

WHITEPAPER

SYSTEM INTEGRATION

DALLMEIER PRODUCTS

OPTIONS FOR THE INTEGRATION OF DALLMEIER PRODUCTS INTO THIRD-PARTY MANAGEMENT SYSTEMS

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This software is based in part on the work of the Independent JPEG Group.

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INTRODUCTION

1.1 ABSTRACT

As a leading supplier of high-quality video surveillance and security solutions, Dallmeier electronic specializes in the development of cameras, video management systems and intelligent video analysis tools. These are used in various application areas such as banks, airports, stadiums, casinos and industrial plants. Dallmeier places particular emphasis on the highest quality and reliability of its products to ensure the security and efficiency of its customers. Dallmeier has been active on the market for more than 35 years and has become well-known for its innovative technology and excellent customer service.

Dallmeier offers a wide portfolio of camera systems, such as the patented Panomera® multifocal sensor system, recorders and software solutions. To realize an effective and reliable video surveillance system, a seamless integration of the individual components is essential.

1.2 THIS DOCUMENT

This document presents the different options for integrating Dallmeier products into third-party management systems or applications. The target group of the document are system architects, product managers, alliance managers and developers.

SOFTWARE DEVELOPMENT KIT

The Dallmeier Software Development Kit (SDK) contains comprehensive development modules that allow the diverse functions of Dallmeier products to be seamlessly integrated into own applications. With the help of the powerful ONVIF/RTSP, API3, Geometry Interface and SeMSy® Decoder Client tools, developers can quickly and easily create a variety of applications tailored to their customers' needs and equipped with the latest technologies and functions.

2.1 ONVIF/RTSP

ONVIF (Open Network Video Interface Forum) is a standard that defines the interoperability of IP-based security devices. RTSP (Real Time Streaming Protocol) is a network protocol for transmitting audio and video over IP networks. Both protocols enable the integration and control of network security devices, such as cameras and recording systems. Dallmeier cameras can be integrated into third-party systems via ONVIF/RTSP by adding them to the system as IP network devices. For this purpose, the third-party system must be ONVIF or RTSP compatible and the camera must be configured accordingly. Video and audio data as well as control commands can then be exchanged between the camera and the third-party system via the standardized interfaces. For example, the camera can be integrated into video surveillance or video analysis systems to enable comprehensive monitoring and evaluation of the video content. Since the standardized interfaces ensure a high level of interoperability between different devices, integration of the cameras into the third-party system is usually simple and straightforward.

- ▶ The ONVIF profiles supported in each case can be found in the associated product specifications at <https://www.dallmeier.com/de/service/download-centre>.

The following functions and options are available:

- Video image transmission
- Sharing of analysis data (VCA, AI)
- Management & Metadata
- H.264, H.265 support
- SNMP

2.2 API3

The Dallmeier Integration API3 provides a C programming interface that can be used to integrate Dallmeier IP cameras, encoders and recording systems into third-party software running on a Microsoft operating system. The interface is available in 64-bit and consists of various libraries that are usually stored in the working folder of the third-party application. The integration is preferably done in C/C++ and enables the connection to Dallmeier products for data transmission, decoding and image display. The API3 package contains the libraries, an interface description and a sample application with source code under MS VisualStudio 2017.

- ▶ The Dallmeier API3 Pre-Release Package as well as the “Common API3 PreRelease Developer’s Guide” are available via our ticket system at <https://support.dallmeier.com>, group “Dallmeier Integration Support”.

2.3 GEOMETRY INTERFACE

The Dallmeier Geometry Interface is an interface for integrating Panomera® cameras into third-party VMS systems via ONVIF/RTSP without the need for a Dallmeier recording system. The interface supplies the third-party system with the arrangement of the individual camera modules to create an overall view. The Geometry Interface is the simplest variant of the Panomera® integration and ensures a seamless integration of the cameras into already existing systems. The geometry data is provided in JSON format and is therefore easy to read and use.

- ▶ The description, instructions and a JSON example of the Geometry Interface can be requested via our ticket system at <https://support.dallmeier.com>, group “Dallmeier Integration Support”, as well as the Geometry Interface info sheet “Restful interface to request geometry”.

2.4 SEMSY® DECODER CLIENT

The SeMSy® Decoder Client (SDC) software allows independent viewing of video streams from Panomera® systems. The software retrieves the video streams via unicast or multicast directly from the cameras or recording systems as a proxy. After decoding, the streams are output in multi-split views on the connected monitors. The SeMSy® Decoder Client software is installed and operated on a dedicated workstation. The number of decodable video streams depends only on the processing capacity of the workstation and the installed GPU. With the recommended Dallmeier workstations, sufficient performance is available for decoding up to 30 or 60 high-resolution streams that can be output on up to two 4K monitors.

Control

The SDC is controlled from a third-party management system via XML commands that can be triggered manually or based on alarm messages. In addition to information about the relevant camera, these commands also allow the direct display of the live image or the output of the corresponding recordings. After the execution of a command, the SeMSy® Decoder Client software reports the status of the corresponding display windows back to the management system.

