

Introduction of EdgeHandler™

2019

EdgeHandler™ is a system management solution
using remote video monitoring and mouse/keyboard control

Table of Contents

- **What is EdgeHandler™?**
- **Introduction of EdgeHandler™**
- **How it works**
- **Integrated Operation**
- **Key Features**
- **Hardware Specifications**
- **SMVP™ ?**
- **Comparison with IP KVM and Teamviewer**
- **Application Examples**
- **References**

“What is EdgeHandler™” ?

- **EdgeHandler enables real-time monitoring and bi-directional control of Video output device^(Note1) over IP network from a remote place.**
- **Hardware based Teamviewer?**
- **Video output Device^(Note1)**
 - Video output device with HDMI/VGA output such as PC, DVR, NVR, VMS, FA server etc.

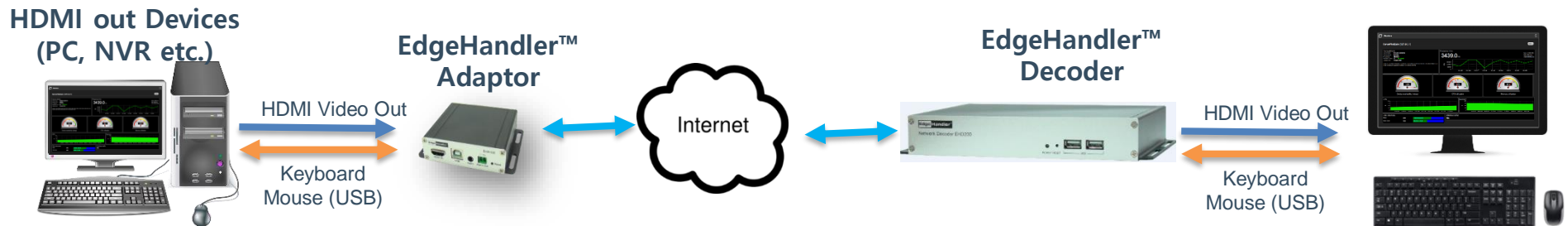
Introduction of EdgeHandler™

EdgeHandler™ Adaptor

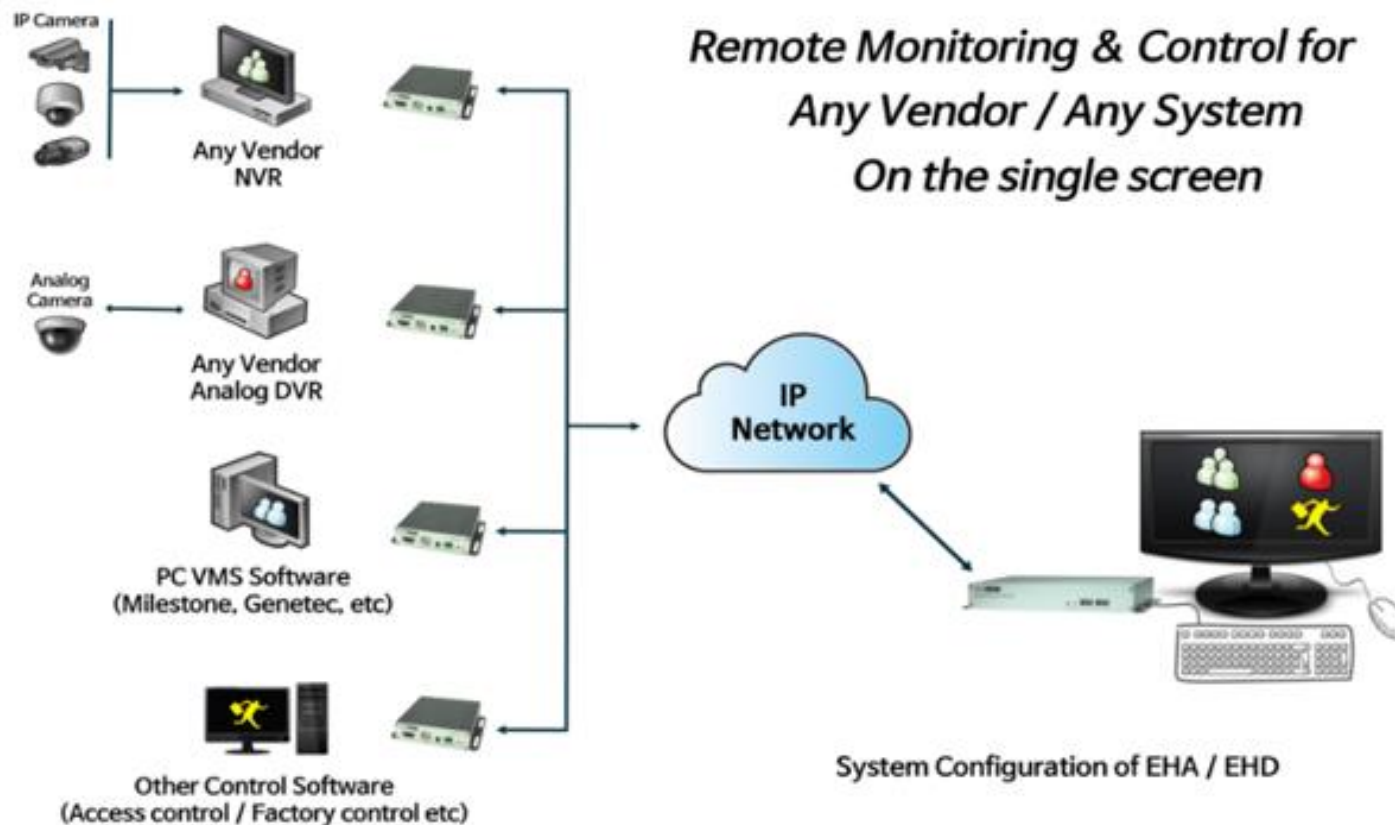
- Transmits compressed HDMI Video (Any Brands and Any Products) to EdgeHandler™ Decoder via the Internet
- Targeted device Mouse and Keyboard control is available remotely via the Internet

