

HP OpenCall Universal Signaling Platform Diameter

Release Notes

Fifth edition

Operating System: Linux

Software Version: HP OpenCall Universal Signaling Platform Diameter 1.3/1.6.0-15



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Publication History

The following release notes have been shipped for HP OpenCall Universal Signaling Platform Diameter:

First Edition: *May 2006* (release 1.2/1.3-6) (*Initial Release*).

Second Edition: *July 2006* (release EA 1.3/1.4-1) (*Second Release*).

Third Edition: *October 2006* (release EA 1.3/1.5-3) (*Second Release*).

Fourth Edition: *December 2006* (release EA 1.3/1.6-7) (*Second Release*).

Fifth Edition: *March 2007* (release 1.3/1.6.0-15) (*Second Release*).

Trademark

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Conventions

Release

A release means a software version that has been released. The initial release will then evolve through the addition of **Patches** and **Maintenance Releases**. The Release Notes describe the product and document its evolution history.

Patch

A Patch is a downloadable package that solves a specific problem, and is classed as urgent corrective maintenance. Patches are cumulative, which means that fixes related to a given software component are successively developed on the same source code.

Maintenance Release

Maintenance releases are planned on an adhoc basis to implement corrections for a set of problems and to consolidate all patches implemented since the previous maintenance release

into complete kits. A maintenance release may also include the support of a new version of operating system, layered product or middleware.

Discontinued

Features or products that are no longer shipped, but are still supported.

Obsolete

Features or products that are no longer shipped, and are no longer supported.

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1

OpenCall USP Diameter 1.3 Documentation

The following documentation is available with OpenCall USP Diameter 1.3:

- *HP OpenCall Universal Signaling Platform Diameter Operation and administration Guide*: This document describes the procedure for installing and monitoring HP OpenCall Universal Signaling Platform Diameter.
- *HP OpenCall Universal Signaling Platform Diameter Development Guide*: This document describes how to develop an application using HP OpenCall Universal Signaling Platform Diameter.
- *HP OpenCall Universal Signaling Platform Diameter Java API Documentation Guide*: This HTML document describes the HP OpenCall Universal Signaling Platform Diameter Java API (Javadoc). It is delivered in the SDK.
- *HP OpenCall Universal Signaling Platform Diameter C++ API Documentation Guide*: This HTML document describes the HP OpenCall Universal Signaling Platform Diameter C++ API (Javadoc). It is delivered in the SDK.

Note:

After SDK installation:

- The online HTML documentation is available in
`/opt/OC/hpocdiameter-1-3-devel-1.6.0/share/doc`
- The tutorials are available in
`/opt/OC/hpocdiameter-1-3-devel-1.6.0/share/doc/
hpocdiameter-1-3-devel-1.6.0/examples/
hpocdiameter-1-3-examples-1.6.0.tar.gz`

The latest *Operation and Administration* updates can be found in several separate README.* files available here:

`/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0`

The HP Documentation Web site provides the latest Operating System documentation and updates. This site is found at: docs.hp.com

2 Features

2.1 New Features

The following list includes features introduced by the OpenCall USP Diameter 1.3 release:

- Diameter extension Cx/Dx (3GPP TS 29.229 R5, R6) Java and C++ APIs.
- Diameter extension Sh (3GPP TS 29.328 and TS 29.329 R6) Java and C++ APIs.
- Diameter extension CCA (IETF RFC 4006) Java and C++ APIs.
- Thread Pool C++ API, allowing applications to take advantage of multithreaded processing of incoming Diameter messages and events.
- HA Application Context Replication C++ Interface, allowing diameter context preservation and restoration for accounting applications.
- TLS Secure Transport.
- IPSec support.

Note:

This new release requires new licenses, refer to the HP OpenCall Universal Signaling Platform Diameter Operation and administration Guide.

2.2 Incorporated Features

The following list describes features present in previous releases of OpenCall USP Diameter that are also included in this release.

- Diameter Base Protocol (IETF RFC 3588) C++ and Java APIs
 - Diameter Base Protocol message encoding/decoding, extensible and dynamic XML dictionary message reassembly.
 - Peer state machine implementation compliant with RFC 3588 and RFC 3539. Session failover is supported.
 - Realm-based routing table with metrics for active/standby or load-sharing configurations. Client and Server agent roles are fully supported. Relay and Proxy are not supported.
 - Transport module library for TCP and SCTP (Linux only), with IPv4 and IPv6 support.
- Diameter extension Sh (3GPP TS 29.328 and TS 29.329, R5) C++ and Java APIs
- Diameter extension Ro (3GPP TS 32.260, R5) C++ and Java APIs
- Diameter extension Rf (3GPP TS 32.225, TS 32.200 and TS 32.240, R5) C++ and Java APIs

Features

For a more in-depth description of the set of features, refer to the OpenCall Technical Overview available at:

`/opt/OC/hpocdiameter-1-3-devel-1.6.0/share/doc/`.

The following list describes features not present in the Early Access release of OpenCall USP Diameter v1.2, but included in release OpenCall USP Diameter v1.2:

- Licensing enforcement. This version requires licenses.
- Supportability framework for tracing and logging.
- SNMP agent supporting get and getnext requests.

3

Supported Hardware and Operating Systems

A minimal OpenCall USP Diameter 1.3 configuration requires the hardware and operating systems listed below.

3.1

Linux

OpenCall USP Diameter 1.3 requires one of the following sets of operating system and hardware:

- Red Hat Enterprise Linux version 4 ES or AS, Update 1 to 4 on x86 machine
- Red Hat Enterprise Linux version 4 ES or AS, Update 3 on Opteron x86_64 machine

Nota

The linux distribution Centos V4.3 on x86 machine is supported, nevertheless you must install the missing rpms, refer to the required software and patches.

The following software and patches are required to develop an application for use on the OpenCall USP Diameter 1.3 release:

- In Java: Java 2 Platform Standard Edition Development Kit 1.4.0 or higher
- In C++: Compiler gcc v 3.4 or higher with C++ driver
- In C++: NPTL library version 2.3.4 or higher; for example, nptl-devel-2.3.4-2.13

The following software and patches are required to run an application using OpenCall USP Diameter 1.3 release:

- In Java: Java 2 Platform Standard Edition Runtime Environment 1.4.0 or higher
- The SNMP feature requires net-snmp 5.0.9-2.30E.19 or higher
- lm_sensors-2.8.7-2.40.3.i386.rpm or higher
- openssl 0.9.7 or higher

The OpenCall USP Diameter 1.3 release has been successfully tested on the following servers:

- HP ProLiant DL380 G3 with Intel processor
- HP ProLiant DL385 G4 with AMD Opteron processor

4 Compatibility

4.1 Obsolete Features

The following features are no longer supported on the OpenCall USP Diameter 1.3 release:

- Not Applicable

4.2 Licenses

This new version requires new licenses.

4.3 APIs

This section describes the API changes that must be taken into account by the application using OpenCall USP Diameter.

4.3.1 Between OpenCall USP Diameter EA v1.3 and V1.3

The following API modifications and/or additions apply:

- C++ API: “delete this” inside a Session object is not supported. Use Session::deleteSession instead.

4.3.2 Between OpenCall USP Diameter V1.2 and EA v1.3

The following API modifications and/or additions apply:

- None

4.3.3 Between OpenCall USP Diameter EA v1.2 and V1.2

The following API modifications and/or additions apply:

- C++ API: add method AVP::toUint32(ocd_uint32_t &)
- C++ API: add method DiameterRoute.getRemotePeerFQDN()

5 Software Description and Installation Guide

This chapter provides the package names delivered in the OpenCall USP Diameter 1.3 distribution kit, and indicates the size required for the installation of each package.

5.1 Software Description on Linux

On Linux, OpenCall USP Diameter delivers 32-bit libraries for the RHEL4 x86 processor and 64-bit libraries for the RHEL4 x86_64 processor. You must install the OpenCall USP Diameter kit corresponding to your platform.

5.1.1 Linux RHEL4 on x86

The OpenCall USP Diameter 1.3 distribution is composed of the following rpm files:

Package	Size (KB)
hpocbus-4.1.1-0.rhel4.i686.rpm	456
hpocdiameter-1-3-devel-1.6.0-15.rhel4.i386.rpm	3716
hpocdiameter-1-3-libs-1.6.0-15.rhel4.i386.rpm	10269
hpocdiameter-1-3-test-1.6.0-15.rhel4.i386.rpm	2173
hpocgmf-4.0.1-0.rhel4.i686.rpm	2818
hpoclic-core-0.7.3-3.rhel4.i686.rpm	509
hpocnettl-2.11.0-1482.RHEL4.i386.rpm	885
hpocsupportability-core-2.11.0-1482.RHEL4.i386.rpm	483
hpocsupportability-libs-2.11.0-1482.RHEL4.i386.rpm	486
hpocctx-4.5.1-0.rhel4.i686.rpm	1221
Total	23020

The hpocdiameter* rpm files are Diameter-specific.

The other rpm files are the OpenCall Common Components that require an installation or upgrade if other OpenCall products are installed on the same machine.

5.1.2 Linux RHEL4 on Opteron x86_64

The OpenCall USP Diameter 1.3 distribution is composed of the following rpm files:

Software Description and Installation Guide

Package	Size (KB)
hpocbus-4.1.1-0.rhel4.x86_64.rpm	573
hpocdiameter-1-3-devel-1.6.0-15.rhel4.x86_64.rpm	3709
hpocdiameter-1-3-libs-1.6.0-15.rhel4.x86_64.rpm	12566
hpocdiameter-1-3-test-1.6.0-15.rhel4.x86_64.rpm	2475
hpocgmf-4.0.1-0.rhel4.x86_64.rpm	3761
hpoclic-core-0.7.3-3.rhel4.x86_64.rpm	509
hpocnettl-2.11.0-1482.RHEL4.x86_64.rpm	1030
hpocsupportability-core-2.11.0-1482.RHEL4.x86_64.rpm	512
hpocsupportability-libs-2.11.0-1482.RHEL4.x86_64.rpm	597
hpocvtbx-4.5.1-0.rhel4.x86_64.rpm	1014
Total	26750

The hpocdiameter* rpm files are Diameter-specific.

