Oracle® Communications Session Border Controller

Release Notes

Release S-CX6.3.0

Formerly Net-Net Session Director

October 2013

ORACLE

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About this Guide

Overview

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 Acme 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-CX6.3.0 is supported on the Acme Packet 4500 and Acme Packet 3800 series platforms.

Related Documentation

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 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
April 30, 2012	Revision 1.0	• Initial Release
May 2, 2012	Revision 1.01	• Adds entry to Removed ACLI Parameter table
October 9, 2012	Revision 1.05	• Adds S-CX6.3.0 Upgrade Prerequisites section
October 12, 2012	Revision 1.06	• Removes prerelease notes in Known Issues section
May 13, 2013	Revision 1.07	• Adds more detail to HMR limitation section

Net-Net OS S-CX6.3.0 Release Notes

Introduction

The *Net-Net OS S-CX6.3.0 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
- An overview of changes to the Acme Packet Technical Publications documentation set that supports the Net-Net 3000 and 4000 series products using the ACLI

Hardware Platform Support

Net-Net Session Director no longer supports the Net-Net 4250 Hardware platform.

Included Releases

S-CX6.3.0 includes all features in 6.3.0f1, 6.3.0f2 and introduces the following features in this GA release:

- DTMF Conversion Processing (14)
- SBC Processing Language (SPL) (20)
- SCTP Support (20)

S-CX6.3.0 includes features delivered into and through the following Net-Net releases:

- C6.0.0m8
- C6.1.0m10
- C6.2.0m8

S-CX6.3.0 Upgrade Prerequisites

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 (30) section for any caveats involving software upgrades.

S-CX6.3.0 New Features

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

SIP Features

SIP Session Timer Feature

The Net-Net SBC provides a SIP session timer feature that, when enabled, forwards the re-INVITE or UPDATE requests from a User Agent Client (UAC) to a User Agent Server (UAS) in order to determine whether or not a session is still active. This refresh feature works for both UAs and proxies.

First availability: S-CX6.3.0

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

"Recurse 305 Only" Redirect Action

The Net-Net SBC has a SIP feature called redirect action. This is a feature that allows the Net-Net SBC, acting as a SIP Proxy or a Session Agent, to redirect SIP messages after receiving a SIP redirect (3xx) response. Previously, for the ACLI objects of sip-interface and session-agent on the Net-Net SBC, you could set the redirect-action parameter to "**proxy**" or "**recurse**". In Release 6.3 you can additionally set a value of "**recurse-305-only**" for the redirect-action parameter.

First availability: S-CX6.3.0

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

Expedited Call Leg Release for Preempted Hairpin Calls

When this feature is enabled, the orphaned call leg in the hairpin scenario will be torn down after the **initial guard timer** expires**.** The disconnect times of the two call legs, as recorded by the accounting application, will be significantly different, due to the initial guard time for the second call leg.

First availability: S-CX6.3.0

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

Header Manipulation Rules for SDP

Prior releases support SIP header and parameter manipulation rules for four types of SIP message contents:

- headers
- elements within headers
- ASCII-encoded Multipurpose Internet Mail Extensions (MIME) bodies
- binary-encoded MIME ISDN User Part (ISUP) bodies

While Session Description Protocol (SDP) offers and answers can be manipulated in a fashion similar to ASCII-encoded MIME, such manipulation is primitive in that it lacks the ability to operate at the SDP session- and media-levels.

Release S-CX6.3.0 supports a new variant of Header Manipulation Rules (HMR) operating on ASCII-encoded SDP bodies, with specific element types for descriptors at both the session-level and media-level, and the ability to apply similar logic to SDP message parts as is done for SIP header elements.

Release S-CX6.3.0 adds a new configuration object (*mime-sdp-rules*) under *sip-manipulation* to specifically address the manipulation of SDP parts in SIP messages. Just as existing header-rules are used to manipulate specific headers of a SIP message, mime-sdp-rules will be used to manipulate the SDP specific mime-attachment of a SIP message.

First availability: S-CX6.3.0

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

Network Management Control State via SNMP

You can show the state of a particular network management control by polling the apNetMgmtCtrlStatsTable. A new variable, apNetMgmtCtrlStatsState, has been added to this table to determine if a particular network management control is enabled or disabled. See Network Management Control State (19).

First availability: S-CX6.3.0

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

SIP-KPML to RFC 2833 Conversion for DTMF Events

The Net-Net SBC supports SIP KPML to RFC 2833 conversion for DTMF events.

First availability: S-CX6.3.0

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

Keep-Alive with CR/LF 2832

The Net-Net SBC provides an alternative NAT (Network Address Translator) Traversal method. The alternative method is based upon RFC 5626, *Managing Client-Initiated Connections in the Session Initiation Protocol (SIP)*, and RFC 6223. Unlike the current SBC-centric method, the new alternative requires the active participation of the SIP endpoint. With this method the SIP endpoint and the SBC negotiate a request / response message sequence which generates sufficient traffic flow to maintain NAT bindings.

First availability: S-CX6.3.0

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

SIP Event Package for Registrations

Support for the SIP Event Package for Registrations was initially provided by Release S-C4.1.1. This implementation, however, required that subscription to the SIP Registration Event Package be initiated by the SIP endpoint. The role of the Acme Packet Session Director (SD) was essentially confined to Network Address Translation (NAT), and ensuring compliance to XML and protocol standards. This initial implementation is described in *SIP Registration Event Package Support* section of the *SIP Signaling Services* chapter of the latest iteration of the ACLI Configuration Guide.

At the time of the initial support offering, and at the current time, most SIP endpoints were/are incapable of generating a subscription request. Consequently, This release enables the SD, acting as a Proxy Call Session Control Function (P-CSCF) to initiate subscription to the SIP Event Package for Registrations.

First availability: S-CX6.3.0

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

Embedded Routes in Redirect Responses

When the Net-Net SBC recurses as the result of a redirect (3xx) response, the server might need to specify one or more intermediate hops. These hops are reflected in the Contact header for the 3xx response using embedded route headers.

You can configure your Net-Net SBC to specify that embedded headers in 3xx Contact headers are to be included in new requests such that they are tied to a session agent representing the new target (server.example.com).

First availability: S-CX6.3.0

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

IWF Features

DTMF Conversion Processing

The Net-Net SBC supports graceful call completion when orchestrating SIP INFO DTMF-to-RFC2833 tone translation call closure.

First availability: S-CX6.3.0

Feature Description Location: ACLI Configuration Guide, IWF Chapter

Session Routing and Load Balancing Features

LRT Entry Matching

When searching an LRT for a matching route, the Net-Net SBC can be configured with one of three match modes.

First availability: S-CX6.3.0

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

LRT String Lookup

The Net-Net SBC can search an LRT for either E.164 or string table keys. This selection is on a global basis.

First availability: S-CX6.3.0

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

Directed Egress Realm from LRT/ENUM

A message can be sent into a specific egress realm identified in an ENUM query or LRT lookup. The egress realm is noted by a configurable parameter in the result URI. The Net-Net SBC is configured with the name of this parameter, that indicates an egress realm name, and looks for it in the returned URI.

First availability: S-CX6.3.0

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

SIP Embedded Route Header

The Net-Net SBC examines the ENUM and LRT lookup result for embedded Route headers. When the ENUM or LRT result becomes the top Route header, any embedded Route headers extracted are inserted just after that top Route (which will always be a loose route and include the "lr" URI parameter).

