HP OSI Transport Services/9000 Release Notes

HP-UX 11i v3

Legal Notices

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HP OSI Transport Services/9000 (C.13.00 for HPUX 11.31)

Introduction

HP OSI Transport Services/9000 (OTS/9000) is the OSI networking stack of HP-UX. It provides functions of OSI Layers 3 (Network), 4 (Transport), 5 (Session), 6 (Presentation) and ACSE/ROSE over X.25, FDDI and IEEE802.3 LAN interfaces. It also provides RFC1006 that allows users to run OSI Services over TCP connections. Applications can use OTS/9000 via Application Program Interfaces (APIs) to layers 4, 5, 6 and ACSE/ROSE application entities.

Audience

This edition of the HP OSI Transport Services/9000 Release Notes contains the current release notes for version C.13.00 for HP-UX 11.31.

If you are considering updating to OTS/9000 version C.13.00 from OTS/9000 version C.11.00, please read the release notes for version C.12.00.

If you are considering updating to OTS/9000 version C.13.00 from OTS/9000 version C.09.03 for HP-UX 11.00, please read the release notes for version C.11.00 and the release notes for version C.12.00.

If you are considering updating to OTS/9000 version C.13.00 from OTS/9000 version C.08.00, please read the release notes for version C.09.03 ,the release notes for version C.11.00 and the release notes for version C.12.00.

NOTE: The following release notes is also available online when the OTS/9000 product is installed. Please see /opt/ots/doc/README_C1300 for an ASCII version of the release notes.

The following information is for version C.13.00 of HP OTS/9000 .The information is applicable over Itanium as well as PA-RISC architectures.

What's new in this Version

HP OSI Transport Services/9000 version C.13.00 contains the following new features and functionality.

Features

HP OTS/9000 version C.13.00 provides the additional features:

1. Support to multiple RK6 (RFC1006) NSAPs on a single system.
   The NSAP can be created dynamically or added statically by specifying in
   the ots_subnets config file.

   RK6 is used to configure OTS over TCP connections.

2. The number of LAN CLNS subnets is increased to eight from a previous
   limitation of five.

3. A flag OTSSTOP is added to the product. This feature can be controlled by
   turning 'on' or 'off' the OTSSTOP flag in the /etc/rc.config.d/ots. By
   default the flag is set to 'on'.

Benefits

Upgrading to HP OTS/9000 version C.13.00 provides the following
benefits:

1. Support to multiple RK6 NSAPs on a single system.

When RK6 is able to listen on multiple ports, we can configure a new NSAP for
each port and start applications using those NSAPs.

2. The support for number of LAN CLNS subnets is increased to eight.

It is now possible to configure up to eight CLNS LAN subnets with OTS.

3. The OTSSTOP flag when set to 'on' will invoke the OTSSTOP script when the
system is shutting down. This feature can be controlled by turning 'on' or 'off'
the OTSSTOP flag in the /etc/rc.config.d/ots.

4. Support for HP-UX version 11.31. If you wish to upgrade to HP-UX
   version 11.31, you must also upgrade to HP OTS/9000 version C.13.00.

5. Updated documentation set with HP OTS/9000 version C.13.00.

Fixes

Numerous fixes were incorporated into this release of HP OSI Transport
Services/9000. See the section "Patches and Fixes in this Version"
for more information.

Note

The Advanced Communication Controller card (ACC/X.25) if supported on
HP-UX version 11.31, then it may be used with HP OTS/9000 version C.13.00.

Compatibility and Installation Requirements

Software Requirements

- HP-UX 11.31 operating system

If you are currently running an older version of HP-UX, you must

upgrade to HP-UX 11.31 before installing HP OSI Transport
Services/9000 version C.13.00.

- HP 9000 networking link products such as HP LAN/9000, HP FDDI/9000
and HP X.25 products (High-Performance STREAMS-X25).