EdgeHandler™ Decoder

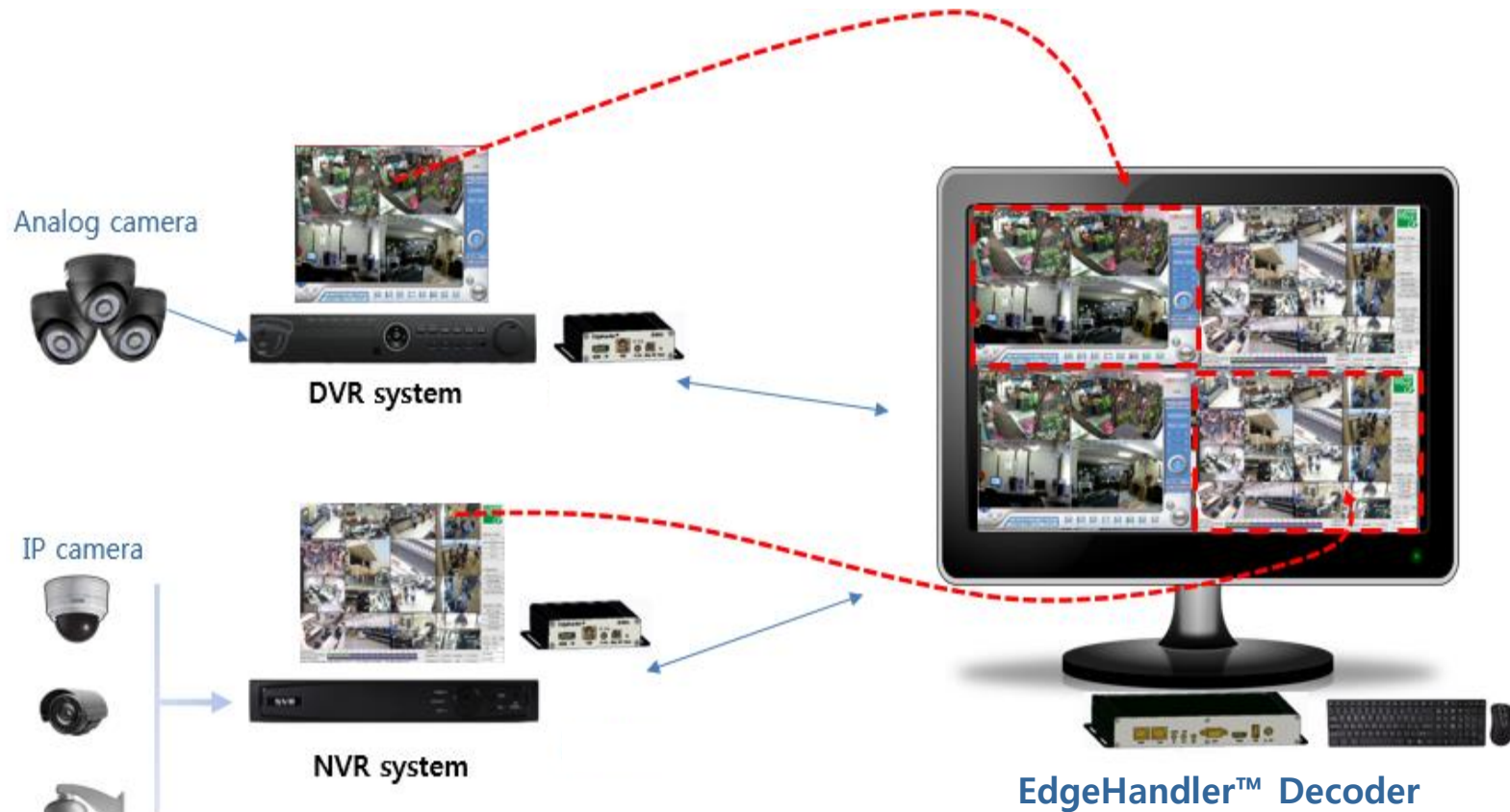
- Supports and Controls up to 64 EdgeHandler™ Adaptors
- Real-time monitoring of HDMI Video connected to EdgeHandler™ Adaptors
- Real-time control of HDMI output device



