

**Oracle® Communications Session  
Border Controller**

Release Notes

Release S-CX6.4.0

*Formerly Net-Net Session Director*

October 2013

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# About this Guide

## Overview

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The *Oracle Communications Session Border Controller Release Notes* provides the following information when applicable:

- An overview of the new features available
- An overview of the management enhancements
- An overview of the accounting enhancements
- A summary of changes to the Packet Command Line Interface (ACLI)
- A summary of known issues and fixed defects
- Documentation updates

If any of these sections does not appear in the document, then there were no changes to summarize in that category for that specific release.

## Supported Platforms

Release Version S-CX6.4.0 is supported on the Acme Packet 4500 and Acme Packet 3800 series platforms.

## Related Documentation

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The following table lists the members that comprise the documentation set for this release:

Document Name	Document Description
Acme Packet 4500 System Hardware Installation Guide	Contains information about the components and installation of the Acme Packet 4500 system.
Acme Packet 3800 Hardware Installation Guide	Contains information about the components and installation of the Acme Packet 3800 system.
Release Notes	Contains information about the current documentation set release, including new features and management changes.
ACLI Configuration Guide	Contains information about the administration and software configuration SBC.
ACLI Reference Guide	Contains explanations of how to use the ACLI, as an alphabetical listings and descriptions of all ACLI commands and configuration parameters.

Document Name	Document Description
Maintenance and Troubleshooting Guide	Contains information about Net-Net SBC logs, performance announcements, system management, inventory management, upgrades, working with configurations, and managing backups and archives.
MIB Reference Guide	Contains information about Management Information Base (MIBs), Enterprise MIBs, general trap information, including specific details about standard traps and enterprise traps, Simple Network Management Protocol (SNMP) GET query information (including standard and enterprise SNMP GET query names, object identifier names and numbers, and descriptions), examples of scalar and table objects.
Accounting Guide	Contains information about the SBC's accounting support, including details about RADIUS accounting.
HDR Resource Guide	Contains information about the SBC's Historical Data Recording (HDR) feature. This guide includes HDR configuration and system-wide statistical information.
Administrative Security Essentials	Contains information about the SBC's support for its Administrative Security license.

## Revision History

This section contains a revision history for this document.

Date	Revision Number	Description
October 19, 2012	Revision 1.0	<ul style="list-style-type: none"> <li>Initial Release</li> </ul>
May 13, 2013	Revision 1.01	<ul style="list-style-type: none"> <li>Adds more detail to HMR limitation section</li> </ul>



# Net-Net OS S-CX6.4.0 Release Notes

## Introduction

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The *Net-Net OS S-CX6.4.0 Release Notes* provide the following information about Net-Net Session Director:

- An overview of the new features available
- A summary of changes to the Acme Packet Command Line Interface (ACLI)
- A summary of known issues

## Hardware Platform Support

As of Release S-CX6.4.0, the Net-Net Session Director no longer supports the Net-Net 4250 Hardware platform.

## Included Releases

S-CX6.4.0 includes all features in S-CX6.3.0m1. These features are noted in the First availability note within the feature overviews in the following section.

## S-CX6.4.0 Upgrade Prerequisites

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Verify that your Net-Net system has been upgraded to the bootloader dated June 21, 2011 or later. You can use the **show version boot** ACLI command for this query.

```
ACMEPACKET# show version boot
```

```
Bootloader Info
```

```
-----
```

```
Stage 1 Date: 06/21/2011 09:01:15
```

```
Stage 2 Date: 06/21/2011 ff:ff:ff
```

```
[...]
```

Refer to the [Known Issues \(23\)](#) section for any caveats involving software upgrades.

## S-CX6.4.0 New Features

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This section describes the new features available in Net-Net Session Director.

**Note:** System session capacity and performance are subject to variations between various use cases (e.g. call models) and major software releases

## SIP Features

### SIP Replaces Header Support

The Net-Net SBC supports the Replaces: header in SIP messages according to RFC 3891. The header, included within SIP INVITE messages, provides a mechanism to replace an existing early or established dialog with a different dialog which can be

used for services such as call parking, attended call transfer and various conferencing features.

First availability: S-CX6.4.0

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

### **SIP Timers: Discreet Configuration**

Creates availability of a global, default transaction timeout value (expressed in seconds) used exclusively for initial INVITE transactions.

First availability: S-CX6.4.0

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

### **RFC 4028 Session Timers**

The Net-Net SBC supports RFC 4028 Session Timers. In this role, the Net-Net SBC acts as a B2BUA between two endpoints and then enforces the timer values on each call leg independently.

First availability: S-CX6.4.0

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

## **H.323 Features**

### **Video Conferencing Support for Polycom Terminals**

In previous versions the Acme Packet Net-Net SBC when installed in a video conferencing environment composed of Polycom H323 terminals and a Polycom MCU (Multipoint Conferencing Unit) failed to relay certain H.239/H.245 resulting in service degradation. Version S-CX6.4.0 addresses this problem and ensures that these message types are now correctly implemented.

