT	Kanal 3 HD	1	140		COFDM	National	1
30		SAT	C-Move HD	2	67		SAT	DOQ	1	104		SAT	Kanal 3 HD - Test	1	141		SAT	National	2
31		SAT	C-Move HD	1	68		SAT	DOQ	1	105		SAT	Kanal 3 HD - Test	1	142		COFDM	National	2
32		SAT	C-Move HD	1	69		SAT	DOQ	1	106		SAT	Kanal 3 HD - Test	1	143		SAT	National	2
33		SAT	C-Move HD	1	70		QAM	DOQ	1	107		SAT	Kanal 3 HD - Test	1	144		SAT	National	2
34		SAT	C-Move HD	1	71		SAT	DOQ	1	108		SAT	Kanal 3 HD - Test	1	145		SAT	National	2
35		SAT	C-Move HD	1	72		SAT	DOQ	1	109		SAT	Kanal 3 HD - Test	1	146		SAT	National	2
36		COFDM	C-Move HD	2	73		SAT	DOQ	1	110		SAT	Kanal 3 HD - Test	1	147		SAT	National	2
37		SAT	C-Move HD	1	74		COFDM	DOQ	1	111		SAT	Kanal 3 HD - Test	1	148		SAT	National	2

Service group

1-188

189-200

201-210

211-220

221-230

231-240

241-250

251-260

261-270

271-280

281-290

291-300

301-310

311-320

321-330

331-340

341-350

351-360

361-370

371-380

381-390

391-400

401-410

411-420

421-430

431-440

441-450

451-460

461-470

471-480

481-490

491-500

501-510

511-520

521-530

531-540

541-550

551-560

561-570

571-580

581-590

591-600

601-610

611-620

621-630

631-640

641-650

651-660

661-670

671-680

681-690

691-700

701-710

711-720

721-730

731-740

741-750

751-760

761-770

771-780

781-790

791-800

801-810

811-820

821-830

831-840

841-850

851-860

861-870

871-880

881-890

891-900

901-910

911-920

921-930

931-940

941-950

951-960

961-970

971-980

981-990

991-1000

1001-1010

1011-1020

1021-1030

1031-1040

1041-1050

1051-1060

1061-1070

1071-1080

1081-1090

1091-1100

1101-1110

1111-1120

1121-1130

1131-1140

1141-1150

1151-1160

1161-1170

1171-1180

1181-1190

1191-1200

1201-1210

1211-1220

1221-1230

1231-1240

1241-1250

1251-1260

1261-1270

1271-1280

1281-1290

1291-1300

1301-1310

1311-1320

1321-1330

1331-1340

1341-1350

1351-1360

1361-1370

1371-1380

1381-1390

1391-1400

1401-1410

1411-1420

1421-1430

1431-1440

1441-1450

1451-1460

1461-1470

1471-1480

1481-1490

1491-1500

1501-1510

1511-1520

1521-1530

1531-1540

1541-1550

1551-1560

1561-1570

1571-1580

1581-1590

1591-1600

1601-1610

1611-1620

1621-1630

1631-1640

1641-1650

1651-1660

1661-1670

1671-1680

1681-1690

1691-1700

1701-1710

1711-1720

1721-1730

1731-1740

1741-1750

1751-1760

1761-1770

1771-1780

1781-1790

1791-1800

1801-1810

1811-1820

1821-1830

1831-1840

1841-1850

1851-1860

1861-1870

1871-1880

1881-1890

1891-1900

1901-1910

1911-1920

1921-1930

1931-1940

1941-1950

1951-1960

1961-1970

1971-1980

1981-1990

1991-2000

2001-2010

2011-2020

2021-2030

2031-2040

2041-2050

2051-2060

2061-2070

2071-2080

2081-2090

2091-2100

2101-2110

2111-2120

2121-2130

2131-2140

2141-2150

2151-2160

2161-2170

2171-2180

2181-2190

2191-2200

2201-2210

2211-2220

2221-2230

2231-2240

2241-2250

2251-2260

2261-2270

2271-2280

2281-2290

2291-2300

2301-2310

2311-2320

2321-2330

2331-2340

2341-2350

2351-2360

2361-2370

2371-2380

2381-2390

2391-2400

