

Bosch Video Management System

Mobile Video Service



BOSCH

en Technical Note

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1 Introduction

This manual provides support information regarding Mobile Video Service (MVS) within Bosch Video Management System as well as the router and Internet Information Service (IIS) configuration.

Internet Information Service

Configure the settings for Internet Information Service on the computer where you plan to install MVS for Bosch VMS.

Dynamic DNS

If you want to provide services to the Internet, you can connect with a router to an Internet provider. There you can choose to get a fixed IP address or a dynamic address. A dynamic address typically changes once a day or depending on the usage.

If the service should be available under a well-known address, a fixed domain name can be used. This requires this domain-name being associated with the current IP address of the access point (router) for the service.

2 System overview

2.1 Installation notes

Install and configure Internet Information Service (IIS) before you install Mobile Video Service (MVS). If IIS is not installed, Bosch VMS Setup to install Mobile Video Service aborts.

You select the Mobile Video Service component for installation during Bosch VMS Setup.

You cannot install Video Recording Manager (VRM) and Mobile Video Service on the same computer.

We recommend that you do not install Mobile Video Service on the same computer where you install Management Server.

2.2 Limits of Mobile Video Service

The transcoding service within Mobile Video Service adapts to the available bandwidth by changing the compression rate of the video streams.

The transcoding service is not limited to a fixed number of parallel video streams.

Nevertheless, 10-20 parallel streams are typically possible.

The limit depends on the available memory of the server:

- Number of current streams of all connected clients
- Current image rate of the active incoming streams (source)
- Current image rate of the active outgoing streams (target/display)
- Current resolution of the active incoming streams
- Current resolution of the active outgoing streams
- Live/Playback Mode (Playback Mode needs more resources)
- Available bandwidth for the current streams (strong or fast changes in the available bandwidth need more resources)

When the limit is exceeded, no more streams can be activated, the affected client displays the message "Transcoder overloaded".

When an active stream is deactivated when the limit is reached, this does not mean that a new stream can be immediately activated. Resources are released with delay. Another reason can be that the resource requirements of the remaining streams have increased.

2.3 Dynamic DNS

A provider for Dynamic DNS (DDNS) associates a user account (via customer registration) with a domain name. The customer's router sends the IP address whenever it is changed by the Internet provider with the user account to the DDNS provider.

The IP address change can be performed by the following options:

- Automatically by the router, that is directly connected to the Internet provider.
- A server behind the router running a Windows application from the Internet provider.

We recommend using the first option because the router directly notifies the DDNS provider if the Internet provider changes the IP address. The server based solutions are mostly based on polling the router for an IP address change, which possibly leads to longer access times to the customer service (seen from client side).

3 Configuring a router for using public networks

Prerequisite: For using DynDNS, you must register at a DDNS provider with a user name, password and a (sub)-domain name.

The following example is based on an already registered domain name (`myvideowebsite.org`) at the DDNS provider `dyndns.org`.

The following screenshots are from a DrayTek router. On other router products, GUI can deviate.

The main steps:

- Configure the router with the DDNS data.
- Configure the port forwarding in the router (e.g. 80 - http, 443 - https) to the Mobile Video Service.

3.1 Configuring DDNS

To configure DDNS:

- ▶ Configure DynDNS with the following steps:

Enable Dynamic DNS.

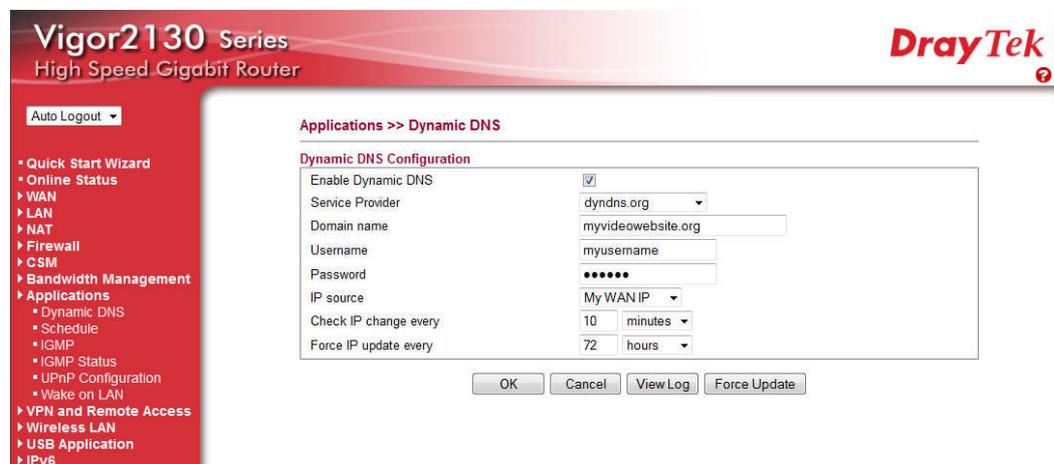
Select the Dynamic DNS provider.