Introduction of EdgeHandler™



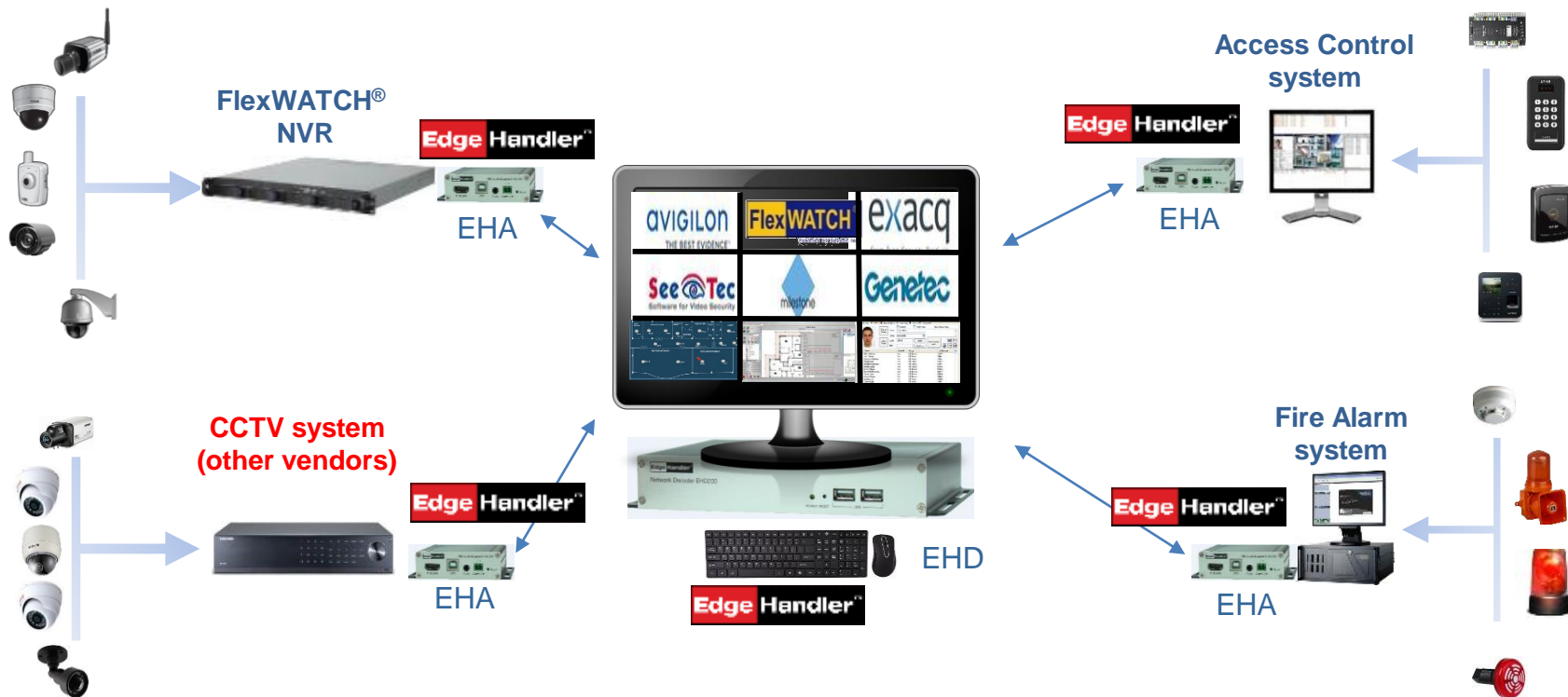
How it works



Note: Select the desired channel and click the remote connection button then the selected channel will be displayed as a full screen and then bi-directional real-time control is available.

