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Application Note

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Capturing Receiver Log Files

November 12, 2013

Please read this entire document for important information about logging receivers, including problems you may encounter when running it.

Contents:

- 1. Requirements
- 2. Procedure
- 3. FAQ

Requirements

In attempts to troubleshoot problems with receivers, it is sometimes necessary to log the receiver for error messages. Previous versions of receivers required manual logging of diagnostic messages generated from the receiver. This was largely accomplished with telnet sessions, and issuing commands via CLI. With the release of v4.00 software, a new feature has facilitated the ability to capture all diagnostic messages via a Windows-based application known as a Syslog Server. The use of this feature provides a more universal solution to capturing receiver logs, which will be available in future products.

Implementation of Syslog requires that a third-party application be installed on a PC to capture the logs. Currently, we will support two free Syslog Servers:

For Linux, we support 'syslog-ng' (from BalaBit) http://www.balabit.com/network-security/syslog-ng/opensource-logging-system For Windows, we support 'Syslog Watcher' (from SNMPSoft) http://www.snmpsoft.com/syslogwatcher/syslog-server.html

Download the appropriate application and install in PC. In our example, we will be installing the SNMPSoft application on a Windows based PC.



After downloading the application, locate the installer file and launch...

np > Syslog 🔹 🗸 🗸							
folder							
*	Name	Date modified	Туре	Size			
	🛃 SyslogWatcherSetup-4.5.3-win32.msi	11/12/2013 3:23 PM	Windows Installer	14,907 KB			

Choose 'Install Syslog Watcher Service and GUI' when prompted...

Continue to install the application.



Procedure

In our example, we have a D9859 receiver on our network. As well, the PC with the Syslog software is available configured with the IP addresses shown below:



STEP 1. Enable the logs from the receiver. STEP 2. Launch the Syslog Watcher.

STEP 3. Capture logs to Syslog File.

STEP 1. Enable the logs from the receiver

Log in to the receiver via the Web interface (default username/password is admin/localadmin). Access the **System Settings** screens and configure the **Protocol Control** fields:

ululu D9859 - Ad	vanceo	l Receiver Transcoder					Admin(admin)		
		🏡 Summary	Input 🔻	Audio & Video 🔻	Transport Stream 🔻	System Settings 🔻	Support 🔻		
' System		IP Settings				K			
 Identification 		Port ID	Destin	ation IP Address		Mask	o sway Address		
Features/Licenses		control 192.133.169.59				24	192.133		
 IP Settings 		🔿 data	192.13	31.244.7		24	192.131.244.254		
IP Unicast Routing		⑦ Statmux 192.168.0.100 24					192.168.0.254		
MPE									
SNMP									
Time/Clock									
Alarma		Protocol Control							
AldIIIIS	~								
Versions	<i></i>	Telnet	E	nable 🔻	SNMP		Enable 🔻		
Settings File	 Image: A second s	SSH	[Disable 💌					
Security/Accounts	V	НТТР	E	nable 🔻	Idle Timeout	(seconds)	0		
		Syslog	Sγ	slog TCP 🔻					
		Syslog Server IP Address:	19	2.133.169.200	Syslog Serve	er Port	514		

In this example, we have selected **Syslog TCP** protocol and entered the IP address of the PC (**192.133.169.200**) for the Syslog Server address. Also, we are using the default server port (**514**).

Alternatively, you may configure via the front panel:



Main Menu – Setup – IP – Protocols

Scroll down until you see the menu above.

STEP 2. Launch the Syslog Watcher

Launch the Syslog Watcher application:



Configure the **Transport Layer** in the **Network Interfaces** menu.

Uncheck 'Bind to local IPv6 addresses'.

In this example, we used TCP protocol on port 514.

Syslog Watcher Settings	
User Interface - Grid View - Processing - Formats - Vendor Pack - Confirmations	Internet Protocol Image: Bind to local IPv4 addresses Show Local Interfaces Bind to local IPv6 addresses Image: Bind to local IPv6 addresses
- Network Interfaces	Transport Layer
Domain Names Storage Backup Remote Access Processing Formats E-mail Account Handlers Export to Text Export to DB E-mail Alerts	Receive syslogs over UDP on port: 514 Show Used Ports Receive syslogs over TCP on port: 514
	OK Cancel Apply



Start the Syslog Watcher server by clicking on the 'Start Server' icon...

Diagnostic log messages should begin to appear...