Hardware Requirements

- HP 9000 Servers or Itanium servers

- Install/update media hardware, such as:

- DDS tape drive

- CD-ROM drive

- Networking link adapters such as an HP LAN/9000 card

Disk Space Requirements

- 175 MB free disk space

Installation Instructions

A reboot is required for installing HP OTS/9000.
The reboot is required to rebuild the HP-UX kernel with HP OTS/9000.

The "Installing and Administering HP OTS/9000" manual (HP Part Number
32070-90030) contains complete instructions for installing this
product. See that document for detailed instructions.

Known Problems and Workarounds

1. When MC/Service Guard initiates a local LAN switchover for HP OTS/9000
   from one LAN card to another and then switches back to the first LAN
   card within 120 seconds, some operations to the first LAN card may
   fail. This is because previous LAN card information is still in the
   ESH table.

Workaround:

If this happens, wait until after 120 seconds from the
first switchover and try the switchover again.

2. In C.13.00 version of OTS, if a local LAN switchover occurs when OTS
   is running and OTS is then stopped, OTS configuration files would
   still contain a reference to the primary LAN interface. So a restart
   would cause OTS to come up with the primary LAN interface instead of
   the switched/secondary LAN interface.

The above problem may also happen if OTS is started subsequent to a

```
   local LAN switchover.

Workaround:

  A workaround is to verify that the interface configured for use in OTS
  is currently the functional LAN interface, before restarting OTS.

3. With RFC1006 subnet configured in ots_subnets, osiconfchk would report
   the following warning:

   ::::::::::::::
   /etc/opt/ots/conf/ots_subnets
   ::::::::::::::


   Line 28:
   ->snet_socket_size           4096
   Warning: Unknown keyword.  Line will be ignored.  (CHK011)
   NOTE: This line cannot be corrected with osiconf.  (CHK080)

   Line 29:
   ->snet_tcp_nodelay           0
   Warning: Unknown keyword.  Line will be ignored.  (CHK011)
   NOTE: This line cannot be corrected with osiconf.  (CHK080)

Workaround:

  These warnings may safely be ignored, without any serious consequences.
```

Fixes in this Version

```
HP OTS/9000 version C.13.00 incorporates  several fixes.

The following  section  describes the new fixes  available in this version:
```

1. **CR JAGae56022**

```
Symptom
                osi.h is not C++ compliant.

Defect description
                The header files provided by OTS are not ANSI C++
                complaint.

Resolution
                All the header files and libraries are changed to
                comply with ANSI C++.
```

2. **CR JAGae81127**

```
Symptom
                osiadmin core dumping when viewing X.25
                configuration.
```

Defect description

          The buffer which is used to hold the list of arguments
          for a series of x25init command invocations was limited
          to 500 bytes, when more arguments were added to
          X25_ARGS in /etc/rc.config.d/x25 file, it caused buffer
          overflow. Thus when the buffer is accessed by osiadmin,
          it dumps core.

Resolution

          The buffer size is increased to max pipe size of 8Kb.

3. CR JAGae66284

Symptom

          osiping is hanging when CLNI application is running.

Defect description

          When one CLNI application is already running, executing
          osiping will result in a hang. osiping continues
          after the CLNI application is complete.

Resolution

          Code has been modified appropriately to allow osiping
          to run when a CLNI application is already running.

4. CR JAGae87400

Symptom

          When two or more osiping sessions are started
          concurrently, the one which was started first works
          and the others hang until the first finishes.

Defect description

          osiping is developed based on CLNI APIs. osiping
          commands use the same NET-ID as a source. Since ECHO-
          REQUEST sources are same, STACK cannot differentiate
          between ECHO-RESPONSEs. So ECHO-RESPONSEs are directed
          to first started osiping.

Resolution

          As osiping uses NET-ID as source, all the osiping's
          ECHO-RSP packets have the same destination NSAP.
          We can use the destination NSAP (i.e. source NSAP in
          ECHO-RSP) as an identity to differentiate the ECHO-RSP
          packets. This needs the following code changes,
          - Need to have a place to store destination info in
             HccxcbT structure.
          - Need to store destination info information before
             sending ECHO-REQ packet.
          - While sending ECHO-RSP stack need to swap the source
             and destination info.