The other rpm files are the OpenCall Common Components that require an installation or upgrade if other OpenCall products are installed on the same machine.

5.2 Installation

Refer to HP OpenCall USP Diameter 1.3 Operation and Administration Guide.

6 Known Problems

6.1 New Known Problems

The following problems are known to exist in OpenCall USP Diameter 1.3.

Presence of double mandatory base protocol AVP is not detected (PT#9140)

Description:

OCDiameter does not strictly check the unicity of the mandatory AVP (for example, 2 origin-host in an incoming CER). In this case, the first AVP is taken into account, and the others detected in the message are ignored.

Workaround:

None

Stack does not check AVP multiplicity in Cx (PT#9138)

Description:

In reception, OCDiameter does not strictly check the unicity of the mandatory Cx AVP. In this case, the first AVP is taken into account, and the others detected in the message are ignored.

Workaround:

None

Ingoing Message including origin-host equal to its own origin-host is not rejected (PT#9132)

Description:

According to the RFC, when a Diameter stack receives an incoming CER (on the R-conn), including an origin-host equal to its own origin-host, the stack should either discard the message or close the connection. The OCDiameter implementation accepts such an origin-host.

Workaround:

Known Problems

None

OCDiameter Stack does not strictly check messages. (PT#9018)

Description:

For incoming and outgoing messages, the stack performs the following checks:

- AVP flags
- AVP duplication
- unknown AVP code

Workaround:

It is the application's responsibility to conform to the RFCs and Diameter application specification (such as 3GPP).

Linux: SCTP connections to remote peers may remain in the pending state forever (PT#9843)

Description:

When a Diameter application runs on a Linux machine with SCTP enabled, and tries to connect to a Peer using the SCTP protocol, the Diameter stack logs an "(SCTP): Connection pending" message. In some circumstances, the connection will remain in the "pending" state forever, and as a result the peer specified in the URI will be unusable by the Diameter stack.

Here is an example with the ocdex application:

```
./ocdex -c -route ExmpleRealm aaa://10.0.0.1
Diameter Base Protocol Example Application
Hostname = namass.vbe.cpqcorp.net
Realm = ExampleRealm
OCDiameter[INFO]: Diameter stack version is 1.6.0-XXX.
OCDiameter[INFO]: Socket(TCP): Successful socket bind for both IPv4 and IPv6,
  listening for incoming connections on :3868.
OCDiameter[INFO]: Socket(SCTP): Successful socket bind for both IPv4 and IPv6,
  listening for incoming connections on :3868.
OCDiameter[INFO]: Local application added: vendor ID 11, application ID 101011101,
  type Auth. Starting application with Id=101011101 and vendor Id=11.
OCDiameter[INFO]: Trying to connect to host 10.0.0.1.
OCDiameter[INFO]: Socket(SCTP): Connection pending with 10.0.0.1:3868.
  Waiting for response from host.
OCDiameter[INFO]: Route entry added: realm ExmpleRealm, application ID 101011101,
  destination URI aaa://10.0.0.1, metric 1, type Static.
```

This problem occurs in the following cases:

- The SCTP connection request (SCTP INIT) receives no answer at all. For example, this may be the case if the remote host is unreachable due to network problems. The connection attempt should eventually timeout.
- The SCTP connection request (SCTP INIT) receives a SCTP ABORT response. This occurs if the remote peer is an SCTP-capable machine and there is no process listening on the specified SCTP port. The Diameter stack should display "Connection refused" and switch to TCP.
- The SCTP connection request (SCTP INIT) receives an ICMP protocol unreachable response. This occurs if the remote peer is reachable but is not SCTP-capable. The Diameter stack should display "Connection refused" and switch to TCP.

Workaround:

The invalid behavior is caused by a problem in the SCTP implementation of the Linux kernel for RedHat Enterprise Linux 4 (Update 4 has the problem).

Kernel version 2.6.19 does not have the problem.

Connection to Diameter relay not supported (PT#9478)

Description:

The Diameter relay application (ID 0xFFFFFFFF) is not handled when we process the CER/CEA received from a peer. As a result, OpenCall Diameter cannot interoperate with a Diameter Relay.

This is a non-compliance with RFC3588 section 5.3.

Workaround:

None

Installation kit failed to create oadmin account (PT#9296)

Description:

On some systems, if the home directory /home is not writable or mounted to a specific disk, the installation fails to create the oadmin account.

Workaround:

The account oadmin (UID 700) and group oadmin (GID 700) must be created before installing the OpenCall USP Diameter kit. There is no specific requirement for the oadmin home directory.

Known Problems

Cannot uninstall OpenCall USP Diameter if supportability was uninstalled first(PT#7802)

Description:

When uninstalling Diameter, the following errors are displayed if supportability was uninstalled first.

```
/var/tmp/rpm-tmp.76722: line 2: /opt/OC/lbin/ttl_configure.sh:
No such file or directory
error: %preun(hpocdiameter-libs-1.2.0-14.i386) scriptlet failed,
exit status 127
```

Workaround:

The correct way is to first uninstall the OpenCall USP Diameter packages, and then the Open-Call supportability packages.

If any problems occur, reinstall hpocsupportability after first uninstalling hpocdiameter-libs.

Messages displayed during uninstallation on Linux (PT#10028)

Description:

On Linux, when uninstalling, if the oclic-core package is uninstalled before the supportability packages, then the following messages are displayed:

```
# rpm -e hpoclic-core-0.7.3-3.rhel4
file oclicoam.msg does not exist so not added or removed from the
message catalog
file oclicsd.msg does not exist so not added or removed from the
message catalog
file oclicsd.msg does not exist so not added or removed from the
message catalog
```

Workaround:

To avoid receiving these messages, the packages must be uninstalled in the following order:

- hpocdiameter-*
- hpocsupportability
- hpococlic-core
- then the others hpoc* package

HP-UX:abnormal Sudo messages when installing/uninstalling Diameter (PT#1044)

Description:

On HP-UX, when installing or uninstalling OpenCall USP Diameter, the following error is displayed:

```
/opt/iexpress/sudo/etc/sudoers is mode 0644, should be 0440 ; TTY=
unknown ; PWD=/ ; USER=root ; COMMAND=/opt/OC/lbin//_ttl_configure.
sh remove_message_catalog DIAMETER_LOGENTITY_LogMsg.msg
```

Workaround:

Before installing or uninstalling OpenCall USP Diameter, as root, change the file access permissions of the indicated file by executing the following command:

```
$ chmod 0440 /opt/iexpress/sudo/etc/sudoers
```

Java Application may crash in stack overflow exception (PT#10042)**Description:**

This problem has been observed on HP-UX 32 bits when using TLS transport, nevertheless, it may also occur on any OS when user's DiameterListener methods consume a large stack size.

Workaround:

In case of stack size overflow exception from the Opencall Diameter receiving thread*, the user must run the jvm with the `--Xss` option. This option sets the default thread stack size of all the java threads.

(*): The Opencall receiving thread may be recognized by the call frame of the `Core::ProcessFds` method in a debugging call stack dump.

6.2 Previous Known Problems

The following problems are known to exist:

dataReference parameter missing in ShSession::profileUpdateRequestReceived (PT#9220)**Description:**

The callback `ShSession::profileUpdateRequestReceived` should have a `dataReference` parameter. The same problem exists for the `ShSessionR6` class.

CAUTION: The callback signature may change in the next release, by adding this missing parameter.

Known Problems

Workaround:

The workaround is to use `Message::getAVP` to look for the Data-Reference AVP in the message.

Remaining directories and files after uninstall on Linux (PT#8452)

Description:

After uninstalling, some files and directories remain.

Workaround:

Delete them manually if required.

Remaining libs ocllc and gmf when uninstalling kit on HPUX (PT#8449)

Description:

After uninstalling, some files and directories remain:

- Directories: `/opt/OC/lib`
- Files: `/opt/OC/lib/\#lib*`

Workaround:

Kill the processes `gmf*` and `oclc*`. Delete the file `/opt/OC/lib/\#*` manually.

Not provided Java types `DiameterUnsignedInteger32AVP` and `DiameterUnsignedInteger64AVP` in API (PT#8392)

Description:

The signed `DiameterSignedInteger32AVP` and `DiameterSignedInteger64AVP` types are provided, but not the unsigned. These types and new routines will be added in the next release.

Workaround:

None

Unexplicit exception raised when Auth license missing (PT#8499)**Description:**

If the Auth license is missing, the `java.lang.OutOfMemoryError` exception may occur in the "main" thread, or the `OCDiameter::AllocationFailedException` exception in the c++ main.

Workaround:

Install the Auth license.

On HP-UX, the licenses daemon may use too much CPU after installation (PT#8508)**Description:**

When the license is first installed, when the action `oclicoam save` is performed, the process `oclicsd` may consume too much CPU.

Workaround:

Stop the process using the command `kill -9`. The daemon will restart automatically.

6.3 Corrected Problems**6.3.1 New Corrected Problems in OpenCall USP Diameter 1.3**

The following problems have been fixed in this release:

- (PT#10086) UserDoc: in SessionEvent the events are not all documented.
- (PT#10088) UserDoc: Accounting Multi FSM is not documented.
- (PT#10094) UserDoc: Better explain the congestion handling.
- (PT#10060) UserDoc: README, Add configure options for all OS to build examples.
- (PT#10058) UserDoc: C++ and Java doc titles should be similar.
- (PT#10073) UserDoc: Document the required link and compile options.
- (PT#10081) UserDoc: SocketTransport constructor is not documented.
- (PT#10087) UserDoc: Need to clarify documentation on `getAVP()`.
- (PT#10095) UserDoc: Suppress any ref to Dictionary.dtd in documentation.
- (PT#10017) UserDoc: Missing usage information (`#include/link`) for C++ module "SCTP/TCP Transport".

