ONS 15540 APS Trace and Debug Data Capture

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Introduction

This document describes how to capture the Automatic Protection System (APS) trace and debug data that these two Command Line Interface (CLI) commands generate on ONS 15540:

- **show aps trace resume**
- **debug aps**

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- ONS 15540
- APS
- UNIX Syslog Server

Components Used

The information in this document is based on these software and hardware versions:

- Cisco IOS® Software Release 12.1(7a)EY2 and later
- Cisco ONS 15540 Software (ONS15540−IM)

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

Refer to the Cisco Technical Tips Conventions for more information on document conventions.

APS Trace Data

Use the **show aps trace** command in order to display APS and APS Channel Protocol activity information in the system memory. Here is the syntax description:

- **show aps trace clear** Clears the APS activity trace table in the memory.
- **show aps trace stop** Stops the collection of APS activity information.
- **show aps trace resume** Resumes the collection of APS activity information.

The APS trace buffer is a placeholder for 512 APS trace messages. Each message in the buffer can be up to 88 bytes long. A trace buffer is statically allocated when the APS subsystem comes up. The APS trace messages are continuously stored into this buffer, if you have enabled trace with the **show aps trace resume** command. When the last entry is reached, wraparound occurs. Wraparound implies that the next trace is written to the first entry. After the wraparound, **show aps trace** is always organized in such a way that the most recent messages come up last.

The APS trace table is limited to 512 entries. Currently, you cannot expand the table size. The time taken to use up all the 512 entries varies based on how fast the APS events occur.

Complete these steps in order to view all the trace messages for a given APS event:

1. Issue the **show aps trace stop** command in order to stop the collection of APS activities.
2. Issue the **show aps trace clear** command in order to clear the APS trace table.
3. Issue the **show aps trace resume** command in order to start the collection of APS activities.
4. Observe the APS events.
5. Issue the **show aps trace stop** command in order to stop the collection of APS activities.
6. Issue the **show aps trace** command in order to examine the APS activities.

APS Debug Data

Use the **debug aps** command in order to debug APS operation. Use the **no debug aps** command in order to disable APS debugging.

ONS 15540 can display debug outputs to various interfaces that include the console, AUX, and VTY ports. ONS 15540 can also log messages to an internal buffer, and to an external UNIX syslog server. When ONS 15540 logs messages to an external UNIX syslog server, a large amount of APS debug data can be stored.

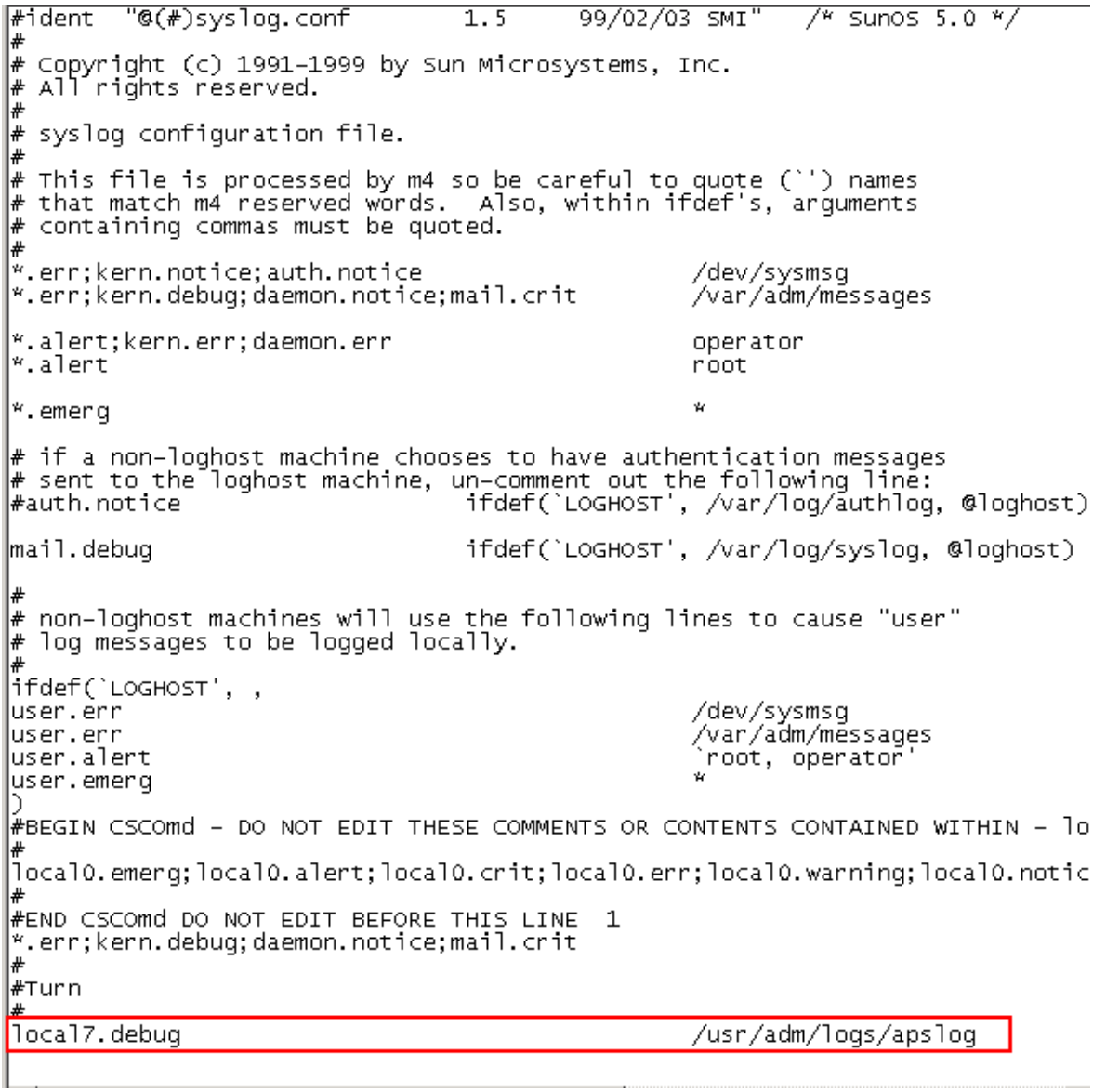
Complete these steps in order to log messages to an external UNIX syslog server:

