

**Oracle Communications Interactive
Session Recorder**

Maintenance Release Guide
Release 5.1

Formerly Net-Net Interactive Session Recorder

January 2017

Notices

Copyright ©2014, 2004, Oracle and/or its affiliates. All rights reserved.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, delivered to U.S. Government end users are "commercial computer software" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, shall be subject to license terms and license restrictions applicable to the programs. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information on content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services.

Contents

1 Release 5.1M1	7
New Features	7
Licensing Enhancements	7
Configuring Recording Capacity	7
Applying the G.729 Codec	7
Archiving Recordings Permanently Via the API	8
setNeverExpire	8
Percent to Record Enhancements	8
Adding a Third Network Interface to the Dashboard Host	8
Issues Fixed in 5.1M1	9
Known Problems and Restrictions in 5.1M1	10
2 Release 5.1M2	11
New Features	11
CIS Upgrade Enhancement	11
MySQL Standard Support	11
Oracle Rebranding	12
Issues Fixed in 5.1M2	14
Known Problems and Restrictions in 5.1M2	15
3 Release 5.1M3	17
New Features	17
Upgrade Enhancements	17
Issues Fixed in 5.1M3	17
Known Problems and Restrictions in 5.1M3	18
4 Release 5.1M4	19
New Features	19
ISR Dashboard Database Failover	19
Configuring ISR Dashboard Database High Availability	19
Remote Archival Webservice Multiple IP Address Support	19
Configuring RAWs For Use In a Multiple Client Account	20
Configuring Remote Archival Clients For an Account	20
Issues Fixed in 5.1M4	21
Known Problems and Restrictions in 5.1M4	22
5 Release 5.1M5	25
New Features	25
Codec Negotiation Support For All Packet Times	25
Updated Packet Alignment Mechanism	25
RSS Performance Improvements	25
Remote Archival Monitor Tests	26
Recording Location Application Server Test	26
Log Collection Scripts	26
RSS Third-Party Software Upgrades	26
Issues Fixed in 5.1M5	26

Known Problems and Restrictions in 5.1M5.....	27
---	----

6 Release 5.1M6..... 31

New Features.....	31
ISR FACE.....	31
Logging Into ObserveIT Visual Session Recording.....	32
Deploying ISR FACE.....	32
FACE REST API.....	34
Troubleshooting FACE.....	41
External Event Notifications.....	44
Events and Notifications.....	45
Supported General Parameters.....	45
Supported Recording-Specific Parameters.....	46
Supported Special Parameters.....	46
External Event Notification and Parameters Example.....	46
Recording File Permissions.....	46
Configuring File Recording Permissions.....	47
User Management Look and Feel Updates.....	48
Caching HTTP Recording Files.....	49
Bookmark API REST Support.....	49
X-ISR-UCID Enhancements.....	49
Silence Padding Support.....	50
Remote Archival Web Service.....	50
CIS Host Upgrade Enhancement.....	50
Issues Fixed in 5.1M6.....	50
Known Problems and Restrictions in 5.1M6.....	51

7 Upgrading the ISR..... 57

Upgrading the CIS.....	57
Before You Begin Upgrading the CIS.....	58
Upgrading a CIS VM Instance.....	58
Importing the New CIS Component VM.....	59
Deleting the Prior CIS VMs.....	63
Configuring Automatic Start of the Upgraded VMs.....	64
Verifying the CIS Upgrade.....	66
Reverting Your CIS Installation To the Previous Version.....	66
Upgrading the RSS.....	67
Before You Begin Upgrading the RSS.....	67
Determining the RSS System Partitions.....	67
Upgrading the RSS.....	68
Reverting Your RSS Installation to the Previous Version.....	69

About This Guide

The 5.1 Maintenance Release Guide provides information about the contents of maintenance releases related to ISR 5.1. This information can be related to defect fixes, to adaptations made to the system software, and to adaptations ported to this release of the ISR from prior releases. When applicable, this guide contains explanations of defect fixes to the software and step-by-step instructions, if any, for how to enable these fixes on your system. This guide contains explanations of adaptations including conceptual information and configuration steps.

Purpose of this Document

Designed as a supplement to the main documentation set supporting 5.1, this document informs you of changes made to the ISR software in the maintenance releases of 5.1. Consult this document for content specific to maintenance releases. For information about general ISR features, configuration, and maintenance, consult the Related Documentation (iv) listed in the section below and then refer to the applicable document.

Organization

The ISR 5.1 Maintenance Release Guide is organized chronologically by maintenance release number, started with the oldest available maintenance release and ending with the most recently available maintenance release.

This document contains a Maintenance Release Availability Matrix, showing when and if given maintenance releases have been issued and the date of issue. Each available maintenance release constitutes one chapter of this guide.

In certain cases, a maintenance release will not have been made generally available. These cases are noted in the Maintenance Release Availability Matrix.

Maintenance Release Availability Matrix

The table below lists the availability for version 5.1 maintenance releases.

Maintenance release number	Availability Notes
5.1M1	October 31, 2013
5.1M2	March 31, 2014
5.1M3	May 16, 2014
5.1M4	August 29, 2014
5.1M5	January 5, 2015
5.1M6	January 8, 2016

Related Documentation

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

Document Name	Document Description
ISR Release Notes	Contains information about new ISR features, fixes, and known issues.
ISR Installation Guide	Provides an overview of the ISR, hardware/software requirements and recommendations, storage considerations, pre-installation information, installation procedures, post-install verification procedures, making the first call, and additional advanced topics about the ISR.

About This Guide

Document Name	Document Description
ISR User Guide	Contains information about using the ISR Dashboard for all levels of users. Provides information about viewing, playing, deleting recordings, running reports, and managing user profiles.
ISR Administrator Guide	Contains information about using the ISR Dashboard for the Administrator level user (Super User, Account Administrator, Tenant Administrator). Provides information about creating and managing accounts, routes, and users. Also provides information about configuring the ISR, running reports, viewing active calls, and securing the ISR deployment.
ISR API Reference Guide	Contains information about ISR FACE, VoiceXML Commands, legacy application programming interfaces (APIs), Recording File Types/Formats Supported, Return Codes, sendIPCRCommand.jsp Subdialog, Advanced Options, and Troubleshooting.
ISR Monitoring Guide	Contains information about installing and configuring the ISR Monitor, the Monitor database schema, and the Monitor MIB.

Revision History

Date	Description
November 26, 2013	<ul style="list-style-type: none">Updates "Known Problems and Restrictions in 5.1M1".
March 31, 2014	<ul style="list-style-type: none">Updates the document to include 5.1M2 adaptations.
May 16, 2014	<ul style="list-style-type: none">Updates the document to include 5.1M3 adaptations.The "Upgrading the ISR" section has been updated and has become its own chapter.
August 29, 2014	<ul style="list-style-type: none">Updates the document to include 5.1M4 adaptations.Removes blank lines from the REST API setNeverExpire table.
October 3, 2014	<ul style="list-style-type: none">Adds three issues to "Known Problems and Restrictions in 5.1M4".
October 31, 2014	<ul style="list-style-type: none">Adds an issue to "Known Problems and Restrictions in 5.1M4".
January 5, 2015	<ul style="list-style-type: none">Updates the document to include 5.1M5 adaptations.
October 22, 2015	<ul style="list-style-type: none">Adds issue to "Known Problems and Restrictions in 5.1M4" and "Known Problems and Restrictions in 5.1M5".
January 8, 2016	<ul style="list-style-type: none">Updates the document to include 5.1M6 adaptations.
January 28, 2016	<ul style="list-style-type: none">Adds a new entry to the "Known Problems and Restrictions in 5.1M6".
June 24, 2016	<ul style="list-style-type: none">Adds three issues to "Known Problems and Restrictions in 5.1M6".
January 10, 2017	<ul style="list-style-type: none">Adds three issues to "Known Problems and Restrictions in 5.1M6".

Release 5.1M1

This section describes all of the new adaptations added to the ISR in release 5.1M1.

New Features

- Licensing Enhancements
- Archiving Recordings Permanently Via the API
- Percent to Record Enhancements
- Adding a Third Network Interface to the Dashboard


Licensing Enhancements

As of release 5.1M1, ISR recording and codec-conversion capacity licenses are no longer required except when using the G.729 codec.

Configuring Recording Capacity

Configuring recording capacity has not changed from previous releases and is performed via the `configRss.sh` script.

Once you have completed the initial `configIsr.sh` script steps, select the `m` option to finish configuring your RSS. Follow the script's instructions closely, ensuring you set the RSS licensed capacity to the proper number of sessions at the **Enter Licensed RSS Capacity (Number of Sessions): [2]** prompt.

 **Note:** The **Enter Licensed RSS Capacity (Number of Sessions): [2]** value is the number of concurrent sessions allowed for this RSS host. This number must comply with your Oracle contract. For more information regarding your ISR software contract, contact your Oracle representative.

Applying the G.729 Codec

The G.729 codec requires special licensing from Oracle.

To apply the license:


Contact your Oracle representative to acquire an RMC codec license. You must provide the following information when requesting a license.

- System name
- The Administrative Network interface MAC address of the RSS host
- Number of required units of the codec

- Production or Development license
- License expiration (For Development licenses only)
- Product name (converter with G.729 for standard ISR RSS hosts)

After receiving the license key, transfer the key to the /opt/isr/rss directory of the RSS host's filesystem using the instructions provided in either the "Using a UNIX Shell Session" or "Using a USB Flash Drive" sections of the ISR Installation Guide.

Once the license is copied properly, execute the systemctl restart recorderd to restart the Converter process and test playback of an RPDD using either the Dashboard or API.

 **Note:** You may also manage conversion in batches using the Archival process. See "Adding an Archiver" in the *Oracle Communications Interactive Session Recorder Administrator Guide* for more information.

