VigorAccess IP DSLAM Demostration for IGMP Snooping

Aug 30, 2005 by Rafter Lin of DrayTek

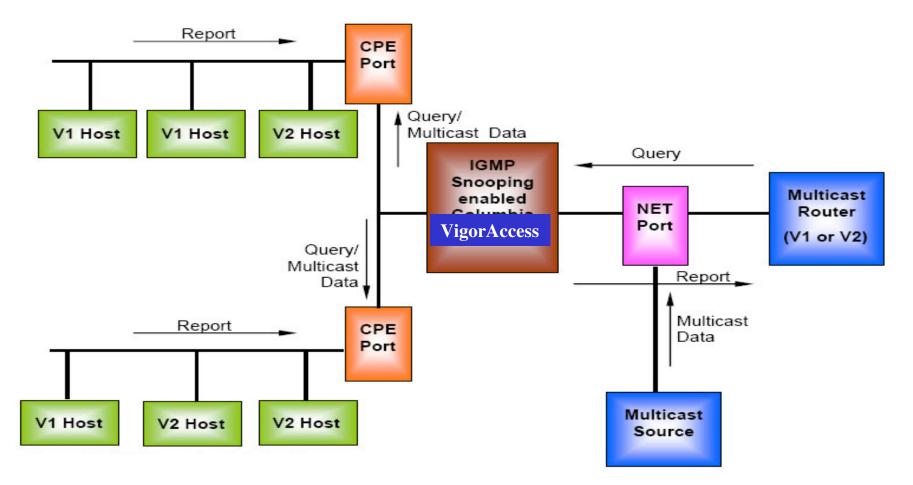
Introduction

- VigorAccess IP DSLAM supports IGMPSnooping functionality
- A demostration environment will be presented

IGMP Snooping

- IP hosts use the Internet Group Management Protocol (IGMP) to report their multicast group memberships to any immediate neighboring multicast routers.
- IGMP Snooping is the process of listening to IGMP conversations between hosts and routers.

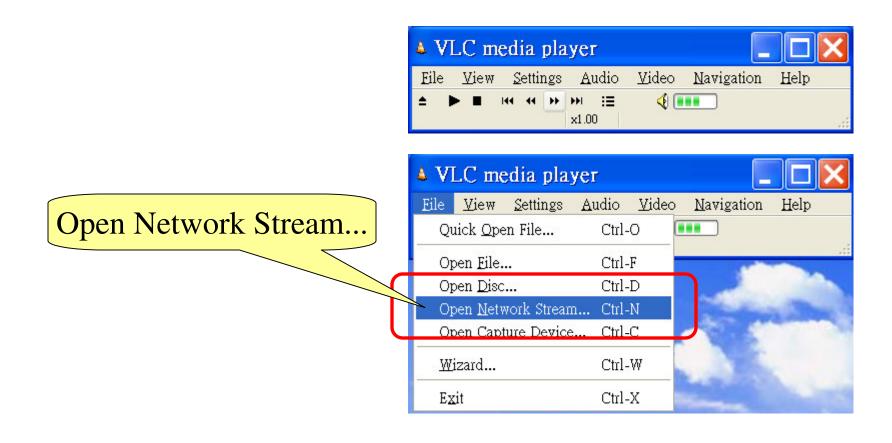
Multicasting Architecture



Components

- IGMP Snooping Enabled DUT: VigorAccess
- CPE: Transparent Bridge Mode
- Multicast Source: VideoLAN VLC Video Media Player
- V2 Host : VideoLAN VLC
- Multicast Router: or packet generator (such as SmartBit)
- Video Source: MPEG, VCD, DVD, ...

VLC Source Configuration



VLC Source Config. (cont.1)

	4 Open		
	Media Resource Locator (MR Open: udp://	2L)	>
	Alternatively, you can build an File Disc Network	n MRL using one of the following predefined targets:	
	⊙ UDP/R TP	Port 1234	
	O UDP/R TP Multicast	Address Port 1234	*
Check this box, Click Settings	○ HTTP/FTP/MMS ○ RTSP	URL rtsp://	
Click Settings			
	Stream output Setti	ings 300	
	OK Car	ncel	

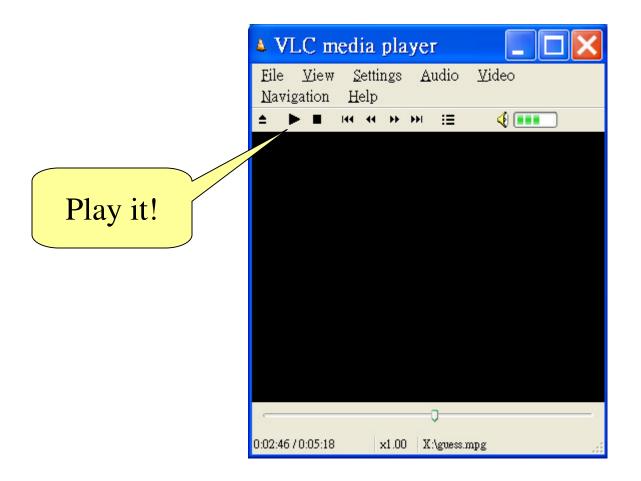
VLC Source Config. (cont.2)

