BVMS 10.1.1 - Release notes

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1 Document history

> This document is valid for all BVMS versions. Only the release notes of the latest BVMS version are fully updated and contain updates for earlier versions as well.

Date	Version	Changes
2021-02-10	BVMS 10.1.1	Initial release notes

2 BVMS Version 10.1.1

> This document is distributed within the installation package, but is updated from time to time. The latest version of the Release Notes is always available on the Bosch Security Systems Product Catalog. Version 10.1.1 introduces resolved issues compared to BVMS 10.1. BVMS 10.1 is not available for download any longer. This release does not introduce any new functionality.

2.1 Installation Notes

For system design specifications the BVMS architects and engineering specifications, system design guide and quick installation guide should be used. The BVMS upgrade guide helps you to upgrade an existing installation, and the BVMS security guide helps you to increase the security of your installation. The datasheet is subject to change. Translated versions are not published instantly; the English version is always up-to-date.

2.2 Versions

The table below lists the firmware versions which are used in the BVMS system test. When available, the version contains a clickable download link.

> **Device Compatibility**
>
> Up until some years ago, new released cameras, encoders, domes and decoders that were introduced into market after a BVMS release could not be connected to an existing BVMS version because these cameras were not known to the BVMS. In the BVMS 4.5.1, a new concept was introduced. This concept treats Bosch video encoders and decoders as generic devices, and automatically recognizes specific device functionality (for example the number of streams, relays and inputs). Based on this information the, at that time, unknown device is added to the system and can be used by the operator. This document, which can be found in the Bosch Building Technologies community, provides a detailed description of this functionality: BVMS - Device compatibility.

Component	Version
Camera firmware	
Firmware MPEG-4	4.15.0002
Firmware CPP3	5.75.0011
Firmware CPP4	7.10.0076
Firmware CPP5	6.31.0010
Firmware CPP6	7.61.0023
Firmware CPP7	7.61.0023
Firmware CPP7.3	7.61.0023

Firmware CPP13	7.70.0052
Firmware Aviotec	7.61.0023
Firmware CPP-ENC	5.54.0012
Firmware CPP-ENC	5.97.0013 (for VJT XF E family, VIDEOJET decoder 3000)
Firmware X1/X2	2.53.0005
Decoder firmware	
VIP XD HD	1.8
VIP XD	4.10.056
VJD 7000	54.8.2 (click to download)
Videojet decoder 7000/7513/8000	9.60.0017 (click to download)
Barco RCP+ Agent	0.9.6.1
Monitor Wall	10.0 (pre-configured from Configuration Manager)
Software	
VRM	3.83.0021 (64-bit)
VSG	7.2.0.44
BIS	4.6.x, 4.7.x
Access Management System (AMS)	3.0
BRS	8.10/8.11
Tracking and Recognition Service (TRS)	2.0.0.12
Embedded components	
iOS	13.0
Web Client	11.165
Intuikey Keyboard	1.96

SQL Server	2017
BVMS Hardening Tool	10.1.1.0.2
ONVIF Event driver tool	1.1.0.22
VideoSDK	6.34.0184
RCPP	4.64.70
DVRs	
DiBos	8.7
DVR FW Version	2.1.3 (DVR400 / 600) 3.61 (DIVAR 700) 2.6.0 (Divar AN 3000/5000) 3.1.0 (Divar Network/Hybrid)
Allegiant MCS	2.94 / 2.95
Cameo SDK	1.3.0.0
BVMS SDK	1.9.0.0
.NET framework	4.8
Operating systems	
Operating systems Operator Client, Configuration Client	Windows 10 Professional (64-bit) April 2020 update (2004) Windows 10 Professional (64-bit) November 2019 update (1909) Windows 10 Enterprise (64-bit) LTSC build 1809
Operating systems Management Server, Mobile Video Service	Windows (Storage) Server 2012 R2 (64-bit) Windows (Storage) Server 2016 (64-bit) Windows (Storage) Server 2019 (64-bit) Windows 10 Professional (64-bit) April 2020 update (2004) Windows 10 Professional (64-bit) November 2019 update (1909) Windows 10 Enterprise (64-bit) LTSC build 1809

Operating systems Video Recording Manager	Windows (Storage) Server 2012 R2 (64-bit)
	Windows (Storage) Server 2016 (64-bit)
	Windows (Storage) Server 2019 (64-bit)

2.3 DIVAR IP

The following BVMS versions are supported on the specific DIVAR IP devices.

DIVAR IP	Generation	CTN	Operating System	Minimum BVMS version	Maximum BVMS version
7000	2	DIP-71x	Windows Server 2012 R2	BVMS 6.0	See remarks below
AiO 5000	1	DIP-52x	Windows Server 2016 R2	BVMS 9.0	See remarks below
AiO 7000	1	DIP-72x	Windows Server 2016 R2	BVMS 9.0	See remarks below

> When you upgrade BVMS on a DIVAR IP, additional steps are needed to complete the upgrade. Please refer to the document BVMS_on_DIVAR_IP_Version_Note published on https://downloadstore.boschsecurity.com/?type=DIPBVMS

2.4 Hardware drivers

Component	Version
NVIDIA Quadro	Quadro Pro Driver for Microsoft Windows 10 (64-Bit) 442.50 (February 2020)
Intel	Intel Graphics Driver for Windows 10 (64bit) - 4600 GPU - 26.20.100.7870 (2020-02-19)
Intel	Intel Graphics Driver for Windows 10 (64bit) - 530 GPU - 26.20.100.7870 (2020-02-19)

> **Hardware requirements**
>
> Bosch strongly urges customers to use the driver versions mentioned above. This ensures that the software can perform its task reliably and the specified performance (Recent Intel drivers show issues with H.265 decoding).

2.5 Virtualization

Manufacturer	Fail-over mode	Version
Microsoft	Fail-over cluster	Windows Server 2016 (Hyper-V version 7)
VMware	High availability	vSphere 6.0

> **Hardware requirements**
>
> The Video Recording Manager has an application specific fail-over mechanism that should be used. Virtualization-based fail-over mechanisms are not supported for the Video Recording Manager. The release notes of the Video Recording Manager provide information on the specific virtualization platforms that are supported considering this limitation.

> **Video Streaming Gateway**
>
> If the VSG runs on a Hyper-V fail-over cluster, and the hardware fails, recording is stopped for ~30 seconds. Live streaming via the VSG might cause a small interruption.

2.6 Patched issues for BVMS 10.1.1

A patch solves a very specific issue. Do not hesitate to reach out to our technical support teams in case you are experiencing an issue that is not described in these release notes.

ID	Description	Fixed in	BVMS	BVMS Viewer

2.7 Resolved issues

The table below lists the issues that are resolved from previous releases. If an issue is known, but not described as resolved, it will not be fixed and we have accepted it's behaviour.

ID	Description
283149	**FIXED:** OC logon with IP-address parameter was not working
283619	**FIXED:** the Bosch VMS Management Server got into an unusable state when the Allegiant CCL Emulation was running and processing commands during a configuration activation
281029	**FIXED:** the drag & drop information in the Delta Integration was not fully readable
262527	**FIXED:** security vulnerability that would allow attackers to load additional code in the form of DLLs (commonly known as "DLL Hijacking" or "DLL Preloading")
313844	**FIXED:** PTZ for camera connected to Dibos 8.7 not working

ID	Description
282780, 320037	**FIXED:** Wrong behavior in playback for rewind or fast forward using the Intuikey KBD
313162	**FIXED:** it is now possible to enable PTZ functionality with Axis explosion-protected cameras
275191	**FIXED:** improved the handling of a VSG with a non-standard port in ConfigClient
322946	**FIXED:** renamed the label of the Enterprise Access Password

2.8 Known issues

> **Known issues**
>
> Known issues are inherited by previous versions. If an issue is fixed, it will appear in the list of resolved issues. The issue IDs can be used to relate an issue to a resolution.

ID	Subject	Description
273379	Windows	Windows 10 build 1607 causes, in some situations, an issue that results in missing visual elements in the Operator Client. Please upgrade your Windows version.
268428	Transcoding	In some scenarios the Operator Client might crash when using a combination of custom display scaling (for example, 129%) and looking at transcoded video.
276500	SDK	CameraManager.StartAlarmRecording parameters "protect", "alarmId" and "metadata" do not work.
273523	Alarm management	BVMS Enterprise alarms are always presented as multi-rows alarms in the operator client.
269038	Configuration Client	Configuration Client IP grayed out after BVMS is de-installed and BVMS Viewer is installed. Work-around: clear the registry entries in \Computer\HKEY_CURRENT_USER\Software\Bosch Sicherheitssysteme GmbH\
274173	Configuration Client	"Import configuration from VRM" does not import the name of the added iSCSI devices. Work-around: manually configure the iSCSI name.
274904 / 272951	Cameras	Encrypted multicast is not working for Inteox (CPP13) cameras. We are planning to fix this with camera FW version 7.80.
269970	Person Identification	There is no indication if the BVMS Configuration Client fails to add an edge TRS to the configuration.
274743	Help	In rare situations the BVMS Operator Client might crash while browsing the build-in help sections.

ID	Subject	Description
267100	Security	After changing the password on a Tattile camera, and BVMS generates an authentication failure, BVMS still receives LPR detection events from the camera. Work-around: remove the BVMS Management Server as event receiver from the camera configuration.
269632	Security	SSH connectivity does not work for users with an empty password. We don't recommend using accounts that have an empty password.
266124	Person Identification	When the central server starts up the first connection to a TRS causes a disconnect error. This error produces per default a disconnect alarm for the TRS visible within the OpClient alarm list. After 5 sec the central server reconnects to the TRS. This time the connection is successful.
276385	Person Identification	There is no overview which shows the cameras that are assigned to a specific (core/edge) TRS.
275914	Person Identification	Empty (grey) pictures are shown when the TRS is unavailable while new persons are added using the *manage persons* dialogue. There is no indication the TRS is unavailable. Workaround: re-open the dialogue.
264269	Configuration Wizard	Config Wizard crashes when pasting password of encoder.
266945	Export	Space check of DVD happens after export to temp folder.
256523	Resilience	A fail-over VRM might take up to 30 seconds to build-up the timeline, even when the recorded video is already visible in the image pane.
276429	ANR	It is not possible to associate the recordings of a replaced ANR camera with a new ANR camera.
257445	Security	Encrypted video that is exported using the VRM eXport Wizard cannot be replayed and results in a black image pane.
277300	Security	Direct iSCSI playback is not working over SSH. The system will automatically fall-back to VRM playback.
271949	Security	LDAP does not work with SSH when the password contains an umlaut.
275222	Security	Connecting via SSH to an unmanaged site using LDAP authentication to the site is not working.
275714	Person Identification	The order of the logical tree in the Person Identification configuration differs from the order of the logical tree configuration.
320195	VRM	The error message 'could not configure the connection between Failover VRM and its Master VRM' may appear after adding a new failover VRM to the Master

3 BVMS Version 10.1

> This document is distributed within the installation package, but is updated from time to time. The latest version of the Release Notes is always available on the Bosch Security Systems Product Catalog. Version 10.1 introduces new features and resolves issues compared to BVMS 10.0.1.

3.1 New functionality

ID	Description
246759	Enable/disable audio export
232670	Integrate Tattile LPR camera to facilitate forensic search on license plates
229434	Several small enhancements for the BVMS - AMS 3.0 integration
226866	200 Person identification cameras per BVMS management server
264520	Remove DIP specific Firewall rules from setup
108245	BVMS Management server acts as bridge between video and corporate network
204308	SSH access in Enterprise environment
255109	LDAP group priorities - multi group membership (customer specific implementation)
244915	Single-Sign-On based on LDAP
269032	Prepare BVMS for Bosch Inteox (CPP13) cameras

3.2 Installation Notes

For system design specifications the BVMS architects and engineering specifications, system design guide and quick installation guide should be used. The BVMS upgrade guide helps you to upgrade an existing installation, and the BVMS security guide helps you to increase the security of your installation. The datasheet is subject to change. Translated versions are not published instantly; the English version is always up-to-date.

3.3 Versions

The table below lists the firmware versions which are used in the BVMS system test. When available, the version contains a clickable download link.

> **Device Compatibility**
>
> Up until some years ago, new released cameras, encoders, domes and decoders that were introduced into market after a BVMS release could not be connected to an existing BVMS version because these cameras where not known to the BVMS. In the BVMS 4.5.1, a new concept was introduced. This concept treats Bosch video encoders and decoders as generic devices, and automatically recognizes specific device functionality (for example the number of streams, relays and inputs). Based on this information the, at that time, unknown device is added to the system and can be used by the operator. This document, which can be found in the Bosch Building Technologies community, provides a detailed description of this functionality: BVMS - Device compatibility.

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Camera firmware	
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Firmware CPP3	5.75.0011
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Firmware CPP7.3	7.61.0023
Firmware CPP13	7.70.0052
Firmware Aviotec	7.61.0023
Firmware CPP-ENC	5.54.0012
Firmware CPP-ENC	5.97.0013 (for VJT XF E family, VIDEOJET decoder 3000)
Firmware X1/X2	2.53.0005
Decoder firmware	
VIP XD HD	1.8
VIP XD	4.10.056
VJD 7000	54.8.2 (click to download)
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Barco RCP+ Agent	0.9.6.1
Monitor Wall	10.0 (pre-configured from Configuration Manager)
Software	

VRM	3.83.0021 (64-bit)
VSG	7.2.0.44
BIS	4.6.x, 4.7.x
Access Management System (AMS)	3.0
BRS	8.10/8.11
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Embedded components	
iOS	13.0
Web Client	11.165
Intuikey Keyboard	1.96
SQL Server	2017
BVMS Hardening Tool	10.1.0.2
ONVIF Event driver tool	1.1.0.22
VideoSDK	6.34.0184
RCPP	4.64.70
DVRs	
DiBos	8.7
DVR FW Version	2.1.3 (DVR400 / 600) 3.61 (DIVAR 700) 2.6.0 (Divar AN 3000/5000) 3.1.0 (Divar Network/Hybrid)
Allegiant MCS	2.94 / 2.95
Cameo SDK	1.3.0.0
BVMS SDK	1.9.0.0

.NET framework	4.8
Operating systems	
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3.4 DIVAR IP

The following BVMS versions are supported on the specific DIVAR IP devices.

DIVAR IP	Generation	CTN	Operating System	Minimum BVMS version	Maximum BVMS version
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AiO 5000	1	DIP-52x	Windows Server 2016 R2	BVMS 9.0	See remarks below
AiO 7000	1	DIP-72x	Windows Server 2016 R2	BVMS 9.0	See remarks below

> When you upgrade a DIVAR IP to BVMS 10.1, additional steps might be needed to complete the upgrade.
> Please refer to the knowledge base for the latest articles, which helps you to do the upgrade.

3.5 Hardware drivers

Component	Version
NVIDIA Quadro	Quadro Pro Driver for Microsoft Windows 10 (64-Bit) 442.50 (February 2020)
Intel	Intel Graphics Driver for Windows 10 (64bit) - 4600 GPU - 26.20.100.7870 (2020-02-19)
Intel	Intel Graphics Driver for Windows 10 (64bit) - 530 GPU - 26.20.100.7870 (2020-02-19)

> **Hardware requirements**
>
> Bosch strongly urges customers to use the driver versions mentioned above. This ensures that the software can perform its task reliably and the specified performance (Recent Intel drivers show issues with H.265 decoding).

3.6 Virtualization

Manufacturer	Fail-over mode	Version
Microsoft	Fail-over cluster	Windows Server 2016 (Hyper-V version 7)
VMware	High availability	vSphere 6.0

> **Hardware requirements**
>
> The Video Recording Manager has an application specific fail-over mechanism that should be used. Virtualization-based fail-over mechanisms are not supported for the Video Recording Manager. The release notes of the Video Recording Manager provide information on the specific virtualization platforms that are supported considering this limitation.

> **Video Streaming Gateway**
>
> If the VSG runs on a Hyper-V fail-over cluster, and the hardware fails, recording is stopped for ~30 seconds. Live streaming via the VSG might cause a small interruption.

3.7 Patched issues for BVMS 10.1

A patch solves a very specific issue. Do not hesitate to reach out to our technical support teams in case you are experiencing an issue that is not described in these release notes.

ID	Description	Fixed in	BVMS	BVMS Viewer
283619	**FIXED**: Allegiant CCL Emulation commands causing system instability	11.0	Link to Downloadstore	n/a

ID	Description	Fixed in	BVMS	BVMS Viewer
317617	**FIXED**: Occasional black screens during playback mode	11.0	Link to Downloadstore	Link to Downloadstore
313844	**FIXED:** PTZ for camera connected to Dibos 8.7 not working	11.0	Link to Downloadstore	Link to Downloadstore
316150	**FIXED:** OC client filter box issues	11.0	Link to Downloadstore	Link to Downloadstore
281029, 283149	**FIXED:** OC login IP Address missing drag & drop information not completely encrypted	10.1.1	Link to Downloadstore	Link to Downloadstore
320037	**FIXED:** OC 10.1 stuck at alarm handling	11.0	Link to Downloadstore	Link to Downloadstore

3.8 Resolved issues

The table below lists the issues that are resolved from previous releases. If an issue is known, but not described as resolved, it will not be fixed and we have accepted it's behaviour.

ID	Description
262502	**FIXED:** The "Cancel" button in the export dialogue does not change to "Done" when the export has finished.
243256	**FIXED:** Cameras with empty passwords cannot be added to a person identification device (TRS).
239129 / 239222	**FIXED:** The ONVIF camera needs to be on-line and accessible when it is added to the BVMS configuration.

3.9 Known issues

> **Known issues**
>
> Known issues are inherited by previous versions. If an issue is fixed, it will appear in the list of resolved issues. The issue IDs can be used to relate an issue to a resolution.

ID	Subject	Description
273379	Windows	Windows 10 build 1607 causes, in some situations, an issue that results in missing visual elements in the Operator Client. Please upgrade your Windows version.
268428	Transcoding	In some scenarios the Operator Client might crash when using a combination of custom display scaling (for example, 129%) and looking at transcoded video.

ID	Subject	Description
276500	SDK	CameraManager.StartAlarmRecording parameters "protect", "alarmId" and "metadata" do not work.
273523	Alarm management	BVMS Enterprise alarms are always presented as multi-rows alarms in the operator client.
269038	Configuration Client	Configuration Client IP grayed out after BVMS is de-installed and BVMS Viewer is installed. Work-around: clear the registry entries in \Computer\HKEY_CURRENT_USER\Software\Bosch Sicherheitssysteme GmbH\
274173	Configuration Client	"Import configuration from VRM" does not import the name of the added iSCSI devices. Work-around: manually configure the iSCSI name.
274904 / 272951	Cameras	Encrypted multicast is not working for Inteox (CPP13) cameras. We are planning to fix this with camera FW version 7.80.
269970	Person Identification	There is no indication if the BVMS Configuration Client fails to add an edge TRS to the configuration.
274743	Help	In rare situations the BVMS Operator Client might crash while browsing the build-in help sections.
267100	Security	After changing the password on a Tattile camera, and BVMS generates an authentication failure, BVMS still receives LPR detection events from the camera. Work-around: remove the BVMS Management Server as event receiver from the camera configuration.
269632	Security	SSH connectivity does not work for users with an empty password. We don't recommend using accounts that have an empty password.
266124	Person Identification	When the central server starts up the first connection to a TRS causes a disconnect error. This error produces per default a disconnect alarm for the TRS visible within the OpClient alarm list. After 5 sec the central server reconnects to the TRS. This time the connection is successful.
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264269	Configuration Wizard	Config Wizard crashes when pasting password of encoder.
266945	Export	Space check of DVD happens after export to temp folder.
256523	Resilience	A fail-over VRM might take up to 30 seconds to build-up the timeline, even when the recorded video is already visible in the image pane.
276429	ANR	It is not possible to associate the recordings of a replaced ANR camera with a new ANR camera.

ID	Subject	Description
257445	Security	Encrypted video that is exported using the VRM eXport Wizard cannot be replayed and results in a black image pane.
277300	Security	Direct iSCSI playback is not working over SSH. The system will automatically fall-back to VRM playback.
271949	Security	LDAP does not work with SSH when the password contains an umlaut.
275222	Security	Connecting via SSH to an unmanaged site using LDAP authentication to the site is not working.
275714	Person Identification	The order of the logical tree in the Person Identification configuration differs from the order of the logical tree configuration.

ID	Subject	Description

4 BVMS Version 10.0.2

> This document is distributed within the installation package, but is updated from time to time. The latest version of the Release Notes is always available on the Bosch Security Systems Product Catalog. Version 10.0.2 introduces resolved issues compared to BVMS 10.0.1. BVMS 10.0.1 is not available for download any longer. This release does not introduce any new functionality.

4.1 Installation Notes

For system design specifications the BVMS architects and engineering specifications, system design guide and quick installation guide should be used. The BVMS upgrade guide helps you to upgrade an existing installation, and the BVMS security guide helps you to increase the security of your installation. The datasheet is subject to change. Translated versions are not published instantly; the English version is always up-to-date.

4.2 Versions

The table below lists the firmware versions which are used in the BVMS system test. When available, the version contains a clickable download link.

> **Device Compatibility**
>
> Up until some years ago, new released cameras, encoders, domes and decoders that were introduced into market after a BVMS release could not be connected to an existing BVMS version because these cameras were not known to the BVMS. In the BVMS 4.5.1, a new concept was introduced. This concept treats Bosch video encoders and decoders as generic devices, and automatically recognizes specific device functionality (for example the number of streams, relays and inputs). Based on this information the, at that time, unknown device is added to the system and can be used by the operator. This document, which can be found in the Bosch Building Technologies community, provides a detailed description of this functionality: BVMS - Device compatibility.

