

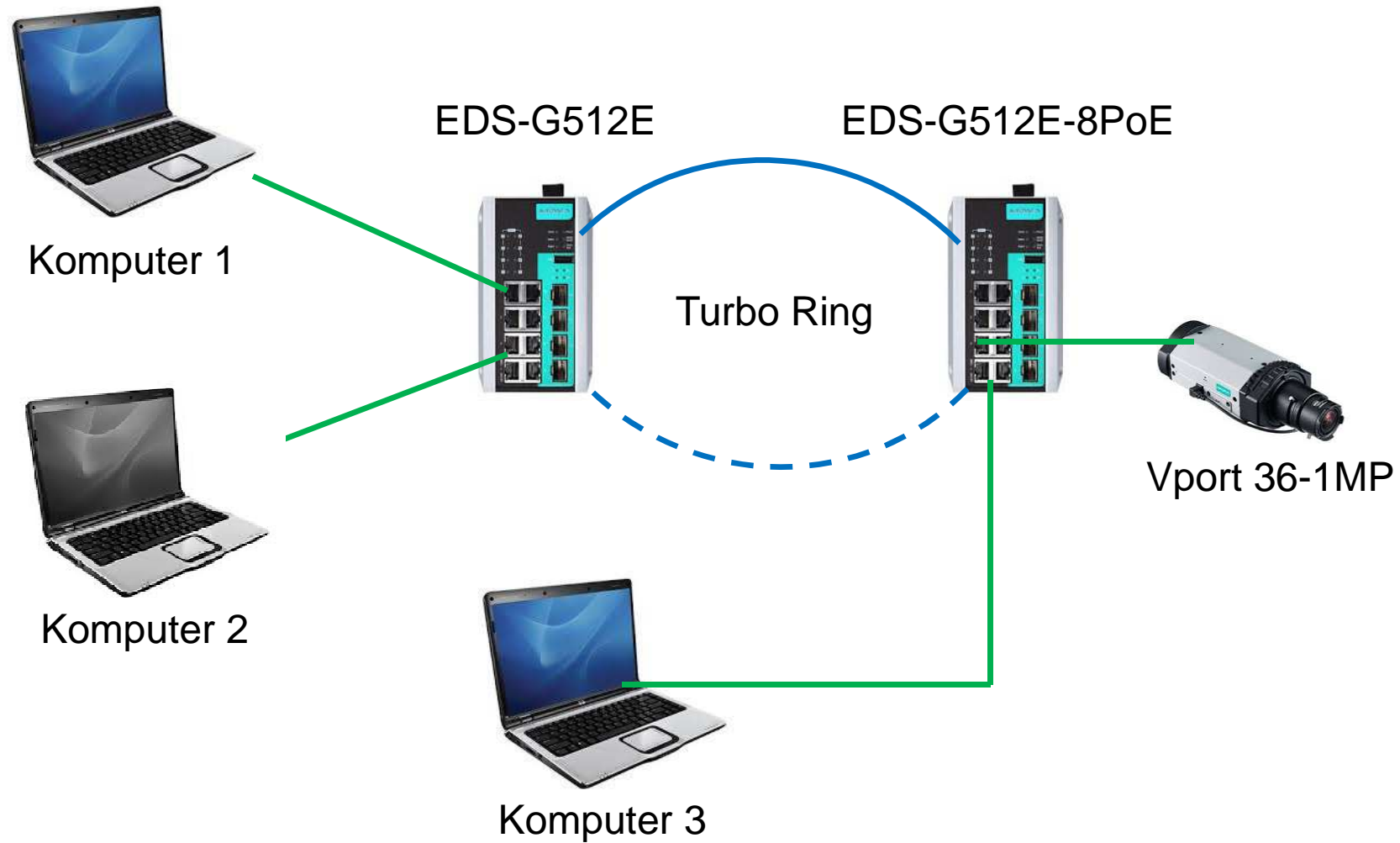


Moxa Solution Day 2015

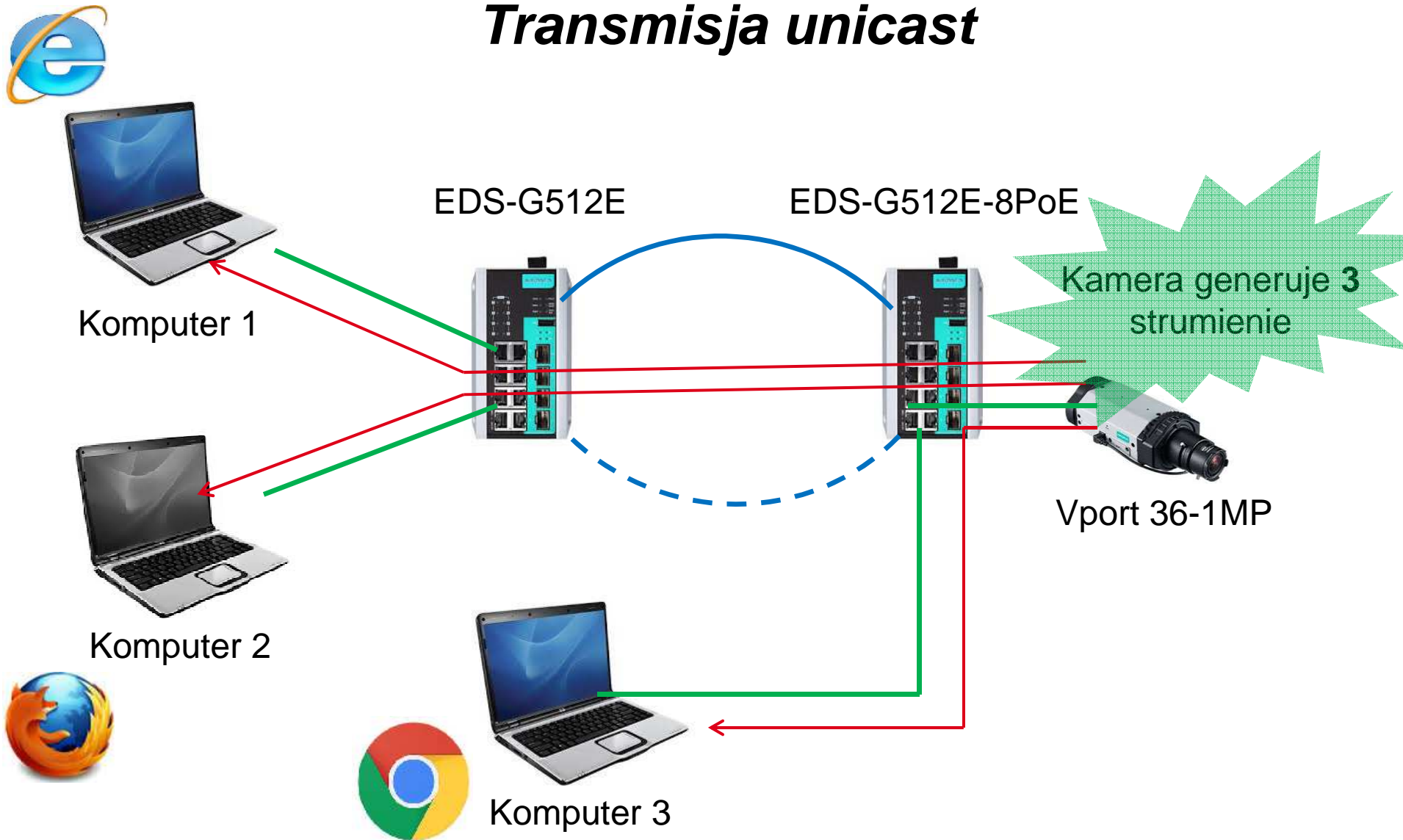
Systemy CCTV - przykład

Kryspin Wach

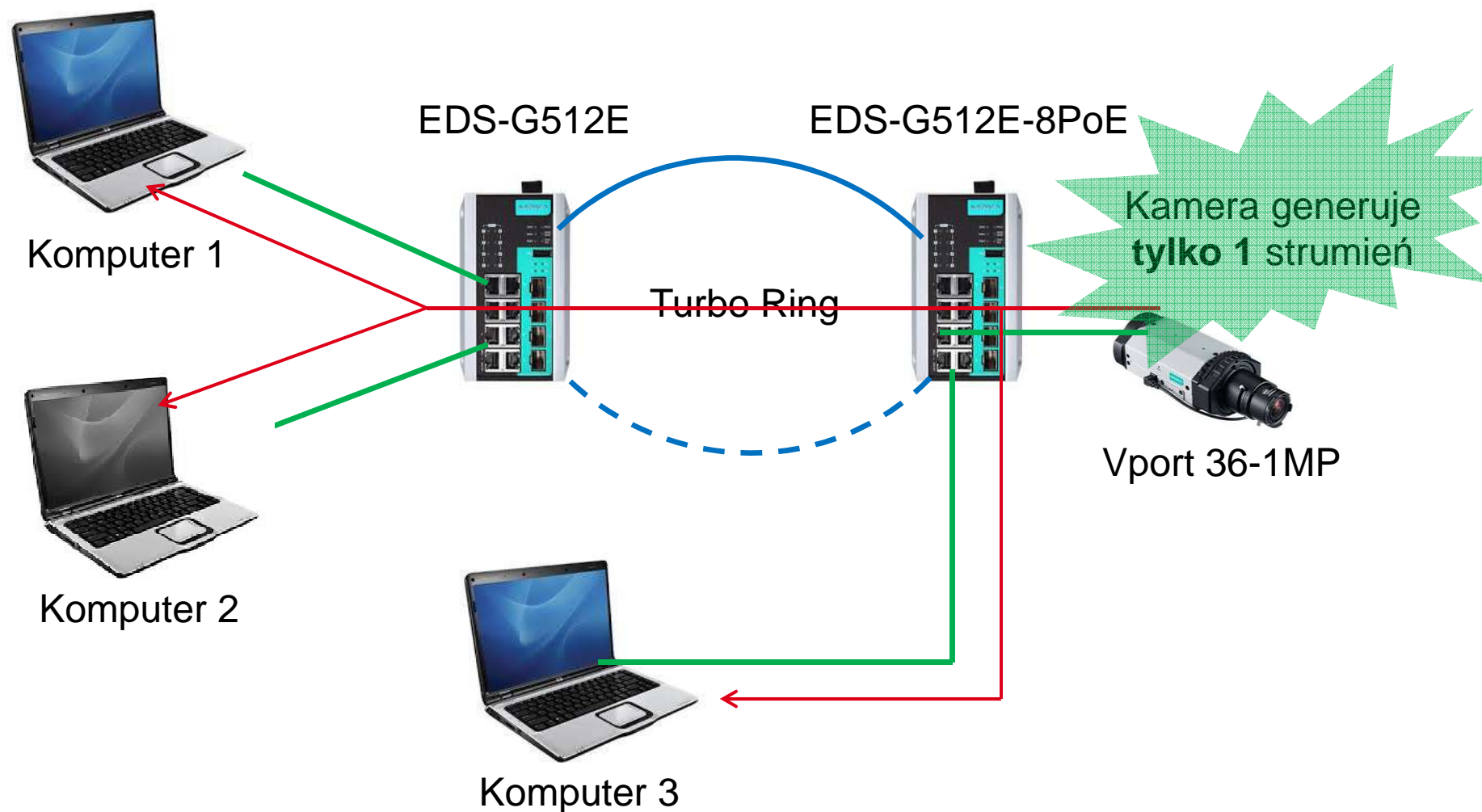
Topologia



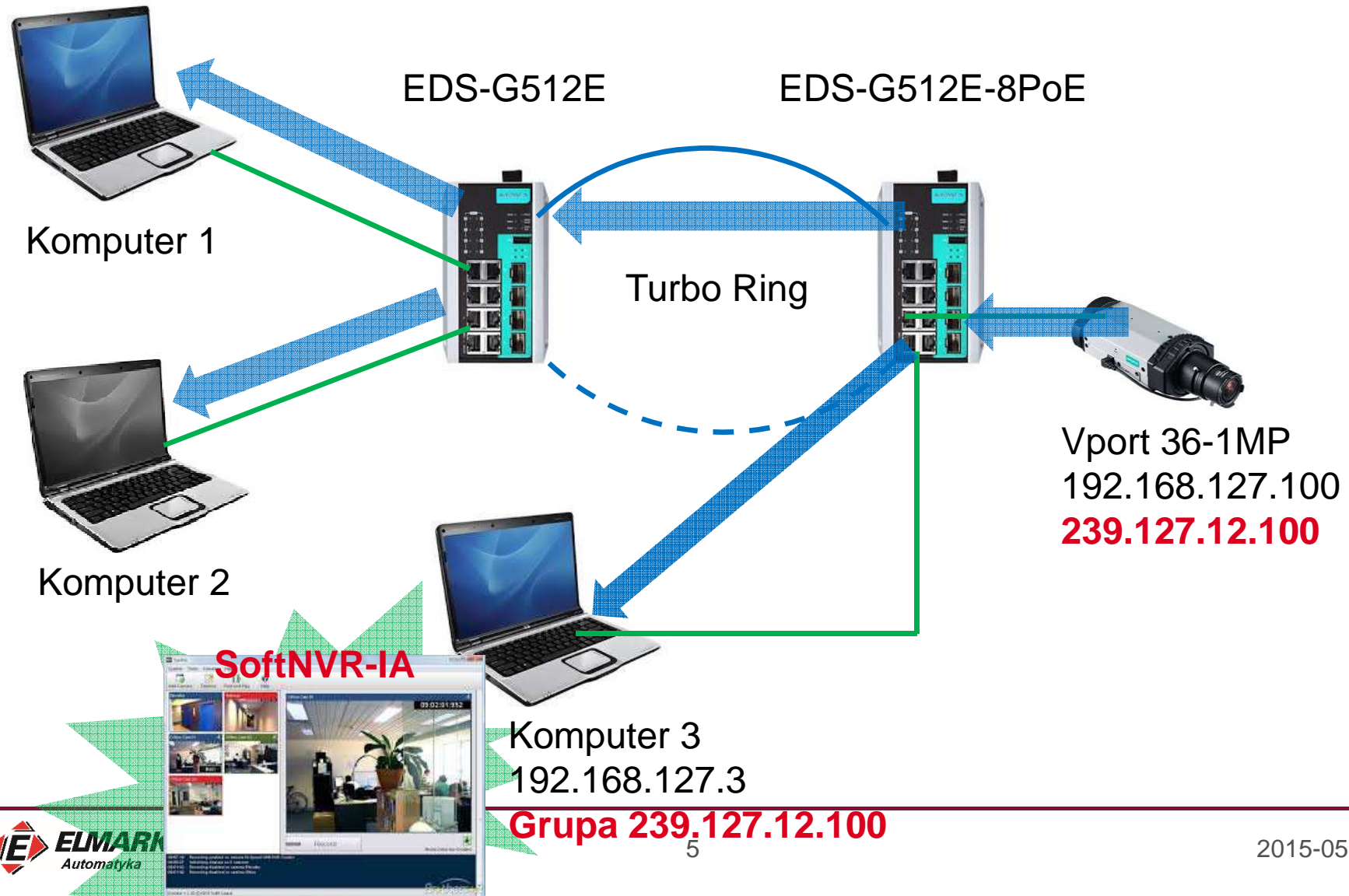
Transmisja unicast



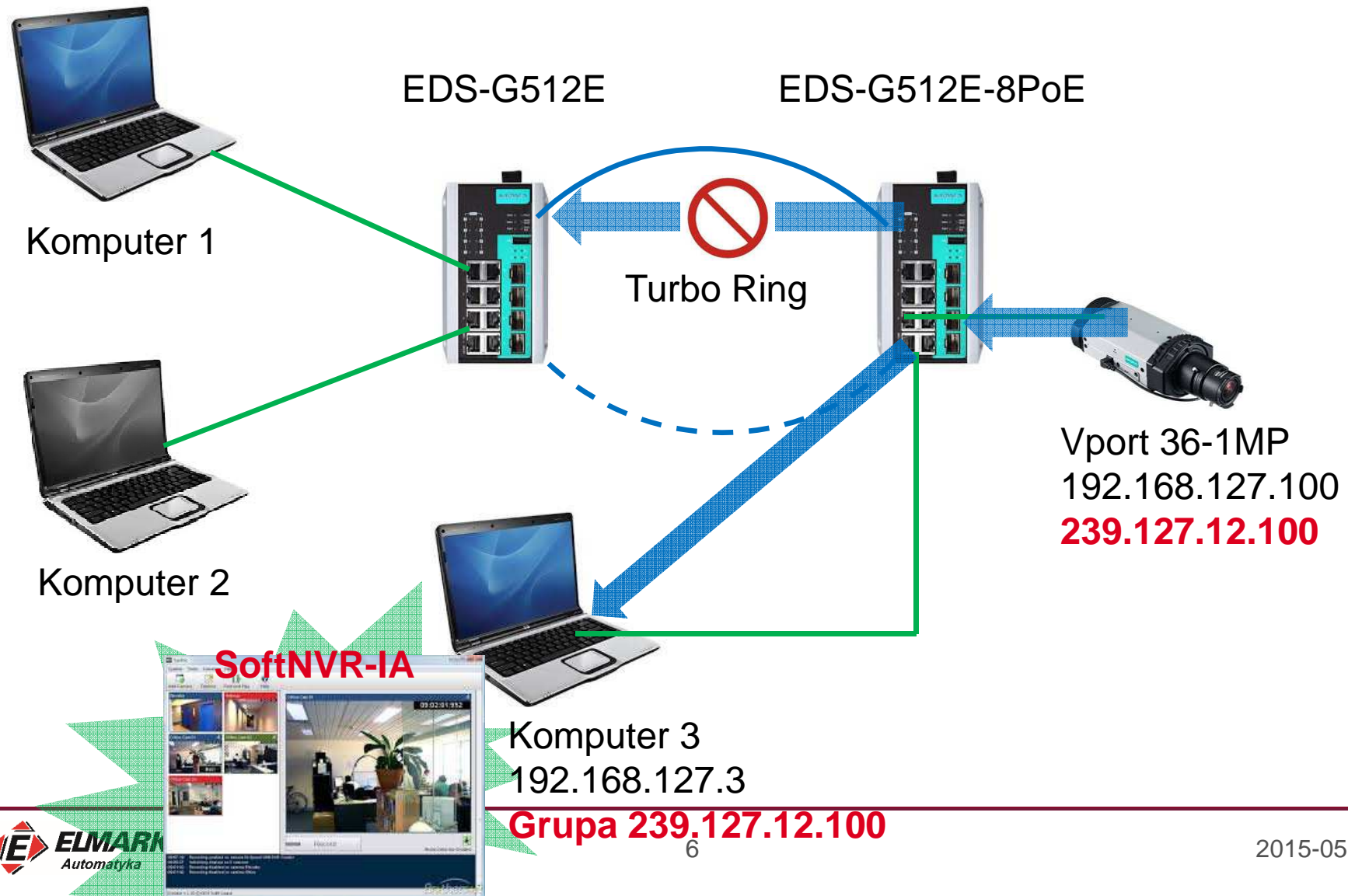
Transmisja multicast



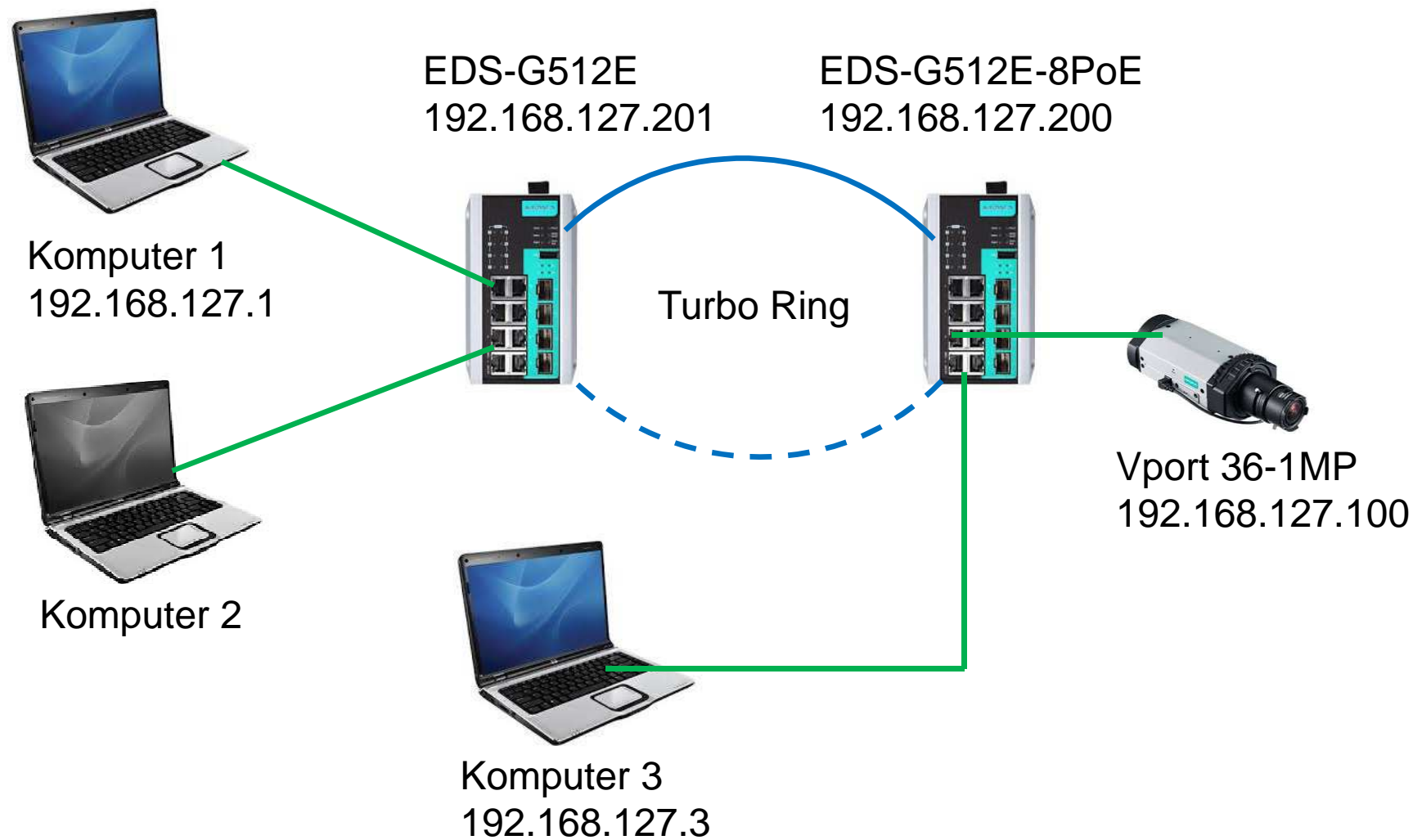
Multicast bez funkcji IGMP Snooping



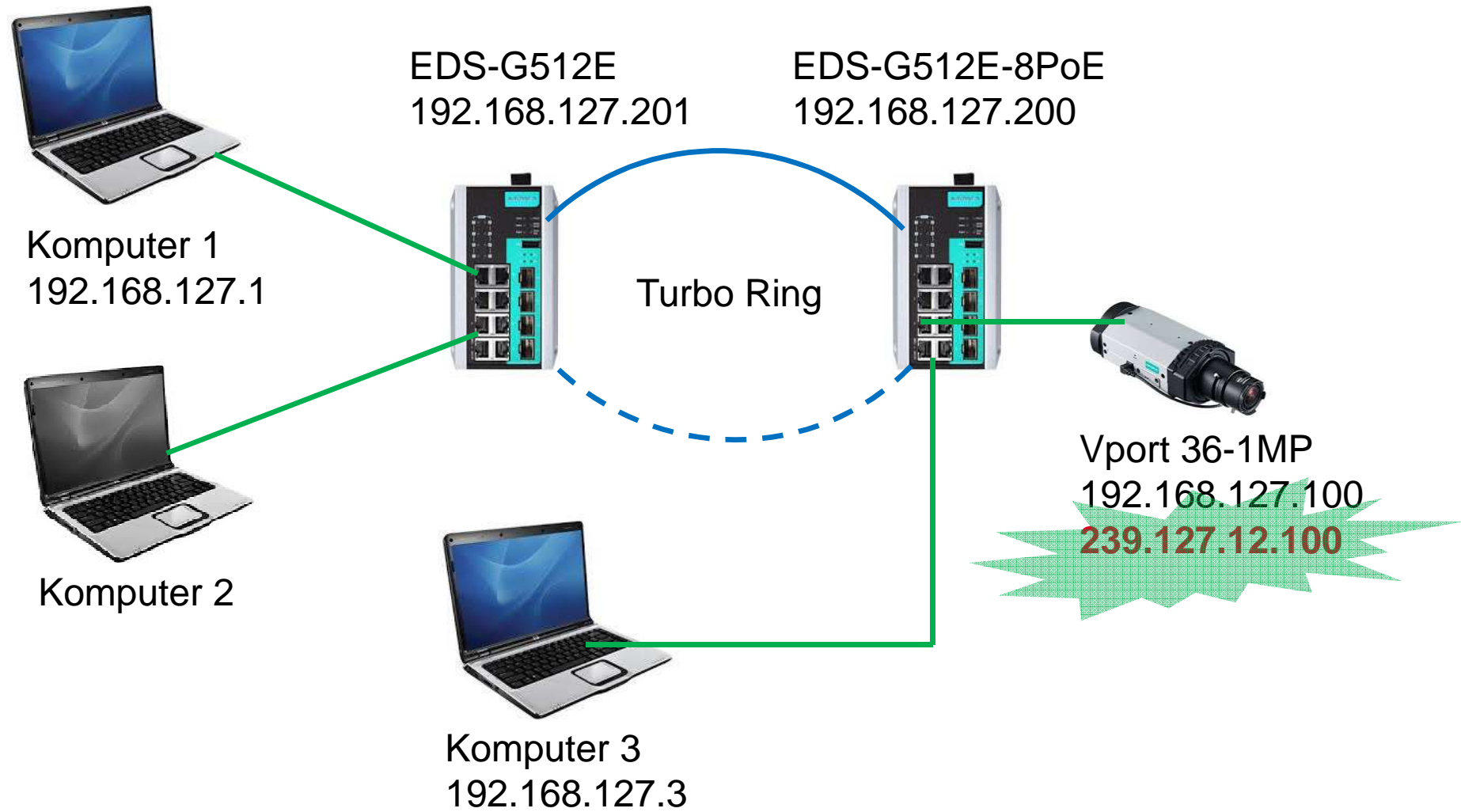