Known Problems

- (PT#9947) Missing AVPs in Rf dictionary.
- (PT#9971) Improve RNs, document which files are installed on the system.
- (PT#9927) UserDoc: Improve diameter dictionary documentation.
- (PT#9929) UserDoc: Describe in API guide only the external routines.
- (PT#9938) UserDoc: Improve documentation API on SessionEvent.
- (PT#9959) Unexpected behavior can result from use of numeric IP address in peer URI.
- (PT#9904) Cx/Sh: missing M bit in AVP flags.
- (PT#9835) In multi-peer configuration, crash when connection to one peer is closed due to inactivity
- (PT#9951) Stack logs an error but does not return in error when extending dictionary with a duplicate ID.
- (PT#8390) Server process with ProxyPeer object cannot send messages after restart.
- (PT#9352) Cannot reconnect to a peer when a route is added automatically.
- (PT#9354) Java Cx API: unsuitable output String object parameters in decoding routines.
- (PT#9367) Missing some details in C++ doc on TaskQueue & ThreadPool Classes.
- (PT#9400) In TracerLogger, cannot reset tracing after setting mask.
- (PT#9439) TLS: stack not informed that peer has closed the connection.
- (PT#9476) Ro application declared as Auth instead of Acct.
- (PT#8958) On x86_64 severals lib in /opt/OC/lib instead of /opt/OC/lib64.
- (PT#9355) ERROR logged when accepting a CER with two AVPs with same App ID.
- (PT#9608) Concurrent ProcessContext make inconsistent the correlator.
- (PT#9231) Crash when receiving unexpected message in Wait_I_CEA peer state.
- (PT#9325) Test package should be independent of maintenance number.
- (PT#9380) Java Cx API: createRegistrationTerminationRequest() adds an erroneous mandatory AVP name.
- (PT#9359) Java Cx API: exception raised when calling createUserAuthorizationRequest().
- (PT#9368) Java Cx API: createServerAssignmentRequest() always raises an exception.
- (PT#9365) Java Cx API: received UAR is raised 3 times at API level.
- (PT#9317) Assertion failed message after reassembly/decoding error (thread pool mode).
- (PT#9461) Remaining Peer reference in tables after sending CEA with Result-Code not successful.
- (PT#9662) Java Cx API: Missing V bit in Visited-Network-Identifier AVP creation.

- (PT#8499) Unexplicit exception raised when Auth license missing.
- (PT#9707) Java Ro example shows "Timeout" message but runs OK anyway.
- (PT#9708) Incorrect error handling code (JNI layer).
- (PT#9709) Receipt of double origin-host AVP in CER causes an exception in delete-DiameterRoute.
- (PT#9715) Java performance improvement: some traces are formatted unconditionally.
- (PT#9733) HP-UX:configuration files must be delivered in newconfig.
- (PT#9132) Incoming CER with own peer name baddly managed.
- (PT#9381) Fix in SocketTransport::processFds(fd_set) not done in processFds(struct pollfd).
- (PT#9746) When traffic passes through a proxy peer, no counters are incremented.
- (PT#9477) Connection not closed if received CEA contains no common application.
- (PT#9211) Documentation should explain stack behavior with multiple AVPs.
- (PT#9611) Comment in "OCDiameter/TracerLogger.h" must be updated for OCD_TRC_NO_TRACE.
- (PT#9763) Wrong info in /opt/OC/hpoc*devel*/share/doc/hpoc*devel*/README).
- (PT#9771) Server crash when receiving a second CER from same peer.
- (PT#9794) Cx API: generates answers with empty Destination-Realm AVP.
- (PT#9795) Missing log on transition from ReOpen peer state to Down peer state.
- (PT#9793) Invalid behavior (accept traffic) while peer is in ReOpen state.
- (PT#9802) In multi-peer configuration, crash when connection to one peer is closed due to inactivity.

6.3.2 **New Corrected Problems in OpenCall USP Diameter 1.3 requiring attention.**

Unexpected behavior can result from use of numeric IP address in peer URI (PT#9959)

Description:

In order to establish a connection to a Diameter peer, an application calls `Core::addRoute` (C++) or `DiameterStack.createDiameterRoute` (Java). These methods have a URI parameter which is used by the stack to determine the transport information required to establish the connection (transport protocol, IP address and port number of the peer). The IP address may be provided in several ways inside the URI string:

- As a fully-qualified domain name (FQDN), such as "somehost.somedomain.com". In this case, the URI is similar to: "aaa://somehost.somedomain.com", "aaa://somehost.somedomain.com:3868", and so on.
- As a non-qualified hostname: for instance, "aaa://servername".

Known Problems

- As an IP address: "aaa://10.0.0.1", "aaa://[fe80::20f:20ff:fef6:80d1]", and so on.

The Diameter stack assumes that the peer name can be extracted from the URI if the application uses one of the following methods:

(C++)

```
Status
OCDiameter::Core::addRoute(const Str & aRemoteRealm,
ocd_uint32_t anApplicationId,
const Str & aPeerURI,
ocd_uint32_t aMetric);
```

(Java)

```
DiameterRoute
DiameterStack.createDiameterRoute(String applicationName,
String realm,
String remotePeerURI,
int metric);
```

This assumption is correct if and only if the URI contains an FQDN. Any other form of peer name is not RFC3588-compliant whether it is a non-qualified hostname or an IP address. Therefore, these methods should only be used with an URI that contains an FQDN. Failure to do so may cause unwanted behavior, such as no election process triggered when the stack receives a connection request from a peer that is not known locally by its FQDN.

Solution:

New signatures for the `Core::addRoute` and `DiameterStack.createDiameterRoute` methods have been implemented and should be used when the peer URI does not contain an FQDN. In addition, diagnostics messages have been added to help troubleshooting.

6.3.3

Corrected Problems in EA 1.3/1.6-7

The following problems have been fixed in the previous EA 1.3/1.6-7.

- (PT#9461) Remaining Peer reference in tables after sending CEA with Result-Code not successful.
- (PT#9220) `dataReference` parameter missing in `ShSession::profileUpdateRequestReceived`.
- (PT#9684) Tracing does not handle correctly `DIAMETER_FA` mask.
- (PT#9683) Performance impact of traces for a level that is not enabled.
- (PT#9697) Routing error should be reported in `SessionError` event only for asynchronous errors.
- (PT#9322) Java API: null pointer exception raised when trying to get `Supported-Features AVP`.
- (PT#9668) Serious performance limitation in accounting library due to unsuitable tracing.

- (PT#9022) Modification of existing AVP in a Message may be ignored.
- (PT#9040) Path in debug traces should be shortened.
- (PT#9061) Bad Supported-Features description in inline doc of Cx.
- (PT#8464) Incorrect display of Experimental-Result AVP.
- (PT#9137) P-bit incorrectly set to 0 in some answers generated by the stack.
- (PT#9134) Missing log when stack discards message due to no/empty Session-ID.
- (PT#9122) Inconsistent exception string when InvalidParameterException is raised.
- (PT#9123) Unexpected AVPSet::getAVPArray() function behaviour.
- (PT#9124) Cx API: empty string parameter creates empty AVP instead of no AVP.
- (PT#9125) "User-Data" AVP name duplicated in Cx and Sh dictionaries.
- (PT#9126) Incorrect log when received request has missing base protocol mandatory AVP.
- (PT#9141) Stack sends error answer on receipt of an unknown command code (response).
- (PT#9131) empty Destination-Realm AVP added when creating an UDA message.

6.3.4 Corrected Problems in EA 1.3/1.6-7 requiring attention.

Incorrect display of Experimental-Result AVP (PT#8464)

Description:

It turns out that the return code 5001 is present in both the base specification (ref: RFC3588) and the 3GPP Cx specification (ETSI TS 129 229 V5.11.0). As per section 7.6 of the RFC3588 document, the return code should be "DIAMETER_ERROR_USER_UNKNOWN" instead of "DIAMETER_AVP_UNSUPPORTED".

Solution:

The problem has been corrected.

6.3.5 Corrected Problems in OpenCall USP Diameter v1.2 release

The following problems have been fixed in previous OpenCall USP Diameter v1.2 release.

- (PT#8659) Bad link to tutorials in C++ API Documentation.
- (PT#8720) Connection attempts to unreachable peer cause resource leaks.
- (PT#8767) Multiple "route not available" notifications when connection attempts time out.
- (PT#8768) ocdiavp takes longer than necessary on HP-UX with IPv6 enabled.
- (PT#8777) TCP connexions not closed after expiration of WAIT_CEA timer.
- (PT#8657) C++documentation: missing links to XML dictionaries.

Known Problems

6.3.6 **Corrected Problems in OpenCall USP Diameter v1.2 release requiring attention.**

Missing parameter in Sh Java API function createPushNotificationRequest (PT#)

Description:

The new API is now:

```
public DiameterMessage createPushNotificationRequest(  
String destinationRealm,  
String destinationHost,  
String userIdentity,  
String userData)  
throws DiameterException, DiameterInvalidArgumentException;
```

Solution:

This problem has been fixed. The new argument destinationHost has been added.

API change: Invalid dataFactory routine name xxResponseCodeAVP-Value() (PT#7328)

Description:

Response-Code” is not a valid AVP, the correct one is ”Result-Code”. So the following routines are replaced by: Previous name

```
public String getResponseCodeAVPValue()  
public void setResponseCodeAVPValue(String code)
```

New name

```
public String getResultCodeAVPValue()  
public void setResultCodeAVPValue(String code)
```

Solution:

This problem has been fixed.

DiameterStack.createDiameterRfProvider() and DiameterStack.createDiameterRoProvider() prototypes changed (PT#7535)

Description:

The methods `DiameterStack.createDiameterRfProvider()` and `DiameterStack.createDiameterRoProvider()` have been modified. The `applicationName` parameter has been removed since it is implicitly known (it is "RF" and "Ro", respectively).

Solution:

This problem has been fixed.

6.3.7**Corrected Problems in Previous Versions**

The following problems which were present in previous Early Access of HP OpenCall Universal Signaling Platform Diameter releases are closed in the OpenCall USP Diameter v1.2 release.