Enter the domain name you registered with the Dynamic DNS provider.

Enter your user name and password which you have registered at the Dynamic DNS provider (this account is used to update the current IP at the Dynamic DNS provider).

In the **IP source** field leave the default setting. It is router specific.

The **Check IP change every** and **Force IP update every** fields are router specific. If you have such entries in your router, use 10 minutes for **Check IP change every** and 72 hours for **Force IP update every**.



See also

- *Configuring secured access, page 15*

3.2 Configuring port forwarding

To configure port forwarding on the router:

1. Activate the port forwarding with the following steps:

Enable the port forwarding.

Enter a name for this port forwarding entry, for example **MobileVideo**.

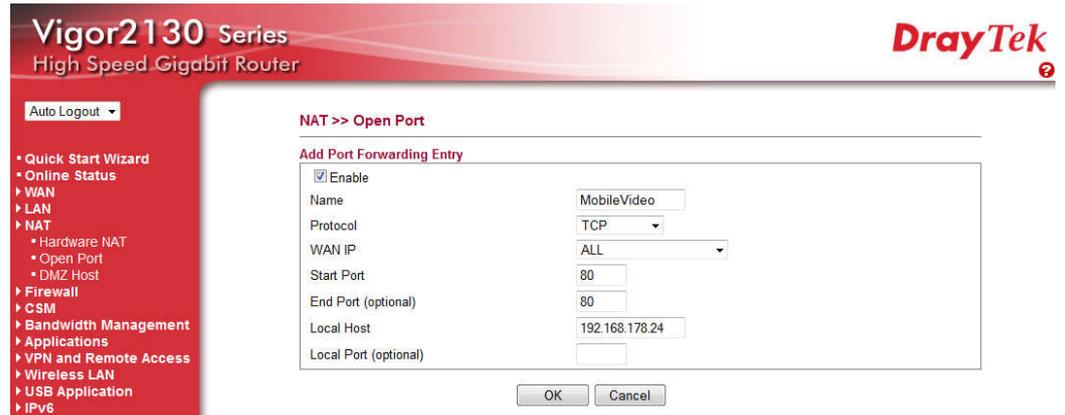
Select the protocol (**TCP**) and port to route to the Mobile Video Service computer.

In the **WAN IP** list, leave the default setting. This is router specific.

In the **Start Port** and **End Port (optional)** fields, enter **80** for unsecured access or **443** for secured access. Do not define a port range. See also *Configuring secured access*, page 15.

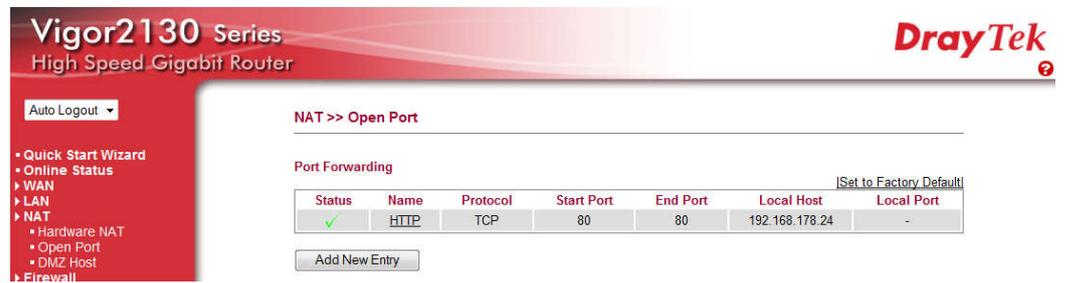
In the **Local Host** field, enter the static IP address or the local computer name, if you use DHCP.