> **Multicast issue with camera firmware 7.60.0118**
>
> Issue 257256 prevents camera firmware to work in a multicast environment. This issue can be observed when you combine BVMS 10.0.2 and earlier BVMS versions with firmware 7.60.x. Firmware 7.61.0023 solves this issue.

Component	Version
Camera firmware	
Firmware MPEG-4	4.15.0002
Firmware CPP3	5.75.0011
Firmware CPP4	7.10.0076
Firmware CPP5	6.31.0010

Firmware CPP6	7.60.0118, 7.61.0023
Firmware CPP7	7.60.0118, 7.61.0023
Firmware CPP7.3	7.60.0118, 7.61.0023
Firmware Aviotec	7.50.0079, 7.61.0023
Firmware CPP-ENC	5.54.0012
Firmware CPP-ENC	5.97.0013 (for VJT XF E family, VIDEOJET decoder 3000)
Firmware X1/X2	2.53.0005
Decoder firmware	
VIP XD HD	1.8
VIP XD	4.10.056
VJD 7000	54.8.2 (click to download)
Videojet decoder 7000/8000	9.60.0017 (click to download)
Barco RCP+ Agent	0.9.6.1
Monitor Wall	8.0
Software	
VRM	3.82.0057 (64-bit)
VSG	7.1.0.43 (ONVIF VDP 3.0.4.0)
BIS	4.6.x, 4.7.x
Access Management System (AMS)	n/a
BRS	8.10/8.11
Tracking and Recognition Service (TRS)	1.0
Embedded components	
iOS	13.0

Web Client	11.165
Intuikey Keyboard	1.96
SQL Server	2017
BVMS Hardening Tool	1.83.0
ONVIF Event driver tool	1.0.0.202
VideoSDK	6.34.0184
RCPP	4.64.70
DVRs	
DiBos	8.7
DVR FW Version	2.1.3 (DVR400 / 600) 3.61 (DIVAR 700) 2.6.0 (Divar AN 3000/5000) 3.1.0 (Divar Network/Hybrid)
Allegiant MCS	2.94 / 2.95
Cameo SDK	1.3.0.0
BVMS SDK	1.9.0.0
.NET framework	4.8
Operating systems	
Operating systems Operator Client, Configuration Client	Windows 10 Professional (64-bit) November 2019 update (1909) Windows 10 Professional (64-bit) May 2019 update (1903) Windows 10 Enterprise (64-bit) LTSC build 1809

Operating systems Management Server, Mobile Video Service	Windows (Storage) Server 2012 R2 (64-bit)
	Windows (Storage) Server 2016 (64-bit)
	Windows (Storage) Server 2019 (64-bit)
	Windows 10 Professional (64-bit) November 2019 update (1909)
	Windows 10 Professional (64-bit) May 2019 update (1903)
	Windows 10 Enterprise (64-bit) LTSC build 1809
Operating systems Video Recording Manager	Windows (Storage) Server 2012 R2 (64-bit)
	Windows (Storage) Server 2016 (64-bit)
	Windows (Storage) Server 2019 (64-bit)

4.3 DIVAR IP

BVMS 10.0.2 **is not** supported on DIVAR IP devices. We recommend customers to upgrade to BVMS 10.1.1 in case the software is running on a DIVAR IP.

4.4 Hardware drivers

Component	Version
NVIDIA Quadro	Quadro Pro Driver for Microsoft Windows 10 (64-Bit) 442.50 (February 2020)
Intel	Intel Graphics Driver for Windows 10 (64bit) - 4600 GPU - 26.20.100.7870 (2020-02-19)
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> **Hardware requirements**
>
> Bosch strongly urges customers to use the driver versions mentioned above. This ensures that the software can perform its task reliably and the specified performance (Recent Intel drivers show issues with H.265 decoding).

4.5 Virtualization

Manufacturer	Fail-over mode	Version
Microsoft	HA	Windows Server 2016 (Hyper-V version 7)
VMware	High availability	vSphere 6.0

> **Hardware requirements**
>
> The Video Recording Manager has an application specific fail-over mechanism (Failover VRM). Virtualizing the VRM is supported. Using virtualization fail-over mechanisms is not supported. When VRM virtualization and fail-over is required, we recommend running the Master VRM and Failover VRM in separate virtual machines and disable virtualization fail-over mechanisms for these virtual machines.

4.6 Patched issues for BVMS 10.0.2

A patch solves a very specific issue. Do not hesitate to reach out to our technical support teams in case you are experiencing an issue that is not described in these release notes.

ID	Description	Fixed in	BVMS	BVMS Viewer

4.7 Resolved issues for BVMS 10.0.2

> **Resolved issues**
>
> The resolved issues in BVMS 10.0.2 are **not** migrated to BVMS 10.1 and only fixed in BVMS 10.1.1

The table below lists the issues that are resolved from previous releases. If an issue is known, but not described as resolved, it will not be fixed and we have accepted it's behaviour.

ID	Description
211404	**FIXED:** security vulnerability that would allow attackers to retrieve files from the Management Servers without permission
241463	**FIXED:** security vulnerability that would allow authenticated BVMS users to request and fetch arbitrary files from the Central Server machine
224524	**FIXED:** improved the behavior for a User with Read-only rights being able to activate the "Save"-Button
232054, 232229	**FIXED:** improved the display of forensic search results by enhancing the video import for specific cameras exported via the VRMeXportWizard
241707, 242334	**FIXED:** fixed the issue of the Configuration Client from being unresponsive after selecting a DIVAR IP all-in-one as iSCSI storage
242274	**FIXED:** improved the playback of specific Panasonic cameras via DIVAR network which are added to BVMS as DVR expansion
243748	**FIXED:** a security vulnerability that would allow attackers to execute arbitrary code
245362, 246704	**FIXED:** a security issue which can be caused via a path traversal vulnerability.

ID	Description
248195, 243363	**FIXED:** improved the Alarm Cameo handling and issue 243363 by improving the command execution on a map in the Alarm pane via double click
255156, 255329	**FIXED:** the problem that selecting an image pane doesn't trigger the Keyboard to go into PTZ mode, 255329 caused the problem that the OC is no longer reacting on Keyboard actions for instant playback
256818, 256819	**FIXED:** a security problem by usage of a Hard-coded Cryptographic Key
263883	**FIXED:** random memory increase of the Operator Client
268300	**FIXED:** problem that NetApp devices with Firmware version equal or higher than 11.60 cannot be added to BVMS
272844	**FIXED:** problem with VSG 7.02 and versions below that it is not possible to stream Panomera Streaming Server (PSS) 3.0.18.27
272951	**FIXED:** issue 272951 caused a Inteox Camera backward compatibility problem
273701	**FIXED:** a security problem that would allow attackers to load additional code in the form of DLLs (commonly known as "DLL Hijacking" or "DLL Preloading")
262746, 280043, 239712, 266928	**FIXED:** multiple issues were fixed around the random crashing of the BVMS operator client
264271	**FIXED:** improved the functionality to export on DVD
264549, 268286	**FIXED:** issue 264549 caused the problem that it was not possible to get the first Alarm with AlarmState.Created using the BVMS SDK; Issue 268286 caused the problem that triggering an event and requested event data do not match in some cases using the BVMS SDK
266309	**FIXED:** caused a crash of the Operator Client during replay
274805	**FIXED:** caused the problem that a Onvif camera can't be displayed on a monitor group
262527	**FIXED:** caused a security vulnerability that would allow attackers to load additional code in the form of DLLs (commonly known as "DLL Hijacking" or "DLL Preloading")
282780	**FIXED:** wrong behavior of the rewind and fast forward functionality during Playback via the Intuikey KBD

4.8 Known issues

> **Known issues**
>
> Known issues are inherited by previous versions. If an issue is fixed, it will appear in the list of resolved issues. The issue IDs can be used to relate an issue to a resolution.

ID	Subject	Description
262338	VRM Fail-over	When the system has activated the fail-over VRM, it might be possible, during a very short time-interval, to delete protected recordings before the fail-over VRM is fully synchronized.

ID	Subject	Description
261644	Language	Changing the language of a user group after it has been set initially does not have an effect in the Operator Client.
261826	Forensic Search	Forensic Search is not working when the VRM "secure connection" is not set, but the recording encryption is turned on.
257017	Reference image	The reference image cannot be set from the Operator Client if an initial reference image is not configured in the Configuration Client or Configuration Manager.
262502	Export	The "Cancel" button in the export dialogue does not change to "Done" when the export has finished.
262372	ANR	An ANR camera configured for continuous recording will do alarm recording when it is running firmware 7.60.0204 or 7.60.0118.
262421	Decoder	Cameras running firmware 7.60.0204 or 7.60.0118 cannot connect to Videojet Decoder 3000 running firmware 5.97.0013.
258858	Panoramic cameras	Videojet Decoder 3000 is not able to dewarp panoramic cameras.
249561	Panoramic cameras	In some situations it can take up to 10 seconds before a dewarped panoramic camera shows up on the decoder.
257032	VSG	The monitor group control shows a connection loss icon for ONVIF cameras, even though the cameras are online.
258696	VSG	Text-data recording does not work for ONVIF cameras.
260201	IVA	In some situations the IVA rules are not displayed in the correct way.
257017	Reference image	Access to the reference image stream failed when using camera firmware 7.60.0118.
257258	Multicast	UDP multicast is no longer working when using camera firmware 7.60.0118.
259644	Security	When the primary VRM fails, the fail-over VRM does not take over playback functionality. Work-around: when the system uses a fail-over VRM, and the communication with the VRMs is secured, the fail-over VRMs need to be removed from the configuration and re-added.
254695 / 255278	Replay	In some combinations of the operating system (Windows) and a specific TPM-module, the VRM replay functionality and VRM monitor are unreliable. Please report issues to the after-sales support teams.
255944	SDK	A configuration change will lead to a disconnect of SDK applications. The SDK application should reconnect after a configuration change.
254839	Maps	The zoom-level of maps in the Operator Client differs from the default zoom-level in the Configuration Client.
257036	VSG	RTSP and JPEG cameras are always retrieved from the VSG, regardless of the workstation configuration.

ID	Subject	Description
257370	Security	The automated firewall configuration embedded in the BVMS setup does not configure the routing and remote access service. We will remove this functionality in the next BVMS release.
249289	Security	A Videojet Decoder 8000 firmware update can only be done if the "*secure connection*" checkbox of that specific decoder is disabled.
257039	Configuration	In some situations, when the configuration client is running in a windows session and remote desktop is used to connect to that session, the Configuration Client might crash. Workaround: re-open the Configuration Client in the active remote desktop session.
243256	Security	Cameras with empty passwords cannot be added to a person identification device (TRS).
255963	MVS	Push notifications (that indicate that another mobile user has shared a video) from the MVS to mobile devices are disabled.
255160	Security	The VSG has an open HTTP port. Workaround: use https and block the http port in the Windows firewall. Comment: we will close this port in the next BVMS release.
255159	Security	The VRM has an open HTTP port. Workaround: use https and block the http port in the Windows firewall. Comment: we will close this port in the next BVMS release.
255166	Security	The MVS has an open HTTP port. Workaround: use https and disable the http protocol in IIS or block the http port in the Windows firewall. Comment: we will close this port in the next BVMS release.
241806	VSG	Manual recording (started from the Operator Client) does not work for cameras connected to a VSG.
237838	Setup	VRM and VSG always installed in the default path. Work-around: do not install VRM and VSG from the BVMS installer, but use the installers located in the BVMS zip\ISSetupPrerequisites and select the installation path manually. We do not recommend this work-around for DIVAR IP.
248508	Logbook	A high event load on the logbook (average 125 events per second) might decrease the SSD lifetime.
225194	Video Security Client	No access to recorded video in the Video Security Client when logged in via a BVMS user and when port-mapping in BVMS is configured. Workaround: disable port-mapping.
251914	DVR	DIVAR Network and DIVAR Hybrid cannot be added to the BVMS configuration using the Configuration Wizard. Workaround: use the BVMS Configuration Client.
242480	Security	Configuration Client: live video shows "Error: Frame could not be parsed!". Workaround: save and activate the configuration after checking or unchecking the "secure connection" setting for this camera.
250879	Panoramic cameras	Alarm pre-sets cannot be configured for a panoramic camera connected to a DIVAR Hybrid or DIVAR Network.
244483	DVR	In rare occasions, the Operator Client might crash when using a DVR-700 and the BVMS Configuration is activated.

ID	Subject	Description
248096	DVR	Searching for motion detection events for IP cameras connected to a DIVAR Network or DIVAR Hybrid is not working.
247385	Configuration	The BVMS automated firewall rules do not consider the Bosch Configuration Manager (this is an separate tool, separate firewall rules need to be configured).
249915	Export	In rare occasions an export might hang when trying to export video and audio into an MP4 file.
250548	Panoramic cameras	The dewarping of panoramic cameras on a decoder is not working when the camera is not calibrated (wall, floor, or ceiling).
250945	Export	The BVMS Operator Client cannot be used to import regular MP4 files. Only Bosch (BVC) native exports using the MP4 extension can be used.
250952	Export	When an ASX file (playlist) is created out of a bookmark, VLC might miss a second camera (related to VLC bug 19594)
250947	Timeline	After protecting the recordings on a DIVAR Hybrid or DIVAR Network, the timeline might take more than 30 seconds to visualize the protected recording.
250894	Export	The MP4 export of a (M)JPEG camera cannot be replayed in Windows Media Player. Please use VLC for this.
253831	Export	Exports triggered by SDK might fail due to the lack of a whitelist definition. The SDK documentation of the export related methods contains more detailed information.
248948	Panoramic cameras	The dewarping of panoramic cameras on decoders is only possible with the VIDEOJET 8000 or decoders launched after that.
250950	Audio	When audio recording is switched on, the recording needs to be manually restarted.
245932	Setup	The firewall settings are not updated after modifying or repairing the installation using the BVMS setup.
249294	SNMP	Due to changes in the Windows operating system, SNMP functionality needs to be installed before the BVMS setup is started (if SNMP functionality is required).
245313	Export	Trying to export video that includes a time range in which the encoder has been rebooted might not be possible (Error message: "The target has insufficient capacity"). Workaround: export video before and after the encoder reboot in separate files.
320195	VRM	The error message 'could not configure the connection between Failover VRM and its Master VRM' may appear after adding a new failover VRM to the Master

5 BVMS Version 10.0.1

> This document is distributed within the installation package, but is updated from time to time. The latest version of the Release Notes is always available on the Bosch Security Systems Product Catalog. Version 10.0.1 introduces new features and resolves issues compared to BVMS 10.0. BVMS 10.0 is not available for download any longer.

5.1 New functionality

ID	Description
183538	Facelift for Timeline Control
174546	Operator Client and Configuration Client shall support High resolution screens
229915	Encrypted multicast from VSG to OC
193007	Export player should not have to be installed
218193	50 Monitor Groups per MS
206566	SDK applications are subjected to device permissions
172117	Automatically configure firewall during BVMS setup
201942	BVMS should not crash when FIPS-140 is enabled (Windows setting)
223693	Disable audio recording while intercom is enabled
242567	Upgrade SDK environment to .NET version 4.8
226895	Dewarping pre-set for panoramic cameras can be activated in the operator client in an alarm scenario
205515	Dewarping pre-set for panoramic cameras can be activated on a decoder in an alarm scenario
240228	Enable IVA overlays by default in alarm scenario
180405	Enable the use of PDF and PNG/JPG maps
245699	Import BVC native exports for Forensic Search
228629	ONVIF Camera Event Driver Tool
160518	General UX improvements for Forensic Search
235594	MP4 as export format, removed ASF export format
252110	Do not change server ID on export of configuration (to enable the export and import of user settings)
207733	Get capabilities from devices in batch
243681	Switch between ONVIF Profile S/T on camera level

ID	Description
238163	Handle brute-force attack in a gracefull manner with a time-out mechanism
245238	Audio event from Bosch cameras
256819	Enhanced security for sensitive configuration data

5.2 Installation Notes

For system design specifications the BVMS architects and engineering specifications, system design guide and quick installation guide should be used. The BVMS upgrade guide helps you to upgrade an existing installation, and the BVMS security guide helps you to increase the security of your installation. The datasheet is subject to change. Translated versions are not published instantly; the English version is always up-to-date.

5.3 Versions

The table below lists the firmware versions which are used in the BVMS system test. When available, the version contains a clickable download link.

Device Compatibility

Up until some years ago, new released cameras, encoders, domes and decoders that were introduced into market after a BVMS release could not be connected to an existing BVMS version because these cameras where not known to the BVMS. In the BVMS 4.5.1, a new concept was introduced. This concept treats Bosch video encoders and decoders as generic devices, and automatically recognizes specific device functionality (for example the number of streams, relays and inputs). Based on this information the, at that time, unknown device is added to the system and can be used by the operator. This document, which can be found in the Bosch Building Technologies community, provides a detailed description of this functionality: BVMS - Device compatibility.

Multicast issue with camera firmware 7.60.0118

Issue 257256 prevents camera firmware to work in a multicast environment. This issue can be observed when you combine BVMS 10.0.1 and earlier BVMS versions with firmware 7.60.x. Firmware 7.61.0023 solves this issue.

Component	Version
Camera firmware	
Firmware MPEG-4	4.15.0002
Firmware CPP3	5.75.0011
Firmware CPP4	7.10.0076
Firmware CPP5	6.31.0010

Firmware CPP6	7.60.0118, 7.61.0023
Firmware CPP7	7.60.0118, 7.61.0023
Firmware CPP7.3	7.60.0118, 7.61.0023
Firmware Aviotec	7.50.0079, 7.61.0023
Firmware CPP-ENC	5.54.0012
Firmware CPP-ENC	5.97.0013 (for VJT XF E family, VIDEOJET decoder 3000)
Firmware X1/X2	2.53.0005
Decoder firmware	
VIP XD HD	1.8
VIP XD	4.10.056
VJD 7000	54.8.2 (click to download)
Videojet decoder 7000/8000	9.60.0017 (click to download)
Barco RCP+ Agent	0.9.6.1
Monitor Wall	8.0
Software	
VRM	3.82.0052 (64-bit)
VSG	7.1.0.43 (ONVIF VDP 3.0.4.0)
BIS	4.6.x, 4.7.x
Access Management System (AMS)	n/a
BRS	8.10/8.11
Tracking and Recognition Service (TRS)	1.0
Embedded components	
iOS	13.0

Web Client	11.165
Intuikey Keyboard	1.96
SQL Server	2017
BVMS Hardening Tool	1.83.0
ONVIF Event driver tool	1.0.0.202
VideoSDK	6.34.0184
RCPP	4.64.70
DVRs	
DiBos	8.7
DVR FW Version	2.1.3 (DVR400 / 600) 3.61 (DIVAR 700) 2.6.0 (Divar AN 3000/5000) 3.1.0 (Divar Network/Hybrid)
Allegiant MCS	2.94 / 2.95
Cameo SDK	1.3.0.0
BVMS SDK	1.9.0.0
.NET framework	4.8
Operating systems	
Operating systems Operator Client, Configuration Client	Windows 10 Professional (64-bit) November 2019 update (1909) Windows 10 Professional (64-bit) May 2019 update (1903) Windows 10 Enterprise (64-bit) LTSC build 1809

Operating systems Management Server, Mobile Video Service	Windows (Storage) Server 2012 R2 (64-bit)
	Windows (Storage) Server 2016 (64-bit)
	Windows (Storage) Server 2019 (64-bit)
	Windows 10 Professional (64-bit) November 2019 update (1909)
	Windows 10 Professional (64-bit) May 2019 update (1903)
	Windows 10 Enterprise (64-bit) LTSC build 1809
Operating systems Video Recording Manager	Windows (Storage) Server 2012 R2 (64-bit)
	Windows (Storage) Server 2016 (64-bit)
	Windows (Storage) Server 2019 (64-bit)

5.4 DIVAR IP

The following BVMS versions are supported on the specific DIVAR IP devices.

DIVAR IP	Generation	CTN	Operating System	Minimum BVMS version	Maximum BVMS version
7000	2	DIP-71x	Windows Server 2012 R2	BVMS 6.0	See remarks below
AiO 5000	1	DIP-52x	Windows Server 2016 R2	BVMS 9.0	See remarks below
AiO 7000	1	DIP-72x	Windows Server 2016 R2	BVMS 9.0	See remarks below

5.5 Hardware drivers

Component	Version
NVIDIA Quadro	Quadro Pro Driver for Microsoft Windows 10 (64-Bit) 442.50 (February 2020)
Intel	Intel Graphics Driver for Windows 10 (64bit) - 4600 GPU - 26.20.100.7870 (2020-02-19)
Intel	Intel Graphics Driver for Windows 10 (64bit) - 530 GPU - 26.20.100.7870 (2020-02-19)

> **Hardware requirements**
>
> Bosch strongly urges customers to use the driver versions mentioned above. This ensures that the software can perform its task reliably and the specified performance (Recent Intel drivers show issues with H.265 decoding).

5.6 Virtualization

Manufacturer	Fail-over mode	Version
Microsoft	HA	Windows Server 2016 (Hyper-V version 7)
VMware	High availability	vSphere 6.0

> **Hardware requirements**
>
> The Video Recording Manager has an application specific fail-over mechanism (Failover VRM). Virtualizing the VRM is supported. Using virtualization fail-over mechanisms is not supported. When VRM virtualization and fail-over is required, we recommend running the Master VRM and Failover VRM in separate virtual machines and disable virtualization fail-over mechanisms for these virtual machines.

5.7 Patched issues for BVMS 10.0.1

A patch solves a very specific issue. Do not hesitate to reach out to our technical support teams in case you are experiencing an issue that is not described in these release notes.