- (PT#7557) C++ API: `ShDataFactory::createUserDataRequest()` does not check in invalid parameters.
- (PT#7525) One log message too many when Peer disconnect.
- (PT#7820) Request Message can be sent even after a route deletion.
- (PT#7597) Trace not complete for an ipv6 address when cnx is closed.
- (PT#7241) `DiameterFactory.createDiameterStack()` fails if implementation path not set.
- (PT#7910) Obscure trace msg when `applicationId` is defined before `vendorId`.
- (PT#7511) doc: lack for details on DataFactory topic.
- (PT#6820) Align message and size for C++ and Java example applications.
- (PT#7938) `OctetString::fromHexString()` does not work (os remains empty).
- (PT#7968) Crash in `libocdiameter` if `connectFailed` callback delivered after `removeRoute`.
- (PT#7277) Routing check: `addRoute` with `AppId=0` should be forbidden.
- (PT#8048) bug in the `ocdex` example select loop.
- (PT#8056) on `hp-ux`, Cannot link all tutorial.
- (PT#8077) `AVP::setVendorId()` should set V-bit.
- (PT#8078) `DiameterStack.createDiameterShProvider()` ignores the Sh application ID from the dictionary.
- (PT#8079) Suppress duplicate Accounting header files.
- (PT#8025) Transport connection not closed after CER refused by stack.
- (PT#7584) Confusing method in `OCDiameter::CoreCounters`.

Known Problems

- (PT#7333) Stack does not verify AVP flags for Session-Id AVP created empty by application.
- (PT#7512) C++ API doc: lack for details on ShSession.
- (PT#7305) Add Public String for Properties.
- (PT#8175) Enumerated AVPs incorrectly defined as Integer32 in Base Protocol dictionary.
- (PT#8177) Performance optimization on HP-UX.
- (PT#8029) DiameterShListener.processEvent is called if at least one optional AVP is not present.
- (PT#8211) devel kit hpux 11.11 64 bits, bad libraries ilink to binary lib.
- (PT#8198) Diameter MIB cannot be viewed by SNMP.
- (PT#8267) Improve documentation for Core::getConnectTimeout().
- (PT#8409) Memory leak in HA module when client disconnect/connect from a IPCDirectPeer.
- (PT#8410) Wrong information displayed on incoming connection (HPUX 64): "(unknown):0"
- (PT#8395) Documentation must explain how to configure SELinux policy for SNMP.
- (PT#8212) C++ API doc: improve add AVP topic.
- (PT#8431) Crash on Tick Session deletion when Application already deleted.

7

Restrictions

The following restrictions are known to exist on different HP OpenCall Universal Signaling Platform Diameter versions.

7.1

Release OpenCall USP Diameter v1.3

- SNMP Agent does not provide accounting counters.
- On HP-UX, sctp transport is not supported.

The following APIs are not yet usable:

- None.

8 Troubleshooting

Refer to Operation and Administration Guide.

You may also find last update README.* files in /opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0

8.1 Licensing

Description:

The following trace is logged:

```
/oclic/code/src/oclicsd_db.cpp | [oclic] Internal error: no platform
```

Explanation:

There is no installed license on your platform. After evaluation, your platform requires licenses.

User Action:

Install license.

Description:

ocdivp may fail.

Explanation:

User Action:

Verify if any ocd processes are alive, then kill the process(es) and restart the ocdivp.

Description:

Troubleshooting

After upgrading from previous version to the OpenCall USP Diameter v1.3 the following message is logged:

```
LOG:1221:00560:Evaluation mode: this instance of the Diameter stack will allow the creation of no more than 50 sessions. Please refer to /opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/README.license for details.
```

Explanation:

Perform command `oclicoam show max all` and check the installed licenses. If the indicated `Version` is equal to 0.0, the installed licenses correspond to the previous product version. The `Version` is equal to 1.3 for OpenCall USP Diameter v1.3 licenses.

User Action:

Order and Install new OpenCall USP Diameter v1.3 license.

9

Installed Files

9.1

Linux Rhel4 on x86

The following files are installed by OpenCall USP Diameter 1.3 release.

The package `hpoctbus-4.1.1-0.rhel4.i686.rpm` installs the following files:

```
/opt/OC/lib/libfmkbus.so.0.41.1
```

The package `hpoctdiameter-1-3-devel-1.6.0-15.rhel4.i386.rpm` installs the following files:

```
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/bin/ocd-tls-make-demo-certs
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/3GPP
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/3GPP/Cx
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/3GPP/Cx/CxApi.h
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/3GPP/Cx/CxApplication.
h
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/3GPP/Cx/CxDataFactory.
h
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/3GPP/Cx/CxSession.h
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/3GPP/Rf
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/3GPP/Rf/RfApi.h
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/3GPP/Rf/RfApplication.
h
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/3GPP/Rf/RfDataFactory.
h
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/3GPP/Rf/RfSession.h
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/3GPP/Ro
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/3GPP/Ro/RoApi.h
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/3GPP/Ro/RoApplication.
h
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/3GPP/Ro/RoDataFactory.
h
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/3GPP/Ro/RoSession.h
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/3GPP/Sh
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/3GPP/Sh/ShApi.h
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/3GPP/Sh/ShApplication.
h
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/3GPP/Sh/ShDataFactory.
h
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/3GPP/Sh/ShSession.h
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/3GPP/Sh/ShSessionR6.h
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/AVP.h
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/AVPIterator.h
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/AVPSet.h
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/Allocator.h
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/Application.h
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/ApplicationCounters.h
/opt/OC/hpoctdiameter-1-3-devel-1.6.0/include/OCdiameter/AuthSession.h
```

Installed Files

```
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/BaseProtocolApi.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/CCA
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/CCA/CCAApi.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/CCA/CCADataFactory.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/CCA/CCASession.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/CCA/CCApplication.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Compile.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Connection.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Core.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/CoreCounters.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/DataFactory.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Dictionary.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/DirectPeer.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/DirectPeerCounters.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Event.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Exception.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Exceptions1.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Exceptions2.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/HA
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/HA/HABuffer.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/HA/HAMgt.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/IPCChannel.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/IPCChannelObserver.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/IPCDirectPeer.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/IPCDirectPeerCounters.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/IPCProxyPeer.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Lockable.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/LogMessages.def
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/LogMessages.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Message.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Notification.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Object.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/OctetString.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Peer.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/PeerCounters.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/ProcessContext.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Session.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Str.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/TaskQueue.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/ThreadPool.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/TracerLogger.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Transport.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Types.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Version.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/accounting
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/accounting/AcctApplication.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/accounting/AcctApplicationCounters.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/accounting/AcctApplicationCtx.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/accounting/AcctEventRaised.
```

```

h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/accounting/AcctFsmConfig.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/accounting/AcctSession.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/accounting/AcctSessionCtx.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/transport
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/transport/SocketConnection.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/transport/SocketTransport.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/transport/TlsConnection.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/transport/TlsTransport.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/lib/libocd3gppcx.so
/opt/OC/hpocdiameter-1-3-devel-1.6.0/lib/libocd3gppsh.so
/opt/OC/hpocdiameter-1-3-devel-1.6.0/lib/libocdaccounting.so
/opt/OC/hpocdiameter-1-3-devel-1.6.0/lib/libocdgmf.so
/opt/OC/hpocdiameter-1-3-devel-1.6.0/lib/libocdiameter.so
/opt/OC/hpocdiameter-1-3-devel-1.6.0/lib/libocdsocket.so
/opt/OC/hpocdiameter-1-3-devel-1.6.0/lib/libocdtls.so
/opt/OC/hpocdiameter-1-3-devel-1.6.0/lib/libocdttl.so
/opt/OC/hpocdiameter-1-3-devel-1.6.0/share/doc/hpocdiameter-1-3-devel-1.6.0/OCDiameterC+
+doc-1.6.0-15.zip
/opt/OC/hpocdiameter-1-3-devel-1.6.0/share/doc/hpocdiameter-1-3-devel-1.6.0/OCDiameterJavadoc
1.6.0-15.zip
/opt/OC/hpocdiameter-1-3-devel-1.6.0/share/doc/hpocdiameter-1-3-devel-1.6.0/OpenCallDiameter
pdf
/opt/OC/hpocdiameter-1-3-devel-1.6.0/share/doc/hpocdiameter-1-3-devel-1.6.0/README
/opt/OC/hpocdiameter-1-3-devel-1.6.0/share/doc/hpocdiameter-1-3-devel-1.6.0/dbp_
1.2_obsolete_keywords
/opt/OC/hpocdiameter-1-3-devel-1.6.0/share/doc/hpocdiameter-1-3-devel-1.6.0/examples
/opt/OC/hpocdiameter-1-3-devel-1.6.0/share/doc/hpocdiameter-1-3-devel-1.6.0/examples/
hpocdiameter-1-3-examples-1.6.0-15.tar.gz

```

The package `hpocdiameter-1-3-libs-1.6.0-15.rhel4.i386.rpm` installs the following files:

```

/etc/opt/OC/gmF/snmpdata/ocdiameter-1.6.0-common.mib
/etc/opt/OC/supportability/collectInfo_OCDIAMETER_1.6.0.data
/opt/OC/lib/hpocdiameter-1-3-libs-1.6.0
/opt/OC/lib/hpocdiameter-1-3-libs-1.6.0/libocdjni.so
/opt/OC/lib/hpocdiameter-1-3-libs-1.6.0/ocdiameter.jar
/opt/OC/lib/libocd3gppcx.so.1.6.0
/opt/OC/lib/libocd3gppsh.so.1.6.0
/opt/OC/lib/libocdaccounting.so.1.6.0
/opt/OC/lib/libocdgmf.so.1.6.0
/opt/OC/lib/libocdiameter.so.1.6.0
/opt/OC/lib/libocdsocket.so.1.6.0
/opt/OC/lib/libocdtls.so.1.6.0
/opt/OC/lib/libocdttl.so.1.6.0
/opt/OC/lib/nls

```

Installed Files

```
/opt/OC/lib/nls/C
/opt/OC/lib/nls/C/DIAMETER_1_6_0_LOGENTITY_LogMsg.msg
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/AUTHORS
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/CreditControlApplication.xml
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/CxDictionary.xml
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/Diameter3GPP.Rf.xml
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/Diameter3GPP.Ro.xml
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/DiameterBaseProtocol.xml
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/DiameterNASREQ.xml
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/README
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/README.gmfsnmp
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/README.license
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/README.supportability
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/README.tls
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/ShDictionary.xml
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/config.i686.txt
```