Archiving Recordings Permanently Via the API

You can flag a recording to remain archived permanently via the API.

An optional parameter called setNeverExpire has been added to the updateFileInfo command in the REST API.

setNeverExpire

The REST API updateFileInfo command has been updated with a new optional parameter called setNeverExpire.

Parameter	Value	Description
setNeverExpire	true false	When true, ensures this recording is never deleted due to expiration.

Percent to Record Enhancements

The ISR's default percent to record functionality has changed.

Prior to this release, when a Route's Percent To Record parameter was set to a value greater than 0, all unrecorded sessions remained connected and available for ad-hoc API recording commands.

As of release 5.1M1, when a session is not recorded based on the Percent To Record value, the ISR executes the following in response:

- Replies to unrecorded INVITEs with a 412 response code
- Logs the rejected session
- Adds the rejected session count to the call statistics table

When a Route's Percent To Record value is set to 0, the ISR remains connected and available for ad-hoc API recording for all sessions. When you set this value to 0 and click Update, the ISR Dashboard provides the following message:

"Percent to Record has been set to 0%. Each session is accepted and remains active for ad-hoc recording. To reject sessions due to percentage-based recording the value must be greater than 0%."

Adding a Third Network Interface to the Dashboard Host

In some situations where you have the RSS configured to listen on a network outside of either the public management or the local virtual network, you may have to configure a third network interface for communication between the Dashboard and the RSS.

In addition to the eth0 interface for the management public network, the configCis.sh script now includes a menu option to configure an eth2 interface for the Dashboard host's "voice" network.

Once the configCis.sh script is running and you choose the "i) Add/modify a second network interface" option, the following instructions are offered:

```
Press <Enter> to confirm the second network adapter has been enabled in the
settings of your Dashboard VM.
Enter host IP: []
Enter prefix: [24]
Enter gateway IP: []
Enter DNS1 IP: [none]
Enter ENS2 IP: [none]
```

Once you complete the configuration steps, the configCis.sh script starts the eth2 network interface and displays the output. After the interface starts, the script returns to the main menu.



Note: The ISR checks to ensure you have entered the proper format for the host IP, gateway IP, and prefix entries.

Issues Fixed in 5.1M1

This section describes the issues fixed in each component of the ISR, Version 5.1M1.

ISR Dashboard

- The User "unlock" action was not working on the Dashboard for IE 8. A JavaScript error was addressed to fix the problem.
- The Dashboard log location change was not reflected in the Dashboard's Administrator Help link. The Admin Help page has been updated to reflect this change.
- The Dashboard's DTMF logging feature was showing multiple DTMF digits as recorded at the same time. The Dashboard now displays DTMF digit positions with millisecond granularity to avoid these inaccuracies.
- The Dashboard previously did not account for Daylight Savings time. Now, users select their appropriate time zone in the Dashboard User Settings and if the time zone honors Daylight Savings, the Dashboard automatically updates and reflects that.
- User permissions defaults were not honored for users added in a BroadSoft context. Now added BroadSoft Users may be set to have Delete permissions in the Dashboard.

ISR RSS

- Previously, the RSS did not initialize properly when the database was unavailable, resulting in recording file names indexed as WAV but saved with an RPDD extension and requiring a restart of the ISR process. Now the RSS does not initialize until it has confirmed that a valid CodecMap has been retrieved.
- The RSS no longer records calls when improperly initialized with an invalid or null CodecMap.

ISR API

- Since upgrading to 5.1, additional metadata provided by the SBC was not being populated in the database. Now, upon start-up, the API continuously attempts to load metadata types until it is successful. Also, the API does not start its XML-RPC server until all metadata types have been loaded. This prevents the RSS from attempting to record sessions before the API is ready to store all of the data.

ISR Archiver

- To avoid potential stalls, sudden Archival expiration changes in high-load environments require a limit on the Archival remove query. This limit is currently set to 5000 removals per run.
- Archival logs now reflect the correct version and build numbers.

Known Problems and Restrictions in 5.1M1

RSS's ISR Process May Init Too Soon After JBoss Restart

The RSS's ISR process may init too soon after a JBoss restart, limiting recording functionality. The following example log entry found in "/cxc_common/ISR/ISRLogs/ISR.log" is an indicator of this behavior:

```
10/28/2013 14:42:43[ ERROR]xmlRpcQueryAgent: Error in  
XmlRpcQueryAgent::writeRequest: write error (error 111)
```

To fix this issue, execute the restart process isr command.

RSS Upgrade Issue

When upgraded, the RSS ignores Archival configuration for serving recordings. For recordings to be served properly for playback and downloading, RSS Archival configuration instructions must be repeated to permanently mount the archival directory and serve files with Tomcat after the upgrade is completed.

Index Failover in Database Replication

The Dashboard cannot be configured for Index failover in database replication architectures.

Mount Configurations for Secondary Drives

Mount configurations for secondary drives are lost during an upgrade and must be set again after the upgrade is complete.

Release 5.1M2

This section describes all of the new adaptations added to the ISR in release 5.1M2

New Features

- CIS Upgrade Enhancement
- MySQL Standard Support
- Oracle Rebranding

CIS Upgrade Enhancement

To retain OS configurations, sensitive data, logs, etc., each CIS component upgrade now follows the same procedure as the Index upgrade, where the new VM instance is deployed side-by-side with the old to import files relevant to each CIS host. A script must be executed on the new VM which offers the appropriate steps to execute the import.

For detailed instructions on upgrading CIS components, see *Upgrading the ISR* at the end of this document.

MySQL Standard Support

The MySQL server instances and Java drivers have been updated to commercially-licensed current versions. The changes include the following:

- MySQL Enterprise Server—Advanced Edition (Commercial) version 5.6.15 is installed on the Index and Monitor hosts (previously 5.5.31 Community Edition)
- The Monitor (vam.sar) process deployment replaces the current Java MySQL driver (/mysql-connector-java-5.1.14-bin.jar) with the enterprise-licensed version of the latest driver (likely mysql-connector-java-5.1.29-bin.jar)
- The API deployment (IsrApi.war) replaces the current Java MySQL driver (/WEB-INF/lib/mysql-connector-java-5.1.14-bin.jar) with the enterprise-licensed version of the latest driver (mysql-connector-java-commercial-5.1.29-bin.jar)
- The Archiver deployment (IPCRArchival.sar) replaces the current Java MySQL driver (/mysql-connector-java-5.1.14-bin.jar) with the enterprise-licensed version of the latest driver (mysql-connector-java-commercial-5.1.29-bin.jar)

Release 5.1M2

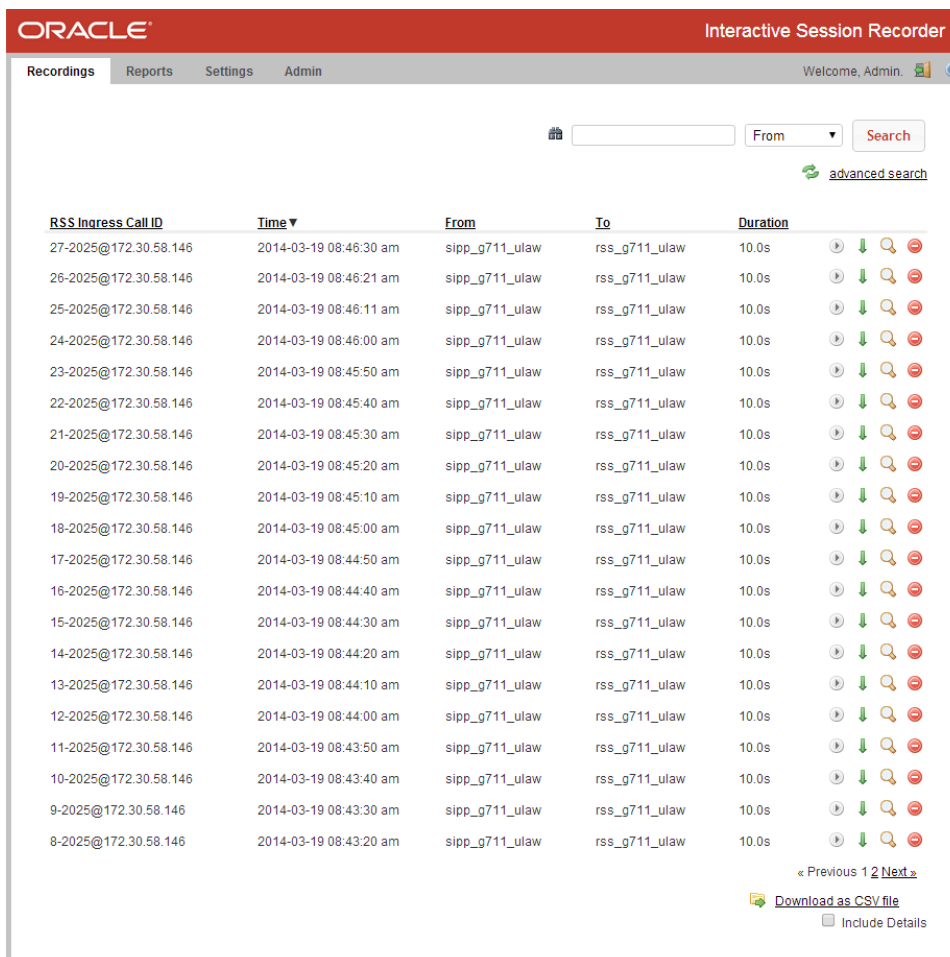
- The Remote Archival Webservice deployment (RemoteArchiver.war) replaces the current Java MySQL driver (/WEB-INF/lib/mysql-connector-java-5.1.14-bin.jar) with the enterprise-licensed version of the latest driver (mysql-connector-java-commercial-5.1.29-bin.jar)
- The Extension Data Importer deployment (ExtensionDataImporter.sar) replaces the current Java MySQL driver (/mysql-connector-java-5.1.14-bin.jar) with the enterprise-licensed version of the latest driver (mysql-connector-java-commercial-5.1.29-bin.jar)

Oracle Rebranding

The ISR 5.1M2 release includes look-and-feel changes reflecting the Oracle brand. Both the ISR Dashboard and the Monitor Dashboard have updated logos and color schemes to replace the Acme Packet brand with the Oracle symbol and "Oracle Red".