🐍 Syslog Wate	ther - Local Syslog Ser	ver						
	0 1%	R 😥 🤉 📖			8	0 0		
Start Server	Stop Server Status	Reload Filter Find Search	Import Export Delete R	eports Storage	Settings Vendor Pack	Help Info		
Show Ane S	everite + from All	Sources + last 100 c messages U	odate every 10 2 seconds	Updated at 11/1	3/2013 11:22:59 AM C A	toScroll 🔿 🙆		
 (1 set 1010 	Sulaar Sulaar for	Daving Temport/Caserch Paradia (II) Source	as (2) Sugari on Parkups	-,				
E Parai ad	- Synogr Synogria	Seurce ID Seurce ID	lana Escillar	Second to	Timestame	Tes	Origin	Mana
11(13/281)	11-22-30 401 AM	102 133 160 50	local 1	John	2012.11.12T12.42-14	TRACE	Usersteine	
E 11/13/2013	11.22.33.431 AM	192.155.105.55	local 0	Natice	2012-11-12712-42-14	MAGY/1732001	User-cfg-na.	- 100 ANY WORRE THE INTERVIEW AND A MARKED AND AND AND AND AND AND AND AND AND AN
\$ 11/13/2013	11-22-39 011 AM	197 133 169 59	local 0	Info	2012-12-12712-47-14	TMG1[3214]	Unary cforma	-SUPTAG INTO MALL (1-multiplity) and coloring - most partiting arm statutes
2 11/13/2013	11-22-38 941 AM	192.133.169.59	local ()	Info	2013-11-13717-0714	TM61[3214]	liser cfn-na	- SSRDTMG STATTHREAD CLINNE OF undersustern II
F 11/13/2013	11:22:38.306 AM	192.133.169.59	local 1	Info	2013-11-13717-47-13	DATA	User-cfg-na	-INFO
11/13/2013	11:22:38.031.AM	192.133.169.59	local 1	Info	2013-11-13717-47:13	VID	User-cfa-na	(INFO ::s4158>2 PES Buffer Size: 1162 isutes
11/13/2013	11:22:38.001.AM	192.133.169.59	local 0	Notice	2013-11-13T17:47:13	MGX1/32091	User-cfg-na	::282/MGX WORKER THCL::publish bpm statistics for tmg - MGX publishing BPM Statistics
11/13/2013	11:22:37.996 AM	192.133.169.59	local 0	Info	2013-11-13T17:47:13	TM61/3214	User-cfg-na	::5588:TMG INFO IMPL CL::publish8PM9tatistics
11/13/2013	11:22:37.931.AM	192.133.169.59	local 0	Info	2013-11-13717:47:13	TMG1/3214	User-cfa-na	::5588:TMG STATTHREAD CL::one sec update wakeup !!
11/13/2013	11-22:37.616 AM	192.133.169.59	local 1	Info	2013-11-13T17:47:12	TX	User-cfg-na	:INFO ::1550;Tx; mon.cpp: RF errors: 0 Stream rate(bits/sec): 48382928 OutputFIFO level 0 fpga lock 0
11/13/2013	11-22:37.501 AM	192.133.169.59	local 1	Info	2013-11-13717:47:12	SYNC	User-cfg-na	-INFO ::2543:>2 LIPSYNC STATUS: GLOBAL STATE: NORMAL, NBR GLITCHES 0, AUDIO1 STATE: REL
11/13/2013	11:22:37.431.AM	192.133.169.59	local 1	Info	2013-11-13717:47:12	AUD	User-cfg-na	-INFO ::5348:>2 aud LIPSYNC: SYNC ENB: 1, SYNC REQ: 1, SOURCE: SAME AS PCR, LST GAMMA: 0, LS
11/13/2013	11:22:37.001.AM	192.133.169.59	local 0	Notice	2013-11-13717:47:12	MGX1[3209]	User-cfg-na	::282.MGX_WORKER_THCL::publish_bpm_statistics_for_tmg - MGX publishing BPM Statistics
11/13/2013	11:22:36.996 AM	192.133.169.59	local 0	Info	2013-11-13717:47:12	TMG1[3214]	User-cfg-na	:SS8E;TMG_INFO_IMPL_CL::publish8PMStatistics
11/13/2013	11:22:36.931 AM	192.133.169.59	local 0	Info	2013-11-13T17:47:12	TMG1[3214]	User-cfg-na	:5588;TMG_STATTHREAD_CL::one_sec_update wakeup !!
11/13/2013	11-22:36.011 AM	192.133.169.59	local 0	Notice	2013-11-13T17:47:11	MGX1[3209]	User-cfg-na	;282,M6X_WORKER_THCL::publish_bpm_statistics_for_tmg - M6X publishing BPM Statistics
11/13/2013	11:22:36.001 AM	192.133.169.59	local 0	Info	2013-11-13T17:47:11	TMG1[3214]	User-cfg-na	:5588;TMG_INFO_IMPL_CL::publish8PMStatistics
11/13/2013	11:22:35.941 AM	192.133.169.59	local 0	Info	2013-11-13T17:47:11	TMG1[3214]	User-cfg-na	:5588;TMG_STATTHREAD_CL::one_sec_update wakeup !!
11/13/2013	11:22:35.581 AM	192.133.169.59	local 1	Info	2013-11-13T17:47:10	TX	User-cfg-na	INFO:1550;Tic_mon.cpp: RF errors: 0 Stream rate(bits/sec): 48382928 OutputFIFO level 0 fpga lock 0