ID	Description	Fixed in	BVMS	BVMS Viewer
268300	**FIXED**: NetApp devices with Firmware version equal or higher than 11.60 cannot be added to BVMS.	10.1	Link to Downloadstore	Link to Downloadstore
239712 / 266928	**FIXED**: cropped view of a panoramic camera was reset to default. Additionally, an Operator Client crash was fixed.	10.1	Link to Downloadstore	Link to Downloadstore
264271	**FIXED**: exception during DVD export.	10.1	Link to Downloadstore	Link to Downloadstore
272951	**FIXED**: Inteox Camera: backward compatibility issues	10.1	Link to Downloadstore	Link to Downloadstore

5.8 Resolved issues

The table below lists the issues that are resolved from previous releases. If an issue is known, but not described as resolved, it will not be fixed and we have accepted it's behaviour.

ID	Description
200816	**FIXED:** The RemoteClientApi SDK functions in the BVMS script engine cannot be used from the BVMS Server. An external application needs to be used to control the client using the RemoteClientApi.
161813	**FIXED:** When the BVMS SDK or OPC server is used for controlling Pan-Tilt-Zoom cameras, the zoom speed may differ between cameras.
246052	**FIXED:** The operator client suffers from a small memory leak when opening 25 monitor group controls simultaneously.
243056	**FIXED:** When adding a new decoder to BVMS, the "secure connection" is not enabled by default. Cameras are added by default with the "secure connection" enabled, which causes issues displaying cameras on decoders. Workaround: deselect "secure connection" for the cameras which need to be displayed on decoders or select the "secure connection" for the decoder.
242334	**FIXED:** The loadbalancing parameters for the DIVAR IP AiO 7000 are incorrect. Workaround: correct the values manually: 256 iSCSI sessions and 550Mbit/s.
232050	**FIXED:** Some dialogues are malformed when display scaling is used in Windows.
224413	**FIXED:** After de-activating the "Set time automatically" flag in the Windows (10) time settings, the BVMS time synchronization mechanism stops working and the time within the system (including the connected cameras) might start drifting. BVMS generates a system warning if the time synchronization mechanism stops working.
211909	**FIXED:** Compound events should not be nested: cyclic references to compound events could prevent the management server from processing other events.
233738	**FIXED:** BVMS is able to lock-out an account after a configurable amount of failed password entries. This functionality is not enabled by default for the default "Admin" account. For security reasons Bosch strongly recommends enabling this option for the user-group "Admin Group", changing the name of the "Admin" user-account, and adding a second user-account to the user-group "Admin Group". This minimizes the chance that the system administrator is fully locked-out of the system.
191197	**FIXED:** All LUNs that are scanned on an iSCSI target are added to the configuration.
238286	**FIXED:** Executing a BVMS Client script, located in the logical tree of a sub-system, from an Enterprise Operator Client is not working.
239102	**FIXED:** VSG 7.0.2 cannot use large LUNs.
236047	**FIXED:** If the Operator Client crashes the system will automatically create a dump file. During the dump file creation process no progress is shown to the user, which might take several minutes. We have fixed this bug by showing a dialogue that indicates the progress of the dump file creation process.
129648	**FIXED:** Automatic distribution of LUNs on multi-port iSCSI (eSeries) does not work correctly when a basic configuration is performed.Please remove the iSCSI device and add it again to your system. Then the LUNs are evenly distributed.
239593	**FIXED:** When Operator Client and Management Server are installed on one single system the BIS communication might not work properly. Workaround: ensure that, on the Management Server, the "*IsServerMode*" setting in the *C:\ProgramData\Bosch\VMS\AppData\Bosch.Vms.BISProxy.settings.cxml* is set to 1.
225871	**FIXED:** False alarms: storage state failure events

ID	Description
246706	**FIXED:** SDK applications are able to overwrite existing files. To prevent SDK applications to overwrite existing files a whitelist needs to be defined. Without the whitelist existing SDK application might not be able to export video footage. The details are described in the SDK documentation.
240124	**FIXED:** When using 1080p cameras with 60 frames per second the GPU can be overloaded, which can cause frame-drops.
243150	**FIXED:** Camera firmware 7.5x or newer does not support the use of the "+" in passwords. BVMS does not display a warning message, but the device will not apply the new password. We have fixed this by displaying a warning message when a "+" is used in the device password.
206756	**FIXED:** Intel Graphics Driver for Windows 10 24.20.100.6136 cannot be used for GPU decoding. Software decoding will be used.
237381	**FIXED:** Intel Driver 26.20.100.6912 (igfx_win10_100.6912.exe) does not offer GPU decoding for H.265.
262372	**FIXED:** An ANR camera configured for continuous recording will do alarm recording when it is running firmware 7.60.0118. Please use firmware 7.61.0023 or newer.
257258	**FIXED:** UDP multicast is no longer working when using camera firmware 7.60.0118. Please use firmware 7.61.0023 or newer.

5.9 Known issues

> **Known issues**
>
> Known issues are inherited by previous versions. If an issue is fixed, it will appear in the list of resolved issues. The issue IDs can be used to relate an issue to a resolution.

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261826	Forensic Search	Forensic Search is not working when the VRM "secure connection" is not set, but the recording encryption is turned on.
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255159	Security	The VRM has an open HTTP port. Workaround: use https and block the http port in the Windows firewall. Comment: we will close this port in the next BVMS release.
255166	Security	The MVS has an open HTTP port. Workaround: use https and disable the http protocol in IIS or block the http port in the Windows firewall. Comment: we will close this port in the next BVMS release.
256818	Compatibility	The BVMS 10.0.1 Operator Client cannot connect to BVMS 5.0 or older Management Servers.
241806	VSG	Manual recording (started from the Operator Client) does not work for cameras connected to a VSG.
237838	Setup	VRM and VSG always installed in the default path. Work-around: do not install VRM and VSG from the BVMS installer, but use the installers located in the BVMS zip\ISSetupPrerequisites and select the installation path manually. We do not recommend this work-around for DIVAR IP.
248508	Logbook	A high event load on the logbook (average 125 events per second) might decrease the SSD lifetime.
225194	Video Security Client	No access to recorded video in the Video Security Client when logged in via a BVMS user and when port-mapping in BVMS is configured. Workaround: disable port-mapping.
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242480	Security	Configuration Client: live video shows "Error: Frame could not be parsed!". Workaround: save and activate the configuration after checking or unchecking the "secure connection" setting for this camera.
250879	Panoramic cameras	Alarm pre-sets cannot be configured for a panoramic camera connected to a DIVAR Hybrid or DIVAR Network.
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253831	Export	Exports triggered by SDK might fail due to the lack of a whitelist definition. The SDK documentation of the export related methods contains more detailed information.
248948	Panoramic cameras	The dewarping of panoramic cameras on decoders is only possible with the VIDEOJET 8000 or decoders launched after that.
250950	Audio	When audio recording is switched on, the recording needs to be manually restarted.
245932	Setup	The firewall settings are not updated after modifying or repairing the installation using the BVMS setup.
249294	SNMP	Due to changes in the Windows operating system, SNMP functionality needs to be installed before the BVMS setup is started (if SNMP functionality is required).
245313	Export	Trying to export video that includes a time range in which the encoder has been rebooted might not be possible (Error message: "The target has insufficient capacity"). Workaround: export video before and after the encoder reboot in separate files.

6 BVMS Version 10.0

> This document is distributed within the installation package, but is updated from time to time. The latest version of the Release Notes is always available on the Bosch Security Systems Product Catalog. Version 10.0 introduces new features and resolves issues compared to BVMS 9.0.

6.1 New functionality

ID	Description
205243	The default name of exports has changed: [Logical-Number]-[Enterprise-Srv].[Site].[Camera]-[n]-[TimeStamp].
226405	The global password enforces the use of complex passwords.
184399	Automatically stop alarm based recording after a configurable timeout.
199186	GPU decoding is enabled for PTZ cameras and cameras configured for Region-of-Interest (ROI).
165625	Increased scalability in BVMS Enterprise to 100 sites and 10.000 cameras in total.
206244	Switch VRM to 64-bit.
208286	System test on Hyper-V (Windows Server 2016).
198715	Enabled Access Management System integration.
219182	Configure TCP/Unicast/Multicast selection for ONVIF cameras.
161333	Migrate Digital Monitor Wall (DMW) functionality to Monitor Groups.
172108	Dewarping of Bosch Panoramic Cameras connected to a DVR for live and replay.
201531	SDK extensions (listed in the SDK manual).
207743	Partial redesign of the BVMS Configuration Client.
207103	Enable displaying of Intelligent Insights Widgets in a BVMS Image Pane.
226426	Enforce the configurator to set a fixed IP address for the DIVAR IP (Configuration Wizard).
156280	Display secure multicast streams.
226567	Extended LDAP settings to include an Anonymous user.
198646	Ease the maintenance of passwords for multiple devices.
207731	Change the IP address of ADAM devices.
155213	Encrypted video recording for Bosch cameras.
157864	Encrypt communication between all Bosch components.

ID	Description
119113	Trigger relays for ONVIF cameras.
224734	Dynamic Disk Pool (DDP) for Netapp E2800.
207101	Person Identification - Blacklisting of subjects
206392	Move ONVIF event management from BVMS Management Server to VSG.
124280	AUX commands for PTZ ONVIF cameras.
229914	Encrypted recording for ONVIF cameras.
243144	The virtual input icon has been inverted compared to BVMS 9.0 (open/off = white, closed/on = blue)
220922	Increased number of Monitor Groups in configuration to 50.

6.2 Installation Notes

For system design specifications the BVMS datasheet, configuration manual, pre-sales guide and quick installation guide should be used. These can be found on http://www.boschsecurity.com and http://knowledge.boschsecurity.com. The datasheet is subject to change. Translated versions are not published instantly; the English version is always up-to-date.

6.3 Versions

The table below lists the firmware versions which are used in the BVMS system test.

Device Compatibility

Up until some years ago, new released cameras, encoders, domes and decoders were are introduced into market after a BVMS release could not be connected to an existing BVMS version because these cameras where not known to the BVMS. In the BVMS 4.5.1, a new concept was introduced. This concept treats Bosch video encoders and decoders as generic devices, and automatically recognizes specific device functionality (for example the number of streams, relays and inputs). Based on this information the, at that time, unknown device is added to the system and can be used by the operator. This document, which can be found in the Bosch Building Technologies community, provides a detailed description of this functionality: BVMS - Device compatibility.

Component	Version
Bosch Video Stitcher	1.6.0.63
VideoSDK	6.33.0138
Firmware MPEG-4	4.15.0002
Firmware CPP3	5.74.0010, 5.75.0011
Firmware CPP4	7.10.0076

Component	Version
Firmware CPP5	6.30.0059, 6.31.0010
Firmware CPP6	7.10.0074, 7.50.0079
Firmware CPP7	7.10.0074, 7.50.0079
Firmware CPP7.3	7.10.0074, 7.50.0079
Firmware Aviotec	6.61.0021
Firmware CPP-ENC	5.54.0004, 5.54.0012 (for VIP X1600 XFM4)
Firmware CPP-ENC	5.97.0007 (for VJT XF E family, VIDEOJET decoder 3000)
Firmware X1/X2	2.53.0005
VIP XD HD	1.8
VIP XD	4.10.056
VJD 7000	54.8.2
VJD 8000	9.51.0058
Monitor Wall	8.0
VRM	3.82.0038 (64-bit)
VSG	7.0.2 (64-bit)
iOS	12.3.1
Web Client	11.165
BIS	4.5, 4.6
DiBos	8.7
BRS	8.10/8.11

Component	Version
Allegiant MCS	2.94 / 2.95
Intuikey Keyboard	1.96
DVR FW Version	2.1.3 (DVR400 / 600) 3.61 (DIVAR 700) 2.6.0 (Divar AN 3000/5000) 3.0.0 (Divar Network/Hybrid)
SQL Server	2017
Operating systems Operator Client, Configuration Client.	Windows 10 Professional (64-bit) May 2019 update (1903) Windows 10 Professional (64-bit) October 2018 update (1809) Windows 10 Enterprise (64-bit) LTSC build 1809
Operating systems Management Server, Mobile Video Service, Video Recording Manager	Windows (Storage) Server 2012 R2 (64-bit) Windows (Storage) Server 2016 (64-bit) Windows (Storage) Server 2019 (64-bit) Windows 10 Professional (64-bit) May 2019 update (1903) Windows 10 Professional (64-bit) October 2018 update (1809) Windows 10 Enterprise (64-bit) LTSC build 1809
Cameo SDK	1.3.0.0
BVMS SDK	1.9.0.0
RCPP	4.62.0059
Access Management System (AMS)	1.0
Barco RCP+ Agent	0.9.6.1

6.4 DIVAR IP

The following BVMS versions are supported on the specific DIVAR IP devices.

DIVAR IP	Generation	CTN	Operating System	Minimum BVMS version	Maximum BVMS version
7000	2	DIP-71x	Windows Server 2012 R2	BVMS 6.0	See remarks below
AiO 5000	1	DIP-52x	Windows Server 2016 R2	BVMS 9.0	See remarks below
AiO 7000	1	DIP-72x	Windows Server 2016 R2	BVMS 9.0	See remarks below

6.5 Hardware drivers

Component	Version
NVIDIA Quadro	Quadro Pro Driver for Microsoft Windows 10 (64-Bit) 430.64 (May 2019)
Intel	Intel Graphics Driver for Windows 10 (64bit) - 4600 GPU - 15.40.38.4963 (5. April 2018)
Intel	Intel Graphics Driver for Windows 10 (64bit) - 530 GPU - 15.46.05.4771 (30. August 2017)

> **Hardware requirements**
>
> Bosch strongly urges customers to use the driver versions mentioned above. This ensures that the software can perform its task reliably and the specified performance (Recent Intel drivers show issues with H.265 decoding).

6.6 Patched issues for BVMS 10.0

ID	Description	Fixed in	BVMS	BVMS Viewer
268300	**FIXED**: NetApp devices with Firmware version equal or higher than 11.60 cannot be added to BVMS	10.1	Download	Download
224524	**FIXED**: Configuration Client Improvements For Read-only Users	10.0.1	Download	Download
248195 / 243363	**FIXED**: Improving the Alarm Cameo handling, improving the command execution on a map in the Alarm pane via double click.	10.0.1	Download	Download

ID	Description	Fixed in	BVMS	BVMS Viewer
255156 / 255329	**FIXED**: Selecting an image pane doesn't trigger the Keyboard to go into PTZ mode. The OC is no longer reacting on Keyboard actions for instant playback.	10.0.1	Download	Download
243748	**FIXED**: [CVE-2020-6770] Attackers are able to execute arbitrary code.	10.0.1	Download	n/a
211404 / 241463	**FIXED**: [CVE-2020-6768 / CVE-2020-6767] Attackers are able to retrieve files from the Management Servers without permission.	10.0.1	Download	Download
241707	**FIXED**: DIP AiO iSCSI Load Balancing and Config Tabs	10.0.1	Download	Download
232054 / 232229	**FIXED**: Improvements in Forensic Search results and Video Export	10.0.1	Download	Download
224524	**FIXED**: Users are able to save changes in the Configuration Client when they only have read-only rights.	10.0.1	Download	Download
272951	**FIXED**: Inteox Camera: backward compatibility issues	10.1	Link to Downloadstore	Link to Downloadstore

6.7 Resolved issues

ID	Description
230789	**FIXED**: PTZ control is not automatically activated when the setting "*Start PTZ mode when selecting PTZ Image pane with mouse*" is enabled for KBD-UXF (USB keyboard). Work-around: enable PTZ control with the designated button on the keyboard.
219769	**FIXED**: When multiple access management systems are configured, events from only one system will be processed.
214843	**FIXED**: BISProxy: app.config file contains user credentials of a BVMS user in plain text.
208908	**FIXED**: Cannot move to the same preposition after manually controlling a PTZ camera.
205190	**FIXED**: OPC xml file (exported from the BVMS Configuration Client) does not contain DVR devices.

6.8 Known issues

> **Known issues**
>
> Known issues are inherited by previous versions. If an issue is fixed, it will appear in the list of resolved issues. The issue IDs can be used to relate an issue to a resolution.

ID	Subject	Description
256278	Decoder	Decoders that are running firmware 9.60 (or newer) might be detected as encoder. Workaround: configure the decoder using the Configuration Manager before adding it to BVMS.
251059	Security	Camera firmware 7.6x or newer requires VRM 3.82.0045 (or newer) for encrypted recording.
246052	Monitor Groups	The operator client suffers from a small memory leak when opening 25 monitor group controls simultaneously.
241806	VSG	Manual recording for VSG cameras is not implemented, even though there is a user permission for this.
242334 / 242723	DIVAR IP	The loadbalancing parameters for the DIVAR IP AiO 7000 are incorrect. Workaround: correct the values manually: 256 iSCSI sessions and 550Mbit/s.
243056	Security	When adding a new decoder to BVMS, the "secure connection" is not enabled by default. Cameras are added by default with the "secure connection" enabled, which causes issues displaying cameras on decoders. Workaround: deselect "secure connection" for the cameras which need to be displayed on decoders or select the "secure connection" for the decoder.
242209	DIVAR IP	The transcoding service is removed from the DIVAR IP AiO 5000 after upgrading the device to BVMS 10.0. Workaround: manually install the transcoding service (which is part of the VRM installation package, located in the https://downloadstore.boschsecurity.com).
243150	Security	Camera firmware 7.5x or newer does not support the use of the "+" in passwords. BVMS does not display a warning message, but the device will not apply the new password.
240124	GPU Decoding	When using 1080p cameras with 60 frames per second the GPU can be overloaded, which can cause frame-drops.
240193	Audio	Receiving multicast audio streams is not working. Work-around: use unicast audio streams.
239841	VSG	Recording packets might be dropped when VSG is writing to a multi-path enabled iSCSI target and the patch is switch-over.
239682	Security	In order to prevent recording losses: when a camera is set to encrypted recording it will fill up its current block with unencrypted recording. Encrypted recording will start in the next block.

ID	Subject	Description
239102	VSG	VSG 7.0.2 cannot use large LUNs.
231028	Security	Additional data is retrieved using VRM Playback, even when direct iSCSI playback is configured.
239593	BIS	When Operator Client and Management Server are installed on one single system the BIS communication might not work properly. Workaround: ensure that, on the Management Server, the "*IsServerMode*" setting in the *C:\ProgramData\Bosch\VMS\AppData\Bosch.Vms.BISProxy.settings.cxml* is set to 1.
237509	Security	Encoder playback and ANR is not working when the video is stored encrypted. ANR is not working when the camera connection is set to "secured".
236047	Log file collection	If the Operator Client crashes the system will automatically create a dump file. During the dump file creation process no progress is shown to the user, which might take several minutes.
232050	User Interface	Some dialogues are malformed when display scaling is used in Windows.
239129 / 239222	ONVIF	The ONVIF camera needs to be on-line and accessible when it is added to the BVMS configuration.
237628	Security	All devices should be either configured "secured" or "unsecured". Using a combination of "secured" connections with "unsecured" connections might lead to unexpected issues.
237292	DVR	In rare situations the Operator Client might freeze (temporarily) when opening a DVR camera in replay mode.
238286	SDK	Executing a BVMS Client script, located in the logical tree of a sub-system, from an Enterprise Operator Client is not working.
237381	GPU Decoding	Intel Driver 26.20.100.6912 (igfx_win10_100.6912.exe) does not offer GPU decoding for H.265.
236200	Security	The encryption status of a camera might be inconsistent when a fail-over VRM is used. There is no impact on the functionality itself.
238159	Security	Bosch cameras produced before January 2014 (with Crypto-Coprocessor version older than 3) may not able to encrypt their multicast traffic.
234423	DVR	Changing the default HTTPS port on a Bosch DVR can lead to strange behaviour.
235857 / 234423	ONVIF	When changing the configuration of a VSG the recording of all cameras related to the specific VSG is briefly interrupted.
236795	Forensic Search	Forensic Search is unavailable when the VRM is configured using an unsecured connection and the recording is encrypted.

ID	Subject	Description
231707	Forensic Search	When a local storage encoder is configured using a secure connection, Forensic Search is unavailable for that encoder.
226720	Security	When the VRM is configured using a secure connection, direct iSCSI playback will not work and is automatically falling back to VRM playback.
236389	Transcoding	For HW-based transcoding the HTTP service needs to be enabled on the camera OR the camera needs to be configured using a secured connection (HTTPS).
232057	Security	If an encoder is reset to factory default, the user and live passwords are not cleared from the BVMS configuration.
225801	DVR	Exporting panoramic cameras connected to a DIVAR Network or Hybrid might result in gaps in the export.
229915	Security	It is not possible to encrypt multicast traffic from the VSG to the Operator Client.
233480	Audio	AAC audio decoding is limited to 16bit-16kHz (single channel).
226817 / 224793	Security	When direct iSCSI playback is enabled, encrypted recordings cannot be replayed (black screen).
n/a	Security	When the VRM back-up (encryption) key is lost, recordings encrypted with this key cannot be decrypted and this data needs to be considered as lost.
229480	Windows	In rare cases, when using a large amount (~50) image panes displaying HTTP(s) content simultaneously, the operator client might crash after a forced activation of the configuration.
229550	Decoder	Cameras located in an unmanaged site cannot be displayed on a decoder.
224413	Windows	After de-activating the "Set time automatically" flag in the Windows (10) time settings, the BVMS time synchronization mechanism stops working and the time within the system (including the connected cameras) might start drifting.
233738	Security	BVMS is able to lock-out an account after a configurable amount of failed password entries. This functionality is not enabled by default for the default "Admin" account. For security reasons Bosch strongly recommends enabling this option for the user-group "Admin Group", changing the name of the "Admin" user-account, and adding a second user-account to the user-group "Admin Group". This minimizes the chance that the system administrator is fully locked-out of the system.
230526	Operator Client	The Operator Client start-up process was adjusted. Please use the Operator.Supervisor.exe to start the operator client. This might also impact a BVMS 10.0 system connected to an older BIS version: the operator client might not be automatically started.
231675	VRM	A fail-over VRM can no longer be added via scan if the Master VRM is already password protected and the fail-over VRM does not yet have a password set. Workaround: use the manual add dialogue.
224608	VRM	When VRM is using secured communication, the port of the fail-over VRM cannot be changed.