Changes To the ISR Dashboard

- An Oracle logo replaces the Acme Packet logo
- The phrase "Net-Net" has been removed entirely
- The Header color (and other associated colors) have been updated to reflect "Oracle Red"

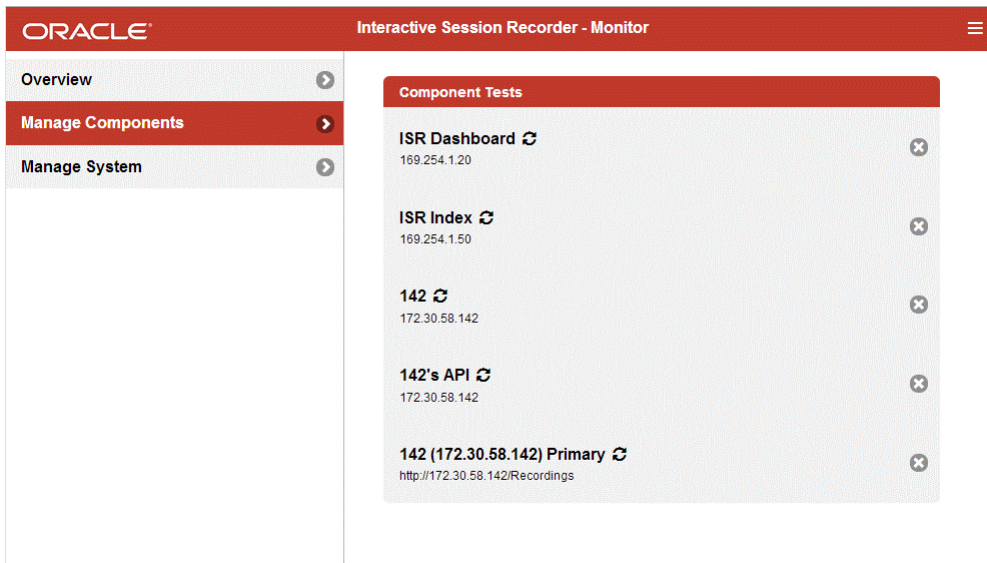


The screenshot displays the Oracle Interactive Session Recorder interface. The header features the Oracle logo and the text "Interactive Session Recorder". Below the header, there are navigation tabs for "Recordings", "Reports", "Settings", and "Admin". A search bar is present with a "Search" button and a link to "advanced search". The main content area contains a table with the following columns: "RSS Ingress Call ID", "Time", "From", "To", and "Duration". The table lists 20 recordings, each with a duration of 10.0s. At the bottom of the table, there are navigation controls: "« Previous 1 2 Next »" and a "Download as CSV file" button with an "Include Details" checkbox.

RSS Ingress Call ID	Time	From	To	Duration
27-2025@172.30.58.146	2014-03-19 08:46:30 am	sipp_g711_ulaw	rss_g711_ulaw	10.0s
26-2025@172.30.58.146	2014-03-19 08:46:21 am	sipp_g711_ulaw	rss_g711_ulaw	10.0s
25-2025@172.30.58.146	2014-03-19 08:46:11 am	sipp_g711_ulaw	rss_g711_ulaw	10.0s
24-2025@172.30.58.146	2014-03-19 08:46:00 am	sipp_g711_ulaw	rss_g711_ulaw	10.0s
23-2025@172.30.58.146	2014-03-19 08:45:50 am	sipp_g711_ulaw	rss_g711_ulaw	10.0s
22-2025@172.30.58.146	2014-03-19 08:45:40 am	sipp_g711_ulaw	rss_g711_ulaw	10.0s
21-2025@172.30.58.146	2014-03-19 08:45:30 am	sipp_g711_ulaw	rss_g711_ulaw	10.0s
20-2025@172.30.58.146	2014-03-19 08:45:20 am	sipp_g711_ulaw	rss_g711_ulaw	10.0s
19-2025@172.30.58.146	2014-03-19 08:45:10 am	sipp_g711_ulaw	rss_g711_ulaw	10.0s
18-2025@172.30.58.146	2014-03-19 08:45:00 am	sipp_g711_ulaw	rss_g711_ulaw	10.0s
17-2025@172.30.58.146	2014-03-19 08:44:50 am	sipp_g711_ulaw	rss_g711_ulaw	10.0s
16-2025@172.30.58.146	2014-03-19 08:44:40 am	sipp_g711_ulaw	rss_g711_ulaw	10.0s
15-2025@172.30.58.146	2014-03-19 08:44:30 am	sipp_g711_ulaw	rss_g711_ulaw	10.0s
14-2025@172.30.58.146	2014-03-19 08:44:20 am	sipp_g711_ulaw	rss_g711_ulaw	10.0s
13-2025@172.30.58.146	2014-03-19 08:44:10 am	sipp_g711_ulaw	rss_g711_ulaw	10.0s
12-2025@172.30.58.146	2014-03-19 08:44:00 am	sipp_g711_ulaw	rss_g711_ulaw	10.0s
11-2025@172.30.58.146	2014-03-19 08:43:50 am	sipp_g711_ulaw	rss_g711_ulaw	10.0s
10-2025@172.30.58.146	2014-03-19 08:43:40 am	sipp_g711_ulaw	rss_g711_ulaw	10.0s
9-2025@172.30.58.146	2014-03-19 08:43:30 am	sipp_g711_ulaw	rss_g711_ulaw	10.0s
8-2025@172.30.58.146	2014-03-19 08:43:20 am	sipp_g711_ulaw	rss_g711_ulaw	10.0s

Changes To the Monitor Dashboard

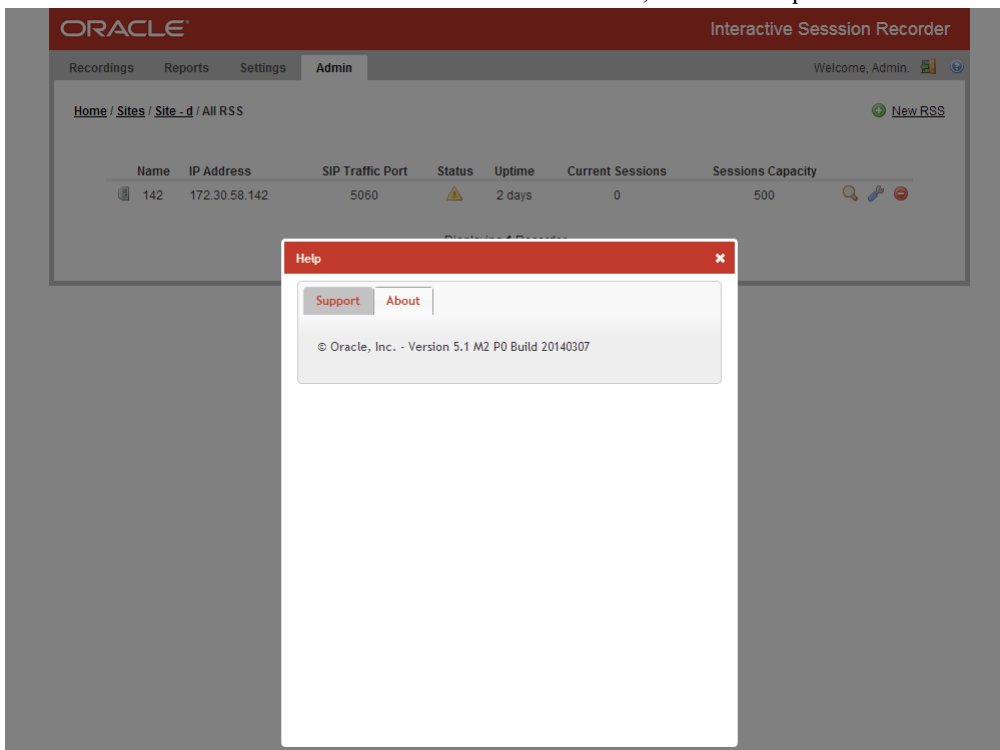
- An Oracle logo replaces the Acme Packet logo
- The phrase "Net-Net" has been removed entirely
- The JQuery Mobile theme and color have been updated to reflect "Oracle Red"



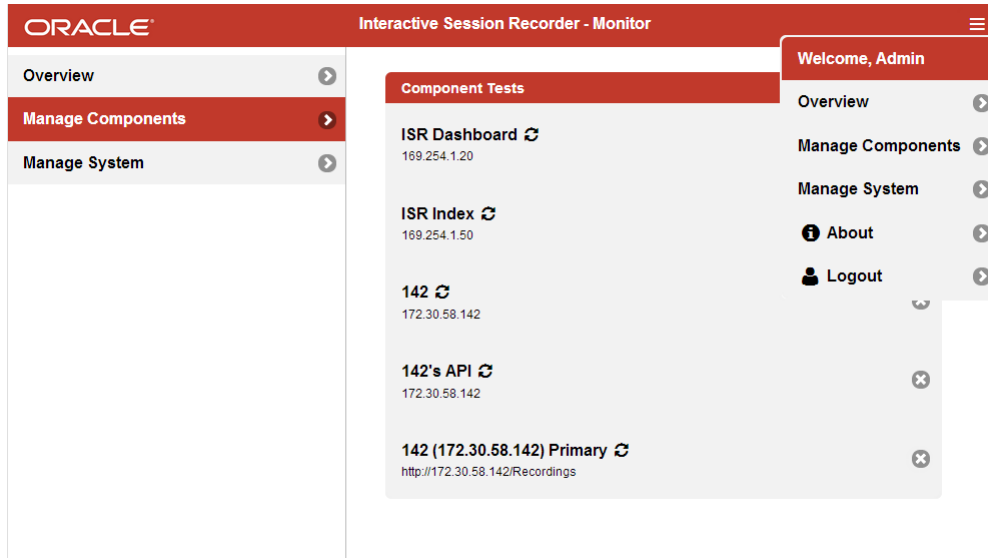
Changes to Build Number Locations

Additionally, the footers containing the version and build numbers have been removed from both the ISR Dashboard and Monitor Dashboard pages.