In the **Local Port (optional)** field leave the default setting. It is router specific.



- 2. Click **OK**.

The following screenshot shows the results of your port forwarding settings.



- ✓ A running MVS server on the computer can now be reached from the Internet.

4 Configuring IIS

You install and configure Internet Information Server (IIS) on the computer where you want to install and configure Mobile Video Service.

1. Install and configure Internet Information Server.
2. Additionally enable the Windows Communication Foundation feature.
3. Enable secured access with SSL encryption to your web server (optional).

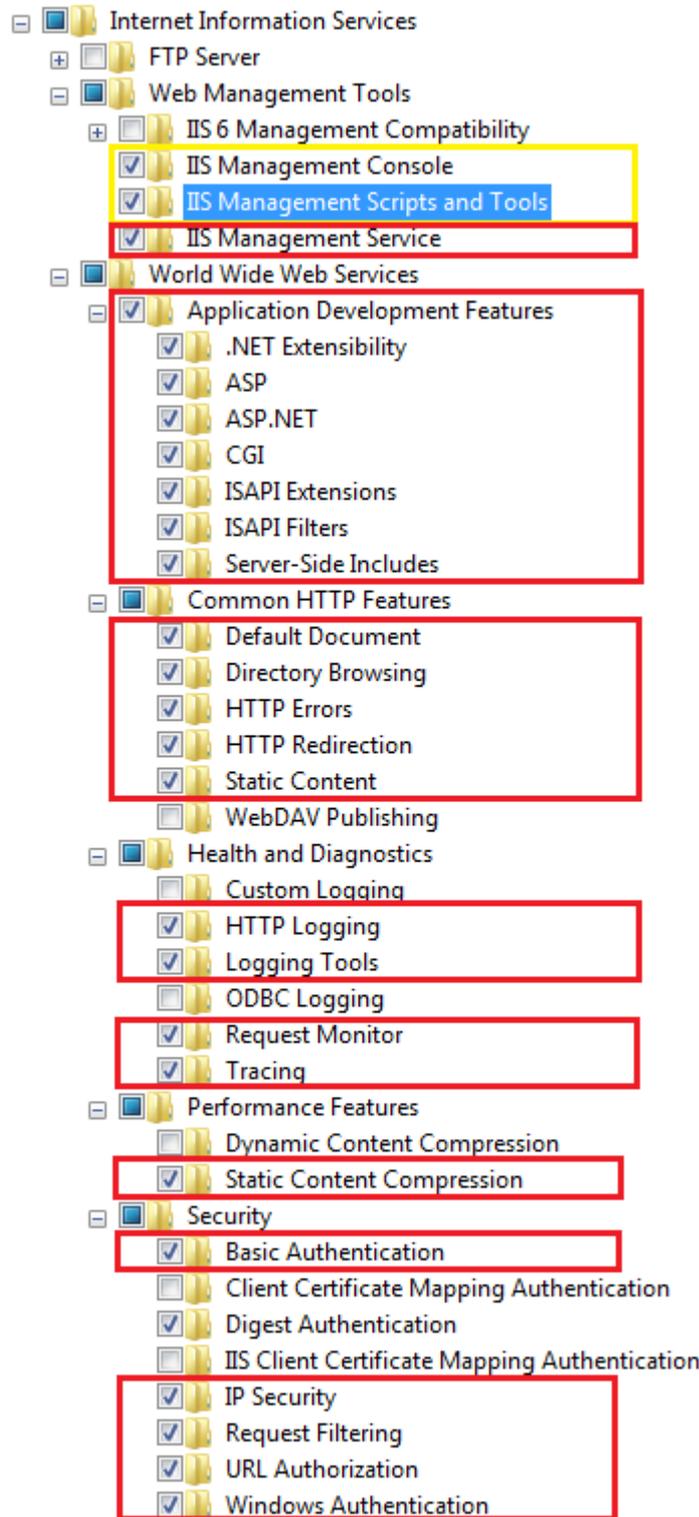
4.1 Configuring Internet Information Server and .NET Framework

Refer to Help and Support in your Windows 7 installation and search for Internet Information Server or IIS. A step-by-step instruction is provided.