First availability: S-CX6.4.0

Feature Description Location: ACLI Configuration Guide, H.323 Signaling Chapter

### **H.235 Encryption**

Following the ITU-T H.235 encryption standard, the Net-Net SBC allows media (audio, video, and data) that has already been encrypted by endpoints to pass through it, thereby supporting video-conferencing applications where media confidentiality is key.

First availability: S-CX6.3.0m1

Feature Description Location: ACLI Configuration Guide, H.323 Signaling Chapter

## **IWF Features**

### **SIP-H.323 Interworking with Dynamic Payload Types**

The SIP and H.323 Protocols use RTP for transferring real-time audio/video data. The interworking function (IWF) provides a means of converting translation and signaling protocols and session descriptions between SIP and H.323. However, SIP and H.323 provide different mechanisms when exchanging payload types for media during IWF calls. Therefore, the International Telecommunications Union (ITU) modified the ITU H.245 recommendations in H.245 v16 to include a new “Dynamic Payload Type Replacement” capability that resolves this payload type conflict. This new capability provides a way for an H.323 endpoint to specify the payload type of

a media stream for which the endpoint is willing to receive through the OLC-acknowledgment (OLC-ACK) message in an audio/video call flow.

First availability: S-CX6.4.0

Feature Description Location: ACLI Configuration Guide, IWF Services Chapter

### Flow Control Mapping for Interworking Function (IWF) Video

The Net-Net SBC supports the SIP counter part of the H.245 FlowControlCommand using the SIP signaling path with the INFO method. The Net-Net SD sends the SIP INFO message with "change\_bitrate" rate parameter that has the value 100\*maxBitRate from the corresponding H.245 FlowControlCommnad message.

First availability: S-CX6.4.0

Feature Description Location: ACLI Configuration Guide, IWF Services Chapter

## Application Layer Gateway Services

### DNS ALG Message Throttling

You can limit DNS ALG-bound throughput by using the dns-alg-constraints configuration element. Message throttling is performed on request messages, and since DNS-ALG is transaction stateful, the responses are automatically throttled. Once a dns-alg-constraints element is configured, it can be referenced by a DNS configuration object. This allows users to create constraint profiles and apply them to multiple DNS configuration objects.

First availability: S-CX6.4.0

Feature Description Location: ACLI Configuration Guide, Application Layer Gateway Services Chapter

## Session Routing and Load Balancing Features

### IPv6 ENUM Server Support

The Net-Net SBC supports IPv6 ENUM configurations in IPv6 realms. The **enum-servers** parameter in the enum-config configuration parameter can be configured IPv6 addresses in addition to IPv4 addresses. When IPv6 Addresses are used, the realm configured in the realm-id parameter must be an IPv6 realm.

First availability: S-CX6.4.0

Feature Description Location: ACLI Configuration Guide, Session Routing and Load Balancing Chapter

## Security Features

### Trusted to Untrusted Transition Trap

When endpoints, transition to an *untrusted* DDoS state, prior to being denied service, an SNMP trap can be configured to be sent.

First availability: S-CX6.4.0

Feature Description Location: ACLI Configuration Guide, Security Chapter

### **SRTP IPv4/IPv6 Internetworking**

SRTP operations are enhanced internetwork IPv4 and IPv6 media while using SDES as the key exchange protocol. Previous versions supported SRTP IPv4/IPv6 internetworking using the MIKEY key exchange protocol.

First availability: S-CX6.4.0

Feature Description Location: ACLI Configuration Guide, Security Chapter

### **SRTP/Linksys Interoperability**

The Net-Net SBC enhances enterprise operations by providing the capability to inter-operate and establish secure calls between itself and Linksys Analog Telephone Adapters (ATA) and IP phones.

In contrast to current SRTP implementations, which are standards-based in conformance with RFC 3711, *The Secure Real-time Transport Protocol (SRTP)*, Linksys interoperability requires support for a proprietary protocol. The proprietary protocol is similar, but not identical to RFC 3711, and uses a non-standard certificate exchange to perform mutual authentication, and then to transfer cryptographic keying material.

First availability: S-CX6.4.0

Feature Description Location: ACLI Configuration Guide, Security Chapter

## **IMS Features**

### **LIR/LIA Lookup to Home Subscriber Server from I-BCF**

The Net-Net SBC, acting as an I-BCF, can perform a Location Information Lookup (LIR) to a Home Subscriber Server (HSS) to find the S-CSCF where to forward a request message. LIR/LIA messages are part of the Diameter Cx interface, which is used to communicate with HSS.

In an IMS environment, a user registers with S-CSCF and that S-CSCF assigns itself with an HSS as the serving registrar for that user. When a call needs to be routed to the user, an I-BCF performs a location information lookup to the HSS to determine the S-CSCF for that user and route the request toward that S-CSCF.