First availability: S-CX6.3.0

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

LRT Lookup Key Creation

In addition to the standard From, To, and P-Asserted-Identity header fields the Net-Net SBC can use the values from any arbitrary SIP header as an LRT or ENUM lookup key.

First availability: S-CX6.3.0

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

Retargeting LRT/ENUM-based Requests

Request re-targeting is when a target or a request as indicated in the Request-URI, is replaced with a new URI. When this feature is enabled, or the original Request-URI is the Net-Net SBC itself, the URI from the LRT lookup is used as the new Request-URI for the outgoing request.

First availability: S-CX6.3.0

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

Recursive ENUM Queries

If the Net-Net SBC receives an A-record in response to an ENUM query, it will re-send that ENUM query to the server received in the A-record.

First availability: S-CX6.3.0

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

Security Features

DDoS Increased Count of Trusted Endpoints

The latest Distributed Denial of Service (DDoS) protection enhancement increases the size of the trusted endpoint population for IPv4 or IPv6 endpoints.

Support for the increased count of trusted entities is dependant of the presence of the optional 256K Content Addressable Memory (CAM).

With this feature, the following ACLI commands have been obsoleted: **min-media-allocation** (the minimum number of NAT entries guaranteed for media flows), **min-trusted-allocation** (the minimum number of NAT entries guaranteed for trusted flows, and **deny-allocation** (the minimum number of NAT entries guaranteed for untrusted flows).

First availability: S-CX6.3.0

Feature Description Location: ACLI Configuration Guide, Security Chapter

ETC Network Interface Unit

This release includes support for a new network interface unit (NIU), the Enhanced Traffic Controller (ETC), that provides increased Transmission Control Protocol (TCP), Transport Layer Security (TLS) and Secure Real-time Transport Protocol (SRTP) capacity.

The ETC provides the following:

- offload of processor-intensive tasks such as IPsec/SRTP/TLS encryption, and TCP/TLS termination
- a greater than 300% increase in the number of supported SIP-TLS connections;

  - a 400-500% increase in the number of supported SRTP call legs
  - SFP-compatible (Small Form-Factor Pluggable) 1Gbps Ethernet interfaces for fiber optic or copper network connectivity;
  - integrated hardware for QoS monitoring and reporting

The ETC NIU introduces two functionality changes from prior behavior.

- MKI Maximum Length—The ETC NIU accepts an SRTP Master Key Identifier (MKI), the source of session keys, of between 1 and 16 bytes on *incoming* SRTP data flows. On outgoing SRTP data flows, the ETC NIU continues to use a 4-byte MKI value.
- SRTP Security Policies—The ETC NIU simplifies SRTP operations for eliminating the need for the configuration of SRTP security policies. As a result, the ETC NIU does not support **srtp** as the value for the action attribute of a security policy configuration object.

First availability: S-CX6.3.0

FIPS Compliance

This release includes cryptographic capabilities and algorithms that conform to Federal Information Processing Standards (FIPS). Specific standards implemented include those described in *Security Requirements For Cryptographic Modules* (FIPS PUB 140-2), and others described in *NIST Special Publication 800-90, Recommendation for Random Number Generation Using Deterministic Random Bit Generators (Revised), March 2007*.

First availability: S-CX6.3.0

Feature Description Location: ACLI Configuration Guide, Security Chapter

Online Certificate Status Protocol

This release brings Acme Packet's Online Certificate Status Protocol (OCSP) client implementation into compliance with various Defense Information Systems Agency (DISA) and Department of Defense (DoD) requirements contained in *Department of Defense Unified Capabilities Requirements 2008 (UCR 2008) Change 1 - Final*, January 2010 and *Department of Defense Unified Capabilities Requirements 2010 (UCR 2010) - Final*, January 2011.

Specific changes support (1) a DISA-compliant OCSP client response when faced with an unreachable OCSP responder (OCSR), (2) OCSR access via a fully qualified domain name (FQDN), and (3) a DISA-compliant procedure used by the client to authenticate an OCSR.

This release also provides new monitoring facilities to record the availability of known OCSRs.

First availability: S-CX6.3.0

Feature Description Location: ACLI Configuration Guide, Security Chapter

TLS Enhancements

This release updates the Transport Layer Security (TLS) Protocol to support interworking between IPv6 and IPv4 endpoints. A second update improves support in call recording environments. This update enables the decryption of TLS/SRTP packets in Session Replication for Recording (SRR) environments where incoming and outgoing traffic is copied and forwarded to a Call Recording Server (CRS) for forensic or training purposes.

First availability: S-CX6.3.0

Feature Description Location: ACLI Configuration Guide, Security Chapter

ARIA Cipher Support

This release introduces support for ARIA, a block cipher selected by the Korean Agency for Technology and Standards as a standard cryptographic Technique.

The Acme Packet SD now supports the ARIA cipher with a 192-bit key in counter mode for RTP and RTCP encryption; authentication is supported by HMAC_SHA1 with either 32-bit or 80-bit keys.

First availability: S-CX6.3.0

Feature Description Location: ACLI Configuration Guide, Security Chapter

Multi-system Selective SRTP Pass-through

Initially, each SD in a SRTP media path served as a proxy for the media — always decrypting inbound traffic, and encrypting outbound traffic.

The Net-Net SBC now supports a new, alternative processing mode, referred to as *Multi-system Selective SRTP Pass-through Mode*. In this new mode encryption and decryption of SRTP media is handled by the SRTP endpoints, the *calling* and *called* parties. Off-load of the processor-intensive encryption.decryption provides the SD with the ability to handle a larger number of simultaneous SRTP sessions.

With Multi-system Selective SRTP Pass-through enabled, the SD can configured to selectively allow hair-pinned (spiral) SRTP packets to pass through the SD without encryption or decryption. Note that hair-pinned calls are those calls where the calling and called parties are within the same realm and/or within the same sub-network.

First availability: S-CX6.3.0

Feature Description Location: ACLI Configuration Guide, Security Chapter

IMS Features

S-CSCF Target Caching and Invalidation

In IMS architectures, the Net-Net SBC can form these roles:

- An access session border controller, acting as the media front end to a third-party proxy CSCF (P-CSCF)
- Combined access session border controller and P-CSCF

In both, the Net-Net SBC needs to resolve the next-hop signaling element with DNS using these methods: NAPTR resource record, DNS SRV, and DNS address query (A-query).

Additionally, the Net-Net SBC can also now be configured to use DNS for the purposes of load balancing toward the core network elements and resiliently tracking failures.

First availability: S-CX6.3.0

Feature Description Location: ACLI Configuration Guide, IMS Chapter

Accounting Features

Media Stop Time VSA in CDRs

An accurate portrayal of a call's media stop time is important for billing accuracy. Calls are often terminated well after the media has stopped flowing for such reasons as network or equipment peculiarities.

First availability: S-CX6.3.0

Feature Description Location: Accounting Guide, Configuring Accounting Chapter

Management Features

Tech Support Show Command

The **show support-info** command has been extended to easily gather media-only and signaling-only statistics and operating parameters. In additions, security commands have been included in the baseline command output. By default, the output of the **show support-info** command does not include the running-config.