ID	Subject	Description
228584	ONVIF	In some cases the VSG does not recognize the Bosch camera when RCP+ is used. When adding a Bosch camera to the VSG, it should be added as an ONVIF camera, not as an RCP+(Bosch) camera.
224493	Security	Dual Authorization is only supported for the BVMS Operator Client and is not working for the (mobile) Video Security Client or other clients.
232199	Security	When encrypted video blocks are exported using the VRM eXport Wizard, they cannot be replayed in the BVMS Operator Client.
231245	Security	Bosch cameras produced before January 2014 (with Crypto-Coprocessor version older than 3) may not able to encrypt their recordings. The VSG can encrypt the recordings for these cameras if this is required.
230540	ONVIF	New ONVIF cameras cannot be added to DIVAR IP 2000 or DIVAR IP 5000 devices after the device is added to BVMS 10.
224544	Decoder	Only the Videojet Decoder 80xx/75xx (or newer) running the specified firmware is able to secure its communication to other system components. Other (older) decoders do not support this functionality.
229873	MVS	When the VRM passwords contains the "$" character, the MVS cannot start replay or live video.
175476	Language	Even when the language settings of the system is changed, the language of the alarms and events will not be translated and stay in the originally configured language.
211966	DIVAR IP 5000	DIVAR IP 5000 is added with HTTPS connection by default. Earlier BVMS systems need to be migrated to HTTPS manually and RCP+ needs to be disabled in the DIVAR IP 5000 configuration.
223720	Intelligent Insights	In some situation the Operator Client can crash when BVMS is combined with Intelligent Insights and the Operator Client is running on Windows 10 (1803 and older). Work-around: upgrade Windows 10 to at least version 1809.
228756	Security	When an ONVIF encoder is changed from secure communication to insecure communication the ONVIF encoder might not be reachable. Work-around: remove the ONVIF encoder from the configuration and re-add it.
218509	Migration	User-data is not included in the "export" configuration functionality. Work-around: BVMS - Migrate configuration and user settings on https://community.boschsecurity.com.
223898	LDAP	When using LDAP based authentication, LDAP users which are only member of the "Domain User" group are not allowed to login. Work-around: create a separate group for BVMS users in the LDAP configuration.
227152	ONVIF	The Bosch Videojet X40 does not appear in the ONVIF scan wizard. Work-around: add it to the system manually.
226724	Person Identification	Starting the "Manage Persons" dialogue on multiple Operator Clients might lead to an inconsistent state. Work-around: close the "Manage Persons" dialogue on all Operator Clients and re-open it. Bosch recommends assigning this user-permission to security manager roles only to prevent this issue.

ID	Subject	Description
220350	ONVIF	In some situation the Operator Client can crash when G726 or AAC audio codecs are enabled on Samsung cameras.
220835	Windows	The "Pin to taskbar" functionality cannot be used for the Operator Client. Work-around: drag and drop the shortcut from the desktop into the taskbar.
214132	Windows	The .NET framework 4.7.2 is required for BVMS 10.0. It is not possible to install this version of the .NET framework on older Windows 10 versions (1511 and older).
220539	Forensic Search	When using SSH connectivity Forensic Search is not available.
215234	Logbook	When an external logbook database is used "Autogrowth" should be disabled. If "Autogrowth" is enabled the server log file is "spammed". Work-around: consider disabling "Autogrowth".
223383	Logbook	When an external logbook database is used Microsoft SQL Server 2017 is the minimum version.
222471	Alarms	If the "suppress" alarm functionality is used, the related alarm recording settings and scripts will not be executed.

7 BVMS Version 9.0

This document is distributed within the installation package, but is updated from time to time. The latest version of the Release Notes is always available on the Bosch Security Systems Product Catalog. Version 9.0 introduces new features and resolved issues to BVMS.

7.1 New functionality

ID	Description
172164	Configure 800 iSCSI session and 1000Mbit/s on the "other" iSCSI device
160421	Safe delivery of software
163204	Enable B-frames in live and playback
165742	Add an unmanaged network device using hostname
187167	Test DL380 G10
165743	Add a DVR to the system with a deviating port
184368	Persistent alarms when management server is (gracefully) restarted
184396	BVMS operator client is able to replay exports from the VRM eXport Wizard
184363	Implement a state event when an export is running
184369	Configure a maximum retention time for the logbook
184364	Device icon blinks while an alarm is active
184376	Alarms cannot be cleared when originating state has not changed
184377	Prevent duplicated alarms from the same device and event
174321	Microsoft SQL Server 2017 Express integrated
134518	BVMS Dark color theme
172229	Enable GOPs up to 255 in live and playback
170202	Manual access control authorization [**hidden**]
191808	BVMS Plus licensing scheme
163693	Replace a camera without loosing recording
191482	Move bonus documentation files from installation to https://community.boschsecurity.com
184373	Extended user and password management
184374	Several SDK extensions

ID	Description
184375	Enhancements and extensions of configuration reports
184367	Camera maintenance (deactivation) mode
184366	Restricted access to VRM monitor
190920	Update existing recording profiles to match recommended camera settings
184371	Permissioned configuration client
197341	Move Analog Monitor Group (AMG) control to the image-pane
182352	Optimize ePTZ handling for 180 degree panoramic cameras Adjust default zoom level for all panoramic cameras
180441	Limit the number of image panes per user group
155461	Allow non-BVMS clients (Video Security Apps) to access the BVMS user authentication service
160582	Configure CHAP passwords for cameras, enabling ANR and local replay.
191896	Barco agent 0.9.5.0 (tested with encoder passwords)
191194	Searching for access control events [**hidden**]

7.2 Installation Notes

For system design specifications the BVMS datasheet, configuration manual, pre-sales guide and 1uick installation guide should be used. These can be found on http://www.boschsecurity.com and http://knowledge.boschsecurity.com. The datasheet is subject to change. Translated versions are not published instantly; the English version is always up-to-date.

7.3 Versions

The table below lists the firmware versions which are used in the BVMS system test.

> **Device Compatibility**
>
> Up until some years ago, new released cameras, encoders, domes and decoders that were introduced into market after a BVMS release could not be connected to an existing BVMS version because these cameras where not known to the BVMS. In the BVMS 4.5.1, a new concept was introduced. This concept treats Bosch video encoders and decoders as generic devices, and automatically recognizes specific device functionality (for example the number of streams, relays and inputs). Based on this information the, at that time, unknown device is added to the system and can be used by the operator. This document, which can be found in the Bosch Building Technologies community, provides a detailed description of this functionality: BVMS - Device compatibility.

Component	Version
Bosch Video Stitcher	1.6.0.63

Component	Version
VideoSDK	6.31.0067
Firmware MPEG-4	4.15.0002
Firmware CPP3	5.74.0010
Firmware CPP4	6.50.0128 / 6.51.0026 / 6.51.0028 / 6.60.0065 / 6.61.0025
Firmware CPP5	6.30.0059
Firmware CPP6	6.50.0128 / 6.51.0026 / 6.51.0028 / 6.60.0065 / 6.61.0025
Firmware CPP7	6.50.0128 / 6.51.0026 / 6.51.0028 / 6.60.0065 / 6.61.0025
Firmware CPP7.3	6.50.0128 / 6.51.0026 / 6.51.0028 / 6.60.0065 / 6.61.0025
Firmware CPP-ENC	5.53.0004 (for VIP X1600 XFM4)
Firmware CPP-ENC	5.97.0005 / 5.97.0007 (for VJT XF E family, VIDEOJET decoder 3000)
Firmware X1/X2	2.53.0005
VIP XD HD	1.8
VIP XD	4.10.056
VJD 7000	54.8.2
VJD 8000	9.10.0029
VRM	3.81.0032 (32-bit) / 3.81.0038 (32-bit) / 3.81.0048 (32-bit)
VSG	6.44.0022 / 6.45.0005 / 6.45.0006 / 6.45.0008
iOS	9.0.2 / 9.3.5 / 10.3.1 / 11.4
Web Client	11.165

Component	Version
BIS	4.4, 4.5, 4.6
DiBos	8.7
BRS	8.10/8.11
Allegiant MCS	2.94 / 2.95
Intuikey Keyboard	1.96
DVR FW Version	2.1.3 (DVR400 / 600) 3.61 (DIVAR 700) 2.5.0 (Divar AN 3000/5000) 1.4.0 (Divar Network/Hybrid)
SQL Server	2017
Operating systems Operator Client, Configuration Client.	Windows 10 Professional (64-bit) October 2018 update (1809) Windows 10 Professional (64-bit) Spring Creators update (1803) Windows 10 Professional (64-bit) Fall Creators update (1709) Windows 10 Enterprise (64-bit) LTSB 2016 (1607)
Operating systems Management Server, Mobile Video Service, Video Recording Manager	Windows (Storage) Server 2012 R2 (64-bit) Windows (Storage) Server 2016 (64-bit) Windows 10 Professional (64-bit) Spring Creators update (1803) Windows 10 Professional (64-bit) Fall Creators update (1709) Windows 10 Enterprise (64-bit) LTSB 2016 (1607)
Cameo SDK	1.3.0.0
BVMS SDK	1.9.0.0
RCPP	4.61.0028

7.4 Hardware drivers

Component	Version
NVIDIA Quadro	Quadro Pro Driver for Microsoft Windows 10 (64-Bit) 385.69 (2017-09-21)
AMD	FirePro Unified Graphics Driver for Windows 10 (64-bit) 17.Q3 (2017-27-07)
Intel	Intel Graphics Driver for Windows 10 (64bit) - 4600 GPU - 15.40.38.4963 (5. April 2018)
Intel	Intel Graphics Driver for Windows 10 (64bit) - 530 GPU - 15.46.05.4771 (30. August 2017)

> **Hardware requirements**
>
> Bosch strongly urges customers to use the driver versions mentioned above. This ensures that the software can perform its task reliably and the specified performance.

7.5 Patches issued

ID	Description	Fixed in	BVMS	BVMS Viewer
243748	**FIXED**: [CVE-2020-6770] Attackers are able to execute arbitrary code.	10.0.1	Download	n/a
211404 / 241463	**FIXED**: [CVE-2020-6768 / CVE-2020-6767] Attackers are able to retrieve files from the Management Servers without permission.	10.0.1	Download	Download
241707 / 242334	**FIXED**: DIVAR IP AiO iSCIS load balancing are incorrect.	10.0.1	Download	Download
219067	**FIXED**: VRM was losing its license and recording was stopped if the "secure connection" was used between BVMS and the cameras.	10.0	Download	Download
208696 / 235489	**FIXED**: Rare Operator client crash when video stream was lost.	10.0	Download	Download
231649	**FIXED**: AUX command cannot be triggered twice in a row.	10.0	Download	Download
225178	**FIXED**: MVS web login failed.	10.0	Download	n/a

ID	Description	Fixed in	BVMS	BVMS Viewer
227171	**FIXED**: DVR Hybrid frame drops.	10.0	Download	Download
223779	**FIXED**: An issue caused in some cases that recording parameters are not written correctly to the devices.	10.0	Download	Download
221394 / 221454	**FIXED**: Enhancing the change password mechanism to improve the behaviour in cases dual authorizations are used.	10.0	Download	Download
221373	**FIXED**: MOV export issues (black video, seeking).	10.0	Download	Download
208909	**FIXED**: Enabled access control integration.	10.0	Download	n/a
219829	**FIXED**: [CVE-2019-6957 / CVE-2019-6958] Buffer overflow and improper access control	10.0	Download	Download
218718	**FIXED**: Delayed actions which require user authentication, including taking control of PTZ cameras, logging into the system and SDK logins.	10.0	Download	Download
207457	**FIXED**: Inconsistent display of red dot recording state	10.0	Download	Download
216818	**FIXED**: Configuration client crash when malicious input was entered in the address book (DDOS)	10.0	Download	Download
212907	**FIXED**: Missing context menu on AMG control (clear/disconnect, toggle quad mode, set volume).	10.0	Download	Download
209977	**FIXED**: GPU decoding is not functioning properly with Nvidia Quadro P600.	10.0	Download	Download
224524	**FIXED**: Users are able to save changes in the Configuration Client when they only have read-only rights.	10.0.1	Download	Download
272951	**FIXED**: Inteox Camera: backward compatibility issues	10.1	Link to Downloadstore	Link to Downloadstore

7.6 Resolved issues

ID	Description
69514	**FIXED**: Record AAC does not work. Encoders will automatically use G.711 to record audio.
183720	**FIXED**: improved GPU/CPU balancing for 60fps cameras.
189400	**FIXED**: removed memory indicator.

ID	Description
182561	**FIXED**: silent login connection parameter.
109192	**FIXED**: edge-dewarping with panoramic camera.

7.7 Known issues

> **Known issues**
>
> Known issues are inherited by previous versions. If an issue is fixed, it will appear in the list of resolved issues. The issue IDs can be used to relate an issue to a resolution.

ID	Subject	Description
250790	Decoder	The BVMS Operator Client 10.0 in Compatibility Mode with BVMS 9.0 Management Service is not able to control AMGs.
242334	Storage	Wrong values for the iSCSI "load balacing" for DIVAR IP AiO 7000.
241560	Setup	The SQL Server installation might fail if VS Shell 2015, VS Shell 2017, VC++ 2015, or VC++ 2017 are installed on the target system. Workaround: remove these components and restart the BVMS installation. After BVMS has been installed the components can be re-installed as well.
238185	SDK	Client SDK denies login if SDK user is not part of the same user group as the current operator user. Alternatively an account in the "Admin Group" can be used for ClientSDK access.
230789	Keyboard	PTZ control is not automatically activated when the setting "*Start PTZ mode when selecting PTZ Image pane with mouse*" is enabled for KBD-UXF (USB keyboard). Work-around: enable PTZ control with the designated button on the keyboard.
220536	Forensic Search	When using SSH connectivity Forensic Search is not available.
222090	Language	Once a BVMS language is set, the configuration is initiated and it cannot be changed without reconfiguring the entire system.
219769	Access Control	When multiple access management systems are configured, events from only one system will be processed.
219618	SNMP	Due to a change in Windows 10 "October 2018 update" (1809), the BVMS installer is not able to install the required SNMP components. This needs to be manually installed ("Settings" app, "Apps & Features", "Manage optional features", "Install SNMP".
211909	Alarms	Compound events should not be nested: cyclic references to compound events could prevent the management server from processing other events.
216797	MVS	When an MVS is configured in the system (by default when using the Configuration Wizard on DIVAR IP appliances), but not installed, the software transcoder does not work.

ID	Subject	Description
208908	PTZ	Cannot move to the same preposition after manually controlling a PTZ camera.
214843	Configuration	BISProxy: app.config file contains user credentials of a BVMS user in plain text.
218284	Configuration	User data (including favourites) cannot be moved (exported/imported) from one server to another.
179879	Decoder	Decoders are not able to connect to cameras with an empty user password (even though the destination password is empty). Ensure the destination password on the decoders is matching with the user passwords on the cameras and this is not blank.
208326	Languages	The "OK" and "Cancel" buttons of the configuration client's settings dialogue are not displayed when it is running on an Operating System set with the Arabic language. The "ESC" button on the keyboard can be used to cancel, the "ENTER" button on the keyboard can be used to OK.
208193	Maps	In rare occasions the hotspots located on a map need to be re-aligned manually.
208286	DIP	BVMS 9.0 cannot be installed on first generation (DIP-70xx-xHD and DIP-30xx-xHD) DIVAR IP devices due to the outdated operating system.
207248 / 236468	Streaming	The MVS (Mobile Video Service) cannot process IBBP and IBP GOP structures. Additionally it is limited to an I-frame distance of 30. When using the MVS in a BVMS system, the image optimized profiles should be used. When using 4K cameras the MVS might respond slowly in replay.
208062	Storage	When the recordings of an old camera are attached to a new camera, a BVMS configuration rollback to a point in time before the attachment, will result in the loss of all related recordings. Please wait with the rollback until the recordings of the old camera are overwritten (retention time) or restore the configuration settings manually.
208087	Storage	When the recordings of an old camera are attached to a new camera, the recordings of the old camera are not available through encoder-replay.
207780	GPU	When using the recommended Nvidia Quadro Pro Driver (385.69) on Windows Server 2012 R2 systems, h.265 streams might be distorted.
206756	GPU	Intel Graphics Driver for Windows 10 24.20.100.6136 cannot be used for GPU decoding. Software decoding will be used.
207814	Streaming	Reverse playback does not work when using transcoding.
207207	SSH	The connection between the operator client and the management server might be lost when using SSH and the (remote) connection is utilized over 90%.
204379	Storage	When importing the configuration from a VRM, which uses an E-Series 2800 dual controller device that is distributed across different pools, the storage device needs to removed and re-added to your configuration in order get the correct LUNs assigned to the pools.

ID	Subject	Description
203933	User management	When changing the password of an enterprise account, and the activation is activated with the "forced restart" option enabled, the connected operator clients do not restart. The operator clients need to be manually restarted.
205959	ANR	ANR replay is not working when the "access protection enforcement" and "password policy enforcement" options in the camera are enabled.
204968	GPU	A memory leak is observed when using not-recommended Nvidia driver versions, which could result in decreased system performance. Please use the recommended Nvidia drivers, as mentioned in the section above.
191527	General	Microsoft Support - Service does not start: BVMS set-up automatically sets *HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\ServicesPipeTimeout* to *60000* in order to ensure the BVMS services are started correctly.
182727	ONVIF	When using a multi-sensor ONVIF camera, motion detection events will be raised as an device alarm: sensor specific motion alarms cannot be processed.
205170 205166	Performance	Removing up to 9999 devices and/or items from the configuration can take up to 2 minutes.
203910	SDK	The DisplayCameraInInstantPlayback SDK function cannot be used in the BVMS Enterprise Client SDK.
200816	SDK	The RemoteClientApi SDK functions in the BVMS script engine cannot be used from the BVMS Server. An external application needs to be used to control the client using the RemoteClientApi.
189629	Audio	The G726 audio codec cannot be used combined with ONVIF cameras.
195810	Storage	Exports done by using the VRM eXport Wizard do not contain time-zone information. The time will be mapped to the UTC time-zone.
200514	Streaming	When using a very long GOP (up to 255) combined with a low frame-rate (1fps) the (time) distance between the i-frames is too large and playback cannot be displayed. Bosch recommends reducing the GOP length to 30 in this scenario.
172229	Streaming	When using a very long GOP (up to 255) the operator client needs to load the entire GOP in order to display the right image. This will cause an additional load on the network and storage, which makes long GOPs less suitable for low-bandwidth environments in which the operator wants to quickly browse through video. Bosch recommends reducing the GOP length to 30 in this scenario.
195698	Decoder	The Analogue Monitor Group (AMG) control has been moved from an fixed area of the operator client to an image-pane based control. When a BVMS system is upgraded, and using AMG, the control should be added to the logical tree to ensure operators have access to the AMG functionality after the upgrade.
192510	General	Due to the upgrade to Microsoft SQL Server 2017 BVMS 9.0 cannot be installed on Microsoft Windows 7 and Windows Server 2008 R2. Additionally the BVMS set-up size has increased.

ID	Subject	Description
192510	General	When upgrading an existing BVMS version to BVMS 9.0, the set-up needs to be manually restarted after the installation of Microsoft SQL Server 2017 has completed and the server has been restarted.
196172	Decoder	Dome-presets in a sequence do not work when the sequence is controlled from the digital monitor wall. This only works when the sequence is controlled from the analog monitor group.
198610	Streaming	GOPs larger then 255 will not be decoded.
189289	Streaming	B-frames will only be enabled on encoders which explicitly support this and are running FW 6.40 or newer.
191197	Storage	All LUNs that are scanned on an iSCSI target are added to the configuration.
186267 / 189329	Security	HTTPS encryption between DVRs and BVMS system components is only applicable for "control" traffic, not for video streams.
189681	Connectivity	When connecting to a DIVAR Hybrid and Network in a routed/NAT setup, using a different port than 443 or 80, video (live and recording) will not be shown.
199271	Export	When exporting using MOV, the MOV playlist might not play. The individual files will play.
196239	Streaming	When using a very long GOP (up to 255) and using I-frame only recording, the video will not show smoothly or completely disappear.
190090	Alarms	The file in which alarms are stored (persistent alarms) is removed when upgrading the system.

8 BVMS Version 8.0

8.1 Introduction

The latest version of the Release Notes is always available on the Bosch Security Systems Product Catalog. Version 8.0 introduces new features and resolved issues to the BVMS.

8.2 New functionality

ID	Description
165770	Move to 64-bit software architecture
146474	Favorites can be used in combination with unmanaged sites
172375	SSH connectivity can be used in combination with unmanaged sites
173425	The "Admin" username can be changed
158123	SDK: remove protection from recordings
169488	Support bi-directional audio for MIC 7000 combined with Videojet Connect 7000
144613	Improve operator client performance by Nvidia GPU decoding
144682	DSA E-series 2800 single controller preparations
134122	Live, playback, asf-, mov-, and native export of H.265 devices
160935	Implementation of MIC 9000 specific user interface options
156279	Microsoft Windows Server 2016 is added to the system test.
157936	Fault-tolerance based on Stratus Everrun
160516	Show IVA rule configuration in Operator Client (overlay)
174552	Barco agent 0.9.4.0 tested

8.3 Installation Notes

For system design specifications refer to the BVMS datasheet, Configuration Manual, pre-sales guide and Quick Installation Guide on http://www.boschsecurity.com. The datasheet is subject to change. Translated versions are not published instantly, for the latest version refer to the English version.