First availability: S-CX6.4.0

Feature Description Location: ACLI Configuration Guide, IMS Chapter

### **IPSec IMS-AKA**

Compliance with the VoLTE specification (GSMA PRD IR.92) requires cluster member support for IPSec IMS-AKA (IP Multimedia Services Authentication and Key Agreement) as defined in 3GPP TS 24.299, *IP Multimedia Call Control Protocol Based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP): Stage 3*, and TS 33.203, *3G Security: Access Security for IP-based Services*.

First availability: S-CX6.4.0

Feature Description Location: ACLI Configuration Guide, IMS Chapter

**IR.92 Compliance via SIP 380 Response**

This feature furthers the Net-Net SBC's compliance with GSMA's Voice over LTE specification (IR.92) to redirect VoLTE originated emergency calls to a circuit switched network.

When the Net-Net SBC receives an emergency call, which it can not complete, it returns a 380 (Alternative Service) response to the sender.

First availability: S-CX6.4.0

Feature Description Location: ACLI Configuration Guide, IMS Chapter

**Provisioning of SIP Signaling Flow Information**

This feature supports of Provisioning of SIP Signalling Flow Information as described in 3GPP TS 29.213 section B1b [1], and the procedures specified in TS 29.214 section 4.4.5a.

The feature applies to the scenario when the Net-Net SBC (A-SBC / P-CSCF) uses its external policy server functionality and connects to a PCRF via Rx interface in bandwidth-management mode.

This feature deals with the information that the Net-Net SBC includes in an AAR message it sends to the PCRF when an endpoint registers, re-registers, and de-registers.

First availability: S-CX6.4.0

Feature Description Location: ACLI Configuration Guide, IMS Chapter

**RCS Features****Message Session Relay Protocol**

The Acme Packet Session Director supports Message Relay Protocol (MSRP) sessions initiated by Session Description Protocol (SDP) messages exchanged via the Session Initiation Protocol (SIP) offer/answer model. MSRP usage with SDP and SIP is described in Section 8 of RFC 4975, *The Message Relay Protocol*. The Session Director functions as a Back-to-Back User Agent (B2BUA) for MSRP sessions, terminating incoming MSRP, proxying for the MSRP session originator, initiating outgoing MSRP to the endpoint peer, and providing Network Address Translation (NAT) services.

First availability: S-CX6.4.0

Feature Description Location: ACLI Configuration Guide, RCS Services Chapter

**Accounting Features****Enhanced Stop CDR Reporting for Exceeded Ingress Session Constraints**

This feature enables consistent generation of RADIUS Stop records on both ingress and egress paths for RADIUS Stop records when calls are rejected for exceeding configured session ingress or egress constraints. On the egress path, prior releases rejected such calls with a 503 (Service Unavailable) response and the generation of a RADIUS STOP record. On the ingress path, however, while calls were rejected with a 503 response, RADIUS Stop records were not generated.

First availability: S-CX6.4.0

Feature Description Location: Accounting Guide, Configuring RADIUS Chapter

## Management Features

### Message Rate Statistics

The Net-Net SBC provides message rate statistics for SIP, DNS, and ENUM traffic. These statistics are available at the ACLI and via HDR.

First availability: S-CX6.4.0

Feature Description Location: Maintenance and Troubleshooting Guide, Performance Management Chapter (ACLI output)

Feature Description Location: HDR Resource Guide, HDR Groups and Group Statistics Chapter (HDR output)

## External Policy Servers Features

### Subscriber Information AVP

Certain policy servers rely on having the user's URI information available as means to identify the endpoint/subscriber. In addition to conveying the L3 IP address of a user, the Net-Net SBC supports RFC 4006: The Subscription-Id AVP. It identifies the end user's subscription and is used in 3GPP Rx reference point. This feature can be enabled regardless of the selected application mode of the external policy server.

You can enable the Net-Net SBC to include the Subscription-ID-Type based on the received message's request line's Request URI, or you can set the Subscription ID type on a per-realm basis.

First availability: S-CX6.4.0

Feature Description Location: ACLI Configuration Guide, External Policy Servers Chapter

### Optimization of AAR Messages

When the SBC acts as a P-CSCF, the Diameter Rx interface updates bandwidth and addressing changes during a session. Many transactions between the P-CSCF and a PCRF server trigger a new SDP offer, and an AA-Request (AAR) is sent to update bearer parameters. However, many transactions between the P-CSCF and PCRF do not require updates. In these instances, it is not necessary for the P-CSCF to initiate an AAR. This feature allows you to optimize the AAR for media updates during the dialog setup for Diameter Rx.

First availability: S-CX6.4.0

Feature Description Location: ACLI Configuration Guide, External Policy Servers Chapter

### CLF/Diameter e2 Error Handling

When the Net-Net SBC receives an error, as defined in RFC 3588, in a UDA message from a CLF, it replies to the UA with a 503 Service Unavailable message. There are exceptions for certain values embedded in either the Result-Code AVP or Experimental Result-Code AVP.