First availability: S-CX6.3.0

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

Extended Bootparameter Target Name

The target name parameter configuration length has been increased to a maximum of 38 characters (an additional 18 characters over prior releases).

First availability: S-CX6.3.0

Admission Control Features

SIP Whitelists

A whitelist is an approved list of entities for which equipment provides particular privileges, access, and recognition. The Net-Net SBC can use configured whitelist profiles to control and accept specific inbound SIP headers and URI parameters that are being passed-through the Net-Net SBC. When you configure this feature, the Net-Net SBC rejects requests not matching the configured profile, or removes the unspecified headers or URI parameters not in the configured profile.

First availability: S-CX6.3.0

Feature Description Location: ACLI Configuration Guide, Admission Control and Quality of Service Chapter

External Policy Servers Features

Diameter based RACF & CLF IPv6 Support

The Net-Net SBC supports Diameter-based CLF and RACF external policy servers in both IPv4 and IPv6 networks. There are three areas of enhanced functionality where the Net-Net SBC's Diameter external policy server offerings have changed.

1. AVP support of IPv6 addresses encoded in UTF-8 format
2. Extra bandwidth allocation in policed flows to compensate for longer addresses

3. Framed-IPv6-Prefix AVP (97) support

First availability: S-CX6.3.0

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

FQDN as Address for External Policy Server

You can configure an external policy server's address as an FQDN in addition to an IP address.

First availability: S-CX6.3.0

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

Diameter Policy Server High Availability

The Net-Net SBC can provide external policy server redundancy through a combination of multiple servers being returned in one FQDN query and maintaining state of these servers.

When multiple IP addresses are returned in a response to a DNS query for Diameter-based external policy servers, the Net-Net SBC assembles the IP addresses into an HA cluster which provides redundancy for Diameter-based applications. This feature is enabled by configuring the external policy server's **address** parameter with an FQDN.

First availability: S-CX6.3.0

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

SNMP Features

SNMPv3 Secure Traps

The Net-Net SBC supports SNMPv3, which provides the SNMP agent and SNMP Network Management System (NMS) with authentication, privacy, and access control during the delivery of secured traps. Currently, SNMPv3 traps are supported on the Net-Net SBC; SNMPv3 Get/Get-Bulk/Set actions are not supported at this time.

First availability: S-CX6.3.0

Feature Description Location: Net-Net 4000 S-CX6.3.0 MIB Reference Guide, Acme Packet MIBS Chapter

Network Management Control State

You can show the state of a particular network management control by polling the apNetMgmtCtrlStatsTable. A new variable, apNetMgmtCtrlStatsState, has been added to this table to determine if a particular network management control is enabled or disabled.

First availability: 6.3.0

Feature Description Location: Net-Net 4000 S-CX6.3.0 MIB Reference Guide, Enterprise SNMP GET Requests Chapter

Additional Features

Configuration File Format

Configuration files, referred to as *config* files, are stored in XML format. Releases prior to C630F1 saved certain special characters in a non-standard XML format. From release C630F1 and forward, these characters are saved in formats compliant with current W3C XML standards.

First availability: S-CX6.3.0

Feature Description Location: Maintenance and Troubleshooting Guide, Working with Configurations Chapter

SBC Processing Language (SPL)

SPL provides a means for Acme Packet to craft solutions and features to unique problems and deploy them in a portable plugin-type software package. SPL plugins are uploaded to the Net-Net SBC, marked to be executed, and then perform a feature-like function as expected. SPL only works for SIP messaging. You may only run signed SPL files on your Net-Net SBC available directly from Acme Packet.

First availability: S-CX6.3.0

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

SCTP Support

Prior to Version S-CX6.3.0, Session Initiation Protocol (SIP) messaging was supported by either the User Datagram Protocol (UDP) or by the Transmission Control Protocol Version S-CX6.3.0(TCP) at the transport layer. With this release, transport layer support is also available from the Stream Control Transfer Protocol.

Support is compliant with both RFC 4168, *The Stream Control Transmission Protocol (SCTP) as a Transport for the Session Initiation Protocol (SIP)*, and with RFC 4960, *Stream Control Transmission Protocol*.

First availability: 6.3.0GA

Feature Description Location: ACLI Configuration Guide, System Configuration Chapter

Management Changes Summary

This section summarizes the projected ACLI, SNMP, and RADIUS accounting management changes for Net-Net OS Release S-CX6.3.0. Changes appearing in this document have been added since the availability of Net-Net OS C6.2.0.

ACLI Command Changes

This section summarizes the ACLI command changes that appear in Net-Net OS Release S-CX6.3.0.

Availability	Change	Description
nnSCX630f1	save-config standard	Adding command to save configuration files in standard XML format (that is non-parsable by a pre-S-Cx6.3.0 F1 image).
nnSCX630f1	save-config non-standard	Adding command to save configuration files in legacy XML format (the IS parsable by a pre-S-Cx6.3.0 F1 image).
nnSCX630f1	backup-config standard	Adding command to back up configuration files in standard XML format (that is non-parsable by a pre-S-Cx6.3.0 F1 image).
nnSC6X30f1	backup-config non-standard	Adding command to back up configuration files in legacy XML format (the IS parsable by a pre-S-Cx6.3.0 F1 image).
nnSCX630f1	show support info standard	Adding command to display information for all commands under the **show support info** umbrella.
nnSCX630f1	show support info custom	Adding command to use the /code/supportinfo.cmds file to determine what commands to encompass; the system creates the file for you if one does not already exist.
nnSCX630f1	show support info media	Adding command to execute and write only the **show media** command data to the support-info.log file.
nnSCX630f1	show support info signaling	Adding command to execute and write only the **show** command commands that display signaling data to the support-info.log file.
nnSCX630f1	start learn-allowed-elements • method • msg-type • params	Adding command to learn about allowed elements for possible inclusion in your Net-Net SBC's whitelists.
nnSCX630f1	stop learn-allowed-elements (new allowed-elements-profile name)	Adding command to stop learning about allowed elements for possible inclusion in your Net-Net SBC's whitelists. This operation also writes learning results to the editing configuration. You enter this command a new name for an allowed-elements-profile.
nnSCX630f1	show security fips	Adding command to display the current FIPS state. Only visible with FIPS license.
nnSCX630f1	show security srtp sdp	Not supported by the ETC NIU.
nnSCX630f1	show security srtp status	Not supported by the ETC NIU.

Availability	Change	Description
nnSCX630f1	show security srtp statistics	Not supported by the ETC NIU.
nnSCX630f1	show sa stats	Not supported by the ETC NIU when you use the additional **srtp** designation with the command.
nnSCX630f1	show security srtp sad	Not supported by the ETC NIU with the **brief** designation. Also unavailable on the ETC NIU: **sai-index**, **sad-index**, and **ssrc**.
nnSCX630f1	show nat flow-info all	Augmenting for use with the ETC NIU.
nnSCX630f1	show nat flow-info srtp statistics	Augmenting for use with the ETC NIU.
nnSCX630f1	show nat flow-info srtp by-addr	Augmenting for use with the ETC NIU.
nnSCX630f1	show mbcd errors	Augmenting for use with the ETC NIU.
nnSCX630f1	show mbcd statistics	Augmenting for use with the ETC NIU.
nnSCX630f1	show mbcd all	Augmenting for use with the ETC NIU.
nnSCX630f1	show sipd errors	Augmenting for use with the ETC NIU.
nnSCX630f1	show security srtp sessions	Augmenting for use with the ETC NIU.
nnSCX630f2	show acl	Augmented for use with Increased DDoS capacity
nnSCX630f2	show ext-band-mgr	Augmented for use with external policy server High Availability feature
nnSCX630f2	show policy-server	Augmented for use with external policy server High Availability feature
nnSCX630f2	synchronize spl	Used to copy SPL plugins across HA nodes.
nnSCX630f2	reset spl	Used to reload an SPL plugin
nnSCX630f2	show spl	Shows current statistics about the SPL engine and loaded plugins
nnSCX630f2	show mbcd statistics	Augmented for use with Multi-system Selective SRTP passthough

ACLI Configuration Changes

This section summarizes the ACLI command changes that first appear in Net-Net OS Release S-CX6.3.0.