To access the ISR Dashboard version and build information, click the Help link and click the **About** tab.



To access the Monitor Dashboard version and build information, click the striped menu icon at the top right of the page and select **About** from the drop-down list.



Issues Fixed in 5.1M2

This section describes the issues fixed in each component of the ISR, Version 5.1M2.

ISR Dashboard

- The **Keep Recordings For** configuration property in **Route Advanced Configurations** now allows values higher than 365 days.
- Previously, the forgotten password email contained a localhost-based URL and there was no configuration in the Dashboard to change it to another IP/domain. Now the host name is derived from information in the HTTP request.
- The **Delete Route** dialog is, once again, appropriately displayed while the **Route List View** renders on a Browser.
- The MySQL server instance is, once again, appropriately included in the Dashboard VM and both Monitor and Index MySQL Server services names are now, correctly, **mysqld**.
- The Forgotten Password feature is, once again, able to send emails.
- Dashboard Security Settings now allows **Password Expires** days greater than the maximum allowed value.
- The Dashboard no longer incorrectly eliminates permissions selection option when a Remote Archival user type is selected.
- After pressing the **Update** button on an Account, the **Remove Recordings** flag under the **Remote Archiver Server** configuration retains its previously selected value.

ISR RSS

- A crash occurring during codec negotiation has been fixed.
- The JBoss 7 configuration has been updated to add date stamps to each log entry. Previously only time stamps were included.
- The RSS process now starts up properly when codec map initialization is not marked correctly during API start-up latency after reboot.
- Updating the configuration from the command line no longer causes a segfault.
- A problem where a recorded call is missing metadata occurred when clearing the previous call after a new call is handled in the same channel, a race condition scenario. This most likely would happen in a heavily under-provisioned system. To fix this, the ISR does not release a channel resource before ClearVMGChannel call is finished.

- The RSS recorder does not update the telephone-event/payload type renegotiated in an ongoing session. The RSS now updates the new payload type upon telephone-event renegotiation (i.e., re-invites with a new payload number for telephone-events) and recorder components involved are updated to use the new negotiated telephone-event payload type.
- So that mount configurations are carried across upgrades, the upgrade process now copies the "/etc/fstab" file from the old installation forward to the new partition.
- An issue occurred with recordings being truncated when all media streams for a given session simultaneously have missing packets. This is addressed internally by inserting packets with the codec type 13 header to represent silence.
- An issue where configurations for serving recorded files were lost during upgrade has been fixed. The Tomcat server configuration file (/cxc/tomcat-7.0.34/conf/server.xml) is now copied from previous installation during upgrade.

ISR Archiver

- The Remote Archiver Web Service once again properly handles multiple clients trying to connect from the same IP address.
- The Archiver is now able to properly handle a recording that has a duration of zero seconds. These recordings are archived if they have a corresponding file in the file system. If not, they are handled just like other recordings missing files, which depends on the **Purge Index of Missing Recordings** configuration for the Archiver.
- Previously, if a recording contained a single quote in the filename and the file could not be archived, then the metadata for that recording would not be updated with the Archiver failure details. Now the recording's metadata properly reflects the failure of the Archiver even if the filename contains a single quote.

ISR CIS

- To address time zone configurations lost during upgrade, the CIS upgrades now copy the /etc/localtime files from each configured CIS host to the newly installed CIS host.

ISR Monitor

- Previously, the default Monitor test for an ISR RSS component was not passing with a confirm string pattern that never occurs. The confirm string value has been updated to a valid pattern.
- The ISR Monitor Dashboard no longer fails to reload after making changes to the System Configurations, which resulted in a redirect loop.
- The ISR Monitor Dashboard component host field changes now appropriately update the test URLs for database and system types.
- Previously, when configuring the Monitor for the first time, the login screen asks for a user email and password, but did not instruct users to enter ISR Dashboard Administrator's credentials. The ISR Dashboard Administrator's credentials are now specifically requested.

ISR API

- Before sessions and channels are established, a false positive response during RecordStart has been fixed by checking the status of the channel. The result of the command is "NACK" if the channel is idle.



Note: This fix is also extended to channels in the recording state.

Known Problems and Restrictions in 5.1M2

Dashboard Database Failover in Replicated Environments

The Dashboard cannot be configured for Index failover in database replication architectures.

Release 5.1M3

This section describes all of the new adaptations added to the ISR in release 5.1M3.

New Features

- Upgrading Enhancements

Upgrade Enhancements

You can now upgrade the ISR to version 5.1M3 from any previous 5.x version without having to upgrade to each maintenance release in between. For complete instructions on how to upgrade the ISR, see *Upgrading the ISR*.

Issues Fixed in 5.1M3

This section describes the issues fixed in each component of the ISR, Version 5.1M3.

ISR Dashboard

- The ISR Dashboard Nginx HTTP server was updated to the current OpenSSL version 1.0.1g.

ISR API

- The ISR API database failover configuration has been updated. When the primary host goes down, during the retry wait time, if the failover database also goes down, the primary host is retried immediately regardless of the retry wait time.

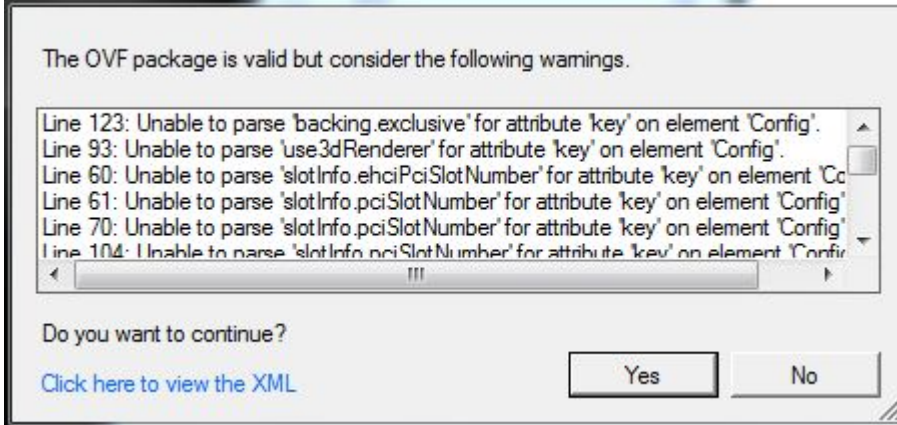


Note: This enhancement also impacts the Archiver, Remote Archival Webservice, and Monitor.

Known Problems and Restrictions in 5.1M3

RSS VM Warning

In certain versions of vSphere, deployment of the RSS VM may show a Warning dialog box concerned with parsing certain OVF attributes and looks like the following:



You may ignore this warning.

Monitor Upgrade Issues

- When upgrading a 5.0 Monitor VM, the 5.1M3 Monitor must replace the prior-version Monitor. For more information on installing the Monitor VM, see *Chapter 2 Installing the ISR Monitor* in the *Oracle Communications Interactive Session Recorder Installation Guide*.
- When upgrading a 5.1Mx Monitor VM, existing system and test configurations and test history are not automatically imported to the new version. You must repeat the Monitor installation process once the prior-version Monitor VM is powered down.

Release 5.1M4

This section describes all of the new adaptations added to the ISR in release 5.1M4.

New Features

- ISR Dashboard Database Failover
- Remote Archival Webservice Multiple IP Address Support

ISR Dashboard Database Failover

To support a high availability (HA) Index environment, the ISR Dashboard supports both primary and secondary production databases.

The Dashboard always attempts to connect to the primary Index first and the secondary database is only used when the Dashboard fails to connect to the primary database. If the Dashboard cannot connect to the secondary Index database, the ISR displays an error.

Configuring ISR Dashboard Database High Availability

The Dashboard's `/opt/isr/configIsr.sh` script has two options which allow you to configure Dashboard database HA. After starting the script, select the `d` option to add or modify the secondary Index host database configuration. Select the `r` option to delete the secondary Index host database configuration. For either option, follow the on-screen options when prompted.

Remote Archival Webservice Multiple IP Address Support

The ISR now supports more than one IP address per account on the Remote Archival Webservice.

As a way to scale and stabilize the Remote Archival Client platforms, the Remote Archival Webservice now supports more than one IP address per account. To allow multiple clients for accounts while maintaining the same access control, accounts may be mapped to multiple clients, each with a specific IP address.