First availability: S-CX6.4.0

Feature Description Location: ACLI Configuration Guide, External Policy Servers Chapter

Maintenance and Troubleshooting Guide, Performance Management Chapter

## SNMP Features

### Persistent Indexing of SNMP Tables

Certain Acme Packet proprietary MIB tables support persistent indexing across reboots. The purpose is to maintain the value of that object so that after a reboot or configuration reload, the value that identifies an object remains the same.

First availability: S-CX6.4.0

Feature Description Location: MIB Reference Guide, Acme Packet MIBs

## Additional Features

### IP Identification (ID) Field

The Net-Net SBC can populate the IP ID field with an incrementing value. Every non-fragmented packet sent will have its ID increased by one from the previous packet sent. Enabling the ID field can help distinguish a retransmitted non-fragmented application layer packet from a packet retransmitted by the network layer in monitoring or lab situations.

First availability: S-CX6.4.0

Feature Description Location: ACLI Configuration Guide, System Configuration Chapter

### ETC Monitoring

The Net-Net SBC can monitor an Enhanced Traffic Control (ETC) NIU card's data cores' average load and memory usage. Any excessive load is reported as an alarm, independently for CPU load and memory usage. When data core or memory usage rises above a set threshold, an alarm is enabled and a trap is sent. No new calls are accepted by the system until the alarm is cleared.

First availability: S-CX6.4.0

Feature Description Location: Maintenance and Troubleshooting Guide, Fault Management Chapter

### Admin Security Features

A new *Admin Security APC* license is now available which works in conjunction with a previously installed *Admin Security* license to enhance password strength requirements in certain high security environments. Enhanced password strength requirements depend on the presence of both the *Admin Security* license and the *Admin Security ACP* license.

First availability: S-CX6.4.0

Feature Description Location: Maintenance and Troubleshooting Guide, System Management Chapter

## Management Changes Summary

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This section summarizes the projected ACLI, SNMP, and RADIUS accounting management changes for Net-Net OS Release S-CX6.4.0. Changes appearing in this document have been added since the availability of Net-Net S-CX6.3.0.

## ACLI Command Changes

This section summarizes the ACLI command changes that appear in Net-Net OS Release S-CX6.4.0.

Availability	Change	Description
nnSCX630f1	securi ty srtp check-mi ni -cert securi ty srtp di spl ay-mi ni -cert securi ty srtp update-mi ni -cert	Adding commands for Linksys/SRTP SIPURA certificate manipulation.
	show enum rate show dnsalg rate show sipd rate	Adds rate statistics
	show msrp stats	Adds command to display MSRP statistics

## ACLI Configuration Changes

This section summarizes the ACLI command changes that first appear in Net-Net OS Version S-CX6.4.0.

### Added ACLI Parameters

Availability	Change	Description
nnSCX640	system > media-manager > media-manager-config > trap-on-demote-to-untrusted	Enables trusted to untrusted trap to be sent from the Net-Net SBC
	system > security > media-security > sipura-profile <ul style="list-style-type: none"> <li>name</li> <li>crypto-list</li> <li>certificate-file-name</li> </ul>	Adds a new subconfiguration element to support Linksys/SRTP Interoperability
	system > security > security-config <ul style="list-style-type: none"> <li>local-cert-exp-trap-int</li> <li>local-cert-exp-warn-period</li> </ul>	Adds new parameters to enable security certificate presence and expiration traps
	session-router > sip-profile <ul style="list-style-type: none"> <li>replaces-dialog</li> </ul>	Adds new parameter to enable RFC 3891/Replaces: header support
	session-router > sip-config <ul style="list-style-type: none"> <li>extra-method-stats</li> <li>extra-enum-stats</li> </ul>	Adds new parameters to enable ENUM and SIP method rate statistic collection
	media-manager > dns-config <ul style="list-style-type: none"> <li>extra-dnsalg-stats</li> </ul>	Adds new parameter to enable DNS message rate statistic collection
	session-router > home-subscriber-server <ul style="list-style-type: none"> <li>name</li> <li>state</li> <li>address</li> <li>port</li> <li>watchdog-ka-timer</li> <li>add-lookup-parameter</li> </ul>	Adds new configuration element and parameters to support HSS functionality.