Added ACLI Parameters

Availability	Change	Description
nnSCX630f1	session-router>sip-config>options>session-timer-support	Adding option to pre-existing **options** parameter to enable SIP session timer support.

nnSCX630f1	session-router>sip-interface>redirect-action>recurse-305-only	Adding value to the SIP interface's pre-existing parameter to support "SIP Recurse 305 Only" redirect action.
nnSCX630f1	session-router>session-agent>redirect-action>recurse-305-only	Adding value to the SIP session agent's pre-existing parameter to support "SIP Recurse 305 Only" redirect action.
nnSCX630f1	media-router>media-manager>options>dont-terminate-assoc-legs	Adding option to pre-existing **options** parameter to enable tearing down orhpaned call legs after the initial guard timer expires.
nnSCX630f1	session-router>media-profile>standard-pkt-rate	Adding parameter to set the standard packet rate you want to use when sending requests to the RACF for bandwidths requests.
nnSCX630f1	session-router>local-routing-config>match-mode	Adding parameter to enable LRT entry matching. Valid values are: • exact: search and table keys must be an exact match • best: the chosen match is the longest matching table key in the LRT • all: makes partial matches where the table's key is a prefix of the lookup key
nnSCX630f1	session-router>local-routing-config>string-lookup	Adding parameter to enable LRT look-ups on table keys of a string data type.
nnSCX630f1	session-router>sip-config>options>egress-realm-param=(x)	Adding option to pre-existing **options** parameter to enable direct egress realm support for LRT and ENUM look-ups.
nnSCX630f1	session-router>sip-config>options>use-embedded-route=(x)	Adding option to pre-existing **options** parameter to enable SIP embedded route header support. Valid values are: • all: use embedded routes from both LRT and ENUM look-ups (default) • none: do not use embedded routes • enum: use embedded route from ENUM results only • lrt: use embedded route from LRT results only
nnSCX630f1	session-router>local-routing-config>retarget-requests	Adding parameter to enable retargeting request messages when performing an LRT look-up.
nnSCX630f1	session-router>enum-config>retarget-requests	Adding parameter to enable retargeting request messages when performing an ENUM look-up.
nnSCX630f1	session-router>enum-config>recursive-query	Adding parameter to enable Net-Net SBC to query a DNS server for the hostname returned in an ENUM look-up result.

nnSCX630f1	session-router>allowed-elements-profile> • name • description • unmatched action • msg-type • methods • logging • header rule • header-name • unmatched-action • allow-header-param • allow-uri-param • allow-uri-user-param • allow-uri-header-name	Adding parameters to enable creating whitelists for SIP.
nnSCX630f1	security>security>config>image-integrity-value	Adding parameters to set the known SHA-256 HMAC value computed for the boot images.
nnSCX630f1	security>security>cert-status-profile>hostname	Adding hostname parameter for FQDN for OSCR
nnSCX630f1	security>security-config>ocsr-monitoring-traps	Adding parameters to enable OCSR monitoring traps to track OCSR reachability.
nnSCX630f1	session-router>call-recording-server>decrypt-tls	Adding parameter to enable TLS and SRTP decryption.
nnSCX630f1	session-router>sip-manipulation>mime-sdp-rule	Adding parameters to support header manipulations rules for SDP.
nnSCX630f1	session-router>mime-sdp-rule> • name • action • comparison-type • msg-type • methods • match-value • new-value • sdp-session-rule • sdp-media-rule	Adding new configuration element to support header manipulations rules for SDP.
nnSCX630f1	session-router>sdp-session-rule> • name • action • comparison-type • match-value • new-value • sdp-line-rule	Adding new configuration element to support header manipulations rules for SDP.
nnSCX630f1	session-router>sdp-media-rule> • name • media-type • action • comparison-type • match-value • sdp-line-rule	Adding new configuration element to support header manipulations rules for SDP.

nnSCX630f1	session-router>sdp-line-rule> • name • type • action • comparison-type • match-value • new-value	Adding new configuration element to support header manipulations rules for SDP.
nnSCX630f1	system>system-config> • snmp-agent-mode • snmp-engine-suffix-id	Adding new parameters to support SNMPv3 support.
nnSCX630f1	system>system-config>snmp-user-entry • user-name • auth-password • priv-password	Adding new subconfiguration to support SNMPv3 support.
nnSCX630f1	system>system-config>trap-receiver • user-list	Adding new parameters to support SNMPv3 support.
nnSCX630f2	media-manager > ext-policy-server • max-timeouts • max-connections • srv-selection-strategy	Used for configuration of external policy server High Availability feature
nnSCX630f2	session-router > sip-interface • kpml-interworking	Used to enabled SIP KMPL to RFC2833
nnSCX630f2	session-router > sip-interface • register-keep-alive	Enables RFC 5626, CRLF Keepalive methods for endpoints connected to this SIP interface
nnSCX630f2	system > spl-config • plugins system > spl-config > plugins • name • move	Configuration elements used to located and load SPL plugins.
nnSCX630f2	session-router > sip-interface • subscribe-reg-event	Enables SIP Event Package for Registrations feature.
nnSCX630f2	security > media-security > sdes-profile • crypto-list	ARIA cyphers added to list of encryption algorithms
nnSCX630f2	session-router > session-agent • load-balance-dns-query	Strategy used to choose a target IP address from a A Record that includes multiple IPs.
nnSCX630f2	media-manager > realm-config • srtp-msm-passthrough	Enables Multi system selective SRTP passthrough in this realm.
nnSCX630f2	security > security-config • srtp-msm-attr-name • srtp-msm-password	Parameters used for Multi-system Selective SRTP passthough

nnSCX630	session-router > sip-interface > sip-ports • multi-homed-addrs	Used to identify the multiple IP addresses that are bound for local multi homing.
nnSCX630	system > network-parameters • sctp-rto-initial • sctp-rto-max • sctp-rto-min • sctp-hb-interval • sctp-max-burst • sctp-sack-timeout • sctp-assoc-max-retrans • sctp-path-max-retrans	Used for configuring system-wide SCTP timers.

Removed ACLI Parameters

Release	Removed Parameter and Path	Resason
nnSCX630f2	media-manager > media-manager-config • min-media-allocation • min-trusted-allocation • deny-allocation	These 3 parameters have been removed as part of the DDoS Increased Capacity feautre.
nnSCX630	system > system-config • ipv6-support	This parameter has been removed because the IPv6 stack is always enabled

SNMP Changes

This section summarizes the SNMP/MIB changes that appear in Net-Net OS Release S-C6.3.0 GA.