How It Works

To allow for multiple clients for one account, the first client to issue a `getFile` request receives a temporary 'lock' for operations on that file. This prevents another client from retrieving or updating the file while the lock is in effect. A configurable setting, `account_raws_configuration.exclusive_lock_seconds` (in the `IPCR_DB` schema), manages

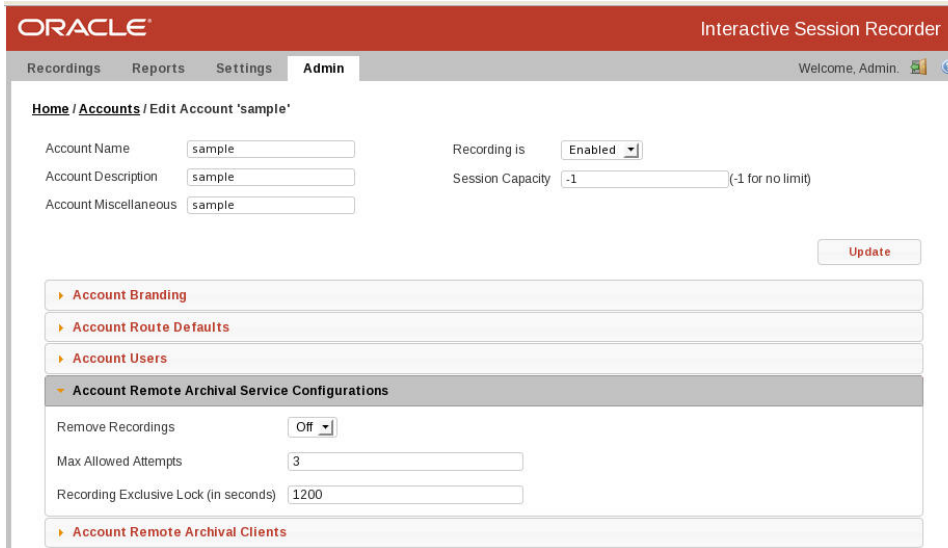
how long a client has exclusive access for retrieving and updating the status of a file. If the client does not update the entry within the allotted time, the lock is lifted and the recording is made available for the next **getFile** (or **statusUpdate**) request associated with the given account.

The Dashboard configuration has changed to allow you to configure multiple client IPs for a single account.

Configuring RAWS For Use In a Multiple Client Account

To configure the number of seconds the Remote Archival Webservice locks a file after the first **getFile** is received:

1. After logging into the Dashboard, click **Admin** in the main menu (or **Edit System Configurations** on the Home page).
2. Click **Manage Accounts**.
The Accounts page displays.
3. Either select an existing account or click **New Account**.



4. **Recording Exclusive Lock (in seconds)**—Specify the number of seconds a recording file is locked from other clients when a **getFile** is received.
5. Click **Update**.

To add, edit, and delete multiple clients:

Configuring Remote Archival Clients For an Account

To add, edit, and delete multiple Remote Archival Webservice clients:

1. After logging into the Dashboard, click **Admin** in the main menu (or **Edit System Configurations** on the Home page).
2. Click **Accounts**.
The Accounts page displays.

- Click the **Account Remote Archival Clients** tab.

The screenshot shows the Oracle Interactive Session Recorder Admin interface. The top navigation bar includes 'Recordings', 'Reports', 'Settings', and 'Admin'. The main content area is titled 'Home / Accounts / Edit Account 'sample''. It contains several input fields: 'Account Name' (sample), 'Account Description' (sample), 'Account Miscellaneous' (sample), 'Recording is' (Enabled), and 'Session Capacity' (-1). There is an 'Update' button. Below these are expandable sections for 'Account Branding', 'Account Route Defaults', 'Account Users', 'Account Remote Archival Service Configurations', and 'Account Remote Archival Clients'. The 'Account Remote Archival Clients' section is expanded, showing a 'New Client' button and a table with one entry: 'IP Address' with the value '1.1.1.1'.

- New Client**—Click this field to add a new client.
- You can select a client to edit the IP address or delete the entry.

Issues Fixed in 5.1M4

This section describes the issues fixed in each component of the ISR, Version 5.1M4.

ISR Dashboard

- The Dashboard is no longer utilizing older MySQL libraries and is now exclusively using mysql2 for its MySQL database library.

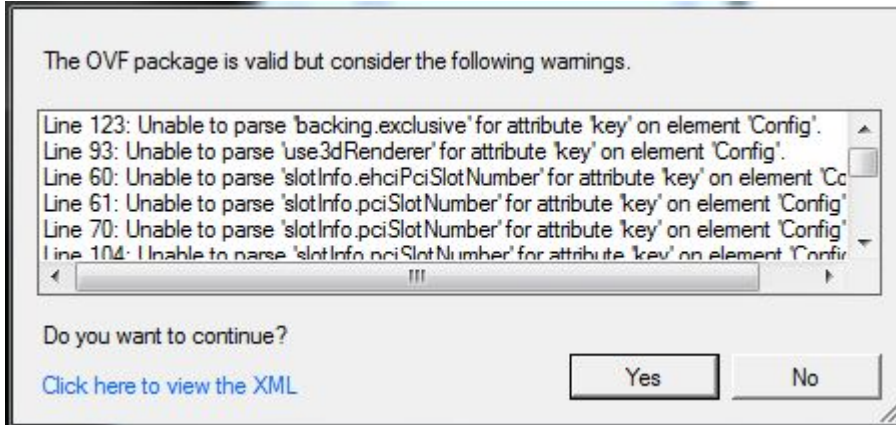
ISR Index

- To address possible database replication errors during certain insert statements (i.e., `call_stats_table`), the binlog format has been changed from "row-based" to "mixed". The *Oracle Communications Interactive Session Recorder Installation Guide* has been updated to reflect this change.
- To avoid any possible confusion regarding the MySQL database configuration, only one `my.cnf` configuration file exists and is located in `/etc/my.cnf`.
- Prior to release version 5.1M4, the Index hosts were distributed with a MySQL `auto.cnf` file containing the UUID that needed to be unique for the replication to be configured on two databases. This file has been removed from the distribution.
- The Index upgrade script was not clear enough about replacing historical database data, so the prompting has been improved to clarify this point.
- CTRL-C has been disabled during the upgrade process to avoid impacting the Index database upgrade.

Known Problems and Restrictions in 5.1M4

RSS VM Warning

In certain versions of vSphere, deployment of the RSS VM may show a Warning dialog box concerned with parsing certain OVF attributes and looks like the following:



You may ignore this warning.

Monitor Upgrade Issues

- When upgrading a 5.0 Monitor VM, the 5.1M5 Monitor must replace the prior-version Monitor. For more information on installing the Monitor VM, see *Chapter 2 Installing the ISR Monitor* in the *Oracle Communications Interactive Session Recorder Installation Guide*.
- When upgrading a 5.1Mx Monitor VM, existing system and test configurations and test history are not automatically imported to the new version. You must repeat the Monitor installation process once the prior-version Monitor VM is powered down.

Clear All Button Malfunction

The **Clear All** button on the Monitor Dashboard may not function properly and may force a subsequent login when you click it after logging in from a timed out session.

Duplicate Monitor Component Tests

Clicking the **Generate ISR Component Tests** button in the Monitor Dashboard may result in duplicate tests in certain scenarios. Once the tests have been generated, check the resulting test list and either remove any duplicates or click the **Generate ISR Component Tests** button a second time.

ISR Dashboard Recovery Issue

When the primary database comes back online after a failover, the ISR Dashboard does not automatically recover. However, if the secondary database connection is lost, the Dashboard reverts to the primary database.

ISR Dashboard Needs Secondary Database Configuration To Start

The ISR Dashboard fails to start when the database.yml configuration file is missing the secondary database parameters. Secondary database.yml parameters are provided by default on installation and upgrade, but must remain present even in non-replicating environments.

ISR Dashboard Configuration Script Incorrectly Populating Database

The ISR Dashboard configCis.sh script's **d) Add/modify the secondary Index host database configuration** option populates the database.yml configuration file with the wrong value in the **adapter** field. After using the secondary Index option, the Administrator must manually edit the /var/www/dashboard/current/config/database.yml file and update the two lines containing **adapter:mysql** with the value **adapter:mysql2**, then restart the Dashboard container with the service nginx restart action.

Dashboard Configuration Script Error

The ISR Dashboard configCis.sh's new options, **d) Add/modify the secondary Index host database configuration** and **r) Remove the secondary Index host database configuration** revert the database settings to invalid values, causing an error serving the Dashboard.

To work around this error, an Administrator must edit the /var/www/dashboard/current/config/database.yml to fix/confirm the following:

- You must have two database entries configured, **production:** and **secondary_production:**
- The **adapter:** setting must be set to **mysql2**, not **mysql**.

CIS Configuration Script Error/Issue

The configCis.sh script, used in most provisioning scenarios for the CIS hosts, properly updates the **GATEWAY** field value but does not remove the commenting character **#** at the beginning of the line in the "eth0" interface configuration file. This leaves the setting ignored and may lead to unexpected network behavior.

To amend this error, edit the interface configuration file located in */etc/sysconfig/network-scripts/ifcfg-eth0* and remove the **#** character before the **GATEWAY** field, changing **#GATEWAY=<IP_Address>** to **GATEWAY=<IP_Address>**.

Release 5.1M5

This section describes all of the new adaptations added to the ISR in release 5.1M5.

New Features

- Codec Negotiation Support For All Packet Times
- Updated Packet Alignment Mechanism
- RSS Performance Improvements
- Remote Archival Monitor Tests
- Recording Location Application Server Test
- Log Collection Scripts
- RSS Third-Party Software Upgrades

Codec Negotiation Support For All Packet Times

The ISR supports codec negotiation for all additional packet times (ptimes) within codecs supported by the RSS, specifically including but not limited to 30ms, G.711, and ulaw/alaw.

Updated Packet Alignment Mechanism

The RSS now utilizes a new packet alignment mechanism that uses the RTP packet sequence number.

RSS Performance Improvements

Several updates have been made to the RSS to improve performance, including:


- A simplified SIP process and updated SIP stack to handle more load and throughput.
- A more graceful SIP processor to better handle session availability.

While the above improvements are reflected in the limit of calls per second over maximum load, the maximum load in terms of concurrent sessions has also been improved.

Remote Archival Monitor Tests

If Remote Archival is configured, the Monitor Dashboard now automatically adds the following Remote Archival tests:

- Alarm if stale recordings are present in the queue
- Alarm if Remote Archival attempts for retrieving a recording have exceeded the maximum threshold


 **Note:** By default, stale recordings are considered any that are an hour overdue. If you require a different interval at which recordings are considered stale, see the Oracle Communications Interactive Session Recorder Monitoring Guide for instructions on updating test queries.