Integrated Operation

FlexWATCH® and Any other vendor's systems can be easily integrated by using EdgeHandler™



Key Features

Real-time streaming of HDMI Video

- Supports various Video compression standard (H.265/H.264/MJPEG)
- The fastest proprietary streaming Engine embedded
- Selectable Video Bandwidth
- Selectable Video Quality and Resolution



Key Features

Simultaneous real-time monitoring of Multiple HDMI Videos

- Simultaneous Real-time monitoring of up to 16 HDMI Videos
- Video circulation feature makes it possible to display the cyclic monitoring of 64 video channels
- Can be used for Monitoring purpose only (if USB is disconnected)
- In case of Teamviewer or IP PVM, multiple devices can be managed, but it is impossible to monitor multiple devices at the same time



Key Features

No additional Software installation needed

- No additional Software installation needed on HDMI output device
- No dependency of operating system (Windows/Linux/MAC), target hardware and any outside service
- Supports any PC/Embedded H/W
- Irrelevant to Virus infection of HDMI output device
- No influence to the system performance of HDMI output device.

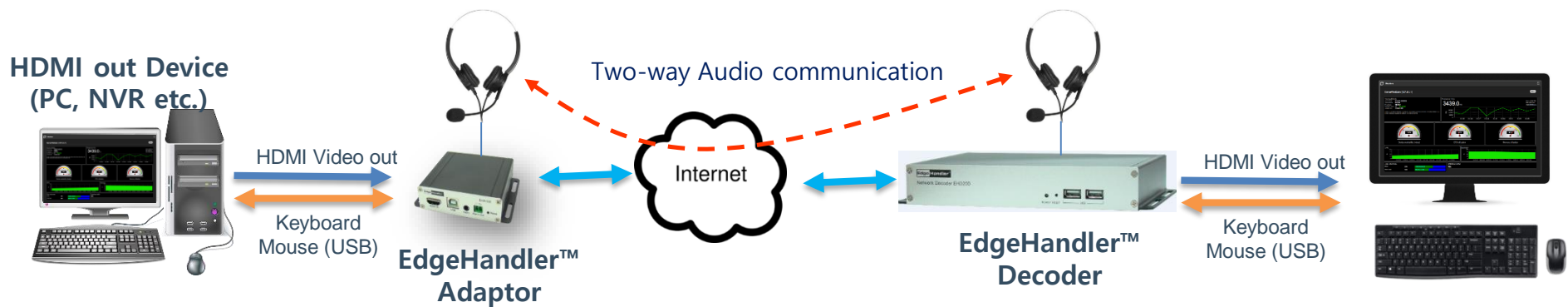


No Software Installation

Key Features

Two-way Audio communication

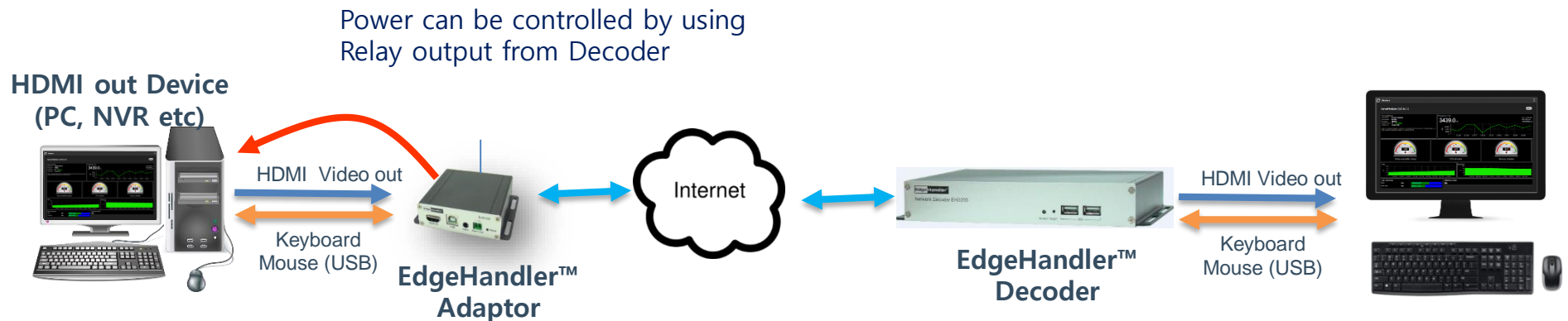
- Supports two-way Audio communication between EdgeHandler™ Adaptor and Decoder