The installation manual and additional documentation of Bosch DSA E-Series iSCSI disk arrays can be found in Bosch on-line product catalogue on http://www.boschsecurity.com.

8.4 Firmware

The table below lists the firmware versions which are used in the BVMS system test.

> **Device Compatibility**
>
> Up until some years ago, new released cameras, encoders, domes and decoders that are introduced into market after a BVMS release could not be connected to an existing BVMS version because these cameras where not known to the BVMS. In the BVMS 4.5.1, a new concept was introduced. This concept treats Bosch video encoders and decoders as generic devices, and automatically recognizes specific device functionality (for example the number of streams, relays and inputs). Based on this information the, at that time, unknown device is added to the system and can be used by the operator. This document, which can be found in the Bosch Building Technologies community, provides a detailed description of this functionality: BVMS - Device compatibility.

Component	Version
Bosch Video Stitcher	1.6.0.63
VideoSDK	6.12.0078 / 6.15.0103
Firmware MPEG-4	4.15.0002
Firmware CPP3	5.74.0004
Firmware CPP4	6.41.0037 / 6.42.0021 / 6.43.0027 / 6.51.0026 / 6.44.0027 / 6.51.0028
Firmware CPP5	6.30.0047 / 6.30.0059
Firmware CPP6	6.41.0037 / 6.42.0021 / 6.43.0027 / 6.51.0026 / 6.44.0027 / 6.51.0028
Firmware CPP7	6.41.0037 / 6.42.0021 / 6.43.0027 / 6.51.0026 / 6.44.0027 / 6.51.0028
Firmware CPP7.3	6.41.0037 / 6.42.0021 / 6.43.0027 / 6.51.0026 / 6.44.0027 / 6.51.0028
Firmware CPP-ENC	5.53.0004 (for VIP X1600 XFM4)
Firmware CPP-ENC	5.97.0005 (for VJT XF E family, VIDEOJET decoder 3000)
Firmware X1/X2	2.53.0005
VIP XD HD	1.8
VJD 7000	54.8.2

Component	Version
VJD 8000	9.00.0134
VRM	3.70.0056 / 3.71.0022 / 3.71.0029 / 3.71.0031
VSG	6.42.0010 / 6.43.0017
iOS	9.0.2 / 9.3.5 / 10.3.1
Web Client	11.0.96
BIS	4.3, 4.4, 4.5
DiBos	8.7
BRS	8.10/8.11
Allegiant MCS	2.94 / 2.95
Intuikey Keyboard	1.96
DVR FW Version	2.1.3 (DVR400 / 600) 3.61 (DIVAR 700) 2.5.0 (Divar AN 3000/5000) 1.2.1 (Divar Network/Hybrid)
SQL Server	2014
Operating systems Operator Client	Windows 8.1 64-bit; Windows 10 64-bit creators update (1703)
Operating systems Config Client	Windows 8.1 64-bit; Windows 10 64-bit; Windows Server 2012 R2 64-bit; Windows Server 2016 64-bit.
Operating systems Management Server, Mobile Video Service	Windows Server 2008 R2 SP1 64-bit (DIVAR IP only); Windows Server 2012 R2 64-bit; Windows Server 2016 64-bit.
Cameo SDK	1.3.0.0
BVMS SDK	1.9.0.0

Component	Version
RCPP	4.53.0.35

8.5 Hardware drivers

Component	Version
NVIDIA Quadro	Quadro Pro Driver for Microsoft Windows 7/8.1 (64-Bit) 385.08 (28.June 2017) Quadro Pro Driver for Microsoft Windows 10 (64-Bit) 385.69 (21.September 2017)
AMD	FirePro Unified Graphics Driver for Windows 8.1/10 (64-bit) 17.Q3 (27.July 2017)

> **Hardware requirements**
>
> Bosch strongly urges customers to use the driver versions mentioned above. This ensures that the software can perform its task reliably.

8.6 Patches issued

ID	Description	Fixed in	BVMS	BVMS Viewer
243748	**FIXED**: [CVE-2020-6770] Attackers are able to execute arbitrary code.	10.0.1	Download	n/a
211404 / 241463	**FIXED**: [CVE-2020-6768 / CVE-2020-6767] Attackers are able to retrieve files from the Management Servers without permission.	10.0.1	Download	Download
206026 / 207457	**FIXED**: inconsistent state display of red dot recording state overlay.	10.0	Download	Download
219829	**FIXED**: [CVE-2019-6957 / CVE-2019-6958] Buffer overflow and improper access control.	10.0	Download	Download
216927 / 190582	**FIXED**: inappropriate handling of inputs in the timeline date/time edit box; out-of-sync replay for DVR cameras on replay position change with the UXF keyboard.	9.0	Download	Download
202562 / 205267 / 198002 / 195261	**FIXED**: Operator Client showed black images while replaying exports; ImageDecoder log directories with a constantly growing number of log files; video display issues with VIP 10 devices; missing IVAe overlays in CameoSDK applications.	9.0	Download	Download

ID	Description	Fixed in	BVMS	BVMS Viewer
205263 / 203669 / 199314	**FIXED**: Invalid display of maps in some cases, Configuration Client to crash on conversion of specific maps.	9.0	Download	Download
198854	**FIXED**: Missing favorites in offline situations.	9.0	Download	Download
208696	**FIXED**: The Operator Client casrhed on video stream loss under certain circumstances.	9.0	Download	Download
216818	**FIXED**: Configuration client crash when malicious input was entered in the address book (DDOS)	10.0	Download	Download
216927	**FIXED**: Date selection for timeline is not valid if day or month is entered as single digit	9.0	Download	Download
185070	**FIXED**: Implemented multipathing for DSA E-series 2800	9.0	Download	Download
190582	**FIXED**: Out-of-sync replay for DVR cameras on replay position change with the UXF keyboard.	9.0	Download	Download
195380	**FIXED**: alarm recording stopped in some cases when triggering a configuration change.	9.0	Download	Download

8.7 Resolved issues

ID	Description
161444	**FIXED**: For some profiles, the default value for target bit rate is higher than the value of the maximum bit rate.
30130	**FIXED:** VRM System camera/encoder scan renames cameras
170208	**FIXED**: Instead of "freezing" the (live) video when the network experiences packet loss, the video will now be decoded on best-effort. As a result, network issues are shown to the operator as artifacts.

8.8 Known issues

ID	Description
215086	In some cases Bosch H.265 cameras cannot be added to the system configuration using the "Scan encoders" dialogue. Workaround: add the cameras manually based on their IP address.
217354	Configuration Client might crash when the scriptlet ID of a script is changed manually in the script editor.
205190	OPC xml file (exported from the BVMS Configuration Client) does not contain DVR devices.

ID	Description
VRM-2983	Possible Communication Issue between BVMS 8.0 and VRM 3.70 or 3.71
183720	The performance estimations of some GPUs are not fully correct, which could lead to a performance decrease compared to CPU decoding. GPU decoding can be disabled as a work-around. The exact impact is listed in the BVMS project checklist.
183162	In some situations connecting to a DIVAR Hybrid or Network may take longer than 20 seconds.
172618	The Netapp FAS 2040 cannot be configured from the BVMS Configuration Client.
183179/183372	In some situations MPEG4 connected VSG cameras cannot be replayed anymore.
184192	The SSH tunneling protocol cannot be used to connect the BVMS Configuration Client to the BVMS Management server.
184327	When the language of the operating system is set to Turkish, the Bosch Video Stitcher cannot be licensed. Please set the operating system language to English.
182788	When firmware 6.40 or 6.41 is used on the camera, video authentication will not work. Keep firmware 6.32 if this functionality is used.
182804	The input states of a Bosch DIVAR 400 and DIVAR 600 are not monitored.
81663	ANR enabled cameras, or local storage cameras, are not able to replay video if any live or user password is set.
157312	Forensic search is not possible on video footage exported from BVMS.
179879	When the "access protection enforcement" of a Bosch encoder (running firmware 6.40 or newer) is enabled, the video cannot be displayed on decoders. In order to work-around the issue a "user" password needs to be set on the encoder, and the "destination" password needs to be set on the decoder. The user and destination password needs to match.
171880	When an encoder is configured with invalid (definition can be found in the configuration manual) password characters a pre-set will not be triggered.
n/a	The MVS is not able to transcode H.265 video.
170401	Due to the migration to the 64-bit software architecture 32-bit CameoSDK applications cannot connect to the BVMS 8.0 management server.
169982	The OIDs of SNMP traps might be shifted after upgrading to BVMS 8.0. The alarms configured in the receiving system need to be adjusted to the new OIDs.
171856	After locking the pc, and logging in again, the Operator Client can crash when using non-tested Nvidia drivers. This problems has been confirmed by Nvidia and Bosch strongly recommends using the tested Nvidia driver version mentioned earlier in this document.
172049	The motion+ search algorithm is only available for analogue cameras connected to a DIVAR Network or Hybrid.
165214	Hotspots might be flickering when moving the map.
164871	DIVAR AN, Network and Hybrid devices show the wrong interval in the time-line for protected and restricted video.

ID	Description
156070	After changing the IP address of a camera from the BVMS Config Client the VRM service needs to be stopped, the VRM config.xml needs to be removed, and the VRM service needs to be restarted.
165472 / 173637	Authentication problems are known when using Axis cameras combined with BVMS. Axis has released new firmware to mitigate this problem. The recommended firmware can be found on http://ipp.boschsecurity.com/bvms
156105 / 167598	BVMS is not able to use the transcoding resources offered by the Videojet XTC transcoder.
167294	In some situations decoding problems might arise when trying to decode a Hirschmann encoder.
173162	In rare situations the Operator Client can crash when a camera is opened which is authenticated using invalid password-characters.

9 BVMS Version 7.5

9.1 Introduction

The latest version of the Release Notes is always available on the Bosch Product Catalog (www.boschsecurity.com). Version 7.5 introduces new features and resolved issues to the BVMS.

9.2 New features

ID	Description
153834	DIVAR Network / Hybrid supported
69032	Map viewer improved
157938	Forensic Search license not needed any more
138588	Accelerated playback speed (I-frame only playback)
155351	Camera PTZ control via BIS
155352	Start and stop sequences via BIS
155353	Added "visibility" state to camera state
108262	The Operator Client can communicate with the full system using a single network port.
147027	Windows 10 and Windows Server 2016 supported for BVMS Management Server

9.3 Installation Notes

For system design specifications refer to the BVMS datasheet, Configuration Manual, pre-sales guide and Quick Installation Guide on http://www.boschsecurity.com. The datasheet is subject to change. Translated versions are not published instantly, for the latest version refer to the English version.

The installation manual and additional documentation of Bosch DSA E-Series iSCSI disk arrays can be found in Bosch on-line product catalogue on http://www.boschsecurity.com.

9.4 Firmware

Device Compatibility

Up until some years ago, new released cameras, encoders, domes and decoders that are introduced into market after a BVMS release could not be connected to an existing BVMS version because these cameras where not known to the BVMS. In the BVMS 4.5.1, a new concept was introduced. This concept treats Bosch video encoders and decoders as generic devices, and automatically recognizes specific device functionality (for example the number of streams, relays and inputs). Based on this information the, at that time, unknown device is added to the system and can be used by the operator. This document, which can be found in the Bosch Building Technologies community, provides a detailed description of this functionality: BVMS - Device compatibility.

Component	Version
VideoSDK	6.0.5.288
Firmware MPEG-4	4.15.0002
Firmware CPP3	5.74.0004
Firmware CPP4	6.32.0111 / 6.32.0111 / 6.40.0232 / 6.44.0027
Firmware CPP5	6.30.0047 / 6.31.0003 / 6.30.0059
Firmware CPP6	6.32.0111 / 6.32.0111 / 6.40.0232 / 6.44.0027
Firmware CPP7	6.32.0111 / 6.32.0111 / 6.40.0232 / 6.44.0027
Firmware CPP7.3	6.44.0027
Firmware CPP-ENC	5.53.0004 / 5.54.0004 (for VIP X1600 XFM4)
Firmware CPP-ENC	5.97.0005 / 5.97.0007 (for VJT XF E family, VIDEOJET decoder 3000)
Firmware X1/X2	2.53.0005
VIP XD HD	1.8
VDJ 7000	54.8.2
VDJ 8000	8.21.0028
VRM	3.60.0053 / 3.70.0056 / 3.70.0062 / 3.71.0031
VSG	6.30.0055
iOS	7.1.1 / 8.3 / 9.0.2 / 9.3.5 / 10.0.1
Web Client	11.0.96
BIS	4.2 / 4.3

Component	Version
Bintelan Analytics Platform	5.7.5955.25388
DiBos	8.7
BRS	8.10/8.11
Allegiant MCS	2.94
Intuikey Keyboard	1.96
VMWare	5.1.0
DVR	2.3.2 (DVR400 / 600) 3.60 (DIVAR 700) 1.1.2 (Divar Network/Hybrid)
Operating systems Operator Client	Windows 7 64-bit, Windows 8.1 64-bit; Windows 10 64-bit anniversary update
Operating systems Config Client	Windows 7 64-bit, Windows 8.1 64-bit; Windows 10 64-bit; Windows Server 2008 R2 SP1 64-bit; Windows Server 2012 R2 64-bit; Windows Server 2016
Operating systems Management Server, Mobile Video Service	Windows Server 2008 R2 SP1 64-bit; Windows Server 2012 R2 64-bit; Windows Server 2016
CameoSDK	1.3.0.0
BVMS SDK	1.9.0.0

9.5 Hardware

> **Hardware requirements**
>
> For the HW-requirements of other components like VRM, VSG, Allegiant MCS – Please refer to the documentation of these components

Component	Version
NVIDIA Quadro	Driver for Windows 7 and Windows 8.1 (64-bit): 381.65 Driver for Windows 10 (64-bit): 377.11
AMD	Driver for Windows 8.1 (64-bit) 17.Q1.1 Driver for Windows 10 (64-bit) 17.Q1.1

9.6 Patches issued

ID	Description	Fixed in	BVMS	BVMS Viewer
219829	**FIXED**: [CVE-2019-6957 / CVE-2019-6958] Buffer overflow and improper access control	10.0	Download	Download
204822	**FIXED**: Memory leak on frequent CameoSDK connects/disconnects and an operator client crash in some cases when opening cameras of a Videojet Multi 4000.	9.0	Download	Download
216818	**FIXED**: Configuration client crash when malicious input was entered in the address book (DDOS)	10.0	Download	Download
207457	**FIXED**: Inconsistent state display of red dot recording in Operator client.	10.0	Download	Download
190762	**FIXED**: Problems with retrieving ONVIF topics and subscribing ONVIF events.	9.0	Download	Download
176748	**FIXED**: Problems with topics and events of SightLogix NS-90 thermal camera.	8.0	Download	Download
191701	**FIXED**: Toggling relays with the IntuiKey keyboard does not work in some cases.	9.0	Download	Download
197578	**FIXED**: Configuration Client logins failed for systems with special IntuiKey keyboard login constellations.	9.0	Download	Download
194599	**FIXED**: Specific GSM modem models failed to send SMS messages.	9.0	Download	Download
173617	**FIXED**: Dome preview failures on Configuration Client..	8.0	Download	Download

9.7 Resolved issues

ID	Description
161444	**FIXED**: For some profiles, the default value for target bit rate is higher than the value of the maximum bit rate.
30130	**FIXED:** VRM System camera/encoder scan renames cameras
147278	**FIXED**: When using the Bosch VMS CameoSDK, frequent connect/disconnect can cause a memory leak. It is recommended to use a permanent connection when using the CameoSDK.

9.8 Known issues

ID	Topic	Description
191832	MVS	Mobile Video App cannot use DDNS URL for login.
n.a.	SSH	The SSH service cannot be used in an BVMS Enterprise Management environment.
150009	Decoder	Videojet decoder 7000 / 8000 do not support audio in BVMS
n.a	Decoder	Videojet connect 7000 does not support audio out
165163	VRM	Changing name of a Video Recording Manager in BVMS does NOT change the "VRM Server Name" on the cmlib-page of the VRM
n.a.	VRM	When adding a VRM device to a BVMS Configuration, BVMS enables the RCP+ protocol
n.a.	VRM	When importing a VRM configuration, ONVIF or Bosch PTZ cameras configured under a VSG are not detected as PTZ cameras. PTZ configuration has to be done manually on camera and recording page
161813	BIS	When the BVMS SDK or OPC server is used for controlling Pan-Tilt-Zoom cameras, the zoom speed may differ between cameras.
152699	Streamlining	Automatic Stream Selection cannot be used when the Operator Client is connected to an unmanaged site, even though this is offered by the user interface.
155788	ANR	Audio is not working for ANR playback.
156342	Configuration	On all-in-one systems, configuring an iSCSI target requires the BVMS Config Client to have administrative rights.
157929	VSG	It is not possible to access an ONVIF device which is not configured as part of a Video Streaming Gateway in a remote access scenario.
154912	Maps	The total amount of hotspots open in one or multiple maps is 4.000.
142140	ANR	The video authenticity check is not working for cameras which are using ANR recording.
155514	Configuration	When using Windows 10, a device scan searching for the DIVAR AN 3000/5000 brings no result. The device(s) need to be added manually or the scan needs to be executed on another operating system.

ID	Topic	Description
160979	PTZ	Pan-Tilt-Zoom dome cameras that are connected via the Bosch Recording Station cannot be controlled using the BVMS SDK or BIS server.
155706	Configuration	Changing the IP address of a password protected device in a different sub net is not working.
160930	MVS	When storing the Mobile Video Service certificate from Internet Explorer it should be stored in the "Other People / Certificates" store.
155532	MVS	Disabling the HTTP protocol (using HTTPS only) will prevent the Management Server to communicate with the Mobile Video Service.
39436	Recording	If a "user" password is set to a camera used for local recording, the Operator Client is not able to access the recording.
162254	Configuration	The installation of the .NET framework 4.6 is possible by following the MS instructions to install KB2919355 first.
145024 145026	External	The Barco Transform A series RCP+ agent does not work anymore. The Barco Transform N series will work with the corresponding RCP+ agent (0.9.0.7).
149922	Recording	When exporting recorded footage with changing FPS rates the display of frame rate may be wrong
155405	Configuration	The initial configuration of an Infortrend is not possible anymore.
135338	ONVIF	The ONVIF event subscription filtering does not work for all camera manufacturers.
164622	ONVIF	For the integration of Axis Cameras, the camera FW needs to be as specified in the list of BVMS 7.5 compatible 3rd party cameras. Newer Axis camera firmware versions such as 5.90 and 6.x are not supported.
160504	Recording	SD card recording can only be used when the specific cameras have not configured a password for the service, user and live account.
167599	IVA	When using IVA flow, forensic search might show an incomplete overview of results.
167626	Authentication	When the "user" or "live" user account is configured with an empty password, it is possible to see a live video despite the "service" user password is wrong.
165065	MVS	When using an iPhone SE, the mobile application crashes when trying to send live video to other mobile operators.
163927	VRM	When adding and importing a Video Recording Manager, with an DSA e-series and multiple ports, some ports may not be added.
160929	Configuration	It is recommended to add the MIC 550 (using the IP power supply) manually and configuring the device "MIC VIP" explicitly, instead of scanning it.
160536	Maps	The map cannot be panned outside of the limits of the CAD graphic. Centering on a hotspot will behave different compared to earlier versions.

ID	Topic	Description
164767	Authentication	When configuring the "service" password of a camera, the "live" and "user" password needs to be configured as well.
151049	ANR	ANR playback will not work when a camera is configured to use the HTTPS protocol to communicate with the BVMS.
145023	VRM	The Video Recording Manager service will be restarted when the physical network adapter is online, after it has been offline.
154913 153044	Maps	Due to map loading times, it is recommended to not use more than 1000 hotspots in maps that are configured for alarm scenarios. • 500 hotspots: 1.5 seconds • 1000 hotspots: 2.5 seconds • 2000 hotspots: 5 seconds • 3000 hotspots: 9.5 seconds • 4000 hotspots: 14.5 seconds
156105	Transcoding	Videojet XTC Transcoder not longer supported
167598	Transcoding	For hardware transcoding in BVMS 7.5 the latest transcoder firmware must be installed
165214	Maps	In rare circumstances the hotspots on a CAD graphic might flicker, when moving a map

10 Bosch Video Management System Version 7.0

10.1 Introduction

The latest version of the Release Notes is always available on the Bosch Product Catalog (www.boschsecurity.com).
Version 7.0 introduces new features and resolved issues to your Bosch Video Management System.

10.2 New features

ID	Description
n/a	Video authentication based on 2048 bit public/private key certificates
n/a	Automated stream switching for live streams
n/a	Encryption of communication from the camera to: operator client; VRM; management server.
n/a	Simple motion search
n/a	Unmanaged sites: support for different time zones
n/a	Unmanaged sites: VSG camera support

10.3 Installation Notes

For system design specifications refer to the Bosch VMS datasheet, Configuration Manual, pre-sales guide and Quick
Installation Guide on http://www.boschsecurity.com. The datasheet is subject to change. Translated versions are not
published instantly, for the latest version refer to the English version.

The installation manual and additional documentation of Bosch DSA E-Series iSCSI disk arrays can be found in Bosch
on-line product catalogue on http://www.boschsecurity.com.