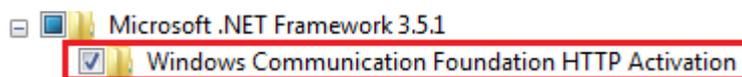
Configuring IIS in Windows 2008 Server:

1. Click **Start > Administrative Tools > Server Manager > Roles > Add Roles**
2. In the **Add Roles Wizard / Before You Begin** window, click **Next**.
3. In the **Select Server Roles** window, select the **Web Server (IIS)** check box and click **Next**.
4. If a confirmation message box is displayed, click **Add Required Features > Next > Next**.
5. In the **Select Role Services** window, enable the check boxes displayed in the screenshot below.

The following screenshots from the Windows Control Panel show the options that you must enable (red border: mandatory, yellow border: recommended):



On the same page, you find the following setting, which is very important:



The following screenshots show the same settings in German, French, Spanish and Simplified Chinese:

German

-  Internetinformationsdienste
 -  FTP-Server
 -  Webverwaltungstools
 -  IIS-Verwaltungsdienst
 -  IIS-Verwaltungskonsole
 -  IIS-Verwaltungsskripts und -tools
 -  Kompatibilität mit der IIS 6-Verwaltung
 -  WWW-Dienste
 -  Anwendungsentwicklungsfeatures
 -  .NET-Erweiterbarkeit
 -  ASP
 -  ASP.NET
 -  CGI
 -  ISAPI-Erweiterungen
 -  ISAPI-Filter
 -  Serverseitige Include-Dateien
 -  Gemeinsam genutzte HTTP-Features
 -  HTTP-Fehler
 -  HTTP-Umleitung
 -  Standarddokument
 -  Statischer Inhalt
 -  Verzeichnis durchsuchen
 -  WebDAV-Veröffentlichung
 -  Leistungsfeatures
 -  Komprimieren dynamischer Inhalte
 -  Komprimierung statischer Inhalte
 -  Sicherheit
 -  Anforderungsfilterung
 -  Authentifizierung über Clientzertifikatzuordnung
 -  Authentifizierung über IIS-Clientzertifikatzuordnung
 -  Digestauthentifizierung
 -  IP-Sicherheit
 -  Standardauthentifizierung
 -  URL-Autorisierung
 -  Windows-Authentifizierung
 -  Systemzustand und Diagnose
 -  Ablaufverfolgung
 -  Anforderungsüberwachung
 -  Benutzerdefinierte Protokollierung
 -  HTTP-Protokollierung
 -  ODBC
 -  Protokollierungstools
-  Microsoft .NET Framework 3.5.1
 -  **Windows Communication Foundation HTTP Activation**
 -  Windows Communication Foundation Non-HTTP Activation

French

-  Services Internet (IIS)
 -  Outils d'administration Web
 -  Compatibilité avec la gestion IIS 6
 -  Console de gestion IIS
 -  Scripts et outils de gestion IIS
 -  Service de gestion IIS
 -  Serveur FTP
 -  Services World Wide Web
 -  État de santé et diagnostics
 -  Journal ODBC
 -  Journalisation HTTP
 -  Journalisation personnalisée
 -  Observateur de demandes
 -  Outils de journalisation
 -  Suivi
 -  Fonctionnalités de développement d'applications
 -  ASP
 -  ASP.NET
 -  CGI
 -  Extensibilité .NET
 -  Extensions ISAPI
 -  Filtres ISAPI
 -  SSI (Server-Side Includes)
 -  Fonctionnalités de performances
 -  Compression de contenu dynamique
 -  Compression du contenu statique
 -  Fonctionnalités HTTP communes
 -  Contenu statique
 -  Document par défaut
 -  Erreurs HTTP
 -  Exploration de répertoire
 -  Publication WebDAV
 -  Redirection HTTP
 -  Sécurité
 -  Authentification de base
 -  Authentification Digest
 -  Authentification par mappage de certificat client
 -  Authentification par mappage de certificat client IIS
 -  Authentification Windows
 -  Autorisation d'URL
 -  Filtrage des demandes
 -  Sécurité IP
 -  Microsoft .NET Framework 3.5.1
 -  Windows Communication Foundation HTTP Activation
 -  Windows Communication Foundation Non-HTTP Activation