Recording Location Application Server Test

The ISR Monitor Dashboard now automatically generates a second test for each Location to verify that Tomcat is responsive.

Log Collection Scripts

Each ISR component deployment contains a log collection script. To collect logs for a service request, run the 'collectLogs.sh' script and attach the resulting TGZ file to the request.

 **Note:** By default, the TGZ file can be found in the directory from where the script was executed.

RSS Third-Party Software Upgrades

The following third-party software has been updated in 5.1M5.

- Updated JRTPLIB to version 3.8.2
- Updated OSIP stack to the latest 4.1 version
- Updated RSS bash to version 3.1.23
- Updated RSS openssl to version 1.0.1j
- Updated RSS openssl to version 6.3P1

Issues Fixed in 5.1M5

This section describes the issues fixed in each component of the ISR in release 5.1M5.

ISR RSS

- An Archival conversion request race-condition no longer yields recordings with filename extensions of .rpdd when the files are successfully converted to .wav.
- There is no longer a Converter/API communication disconnect leading to unsuccessful file conversions reflected as successfully converted .wav files.
- The SIP stack changes included in 5.1M5 fix a memory leak in the SIP stack that occurred when the RSS received OPTIONS messages.

ISR Index

- The auto.cnf file has been removed from the 5.1M5 Index host VM and is now generated automatically at initial server start-up in order to avoid replication configuration failure.
- An Index binlog format change has been fixed and set to "mixed".

ISR Remote Archival

- Remote Archival application server log file size has been limited, specifically regarding the console logging configurations.

ISR Dashboard

- The "configCis.sh" script now correctly sets the database adapter when executing the **d) Add/modify the secondary Index host database configuration** menu option.
- When configured for database failover, the Dashboard now automatically recovers to the primary database connection once it becomes available.
- The Dashboard now properly starts when the database.yml configuration file does not include the secondary database parameters.
- White space in the route no longer causes route look up failure.

ISR Monitor

- The **Clear All** button on the Monitor Dashboard now functions properly and does not require a subsequent login.
- Clicking the **Generate ISR Component Tests** button in the Monitor Dashboard no longer results in duplicate tests.
- Monitor Dashboard IP address setup no longer times out.

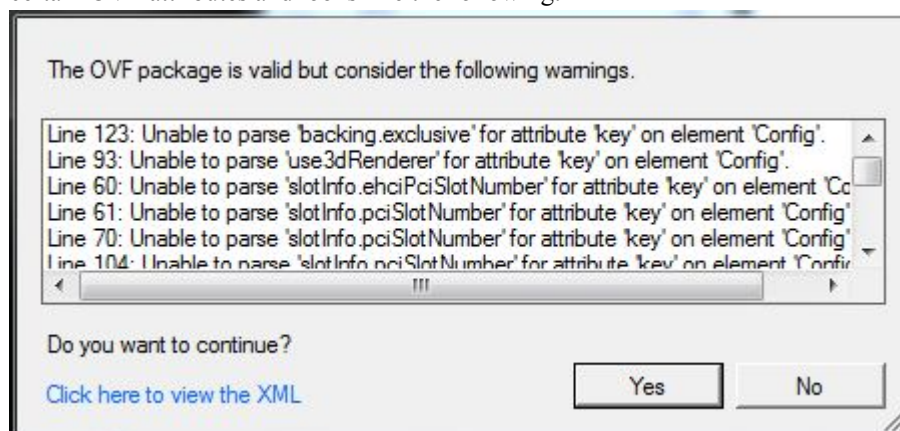
Known Problems and Restrictions in 5.1M5

Routing Configuration

When a Route is configured with **Route Mode** set to **Pass Through**, the RSS responds to INVITE requests with a reply of "405 Method Not Allowed".

RSS VM Warning

In certain versions of vSphere, deployment of the RSS VM may show a Warning dialog box concerned with parsing certain OVF attributes and looks like the following:



You may ignore this warning.

Monitor Upgrade

- When upgrading a 5.0 Monitor VM, the 5.1M5 Monitor must replace the prior-version Monitor. For more information on installing the Monitor VM, see *Chapter 2 Installing the ISR Monitor* in the *Oracle Communications Interactive Session Recorder Installation Guide*.

- When upgrading a 5.1Mx Monitor VM, existing system and test configurations and test history are not automatically imported to the new version. You must repeat the Monitor installation process once the prior-version Monitor VM is powered down.

HP DL360 G8 Server Formatting

In OS-E, the RSS cannot **format data-1 ext4** on an HP DL360 G8 server (SAS Drives).

If you are deploying the RSS on this type of server, use the following workaround:

1. Create the new partition:

```
# fdisk /dev/sdb
fdisk> Command (m for help): n
```

- Choose p for primary partition.
- Choose partition 1.
- Choose first cylinder 1.
- Choose last cylinder (the default is the maximum disk size).

```
fdisk> Command (m for help): p
```

The new partition prints. Verify the settings.

```
fdisk> Command (m for help): w
```

The RSS writes the new partition table and exits.

2. Create the file system on the new partition:

```
# mkfs /dev/sdb1 -t ext4
```

3. Verify the newly created partition:

```
# fdisk -l
```

4. Start managing the disk from the OS-E (from the shell):

```
rss>add-device data-1 ext4
```

Changes take effect at the next restart.

```
rss>restart warm
Are you sure (y or n)?
Net-Net ISR is restarting
```

5. Verify the mount is successful:

```
rss>show mounts
```

The data-1 drive should be mounted to /dev/sdb1 using filesystem type ext4.

SIP Messaging Compliance

The RSS SIP stack update has resulted in stricter adherence to SIP messaging specifications. Recording of certain test and live traffic may be affected if signaling of these sessions is out of compliance.

CIS Configuration Script Error/Issue

The configCis.sh script, used in most provisioning scenarios for the CIS hosts, properly updates the **GATEWAY** field value but does not remove the commenting character # at the beginning of the line in the "eth0" interface configuration file. This leaves the setting ignored and may lead to unexpected network behavior.

To amend this error, edit the interface configuration file located in */etc/sysconfig/network-scripts/ifcfg-eth0* and remove the # character before the **GATEWAY** field, changing `#GATEWAY=<IP_Address>` to `GATEWAY=<IP_Address>` .

Release 5.1M6

This section describes all of the new adaptations added to the ISR in release 5.1M6.

New Features

- ISR FACE
- External Event Notifications
- Recording File Permissions
- Dashboard User Management Look and Feel
- Caching HTTP Recording Files
- Bookmark API REST Support
- X-ISR-UCID Enhancements
- Silence Padding Support
- Remote Archival Web Services API
- CIS Host Upgrade Enhancement

ISR FACE

The ISR supports FACE. FACE is a feature for the aggregation and control of events. It is a centralized component used to control both ISR and integrated third-party services. It can also retrieve audio and detailed metadata for recordings stored in the ISR. The initial third-party integration is with the ObserveIT Visual Session Recording solution. This provides the key activities necessary for desktop screen capture and for associating the captured screens to related audio recordings.

The controls currently available include full audio recording control (start, stop, pause, and resume, where pause and resume can aid in the omission of sensitive information from the recording), retrieval of recorded audio and metadata, as well as starting and stopping screen capture on an ObserveIT agent host. FACE also supports a policy system) allowing incoming events to trigger actions, with the current set of actions dedicated to screen capture control.

The ISR FACE contains the following components:

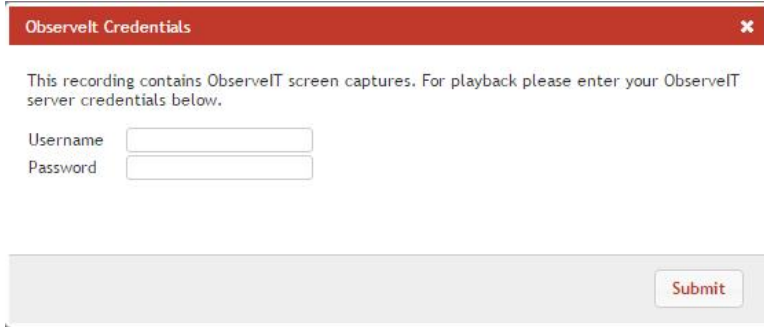
- FACE Policy System—Handles automatic actions for specific ISR events.
- External Event Notification Listener—Receives events from ISR components and passes them to Policy System.
- FACE REST API—API for communication and control of ISR components.

For information on deploying and configuring FACE, see the *Oracle Communications Interactive Session Recorder Installation Guide* and the *Oracle Communications Interactive Session Recorder API Reference Guide*.

Logging Into ObserveIT Visual Session Recording

When the ISR Dashboard encounters a valid FACE configuration accompanied by a recording playback request with associated screen capture "slides", Dashboard playback functionality launches. This begins with a single request for ObserveIT Visual Session Recording credentials to authorize the ISR Dashboard session for screen capture playback.