Key Features

Power ON/OFF function of HDMI output Device

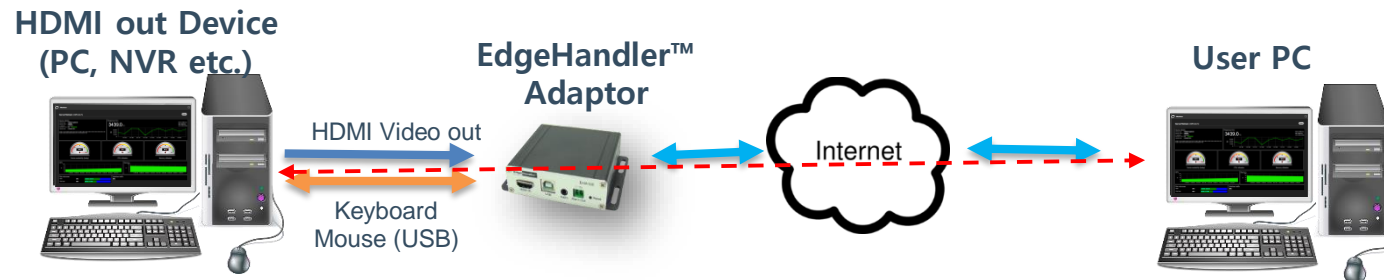
- Possible to remotely turn ON/OFF HDMI output Device using relay output of Adaptor from Decoder.



Key Features

File Upload/Download Feature

- Upload file to remote PC or DVR via EHA Adaptor from User PC
- Download file at remote PC or DVR to User PC using EHA Adaptor.
(specific model available)