11/13/2013	11:22:35.501 AM	192.133.169.59	local 1	Info	2013-11-13T17:47:10	SYNC	User-cfg-na	. ;INFO ;;2543;>2 LIPSYNC STATUS : GLOBAL STATE: NORMAL, NBR GLITCHES: 0, AUDIO1 STATE: REL
11/13/2013	11:22:35.401 AM	192.133.169.59	local 0	Info	2013-11-13T17:47:10	WDog1[3283]	User-cfg-na	. ;:1491;STAT:Individual_WDogs_6 ON =1 Reused =1 WD Ind =6 Kicks =17 Kick Min =29 Kick Max =74774
11/13/2013	11:22:35.401 AM	192.133.169.59	local 0	Info	2013-11-13T17:47:10	WDog1[3283]	User-cfg-na	. ;:1431;STAT:Individual_WDogs_5 ON =1 Reused =1 WD Ind =5 Kicks =17 Kick Min =1 Kick Max =74775 R.
11/13/2013	11:22:35.401 AM	192.133.169.59	local 0	Info	2013-11-13T17:47:10	WDog1[3283]	User-cfg-na	. ;:1491;STAT:Individual_WDogs_4 ON =1 Reused =1 WD Ind =4 Kicks =17 Kick Min =29 Kick Max =74777
11/13/2013	11:22:35.401.AM	197.133.169.59	local 0	Info	2013-11-13T17:47:10	WDog1[3203]	User-cfg-na	. ::1491;STAT:Individual_WDogs_3 ON =1 Reused =1 WD Ind =3 Kicks =17 Kick Min =1 Kick Max =74777 R
11/13/2013	11:22:35.401.AM	192.133.169.59	local 0	Info	2013-11-13T17:47:10	WDog1[3203]	User-cfg-na	. ::1491;STAT:Individual_WDogs_2 ON =1 Reused =1 WD Ind =2 Kicks =17 Kick Min =29 Kick Max =74779
11/13/2013	11:22:35.401 AM	192.133.169.59	local 0	Info	2013-11-13T17:47:10	WDog1[3203]	User-cfg-na	. ;:1491;STAT:Individual_WDogs_1 ON =1 Reused =1 WD ind =1 Kicks =17 Kick Min =1 Kick Max =74779 R
11/13/2013	11:22:35.391 AM	192.133.169.59	local 0	Info	2013-11-13T17:47:10	WDog1[3203]	User-cfg-na	. ::1491;STAT:Individual_WDogs_0 ON =1 Reused =1 WD Ind =0 Kicks =17 Kick Min =19 Kick Max =74782
11/13/2013	11:22:35.391 AM	192.133.169.59	local 0	Info	2013-11-13T17:47:10	WDog1[3283]	User-cfg-na	. :: 1491;STAT:Global_WDDGs Created Masters =7 Deleted Masters =0 Created Slaves =0 Deleted Slaves =0
11/13/2013	11:22:34.993 AM	192.133.169.59	local 0	Notice	2013-11-13T17:47:10	MGX1[3209]	User-cfg-na	. ::282;M6X_WORKER_THCL::publish_bpm_statistics_for_tmg - M6X publishing BPM Statistics
11/13/2013	11:22:34.992 AM	192.133.169.59	local 0	Info	2013-11-13T17:47:10	TMG1[3214]	User-cfg-na	. ;;5588;TMG_INFO_IMPL_CL::publish8PMStatistics
11/13/2013	11:22:34.925 AM	192.133.169.59	local 0	Info	2013-11-13T17:47:10	TMG1[3214]	User-cfg-na	. ;;5588;TMG_STATTHREAD_CL::one_rec_update wakeup II
11/13/2013	11:22:34.301 AM	192.133.169.59	local 0	Info	2013-11-13T17:47:09	TMG1[3214]	User-cfg-na	. ;;1491;STAT:OUT_GEN5 VID_FMT[4]=48629.97 AR[4]=16:9 PROFILE[4]=4 LEVEL[4]=8 ES_BR[4]=4860360
11/13/2013	11:22:34.300 AM	192.133.169.59	local 0	Info	2013-11-13T17:47:09	TMG1[3214]	User-cfg-na	;;1491;STAT:OUT_GEN4 VID_FMT[3]=48629.97 AR[3]=16:9 PROFILE[3]=4 LEVEL[3]=8 ES_BR[3]=4860360
11/13/2013	11:22:34.377 AM	192.133.169.59	local 0	Info	2013-11-13T17:47:09	TMG1[3214]	User-cfg-na	. ;;1491;STAT:OUT_GEN3 VID_FMT[2]=400/29.97 AR[2]=16:9 PROFILE[2]=4 LEVEL[2]=0 ES_0P[2]=4000000
11/13/2013	11:22:34.376 AM	192.133.169.59	local 0	Info	2013-11-13717:47:09	TMG1[3214]	User-cfg-na	. ;;1491;STAT:OUT_GEN2 VID_FMT[1]=486/29.97 AR[1]=16:9 PROFILE[1]=4 LEVEL[1]=8 ES_BR[1]=4860860
11/13/2013	11:22:34.375 AM	192.133.169.59	local 0	Info	2013-11-13717:47:09	TM61[3214]	User-cfg-na	. ;;1491;STAT:OUT_GEN1_VID_FMT[0]=1080/29.97 AR[0]=16:9 PROFILE[0]=4 LEVEL[0]=4 ES_BR[0]=1600800
Message Vi	iew							4 J
Info / los	cal 1 (192-133-169-	39)						Wednesday, November 13, 2013 11:22:39.491 AM
:INFO ::4	122:TDT GMT Time:	13/11/2013, 12:17:14						
,								
For Help, press I	F1				\$	ervice: Started (4.5.	.3) Tot: 397	7 Dip: 390 Fit: 0 Sel: 0 UDP: 514 TCP: 1468 IPv4 IPv6 Ver: 4.5.3