media-manager > dnsalg-constraints <ul style="list-style-type: none"> <li>• name</li> <li>• state</li> <li>• max-burst-rate</li> <li>• max-inbound-burst-rate</li> <li>• max-outbound-burst-rate</li> <li>• burst-rate-window</li> <li>• max-sustain-rate</li> <li>• max-inbound-sustain-rate</li> <li>• max-outbound-sustain-rate</li> <li>• sustain-rate-window</li> <li>• max-latency</li> <li>• time-to-resume</li> </ul>	Adds new configuration element and parameters to support DNS ALG message throttling
media-manager > dns-config <ul style="list-style-type: none"> <li>• constraint-name</li> </ul>	Adds new parameter to dns-config to apply DNS ALG message throttling profile
session-router>sip-config>initial-inv-trans-expire	Adds parameter that sets a default transaction timeout value (in seconds) used exclusively for initial INVITE transactions on this SIP interface.
session-router > realm-config subscription-id-type	Adds parameter to set a Subscription ID type sent in an AAR message to an External Policy Server in this realm
session-router > sip-interface send-380-response	Adds parameter to fill the reason tag of the <ims-3gpp> element in a 380 response for a failed-to-route emergency call for IR.92 compliance
media-manager>ext-policy-server>optimize-aar	Adds parameter that reduces the number of AAR messages sent to the PCRF during a session.
media-manager>ext-policy-server>provision-signaling-flow	Adds parameter tat enables the Net Net SBC to send AAR messages to a PCRF on endpoint registrations.
session-router > session-timer-profile <ul style="list-style-type: none"> <li>• name</li> <li>• session-expires</li> <li>• min-se</li> <li>• force-reinvite</li> <li>• request-refresher</li> <li>• response-refresher</li> </ul>	Adds new configuration element and parameters to support RFC 4028 Session Timers
session-router > sip-interface <ul style="list-style-type: none"> <li>• session-timer-profile</li> </ul>	Adds parameter to apply a configured session timer profile to this sip interface
media-manager > msrp-config <ul style="list-style-type: none"> <li>• state</li> <li>• uri-translation</li> <li>• session-inactivity-timer</li> </ul>	Adds new configuration element and parameters to support MSRP
session-router > sip-config <ul style="list-style-type: none"> <li>• msrp-delayed-bye-timer</li> </ul>	Adds new parameter to support MSRP

media-manager > tcp-media-profile	<ul style="list-style-type: none"> <li>• name</li> <li>• profile-list</li> </ul>	Adds new configuration element and parameters to support MSRP
media-manager > tcp-media-profile > tcp-media-profile-entry	<ul style="list-style-type: none"> <li>• media-type</li> <li>• transport-protocol</li> <li>• listen-port</li> <li>• preferred-setup-role</li> <li>• tls-profile</li> <li>• require-fingerprint</li> </ul>	Adds new sub-configuration element and parameters to support MSRP
media-manager > realm-config	<ul style="list-style-type: none"> <li>• tcp-media-profile</li> </ul>	Adds parameter to support MSRP
security > password-policy	<ul style="list-style-type: none"> <li>• expiry-interval</li> </ul>	Adds parameter that specifies the maximum lifetime in days.
security > password-policy	<ul style="list-style-type: none"> <li>• password-change-interval</li> </ul>	Adds parameter that specifies the minimum password lifetime.
security > password-policy	<ul style="list-style-type: none"> <li>• expiry-notify-period</li> </ul>	Adds parameter that specifies the number of days prior to expiration that users begin to receive password expiration notifications.
security > password-policy	<ul style="list-style-type: none"> <li>• grace-period</li> </ul>	Adds parameter that specifies the time after a password expiration, the user has until forced to change password.
security > password-policy	<ul style="list-style-type: none"> <li>• grace-logins</li> </ul>	Adds parameter that specifies the number of logins after a password expiration, the user has until forced to change password.
security > password-policy	<ul style="list-style-type: none"> <li>• password-history-count</li> </ul>	Adds parameter that specifies the number of previously used passwords retained in encrypted format in the password history cache.
security > password-policy	<ul style="list-style-type: none"> <li>• password-policy-strength</li> </ul>	Adds parameter that enables the enhanced password strength requirements provided by the new Admin Security ACP license.

## SNMP Changes

This section summarizes the SNMP/MIB changes that appear in Net-Net OS Release S-CX6.4.0 GA.

Availability	Changes	MIB Details	Description
<b>S-CX6.4.0</b>		<b>Hosted Security Certificate Expiration</b>	
	Capability group in ap-agentcapability.mib	apSecurityCertificateCap Includes: <ul style="list-style-type: none"> <li>• apSecurityCertObjectsGroup</li> <li>• apSecurityCertNotificationsGroup</li> </ul> (apSecurityMibCapabilities 7)	Acme Packet agent capability