2401-2410

2411-2420

2421-2430

2431-2440

2441-2450

2451-2460

2461-2470

2471-2480

2481-2490

2491-2500

2501-2510

2511-2520

2521-2530

2531-2540

2541-2550

2551-2560

2561-2570

2571-2580

2581-2590

2591-2600

2601-2610

2611-2620

2621-2630

2631-2640

2641-2650

2651-2660

2661-2670

2671-2680

2681-2690

2691-2700

2701-2710

2711-2720

2721-2730

2731-2740

2741-2750

2751-2760

2761-2770

2771-2780

2781-2790

2791-2800

2801-2810

2811-2820

2821-2830

2831-2840

2841-2850

2851-2860

2861-2870

2871-2880

2881-2890

2891-2900

2901-2910

2911-2920

2921-2930

2931-2940

2941-2950

2951-2960

2961-2970

2971-2980

2981-2990

2991-3000

3001-3010

3011-3020

3021-3030

3031-3040

3041-3050

3051-3060

3061-3070

3071-3080

3081-3090

3091-3100

3101-3110

3111-3120

3121-3130

3131-3140

3141-3150

3151-3160

3161-3170

3171-3180

3181-3190

3191-3200

3201-3210

3211-3220

3221-3230

3231-3240

3241-3250

3251-3260

3261-3270

3271-3280

3281-3290

3291-3300

3301-3310

3311-3320

3321-3330

3331-3340

3341-3350

3351-3360

3361-3370

3371-3380

3381-3390

3391-3400

3401-3410

3411-3420

3421-3430

3431-3440

3441-3450

3451-3460

3461-3470

3471-3480

3481-3490

3491-3500

3501-3510

3511-3520

3521-3530

3531-3540

3541-3550

3551-3560

3561-3570

3571-3580

3581-3590

3591-3600

3601-3610

3611-3620

3621-3630

3631-3640

3641-3650

3651-3660

3661-3670

3671-3680

3681-3690

3691-3700

3701-3710

3711-3720

3721-3730

3731-3740

3741-3750

3751-3760

3761-3770

3771-3780

3781-3790

3791-3800

3801-3810

3811-3820

3821-3830

3831-3840

3841-3850

3851-3860

3861-3870

3871-3880

3881-3890

3891-3900

3901-3910

3911-3920

3921-3930

3931-3940

3941-3950

3951-3960

3961-3970

3971-3980

3981-3990

3991-4000

4001-4010

4011-4020

4021-4030

4031-4040

4041-4050

4051-4060

4061-4070

4071-4080

4081-4090

4091-4100

4101-4110

4111-4120

4121-4130

4131-4140

4141-4150

4151-4160

4161-4170

4171-4180

4181-4190

4191-4200

4201-4210

4211-4220

4221-4230

4231-4240

4241-4250

4251-4260

4261-4270

4271-4280

4281-4290

4291-4300

4301-4310

4311-4320

4321-4330

4331-4340

4341-4350

4351-4360

4361-4370

4371-4380

4381-4390

4391-4400

4401-4410

4411-4420

4421-4430

4431-4440

4441-4450

4451-4460

4461-4470

4471-4480

4481-4490

4491-4500

4501-4510

4511-4520

4521-4530

4531-4540

4541-4550

4551-4560

4561-4570

4571-4580

4581-4590

4591-4600

4601-4610

4611-4620

4621-4630

4631-4640

4641-4650

4651-4660

4661-4670

4671-4680

4681-4690

4691-4700

4701-4710

4711-4720

4721-4730

4731-4740

4741-4750

4751-4760

4761-4770

4771-4780

4781-4790

4791-4800

4801-4810

4811-4820

4821-4830

4831-4840

4841-4850

4851-4860

4861-4870

4871-4880

4881-4890

4891-4900

4901-4910

4911-4920

4921-4930

4931-4940

4941-4950

4951-4960

4961-4970

4971-4980

4981-4990

4991-5000

The VBC alarm view provides information about current and historical alarms, and alarm logs are stored in XML format on the VBC server.