Spanish

- [-]  Internet Information Services
 - [-]  Herramientas de administración web
 - [+]  Compatibilidad con la administración de IIS 6
 -  Consola de administración de IIS
 -  Scripts y herramientas de administración de IIS
 -  Servicio de administración de IIS
 - [-]  Servicios World Wide Web
 - [-]  Características de desarrollo de aplicaciones
 -  ASP
 -  ASP.NET
 -  CGI
 -  Extensibilidad de .NET
 -  Extensiones ISAPI
 -  Filtros ISAPI
 -  Inclusiones del lado servidor
 - [-]  Características de rendimiento
 -  Compresión de contenido dinámico
 -  Compresión de contenido estático
 - [-]  Características HTTP comunes
 -  Contenido estático
 -  Documento predeterminado
 -  Errores HTTP
 -  Examen de directorios
 -  Publicación en WebDAV
 -  Redirección HTTP
 - [-]  Estado y diagnóstico
 -  Herramientas de registro
 -  Monitor de solicitudes
 -  Registro de ODBC
 -  Registro HTTP
 -  Registro personalizado
 -  Seguimiento
 - [-]  Seguridad
 -  Autenticación básica
 -  Autenticación de asignaciones de certificado de cliente
 -  Autenticación de asignaciones de certificado de cliente de IIS
 -  Autenticación de texto implícita
 -  Autenticación de Windows
 -  Autorización para URL
 -  Filtro de solicitudes
 -  Seguridad IP
- [-]  Microsoft .NET Framework 3.5.1
 -  Windows Communication Foundation HTTP Activation

Simplified Chinese

-  Internet 信息服务
 -  FTP 服务器
 -  Web 管理工具
 -  IIS 6 管理兼容性
 -  IIS 管理控制台
 -  IIS 管理服务
 -  IIS 管理脚本和工具
 -  万维网服务
 -  安全性
 -  IIS 客户端证书映射身份验证
 -  IP 安全
 -  URL 授权
 -  Windows 身份验证
 -  基本身份验证
 -  客户端证书映射身份验证
 -  摘要式身份验证
 -  请求筛选
 -  常见 HTTP 功能
 -  HTTP 重定向
 -  HTTP 错误
 -  WebDAV 发布
 -  目录浏览
 -  静态内容
 -  默认文档
 -  应用程序开发功能
 -  .NET 扩展性
 -  ASP
 -  ASP.NET
 -  CGI
 -  ISAPI 扩展
 -  ISAPI 筛选器
 -  服务器端包含
 -  性能功能
 -  动态内容压缩
 -  静态内容压缩
 -  运行状况和诊断
 -  HTTP 日志
 -  ODBC 日志记录
 -  日志工具
 -  自定义日志
 -  请求监视器
 -  跟踪

- Microsoft .NET Framework 3.5.1
 - Windows Communication Foundation HTTP Activation
 - Windows Communication Foundation Non-HTTP Activation

Swedish

- Services Internet (IIS)
 - Outils d'administration Web
 - Compatibilité avec la gestion IIS 6
 - Console de gestion IIS
 - Scripts et outils de gestion IIS
 - Service de gestion IIS
 - Serveur FTP
 - Services World Wide Web
 - État de santé et diagnostics
 - Journal ODBC
 - Journalisation HTTP
 - Journalisation personnalisée
 - Observateur de demandes
 - Outils de journalisation
 - Suivi
 - Fonctionnalités de développement d'applications
 - ASP
 - ASP.NET
 - CGI
 - Extensibilité .NET
 - Extensions ISAPI
 - Filtres ISAPI
 - SSI (Server-Side Includes)
 - Fonctionnalités de performances
 - Compression de contenu dynamique
 - Compression du contenu statique
 - Fonctionnalités HTTP communes
 - Contenu statique
 - Document par défaut
 - Erreurs HTTP
 - Exploration de répertoire
 - Publication WebDAV
 - Redirection HTTP
 - Sécurité
 - Authentification de base
 - Authentification Digest
 - Authentification par mappage de certificat client
 - Authentification par mappage de certificat client IIS
 - Authentification Windows
 - Autorisation d'URL
 - Filtrage des demandes
 - Sécurité IP

-  Microsoft .NET Framework 3.5.1
 -  Windows Communication Foundation HTTP Activation
 -  Windows Communication Foundation Non-HTTP Activation

To activate HTTP activation in Windows Server 2008:

1. Click **Start > Administrative Tools > Server Manager > Features > Add Features**.
2. In the **Select Features** window, expand the **.NET Framework 3.5.1-Features** check box, expand **WCF Activation** and select the **HTTP Activation** check box and click **Next**.
3. Click **Install**.
4. After successful installation, click **Close**.