Availability	Changes	MIB Details	Description
<b>S-CX6.4.0</b>	Object group in ap-security.mib	apSecurityCertObjectsGroup Objects: <ul style="list-style-type: none"> <li>• apSecurityCertificateRecordName</li> <li>• apSecurityCertificateCertSubject</li> <li>• apSecurityCertificateCertStart</li> <li>• apSecurityCertificateCertExpire</li> <li>• apSecurityCertificateCertIssuer</li> <li>• apSecurityCertificateCertIsCA</li> </ul> (apSecurityGroups 4)	Objects to identify the security certificate installed locally on the Net-Net SBC and its expiration time.
	Notifications group in ap-security.mib	apSecurityCertNotificationsGroup <ul style="list-style-type: none"> <li>• apSecurityCertExpiredNotification</li> <li>• apSecurityCertExpireSoonNotification</li> </ul> (apSecurityNotificationsGroups 7)	Traps generated when a security certificate is due to or has expired.
	<b>DNS ALG Message Throttling</b>		
	Capability group in ap-agentcapability.mib	apDNSALGStatsGroupCap Includes: <ul style="list-style-type: none"> <li>• apDnsAlgServerStatusGroup</li> <li>• apDnsAlgStatsGroup</li> </ul> (apDNSALGMibCapabilities 1)	Acme Packet agent capability
	Object group in ap-dnsalg.mib	apDnsAlgServerStatusGroup Objects: <ul style="list-style-type: none"> <li>• apDNSALGConfigIndex</li> <li>• apDNSALGServerIndex</li> <li>• apDNSALGConfigName</li> <li>• apDNSALGServerRealm</li> <li>• apDNSALGDomainSuffix</li> <li>• apDNSALGServerIpAddress</li> <li>• apDNSALGServerStatus</li> </ul> (apDNSALGObjectGroups 1)	Objects to identify the DNS server and status.
	Object group in ap-dnsalg.mib	apDnsAlgStatsGroup Objects: <ul style="list-style-type: none"> <li>• apDnsAlgClientRealmIndex</li> <li>• apDnsAlgClientRealmName</li> <li>• apDnsAlgCurrentQueries</li> <li>• apDnsAlgTotalQueries</li> <li>• apDnsAlgCurrentSuccess</li> <li>• apDnsAlgTotalSuccess</li> <li>• apDnsAlgCurrentNotFound</li> <li>• apDnsAlgTotalNotFound</li> <li>• apDnsAlgCurrentTimeOut</li> <li>• apDnsAlgTotalTimeOut</li> <li>• apDnsAlgCurrentBadStatus</li> <li>• apDnsAlgTotalBadStatus</li> <li>• apDnsAlgCurrentOtherFailures</li> <li>• apDnsAlgTotalOtherFailures</li> <li>• apDnsAlgAvgLatency</li> <li>• apDnsAlgMaxLatency</li> <li>• apDnsAlgMaxBurstRate</li> </ul> (apDNSALGObjectGroups 2)	Objects to identify the constraint policy statistics for the given DNS server.
	Capability group in ap-agentcapability.mib	apDNSALGNotifGroupCap Includes: <ul style="list-style-type: none"> <li>• apDNSALGNotifGroupCap</li> </ul> (apDNSALGMibCapabilities 2)	Acme Packet agent capability

Availability	Changes	MIB Details	Description
<b>S-CX6.4.0</b>	Object group in ap-dnsalg.mib	apDNSALGNotifGroupCap <ul style="list-style-type: none"> <li>• apDnsAlgStatusChangeTrap</li> <li>• apDnsAlgStatusChangeClearTrap</li> <li>• apDnsAlgConstraintStateChangeTrap</li> <li>• apDnsAlgConstraintStateChangeClearTrap</li> <li>• apDnsAlgSvrConstraintStateChangeTrap</li> <li>• apDnsAlgSvrConstraintStateChangeClearTrap</li> </ul> (apDNSALGNotificationGroups 1)	Traps sent when the reachability status of a DNS server changes, or the constraint status of a DNS object changes.
	<b>IPv6 Support for ENUM Servers</b>		
	Capability group in ap-agentcapability.mib	apAppsENUMStatusGroupCap Includes: <ul style="list-style-type: none"> <li>• apAppsENUMServerStatusGroup</li> </ul> (apAppsMibCapabilities 1)	Acme Packet agent capability
	Object group in ap-apps.mib	apAppsENUMServerStatusGroup <ul style="list-style-type: none"> <li>• apAppsENUMConfigName,</li> <li>• apAppsENUMServerInetAddressType,</li> <li>• apAppsENUMServerInetAddress,</li> <li>• apAppsENUMServerStatus</li> </ul> (apAppsObjectGroups 1)	Objects added to support and identify IPv6 ENUM servers.
	Capability group in ap-agentcapability.mib	apAppsENUMSvrNotifGroupCap Includes: <ul style="list-style-type: none"> <li>• apAppsEnumServerNotificationsGroup</li> </ul> (apAppsMibCapabilities 3)	Acme Packet agent capability
<b>S-CX6.4.0</b>	Notifications group in ap-security.mib	apAppsEnumServerNotificationsGroup: <ul style="list-style-type: none"> <li>• apAppsENUMServerStatusChangeTrap</li> </ul> (apAppsNotificationGroups 1)	Trap generated if the status of an IPv6 ENUM server changes.
	<b>DNS Server Status</b>		
	Capability group in ap-agentcapability.mib	apAppsDNSStatusGroupCap Includes: <ul style="list-style-type: none"> <li>• apAppsDnsServerStatusGroup</li> </ul> (apAppsMibCapabilities 2 )	Acme Packet agent capability
	Object group in ap-apps.mib	apAppsDnsServerStatusGroup: <ul style="list-style-type: none"> <li>• apAppsDnsInterfaceName,</li> <li>• apAppsDnsServerInetAddressType,</li> <li>• apAppsDnsServerInetAddress,</li> <li>• apAppsDnsServerStatus</li> </ul> (apAppsObjectGroups 2)	Group of objects to identify the status of a DNS server used by a SIP daemon.
	Capability group in ap-agentcapability.mib	apAppsDNSSvrNotifGroupCap Includes: <ul style="list-style-type: none"> <li>• apAppsDnsServerNotificationsGroup</li> </ul> (apAppsMibCapabilities 4)	Acme Packet agent capability
<b>S-CX6.4.0</b>	Object group in ap-smgmt.mib	apAppsDnsServerNotificationsGroup: <ul style="list-style-type: none"> <li>• apAppsDnsServerStatusChangeTrap</li> </ul> (apAppsNotificationGroups 2)	Trap generated when the status of a DNS server used by a SIP daemon changes.
	<b>DIAMETER Management</b>		