Multicast z funkcją IGMP Snooping



Adresacja sieci



Adresacja multicast



SoftNVR-IA - konfiguracja

The screenshot displays the 'Configuration' window of the SoftNVR-IA system. The 'Device List' on the left shows '[Cam01] Kamera3'. The main table lists the device details:

Model Name	IP Address	MAC Address	HTTP Port	Channel	ONVIF
VPort_36-1MP	192.168.127.100				V

The 'Device Setting' dialog box is highlighted with a red border. It contains the following fields and options:

- Device Name: Kamera3
- IP Address: 192.168.127.100
- User Name: (empty)
- Password: (empty)
- Service: http://192.168.127.100:80/i
- Profile: profile01
- Protocol: Multicast, UDP Enable, TCP Disable, HTTP

Below the dialog box, there is a live video feed of 'Kamera3' showing a person at a computer. To the right of the video feed are VMD (Video Motion Detection) settings:

- Enable Device VMD Alarm
- VMD1: 80 %
- VMD2: 80 %
- VMD3: 80 %
- Sensitive: 1

Buttons at the bottom include 'Modify', 'Add', 'Connect', 'OK', and 'Cancel'.



SoftNVR-IA - konfiguracja

The screenshot displays the SoftNVR-IA web interface. At the top, there is a menu bar with 'Project', 'View', 'Settings', 'Display', 'Service', and 'Help'. Below the menu is a toolbar with various icons. The main area is divided into several sections:

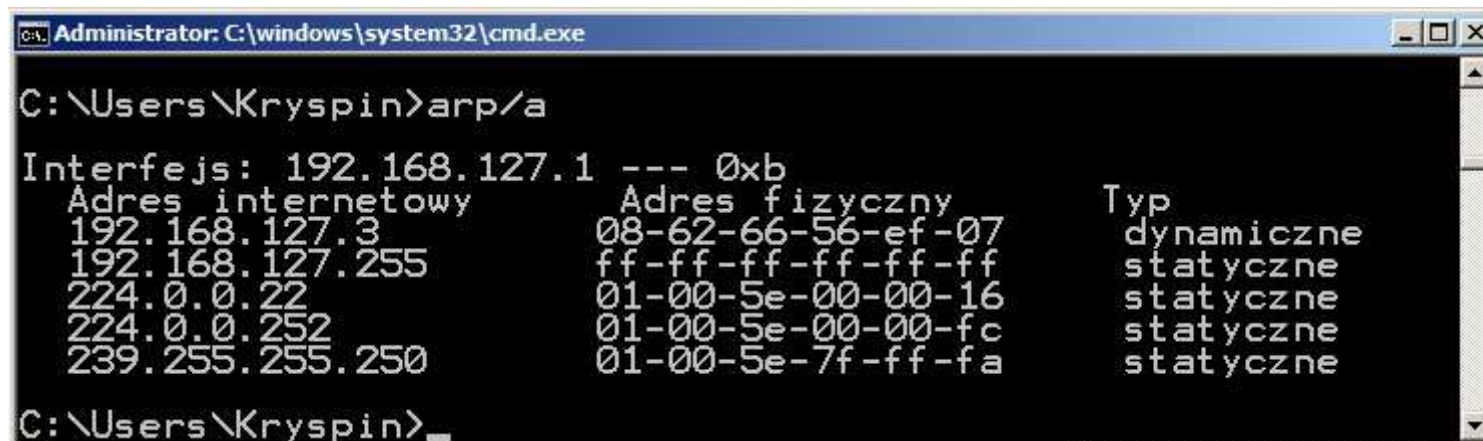
- System Information:** Shows the date and time '2015/05/21 10:25:16' and 'Free Space: 39.14 GB'. It also includes a small grid of camera thumbnails and an 'OPC' button.
- Device List:** A tree view showing 'Device List' expanded to '[Cam01] Kamera3', with an 'eMap List' option below it.
- Camera Feed:** A large video window labeled 'Kamera3' showing a desk with a computer monitor, a water bottle, and a box labeled 'V2616-XPE'.
- PTZ Control:** A circular control panel with 'ZOOM', 'AUTO FOCUS', 'CLOSE', 'AUTO IRIS', 'OPEN', 'Tilt Speed', 'Pan Speed', and 'Zoom Speed' sliders. It also has a 'Go To' dropdown menu.
- Extra Command:** A panel with 'Menu On/Off', 'Up/Down', 'Left/Right', 'Wiper On/Off', and 'Wash On/Off' buttons.
- Alarm History:** A table with columns for Device Name, Start Time, Event Type, Description, and Rec... It contains three entries for 'Network Down' events.