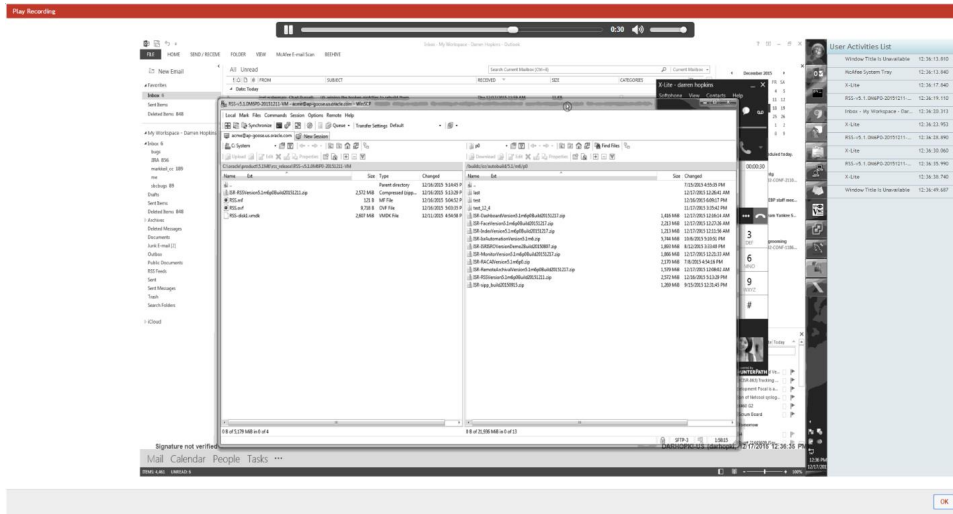
The following login screen appears prompting you for these credentials:



The image shows a login window titled "ObserveIT Credentials". It contains a message: "This recording contains ObserveIT screen captures. For playback please enter your ObserveIT server credentials below." Below the message are two input fields: "Username" and "Password". At the bottom right of the window is a "Submit" button.

Once you successfully enter the **Username** and **Password**, both audio and screen capture video begin playing and a sliding bar appears with the controls for pause/resume and volume, as well as a display marking the current playback time within the recorded session. An interactive **User Activities List** panel also appears which contains a list of notable user events. By clicking on any of these items in the list, the recording jumps playback to the specified event.

The following example displays playback of audio and screen capture:



Click the **OK** button to return to the previous page once you are finished with playback.

Deploying ISR FACE

The ISR FACE is deployed the same way as the other ISR CIS components. The ISR FACE is commonly deployed on an Oracle Linux 7 VM and has the same prerequisites as CIS applications like the Dashboard and Remote Archival.

Installing ISR FACE

By default, FACE is configured to handle HTTP requests over SSL, but you must perform the following steps to complete the initial configuration.

Note: During the installation process, you will be asked to provide and/or verify the users, passwords, and interfaces you created during the Oracle Linux installation.


To install the ISR FACE:

1. Log into the Oracle Linux CLI using an SSH client.

 **Note:** The Oracle Linux CLI is case-sensitive.

2. Enter the following command into the CLI:

```
sudo yum install isr-Face
```

 **Note:** Most ISR installation environments do not have access to a repository with the RPM required to install the isr-Face RPM itself. The simplest way to manage this issue is to (secure) copy the following files onto the Index host:

- isr-Face-5.2-0.x86_64.rpm

Once the files are properly copied, connect to the Index host with an SSH client and in the directory (for example, /tmp) containing the files, execute the following two commands:

```
# sudo yum localinstall /tmp/isr-Face-5.2-0.x86_64.rpm
```


3. Verify the installation when prompted.

```
Is this ok [y/d/N]:
```

Oracle Linux downloads the FACE installation packages.


4. Enter the following command into the CLI once Oracle Linux indicates the installation packages have finished downloading.

```
sudo /opt/isr/configIsr.sh
```

 **Note:** Once you begin editing the configIsr.sh script, you cannot perform a <Ctrl> C to exit the file.

5. Follow the script's instructions closely.


- Create a certificate key password when prompted.

 **Note:** This password does not have to follow any rigid requirements.

- When prompted for Database IP addresses, you may press <Enter> to accept the default values, unless you are not using the default Index IP address of the Local network. In that case, enter the appropriate values.
- Map the physical network interfaces to ISR networks. Hit <Enter> when prompted.

```
System Interfaces Found:
ens32 ens33-1 ens34 ens36
```

```
Enter Admin interface [ens32] <Enter>
Enter Local Interface [ens33-1] <Enter>
Enter VoIP Interface [ens34] <Enter>
Enter Data Interface [ens36] <Enter>
```

 **Note:** The following warning may appear during FACE gem configuration:

```
Do not run Bundler...
```

You may ignore this warning.

- Select m when prompted to set the hostname and finish the configuration.

```
Please select from the following menu:
```

```
-----
s) Show the current configuration
m) Modify the current configuration
i) Modify network interface mapping
z) Show firewall settings for Index.
q) Quit
```

```
Choice: m
```

- The FACE MySQL user must be granted access to the Index database and only can once the network connectivity is established. If networking is not properly configured before the MySQL user step, the following error and instruction are displayed:

```
Missing IP Parameter to get_ip_for_iface().
-----
Networking connection to MySQL index not available, please configure
networking and run the configuration option 'm' again.
```

Once you've chosen m to modify the configuration, accept the prompt to add the FACE MySQL user and follow the steps carefully to grant privileges.

The ISR FACE is installed.

Configuring FACE Reduced Security

The ISR's FACE functionality may be run with reduced security. You can use the configCis.sh script to loosen security settings on the FACE host.

To disable HTTPS in FACE, run the configCis.sh script and select HTTP for FACE.

```
[root@face ~]# configCis.sh
-----
Please select from the following menu:
-----
s) Show the current configuration
m) Modify the current configuration
i) Add/modify a second network interface
f) Set face default configuration in DB
q) Quit

Choice: f

WARNING, this action will reset the FACE to its default configuration.
** All customization of FACE or EEN configured will be lost.

Continue? (yes|no) [yes] yes
You have been warned.

Enter Face Host IP: [] 1.2.3.4
Protocol to use for FACE connections? (http|https) [https] http

FACE connection protocol set to http
Enter ObserveIT Server IP: [] 2.3.4.5
Protocol to use for ObserveIT Server connections? (http|https) [https]
ObserveIT connection protocol set to https
Attempting to restore backup SQL
Backing up FACE Config (to /opt/isr/faceSetupTemplate.sql.bak).
Updating FACE IP in SQL Script.
Updating FACE HTTP/S in SQL Script.
Updating ObserveIT IP in SQL Script.
```

FACE REST API

You can control ISR FACE either by using a policy defined within FACE itself, or by third-party applications with the ability to invoke a Representational State Transfer (REST) style Web Service.

REST is an application program interface (API) style used for designing networked applications that use HTTP to make calls between machines. REST emphasizes scalability of component interactions, generality of interfaces, independent deployment of components, and intermediary components to reduce interaction latency, enforce security, and encapsulate legacy systems.

The REST API provides a method to control session screen recording through the ISR, working over HTTP. The commands are handled as resources.

Available Resources:

Name	Value	Example Values/Commands
resource	<command>	audioRecording/pause, audioRecording/resume, eventNotify, StartScreenCapture, StopScreenCapture, version

To use a REST command, send an HTTP request in the form:

```
https://<faceIP>:<facePort>/Face/rest/<resource>?
<param1>=<param1_value>[&<param2>=<param2_value>...]
```

Determining the UCID

The Unique Call Identifier (UCID) accurately identifies the specific session related to a request and is the recommended parameter when using any ISR API. It can be one of two values associated with the session: the `isr_ucid` or `ingress_callid`. For the `isr_ucid`, the RSS pulls the SIP Header matching the configured X-ISR-UCID header name from the SIP Headers, if it is present. For a SIPREC session, if the `<*:ucid>` field is present in the extension data, the parameter value is used as the `isr_ucid`. In the case where both extension data and X-ISR-UCID SIP Headers are present, X-ISR-UCID SIP Header is used as the `isr_ucid`. The call-id from the SIP Headers of the initial INVITE is used for the `ingress_callid`.

There has been a lot of interest (both internal and field-wide) focused on populating SIPREC metadata with an X-ISR-UCID header or a SIPREC extension data field, mainly for purpose of API recording access and control. Currently, there are 2 SPL implementations to address populating the X-ISR-UCID field, one that properly sets the field with a provided UCID/GUID, and another that adds the value as a field in the SIPREC extension data.

The current ISR release has been enhanced to now populate the primary recording X-ISR-UCID field regardless of SPL implementation. However, this has led to confusion with existing integrations. Please refer to the *Oracle Communications Interactive Session Recorder 5.2 Release Notes* and future Maintenance Guides for updated and detailed information.

FACE Policy System

ISR FACE is able to create and handle Event Policies for the controlling and indexing of audio recordings, screen recordings, and their corresponding metadata. You can create policies to match specific events (for example, `AudioRecordingStarted`) which can generate a Policy Action (for example, `InitiateScreenRecording`). This allows FACE to have the power and flexibility to control both audio and screen recording based on your network and application setup.

For more information, see *ISR External Event Notifications* in this guide to see which ISR Events are currently supported and could be used to trigger FACE Policies.

FACE Policy Configurations

While the ISR does not come with any existing Events, ISR and FACE do follow some conventions and come with some default Event types and supported Policy Actions already configured. You can implement new Events to be used to initiate FACE Policy Actions.


Default Event Types

Event Name	Description
AudioRecordingStarted	Event fired by an external event notification when an RSS begins a new audio recording
AudioRecordingEnded	Event fired by an external event notification when an RSS finishes recording an audio file

When an Event with an associated Policy is matched, FACE can trigger an Action to complete a task, such as starting or stopping audio or screen recording, or notifying a third-party component of the Event.


Default Policy Actions


Action Name	Description
InitiateRecordScreen	Action initiated by FACE to begin ObserveIT Screen Recording
TerminateRecordScreen	Action initiated by FACE to end ObserveIT Screen Recording

 **Note:** When FACE is configured, it creates a Policy that, when audio recording starts or stops, triggers start or stop, respectively, of ObserveIT Screen Recording on the IP address contained in the first called participant's AOR.

REST API Commands

The following table shows and describes the specific API commands you can implement using the ISR FACE REST API.