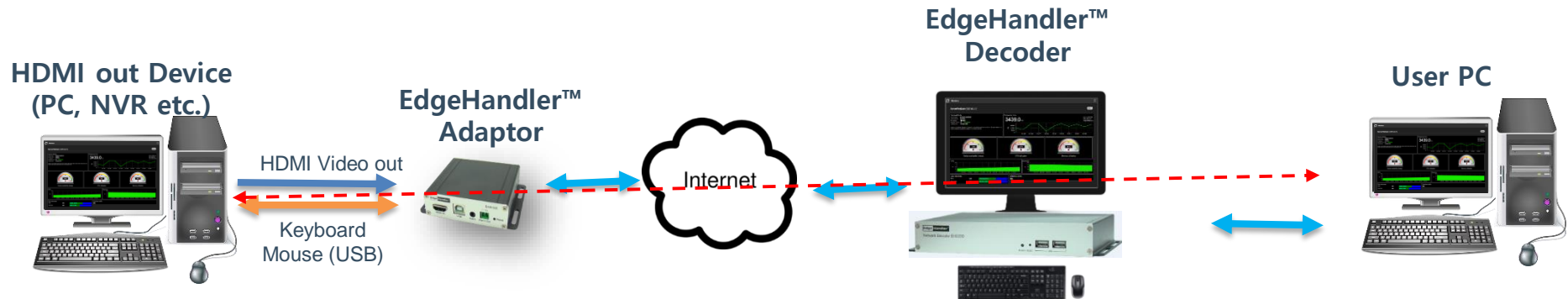
Key Features

Real-time monitoring and control on PC

Adapter allows Four concurrent access from remote PC



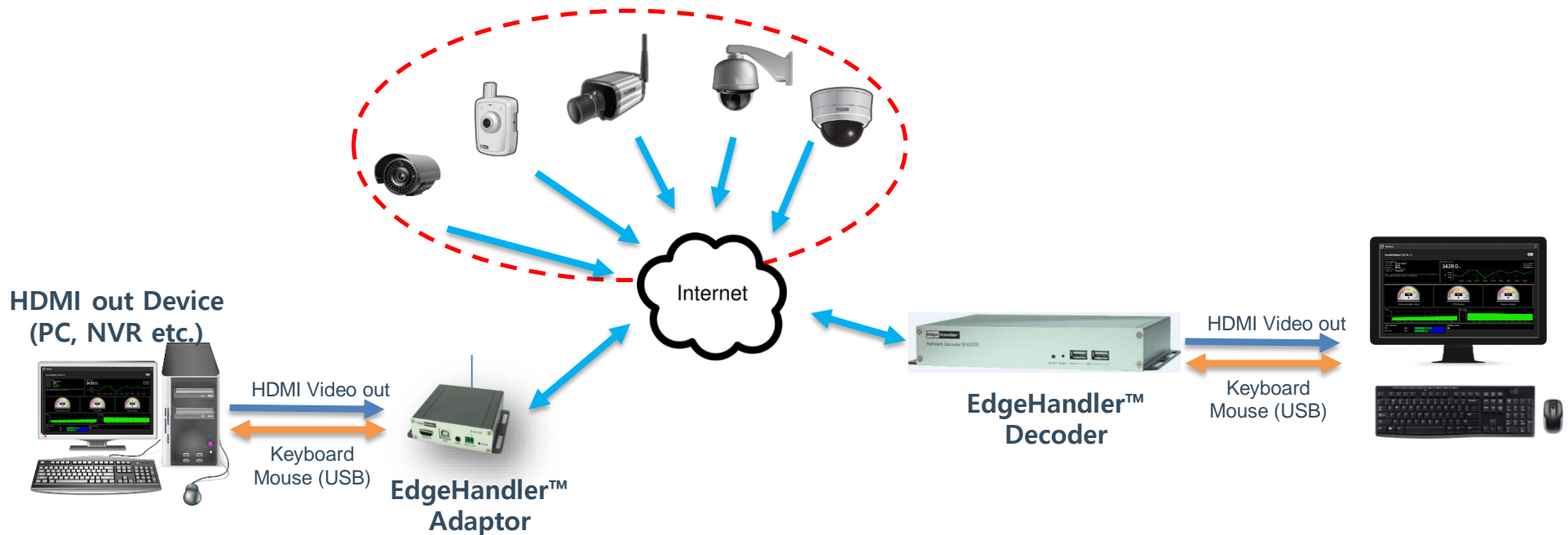
Decoder allows Sixteen concurrent access from remote PC



Key Features

Decoder can be interfaced with IP Camera

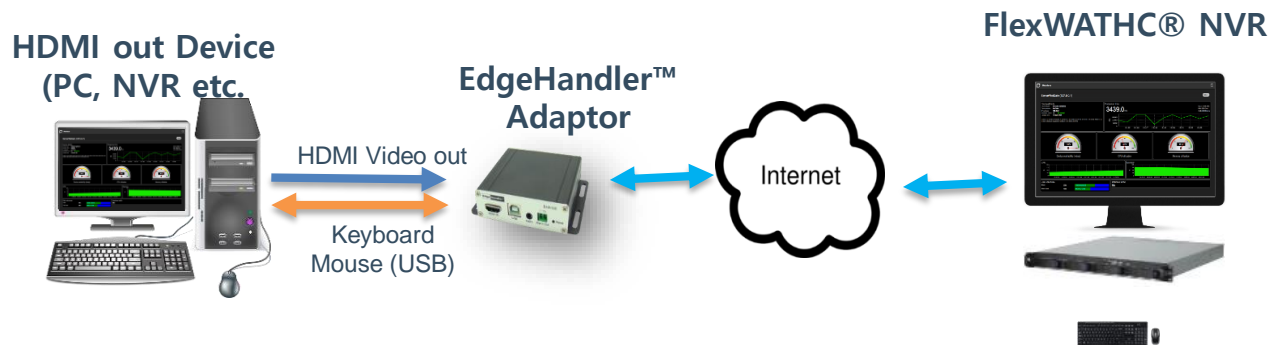
- Real-time monitoring by registering IP Cameras.
- Any DVR/NVR can be monitored and controlled by using Adaptor



Key Features

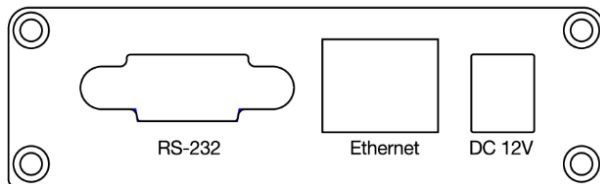
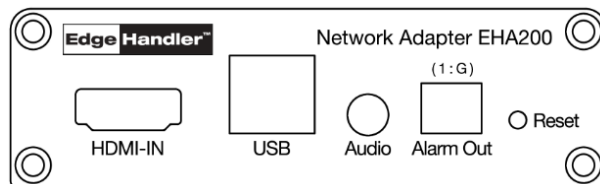
Video LOG

- **FlexWATCH® NVR supports EdgeHandler Decoder features.**
- **Possible to record all contents of software operation and system operation of HDMI video output device under various conditions with high compression and good quality.**
- **FlexWATCH® NVR supports the real-time recording with Full HD quality for up to 64 Adaptors.**