The Windows taskbar at the bottom shows the Start button, several open applications (Internet Explorer, Firefox, 'Zaawansowane...', 'Administrator: ...', '\\ESOX\wymian...', 'Systemy CCTV ...', and '[Trial Version...']), and the system tray with the date '10:25 2015-05-21'.

Sprawdzania do jakiej grupy multicast należy komputer

arp -a wyświetla tablice ARP interfejsów sieciowych

arp -d * czyści tablice ARP



```
Administrator: C:\windows\system32\cmd.exe
C:\Users\Kryspin>arp/a
Interfejs: 192.168.127.1 --- 0xb
Adres internetowy      Adres fizyczny      Typ
192.168.127.3          08-62-66-56-ef-07   dynamiczne
192.168.127.255       ff-ff-ff-ff-ff-ff   statyczne
224.0.0.22            01-00-5e-00-00-16   statyczne
224.0.0.252          01-00-5e-00-00-fc   statyczne
239.255.255.250      01-00-5e-7f-ff-fa   statyczne
C:\Users\Kryspin>
```

Sprawdzania do jakiej grupy multicast należy komputer

```
Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Kryspin>arp -a

Interface: 192.168.127.3 --- 0xd
Internet Address      Physical Address      Type
192.168.127.1         00-23-18-31-4c-5a    dynamic
192.168.127.100       00-90-e8-41-a8-be    dynamic
192.168.127.200       00-90-e8-49-60-78    dynamic
192.168.127.201       00-90-e8-49-df-05    dynamic
192.168.127.255       ff-ff-ff-ff-ff-ff    static
224.0.0.2             01-00-5e-00-00-02    static
224.0.0.22           01-00-5e-00-00-16    static
224.0.0.252          01-00-5e-00-00-fc    static
239.127.0.100        01-00-5e-7f-00-64    static
239.127.12.100       01-00-5e-7f-0c-64    static
239.255.255.250     01-00-5e-7f-ff-fa    static

C:\Users\Kryspin>_
```

Podgląd ruchu portu programem Wireshark

No.	Time	Source	Destination	Protocol	Length	Info
1	0.00000000	fe80::b480:4158:995	ff02::1:2	DHCPv6	154	Solicit XID: 0x98af1e CID: 000100011ceabf2008626656ef07
2	0.03109300	08:62:66:56:ef:07	Broadcast	ARP	42	Who has 192.168.127.3? Tell 0.0.0.0
3	0.03124600	192.168.127.3	239.127.12.100	IGMPv2	46	Membership Report group 239.127.12.100
4	0.03132700	::	ff02::1:ff52:1d4c	ICMPv6	78	Neighbor Solicitation for fe80::b480:4158:9952:1d4c
5	0.03137200	fe80::b480:4158:995	ff02::2	ICMPv6	70	Router Solicitation from 08:62:66:56:ef:07
6	0.03145700	fe80::b480:4158:995	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
7	0.06651700	fe80::b480:4158:995	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
8	0.07419000	192.168.127.3	239.255.255.250	IGMPv2	46	Membership Report group 239.255.255.250
9	0.52971100	192.168.127.100	239.127.12.100	UDP	172	Source port: rtsp-alt Destination port: rtsp-alt
10	0.53031400	192.168.127.3	239.127.12.100	IGMPv2	46	Membership Report group 239.127.12.100
11	0.53036800	192.168.127.3	239.255.255.250	IGMPv2	46	Membership Report group 239.255.255.250
12	0.53041800	fe80::b480:4158:995	ff02::16	ICMPv6	110	Multicast Listener Report Message v2
13	0.53043800	192.168.127.100	239.127.12.100	UDP	1442	Source port: rtsp-alt Destination port: rtsp-alt
14	0.53044000	192.168.127.100	239.127.12.100	UDP	1442	Source port: rtsp-alt Destination port: rtsp-alt
15	0.53044500	192.168.127.100	239.127.12.100	UDP	1442	Source port: rtsp-alt Destination port: rtsp-alt
16	0.53130800	192.168.127.100	239.127.12.100	UDP	1442	Source port: rtsp-alt Destination port: rtsp-alt
17	0.53167300	192.168.127.100	239.127.12.100	UDP	1442	Source port: rtsp-alt Destination port: rtsp-alt
18	0.53184700	192.168.127.100	239.127.12.100	UDP	1442	Source port: rtsp-alt Destination port: rtsp-alt
19	0.53423700	192.168.127.100	239.127.12.100	UDP	1442	Source port: rtsp-alt Destination port: rtsp-alt
20	0.53434300	192.168.127.100	239.127.12.100	UDP	1442	Source port: rtsp-alt Destination port: rtsp-alt
21	0.53500500	192.168.127.100	239.127.12.100	UDP	1442	Source port: rtsp-alt Destination port: rtsp-alt
22	0.53521400	192.168.127.100	239.127.12.100	UDP	1442	Source port: rtsp-alt Destination port: rtsp-alt

adres IP kamery
(adres nadawcy)

adres grupy multicast-owej

Podgląd ruchu na porcie switcha

Model : EDS-G512E-8PoE IP : 192.168.127.200 MAC Address : 00-90-E8-49-60-78 STATE MSTR/HEAD
Name : Switch-zaradzalny-2211 Serial No : 06661 Firmware version : V4.0 build 14070217 PWR1 CPLR/TAIL
Location : Schody-11 ABC-02-USB-T : Device not present PWR2 FAULT