STEP 3. Capture logs to Syslog File

After a period of time when the diagnostic logs have captured the required event, click the Export icon...



Choose the source 'Syslog messages from the storage' and click on the **QuickSet** button...

Select an appropriate time period for the log capture.

Select 'Syslog file' for the destination.

Click the 'Export' button and save the file to your hard drive.

Forward the log file for analysis.

Common Questions about

Q: What is the difference between using UDP and TCP protocol? Can I use either one?

A: UDP (User Datagram Protocol or Universal Datagram Protocol) is a connectionless protocol. It is used for applications which require fast transmission of data. The stateless nature of UDP data is also useful for servers that answer queries from a large number of clients. TCP (Transmission Control Protocol) is a connection-oriented protocol. It is generally slower than UDP and is considered reliable as packets are checked for errors. Although either protocol will work in this application, it is advisable to choose the TCP protocol as it is more reliable.

Q: Both my receiver and my Syslog Watcher PC are on my network, but I am not getting any results. What might be wrong?

- A: There may be a variety of reasons...
 - Confirm that the port numbers are configured correctly. The port number is configured in both the Syslog Watcher configuration menus, as well as in the receiver's protocol configuration menu. If the receiver is on a different network segment, ensure that there is no firewall setting which may prevent the use of the port.
 - Confirm that the protocols match in both the receiver and the Syslog Watcher application. If you are using TCP protocol in the receiver, you MUST configure the Syslog Watcher to receive syslogs via TCP protocol.
 - Certain security software may also prevent Syslog from receiving the UDP data packets. If necessary, disable any firewall software which might prevent communication.
 - Confirm that IPv6 addresses are not being used. Only IPv4 addressing is supported.

Q: Does this log contain all of the information you need?

A: No, you may still need to provide the specific details for your receiver such as model, application code, FPGA code, etc. This information may be captured by exporting the Debug Support Data. Click the **Export** button, under **Support – Service Actions**:

Contact	V	Service Actions
Logs	 Image: A start of the start of	Factory Reset Reboot Receiver
Service Actions		
Service Actions		Collect Debug Support Data Export