The package `hpocdiameter-1-3-test-1.6.0-15.rhel4.i386.rpm` installs the following files:

```
/opt/OC/bin/ocdivp
/opt/OC/bin/ocdivp-i686
/opt/OC/hpocdiameter-1-3-devel-1.6.0/share/doc/hpocdiameter-1-3-test-1.6.0/README
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/ApplicationExample.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/CcaApplicationExample.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/CxApplicationExample.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/RfApplicationExample.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/RoApplicationExample.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/ShApplicationExample.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/TlsApplicationExample.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/ocd-tls-make-demo-certs
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/ocd3gppacctHAex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/ocd3gppacctex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/ocdccaex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/ocdcxex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/ocdex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/ocdhaex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/ocdjacctccaex.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/ocdjacctrfex.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/ocdjacetroex.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/ocdjcxex.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/ocdjex.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/ocdjshex.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/ocdjtls.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/ocdshex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/ocdtls
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/ocdtrpsimex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/run_ocd3gppacctHAex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/run_ocd3gppacctex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/run_ocdccaex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/run_ocdcxex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/run_ocdex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/run_ocdhaex
```

```

/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/run_ocdjacctccaex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/run_ocdjacctrfex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/run_ocdjacctroex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/run_ocdjcxex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/run_ocdjex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/run_ocdjshex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/run_ocdjtls
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/run_ocdshex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/run_ocdtls
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/run_ocdtrpsimex

```

The package `hpocgmf-4.0.1-0.rhel4.i686.rpm` installs the following files:

```

/etc/init.d/gmfprovd
/etc/init.d/gmfsnmpd
/etc/opt/OC
/etc/opt/OC/gmf
/etc/opt/OC/gmf/gmf2jmx
/etc/opt/OC/gmf/gmf2jmx.xsd
/etc/opt/OC/gmf/gmf2jmx/ipTemplate.xml
/etc/opt/OC/gmf/gmfprovd.conf.sample
/etc/opt/OC/gmf/gmfsnmpd.conf.sample
/etc/opt/OC/gmf/snmpdata
/etc/opt/OC/gmf/snmpdata/mggttbx-mib-example.txt
/etc/opt/OC/gmf/snmpdata/ocEventTraps.mib
/etc/opt/OC/supportability
/etc/opt/OC/supportability/GMFDebugConf.xml
/opt/OC/bin
/opt/OC/bin/gmfcheckpoint
/opt/OC/bin/gmfdump
/opt/OC/bin/gmfdump_java
/opt/OC/bin/gmfhttpd
/opt/OC/lib/GmfJmx.jar
/opt/OC/lib/GmfJni.jar
/opt/OC/lib/libfmkgmp.so.0.40.1
/opt/OC/lib/libfmkmgr.so.0.40.1
/opt/OC/lib/libfmkmgrts.so.0.40.1
/opt/OC/lib/libfmkmgt.so.0.40.1
/opt/OC/lib/libgmfjni.so.0.40.1
/opt/OC/lib/perl
/opt/OC/lib/perl/HPOC
/opt/OC/lib/perl/HPOC/GMF
/opt/OC/lib/perl/HPOC/GMF.pm
/opt/OC/lib/perl/HPOC/GMF/Mgr.pm
/opt/OC/lib/perl/HPOC/GMF/gmfdump
/opt/OC/lib/perl/auto
/opt/OC/lib/perl/auto/HPOC
/opt/OC/lib/perl/auto/HPOC/GMF
/opt/OC/lib/perl/auto/HPOC/GMF/GMF.bs
/opt/OC/lib/perl/auto/HPOC/GMF/GMF.so
/opt/OC/sbin
/opt/OC/sbin/gmfprovd
/opt/OC/sbin/gmfsnmpd
/opt/OC/sh

```

Installed Files

```
/opt/OC/sh/ipLauncher
/opt/OC/share
/opt/OC/share/html
/opt/OC/share/html/GmfJmx-doc-401.tgz
/opt/OC/share/man
/opt/OC/share/man/man1
/opt/OC/share/man/man1/gmf2jmx.1
/opt/OC/share/man/man1/gmfcheckpoint.1
/opt/OC/share/man/man1/gmfdump.1
/opt/OC/share/man/man3
/opt/OC/share/man/man3/HPOC: :GMF.3pm
/opt/OC/share/man/man3/HPOC: :GMF: :Mgr.3pm
/opt/OC/share/man/man5
/opt/OC/share/man/man5/gmfprovd.conf.5
/opt/OC/share/man/man5/gmfprovdata.5
/opt/OC/share/man/man5/gmfsnmpd.conf.5
/opt/OC/share/man/man5/gmfsnmpdtraps.5
/opt/OC/share/man/man8
/opt/OC/share/man/man8/gmfprovd.8
/opt/OC/share/man/man8/gmfsnmpd.8
```

The package `hpo clic-core-0.7.3-3.rhel4.i686.rpm` installs the following files:

```
/etc/opt/OC
/etc/opt/OC/lic
/etc/opt/OC/lic/oclic.conf
/etc/opt/OC/lic/oclicsd.conf
/etc/opt/OC/supportability
/etc/opt/OC/supportability/collectInfo_oclic_core.data
/etc/opt/OC/supportability/debug.conf.d
/etc/opt/OC/supportability/debug.conf.d/oclic_debug.conf
/opt/OC
/opt/OC/bin
/opt/OC/bin/oclicoam
/opt/OC/data/lic/oclicoam.properties
/opt/OC/include
/opt/OC/include/oclicoam_api.h
/opt/OC/lbin
/opt/OC/lbin/oclicsd
/opt/OC/lib
/opt/OC/lib/liboclic.so
/opt/OC/lib/liboclic.so.0
/opt/OC/lib/liboclic.so.0.0.1
/opt/OC/lib/liboclic_core.so
/opt/OC/lib/liboclic_core.so.0
/opt/OC/lib/liboclic_core.so.0.0.1
/opt/OC/lib/lic
/opt/OC/lib/lic/plugins
/opt/OC/lib/nls/C/oclic.msg
/opt/OC/lib/nls/C/oclicoam.msg
/opt/OC/lib/nls/C/oclicsd.msg
/opt/OC/newconfig/etc/opt/OC/supportability/collectInfo_oclic_core.data
/opt/OC/newconfig/etc/opt/OC/supportability/debug.conf.d/oclic_debug.conf
/opt/OC/sbin
```

```

/opt/OC/sbin/oclicsd
/opt/OC/share
/opt/OC/share/java
/opt/OC/share/java/hpoclic.jar
/opt/OC/share/java/hpoclicoam.jar
/opt/OC/share/lic
/opt/OC/share/lic/tutorial
/opt/OC/share/man
/opt/OC/share/man/man1
/opt/OC/share/man/man1/oclicoam.1
/opt/OC/share/man/man5
/opt/OC/share/man/man5/oclicsd_data.5
/opt/OC/share/man/man8
/opt/OC/share/man/man8/oclicsd.8
/var/opt/OC
/var/opt/OC/lic

```

The package `hpocnettl-2.11.0-1482.RHEL4.i386.rpm` installs the following files:

```

/etc/netfmt
/etc/nettl
/etc/nettlgen.conf
/usr/include/fmt.h
/usr/include/net_diag.h
/usr/include/netdiag1.h
/usr/include/ntl.h
/usr/include/subsys_id.h
/usr/include/sys/net_diag.h
/usr/include/sys/netdiag1.h
/usr/include/sys/subsys_id.h
/usr/lib/libfmtutil.so
/usr/lib/libfmtutil.so.1.0.0
/usr/lib/libntl.so
/usr/lib/libntl.so.1.0.0
/usr/lib/nls
/usr/lib/nls/msg
/usr/lib/nls/msg/C
/usr/lib/nls/msg/C/netfmt.msg
/usr/local/man/man1/netfmt.1X.gz
/usr/local/man/man1/nettl.1X.gz
/usr/local/man/man1/nettlconf.1X.gz
/usr/sbin/netfmt
/usr/sbin/nettl
/usr/sbin/nettlconf
/usr/sbin/ntl_reader
/usr/share/locale/C/netfmt
/usr/share/locale/C/nettl
/var/adm

```

The package `hpocsupportability-core-2.11.0-1482.RHEL4.i386.rpm` installs the following files:

```

/etc/opt/OC
/etc/opt/OC/supportability