5. CR JAGae86551

Symptom

> When second CR-TPDU containing option C7 (alternate transport class with value of class 0) is received within an existing network connection, the TPDU is rejected with cause 0x85.

Defect description

> When the second TRANSPORT connection is received over the same X25 connection, the CR-TPDU has the Alternate Class option C7 coded to class 0.
> This second TRANSPORT connection is rejected by OTS with a DR-TPDU and reason protocol error(0x85).

Resolution

> The code has been modified, to accept the second incoming CR-TPDU.
> A new file otsapc.txt is provided to show how to use this feature and enable/disable the acceptance of the second CR-TPDU which has Alternate Class option C7 coded to class 0 using otsapc script.

6. **CR JAGae66841**

Symptom

> Support for multiport listening for RFC 1006.

Defect description

> With 2(or more) applications bound to 2(or more) different RFC1006 NSAPs, all the incoming connections are routed to the application instance which has been bound first whatever is the called NSAP.

Resolution

> To support multiple RK6 static NSAPs(RK6 configured on multiple listening ports) changes have been made to osiconfchk, otstrans and osiamd modules. The port numbers can be entered in the ots_subnets config file. the translator has been modified to accept these multiple port numbers and put respective the yacc statements for opening a new RK6 stream in the /var/opt/ots/OTSconfig file.

7. **CR JAGaf08309**

Symptom

> Adding "otsstop" to the ots rc shutdown scripts.

Defect description

> After rebooting, if the client application uses the same source reference in the CR-TPDU that was already used for the previous connection,the server discards the CR-TPDU .

Resolution

Add 'stop' section to /sbin/init.d/ots script.
Established a 'K' link (K620ots) to the above script
from /sbin/rc1.d/ directory so that otsstop gets
called during system shutdown.

8. **CR JAGae94934**

Symptom

otsstat: Can't getmsg (Resource temporarily
unavailable).

Defect description

Repeated calls to otsstat results in failure and
otsstat returns :
"Can't getmsg (Resource temporarily unavailable)
registration failed".
Running otsstat again returns the correct information's.

Resolution

code is changed to handle the EAGAIN error message
for getmsg() when there is no message on the stream
or no resource available. if we get EAGAIN, getmsg()
is called again.

9. **CR JAGaf23443**

Symptom

Need nettl log entry for DR-TPDU send because
of duplicate SRC-REF.

Defect description

When in TRANSPORT Class 0, a DR-TPDU is sent because
of an existing TRANSPORT connection sharing the same
Source Reference the reason code is set to zero which
is what is defined in the ISO TRANSPORT standard for
TRANSPORT Class 0.

When troubleshooting such case it's difficult to find
the reason of the DR-TPDU with reason 0.

Hence this request to have OTS writing an entry in
nettl log to indicate a DR-TPDU is sent because of
duplicate TRANSPORT SRC-REF.

Resolution

It is fixed in such a way that, if we receive duplicate
CR-TPDU with the same source reference, we will get
the following error message in the nettl log:
"[4015] Processing Error trsmai2.c 577 [....] (96)
tcrdup() DR-TPDU because of duplicate SRC-REF"

10. **CR JAGaf19418**

Symptom

        Local LAN failover does not work with OTS (CLNS/LAN).

Defect description

        When using OTS with Service Guard on a system running
HPUX 11.23, local LAN switchover is not working for
OTS. The standby interface is shown as DOWN by
otsstat and no OSI traffic is going through.

Resolution

        The code is modified appropriately and now otsstat
shows the correct LAN interface name and status. This
also results in OSI traffic going through.

11. **CR JAGaf30507**

Symptom

        Memory leaking on 2KBytes bucket.

Defect description

        The memory leak in 2K bucket size happens whenever
incoming CP-PPDU with an invalid PSAP in pconid()
is rejected.

Resolution

        The code is modified in such a way that, memory leak is
triggered because the unfreed message block allocated
by LAN driver is now freed by OTS whenever invalid PSAP
is encountered.