Availability	Changes	MIB Details	Description
S-CX6.3.0		Whitelists for SIP	
	Capability group in ap-agentcapability.mib	apSmgmtRejectedMessagesCap Includes: • apSysMgmtRejectedMessagesGroup • apSysMgmtRejectedMessagesNotificationsGroup (apSmgmtMibCapabilities 37)	Acme Packet agent capability
	Object group in ap-smgmt.mib	apSysMgmtRejectedMessagesGroup Objects: • apSysRejected Messages (apSystemManagementGroups 18)	Objects to track the number of messages rejected by the SD.
	Object in ap-smgmt.mib	apSysRejectedMessages (apSysMgmtMIBGeneralObjects 18)	Number of messages rejected by the SD due to matching criteria.
	Object group in ap-smgmt.mib	apSysMgmtRejectedMessagesNotificationsGroup Objects: • apSysMgmtRejectedMesagesThresholdExeededTrap (apSystemManagementNotificationsGroups 26)	

Availability	Changes	MIB Details	Description
	Trap in ap-smgmt.mib	apSysMgmtRejectedMesagesThresholdExeededTrap (apSystemManagementMonitors 57)	Generates when the number of rejected messages exceeds the configured threshold within the configured window.
S-CX6.3.0		**Network Management Control State**	
	Capability group in ap-agentcapability.mib	apSmgmtCtrlStatsCap2 Includes: • apSysMgmtCtrlStatsGroup2 (apSmgmtMibCapabilities 44)	Acme Packet agent capability
	Object group in ap-smgmt.mib	apSysMgmtCtrlStatsGroup2 • apNetMgmtCtrlStatsState (apSystemManagementGroups 23)	Objects to track the state of a network management control.
	Object in ap-smgmt.mib	apSysMgmtCtrlStatsState (apNetMgmtCtrlStatsEntry 12)	State of a network management control.
S-CX6.3.0		**Security Notifications**	
	Capability group in ap-agentcapability.mib	apSecurityCap Includes: • apSecurityNotificationsGroup (apSecurityMibCapabilities 1)	Acme Packet agent capability
	Object group in ap-security.mib	apSecurityNotificationsGroup • apSecurityTunnelFailureNotification • apSecurityRadiusFailureNotification • apSecurityTunnelDPDNotification • apSecurityTacacsFailureNotification (apSecurityNotificationsGroups 4)	Notification objects for security features.
	Trap in ap-security.mib	apSecurityTunnelFailureNotification (apSecurityAuthNotifications 1)	This notification is generated when an IPSEC IKEV2 tunnel fails.
	Trap in ap-security.mib	apSecurityRadiusFailureNotification (apSecurityAuthNotifications 2)	This notification is generated whenever Radius authentication request fails.
	Trap in ap-security.mib	apSecurityTunnelDPDNotification (apSecurityGeneralNotifications 1)	This notification is generated when an IPSEC IKEV2 tunnel fails due to Dead Peer Detection(DPD)
	Trap in ap-security.mib	apSecurityTacacsFailureNotification (apSecurityAuthNotifications 4)	This notification is generated when TACACS authentication requests fail.
S-CX6.3.0		**OCSP Responder Health**	
	Capability group in ap-agentcapability.mib	apSecurityCertStatusCap Includes: • apSecurityCRLRetrievalNotificationsGroup • apSecurityCrlNotificationsGroup • apSecurityOCSRNotificationsGroup (apSecurityMibCapabilities 5)	Acme Packet agent capability
	Notifications group in ap-security.mib	apSecurityCrlNotificationsGroup: • apSecurityCrlInvalidNotification (apSecurityNotificationsGroups 5)	

Availability	Changes	MIB Details	Description
	Notifications group in ap-security.mib	apSecurityOCSRNotificationsGroup: • apSecurityOCSRDownNotification • apSecurityOCSRUpNotification (apSecurityNotificationsGroups 4)	
	Trap in ap-security.mib	apSecurityCrlInvalidNotification (apSecurityCrlNotifications 1)	This notification is sent when an invalid CRL is detected.
	Trap in ap-security.mib	apSecurityOCSRDownNotification (apSecurityOCSRNotifications 1)	Generated when an OSCR server becomes unreachable.
	Trap in ap-security.mib	apSecurityOCSRUpNotification (apSecurityOCSRNotifications 2)	Generated when an OSCR server becomes available.
S-CX6.3.0		**Rejected Calls Counter**	
	Capability group in ap-agentcapability.mib	apSmgmtCallsRejectedCap Includes: • apSysMgmtCallsRejectedGroup (apSmgmtMibCapabilities 46)	Acme Packet agent capability
	Object group in ap-smgmt.mib	apSysMgmtCallsRejectedGroup: • apSysSipTotalCallsRejected (apSystemManagementGroups 25)	
	Object in ap-smgmt.mib	apSysSipTotalCallsRejected (apSysMgmtMIBGeneralObjects 25)	Global counter for SIP calls that are rejected by the SBC.
S-CX6.3.0		**Realm-Specific Registration Counter**	
	Capability group in ap-agentcapability.mib	apSmgmtRealmRegCacheSummaryCap Includes: • apSysMgmtRealmRegCacheSummaryGroup (apSmgmtMibCapabilities 48)	Acme Packet agent capability
	Object group in ap-smgmt.mib	apSysMgmtRealmRegCacheSummaryGroup: • apSigRealmStatsActiveLocalContacts (apSystemManagementGroups 26)	
	Object in ap-smgmt.mib	apSigRealmStatsActiveLocalContacts (apSigRealmStatsEntry 31)	This object specifies the current domain count of active SIP registrations.
S-CX6.3.0		**SIP Subscriptions Management**	
	Capability group in ap-agentcapability.mib	apSmgmtSubscriptionSummaryCap Includes: • apSysMgmtSubscriptionSummaryGroup (apSmgmtMibCapabilities 49)	Acme Packet agent capability
	Object group in ap-smgmt.mib	apSysMgmtSubscriptionSummaryGroup: • apSysSipStatsActiveSubscriptions • apSysSipStatsPerMaxSubscriptions • apSysSipStatsMaximumActiveSubscriptions • apSysSipStatsTotalSubscriptions (apSystemManagementGroups 27)	
	Object in ap-smgmt.mib	apSysSipStatsActiveSubscriptions (apSysMgmtMIBGeneralObjects 27)	This object specifies the current global count of active SIP subscriptions.