```

Installed Files

```
/etc/opt/OC/supportability/debug.conf.d
/etc/rc.d/init.d/hpocnettl
/etc/sysconfig/hpocnettlconf
/opt/OC/bin
/opt/OC/bin/auditCatalog
/opt/OC/bin/cleanttl
/opt/OC/bin/collectInfo
/opt/OC/bin/nlog
/opt/OC/bin/nmsg
/opt/OC/bin/perl
/opt/OC/bin/perl/bin
/opt/OC/bin/perl/bin/perl
/opt/OC/bin/startnettl
/opt/OC/bin/stopnettl
/opt/OC/bin/wlog
/opt/OC/bin/wmsg
/opt/OC/data/supportability
/opt/OC/data/supportability/supp.resource.conf
/opt/OC/include
/opt/OC/install-scripts
/opt/OC/install-scripts/TTL-COLLECTINFO-CONFIGURE.postinstall
/opt/OC/install-scripts/TTL-CONF.configure
/opt/OC/install-scripts/TTL-CONF.unconfigure
/opt/OC/install-scripts/TTL-CORE-CONFIGURE.postinstall
/opt/OC/lbin/Fa.sh
/opt/OC/lbin/_addMsg.ksh
/opt/OC/lbin/_collectInfo
/opt/OC/lbin/_removeMsg.ksh
/opt/OC/lbin/_ttl_configure.sh
/opt/OC/lbin/addMsg.ksh
/opt/OC/lbin/catalog
/opt/OC/lbin/collectInfo2Html
/opt/OC/lbin/collectInfo_config.sh
/opt/OC/lbin/collectInfo_configure.sh
/opt/OC/lbin/collectInfo_unconfigure.sh
/opt/OC/lbin/fmtr.awk
/opt/OC/lbin/fmtr.awk.smp
/opt/OC/lbin/getNettlConfig.sh
/opt/OC/lbin/pathFinder
/opt/OC/lbin/removeMsg.ksh
/opt/OC/lbin/run_netfmt
/opt/OC/lbin/supportabilityutil.ksh
/opt/OC/lbin/ttl_Log
/opt/OC/lbin/ttl_Register_Fa
/opt/OC/lbin/ttl_Trace
/opt/OC/lbin/ttl_configure.sh
/opt/OC/lbin/ttl_lg
/opt/OC/lbin/ttl_reg
/opt/OC/lbin/ttl_trc
/opt/OC/lbin/ttl_unconfigure.sh
/opt/OC/lib
/opt/OC/lib/nls
/opt/OC/lib/nls/C
```

```

/opt/OC/lib/nls/C/SUPPORTABILITY_LOGENTITY_LogMsg.msg
/opt/OC/lib/nls/C/Supportability.msg
/opt/OC/newconfig
/opt/OC/newconfig/etc
/opt/OC/newconfig/etc/opt
/opt/OC/newconfig/etc/opt/OC
/opt/OC/newconfig/etc/opt/OC/HA
/opt/OC/newconfig/etc/opt/OC/management
/opt/OC/newconfig/etc/opt/OC/platform
/opt/OC/newconfig/etc/opt/OC/platform/resource.conf.delta.supportability
/opt/OC/newconfig/etc/opt/OC/platform/resource.conf.deltaCollectInfo.all
/opt/OC/newconfig/etc/opt/OC/supportability
/opt/OC/newconfig/etc/opt/OC/supportability/collectInfo.conf
/opt/OC/newconfig/etc/opt/OC/supportability/collectInfo_SUPPORT.data
/opt/OC/newconfig/etc/opt/OC/supportability/debug.conf.all
/opt/OC/newconfig/etc/opt/OC/supportability/debug.conf.d
/opt/OC/newconfig/etc/opt/OC_AMD
/opt/OC/newconfig/etc/opt/OC_AMD/HA
/opt/OC/newconfig/etc/opt/OC_AMD/management
/opt/OC/newconfig/etc/opt/OC_AMD/platform
/opt/OC/newconfig/etc/opt/OC_AMD/platform/resource.conf.delta.supportability
/opt/OC/newconfig/etc/opt/OC_AMD/platform/resource.conf.deltaCollectInfo.all
/opt/OC/newconfig/etc/opt/OC_AMD/supportability
/opt/OC/newconfig/etc/opt/OC_AMD/supportability/collectInfo.conf
/opt/OC/newconfig/etc/opt/OC_AMD/supportability/collectInfo_SUPPORT.data
/opt/OC/newconfig/etc/opt/OC_AMD/supportability/debug.conf.all
/opt/OC/newconfig/etc/opt/OC_AMD/supportability/debug.conf.d
/opt/OC/newconfig/etc/opt/OC_StartUp
/opt/OC/newconfig/etc/opt/OC_StartUp/HA
/opt/OC/newconfig/etc/opt/OC_StartUp/management
/opt/OC/newconfig/etc/opt/OC_StartUp/platform
/opt/OC/newconfig/etc/opt/OC_StartUp/platform/resource.conf.delta.supportability
/opt/OC/newconfig/etc/opt/OC_StartUp/platform/resource.conf.deltaCollectInfo.all
/opt/OC/newconfig/etc/opt/OC_StartUp/supportability
/opt/OC/newconfig/etc/opt/OC_StartUp/supportability/collectInfo.conf
/opt/OC/newconfig/etc/opt/OC_StartUp/supportability/collectInfo_SUPPORT.data
/opt/OC/newconfig/etc/opt/OC_StartUp/supportability/debug.conf.all
/opt/OC/newconfig/etc/opt/OC_StartUp/supportability/debug.conf.d
/opt/OC/share
/opt/OC/share/man
/opt/OC/share/man/man1
/opt/OC/share/man/man1/auditCatalog.1
/opt/OC/share/man/man1/collectInfo.1
/opt/OC/share/man/man1/nlog.1
/opt/OC/share/man/man1/nmsg.1
/opt/OC/share/man/man1/wlog.1
/opt/OC/share/man/man1/wmsg.1
/var/opt/OC
/var/opt/OC/logs
/var/opt/OC/logs/netfmt
/var/opt/OC/logs/netttl
/var/opt/OC/ttl
/var/tmp/OC

```

Installed Files

The package `hpocsupportability-libs-2.11.0-1482.RHEL4.i386.rpm` installs the following files:

```
/opt/OC
/opt/OC/include
/opt/OC/include/FA.h
/opt/OC/include/LogEntity.h
/opt/OC/include/TtlBase.h
/opt/OC/include/ocNetttl.h
/opt/OC/include/octttl_aux.h
/opt/OC/include/ttlCommon.h
/opt/OC/include/ttl_filter.h
/opt/OC/include/ttllib_api.h
/opt/OC/include/ttllib_types.h
/opt/OC/sbin
/opt/OC/lib
/opt/OC/lib/TTLformatter.so
/opt/OC/lib/TTLformatter.so.1
/opt/OC/lib/libTTL.so
/opt/OC/lib/libTTL.so.1
/opt/OC/lib/libTTL.so.1.11.0
/opt/OC/lib/libTTLBase.so
/opt/OC/lib/libTTLBase.so.1
/opt/OC/lib/libTTLBase.so.1.11.0
/opt/OC/lib/libTTLformatter.so
/opt/OC/lib/libTTLformatter.so.1
/opt/OC/lib/libTTLformatter.so.1.11.0
/opt/OC/lib/perl
/usr/lib/perl5/site_perl/5.8.5/HPOC
/usr/lib/perl5/site_perl/5.8.5/HPOC/TTLIntf.pm
/usr/lib/perl5/site_perl/5.8.5/HPOC/TTL_wrap.pm
/usr/lib/perl5/site_perl/5.8.5/auto
/usr/lib/perl5/site_perl/5.8.5/auto/HPOC
/usr/lib/perl5/site_perl/5.8.5/auto/HPOC/TTLIntf
/usr/lib/perl5/site_perl/5.8.5/auto/HPOC/TTLIntf/TTLIntf.so
```

The package `hpoctbx-4.5.1-0.rhel4.i686.rpm` installs the following files:

```
/etc/tbx
/opt/OC/lib
/opt/OC/lib/libfmktbx.so.0.45.1
/tmp/tbx
/usr/share/locale/en_US/LC_MESSAGES/tbx_msg.cat
```

9.2 Linux RHEL4 on x86_64

The following files are installed by OpenCall USP Diameter 1.3 release.

The package `hpocbus-4.1.1-0.rhel4.x86_64.rpm` installs the following files:

```
/opt/OC/lib64/libfmkbus.so.0.41.1
```

The package `hpocdiameter-1-3-devel-1.6.0-15.rhel4.x86_64.rpm` installs

the following files:

```

/opt/OC/hpocdiameter-1-3-devel-1.6.0/bin/ocd-tls-make-demo-certs
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/3GPP
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/3GPP/Cx
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/3GPP/Cx/CxApi.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/3GPP/Cx/CxApplication.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/3GPP/Cx/CxDataFactory.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/3GPP/Cx/CxSession.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/3GPP/Rf
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/3GPP/Rf/RfApi.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/3GPP/Rf/RfApplication.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/3GPP/Rf/RfDataFactory.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/3GPP/Rf/RfSession.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/3GPP/Ro
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/3GPP/Ro/RoApi.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/3GPP/Ro/RoApplication.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/3GPP/Ro/RoDataFactory.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/3GPP/Ro/RoSession.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/3GPP/Sh
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/3GPP/Sh/ShApi.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/3GPP/Sh/ShApplication.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/3GPP/Sh/ShDataFactory.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/3GPP/Sh/ShSession.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/3GPP/Sh/ShSessionR6.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/AVP.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/AVPIterator.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/AVPSet.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/Allocator.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/Application.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/ApplicationCounters.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/AuthSession.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/BaseProtocolApi.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/CCA
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/CCA/CCAApi.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/CCA/CCADDataFactory.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/CCA/CCASession.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/CCA/CCApplication.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/Compile.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/Connection.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/Core.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/CoreCounters.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/DataFactory.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/Dictionary.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCDiameter/DirectPeer.h

```

Installed Files

```
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/DirectPeerCounters.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Event.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Exception.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Exceptions1.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Exceptions2.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/HA
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/HA/HABuffer.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/HA/HAMgt.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/IPCChannel.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/IPCChannelObserver.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/IPCDirectPeer.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/IPCDirectPeerCounters.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/IPCProxyPeer.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Lockable.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/LogMessages.def
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/LogMessages.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Message.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Notification.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Object.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/OctetString.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Peer.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/PeerCounters.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/ProcessContext.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Session.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Str.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/TaskQueue.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/ThreadPool.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/TracerLogger.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Transport.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Types.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/Version.h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/accounting
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/accounting/AcctApplication.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/accounting/AcctApplicationCounters.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/accounting/AcctApplicationCtx.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/accounting/AcctEventRaised.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/accounting/AcctFsmConfig.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/accounting/AcctSession.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/accounting/AcctSessionCtx.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/transport
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/transport/SocketConnection.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/transport/SocketTransport.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/transport/TlsConnection.
```

```

h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/include/OCdiameter/transport/TlsTransport.
h
/opt/OC/hpocdiameter-1-3-devel-1.6.0/lib64/libocd3gppcx.so
/opt/OC/hpocdiameter-1-3-devel-1.6.0/lib64/libocd3gppsh.so
/opt/OC/hpocdiameter-1-3-devel-1.6.0/lib64/libocdaccounting.so
/opt/OC/hpocdiameter-1-3-devel-1.6.0/lib64/libocdgmf.so
/opt/OC/hpocdiameter-1-3-devel-1.6.0/lib64/libocdiameter.so
/opt/OC/hpocdiameter-1-3-devel-1.6.0/lib64/libocdsocket.so
/opt/OC/hpocdiameter-1-3-devel-1.6.0/lib64/libocdtls.so
/opt/OC/hpocdiameter-1-3-devel-1.6.0/lib64/libocdttl.so
/opt/OC/hpocdiameter-1-3-devel-1.6.0/share/doc/hpocdiameter-1-3-devel-1.6.0/OCdiameterC+
+doc-1.6.0-15.zip
/opt/OC/hpocdiameter-1-3-devel-1.6.0/share/doc/hpocdiameter-1-3-devel-1.6.0/OCdiameterJavad
1.6.0-15.zip
/opt/OC/hpocdiameter-1-3-devel-1.6.0/share/doc/hpocdiameter-1-3-devel-1.6.0/OpenCallDiameter
pdf
/opt/OC/hpocdiameter-1-3-devel-1.6.0/share/doc/hpocdiameter-1-3-devel-1.6.0/README
/opt/OC/hpocdiameter-1-3-devel-1.6.0/share/doc/hpocdiameter-1-3-devel-1.6.0/dbp_
1.2_obsolete_keywords
/opt/OC/hpocdiameter-1-3-devel-1.6.0/share/doc/hpocdiameter-1-3-devel-1.6.0/examples
/opt/OC/hpocdiameter-1-3-devel-1.6.0/share/doc/hpocdiameter-1-3-devel-1.6.0/examples/
hpocdiameter-1-3-examples-1.6.0-15.tar.gz