- ▶ Port
- Redundant Protocol
- ▼ Multicast
 - ▼ IGMP Snooping
 - IGMP Snooping Setting
 - IGMP Group Status
 - Static Multicast Address
 - GMRP
- ▶ QoS
- ▶ Security
- ▶ DHCP
- SNMP
- Industrial Protocol
- ▶ Diagnostics
- ▼ Monitoring
 - System Utilization
 - Statistics
 - SFP DDM
 - Event Log

Statistics

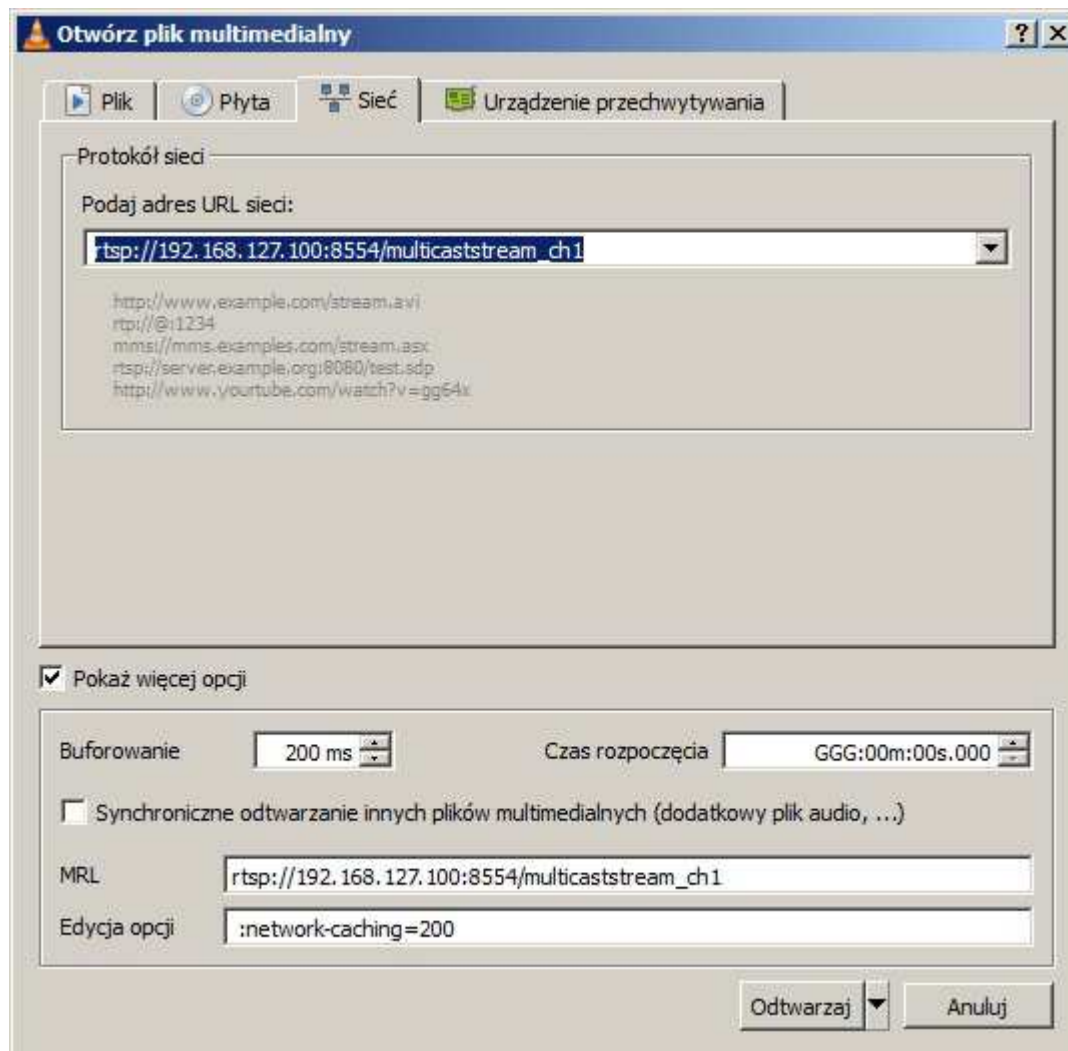
Port G1 Total Packets

[Format] Total Packets + Packets in past 5 secs Update Interval: every 5 secs

Tx Total	Tx Unicast	Tx Multicast	Tx Broadcast	Tx Collision
1525030+545	178029+28	1346512+517	489+0	0+0
Rx Total	Rx Unicast	Rx Multicast	Rx Broadcast	Rx Pause
182282+44	173876+43	5574+1	2832+0	0+0

Tx		Rx					
Late	Excessive	CRC Error	Discard	Undersize	Fragments	Oversize	Jabber
0+0	0+0	0+0	0+0	0+0	0+0	0+0	0+0

Podgląd strumienia multicast w programie VLC Player





Dziękuję