Availability	Changes	MIB Details	Description
	Object in ap-smgmt.mib	apSysSipStatsPerMaxSubscriptions (apSysMgmtMIBGeneralObjects 28)	This object specifies the maximum global count of SIP subscriptions initiated during any 100 second period since the last SBC re-boot.
	Object in ap-smgmt.mib	apSysSipStatsMaximumActiveSubscriptions (apSysMgmtMIBGeneralObjects 29	This object specifies the maximum global count of active SIP subscriptions since the last SBC re-boot.
	Object in ap-smgmt.mib	apSysSipStatsTotalSubscriptions (apSysMgmtMIBGeneralObjects 30)	This object specifies the global count of active SIP subscriptions since the last SBC r e-boot.
S-CX6.3.0		**TACACs+**	
	Capability group in ap-agentcapability.mib	apSecurityTacacsCap Includes: • apSecurityTacacsObjectsGroup (apSecurityMibCapabilities 4)	Acme Packet agent capability
	Object group in ap-security.mib	apSecurityTacacsObjectsGroup: • apSecurityTacacsServer • apSecurityTacacsCliCommands • apSecurityTacacsSuccessAuthentication • apSecurityTacacsFailureAuthentication • apSecurityTacacsSuccessAuthorization • apSecurityTacacsFailureAuthorization (apSecurityGroups 3)	
	Object in ap-security.mib	apSecurityTacacsServer	
	Object in ap-security.mib	apSecurityTacacsCliCommands	Number of CLI commands sent for TACACS+ accounting
	Object in ap-security.mib	apSecurityTacacsSuccessAuthentication	Number of successful TACACS+ authentication requests
	Object in ap-security.mib	apSecurityTacacsFailureAuthentication	Number of failed TACACS+ authentication requests
	Object in ap-security.mib	apSecurityTacacsSuccessAuthorization	Number of successful TACACS+ authorization requests
	Object in ap-security.mib	apSecurityTacacsFailureAuthorization	Number of failed TACACS+ authorization requests

Accounting VSA Changes

This section summarizes the changes to the Net-Net SBC's VSA support for Net-Net OS Release S-CX6.3.0.

The following VSAs have been added to the RADIUS dictionary in conjunction with the Media Stop Time VSA in CDRs (18) feature.

Attribute Name	Attribute Description	Attribute Value	Attribute Value Type	Messages
Acme-Flow-Calling-Media-Stop-Time_FS1	calling side's media stop time - stream 1	231	string	• Start • Interim-Update • Interim-Update (error) • Stop
Acme-Flow-Called-Media-Stop-Time_FS1	called side's media stop time - stream 1	232	string	• Start • Interim-Update • Interim-Update (error) • Stop
Acme-Flow-Calling-Media-Stop-Time_FS2	calling side's media stop time - stream 2	233	string	• Start • Interim-Update • Interim-Update (error) • Stop
Acme-Flow-Called-Media-Stop-Time_FS2	called side's media stop time - stream 2	234	string	• Start • Interim-Update • Interim-Update (error) • Stop

Known Issues

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.

SRTP Packet Fragmentation and Reassembly Limitation for ETC NIU

By design, the `host-frag-hw-offload` option is no longer available.

Introduced in S-CX6.3.0 F1, this option was used to offload the fragmentation/reassembly of SRTP packets for hardware processor handling. The firmware for S-CX6.3.0 F2 and for the final release of S-CX6.3.0 does not support this function. Therefore, S-CX6.3.0 F2 and for the final release of S-CX6.3.0 do not support the reassembly of fragmented SRTP packets when an ETC NIU is installed.

Documentation Updates and Changes

Maintenance Releases

The documentation set for S-CX6.3.0 contains information about adaptations and omissions introduced first in the Maintenance Releases for the following software streams: S-C6.0.0, S-C(x)6.1.0, and S-C(x)6.2.0. If you require more information about Maintenance Release adaptations and omissions, refer to the Maintenance Release Guide for information about the specific Maintenance Release in which the feature or adaptation first appeared, and configuration required, and conceptual descriptions. These guides are listed in the Related Documentation (10) section of these Release Notes.

New Guides

Net-Net® C-Series Historical Data Recording (HDR) Resource Guide—This guide provides information about Historical Data Recording (HDR) for Acme Packet's Net-Net C-Series products and includes the following information:

- Description of HDR and how it works
- Enabling/disabling HDR on the Net-Net SD
- Starting, stopping, restarting, purging, and requesting HDR status using Acme Packet's Command Line Interface (ACLI)
- Using a Push Receiver to push the data to a server
- HDR Groups and Group Statistics
- "Show" commands associated with the HDR Groups and Group Statistics

Net-Net OS S-C(x)6.2.0 Release Notes

S-C(x)6.2.0 Adaptations

This section describes the adaptations introduced in Net-Net OS Release S-C(x)6.2.0 and appearing in the Net-Net SBC Docset for the first time with the release of S-CX6.3.0.

SIP Features

E-CSCF Emergency: Setting Precedence for NMC

When the Net-Net SBC acts as an E-CSCF, it can route emergency or priority calls (i.e., 112, 911, 999 calls) to the corresponding ECS/PSAP based on the calling party's information. However, for registered users, this ability mixes with the Net-Net SBC's NMC function so that the Service Routes takes precedence over the NMC. So rather than routing the emergency call to the ECS/PSAP, the call ends up at the S-CSCF of the Service Route.

For non-registered users where there no Service Route exists, this is not an issue.

Enabling this feature in the management controls configuration allows the NMC to take precedence over cached Service Route when a session matches an NMC rule. Instead, it locates a matching local policy.

First availability: 6.2.0m2

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

SIP REFER-to-BYE

The Net-Net SBC's SIP REFER-to-BYE capability addresses situations when other network elements do not support the REFER method but do offer blind transfer in a SIP BYE request.

First availability: 6.2.0m6

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

180 & 100 NOTIFY in REFER Call Transfers

When you configure your Net-Net SBC to support REFER call transfers, you can enable it to send a NOTIFY message after it has sent either a 202 Accepted or sent a 180 Ringing message for RFC5589 compliance.

First availability: 6.2.0m7

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

IWF Features

Removing the T.38 Codec from an H.245 TCS

For SIP-H.323 IWF sessions, H.323 automatically inserts the T.38 FAX codec in the H.246 TCS message. You can stop this insertion using the **remove-t38** parameter in the H.323 global configuration.

First availability: 6.2.0m5

Feature Description Location: ACLI Configuration Guide, IWF Chapter

IPv6 SIP INFO to RFC 2833 Telephone Event Interworking

The Net-Net SBC can interwork SIP INFO and RFC Telephone Event messages for IPv4, IPv6—or for any session requiring interworking between IPv4 and IPv6. Other than installing the applicable licenses on your Net-Net SBC and enabling IPv6 support in your system configuration (**system-config**), you do not have to perform any configuration steps for this capability to work.

First availability: 6.2.0m6

Feature Description Location: ACLI Configuration Guide, IWF Chapter

SIP-H.323 IWF Support for H.264 and H.263+

Signaling protocol interworking between SIP and H.323 supports the H.264 and H.263+ video codecs.

First availability: 6.2.0m6

Feature Description Location: ACLI Configuration Guide, IWF Chapter

SIP-H.323 IWF in Video Conferencing Applications

For video conferencing and other video applications, the Net-Net SBC supports interworking between the H.323 Miscellaneous Commands videoFastUpdatePicture and the SIP INFO containing XML schema for "Full Update."

First availability: 6.2.0m6

Feature Description Location: ACLI Configuration Guide, IWF Chapter

Session Routing and Load Balancing Features

Multi-stage Routing on Realm Navigation

You can configure multi-stage local policy routing to use the next-hop realm (from the current local policy stage) as the source realm for the next stage in a look-up. This changes the previous behavior where the "real" received realm was always used as the source realm through all stages of local policy lookup.