Availability	Changes	MIB Details	Description
	Capablilty group in ap-agentcapability.mib	apDiamMibCap Includes: <ul style="list-style-type: none"> <li>• apDiamACCTObjectsGroup</li> <li>• apDiamACCTNotificationsGroup</li> <li>• apDiamClfErrorStatsGroup</li> <li>• apDiamACCTResultObjectsGroup</li> <li>• apDiamACCTResultNotificationsGroup</li> </ul> (apDiamMibCapabilities 1)	Acme Packet agent capability
	Object group in ap-diameter.mib	apDiamACCTObjectsGroup Objects: <ul style="list-style-type: none"> <li>• apDiamAcctSrvrHostName</li> <li>• apDiamAcctSrvrIPPort</li> <li>• apDiamAcctSrvrOriginRealm</li> <li>• apDiamAcctSrvrOriginHost</li> <li>• apDiamAcctSrvrOriginTransportType</li> </ul> (apDiamNotificationGroups 1)	Object group accessible only to traps for Diameter Server information.
	Object group in ap-diameter.mib	apDiamACCTNotificationsGroup Objects: <ul style="list-style-type: none"> <li>• apDiameterAcctSrvrUpTrap</li> <li>• apDiamAcctSrvrDownTrap</li> <li>• apAcctMsgQueueFullTrap</li> <li>• apAcctMsgQueueFullClearTrap</li> </ul> (apDiamNotificationGroups 2)	Notification group for Diameter server events.
	Trap in ap-diameter.mib	apDiameterAcctSrvrUpTrap Includes: <ul style="list-style-type: none"> <li>• apDiamAcctSrvrHostName</li> <li>• apDiamAcctSrvrIPPort</li> <li>• apDiamAcctSrvrOriginRealm</li> <li>• apDiamAcctSrvrOriginHost</li> <li>• apDiamAcctSrvrOriginTransportType</li> </ul> (apDiamNotifications 1)	Trap generated when the Diameter Accounting server becomes available
	Trap in ap-diameter.mib	apDiamAcctSrvrDownTrap Includes: <ul style="list-style-type: none"> <li>• apDiamAcctSrvrHostName</li> <li>• apDiamAcctSrvrIPPort</li> <li>• apDiamAcctSrvrOriginRealm</li> <li>• apDiamAcctSrvrOriginHost</li> <li>• apDiamAcctSrvrOriginTransportType</li> </ul> (apDiamNotifications 2)	Trap generated when the Diameter Accounting server goes down.
	Trap in ap-diameter.mib	apAcctMsgQueueFullTrap Includes: <ul style="list-style-type: none"> <li>• apAcctMsgQueueAvailCurrent</li> <li>• apAcctMsgQueueMinorThreshold</li> <li>• apAcctMsgQueueMajorThreshold</li> <li>• apAcctMsgQueueCriticalThreshold</li> </ul> (apDiamNotifications 3)	Trap generated when the accounting message queue is full and all accounting servers are down.
	Trap in ap-diameter.mib	apAcctMsgQueueFullClearTrap Includes: <ul style="list-style-type: none"> <li>• apAcctMsgQueueAvailCurrent</li> <li>• apAcctMsgQueueMinorThreshold</li> <li>• apAcctMsgQueueMajorThreshold</li> <li>• apAcctMsgQueueCriticalThreshold</li> </ul> (apDiamNotifications 4)	Trap generated when the accounting message queue has fallen below the apAcctMsgQueueMinorThreshoId, and all accounting servers are up.