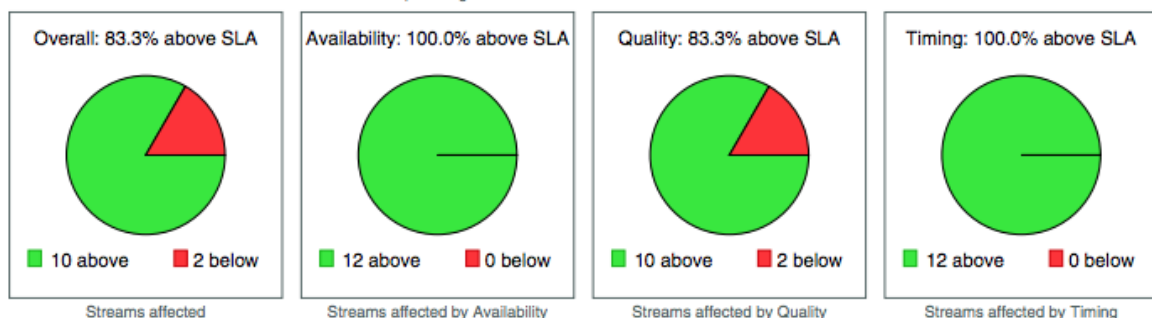
The VBC server may be accessed by several users simultaneously. An administrator manages users and their access rights, and a user can only view information concerning sites that he has access rights to. A user with read-only access can only view alarms whereas a user with read/write access can alter equipment settings at the sites he has access to.

Often probes in a system should be configured identically or similarly, and the VBC's configuration control tools make it easy for an administrator to copy the configuration of a probe to other probes. Considering the number of parameters that constitute a probe configuration this is an important feature that makes life a lot easier for the system administrator. Remote software upgrades may also be performed through the VBC GUI. Through the VBC the user may access the regular graphical user interface of each component in the system, thus allowing detailed configuration control and status read-out.

The VBC Reports enable generation of reports showing statistics of the key parameters availability, quality and jitter. Trend graphs display how these key quality parameters develop over time, and by setting parameter limits it is easy to see whether or not the system performance is in accordance with an SLA.

Streams above and below SLA thresholds

The error-seconds are summed for each stream and compared against SLA



The extended reports function enables full overview of all ETSI TR 101 290 parameters over long periods of time gathered and presented on a PDF document.

The Graphics Option allows Visio™ formatted maps to be imported into VBC with active data objects defined. This allows visual alarm status to be mapped onto the drawings. The drawings could typically be geographically maps, system diagrams or rack drawings.

The VBC supports an easy to use interface to the Return Data Path (RDP) functionality of individual probes. This is useful for visualising and changing the RDP settings of all the probes in a consistent manner.

There is also a synchronization mode where the VBC operator can select that only one RDP should be active at a time. This is useful when comparing the signal at various points in the network and avoids sending multiple signals to a single destination.

The screenshot displays the VBC Controller interface. On the left is a vertical navigation menu with options: LOGIN, LIVE, MONITORING, BLADE ALARMS, GRAPHICS VIEW, STREAM VIEW, THUMBS VIEW, SERVICE VIEW, MAP, RDP, RDW, EQUIPMENT, ALARM SETUP, TIMELINE, REPORTS, EXT. REPORTS, and MAIN. The main area shows a grid of video streams. Each stream has a thumbnail image, a title, and a status indicator (e.g., LOS, SCR, or a green bar). The streams are organized into columns and rows. At the bottom, there is a 'Stream-group' dropdown set to '[All streams]', a 'Sort' dropdown set to 'Name', and a 'Filter' input field. Below these, a list of stream IDs is visible: 1-84, 85-188, 189-252, 253-336, 337-400.