10.4 Firmware

Component	Version
VideoSDK	5.92.0052
Firmware MPEG-4	4.15.02
Firmware CPP3	5.73.0046
Firmware CPP4	6.21.0008 / 6.32.0099 / 6.44.0027

Component	Version
Firmware CPP5	5.92.0029
Firmware CPP6	6.21.0008 / 6.32.0099 / 6.44.0027
Firmware CPP7	6.21.0008 / 6.32.0099 / 6.44.0027
Firmware CPP7.3	6.44.0027
Firmware CPP-ENC	5.52.15(for VIP X1600 XFM4)
Firmware CPP-ENC	5.93.0023(for VJT XF E family, VIDEOJET decoder 3000)
Firmware X1/X2	2.53.05
VIP XD HD	1.8.1
VDJ 7000	54.8.2
VDJ 8000	8.10
VRM	3.55.0010 / 3.60.0043
VSG	6.17.0064
iOS	7.1.1 / 8.3 / 9.0.2
Web Client	11.0.96
BIS	4.0 / 4.1
Bintelan Analytics Platform	5.7.5955.25388
DiBos	8.7
BRS	8.10/8.11 / 5.92.0052
Allegiant MCS	2.94

Component	Version
Intuikey Keyboard	1.96
VMWare	5.1.0
DVR	2.3.2 / 3.60
Operating systems Operator Client	Windows 8.1 64-bit; Windows 10 64-bit anniversary update
Operating systems Config Client	Windows 7 Professional or Ultimate SP1 64-bit; Windows 8.1 64-bit; Windows 10 64-bit; Windows Server 2008 R2 SP1 64-bit; Windows Server 2012 R2 64-bit
Operating systems Management Server, Mobile Video Service	Windows 7 SP1 and 8.1 64-bit; Windows Server 2008 R2 SP1 64-bit; Windows Server 2012 R2 64-bit
Cameo SDK	1.3.0.0
BVMS SDK	1.9.0.0

10.5 Hardware

> **Hardware requirements**
>
> For the HW-requirements of other components like VRM, VSG, Allegiant MCS – Please refer to the documentation of these components

Component	Version
Broadcom NetXtreme Gigabit	river for Microsoft Windows 7 and Windows 8.1 (64 bit) 16.8.4.1 Rev. A (14 Jan 2015)
Intel PRO-1000 Gigabit	Driver for Microsoft Windows 7 and Windows 8.1 (64 bit): R19_338993 Rev.M (2 Feb 2015)
NVIDIA Quadro	Driver for Windows 7 and Windows 8.1 (64-bit): 347.52 Rev.A (12 Feb 2015)
ATI FireGL	Unified Graphics Driver for Microsoft Windows 7 and Windows 8.1 (64-bit): 14.301.1014.1001 Rev.A (9 Feb 2015)

10.6 Resolved issues

ID	Description
133129	**FIXED**: In some rare cases it can happen that the export of video data from a DVR 700 does not work correctly.
145423	**FIXED**: When upgrading to Bosch VMS 6.5.0.325 on a system where there is a Barco Monitor Wall or a Bosch Monitor Wall configured, execute the following steps to avoid a Central Server crash during startup of the service:- Perform the upgrade to Bosch VMS 6.5.0.- Install Patch 145423 - Migration issue.For later Bosch VMS versions, this issue is resolved.

10.7 Known issues

ID	Description
151294, 151296	Multiple domes connected to the same encoder cannot be controlled by more than one client simultaneously
144104	When a multi-channel encoder is used in Ganetec Bintelan, only video of the first camera will be used for analytics, even if the other cameras are being selected and configured.
148394, 152880	Direct iSCSI playback is not supported when using the Video Recording Manager large LUN feature.
145182	When upgrading the Video Streaming Gateway the message "" needs to be confirmed.
155234	When using the Enterprise Operator Client video by event search: when the video by event dialog is opened and the time zone is changed, the time does not change accordingly in the events that are already listed.
155234	When using the Enterprise Operator Client logbook: when the logbook dialog is opened and the time zone is changed, the time does not change accordingly in the logbook items that are already listed.
154765 / 154667	If Microsoft patch 3155464 is installed, Bosch VMS is not able to communicate to the intrusion panels GV4, B-Series US1B or B-Series US1A. Bosch VMS does not receive events and alarm from the panels and cannot control the intrusion panel. To avoid this issue the panel firmware of B-Series US1B and G-Series US1A has to be upgraded to version 3.03.014. In case of GV4 panels the Microsoft patch 3155464 could be disabled via recommended Microsoft procedure: https://support.microsoft.com/en-us/kb/3155464 Warning: These workarounds may make a computer or a network more vulnerable to attack by malicious users or by malicious software such as viruses. We do not recommend these workarounds but are providing this information so that you can implement these workarounds at your own discretion. Use these workarounds at your own risk.
153951	Unprotect / delete video will not work when the Operator Client is connected through a routed access environment.
142499	Authenticity check is not implemented for DIVAR AN 3000 and DIVAR AN 5000.
150009	VIDEOJET 7000/8000 does not support audio playback.
155415	When a DIVAR AN 3000 or DIVAR AN 5000 is added in unmanaged sites, the properties of the playback cameo do not contain the date and time.
143823	Instant playback may show a black cameo if an instant playback value of less than 10 seconds is configured.

ID	Description
147027	When Windows 10 64-bit is used as the operating system for the management server (which is not supported), the "Bosch VMS DVR Adapter" and "Bosch VMS Web Service Host" services are not started automatically.
149922	When exporting video with changing FPS rates (for example, due to alarm recording), display of the framerate is only correct if you use Windows Media ASF viewer.
n/a	When using the Bosch VMS in a Hyper-V environment, the latest (network-card) drivers need to be installed.
n/a	When using the Bosch VMS CameoSDK, frequent connect/disconnect can cause a memory leak. It is recommended to use a permanent connection when using the CameoSDK.
n/a	When using the VRM 3.60 large lun feature, primary and secondary VRM have to have the same configuration of the LUN size.
142145	When removing a camera from the configuration, and later adding it again, Ganetec Bintelan will lose its relation to that specific camera. The camera then also needs to be reconfigured in Ganetec Bintelan.
144940	When using the remote Operator client, video export from devices added as a DVR will not work.
152454	When a completely configured VRM is added to the Bosch VMS configuration, Bosch VMS will overwrite the camera names with default values.
148551	When replacing an encoder the new encoder does not record any more. The camera has to be deleted from the Bosch VMS configuration and added again. The recording will continue and previous recordings will be available.
162254	When the installation of the .NET framework 4.6.1 fails, KB2919355 needs to be installed prior to installing the Bosch VMS.

11 Bosch Video Management System Version 6.5

11.1 Introduction

The latest version of the Release Notes is always available on the Bosch Product Catalog (www.boschsecurity.com). Version 6.5 introduces new features and resolved issues to your Bosch Video Management System.

11.2 New features

ID	Description
133588	Integration of Bintelan video analytics viewer
129290	Add Bosch VMS to an unmanaged site
136706	ZIP export (export to a single file)
126571	Config Wizard improvements
142747	Controls for panoramic view mode in Image pane

11.3 Installation Notes

For system design specifications refer to the Bosch VMS datasheet, Configuration Manual, pre-sales guide and Quick Installation Guide on http://www.boschsecurity.com. The datasheet is subject to change. Translated versions are not published instantly, for the latest version refer to the English version.

The installation manual and additional documentation of Bosch DSA E-Series iSCSI disk arrays can be found in Bosch on-line product catalogue on http://www.boschsecurity.com.

11.4 Firmware

Component	Version
VideoSDK:	5.92.0052
Firmware MPEG-4:	4.15.0002
Firmware CPP3:	5.73.0046
Firmware CPP4:	6.21.0008
Firmware CPP5:	5.92.0029
Firmware CPP6	6.21.0008

Component	Version
Firmware CPP-ENC	5.52.0015 (for VIP X1600 XFM4)
Firmware CPP-ENC	5.93.0023 (for VJT XF E family, VIDEOJET decoder 3000)
Firmware X1/X2:	2.53.05
VIP XD HD	1.8.1
VJD 7000	54.8.2
VDJ 8000	8.10
VRM:	3.55.0010
VSG	6.17.0064
DiBos	8.7
BRS:	8.10 / 8.11
BIS:	4.0 / 4.1
iOS:	7.1 / 8.3 /9.0.2
Web Client	IE 11
Allegiant MCS:	2.94
Intuikey Keyboard:	1.96
VMWare:	5.1.0 U1 build 1065491
DVR	2.3.2 / 3.60
Bintelan Analytics Platform	5.7.5955.25388
Operating systems Operator Client	Windows 7 Professional or Ultimate SP1 64-bit and Windows 8.1 64-bit

Component	Version
Operating systems Config Client. Management Server, Mobile Video Service	Windows 7 SP1 64-bit; Windows 8.1 64-bit; Windows Server 2008 R2 SP1 64-bit; Windows Server 2012 R2 64-bit
Cameo SDK	1.3.0.0
BVMS SDK	1.9.0.0

11.5 Hardware

> **Hardware requirements**
>
> For the HW-requirements of other components like VRM, VSG, Allegiant MCS – Please refer to the documentation of these components

Component	Version
Broadcom NetXtreme Gigabit	river for Microsoft Windows 7 and Windows 8.1 (64 bit) 16.8.4.1 Rev. A (14 Jan 2015)
Intel PRO-1000 Gigabit	Driver for Microsoft Windows 7 and Windows 8.1 (64 bit): R19_338993 Rev.M (2 Feb 2015)
NVIDIA Quadro	Driver for Windows 7 and Windows 8.1 (64-bit): 347.52 Rev.A (12 Feb 2015)
ATI FireGL	Unified Graphics Driver for Microsoft Windows 7 and Windows 8.1 (64-bit): 14.301.1014.1001 Rev.A (9 Feb 2015)

11.6 Resolved issues

11.6.1 Operator Client

ID	Description
123311	**FIXED**: Operator Client does not properly display HTML 5 documents.If you require HTML 5, install IE11, and add the following registry key: HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\InternetExplorer\MAIN\FeatureControl\FEATURE_BROWSER_EMULATIONDWORDs and Values:OperatorClient.exe 11001 (decimal)ConfigClient.exe 11001 (decimal)
133803	**FIXED**: Export: When remote export contains a transcoded stream, the full non-transcoded stream will be exported despite a warning message indicating, that the respective camera will not be included in Export. This may lead to the export taking a very long time.

11.6.2 Configuration Client

ID	Description
133283, 134182	**FIXED**: Client scripts: It is not possible to reference cameras of an unmanaged site in a client script on Operator Client which only contains unmanaged sites.
134412	**FIXED**: When importing a configuration file from an earlier Bosch VMS version (<= 5.5.8), the intrusion panel structure nodes and ONVIF are shown even if the event nodes are not generated yet. As always after upgrade and import of earlier configuration files please activate and restart CC to display new event types.
128794	**FIXED**: When using high resolution cameras with the default bitrate, please adapt the I-frame distance manually to 30 fps (instead of using "Auto" mode). Auto mode sets the I-frame-distance to 10 which may affect the image quality.

11.6.3 Integration with ONVIF cameras

ID	Description
131697	FIXED: Only stateful events are supported in Bosch VMS. Stateless events of ONVIF cameras are not supported in Bosch VMS 6.0.
134164	FIXED: Camera capabilities/ parameters (vendor, etc...) are empty when adding ONVIF Encoder manually without pressing "Test".

11.6.4 MVS / Web Client

ID	Description
91783	**FIXED**: The following actions in Web Client are not logged:- Toggle relays, PTZ control, search for metadata; export videoFollowing user actions are logged: - Log on and log off.
135080	**FIXED**: When "Multiple logons for the same user" is disabled in the Configuration Client, the user has to properly use the "logout button". When the user just closes the web-client/App, the user is not able to log on to the system again for 5 minutes (connection time-out).

11.7 Known issues

11.7.1 Management Server

ID	Description
48584	Installation of Microsoft SQL Server does not work on a computer with a compressed C: drive (https://connect.microsoft.com/SQLServer/feedback/details/704250/installation-failed-when-c-drive-compressed).

11.7.2 Integration with Ganetec Bintelan

ID	Description
142292	Due to a late change, the translated application help and the translated manuals give wrong information on the installation directory of the Analytics Viewer to be installed on each desired Operator Client workstation.The correct installation directory is: C:%ProgramFiles(x86)% \VideoAnalytics\AnalyticsViewer.exe
142292	When the application runs in an environment, where alarms are sent to Bosch VMS in high frequency (for example, number plate detection at a highway) and the server is shut down for a longer period, the following effects occur when MS is back: All queued alarms are pushed to the Alarm List of Operator Client, until the max. limit of 1.000 is reached. The server then automatically and successively clears the oldest entries to prevent overload. This may take several minutes. Alarms are logged in the Logbook.

11.7.3 Upgrade

ID	Description
145423	If you upgrade to Bosch VMS 6.5.0.325 on a system where you have configured a Barco Monitor Wall or a Bosch Monitor Wall, execute the following steps to avoid a Central Server crash during startup of the service:- Perform the upgrade to Bosch VMS 6.5.0. - Install Patch 145423 - Migration issue. For later Bosch VMS versions, this issue is resolved.

11.7.4 Video Recording Manager

ID	Description
138712	Bosch VMS cannot import a VRM configuration that was created on DIP 2000 with camera types newer than this DIP 2000.

11.7.5 Bosch VMS SDK

ID	Description
137501	When the SDK-method Api.CameraManager.StartAlarmrecording is called with a default Object() for parameter metadata set to an empty string, an empty string is frequently logged in the Operator Client log file.

11.7.6 Routed access

ID	Description
144848, 135108	Audio is not supported via routed access.

11.7.7 Configuration Client

ID	Description
143590	The **Unknown** state event was added as the new default state to the relays and inputs Event tree. In earlier Bosch VMS versions, the **Error** state event was the default state.

11.7.8 Operator Client

ID	Description
136426	Due to changes in MS Windows 8.1 the user cannot add further sessions to a multisession media (DVD, Blue-Ray, CD). Please use blank media only.
136419	Under some circumstances writing an export to read write media disks fails. We recommend using non-RW media.
139354	Using unmanaged site access, Operator Client ignores the operating permissions configured in the unmanaged Bosch VMS.

11.7.9 Setup

ID	Description
145248	Under certain circumstances an error message box can be displayed during update installation from Bosch VMS 6.0 to 6.5 saying "Directory is not empty". Click **Retry**. The Setup continues and the update installation is successfully finished.
145182	Under certain circumstances, the old VSG service can display an error message. Close this error message box, ensure that the VSG service is stopped and continue with Setup.
143995	The No Touch Deployment - Setup takes longer due to upgrade to the new .NET version, and this upgrade requires manual interaction.
142316	For the following camera types it is not possible to ensure that the playback of multiple cameras remains synchronous for a longer time period:- DVR - Transcoded video

11.7.10 Integration with ONVIF cameras

ID	Description
127689, 136270	Base notification for ONVIF devices is not supported.
138567	Switching relays of ONVIF devices is currently not supported by Bosch VMS, although relays of ONVIF cameras are displayed in the UI of the Web Client. The relays appear to be switchable in the Web Client, but this switching has no effect on the device.
144020	Cameras connected to VSG do not show connect / disconnect status but video loss instead.

11.7.11 VSG

ID	Description
133840	VSG section: In case of disconnect VSG is recording the video containing "video loss" - icon. Hence the red recording overlay icon is displayed.

11.7.12 Miscellaneous

ID	Description
140604	A fire / smoke alarm of an AVIOTEC camera always sends also a motion alarm.
145190	The Search tab of an opened CHM file on a Windows 7 64-bit OS with Arabic display language is fragmented. You can enter a search term and start the search but this not visible (see KB article 2021383).
150009	VJD7000/8000 does not support audio when configured and used in Bosch VMS.
147859	A multi client operation of PTZ cameras is not supported for domes on the same interface.

12 Bosch Video Management System 6.0

12.1 Introduction

The latest version of the Release Notes is always available on the Bosch Product Catalog (www.boschsecurity.com).
Version 6.0 introduces new features and resolved issues to your Bosch Video Management System.

12.2 New features

- 3rd party camera integration
    - Onvif Mapping Files with predefined event mapping of ONVIF Cameras to BVMS events
    - Configuration of camera settings from within Configuration Client
    - 3rd party camera integration
- Unmanaged Site concept
    - to connect to cameras of up to 9.999 sites
    - with simultaneous connections to up several sites
    - for live&playback of DVR + DIVAR AN series
- Map features:
    - Advanced state display
    - thumbnails at mouse over
    - accept clear alarms on hotspot
    - Access pre-positions from hotspot
- Intrusion panel:
    - Support output
    - Support doors
    - Support of points
    - Silence areas
- Security related:
    - Prevent same user to log on to different Operator Client workstations
    - Enforce secure password (configurable)
    - Configurable alarm at "manually delete video"
    - Tamper proof export (encrypted with digital signature)
    - Configuration backup (scheduled and manual via SDK)
- Wizard:
    - Assign cameras to logical tree
    - Camera preview
    - Configurable Quality Profiles
    - Configurable Motion Recording
- Native integration of DIVAR AN 3000/5000
- Export of Configuration Reports
- Operator Client: Manual stream selection for live video
- Monitor Wall: Support of initial sequence (call up salvos)

12.3 Installation Notes

For system design specifications refer to the Bosch VMS datasheet, Configuration Manual, pre-sales guide and Quick Installation Guide on http://www.boschsecurity.com. The datasheet is subject to change. Translated versions are not published instantly, for the latest version refer to the English version.

The installation manual and additional documentation of Bosch DSA E-Series iSCSI disk arrays can be found in Bosch on-line product catalogue on http://www.boschsecurity.com.

12.4 Firmware

Component	Version
VideoSDK:	5.90.0084
Firmware MPEG-4:	4.15.0002
Firmware CPP3:	5.73.0046
Firmware CPP4:	6.11.0021
Firmware CPP5:	5.92.0026
Firmware CPP6	6.11.0021
Firmware CPP-ENC	5.52.0015 (for VIP X1600 XFM4)
Firmware CPP-ENC	5.93.0015 (for VJT XF E family, VIDEOJET decoder 3000)
Firmware X1/X2:	2.53.05
VIP XD HD	1.8.00
VJD 7000	54.8.1
VRM:	3.50.0042
VSG	6.17.0051
DiBos	8.7
BRS:	8.10 / 8.11
BIS:	4.0 / 4.1
iOS:	7.1 / 8.3 /9.0.2
Web Client	IE 11

Component	Version
Allegiant MCS:	2.94
Intuikey Keyboard:	1.96
VMWare:	5.1.0 U1 build 1065491
Operating systems Operator Client	Windows 7 Professional or Ultimate SP1; 64-bit and Windows 8.1 64-bit
Operating systems Config Client. Management Server, Mobile Video Service	Windows 7 SP1 64-bit; Windows 8.1 64-bit; Windows Server 2008 R2 SP1 64-bit; Windows Server 2012 R2 64-bit

12.5 Hardware

> **Hardware requirements**
>
> For the HW-requirements of other components like VRM, VSG, Allegiant MCS − Please refer to the documentation of these components

Component	Version
Broadcom NetXtreme Gigabit	river for Microsoft Windows 7 and Windows 8.1 (64 bit) 16.8.4.1 Rev. A (14 Jan 2015)
Intel PRO-1000 Gigabit	Driver for Microsoft Windows 7 and Windows 8.1 (64 bit): R19_338993 Rev.M (2 Feb 2015)
NVIDIA Quadro	Driver for Windows 7 and Windows 8.1 (64-bit): 347.52 Rev.A (12 Feb 2015)
ATI FireGL	Unified Graphics Driver for Microsoft Windows 7 and Windows 8.1 (64-bit): 14.301.1014.1001 Rev.A (9 Feb 2015)

12.6 Resolved issues

12.6.1 Operator Client

ID	Description
n/a	**FIXED**: Anti-Aliasing effects in Image of Panoramic camera
n/a	Press Ctrl-button and drag&drop points of interest in panoramic view to empty cameo to get an additional cropped views
116840	**FIXED**: Operator Client restarted during update of the FW on VIP X16 XF E.

ID	Description
64470	**FIXED**: Under rare circumstances Operator Client unintentionally logs off and cannot log on automatically after a forced activation. This happens with higher probability in large systems with many Operator Client computers.
106003	**FIXED**: Sequencing black after switching

12.6.2 Configuration Client

ID	Description
93264	**FIXED**: Before deleting a device, please ensure that the Alarm List does not contain any alarms triggered by this device. Reason: The alarms cannot be cleared after the device is removed.
n/a	**FIXED**: Email servers with SSL/TLS were not supported.

12.6.3 Miscellaneous

ID	Description
133313	**FIXED**: [DIVAR 3000/5000] Refresh problem by displaying protected recording in the Timeline after protecting a time period of video.
125685	**FIXED**: IntuiKey keyboard (workstation keyboard) stopped working after forced configuration change.
129671	**FIXED**: In some rare cases MOV export did not export audio data.
118604	**FIXED**: SDK now also reflects the debounce settings when retrieving the current state.