```

The package `hpocdiameter-1-3-libs-1.6.0-15.rhel4.x86_64.rpm` installs the following files:

```

/etc/opt/OC/gmf/snmpdata/ocdiameter-1.6.0-common.mib
/etc/opt/OC/supportability/collectInfo_OCDIAMETER_1.6.0.data
/opt/OC/lib/nls/C/DIAMETER_1_6_0_LOGENTITY_LogMsg.msg
/opt/OC/lib64/hpocdiameter-1-3-libs-1.6.0
/opt/OC/lib64/hpocdiameter-1-3-libs-1.6.0/libocdjni.so
/opt/OC/lib64/hpocdiameter-1-3-libs-1.6.0/ocdiameter.jar
/opt/OC/lib64/libocd3gppcx.so.1.6.0
/opt/OC/lib64/libocd3gppsh.so.1.6.0
/opt/OC/lib64/libocdaccounting.so.1.6.0
/opt/OC/lib64/libocdgmf.so.1.6.0
/opt/OC/lib64/libocdiameter.so.1.6.0
/opt/OC/lib64/libocdsocket.so.1.6.0
/opt/OC/lib64/libocdtls.so.1.6.0
/opt/OC/lib64/libocdttl.so.1.6.0
/opt/OC/lib64/nls
/opt/OC/lib64/nls/C
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/AUTHORS
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/CreditControlApplication.xml
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/CxDictionary.xml
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/Diameter3GPP.Rf.xml
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/Diameter3GPP.Ro.xml
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/DiameterBaseProtocol.xml
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/DiameterNASREQ.xml
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/README
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/README.gmfsnmp
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/README.license
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/README.supportability

```

Installed Files

```
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/README.tls
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/ShDictionary.xml
/opt/OC/share/doc/hpocdiameter-1-3-libs-1.6.0/config.x86_64.txt
```

The package `hpocdiameter-1-3-test-1.6.0-15.rhel4.x86_64.rpm` installs the following files:

```
/opt/OC/bin/ocdivp
/opt/OC/bin/ocdivp-x86_64
/opt/OC/hpocdiameter-1-3-devel-1.6.0/share/doc/hpocdiameter-1-3-test-1.6.0/README
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin/ocd-tls-make-demo-certs
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/ApplicationExample.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/CcaApplicationExample.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/CxApplicationExample.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/RfApplicationExample.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/RoApplicationExample.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/ShApplicationExample.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/TlsApplicationExample.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/ocd3gppacctHAex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/ocd3gppacctex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/ocdccaex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/ocdcxex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/ocdex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/ocdhaex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/ocdjacctccaex.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/ocdjacctrfex.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/ocdjacctroex.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/ocdjcxex.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/ocdjex.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/ocdjshex.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/ocdjtls.class
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/ocdshex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/ocdtls
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/ocdtrpsimex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/run_ocd3gppacctHAex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/run_ocd3gppacctex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/run_ocdccaex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/run_ocdcxex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/run_ocdex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/run_ocdhaex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/run_ocdjacctccaex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/run_ocdjacctrfex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/run_ocdjacctroex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/run_ocdjcxex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/run_ocdjex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/run_ocdjshex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/run_ocdjtls
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/run_ocdshex
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/run_ocdtls
/opt/OC/hpocdiameter-1-3-test-1.6.0/bin64/run_ocdtrpsimex
```

The package `hpocgmf-4.0.1-0.rhel4.x86_64.rpm` installs the following files:

```
/etc/init.d/gmfprovd
```

```

/etc/init.d/gmfsnmpd
/etc/opt/OC
/etc/opt/OC/gmf
/etc/opt/OC/gmf/gmf2jmx
/etc/opt/OC/gmf/gmf2jmx.xsd
/etc/opt/OC/gmf/gmf2jmx/ipTemplate.xml
/etc/opt/OC/gmf/gmfprovd.conf.sample
/etc/opt/OC/gmf/gmfsnmpd.conf.sample
/etc/opt/OC/gmf/snmpdata
/etc/opt/OC/gmf/snmpdata/mggtbx-mib-example.txt
/etc/opt/OC/gmf/snmpdata/ocEventTraps.mib
/etc/opt/OC/supportability
/etc/opt/OC/supportability/GMFDebugConf.xml
/opt/OC/bin
/opt/OC/bin/gmfcheckpoint
/opt/OC/bin/gmfdump
/opt/OC/bin/gmfdump_java
/opt/OC/bin/gmfhttpd
/opt/OC/lib/GmfJmx.jar
/opt/OC/lib/GmfJni.jar
/opt/OC/lib/perl
/opt/OC/lib/perl/HPOC
/opt/OC/lib/perl/HPOC/GMF
/opt/OC/lib/perl/HPOC/GMF.pm
/opt/OC/lib/perl/HPOC/GMF/Mgr.pm
/opt/OC/lib/perl/HPOC/GMF/gmfdump
/opt/OC/lib/perl/auto
/opt/OC/lib/perl/auto/HPOC
/opt/OC/lib/perl/auto/HPOC/GMF
/opt/OC/lib/perl/auto/HPOC/GMF/GMF.bs
/opt/OC/lib/perl/auto/HPOC/GMF/GMF.so
/opt/OC/lib64/libbfmkgmp.so.0.40.1
/opt/OC/lib64/libbfmkmgr.so.0.40.1
/opt/OC/lib64/libbfmkmgrts.so.0.40.1
/opt/OC/lib64/libbfmkmgt.so.0.40.1
/opt/OC/lib64/libgmfjni.so.0.40.1
/opt/OC/sbin
/opt/OC/sbin/gmfprovd
/opt/OC/sbin/gmfsnmpd
/opt/OC/sh
/opt/OC/sh/ipLauncher
/opt/OC/share
/opt/OC/share/html
/opt/OC/share/html/GmfJmx-doc-401.tgz
/opt/OC/share/man
/opt/OC/share/man/man1
/opt/OC/share/man/man1/gmf2jmx.1
/opt/OC/share/man/man1/gmfcheckpoint.1
/opt/OC/share/man/man1/gmfdump.1
/opt/OC/share/man/man3
/opt/OC/share/man/man3/HPOC::GMF.3pm
/opt/OC/share/man/man3/HPOC::GMF::Mgr.3pm
/opt/OC/share/man/man5

```

Installed Files

```
/opt/OC/share/man/man5/gmfprovd.conf.5
/opt/OC/share/man/man5/gmfprovdata.5
/opt/OC/share/man/man5/gmfsnmpd.conf.5
/opt/OC/share/man/man5/gmfsnmpdtraps.5
/opt/OC/share/man/man8
/opt/OC/share/man/man8/gmfprovd.8
/opt/OC/share/man/man8/gmfsnmpd.8
```

The package `hpoclic-core-0.7.3-3.rhel4.x86_64.rpm` installs the following files:

```
/etc/opt/OC
/etc/opt/OC/lic
/etc/opt/OC/lic/oclic.conf
/etc/opt/OC/lic/oclicsd.conf
/etc/opt/OC/supportability
/etc/opt/OC/supportability/collectInfo_oclic_core.data
/etc/opt/OC/supportability/debug.conf.d
/etc/opt/OC/supportability/debug.conf.d/oclic_debug.conf
/opt/OC
/opt/OC/bin
/opt/OC/bin/oclicoam
/opt/OC/data/lic/oclicoam.properties
/opt/OC/include
/opt/OC/include/oclicoam_api.h
/opt/OC/sbin
/opt/OC/sbin/oclicsd
/opt/OC/lib
/opt/OC/lib/lic
/opt/OC/lib/lic/plugins
/opt/OC/lib/nls/C/oclic.msg
/opt/OC/lib/nls/C/oclicoam.msg
/opt/OC/lib/nls/C/oclicsd.msg
/opt/OC/lib64
/opt/OC/lib64/liboclic.so
/opt/OC/lib64/liboclic.so.0
/opt/OC/lib64/liboclic.so.0.0.1
/opt/OC/lib64/liboclic_core.so
/opt/OC/lib64/liboclic_core.so.0
/opt/OC/lib64/liboclic_core.so.0.0.1
/opt/OC/lib64/lic
/opt/OC/lib64/lic/plugins
/opt/OC/newconfig/etc/opt/OC/supportability/collectInfo_oclic_core.data
/opt/OC/newconfig/etc/opt/OC/supportability/debug.conf.d/oclic_debug.conf
/opt/OC/sbin
/opt/OC/sbin/oclicsd
/opt/OC/share
/opt/OC/share/java
/opt/OC/share/java/hpoclic.jar
/opt/OC/share/java/hpoclicoam.jar
/opt/OC/share/lic
/opt/OC/share/lic/tutorial
/opt/OC/share/man
/opt/OC/share/man/man1
```

```

/opt/OC/share/man/man1/oclicoam.1
/opt/OC/share/man/man5
/opt/OC/share/man/man5/oclicsd_data.5
/opt/OC/share/man/man8
/opt/OC/share/man/man8/oclicsd.8
/var/opt/OC
/var/opt/OC/lic