First availability: 6.2.0m3

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

Security Features

TLS Endpoint Certificate Data Caching

To provide a higher level of security for unified messaging (UM), the Net-Net SBC allows you configure enforcement profiles to cache data from TLS certificates. During the authentication process, the system caches the data so it can use that data in subsequent SIP message processing. Thus the Net-Net SBC can:

- Add custom SIP header populated with information from TLS certificates—When the Net-Net SBC receives an INVITE from a GW, it can write proprietary headers into the SIP message. It uses the certificate information the

GW provided during the TLS authentication process with the Net-Net SBC to do so.

- Compare the host of the Request-URI with information from TLS certificates—When an INVITE is destined for the unified messaging server, the Net-Net SBC checks the domain of the Request-URI it has generated prior to HMR application. It does so to verify that the Request-URI matches the domain information the UM server provided during the TLS authentication process with the Net-Net SBC.

TLS endpoint certificate data caching can only applies to call-creating SIP INVITEs.

First availability: 6.2.0m2

Feature Description Location: ACLI Configuration Guide, Security Chapter

Secure and Non-Secure Flows in the Same Realm

To simplify deployments, the Net-Net SBC allows secure and non-secure flows in the same realm. For Release S-C6.2.0M2 and later, this broadened set of capabilities means the Net-Net SBC can support RTP and SRTP flows, and it can support a larger group of UAs that might have varying SRTP abilities. Prior to this release, when a cryptographic session arrived at the Net-Net SBC and failed to match an applicable media security profile, it was rejected.

First availability: 6.2.0m2

Feature Description Location: ACLI Configuration Guide, Security Chapter

Event Log Notification: Demotion from Trusted to Untrusted

You can enable your Net-Net SBC to provide event log notification (a syslog message) any time it demotes an endpoint from trusted to untrusted. An intrusion detection system (IDS) Reporting license must be installed and your media manager configuration must be enabled to send the log messages.

First availability: 6.2.0m5

Feature Description Location: ACLI Configuration Guide, Security Chapter

Accounting Features

SIP CDR Stop Time

Enables the RADIUS CDR to reflect call end time when the Net-Net SBC receives a BYE. Enabling this parameter also means the disconnect time is defined when the Net-Net SBC sends a BYE to the UAS and UAC. Otherwise, the CDR's value is based on when the 200 OK confirms the BYE.

First availability: 6.2.0m4

Feature Description Location: Accounting Guide, Configuring Accounting Chapter

Management Features

Disabling Miboco Logging

You can disable the appearance of MIBOCO log messages when call trace logging is enabled.

First availability: 6.2.0m4

Feature Description Location: Maintenance and Troubleshooting Guide, Logs Chapter

Admission Control

Offerless Bandwidth CAC for SIP

For SIP sessions offerless INVITEs (i.e., INVITEs that have no SDP offer), the Net-Net SBC can reserved bandwidth and support the session if you set up applicable media profile associations in the global SIP configuration. Otherwise, the Net-Net SBC terminates these sessions.

First availability: 6.2.0m6

Feature Description Location: ACLI Configuration Guide, Admission Control and Quality of Service Reporting

External Policy Servers

e2 Configurable Address-Realm AVP

As of Net-Net OS Release S-C(X)6.2.0M4, you can configure a value to be sent in the Address-Realm AVP (communicated in the Globally-Unique-Address AVP) for the DIAMETER e2 interface. This AVP is sent on a per-realm basis in the Location Information Query (UDR) query the Net-Net SBC (as a P-CSCF) sends to the CLF.

First availability: 6.2.0m4

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

e2 User-Name AVP Support

In compliance with ETSI ES 283 -35 V1.2.1, the Net-Net SBC's e2 interface can query the CLF using the SIP endpoint's IP address or its NASS User-ID. The system's e2 interface uses the uses the SIP-URI to query the CLF by including the User-Name AVP in the User Data Request (UDR).

First availability: 6.2.0m5

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

Wildcard Transport Protocol

In the `Flow-Description-AVP(507), the` media stream transport protocol can be set to a wildcard, "ip", or to the value of the media stream type.

First availability: 6.2.0m5

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

Rx: Opening for RTCP Flows

When the Net-Net SBC functions as the AF (i.e., A-SBC or P-CSCF), you can configure it to explicitly open RTCP ports, just as it does for RTP. Without explicitly opening these ports, the Net-Net SBC relies on possibly unreliable PDN-GWs and BRAs to open RTCP ports and it sends only RTP information in AARs.

First availability: 6.2.0m6

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

Rx: Bearer Plane Events

The PCRF receives session and media related information from the Net-Net SBC currently and with this enhancement the PCRF will report traffic plane events to the Net-Net SBC.

The Acme Packet SBC/P-CSCF shall acknowledge the receipt of this RAR command by sending an RAA. It shall then proceed to release the entire session at the SIP signaling layer and proceed to send the corresponding STR command to the PCRF and receive the STA.

First availability: 6.2.0m7

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

HMR Features

HMR $LOCAL_PORT for Port Mapping

When you configure SIP HMR and set an element-rule's new-value parameter to $LOCAL_PORT, the Net-Net SBC maps this value to the real port it uses for each signaling exchange. In release prior to S-C(X)6.2.0M5, however, this entry maps to the SIP interface port when port mapping is also enabled on your system.

First availability: 6.2.0m5

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

Additional Features

IPv6 Reassembly and Fragmentation Support

As it does for IPv4, the Net-Net SBC supports reassembly and fragmentation for large signaling packets when you enable IPV6 on your system

First availability: 6.2.0m5

Feature Description Location: ACLI Configuration Guide, System Configuration Chapter

Configurable MTU size for Network Interfaces

Configurable MTU on per network-interface basis enables the user to set a different MTU on each network interface. It also enables the user to set a system wide default MTU for IPv6 and IPv4 network interfaces.

First availability: 6.2.0m7

Feature Description Location: ACLI Configuration Guide, System Configuration Chapter

Net-Net OS S-C(x)6.1.0 Release Notes

S-C(x)6.1.0 Adaptations

This section describes the adaptations introduced in Net-Net OS Release S-C(x)6.1.0 and appearing in the Net-Net SBC Docset for the first time with the release of S-CX6.3.0.

SIP Features

SIP Registration Via Proxy

In order to support deployments where a proxy sits between the Net-Net SBC and the endpoints, the Net-Net SBC must consider the bottom Via header it receives from endpoints when constructing and matching cache registration entries. And when you use SIP port mapping, the system must use the bottom Via header as a way to determine the endpoint uniquely.

First availability: 6.1.0m2

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

Alterations to SIP REFER

This corrects the original implementation of the SIP REFER feature made available in Net-Net OS Release S-C6.0.0 resulted in instances where SDP parameters were not being communicate properly. Issues arose when the Net-Net SBC maintained the original dialog with the user agent that did not support REFER and failed to communicate and SDP changes to that endpoint.

Now, the Net-Net SBC sends re-INVITE with the negotiated SDP to the user agent for which the Net-Net SBC performs the call transfer.

First availability: 6.1.0m2

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

SIP Proxy Subscriptions

When the Net-Net SBC operates in dialog mode (i.e., as a B2BUA), it creates and maintains dialog state for subscription dialogs created with SUBSCRIBE/NOTIFY messages and for INVITE-initiated dialogs. Since there can be a very large number of subscriptions per user in a Rich Communication Services (RCS) environment (especially for "presence" subscriptions), Net-Net SBC resources can quickly become depleted.