	🔺 Stream output			
	Stream output MRL Destination Target: :sout=#duplicate{dst=display,dst=std{access=udp,mux=ts,url=239.1.1.1:1234}}			
	 Output methods ✓ Play locally 			
	Filename Browse Dump raw input			
	HTTP Address Port 1234			
Γ	MMSH Address 239.1.1.1 Port 1234 ✓ UDP Address 239.1.1.1 Port 1234 ♀			
	LIRTE Port 1234			
Give the multicast IP Add	S OMPEG PS OMPEG 1 OOgg OASF OMP4 OMOV OWAV ORaw			
and port number	dec mp4v v Bitrate (kb/s) 1024 v Scale			
	Audio codec mpga V Bitrate (kb/s) 22 V Channels V Miscellaneous options SAP announce SLP announce Channel name			
	OK Cancel			

VLC Source Config. (cont.3)

4 Open	
Media Resource Locator (MRL)	
Open: X:\guess.mpg	*
Alternatively, you can build an MRL using one of the following predefined targets:	
File Disc Network DirectShow	
X.\guess.mpg B	rowse
Subtitle options Settings	
Choos	e the Video source
i	n [File] Page
OK Cancel	0

VLC Source Config. (cont.4)



VLC Client Configuration

	🌢 Open
	Media Resource Locator (MRL) Open: udp://@239.1.1.1
	Alternatively, you can build an MRL using one of the following predefined targets: File Disc Network DirectShow
	O UDP/R TP Port 1234
	⊙ UDP/R TP Multicast Address 239.1.1.1 Port 1234
	URL URL Itsp://
Give the multicast IP	Address
and port number (same	as source)
	Stream output Settings Caching 300
	OK Cancel

VLC Client Config. for XP

- VigorAccess supports only IGMPv1/v2
- Windows XP supports IGMPv3 by default
- How to make XP utilize IGMPv2 message

– change to Windows registry

How to Make XP IGMPv2

- **REGEDIT** utility
- Add/Edit the following "REG_DWORD" key
 - HKEY_LOCAL_MACHINE/SYSTEM/CurrentControl Set/Services/Tcpip/parameters/IGMPVersion = 3
 - where value 3 means IGMP version 2
- Restart the Windows

How to Make XP IGMPv2 (cont.)

* 登錄編	輯程	式			
檔案(E) (編輯(E)	檢視(Y) 我的	最愛	愛(A) 說明(H)	
		SysmonLog TAP TapiSrv Tcpip Enum Linkage Parameters Adapters DNSRegist DNSRegist Interfaces PersistentR Winsock Performance Security Security ServiceProvid TDPIPE TDTCP TermDD TermService Themes TosIde Trk Wks TSDDD	C	名稱類型資料(預設値)REG_SZ(數値未設定)(要) DataBasePathREG_EXPAND% SystemRood(要) DeadGWDetectDefaultREG_DWORD0x00000001(要) DomainREG_SZ(要) Domain0x00000000(要) DomtAddDefaultGatewayDefaultREG_DWORD0x00000000(要) EnableICMPRedirectREG_DWORD0x00000000(要) ForwardBroadcastsREG_DWORD0x00000000(事) HootnameREG_SZrafter(*) HootnameREG_DWORD0x00000000(*) HootnameREG_SZrafter(*) NameServerREG_SZrafter(*) NV HostnameREG_SZrafter(*) SearchListREG_SZrafter(*) UseDomainNameDevolutionREG_DWORD0x00000001	t%\System (1) (0) (1) (0) (0) (3) (0)
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約電腦\HKE	Y LOCAL	MACHINESSYSTEM	ment	ControlSet/Services/Topip/Parameters	

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It's Time to Play!

- Press the Play button on VLC client
- Multicast streams will be shown
- In VigorAccess
 - \$get bridge mcast forwarding

Vlan Index : 1Mac Address : 01:00:5E:01:01:01Egress ports : 5Group Learnt : 5

means a IGMP report with address 01:00:5E:01:01:01 is snoopped on bridge port 5

Limitation

- The video stream will drop due to TimeOut if NO IGMP Query sent periodically from multicast router
- Use any packet generator (such as SmartBit) to simulate IGMP Query (224.0.0.1, all group query) every 2 minutes can complete the work

Diagnostics

- Make sure the DSL line is in **ShowTime**
- Make sure the VPCI and encap mode are well-configured (ATM layer connectivity)
- Make sure the video client sends IGMPv2 report message
- Reference CLI commands
 - \$get igmpsnoop ? (for more infomation)
 - \$get bridge mcast forwarding

End of Document