4.2 Adding the HTTPS binding



Notice!

Before you can configure the HTTPS bindings, start Bosch VMS Setup and install Mobile Video Service.

To start Internet Information Services (IIS) Manager on Windows 7:

1. Click **Start > Control Panel > Administrative Tools > Internet Information Services (IIS) Manager**.

To start Internet Information Services (IIS) Manager on Windows 2008 Server:

1. Click **Start > Administrative Tools > Server Manager > Roles > Webserver IIS > Internet Information Services (IIS) Manager**

You add the HTTPS binding on the computer where MVS is installed.

1. Start **Internet Information Services (IIS) Manager**.
2. Select the **Default Web Site**.
3. In the **Actions** pane, click **Bindings...**
4. In the **Site Bindings** dialog box, click **Add...**
5. In the **Add Site Binding** dialog box, in the **Type:** list, select **https**.

Note: Do not change the port setting (443) unless your specific requirements force you to do that.

6. In the **SSL certificate:** list, select **BoschVms** and click **OK**.

The certificate **BoschVms** is installed when you install Mobile Video Service. This is a self-signing certificate that you can only use for encrypted data transmission. The certificate does not ensure the server identity.

See also *Configuring secured access*, page 15.

4.3 Configuring secured access

Prerequisite: You must have added the https:// binding.

See also *Adding the HTTPS binding*, page 15.

1. Start **Internet Information Services (IIS) Manager**.
2. Select the MVS web site and double-click **SSL Settings**.
3. Click to activate **Require SSL**, click to enable **Ignore** for client certificates and click **Apply**.

It is not recommended to enable the **Accept** or **Require** option for client certificates, because these options require certificates on client side to allow SSL based communication between Web server and client.

If you have configured SSL, the access via HTTP:// is no longer possible. All clients must access with the new address HTTPS://<server>/MVS.

5 Adding MVS to Bosch VMS

Note:

First install and configure Internet Information Server, then install Mobile Video Service. You configure MVS from within Bosch VMS Configuration Client. See the Bosch VMS Application Help how to perform this task.

Configuration Client: In the **URI** field of the **Add Mobile Video Service** dialog box, start the entry always with **https://**, even if you did not configure an encrypted access to your Web server.

Note:

When you activate the Bosch VMS configuration after having added the desired Mobile Video Service, ensure that MVS and Web Server can communicate.

To perform this task:

- ▶ Click the  button to activate the configuration.
- ✓ The  icon is displayed without  overlay icon to indicate a successful connection between Bosch VMS and Bosch MVS.

6 Using the Mobile Video applications

For detailed information see the App Help available on the quick start screen of the **Mobile App**.

For using Bosch VMS on an iPad or iPhone the **Mobile Video** App is available at www.boschsecurity.com/MobileVideo. You use the App for Live and Playback monitoring of the configured cameras.

For changing the settings of the **Mobile Video** App you can optionally use the respective icon in the **Settings** area.

6.1 Changing the App settings on your device

1. Open the **Settings** of your iPhone/iPad.
2. In the **Apps** list, tap **Mobile Video**.
3. Adjust the settings according to your needs.

For detailed information see the App Help available on the quick start screen of the **Mobile App**.

6.2 Using a mobile camera

Send live

You can use the camera of your iPhone or iPad for sending live video to other users of an iPhone, iPad or Web Client. The other users can view the live video without logon if they successfully have logged on to MVS earlier.

The video is automatically recorded on a configured server.

Record locally and on a server

You can use the camera of your iPhone or iPad for locally recording a scene. Later you can upload this video to a configured server. Other users of iPhone, iPad or Web Client can view these recordings if logged on to MVS.

Alarm recording

If configured accordingly, you can perform alarm recording and send the recording to the server without logon.

6.2.1 Using live sending

You see a scene that you want to share immediately with other members of your team.

You can notify the members of your team with Apple Push Notification or with SMS. For Apple Push Notification, the server needs an Internet connection, for SMS your device needs a connection to a mobile network.

The Live stream is automatically recorded on the configured server.