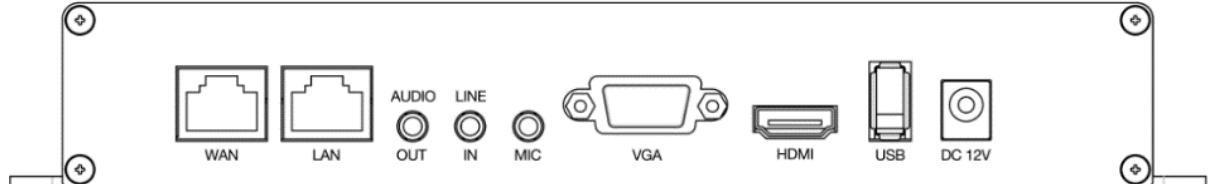


Hardware Specifications

Adaptor EHA200



Decoder EHD200



SMVP™ ?

- SMVP™ is a Windows based Application Software
- Register and manage all EdgeHandler™ and FlexWATCH® products
- Register and manage up to 256 Channels (Videos)
- Displays Maximum 4 different Video Groups using 4 Monitors at the same time.



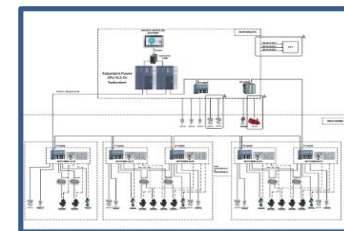
With **SMVP™**

Comparison with Teamviewer and IP KVM

| No | Items | Remote Control S/W (Teamviewer etc) | Remote Control H/W (IP KVM etc...) | EdgeHandler™ | Advantage of EdgeHandler |
|----|--|--|---------------------------------------|------------------|---|
| 1 | Additional S/W required on Target device | Needed | No need | No need | Advantage of EdgeHandler compare with Remote Control Software (Teamviewer etc) |
| 2 | Target device performance degradation | Yes (screen compression) | No | No | |
| 3 | Target device OS/Security update impact | A lot | No | No | |
| 4 | Target device status is affected by remote control | A lot | No | No | |
| 5 | Data leakage, Virus infection | High Risk | No | No | |
| 6 | Server connection required on Internet | Yes | No | No | |
| 7 | Playback Video quality | Choppy Video | Choppy Video | Smooth Video | Advantage of EdgeHandler compare with Remote Control Software (Teamviewer etc) and Hardware (IP KVM etc.) |
| 8 | Restart of Remote Control S/W, H/W only | Not possible | Not sure | Possible | |
| 9 | Power reset of target device | Not possible | Not possible | Possible | |
| 10 | Compression format / fps setting | Not possible | Not possible | Possible | |
| 11 | OSD, Watermark function | No | No | Yes | |
| 12 | Target device Video retransmission function | Not possible | Not possible | Possible | |
| 13 | Target device Video recording function | Not possible | Not possible | Possible at NVR | |
| 14 | Size of local device | – | Relatively large | Relatively small | |
| 15 | Dedicated display device | Not Available | Not Available | Decoder | Lower total cost |
| 16 | Initial Installation Cost | Relatively low | High | Low | |
| 17 | Post Installation Cost (Maintenance cost) | Yearly , Monthly base maintenance cost | No need | No need | Supports for large size files |
| 18 | Two-way Audio communication | Not confirmed | Not possible | Possible | |
| 19 | File upload / download | Support | Support | Supports | |
| 20 | Real-time monitoring with multiple target devices | Not confirmed | Not possible | Possible | |
| 21 | Software development environment | Not confirmed | Not possible | Supports | |

Application Examples

- **System integration of any different Devices**
 - **System integration of any DVRs/NVRs/VMS**
 - **System integration of any FA systems**
-
- **Any CCTV System**
 - **Any FA system**
 - **Any Smart Factory System**
 - **Any Smart City/Farm System**
 - **Remote Assistance Service** (PC, Digital Signage, Kiosk etc.)



Application Examples

CCTV

Implementation Goals

- Integrated management of different DVR, NVR, VMS Models
- Real-time monitoring, Search and Control

Implementation Method

- Integrated management by Edge Decoder (EHD) or SMVP™ using Edge Adaptor (EHA) connected to DVR/NVR/PC

Key Features

- Real-time monitoring, search and control for any DVR/NVR/PC
- Supports any DVR/NVR/PC with HDMI/VGA out terminal
- Low bandwidth as a full DVR screen based management
- No need to replace / upgrade the existing systems
- Supports remote firmware upgrade and back up of DVR (Option)
- Supports SDK



Application Examples

FA (Factory Automation)

Implementation Goals

- Integrated management of different FA systems
- Compatible with any kind of PC-based software

Implementation Method

- Integrated management by Edge Decoder (EHD) or SMVP™ using Edge Adaptor (EHA) connected to PC for FA system

Key Features

- Real-time monitoring and remote control of several different PCs running FA software
- Supports any Operating System of PCs
- Hardware based remote control
- Supports remote file upload and download (Option)
- Supports SDK



Application Examples

Smart Factory (Farm, City)

Implementation Goals

- Integrated management of various Servers used in Smart Factory system
- DB Server, GIS Server, Web Server etc.