12.7 Known issues

12.7.1 Integration with ONVIF cameras

ID	Description
134161	• The various manufacturers provide information on how to set up the camera so that it can be used as an ONVIF camera. This information can be found in the Interface Guide on the www.ONVIF.org website. • The ONVIF-implementation has been reworked in Bosch VMS in order for the Client to be more robust and tolerant. This may though lead to changed behavior with existing installations containing ONVIF cameras already. If you have already some ONVIF cameras connected to former Bosch VMS (<6.0) and you cannot find them in the Bosch VMS 6.0 list (Bosch VMS IPP Web-page), please verify the functions on a Bosch VMS 6.0 Test-system first before you upgrade a system on the customer site. • The limits regarding the mapping of ONVIF files are described in the Bosch VMS Pre-sales guide. • Configuration of ONVIF cameras from within Bosch VMS Configuration Client offers a wide range of settings to configure ONVIF cameras in accordance with the ONVIF Standard. It is though not ensured, that all cameras support the configuration, since the scope is subject of the implementation of the standard in each ONVIF Camera model. • Any message "Bad request" during configuration of ONVIF cameras means that the camera refused the entered value or data. Please contact the camera vendor for support.
134164	Camera capabilities/ parameters (vendor, etc...) are empty when adding ONVIF Encoder manually without pressing "Test".
134846	Every change on ONVIF Configuration pages (on a device) requires re-browsing the camera capabilities and profiles. Please configure an ONVIF camera EITHER as VSG camera OR as Live-only camera, but do not use both modes for the same camera, as this may lead to toggling connect/disconnect status
131697	Only stateful events are supported in Bosch VMS. Stateless events of ONVIF cameras are not supported in Bosch VMS 6.0.
134184	When an ONVIF camera that is connected to a VSG gets disconnected, its behavior will be similar as analog cameras connected to encoder: Status changes to "Disconnected". The recording will continue.
n/a	The event "Video Loss" is used to indicate connection loss between digital encoder and analog camera. It is therefore not supported for IP cameras.
n/a	ONVIF events and configuration are specified via Port 80

12.7.2 Setup

ID	Description
129695	Bosch VMS Setup cannot be used on DIVAR IP hardware. To upgrade DIVAR IP to 6.0 or later, the Setup provided on the DIVAR IP Product Catalog page has to be used. Workaround to allow the update to Bosch VMS on DIP systems with the Bosch VMS setup package. This workaround should only be used for test and demonstration purposes. • Find the files BvmsDesktop.exe and BVMSDesktop.exe.config in the folder C:\Program Files (x86)\Bosch\VMS\bin and save them for later use. • Execute the Bosch VMS Setup from the command line "Setup.exe /v"INSTALLONDIVARIP=1" • After finishing the Setup, restore the 2 files

12.7.3 Management Server

ID	Description
n/a	External Microsoft SQL servers are supported to be used for remote Logbook recording. The migration process itself is not supported and requires a trained Microsoft SQL database administrator.

12.7.4 Configuration Client

ID	Description
128794	When using high resolution cameras with the default bitrate, please adapt the I-frame distance manually to 30 fps (instead of using "Auto" mode). Auto mode sets the I-frame-distance to 10 which may affect the image quality.
129133	A separate single-logon group is necessary for mobile and Web Client users that are part of dual logon user group. Dual logon users cannot log on as single users.
129648	Automatic distribution of LUNs on multi-port iSCSI (eSeries) does not work correctly when a basic configuration is performed.Please remove the iSCSI device and add it again to your system. Then the LUNs are evenly distributed.
132077	A CSV file for importing unmanaged sites must be comma separated.
132276	When using VSG or transcoder, none of the connected devices shall have a GOP length exceeding 30 frames. VSG and transcoder are limited to 30 frame-GOPs in replay.
132309	Unmanaged sites: The connection string of an unmanaged site must contain a valid IP address without port, no DNS name.
132362	Unmanaged sites: We strongly recommend that you do not use MS Excel to import sites due to the following risk: The passwords have to appear in Excel in plain text. If you still want to proceed on behalf of your own risk, please take corresponding precautions to prevent the passwords being exposed to unauthorized personnel.
132366	The Configuration Reports contain the export of large parts of the configuration in CSV format. It had been implemented years ago for a large project and has now been merged to the Main Branch of Bosch VMS. The feature is "as is" and will not be further extended.
132369	When the user of Configuration Client exports a report of the device permissions into a folder that has more than 256 characters, the report cannot be saved but no error message is displayed.
133283, 134182	Client scripts: It is not possible to reference cameras of an unmanaged site in a client script on Operator Client which only contains unmanaged sites.
134412	When importing a configuration file from an earlier Bosch VMS version (<= 5.5.8), the intrusion panel structure nodes and ONVIF are shown even if the event nodes are not generated yet. As always after upgrade and import of earlier configuration files please activate and restart CC to display new event types.
134445	Configuration Client crashes on an Operating System with a non-Western calendar, for example Arabic for Saudi Arabia. Change the calendar of such a system to the Western calendar.

12.7.5 Operator Client

ID	Description
138660	Camera has a password but Red-lock is missing in Device Tree (also for earlier Bosch VMS versions where customer starts using cameras with firmware >= 6.20)
117655	Multiple operator client logons on the same machine using different Windows user accounts is not supported and may cause Operator Client crashes.
123311	Operator Client does not properly display HTML 5 documents. If you require HTML 5, install IE11, and add the following registry key: HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\InternetExplorer\MAIN\FeatureControl\FEATURE_BROWSER_EMULATIONDWORDs and Values:OperatorClient.exe 11001 (decimal)ConfigClient.exe 11001 (decimal)
128566	[DIVAR 3000/5000] Refresh problem by displaying protected recording in the Timeline after protecting a time period of video. Change zoom factor of the Timeline to refresh.
129590	The tree search in Tree View does not work for cameras of an unmanaged site. Search for sites works as expected.
132330	Exported video data in MOV format shows a delay between audio and video:- delay between sound and video after 10 min is 4 sec- delay between sound and video after 60 min is 20 sec- no delay at the beginning of the exported MOV file- audio is earlier than video
132331	When opening a ROI Camera, the context menu of an Image pane offers ´Save Preset´ and displays an empty command list.
132466	When starting Operator Client as non-Windows Administrator and opening a map, the Autodesk Design Review Setup is started.
132908	It is possible to add unmanaged sites to "Favorites" only using drag and drop. It is not possible using the context menu of an unmanaged site.
134074	Protected recordings of a DVR AN 3000/5000 can manually be deleted.
132565	Jump to the oldest recording does not work on DIVAR AN 3000 and 5000.
133129	In some rare cases it can happen that the export of video data from a DVR 700 does not work correctly.
133803	Export: When remote export contains a transcoded stream, the full non-transcoded stream will be exported despite a warning message indicating, that the respective camera will not be included in Export. This may lead to the export taking a very long time.

12.7.6 Web-Client/IOS-App

ID	Description
135080	When "Multiple logons for the same user" is disabled in the Configuration Client, the user has to properly use the "logout button". When the user just closes the web-client/App, he is not able to logon to the system again for 5 minutes (connection time-out).

12.7.7 DVR/DIVAR AN

ID	Description
n/a	Permission to manually delete video is not activated per default in DVR. If this is required, please activate permission on DVR in order to be able to manually delete video from within Bosch VMS.
127735	Be aware that a running virus scanner can influence the DVR device scan result. Devices might be missing. To ensure a proper scan result, turn off virus scanner during scan, or add device manually.

12.7.8 Devices

ID	Description
118727	VIP-X1600X FM4 always uses stream 2 for the secondary VRM even although stream 1 has been configured.

12.7.9 Intrusion Panel

ID	Description
128572	When the intrusion panel is disconnected from Bosch VMS, the states of the outputs (relays) do not change to "unknown". Doors are inserted in the Device Tree as an independent item and not as a child item of an area (like a point).
131467	When a user of RPS performs changes on the states of areas, points or outputs, it can happen that these changes are not correctly indicated by the status icons for these devices in Operator Client.To synchronize RPS with Bosch VMS configuration please rescan intrusion panel devices in Bosch VMS after changes in RPS.
135738	When adding a B8152 or B9512 panel, the type of the panel is not displayed properly in the device tree. It shows "New panel" and IP-address. But the panel can be renamed.
135740	B9512 supports only 16 supervised Keypads in BVMS

12.7.10 Video Recording Manager

ID	Description
93780	Continuous recording: The entire block is protected. This can lead to an unexpected disk full state.Alarm recording: VRM supports a maximum number of 32 protected alarms per block. Consequently, if more alarms occur, alarm # 33 and above cannot be protected.
122634	VRM cannot be configured on an All-In-One system with an already existing ATM/POS Bridge.First configure a VRM, then configure an ATM/POS bridge with the same IP address.

ID	Description
133096	VRM: When an encoder is deleted from the Primary VRM, the encoder password will also be deleted from the encoder.
152454	As of Bosch VMS 6.0, VRM 3.50 is supported. When you do not upgrade VRM to version 3.50 during the upgrade to Bosch VMS 6.0, recording continues but you cannot change the configuration of the old VRM. If you upgraded your VRM software to version 3.50, you must manually synchronize the Bosch VMS configuration.

12.7.11 Miscellaneous

ID	Description
128420	Do not exceed the Windows OS font-size setting of 100% to avoid the Bosch VMS UI being corrupted.
134551	Remote Desktop Connection to computers which run the Bosch VMS Operator Client is not supported.

13 Bosch Video Management System 5.5.8

13.1 Introduction

The latest version of the Release Notes is always available on the Bosch Product Catalog (www.boschsecurity.com).
Version 5.5.8 introduces new features and resolved issues to your Bosch Video Management System.

13.2 New features in 5.5.8

ID	Description
n/a	Device icons on maps (hot spots) can now display device states with background color and blinking if the corresponding state event is configured (Advanced State Display).
n/a	A client script can now trigger instant playback for a camera.

13.3 Installation Notes

For system design specifications refer to the Bosch VMS datasheet, Configuration Manual, pre-sales guide and Quick
Installation Guide on http://www.boschsecurity.com. The datasheet is subject to change. Translated versions are not
published instantly, for the latest version refer to the English version.

The installation manual and additional documentation of Bosch DSA E-Series iSCSI disk arrays can be found in Bosch
on-line product catalogue on http://www.boschsecurity.com.

13.4 Firmware

Component	Version
VideoSDK:	5.83.0038
Firmware MPEG-4:	4.15.0002
Firmware CPP3:	5.73.0046
Firmware CPP4:	6.11.0021
Firmware CPP5:	5.92.0023
Firmware CPP6	6.11.0021
Firmware CPP-ENC	5.52.0015 (for VIP X1600 XFM4)
Firmware CPP-ENC	5.93.0015 (for VJT XF E family, VIDEOJET decoder 3000)

Component	Version
Firmware X1/X2:	2.53.05
VIP XD HD	1.8.00
VJD 7000	54.8.00
VRM:	3.00.75
VSG	5.91.0022
DiBos	8.7
BRS:	8.10 / 8.11
BIS:	3.0 / 4.0 / 4.1
iOS:	7.1 / 8.3
Web Client	IE 11
Allegiant MCS:	2.94
Intuikey Keyboard:	1.96
VMWare:	5.1.0 U1 build 1065491
DVR	2.1 / 3.60
Operating systems Operator Client	Windows 7 Professional or Ultimate SP1; 64-bit and Windows 8.1 64-bit
Operating systems Config Client. Management Server, Mobile Video Service	Windows 7 SP1 64-bit; Windows 8.1 64-bit; Windows Server 2008 R2 SP1 64-bit; Windows Server 2012 R2 64-bit

13.5 Hardware

Hardware requirements

For the HW-requirements of other components like VRM, VSG, Allegiant MCS − Please refer to the documentation of these components

Component	Version
Broadcom NetXtreme Gigabit	river for Microsoft Windows 7 and Windows 8.1 (64 bit) 16.8.4.1 Rev. A (14 Jan 2015)
Intel PRO-1000 Gigabit	Driver for Microsoft Windows 7 and Windows 8.1 (64 bit): R19_338993 Rev.M (2 Feb 2015)
NVIDIA Quadro	Driver for Windows 7 and Windows 8.1 (64-bit): 347.52 Rev.A (12 Feb 2015)
ATI FireGL	Unified Graphics Driver for Microsoft Windows 7 and Windows 8.1 (64-bit): 14.301.1014.1001 Rev.A (9 Feb 2015)

13.6 Resolved issues in version 5.5.8

n/a

13.7 Known issues in version 5.5.8

ID	Description
126952	The printout or snapshot of a map shows all hotspots without background colour and those which are blinking with a rectangular frame.
125880	Advanced State Display is currently not supported for Enterprise Systems.
125270	The translated Application Help files do not contain descriptions of the Advanced State Display feature. The English Application Help does contain such descriptions.

14 Bosch Video Management System 5.5.5

14.1 Introduction

The latest version of the Release Notes is always available on the Bosch Product Catalog (www.boschsecurity.com). Version 5.5.5 introduces new features and resolved issues to your Bosch Video Management System.

> **Known issues**
>
> All known issues of all past releases, that were not addressed yet, have been added to this current version. They are structured according to topics. The order of the topics follows the alphabet.

14.2 New features in 5.5.5

New devices:

- Bosch FLEXIDOME Panoramic 7000 MP
- Bosch FLEXIDOME Panoramic 5000 MP
- Bosch AUTODOME IP 4000/5000
- Bosch DINION IP Ultra 8000
- Bosch EXTEGRA IP 9000 FX
- Bosch DSA E-series 2700
- RTCAM 8000
- RTCAM 7000S
- RTCAM 7000D
- RTCAM 7000S dome
- RTCAM 5000 dome
- RTCAM 5000 bullet
- RTCAM 7000D PTZ
- RTCAM 7000S PTZ

Others:

- Encryption of native Export
- Support of the new NetApp Controller E 2700 Series
- New features supported within the backwards compatibility:
    - Support of Favorites and Bookmarks
    - Control of relays
- ASF Export added as option again

14.3 Installation Notes

For system design specifications refer to the Bosch VMS datasheet, Configuration Manual, pre-sales guide and Quick Installation Guide on http://www.boschsecurity.com. The datasheet is subject to change. Translated versions are not published instantly, for the latest version refer to the English version.

The installation manual and additional documentation of Bosch DSA E-Series iSCSI disk arrays can be found in Bosch on-line product catalogue on http://www.boschsecurity.com.

14.4 Firmware

Component	Version
VideoSDK:	5.83.0038

Component	Version
Firmware MPEG-4:	4.15.0002
Firmware CPP3:	5.73.0046
Firmware CPP4:	6.10.0129
Firmware CPP5:	5.92.0023
Firmware CPP6	6.10.0129
Firmware CPP-ENC	5.52.0015 (for VIP X1600 XFM4)
Firmware CPP-ENC	5.93.0015 (for VJT XF E family, VIDEOJET decoder 3000)
Firmware X1/X2:	2.53.05
VIP XD HD	1.8.00
VJD 7000	54.8.00
VRM:	3.00.75
VSG	5.91.0022
DiBos	8.7
BRS:	8.10 / 8.11
BIS:	3.0 / 4.0 / 4.1
iOS:	7.1 / 8.3
Web Client	IE 11
Allegiant MCS:	2.94

Component	Version
Intuikey Keyboard:	1.96
VMWare:	5.1.0 U1 build 1065491
DVR	2.1 / 3.60
Operating systems Operator Client	Windows 7 Professional or Ultimate SP1; 64-bit and Windows 8.1 64-bit
Operating systems Config Client. Management Server, Mobile Video Service	Windows 7 SP1 64-bit; Windows 8.1 64-bit; Windows Server 2008 R2 SP1 64-bit; Windows Server 2012 R2 64-bit

14.5 Hardware

> **Hardware requirements**
>
> For the HW-requirements of other components like VRM, VSG, Allegiant MCS – Please refer to the documentation of these components

Component	Version
Broadcom NetXtreme Gigabit	river for Microsoft Windows 7 and Windows 8.1 (64 bit) 16.8.4.1 Rev. A (14 Jan 2015)
Intel PRO-1000 Gigabit	Driver for Microsoft Windows 7 and Windows 8.1 (64 bit): R19_338993 Rev.M (2 Feb 2015)
NVIDIA Quadro	Driver for Windows 7 and Windows 8.1 (64-bit): 347.52 Rev.A (12 Feb 2015)
ATI FireGL	Unified Graphics Driver for Microsoft Windows 7 and Windows 8.1 (64-bit): 14.301.1014.1001 Rev.A (9 Feb 2015)

14.6 Known issues in version 5.5.5

ID	Description
45004	When activating a license of the Operating System, make sure that the network adapters required for operation are active. When unplugging a network cable, these Operating Systems deactivate the corresponding network adapter.
48584	Upgrade is not working if Configuration Client is left open - close Configuration Client before upgrade.

14.7 Resolved issues in version 5.5.5

ID	Description
111627	FIXED: A DIVAR 700 added to Bosch VMS, has a video quality issue in Live Mode.

14.8 Restrictions panorama camera

ID	Description
117194	• Edge dewarping (Application Variant modes) not supported, since more flexible Client dewarping is in place. • Keyboard control: • Intuikey keyboard: No E-PTZ in playback, Jog shuttle supported.

108160	• Export: Only circled view is exported
	    • To view dewarped video, open native export with Operator Client or Archive Player.
	• Presets not supported (therefore presets cannot be used for alarm pop-ups, but always shows panorama view)
	• Circled view only is shown in
	    • Digital Monitor Wall control
	    • Display of VIDEOJET decoders (Monitor Wall)
	    • Web client/iOS App
	    • Transcoded video (SW-/and HW-transcoded)
	    • Reference image
	• Forensic search:
	    • IVA overlays are not displayed in Operator Client. However, Forensic search is working fine.
	    • Smart IVA search is not supported.

14.9 Known issues since version 1.0

14.9.1 ANR

ID	Description
116689	When configuring ANR for multi-channel encoders, it is only possible to configure ANR for all encoder channels (not for selected channels only).
93344	Please refer to the Release Notes and the Whitepaper of ANR to find out about the known limits.These documents are available in the documents' section of the IP cameras in the Bosch product catalog in the Internet.
93272	A "buffered storage state" alarm might also indicate a missing or broken SD-card.
81663, 79824	ANR feature does not show playback if user/live password is set.
80033	The time of an SD card 100% fill level warning event is not the point in time when the recording gap is starting or ending.
n/a	As of firmware version 6.10 the procedure for configuring the local storage of an encoder for use with ANR has been changed.

ID	Description
n/a	Use of ANR applies to the platforms CPP6, CPP4 and CPP-ENC with Firmware version 5.90 or later.

14.9.2 ATM/POS

ID	Description
111280	To get ATM/POS working under Windows 2012 server R2, the following needs to be done: Deactivate the ECN Capability setting on Windows 2012.

14.9.3 Barco Monitor Wall Transform N

ID	Description
n/a	New RCP+ Agent has been introduced as of Bosch VMS 4.5.5 to integrate the Barco Transform N series. Barco RCP+ SDK Agent requires activation of multicast in all used cameras. Known issues: • Transform N series is in some cases not working with Bosch VMS 5.5.5. Previous version of Bosch VMS 5.5.1 is not affected. The issue is currently under investigation. Customers using transform N series are therefore recommended to stay on Bosch VMS 5.5.1 untill the issue is fixed. Transform A series is not affected. • No multiple drag and drop support (sequences) • No replay support

14.9.4 CameoSDK, Client scripts

ID	Description
105817	Most client scripts are not supported when Operator Client is connected to a Management Server with a previous version.
103044	When a user with restricted rights to access all cameras, executes a client script (via Logical Tree) that calls CameraManager.GetCameraInfoList(), ALL cameras are returned, not only those, the user has access rights for.

14.9.5 Configuration Client

ID	Description
93264	Before deleting a device, please ensure that the Alarm List does not contain any alarms triggered by this device. Reason: The alarms cannot be cleared after the device is removed.
93247	Adding a failover VRM does not work, when the VRM's license is expired. Workaround: Add the VRM as regular VRM (it is then licensed by BVMS), remove it and add it as failover VRM.
69440, 42654, 69438	Local storage devices do not support transcoding and no routed access.

ID	Description
68263	Activate the configuration manually after importing a configuration file from a previous Bosch VMS version.
51698	In Configuration Client you enter encoder names with more than 31 characters. But the encoder cannot store more than 31 characters, the name is truncated without warning.
37384	When using the Initial Device Scan to assign new IP addresses for new devices, ensure to not configure duplicate IP addresses.
35506	When configuring a Workflow alarm, do not use links containing a URL.

14.9.6 Config Wizard

ID	Description
80166	Config Wizard applies the global default password also to the VSG, but only if it is allocated to Pool 0.

14.9.7 Decoders

ID	Description
116807	OSD not possible with VJD-7000 Software based decoders (XDHD/VJD7000) do not support RCP commands required for OSD.
101898	The setting "use any stream" is used as default, but not supported for older VIPXD decoder.
69772	Monitor Wall reports "Layout changed" for all connected monitors, even when only one monitor layout was changed.

14.9.8 Devices

ID	Description
116593	IP devices already added to a DVR do appear again in device scan of VRM.
111627	A DIVAR 700 added to Bosch VMS, has a video quality issue in Live Mode.
93061	The following requirements must be met to configure ROI on the Cameras & Recording table:- Codes for stream 2 must be a ROI codec.- Stream 2 must be used for Live.- No recording configured for stream 2.
90740	On PTZ and ROI camera Image panes, the MD icon is not visible when video content analysis is enabled. The feature is working as expected.
85257	DVR 480 delivers images, which are horizontally stretched by approximately 20%.

ID	Description
78802	VIP X16 XF E has been moved to Device Family 2 for support of 2nd stream for recording. Deviating from the behavior of the other devices belonging to Device Family 2, VIP X16 XF E must use the same stream for all recordings. Although the user can configure stream 1 for continuous recording and stream 2 for alarm recording, the second setting will not take effect. After a Bosch VMS upgrade, perform the update of the device family manually. **To update the device family:** Right-click the device and click **Edit Encoder**. Click **OK**.
70218	DVR 700 does not support verifying authenticity for attached cameras.
69503	The first firmware update of a VIP XD HD reports a false error. The update is nevertheless successful. Please perform the update twice. The second update is executed without error message.
69455	VIP X16 XFE does not support VCA manipulation and Reference Image events.
69285	You can add a DVR device without using the DIVAR Admin account.
n/a	As of Bosch VMS 5.0, 3rd party cameras can now be integrated via RTSP stream or MJPEG. Supervision of connection state and PTZ is not supported though.

14.9.9 Hardware transcoding

ID	Description
69798	Transcoded Image pane keeps last image at the end of recording instead displaying of blank image.
69774	Transcoding does not work with H.263 streams.
69451, 70813	Old FAS without wildcard support are not supported by transcoder.