6.2.2 Using local recording

You see a scene that you want to record on the device. The recording is stored on your device. After the recording is finished, you can send the recording to the server. The recording on your iPhone is automatically deleted after sending the recording to the server. If configured, other registered iPhones are automatically notified.

7 Troubleshooting

Issue	Cause	Solution
You connect to the MVS with your iOS device and the Configuration Client shows  for MVS.	The Windows feature Microsoft .Net Framework 3.5.1 – Windows Communication Foundation HTTP Activation is not installed. Search the MVS log file for the message Method not allowed with code 405 within the Bosch VMS server log.	Activate the Windows feature Microsoft .Net Framework 3.5.1 – Windows Communication Foundation HTTP Activation .
	The HTTPS binding to the MVS is not configured.	Check if you set the HTTPS binding to the MVS application in IIS.
	The connection to the IIS is lost.	Check if you can reach the given server-name of MVS in Configuration Client with a ping. If not successful, restore the connection.
	The URI is not starting with HTTPS://	Set the URI to HTTPS://...
The resolution on the iOS device does not improve, if you move the slider for quality / image rate to the right (best resolution).	The video source does not deliver a higher resolution, for example the resolution of the video source is set to CIF.	Check if your video source delivers a higher resolution. You can check the original output resolution in the MVS log-files: Search for log entries with the id 27224: The “Original” value is the video stream resolution from the camera, the “Output” value the resolution sent to the client and the “Max” value the requested resolution of the client. If required, increase the resolution of the video source in Configuration Client.
The playback time does not match the selected playback time.	The clocks of your cameras, MVS server and client are not synchronized.	Synchronize the clocks of your cameras, MVS server and client.

Issue	Cause	Solution
A message like Camera not reachable or supported is displayed.	You selected an ONVIF or Dibos camera.	Remove ONVIF and DiBos cameras from your MVS configuration because they are not supported.
	The MVS server has no connection to the camera.	Check with a ping from the MVS server. If not successful, restore the connection.
A message like Codec MPEG4 not supported is displayed.	Only cameras with H.264 are supported.	Remove cameras that do not support H.264.
A message Connection error: NSURLErrorDomain is displayed on logon.	The iOS device uses the wrong MVS server name	Check the MVS server name.
	The WLAN connection does not work correctly.	Check If you are connected with the correct WLAN, if you are in an area with multiple WLANs, the device maybe selected and connected to another WLAN as you expected.
	The MVS server is offline.	Check if the MVS server is online.
A message like Not logged on to a source provider: net.tcp://.../ DataAccessService is displayed.	The connection between MVS server and Management Server is lost.	Check if the Management-Server is reachable from the MVS server (ping with domain-name/IP address).
	The Management Server is offline.	Check whether the Management-Server is online.
After successful logon no video is displayed.	Firewall settings are not correct	Check if the necessary firewall ports on the MVS server are open.
	The connection between MVS server and cameras is lost.	Restore the connection between the MVS server and the cameras.
After successful logon to the MVS server installed on Windows Server 2008 (R2) no video is displayed.	The Windows feature Desktop Experience is not activated on the server. Search the MVS log-file for an error like REGDB_E_CLASSNOTREG” or code 0x80040154.	Install the Windows Desktop Experience feature.

Issue	Cause	Solution
	<p>The Microsoft H.264 decoder is not installed.</p> <p>Search the MVS log-file for an error like Error creating Media Foundation elements” with code 27207 or 27407 or an error like “CoCreateInstance(H264DecoderMFT,IMFTransform): ...</p>	<p>Install the decoder with the download linked in Microsoft Knowledgebase 2483177.</p>
<p>A message No Image after trying to start a video is displayed very often.</p>	<p>The camera is set to an image rate of 4 images per second or less. The camera should send 8 or more frames for a reliable stream.</p>	<p>You can verify the sent images with the Windows performance counter MVS VSDK Sources -> Frame (these are the frames of all active streams together).</p>
<p>During installation of Mobile Video Service the following message appears: You have selected to install MVS, VRM has been deselected and will be uninstalled (if currently installed on your System).</p>	<p>Video Recording Manager is already installed on the computer. Video Recording Manager and Mobile Video Service cannot run on the same computer.</p>	<p>Uninstall Video Recording Manager and install Mobile Video Service.</p>

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