Implementation Method

- Integrated management by Edge Decoder (EHD) or SMVP™ using Edge Adaptor (EHA) connected to Server PC

Key Features

- Integrated management of Servers with various protocols and Servers which needs continuous upgrade
- Supports any Operating System of PCs
- Hardware based remote control
- Supports remote file upload / download (Option)
- Supports SDK



Application Examples

Remote Maintenance of PC server

Implementation Goals

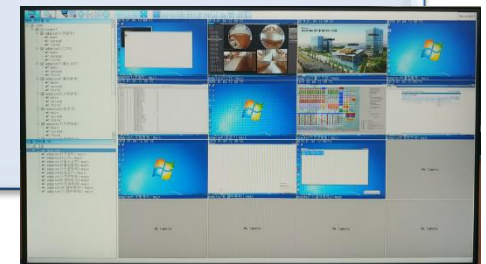
- Real-time remote control without installing any additional software on PC or Server

Implementation Method

- Integrated management by Edge Decoder (EHD) or SMVP™ using Edge Adaptor (EHA) connected to Server PC

Key Features

- No need any additional software on PC or Server
- Supports any Operating System of PCs
- Hardware based remote control
- Supports remote file upload / download (Option)



Application Examples

Real-time Video Network

Implementation Goals

- **Configuring the Video Network with low bandwidth**

Implementation Method

- Integrated management by Edge Decoder (EHD) or SMVP™ using Edge Adaptor (EHA) connected to Server PC

Key Features

- EHA uses a minimum bandwidth of 1M-5M bps
- The real bandwidth for one DVR is 1M-5M bps only
- Configuration of Video Network for several retail stores
- **Configuration of Video Network for Military Bases, Banks, Kiosk and Digital Signage, etc.**



Application Examples

POS+CCTV

Implementation Goals

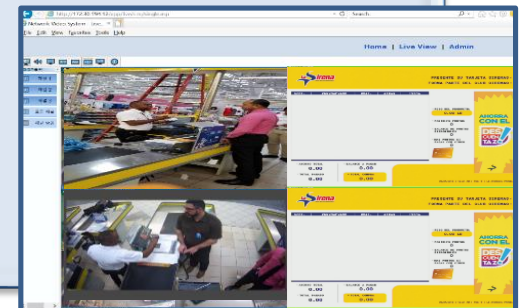
- Integrated management of POS system and CCTV system
- In-store loss prevention system

Implementation Method

- Integrated management by Edge Decoder (EHD) or SMVP™ using Edge Adaptor (EHA) connected to POS system and DVR

Key Features

- Real-time remote support available when POS system failure
- POS system control with 2-way Audio communication
- Real-time monitoring, search and control by connecting POS system and DVR real-time video



Application Examples

Video Wall (Matrix)

Implementation Goals

- Real-time monitoring and control of several DVRs, NVRs, PCs on multiple monitors

Implementation Method

- Integrated management of up to 4 monitors connected to SMVP™ by registering multiple DVR/NVR/PC using Edge Adaptor (EHA)
- Combination of multiple EHD(Decoder) and SMVP™

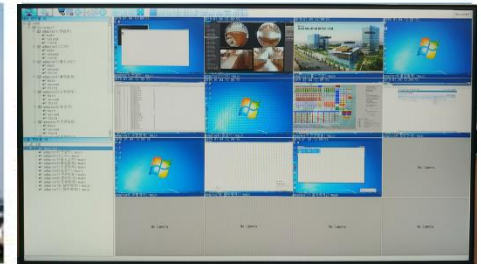
Key Features

- Real-time monitoring and control by each DVR/PC unit base
- Real-time monitoring and control available as operating in front of remote DVR/PC



References

- Remote Desk-top PC control ("P" Iron & Steel company)
- Different DVR/NVR management ("A" city CCTV control room)
- DVR/PC monitoring system ("W" Nuclear Power Plant)
- FA management system ("L" Chemistry Factory)



Thank you !

www.flexwatch.com