Functions

SeMSy® Decoder Client software supports a multitude of functions (including Panomera® Detail Views), that are already known from the regular Dallmeier Client software. In addition, for example, the export of single images or the recording of sequences are available. The corresponding developer documentation provides a complete overview of the available functions. Please note that a separate license may be required for individual functions.

Split Layouts

The SeMSy® Decoder Client allows the free and individual definition of the layout of the multi-split views for each monitor based on the XML commands defined in the third-party system. In addition to the classic views with 2×2 or 3×4 splits of the same size, views with splits of different sizes can also be defined. Dallmeier provides developer documentation for the creation of the XML commands and also offers corresponding integration support as a service.

Compatibility

The SeMSy® Decoder Client software is compatible with all Panomera® Multifocal Sensor Systems and Dallmeier recording systems of the SMAVIA Recording Server V8/V9 and SeMSy® Recording Server V10 series.

- ▶ Further information on the integration of the SeMSy® Decoder Client and corresponding product specifications can be requested via our ticket system at <https://support.dallmeier.com>, group “Dallmeier Integration Support”.

SYSTEM INTEGRATION

3.1 DOMERA® INTEGRATION

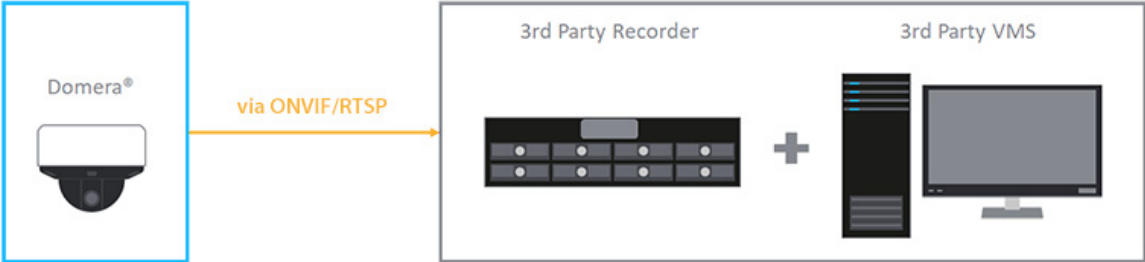


Fig. 1 Domera® on 3rd Party recorder via ONVIF/RTSP

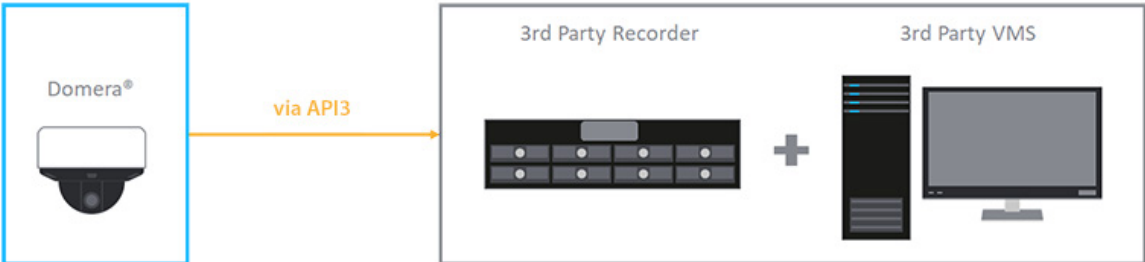


Fig. 2 Domera® on 3rd Party recorder via API3

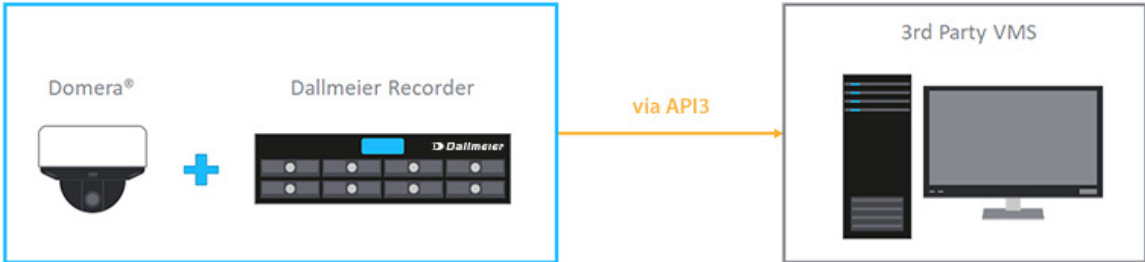


Fig. 3 Domera® on Dallmeier recorder via API3

3.2 RECORDER INTEGRATION

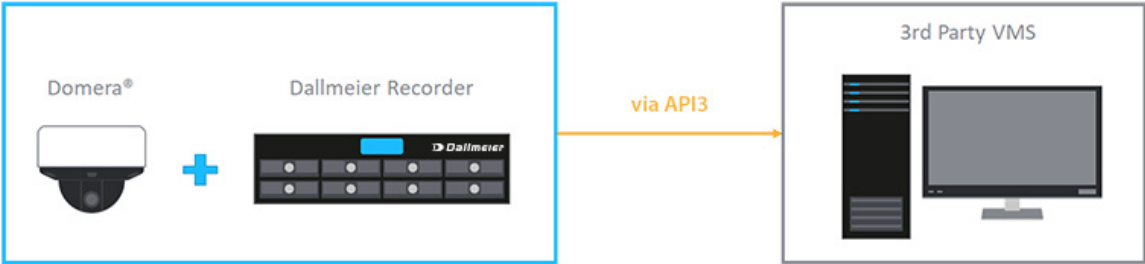


Fig. 4 Domera® on Dallmeier recorder via API3

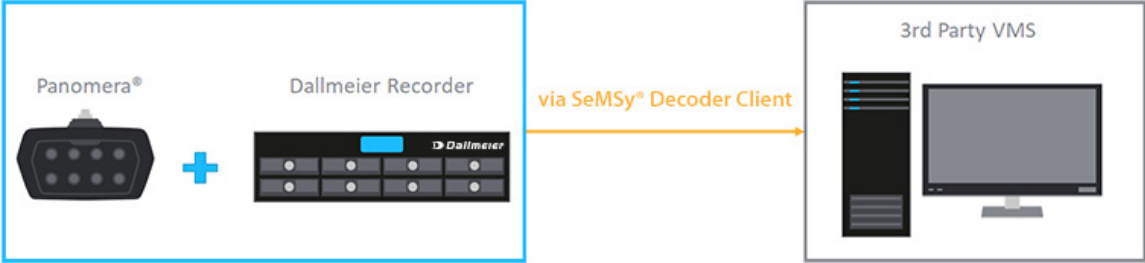


Fig. 5 Panomera® on Dallmeier recorder via SDC

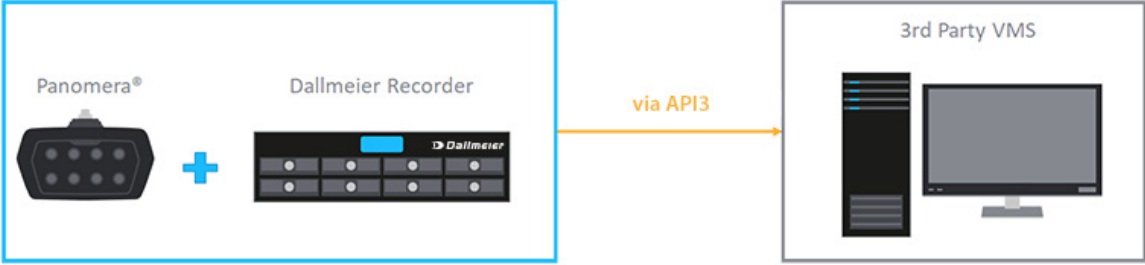


Fig. 6 Panomera® on Dallmeier recorder via API3

3.3 PANOMERA® INTEGRATION

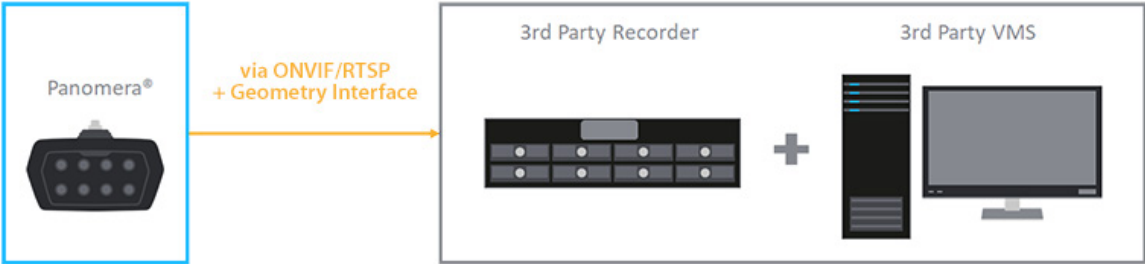


Fig. 7 Panomera® on 3rd Party recorder via ONVIF/RTSP and Geometry Interface

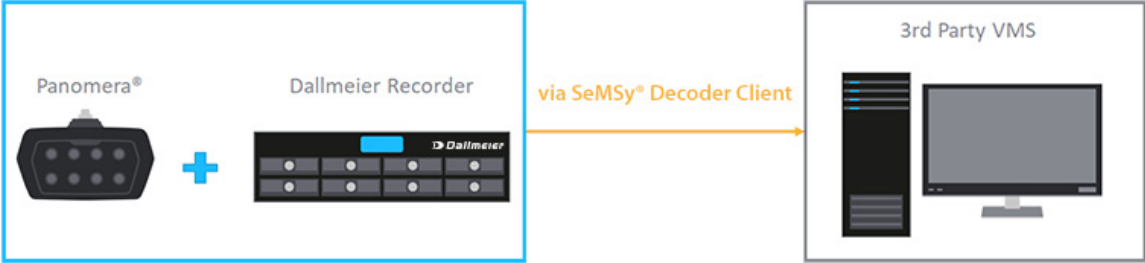


Fig. 8 Panomera® on Dallmeier recorder via SDC



Fig. 9 Panomera® on Dallmeier recorder via API3

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