To alleviate this consumption of resources, you can configure your Net-Net SBC to operate in proxy mode for event packages that you define using the **proxy-sub-event** parameter in the global SIP configuration. When you define event packages in this list and the operation mode for the SIP configuration is dialog or session, the Net-Net SBC processes all SUBSCRIBE and NOTIFY requests and responses for the designated event packages in transaction stateful mode.

First availability: 6.1.0m3

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

SIP Duplicate SDP Suppression

You can enable your Net-Net SBC to suppress a duplicate SDP answer in the reliable responses (1xx and 2xx) in an INVITE transaction.

First availability: 6.1.0m4

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

LMSD SIP Call Progress Tone Interworking

The Net-Net SBC supports Legacy Mobile Station Domain interworking that allows SIP interworking with User Agents that support the 3GPP2 LMSD by suppressing SDP in 180 Ringing, 486 Busy Here, and 503 Service Unavailable responses.

First availability: 6.1.0m4

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

SIP re-INVITE Suppression

Some of the Interactive Voice Response (IVR) systems that support SIP frequently change the media transport address (IP address and/or port number) when switching between voice menus and/or prompts by sending a re-INVITE.

The Net-Net SBC can store the previous INVITE and its 200-OK response and only reply locally when a re-INVITE that changes only the media transport addresses is received.

First availability: 6.1.0m4

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

SIP REFER with Replaces

To support enterprise and call center applications, the Net-Net SBC provides the ability for one party participating in a three-way call to request direct connectivity between the other two parties and to leave the call silently when that connectivity is established. SIP supports this function using the Replaces header in a REFER message, also known as “REFER with Replaces.”

First availability: 6.1.0m4

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

Simultaneous TCP Connection and Registration Cache Deletion

You can configure the Net-Net SBC to automatically start a timer when a user deregisters or changes location by registering with a new contact address.

Not all devices tear down TCP connections associated with these old addresses when a user registers with a new contact address.

First availability: 6.1.0m9

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

SD Incorrectly Appends Cookie in SIP REGISTER Message

The Net-Net SBC does not recognize a SIP URI containing tel-URI information if it doesn’t also contain a "user=phone" parameter. This behavior adversely affects creation of the acme_nat tag and placement of the cookie

You can configure the Net-Net SBC to recognize an implicit tel-URI and place the cookie in the correct location.

First availability: 6.1.0m9

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

IWF Features

Topology Hiding for IWF with an Internal Home-Realm

You can configure the Net-Net SD to mask the IP address of the originating caller in the SIP From and/or P-Asserted-Identity headers when calls are placed from H.323 to SIP endpoints.

First availability: 6.1.0m9

Feature Description Location: ACLI Configuration Guide, IWF Chapter

H.323 Features

Default OLC Behavior Changed in Upgrade

You can configure the Net-Net SBC to force media profiles in OLC messages when negotiating H.323 calls. This is the default behavior prior to Release S-C6.1.0.

In Release 6.1.0 and forward the default behavior of OLC is to inherit the values received in the signaling message from the remote endpoint.

First availability: 6.1.0m9

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

HMR Features

SIP Header Pre-Processing HMR

By default, the Net-Net SBC performs in-bound SIP manipulations after it carries out header validation. Adding the **inmanip-before-validate** option in the global SIP configuration allows the Net-Net SBC to perform HMR on received requests prior to header validation. Because there are occasional issues with other SIP implementations—causing invalid headers to be used in messages they send to the Net-Net SBC—it can be beneficial to use HMR to remove or repair these faulty headers before the request bearing them are rejected.

First availability: 6.1.0m7

Feature Description Location: ACLI Configuration Guide, SIP Signaling Chapter

IMS Features

Temporary Public User Identities and Multi-SIM Scenarios

The Net-Net SBC's SIP interface supports multiple registered users for the same P-Asserted-Uri (PAU), a useful ability for multi-SIM scenarios. The call flow for this type of scenario differs depending on whether or not you configure the SIP interface facing the UE with certain options. This is a change from previous versions of the software.

First availability: 6.1.0m2

Feature Description Location: ACLI Configuration Guide, IMS Chapter

P-CSCF PANI Enhancements

You can set the Net-Net SBC to only forward PANI headers to and from trusted sources or if `access-info` does not have `network-provided` in the header. A trusted domain is determined by the "trust-level" of the corresponding realm or SIP interface.

First availability: 6.1.0m10

Feature Description Location: ACLI Configuration Guide, IMS Chapter

External Policy Servers Features

COPS pkt-mm-3 Policy Control

COPS pkt-mm-3 interface can maintain a persistent TCP connection to the external policy server, despite there being no responses to requests for bandwidth. This permits calls to traverse the Net-Net SBC even though the external policy server either fails to respond or rejects the session. Without this functionality configured, the Net-Net SBC waits for the external policy server's authorization decision or the request to the external policy server times out, resulting in COPS pkt-mm-3 interface error responses and time-outs.

First availability: 6.1.0m6

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

Additional Features

Net-Net 3800 Session Licensing

The Getting Started chapter is now updated with current Net-Net 3800 session licensing levels.

First availability: 6.10M2

Feature Description Location: ACLI Configuration Guide, Getting Started Chapter

Net-Net OS S-C6.0.0 Release Notes

S-C6.0.0 Adaptations

This section describes the adaptations introduced in Net-Net OS Release S-C6.0.0 and appearing in the Net-Net SBC Docset for the first time with the release of S-CX6.3.0.

IMS Features

Surrogate Registration Proxy Authorization Header for Non-Register Requests

The Net-Net SBC provides for generating a Proxy-Authorization or Authorization header for REGISTER requests that are challenged. This feature extends the Net-Net SBC's capabilities by also allowing you to configure the generation of Proxy-Authorization and Authorization headers for non-REGISTER requests.

First availability: 6.0.0m3

Feature Description Location: ACLI Configuration Guide, IMS Chapter

Disable Media Inactivity Timers

The Net-Net SBC can disable media inactivity timers for calls placed on hold as indicated by certain SDP lines being set with a 0.0.0.0 address:

First availability: 6.0.0m5

Feature Description Location: ACLI Configuration Guide, Realm and Realm Groups Chapter

Accounting Features

This section provides an overview of the new accounting features available in Net-Net OS Release S-C6.2.0.

Temporary File Naming for an Open CDR File

The file name format for an open temp CDR file is prefixed with "temp-": **temp-cdrYYYYMMDDHHMM[a-j]**. The prefix helps you differentiate the file that is currently open from the other CDR files you encounter; this is the file to which the Net-Net SBC is currently writing information and is open.

First availability: 6.0.0m7

Feature Description Location: Accounting Guide, Configuring Accounting Chapter.

Management Features

Old File Remover

The Net-Net SBC can clean up old files automatically by configuring the exact directories in which those files resides and the time at which they should be purged

First availability: 6.0.0m5

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

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ModExp / RSA (with/without KM) plugin API

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Perl-Compatible Regular Expressions (PCRE)

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popt Command Line Option Parsing Library

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Remote Authentication Dial In User Service (RADIUS)

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Redblack Source Code

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sdparam SCSI Disk Utility

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Strong Random Number Generator

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TCP/IP Stack (for ATCP)

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VxWorks-2-Linux Library

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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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e2fsprogs

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

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procps

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sg3_utils

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Doug Gilbert 4th January 2009

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