12. **CR JAGaf37624**

Symptom

        kctune error with OTS9000 installed.

Defect description

        With OTS9000 installed, kctune sends warning:
WARNING: The file '/usr/conf/lib/ots_q4.o' is not a
kernel code library.
This file will not be used.

Resolution

        Removed ots_q4.o file from /usr/conf/lib directory.

13. **CR JAGaf40049**

Symptom

        Rose decoding problem cause association to be aborted.

Defect description

        The customer OVDM application gets disconnected after an
        association has been established and while receiving
        a ROSE-INVOKE-IND.

Resolution

        This problem has been fixed by changing the code.

14. **CR JAGaf47118**

Symptom

        Wrong prototype for ses_connect_cf() in /opt/ots/include/osi.h

Defect description

        The prototype declaration of ses_connect_cf () in
        /opt/ots/include/osi.h is wrong: argument "tokens_rq" is
        missing. It may have been copied from the ses_connect_cf ()
        man page which also omits this argument in the arguments'
        list. It seems to be valid on 11.00 and 11.11 as well.

Resolution

        The code is changed to accommodate the fix.

15. **CR JAGaf51449**

 Symptom:

        Error CF221 when configuring RFC1006 subnet in
        osiadmin/osiconf.

 Defect description:

        With OTS C.11.01 when using osiconf/osiadmin to
        add/delete/modify a RFC1006 subnet, the following error is
        reported:

        (CF221)
        Internal error: Unknown check type.
        ACTION: Verify that the file versions in /opt/ots/lib/osiconf
        are correct.

        There is no problem when editing and validating ots_subnets

manually.PHNE_28888 doesn't have this problem.

 Resolution:

CHK_PORT_STRING is not defined in the 'switch' .
Code is changed to handle the field_type 'CHK_PORT_STRING' .

16. **CR JAGaf54991**

Symptom

OTS panic in hp_lan_stat () with clnp subset 0 and lsap 14

Defect description

The panic occurs when is OTS is started after setting clnp
subset to 0 and lsap to 14.

As the HPUX system must communicate through OTS with
a remote ICL system, setting the lsap to 14 is mandatory
for them.

There is no problem if the lsap is set to FE or 20.

Resolution

Code has been changed to accommodate the fix

17. **CR JAGaf56695**

Symptom

otsstat doesn't display 2nd CLNS subnet when snet_lsap values
differ.

Defect description

When 2 CLNS subnets don't use the same snet_lsap value,
only the first subnet is displayed by otsstat.

Resolution

Code has been changed to accommodate the fix

18. **CR JAGaf77368**

Symptom

OTS sends DR-TPDU for XTI application bound to 'TSAP+NSAP'

Defect Description

When the XTI server program is bound on TSAP+NSAP, the
incoming CR-TPDU is rejected by a DR-TPDU with reason 0.

The following entry is logged by nettl:

```
[9600] High Access Method ERROR strosxtpi.c 4537
[....] (38) OsiTpiCONID() disconnect sent.
```

When the XTI server program is bound to TSAP only, all
is working fine.

The XTI demo programs are failing as well.
The problem only occurs with RFC1006 subnet.

Resolution

So the necessary code change is done to give a fix for this
defect.

19. **CR JAGaf66010**

Symptom:

When we tried to configure more than 5 CLNS LAN subnets using
osiadmin it was failing.

Defect description:

When we tried to configure more than 5 CLNS LAN subnets using
osiadmin it was failing.

Resolution:

The Maximum LAN subnets limit is changed to 8.

20. **CR JAGaf90599**

Symptom:

Panic occurs in OTS code each time otsstop is used on
a system running HP-UX 11.11 and PHNE_33030

Defect description:

Panic occurs in OTS code each time otsstop is used on
a system running HP-UX 11.11 and PHNE_33030.

The OTS configuration has a single x25 subnet with 16 x25
ports but only the first 12 of them have X25 started.

Resolution:

The code has been altered to fix this defect.