14.9.10 Integration with GV4 and B-Series Intrusion Panels

ID	Description
104774	Known behavior in Bosch VMS, yet new for the integration with intrusion panels: • When Management Server is down or not up and running when an intrusion detection point is in alarm state, Bosch VMS is not able to display the alarm or get it later on. • As it is not possible to retrieve the information on how many keypads are used, BVMS Configuration Client always shows the maximum number per default even if less are connected. • To avoid missing that intrusion alarms are not logged, set the debounce time to 0. • When a user enters a valid passcode a second time after access was already granted with this passcode, an error message is displayed in the keypad. But this error cannot be sent to Bosch VMS. (Note: Entering a wrong passcode is displayed in the Alarm List!).

ID	Description
n/a	Bosch VMS does **not** configure the panel, it only retrieves data. Avoid multiple connections with different tools to the same panel. When a panel is connected to Bosch VMS, you cannot establish a connection to this panel with RPS. Maximum number of panels connected to BVMS is **20**. Total event load of all panels must not exceed 100 events/minute.

14.9.11 Intrusion panel

ID	Description
110545, 110582	When applying changes to panel points (e.g. using the "Copy to all" feature) on the event settings page it takes a very long time (minutes). Recommendation: Make changes in smaller portions, e.g. 200 at a time.

14.9.12 Management Server

ID	Description
93591, 68263	When a configuration from a previous Bosch VMS version is imported, new events that did not exist in the previous version, do not appear. To get the new events, you must manually activate the configuration and restart the Central Server service.
71354	If you use a Management Server with multiple network adapters, it can happen that the time synchronization of encoders and decoders does not work correctly. To avoid issues ensure that the IP address of the time synchronization server is configured in the Management Server configuration file (TimeServerIPAddress in the app-config file CentralServer.exe.config).
71354	Whenever you have two or more network addresses you need to make sure that the time server entry in the Management Server configuration is set to the correct IP address.

14.9.13 Migration

ID	Description
115289	Reference image: The default setting has changed with FW 6.10. The whole camera image is defined as sensitive area. Use Reference image mask to exclude areas that are irrelevant. Note: Tamper configuration of previous FW 5.93 is lost as soon as configuring a new area.
92820	Old elements.bvms (< 3.0.0) cannot be migrated if .NET 3.5 is not installed.
82945, 77484	For projects, that used dual recording or failover recording workaround prior to Bosch VMS 5.0: Respective licenses are needed per channel for dual recording and failover recording. Commercial solution might be requested from BU-ESS/MKP1.1 in case, that new licenses cannot be sold. After licensing, the VRM configuration needs to be imported into Bosch VMS by context menu on an empty VRM node in Configuration Client.

ID	Description
69514	Record AAC does not work. Encoders will automatically use G.711 to record audio.
n/a	NVIF cameras: After migration from an earlier version to Bosch VMS 5.0 or later, ensure that the firmware of the cameras is updated to the latest version. Otherwise it can happen that the cameras do not function correctly.

14.9.14 Miscellaneous

ID	Description
109562	Windows media player only capable to display UHD video exports, when K-lite codec pack is installed. .Alternatively use VLC player to view UHD camera exports.
102969	Bosch VMS pre-alarm default is set to be 10 seconds. When a user updates from a previous version to 5.5., the system behavior might change due to the fact that depending on the camera capabilities, the pre-alarm recording might now record in the RAM after update (thus not shown in Timeline any more).
91046	ASF exports are not possible for resolutions higher than HD (1920x1080).
85501	Debounce time for Virtual Input Data has been set to 0 to prevent loosing events when used with additional data.Please set the debounce time to 0 when upgrading from an earlier version and using additional data.
76527, 77159	In previous BVMS version < 5.0 the "MON+CAM" commands referred to the logical numbers in Bosch VMS, not the numbers used by the Allegiant Matrix. This has been changed in BVMS 5.0. <u>Instructions</u> for customers, that rely on the "wrong" previous behavior of "MON+CAM" and want to reactivate the former behavior (swapped parameters): On the Management Server machine: 1. Stop the Management Server service 2. Open BvmsCentralServer.exe.config 3. Uncomment line <!----> i.e. remove 4. Save changed BvmsCentralServer.exe.config 5. Start the Management Server service
61586	If you configure both a local and an Enterprise user group each with LDAP, only the local LDAP user group can be used. The Enterprise user LDAP configuration is always ignored.
55737	Bosch VMS does not support an LDAP system with more than 1000 User Groups for LDAP servers supporting protocol version 2 only.
54600	If the number of entries in the Alarm List becomes too large (>1000), Operator Client runs possibly very slow.
28672	In Operator Client the permissions for sequences are ignored for sequences placed on maps.
20283	The user can access a sequence for which the permission was removed. This happens when the sequence has been saved as Favorite earlier.
n/a	Bosch VMS does not support B-frames. This may slightly reduce the image quality in the recording. If needed, please increase the bit rate in the profile settings in encoder to get the quality configured in the profile.

ID	Description
n/a	Allegiant CCL Emulation applies to IP cameras and decoders only.

14.9.15 MVS/Web-Client

ID	Description
93097	Restart the IIS after changing IP address of the Management Server computer for MVS.
92345	Restrictions of feature permissions for selected cameras do not work for Web Client and Mobile App. Only the restriction for the access is working correctly.
71820	Calling up cameras on a DIVAR 700 using the MVS is under some rare circumstances not always stable in playback.
68278	You cannot add an MVS in Configuration Client when the time between the Configuration Client computer and the MVS computer is not synchronized. Please ensure that the time is synchronized between the affected computers.
60527	If the IP address of a Management Server computer is changed during the MVS is offline, this new IP address is not transferred when the MVS becomes online again. Please perform a configuration change and activate. For example you can change the **Day** schedule.
n/a	Web-Client works well with IE 11. It has also been tested with Firefox 30, Chrome 36 and Safari 7.0.5. These versions show some limitations in the PTZ functionality of an Image pane.

14.9.16 NVR

ID	Description
91302	The Bosch VMS NVR is not supported by Windows 7 or 8.1 and thus not supported in Bosch VMS 5.0 anymore.VIDOS NVR is not supported in Bosch VMS 5.0 anymore.

14.9.17 ONVIF

Note: Many ONVIF features are optional and their availability depends on the feature set of the currently used ONVIF device.

ID	Description
105655	To set up ONVIF event mapping please adjust the ONVIF section in the BVMS log config file (%programfiles(x86)%\Bosch\VMS\AppData\Server\CentralServer\BVMSLogCfg.xml) to retrieve the needed values for the corresponding camera type.To avoid issues, please copy this file as backup and edit it then. Exchange „WARN" with „DEBUG".
102104	When you configure two ONVIF encoders with same IP but different credentials, the state icons in the Device Tree gets mixed up. Please ensure to provide consistent settings (for example credentials) for all instances of a single camera.
93295	Aux commands for focus and Iris is not yet supported for ONVIF cameras.

ID	Description
69417	Monitor wall does not support ONVIF.
69272	VIDEOJET Decoder 7000 supports ONVIF via VSG, VIDEOJET 3000 does not.
62505	For some ONVIF cameras, Operator Client only provides the prepositions that have been created on the cameras' web-page before.

14.9.18 Operator Client

ID	Description
116840	Operator Client will reboot in the course of updating the FW on VIP X16 XF E.
64470	Under rare circumstances Operator Client unintentionally logs off and cannot log on automatically after a forced activation. This happens with higher probability in large systems with many Operator Client computers.
117728	It is not possible to save an image on a PC without printer driver. Note: Windows 8.1 and 7 come with a printer driver pre-installed. In case Windows Storage Server 2012 is used, Operator can activate the Microsoft XPS Document Writer (without Administrator permissions).
110468	Encrypted export: Disable encryption in the export dialog if at least one camera of a Management Server running a previous Bosch VMS version has been selected.
106377	Under rare conditions with certain local security policies in place, Windows starts self repairing the Autodesk Review installation when Operator Client is started. In this case insert the Bosch VMS Setup DVD.
93193	Operator Client can terminate unexpectedly when camera sequences are running and the computer is locked, for example by pressing "Windows-key + L". Please avoid locking the computer when running sequences.
93019	Permission to use additional data does not work properly.
91166, 25200	The user can add the same camera to the Playback Image window. Bosch VMS allocates all available resources for decoding. This can significantly slow down the system.
73367	Playback is not possible in the hour after the second daylight saving time switch in each year.
71295	If clients are connected via low bandwidth, please do not force activation. The transfer of the new configuration can take very long time and no progress bar is displayed.
62207	An LDAP user can assign Allegiant cameras to AMG, but not clear them or assign another camera.
62970	Operator Client does not support Windows Guest account users.
45399	Disconnected OC will be logged by Management Server as "Logoff" instead of "Disconnected".
39834	At "Clear alarm" the user name could be missing in logbook.
30279	Manually triggered alarms (by user event buttons) with a higher priority are not ordered correctly in alarm list.

ID	Description
n/a	Operator Client now supports a "Multi-view" feature when watching live. This is particularly useful for displaying a 4K camera in multiple Image panes. The operator can then adapt the image section in each Image pane by using focus and zoom. The CPU load of Operator Client does not increase in this case. The reason is that the camera image is decoded only once, the image sections in the Image panes are not decoded again. The entire multi-view can be saved as a favorite. The multi-view feature is not supported for Playback Mode. In Playback Mode, an Image section of a camera is decoded for each Image pane. Displaying the recording of a 4K camera in multiple Image panes can lead to severe performance issues.The multi-view feature is not supported for transcoded videos.
n/a	When the connection of Operator Client to Management Server is reestablished after a period of working in offline mode, all user events that occurred during offline mode, are transmitted to the server. This is not valid for logon/logoff events. They are not logged during offline mode.

14.9.19 Panoramic cameras

ID	Description
113381	Platform Update for Windows 7 SP1 and Windows Server 2008 R2 SP1: MS KB 2670838 has to be installed for panoramic cameras.
n/a	User must not configure edge dewarping on the CMlib page of a panoramic camera, since client dewarping is used for the purpose of more flexible operation.

14.9.20 Bosch VMS SDK

ID	Description
71477	CameoSDK sample application: an unhandled exception is thrown when clicking "Disconnect" button.
69380	When a user with restricted rights to access all cameras, executes a client script (via Logical Tree) that calls CameraManager.GetCameraInfoList(), ALL cameras are returned, not only those, the user has access rights for.
69312	As of version 4.5.0 the DateTime objects returned by the ScheduleManager.GetScheduleStateTransitions() method have changed the value of the 'Kind ' property from 'Unspecified' to 'Local'. Please ensure that your script logic is adapted accordingly.
61416	Use valid admin account only to connect via SDK to CS.

14.9.21 Search functions

ID	Description
105817,93460	• Archive Player does not support the search for text data.
93510	When text exceeds 4000 bytes then the complete text block is not recorded (this may lead to no alarm being triggered).

ID	Description
93267	The **Find video by event** list always opens primary recording, even when search was run on secondary recording. Switch manually to secondary recording.
41145	When using **Find Video by event**, alarm recordings triggered by users cannot be found directly. You need to search for the general alarm recording and then sort by user.
80714	Forensic search is not possible when Operator Client is connected via routed access or on a transcoded stream.
69946	Video content analysis (IVA) on a transcoded Image pane is not supported.

14.9.22 Intelligent Video Analytics

ID	Description
116684	Description of selecting a VCA area is wrong as of FW 6.10.In the default setting, the whole camera image is defined as sensitive area. Use VCA masks to exclude disturbing objects or areas that are irrelevant for alarm event generation. Only objects moving outside VCA masks, in the sensitive area of the camera image, are detected as such and generate an alarm event. Objects moving inside VCA masks cannot generate an alarm event even if they are caught by the camera.

14.9.23 VIDEOJET connect 7000

ID	Description
117658	VIDEOJET connect can be used by Bosch VMS only with the corresponding variant type of the MIC IP 7000.

Comments

- Ensure that the VIDEOJET connect 7000 and MIC IP 7000 have the same password settings to grant access to each other.
- To achieve local recording with VIDEOJET connect 7000, the configuration of storage needs to be done via the Configuration Manager. The local storage then appears with the IP of the VJC 7000 as ISCSI target in the Configuration Client.
- Transcoding and state supervision for VIDEOJET connect 7000 are not supported.
- Automatic Network Replenishment with VIDEOJET connect 7000 is working with a batch file issued for the devices' configuration.

14.9.24 Video Recording Manager

ID	Description
106169	Auto-protect recording does not work with CPP3 devices.
93771	Auto-protected recording on alarm: It may sporadically occur that the pre-alarm is not protected with the alarm. This is the case when pre-alarm and alarm are recorded on different recording blocks and only the later block is protected.

ID	Description
93162	In some rare cases, pre-alarm cannot be protected together with the alarm when pre-alarm is on the previous block.
93131	Auto-protected recording on alarm: The Timeline in Operator Client indicates exactly the time period that was selected for protection. But in fact the entire recording block is protected, which the protected time period belongs to.
93076	Auto-protect is not designed to be used with high frequency alarms. If alarms come in too frequently, this may lead to the last auto-protected recordings losing their protection. Technical background: If more than 32 auto-protected alarms occur on a single recording block, the 33rd and following recordings will no longer be protected.
82703	When removing a VRM from the Bosch VMS configuration, ensure that this VRM is removed from the network before. Otherwise recording data might be lost.
30130	When the user of Configuration Client scans an existing VRM, the encoder names are renamed to default Bosch VMS names.

15 Bosch Video Management System 5.5

15.1 New features in version 5.5

- Support of intrusion panels from Bosch (B-Series, GV4-Series)
- Mapping ONVIF events to Bosch VMS events (for alarm handling)
- Support of the VIDEOJET connect 7000 with limited feature set when used with MIC IP 7000:
  - Supported: alarm inputs and outputs, audio in, washer relay, local recording and playback.
- ASF export is replaced by MOV export
- Export to multiple CD/DVDs
- Operator Client can work offline with a configuration of Bosch VMS version 5.0.5
  - First step of backwards compatibility Operator Client to Management Server
- Licensing available in Config Wizard, some GUI improvements
- Automatic logoff for Configuration Client
- VCA overlays are persisted in user settings
- Text data search conditions are persisted in user settings

16 Bosch Video Management System 5.0.5

16.1 Feature enhancements in version 5.0.5

Operator Client

- FIXED: Display and search for additional text data did not work reliably. 93889

Web-client

- FIXED: Display and search for additional text data did not work reliably. 93889

Mobile Video Service (MVS)

- MVS adapted to better perform on HW with low performance.
- For better usability, the local MVS is shown in port mapping table with public port 443 and IP address of the DIVAR IP when using the Wizard.

17 Bosch Video Management System 5.0

17.1 New features in version 5.0

17.1.1 Devices

- Support of new Flexidome and Dinion 2000/4000/5000/7000/8000/9000 cameras series
- Support of MIC 550/612 and MIC 7000
- Support of VJD 3000 and 7000 including the support of 2 monitors
- Support of the Arecont AV8185DN 180°, live & playback, without stitching
- Support of the Rvision camera (legacy)
- Automated Network Replenishment
- Possibility to configure up to 7 different pre-alarms
- Region of Interest (ROI)
- Intelligent Tracking
- Support of new quality profiles
- Integration of the DTP3N (a German device to connect to ATMs)
- Integration of a Foyer Card Reader (Germany only)
- Malfunction relay (used to highlight a special event)
- Display of VBrick cameras on Monitor Wall
- Generic decoders added to AMG, differentiated between single and quad-view

17.1.2 Recording

- Dual recording and Failover VRM
- Support of up to 125 VRMs per Management Server, in LAN, with each VRM managing maximum 16 cameras.
- Automatically protected VRM recording on alarm
- Support of the E-series with dual controller
- User can select how many of the 7 instances of the VSG shall be installed
- VSG supports alarm recording triggered by BVMS events
- Backup LUNs/read only will not be overwritten anymore

On-hold / Not-released

- Record, display and search for additional text data: *Although implemented in Bosch VMS 5.0, this feature is unfortunately not working 100% reliably yet. Known effects are, that search results are missing sporadically, and searching for/ playing back video with additional data may cause unexpected effects. This will be solved by a firmware upgrade and (if the circumstances require) a Bugfix release of a Bosch VMS version 5.0.x*

17.1.3 Operator Client

- Multi-view feature for live view: Select a camera multiple times without additional CPU-load
- Use of Software transcoding provided by the Mobile Video Service as a backup, when no hardware transcoder is available (live only)
- Inactivity Logoff with configurable time
- Operator Client automatically uses TCP protocol when connecting via routed access (despite any configuration and user settings)
- New operator group permission to allow the operator to change his password

17.1.4 Web-client

- Automatic setup of IIS (Mobile Video Service)
- Trigger relays
- Trigger export at Management Server
- Support of PTZ
- Web-Client UI available in several new languages

17.1.5 Mobile App

- New: Record video using the IOS mobile camera.
- Transmits videos to MVS server to share it with other staff members
- Notify and share live video with other security staff in emergency situation
- Notification provided in Web-client, when video is loaded to MVS server

17.1.6 Integration

- ONVIF provides status supervision
- Support of ONVIF cameras on Digital Monitor Wall (latest version)
- VSG supports audio for ONVIF cameras
- SNMP traps including MIB to other PSIM systems
- VSG supports RTSP and MJPEG (3rd party camera integration)
- New RCP+ Agent for Barco Transform N series
- Server SDK provides a sample application on how to BVMS broker to overcome the limitation of 2 subscriptions for server events.
- SDK is capable to dispose scripting objects on configuration change.
- Additional text data received by a BVMS event shows in the alarm list of the alarm

17.1.7 Miscellaneous

- VMware released with E-series
- Global security password to enforce password protection on all BVIP devices and secure the whole system
- Possibility to call up license manager in BVMS Configuration Client

18 Bosch Video Management System 4.5.9

18.1 New features in version 4.5.9

- Configuration Client and Configuration Wizard: To avoid security issues, a global default password must be set for all devices and all authorization levels (service, live, user) that are not password protected. You can disable this enforced password protection for BVIP devices.

19 Bosch Video Management System Version 4.5.8

19.1 New features in version 4.5.8

- User-defined columns can be added to the Server List.
- The Server List can be exported as csv file and imported again.
- For all cameras of a workstation you can configure that the default protocol used for network transmission is TCP or UDP. For a single camera you can override the default protocol.

20 Bosch Video Management System Version 4.5.5

20.1 New features in version 4.5.5

- New possibility to generically connect Bosch cameras:"Generically" means, that the Bosch encoders/decoders can be added firmware independentlyBosch VMS is able to retrieve the device capabilities after device is being added. Feature requires firmware version 5.70 or higher.Following settings of those devices are retrieved: - Currently configured streams

- Number of:
  - Video inputs
  - Streams per video input
  - Alarm inputs
  - Relays
  - Serial ports

- AutoDome 7000 series support
- Full support of VRM Pooling
- Server and Client SDK of Bosch VMS do not request recompilation of 3rd party integration when Bosch VMS 4.01 is upgraded to Bosch VMS 4.5.5 or later versions released in the future. Bosch VMS SDK of version 4.5.5 must be installed on the workstation running the SDK application using the new Setup option provided by Bosch VMS Setup.
- Web Client now supports IE 9 64bit and IE 10 64bit.

21 Bosch Video Management System Version 4.5.1

21.1 Feature enhancements in version 4.5.1

"Automatic Device Configuration" is now turned off by default and cannot be turned on anymore. Device Check is still checking the devices periodically. But mismatch errors and configuration of devices is only performed on activation.

22 Bosch Video Management System Version 4.5

22.1 New features in version 4.5

- Server Lookup
- Time zones
- VideoTec DCZ Keyboard support
- DVR 400/600/700 support
- Transcoding for low bandwidth transmission
- Export and import of configurations
- Enable TCP for live view
- Configuration Wizard
- Remote Access for Operator clients to Management Servers
- Web Client for live and playback video
- Storage state event
- Mobile Video Service (MVS) support of ONVIF, DVR, BRS

23 Bosch Video Management System Version 4.0

23.1 New features in version 4.0

- Enterprise System: Support of up to 10 subsystems
- Support of ONVIF compliant cameras
- Mobile Video Service
- Monitor Wall
- Bookmarks for Live and Playback mode
- Automatic map display
- RemoteClient Enterprise SDK
- Video Streaming Gateway available on Setup DVD.
- Cameo SDK 1.0 available on Setup DVD.
- Remote Logbook

24 Bosch Video Management System Version 3.0.1

24.1 New features in version 3.0.1

- Support for VIP X1 XF E
- Support for AutoDome 700 IP
- Support for Bosch Recording Station Appliance

25 Bosch Video Management System Version 3.0

25.1 New features in version 3.0

- Larger Systems with up to 2000 cameras, 100 workstations, and 40 VRMs
- Increased Reliability at multiple levels
    - Continuous Operation during Central Server maintenance, disconnection or downtime
    - High Availability Central Server with VMware
    - IP cameras and encoders can now record motion-based alarms independently of Central Server
    - Playback of video now possible when VRM not available
- Independent Operator Client
    - Continuous operation for live, playback and export during Central Server downtimes or while connection to Central Server not available
    - Any user can log on to an Operator Client not connected to Central Server
    - Automatic replenishment of user events to central logbook once connection to Central Server established again
- Latest IT environment
    - Windows Server 2008R2 64-bit support
    - Windows 7 64-bit SP1 support
- Better Operator Client performance by using up to 4GB RAM
- VIPXD-HD support with Single and Quad layout
- Dinion 1080p
- FlexiDome 1080p
- Improved debouncing with priorities
- Simplified and faster configuration of recording settings. Configure the settings per camera groups along your real-life project, not by technical differences of various camera types.
- New Default Qualities for easier configuration for 720p and 1080p with 5MBit/s target bit-rate and 10MBit/s max-bit rate
- Device Tree now displays the number of subnodes. When filtering is used the number of filtered and total is displayed
- Configuration Client now offers filtering for devices to allow easier configuration in large systems
- OSD on Alarm for VIPXD and VIPXD-HD is now also supported in Quad-Mode