1. Perform these steps on the ONS 15540:
    a. Verify the IP communication between ONS 15540 and the UNIX syslog server.
    b. Issue the **logging trap debugging** configuration command that allows ONS 15540 to deliver all the debug data to the syslog server.
    c. Issue the **logging <syslog server IP address>** configuration command that identifies a syslog server to receive log messages. If you issue this command more than once, a list of syslog servers is built. All of them receive log messages.
2. Perform these steps on the UNIX syslog server:
    a. Locate the **/etc/syslog.conf** file.
    b. Add this line to the file (see Figure 1):

```
local7.debug /usr/adm/log/apslog
```

locall7.debug is the message level. **/usr/adm/log** and **apslog** represent the directory and the file name respectively.

Figure 1 Syslog.conf File



```
#ident  "@(#)syslog.conf        1.5     99/02/03 SMI"   /* SunOS 5.0 */
#
# Copyright (c) 1991-1999 by Sun Microsystems, Inc.
# All rights reserved.
#
# syslog configuration file.
#
# This file is processed by m4 so be careful to quote (`') names
# that match m4 reserved words.  Also, within ifdef's, arguments
# containing commas must be quoted.
#
*.err;kern.notice;auth.notice                   /dev/sysmsg
*.err;kern.debug;daemon.notice;mail.crit        /var/adm/messages

*.alert;kern.err;daemon.err                     operator
*.alert                                         root

*.emerg                                         *

# if a non-loghost machine chooses to have authentication messages
# sent to the loghost machine, un-comment out the following line:
#auth.notice                    ifdef(`LOGHOST', /var/log/authlog, @loghost)

mail.debug                      ifdef(`LOGHOST', /var/log/syslog, @loghost)

#
# non-loghost machines will use the following lines to cause "user"
# log messages to be logged locally.
#
ifdef(`LOGHOST', ,
user.err                                        /dev/sysmsg
user.err                                        /var/adm/messages
user.alert                                      `root, operator'
user.emerg                                      *
)
#BEGIN CSCOmd - DO NOT EDIT THESE COMMENTS OR CONTENTS CONTAINED WITHIN - lo
#
local0.emerg;local0.alert;local0.crit;local0.err;local0.warning;local0.notic
#
#END CSCOmd DO NOT EDIT BEFORE THIS LINE  1
*.err;kern.debug;daemon.notice;mail.crit
#
#Turn
#
local7.debug                                    /usr/adm/logs/apslog
```

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Related Information

- **Technical Support & Documentation − Cisco Systems**

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