To support 3rd party equipment the VBC will send alarms as SNMP traps and it allows an administrator to configure a maximum of four SNMP trap destinations. Traps may be aggregated in order to reduce the number of traps being sent. The VBC further offers a machine readable XML-based interface called Eii (External Integration Interface). This can be used to extract data directly for further manipulation by 3rd party applications.

SPECIFICATIONS

BASIC VIDEOBRIDGE CONTROLLER FEATURES
HTTP/web based client access
Configurable access control / support for different user roles
Password protected login for clients
Framework for organising probes into sites
Group TV channels into stream groups for easy problem identification
Highly scalable system allowing 200 monitoring probes through licensing
Easy integration and data export for 3rd party NMS systems through XML and SNMP traps
Central element management of all monitoring probes in the network through http <ul style="list-style-type: none"> • Configuration file copy/paste functionality between probes • Perform centralized software upgrades • Copy/Paste parts of configuration files between probes from central equipment view
Central alarm aggregation of all monitoring probes in the network <ul style="list-style-type: none"> • Alarm aggregation (per-site, per-channel) • Trend graphs over multiple days of RF parameters (MER, Channel Power) • Graphical timeline view for several days for comparison between sites • Graphical Transport Stream aggregated alarm view for several days • Alarm logging with readout as HTML or XML • Thumbnail and meta data view • Alarm Scheduling to filter alarms during specific times during week
Alarm filtering <ul style="list-style-type: none"> • Define turn-on time and turn-off time to limit alarm floods • Define window of time over which alarms are disabled
General system health status panel
MICROTIMELINE™ view of last 96 hours of operation for individual streams and configurable stream groups
MICROTIMELINE™ stream view allowing easy identification of worst-performers
Thumbnail and meta data view with the addition of the VB288 CONTENT EXTRACTOR module
Hierarchical equipment view with bulk edit functionality
Framework for centrally controlling the Return Data Path video relay functionality in probes
Supports adding PocketProbe apps as devices for active and continuous OTT monitoring
Linux based server OS for stability
REPORTS FEATURES
Comparison of measurements with SLA agreements
Automatic SLA trend reporting in PDF format for IP multicasts monitored
Automatic SLA trend reporting in PDF format summarizing TR 101 290 analysis results for all transport streams monitored
Report time period selectable from 1 day to 2 years
Selection of sites and streams to be included in report
Upload your own logos to personalize report
Automatically set up regular email distribution of reports at predefined points in time
TRANSPORT STREAM SERVICE VIEW OPTION
View alarm state of all services inside transport streams based information in PSI/SI
4-day microTimeline™ alarm view of all services monitored

GRAPHICS OPTION
Active system maps with alarm highlighting based on VISIO™ import
Alarm indication for individual graphic icons
Logical system diagram showing signal flow
TV channel signal flow diagram with issue highlighting

SOFTWARE OPTIONS

GRAPHICS-OPTION

The graphics option is used with the VBC to visualise a monitoring system based on Bridge Technologies equipment. Objects contained within a user-created SVG drawing are linked to site, device or stream status, enabling the user to freely design a graphical view perfectly suited to his own system and presentation preferences. The SVG drawing may be very simple or extremely detailed; the operation of connecting elements to a specific system status is anyway as easy as right-clicking an element and assigning object properties to it. When the drawing has been imported, the VBC graphics engine will display it in the VBC networks view and colour an object according to the status requested. Green indicates status OK, whereas other colours show conditions ranging from warning to major alarm.

TRANSPORT STREAM SERVICE VIEW-OPTION (VBC SERVER)

The Transport Stream Service View option for the VBC utilizes the ETR290 engines inside the probes to report individual services automatically to the VBC based on the information signaled in the SDT tables. This allows viewing of services within a MPTS (Multiple Program Transport Streams) and the services can more easily be displayed and understood. The TSSV-Option also allows the utilization of the VB288 Objective QoE Content Extractor to display Thumbnails from individual services within an MPTS. The TSSV-Option further allows server-based ETR290 comparisons between probes installed at different geographical locations.