Availability	Changes	MIB Details	Description
	Object group in ap-diameter.mib	apDiamClfErrorStatsGroup Includes: <ul style="list-style-type: none"> <li>• apDiamClfExtPolSvrName</li> <li>• apDiamClfErrorsRecent</li> <li>• apDiamClfErrorsTotal</li> <li>• apDiamClfErrorsPerMax</li> </ul> (apDiamObjectGroups 1)	Object group for CLF statistics of external policy server errors.
	Object group in ap-diameter.mib	apDiamACCTResultObjectsGroup Includes: <ul style="list-style-type: none"> <li>• apDiameterResultCode</li> </ul> (apDiamNotificationGroups 3)	Object group accessible only to traps for Result-Code (268) AVP value.
	Notification group in ap-diameter.mib	apDiamACCTResultNotificationsGroup Includes: <ul style="list-style-type: none"> <li>• apDiameterSvrErrorResultTrap</li> <li>• apDiameterSvrSuccessResultTrap</li> </ul> (apDiamNotificationGroups 4)	Notification group for Diameter server result events.
	Trap in ap-diameter.mib	apDiameterSvrErrorResultTrap Includes: <ul style="list-style-type: none"> <li>• apDiamAcctSvrHostName</li> <li>• apDiamAcctSvrIPPort</li> <li>• apDiamAcctSvrOriginRealm</li> <li>• apDiamAcctSvrOriginHost</li> <li>• apDiamAcctSvrOriginTransportType</li> </ul> (apDiamNotifications 5)	Generated when the Diameter Server returns 3xxx (Protocol Errors), 4xxx (Transient Failures), or 5xxx (Permanent Failure) Result-Code AVP (268).
	Trap in ap-diameter.mib	apDiameterSvrSuccessResultTrap Includes: <ul style="list-style-type: none"> <li>• apDiamAcctSvrHostName</li> <li>• apDiamAcctSvrIPPort</li> <li>• apDiamAcctSvrOriginRealm</li> <li>• apDiamAcctSvrOriginHost</li> <li>• apDiamAcctSvrOriginTransportType</li> </ul> (apDiamNotifications 6)	After an error result, generated when the Diameter Server returns a 2xxx (Success) Result-Code AVP (268).
<b>S-CX6.4.0</b>		<b>DIAMETER Management</b>	
	Capablilty group in ap-agentcapability.mib	apSmgmtDOSNotifyTrustedtoUntrustedCap: apSysMgmtInetAddrDOSTrustedtoUntrustedNotificationsGroup (apSmgmtMibCapabilities 51)	Acme Packet Agent Capability
	Trap in ap-sysmgmt.mib	apSysMgmtInetAddrDOSTrustedtoUntrustedNotificationsGroup: apSysMgmtInetAddrTrustedToUntrustedDOSTrap (apSystemManagementNotificationsGroups 38)	Generated when an IP is placed on a untrusted list from trusted list. The trap provides the IP address that has been demoted, the realm-id of that IP (if available), the URI portion of the SIP From header of the message that caused the demotion.

## Accounting VSA Changes

There are no VSA changes for Net-Net OS Release S-CX6.4.0.

## Known Issues

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### HMR Limitation

The following parameters may not be configured with a name longer than 24 characters:

```

sip-manipulation > name
header-rules > name
header-rules > element-rules > name
mime-rules > name
mime-rules > mime-header-rules > name
mime-isup-rules > name
mime-isup-rules > mime-header-rules > name
mime-isup-rules > isup-param-rules > name
sip-manipulation > mime-sdp-rules > name
sip-manipulation > mime-sdp-rules > mime-header-rules > name
sip-manipulation > mime-sdp-rules > sdp-session-rules > name
sip-manipulation > mime-sdp-rules > sdp-session-rules > sdp-line-rules
> name
sip-manipulation > mime-sdp-rules > sdp-media-rules > name
sip-manipulation > mime-sdp-rules > sdp-media-rules > sdp-line-rules >
name

```

Existing SIP manipulations whose **name** parameter is greater than 24 characters will continue to function. You may modify any other parameter within any subelement of the existing **sip-manipulation**, **header-rules**, **mime-rules**, and **mime-isup-rules** and the configuration will save and retain its functionality. You cannot save these existing configuration elements if you modify the name or \*-rules parameters and it remains longer than 24 characters.

This limitation also applies for realm-config > realm-id parameter and wherever it is referenced.

### Message Rate Statistics

The Msg Sent and Req Sent fields are not populated in the in the display of the **show enum rate** and **show enum rate** <config-name> commands' output.





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ModExp / RSA (with/without KM) plugin API

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## **xntp Time Synchronization Library**

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**zlib Data  
Compression  
Library**

version 1.2.5, April 19th, 2010

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**dosfstools**

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**e2fsprogs**

Utilities: GPL 2.0 - See APPENDIX B Libraries: LGPL 2.1 - See APPENDIX A

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Doug Gilbert 4th January 2009

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