```

The package `hpocnettl-2.11.0-1482.RHEL4.x86_64.rpm` installs the following files:

```

/etc/netfmt
/etc/nettl
/etc/nettlgen.conf
/usr/include/fmt.h
/usr/include/net_diag.h
/usr/include/netdiag1.h
/usr/include/ntl.h
/usr/include/subsys_id.h
/usr/include/sys/net_diag.h
/usr/include/sys/netdiag1.h
/usr/include/sys/subsys_id.h
/usr/lib/libfmtutil.so
/usr/lib/libfmtutil.so.1.0.0
/usr/lib/libntl.so
/usr/lib/libntl.so.1.0.0
/usr/lib/nls
/usr/lib/nls/msg
/usr/lib/nls/msg/C
/usr/lib/nls/msg/C/netfmt.msg
/usr/local/man/man1/netfmt.1X.gz
/usr/local/man/man1/nettl.1X.gz
/usr/local/man/man1/nettlconf.1X.gz
/usr/sbin/netfmt
/usr/sbin/nettl
/usr/sbin/nettlconf
/usr/sbin/ntl_reader
/usr/share/locale/C/netfmt
/usr/share/locale/C/nettl
/var/adm

```

The package `hpocsupportability-core-2.11.0-1482.RHEL4.x86_64.rpm` installs the following files:

```

/etc/opt/OC
/etc/opt/OC/supportability
/etc/opt/OC/supportability/debug.conf.d
/etc/rc.d/init.d/hpocnettl
/etc/sysconfig/hpocnettlconf
/opt/OC/bin
/opt/OC/bin/auditCatalog
/opt/OC/bin/cleanttl
/opt/OC/bin/collectInfo
/opt/OC/bin/nlog
/opt/OC/bin/nmsg

```

Installed Files

```
/opt/OC/bin/perl
/opt/OC/bin/perl/bin
/opt/OC/bin/perl/bin/perl
/opt/OC/bin/startnettl
/opt/OC/bin/stopnettl
/opt/OC/bin/wlog
/opt/OC/bin/wmsg
/opt/OC/data/supportability
/opt/OC/data/supportability/supp.resource.conf
/opt/OC/include
/opt/OC/install-scripts
/opt/OC/install-scripts/TTL-COLLECTINFO-CONFIGURE.postinstall
/opt/OC/install-scripts/TTL-CONF.configure
/opt/OC/install-scripts/TTL-CONF.unconfigure
/opt/OC/install-scripts/TTL-CORE-CONFIGURE.postinstall
/opt/OC/lbin/Fa.sh
/opt/OC/lbin/_addMsg.ksh
/opt/OC/lbin/_collectInfo
/opt/OC/lbin/_removeMsg.ksh
/opt/OC/lbin/_ttl_configure.sh
/opt/OC/lbin/addMsg.ksh
/opt/OC/lbin/catalog
/opt/OC/lbin/collectInfo2Html
/opt/OC/lbin/collectInfo_config.sh
/opt/OC/lbin/collectInfo_configure.sh
/opt/OC/lbin/collectInfo_unconfigure.sh
/opt/OC/lbin/fmtr.awk
/opt/OC/lbin/fmtr.awk.smp
/opt/OC/lbin/getNettlConfig.sh
/opt/OC/lbin/pathFinder
/opt/OC/lbin/removeMsg.ksh
/opt/OC/lbin/run_netfmt
/opt/OC/lbin/supportabilityutil.ksh
/opt/OC/lbin/ttl_Log
/opt/OC/lbin/ttl_Register_Fa
/opt/OC/lbin/ttl_Trace
/opt/OC/lbin/ttl_configure.sh
/opt/OC/lbin/ttl_lg
/opt/OC/lbin/ttl_reg
/opt/OC/lbin/ttl_trc
/opt/OC/lbin/ttl_unconfigure.sh
/opt/OC/lib
/opt/OC/lib/nls
/opt/OC/lib/nls/C
/opt/OC/lib/nls/C/SUPPORTABILITY_LOGENTITY_LogMsg.msg
/opt/OC/lib/nls/C/Supportability.msg
/opt/OC/newconfig
/opt/OC/newconfig/etc
/opt/OC/newconfig/etc/opt
/opt/OC/newconfig/etc/opt/OC
/opt/OC/newconfig/etc/opt/OC/HA
/opt/OC/newconfig/etc/opt/OC/management
/opt/OC/newconfig/etc/opt/OC/platform
```

```

/opt/OC/newconfig/etc/opt/OC/platform/resource.conf.delta.supportability
/opt/OC/newconfig/etc/opt/OC/platform/resource.conf.deltaCollectInfo.all
/opt/OC/newconfig/etc/opt/OC/supportability
/opt/OC/newconfig/etc/opt/OC/supportability/collectInfo.conf
/opt/OC/newconfig/etc/opt/OC/supportability/collectInfo_SUPPORT.data
/opt/OC/newconfig/etc/opt/OC/supportability/debug.conf.all
/opt/OC/newconfig/etc/opt/OC/supportability/debug.conf.d
/opt/OC/newconfig/etc/opt/OC_AMD
/opt/OC/newconfig/etc/opt/OC_AMD/HA
/opt/OC/newconfig/etc/opt/OC_AMD/management
/opt/OC/newconfig/etc/opt/OC_AMD/platform
/opt/OC/newconfig/etc/opt/OC_AMD/platform/resource.conf.delta.supportability
/opt/OC/newconfig/etc/opt/OC_AMD/platform/resource.conf.deltaCollectInfo.all
/opt/OC/newconfig/etc/opt/OC_AMD/supportability
/opt/OC/newconfig/etc/opt/OC_AMD/supportability/collectInfo.conf
/opt/OC/newconfig/etc/opt/OC_AMD/supportability/collectInfo_SUPPORT.data
/opt/OC/newconfig/etc/opt/OC_AMD/supportability/debug.conf.all
/opt/OC/newconfig/etc/opt/OC_AMD/supportability/debug.conf.d
/opt/OC/newconfig/etc/opt/OC_StartUp
/opt/OC/newconfig/etc/opt/OC_StartUp/HA
/opt/OC/newconfig/etc/opt/OC_StartUp/management
/opt/OC/newconfig/etc/opt/OC_StartUp/platform
/opt/OC/newconfig/etc/opt/OC_StartUp/platform/resource.conf.delta.supportability
/opt/OC/newconfig/etc/opt/OC_StartUp/platform/resource.conf.deltaCollectInfo.all
/opt/OC/newconfig/etc/opt/OC_StartUp/supportability
/opt/OC/newconfig/etc/opt/OC_StartUp/supportability/collectInfo.conf
/opt/OC/newconfig/etc/opt/OC_StartUp/supportability/collectInfo_SUPPORT.data
/opt/OC/newconfig/etc/opt/OC_StartUp/supportability/debug.conf.all
/opt/OC/newconfig/etc/opt/OC_StartUp/supportability/debug.conf.d
/opt/OC/share
/opt/OC/share/man
/opt/OC/share/man/man1
/opt/OC/share/man/man1/auditCatalog.1
/opt/OC/share/man/man1/collectInfo.1
/opt/OC/share/man/man1/nlog.1
/opt/OC/share/man/man1/nmsg.1
/opt/OC/share/man/man1/wlog.1
/opt/OC/share/man/man1/wmsg.1
/var/opt/OC
/var/opt/OC/logs
/var/opt/OC/logs/netfmt
/var/opt/OC/logs/netttl
/var/opt/OC/ttl
/var/tmp/OC

```

The package `hpcsupportability-libs-2.11.0-1482.RHEL4.x86_64.rpm` installs the following files:

```

/opt/OC
/opt/OC/include
/opt/OC/include/FA.h
/opt/OC/include/LogEntity.h
/opt/OC/include/TtlBase.h
/opt/OC/include/ocNetttl.h

```

Installed Files

```
/opt/OC/include/octtl_aux.h
/opt/OC/include/ttlCommon.h
/opt/OC/include/ttl_filter.h
/opt/OC/include/ttllib_api.h
/opt/OC/include/ttllib_types.h
/opt/OC/sbin
/opt/OC/lib
/opt/OC/lib/perl
/opt/OC/lib64
/opt/OC/lib64/TTLformatter.so
/opt/OC/lib64/TTLformatter.so.1
/opt/OC/lib64/libTTL.so
/opt/OC/lib64/libTTL.so.1
/opt/OC/lib64/libTTL.so.1.11.0
/opt/OC/lib64/libTTLBase.so
/opt/OC/lib64/libTTLBase.so.1
/opt/OC/lib64/libTTLBase.so.1.11.0
/opt/OC/lib64/libTTLformatter.so
/opt/OC/lib64/libTTLformatter.so.1
/opt/OC/lib64/libTTLformatter.so.1.11.0
/usr/lib/perl5/site_perl/5.8.5/HPOC
/usr/lib/perl5/site_perl/5.8.5/HPOC/TTLIntf.pm
/usr/lib/perl5/site_perl/5.8.5/HPOC/TTL_wrap.pm
/usr/lib/perl5/site_perl/5.8.5/auto
/usr/lib/perl5/site_perl/5.8.5/auto/HPOC
/usr/lib/perl5/site_perl/5.8.5/auto/HPOC/TTLIntf
/usr/lib/perl5/site_perl/5.8.5/auto/HPOC/TTLIntf/TTLIntf.so
```

The package `hpoclib-4.5.1-0.rhel4.x86_64.rpm` installs the following files:

```
/etc/tbx
/opt/OC/lib64
/opt/OC/lib64/libfmktbx.so.0.45.1
/tmp/tbx
/usr/share/locale/en_US/LC_MESSAGES/tbx_msg.cat
```