 **Note:** Use GET as the HTTP method unless otherwise directed in the command description.

API Command	Description
audioRecording/ <command>	Retrieve recording metadata or audio, control ISR recording, or update certain metadata. The <command> argument can be one of the following values: <ul style="list-style-type: none"> • start • stop • pause • resume • details • download • redirect • delete  Note: These commands require an authentication token.
login	Authenticate a user/client to receive a token.
eventNotify	Notify the FACE of the specified event, possibly causing Policy Actions to fire.
StartScreenCapture	Begin ObserveIT Screen Recording.
StopScreenCapture	End ObserveIT Screen Recording.
version	Return the version number of the FACE software.

audioRecording/pause


The **audioRecording/pause** command pauses a specified recording in progress. To locate the in-progress recording to pause, either an audioRecordingId or a thirdPartyId identifier is required.

By default, silence is not inserted into the recording to indicate the pause. Set the **fillWithSilence** parameter to true to fill the paused section of audio with padded silence. If omitted or set to false, the paused section of audio is truncated.

Required Input Parameters

Standard Implementation

Parameter	Value	Description
audioRecordingId	<ISR UCID>	UCID of the session

 **Note:** For more information about using ISR UCIDs, see "Determining the ISR UCID".

OR

Alternate Implementation

Parameter	Value	Description
thirdPartyId	<Third Party Session ID>	The ObserveIT Session ID

Optional Input Parameters

Parameter	Value	Description
fillWithSilence	true false	Specifies whether or not recorded audio is padded with silence during the pause

Example

The following is an example of using the **audioRecording/pause** REST API command.

Request:

```
https://1.2.3.4:8443/Face/rest/audioRecording/pause?
audioRecordingId=
fbd5715afe5aca679d1c9230dce37e73@1.2.3.5&fillWithSilence=true
```

Response:

```
<response>
  <Code>0</Code>
  <message>RecordPause Command Returned Successfully</message>
</response>
```

audioRecording/resume

The **audioRecording/resume** command resumes a specified paused recording in progress. To locate the in-progress recording to resume, either an `audioRecordingId` or a `thirdPartyId` is required.

Required Input Parameters

Standard Implementation

Parameter	Value	Description
audioRecordingId	<ISR UCID>	UCID of the session

 **Note:** For more information about using ISR UCIDs, see "Determining the ISR UCID".

OR

Alternate Implementation

Parameter	Value	Description
thirdPartyId	<Third Party Session ID>	The ObserveIT Session ID

Example

The following is an example of using the **audioRecording/resume** REST API command.

Request:

```
https://1.2.3.4:8443/Face/rest/audioRecording/resume?
audioRecordingId=fbd5715afe5aca679d1c9230dce37e73@1.2.3.5
```


Response:

```
<response>
  <Code>0</Code>
  <message>RecordResume Command Returned Successfully</message>
</response>
```

eventNotify

The **eventNotify** command allows the ISR and external systems to notify FACE that an event of interest has occurred. The RSS' ISR API is typically used to notify FACE of events such as audio recording starting or stopping, or that a recording was paused, but third-party systems can use **eventNotify**, as well, to notify FACE of interesting Events such as a screen recording started or ended.

Currently FACE supports **AudioRecordingStarted** and **AudioRecordingEnded** Events, although custom event types can be configured. See *FACE Policy System* for more information.

 **Note:** The Optional Input Parameters listed below are used in the currently supported Events. Other Events may require different parameters.


Required Input Parameters

Standard Implementation

Parameter	Value	Description
event	<event type>	The type of event

Optional Input Parameters

Parameter	Value	Description
calledAors	<AORS List>	The list of Addresses of Record (AOR) for the called parties of the session
ucid	<ISR UCID>	The ISR UCID identifying the session

 **Note:** For more information about using ISR UCIDs, see "Determining the ISR UCID".

Example

The following is an example of using the **eventNotify** REST API command.

Request:

```
https://1.2.3.4:8443/Face/eventNotify?
event=AudioRecordingStarted&ucid=fbd5715afe5aca679d1c9230dce37e73@
1.2.3.5&calledAors=sip:agentX@1.2.3.4.11,sip:agentY@1.2.3.4.13
```

Response:

```
<response>
  <Code>0</Code>
  <message>success</message>
```

```
</response>
```


StartScreenCapture

The **StartScreenCapture** command causes FACE to issue an ObserveIT **AgentRemoteControl** command to start a screen capture for a specified in-progress recording. To use this command, the AgentId must be registered with the ISR in the `thirdparty_service_params` database table. IsrId is also required and should be the ISR_UCID for the session. If successful, the **StartScreenCapture** command also creates a correlation entry between the IsrId and the returned ObserveIT session ID for looking up recordings for playback.

Required Input Parameters

Standard Implementation

Parameter	Value	Description
IsrId	<ISR UCID>	UCID of the session
AgentId	<agent_ID>	The registered DNIS or ANI of the Agent Screen to capture

 **Note:** For more information about using ISR UCIDs, see "Determining the ISR UCID".

Example

The following is an example of using the **StartScreenCapture** REST API command.

Request:

```
https://1.2.3.4:8443/Face/StartScreenCapture?IsrId=fbd5715afe5aca679d1c9230dce37e73@1.2.3.5&AgentId=6789
```

Response:

```
<response>
  <Code>0</Code>
  <message>ACK</message>
</response>
```

StopScreenCapture

The **StopScreenCapture** command causes FACE to issue an ObserveIT **AgentRemoteControl** command to terminate a specified in-progress screen recording. To use this command, the AgentId must be registered with the ISR in the `thirdparty_service_params` database table.

Required Input Parameters

Standard Implementation

Parameter	Value	Description
AgentId	<agent_ID>	The registered DNIS or ANI of the Agent Screen to capture

Example

The following is an example of using the **StopScreenCapture** REST API command.

Request:

```
https://1.2.3.4:8443/Face/StopScreenCapture?AgentId=6789
```

Response:

```
<response>
  <Code>0</Code>
  <message>ACK</message>
</response>
```

version

The **version** command returns the version and build information for the current FACE API application.

Required Input Parameters

None

Example

The following is an example of using the **version** REST API command.

Request:

```
https://1.2.3.4:8443/Face/version
```

Response:

```
<result>
  <version>5.2.0M0P0 build <build #></version>
</result>
```

Return Codes

The FACE REST API follows the ISR API convention for return codes.

Return Code	Status Text
0	ACK
0	%command% command returned successfully (where %command% equals one of the supported commands)
0	This file has been renamed by the recorder, please use the following new filename for future commands: %filename%
-1	NACK
-1	%miscellaneous error message%
1	Feature Not Licensed
2	Host Not Authorized
3	Parameter Missing
4	Missing Command - command parameter is required
5	Invalid Command
6	Missing Parameter - ANI parameter is required
7	Missing Parameter - DNIS parameter is required
8	Missing Parameter - channelId parameter is required
9	Missing Parameter - fileId parameter is required
10	Error establishing database connection


Return Code	Status Text
11	Error retrieving filename for ANI %ANI% DNIS %DNIS% at timestamp of %timeStamp%
11	Error retrieving file info for ANI %ANI% DNIS %DNIS% at timestamp of %timeStamp%
11	Error retrieving file for ANI %ANI% DNIS %DNIS% at timestamp of %timeStamp %
11	Error retrieving file with supplied criteria
12	Recording has already started on this channel.
12	Recording is not paused, cannot unpause recording.
12	Recording is started by another session or not started, cannot pause recording.
12	Recording has already been paused, cannot pause recording.
12	Recording is started by another session or not started, cannot unpause recording.
13	Recording is started by another session or not started, cannot end recording.
14	Invalid Parameter for RecordEnd - fileId not found from recording index.
15	Error Indexing for RecordEnd - %SQLException%
16	Error Generating Token
17	Couldn't find route information
17	Route is not RecordAndSave application type
17	Couldn't find route information for ANI %ANI% DNIS %DNIS% or route is not RecordAndSave application type
18	ANI and DNIS are required for command SaveRecording
19	No recording found with supplied criteria
20	RSS could not successfully perform the operation
21	Cannot change name of file while recording is in progress
22	Cannot rename a file that is set to be deleted
23	Could not convert file to playable format
24	Timed out waiting for file conversion
25	Conversion already initiated by another user, please try again later
26	No session or file was found matching the provided UCID
27	Missing Parameter - %parameter% is required

Troubleshooting FACE

This section describes troubleshooting ISR FACE and includes steps to verify the following information:

- The version
- The database connection
- The FACE configuration
- The FACE REST API connection

- The Starting and Stopping Screen Capture and Audio Recording Pause and Resume Controls via the FACE REST API

 **Note:** Face logs are found in /cxc_common/ISR/Face/Face.log.

Verifying the Version

You can verify the ISR version you are running either via the Face.log or via REST from your browser in an HTTP(S) configuration.

- Via Face.log, find a log statement like the following example:

```
running Cube REST API version 5.1.0M6P0 build 2015.12.04_00.23
```

Verify that the version and build date is as expected.

- Via REST from your browser in an HTTP(S) configuration, browse to either https://<FACE_IP>:8443/Face/rest/version or http://<FACE_IP>:8080/Face/rest/version. The version tag is something like the following example:

```
<version>5.1.0M6P0 build 2015.12.04_00.23</version>
```

Verify that the version and build date is as expected.

Verifying the Database Connection

Ensure that the database connection is working properly.

- In Face.log, find a log statement like the following example:

```
12/4/15 11:06:28[DEBUG] Database connection jdbc:mysql://  
<FACE_DATABASE_IP>/ipcr_db has been successfully established.
```

- Verify that the <FACE_DATABASE_IP> is correct and that the log statement "Database connection...has been successfully established." is present.

Verifying The FACE Configuration

Ensure you have FACE configured properly for integration with the ObserveIT Visual Session Recorder platform.

Via Face.log, find and verify the following:

```
i. 12/4/15 11:06:28[INFO ] (Retrieving ObserveItWS Config) Got  
service id: 1 content: https://<OIT_IP>:444/AgentRemoteControl.asmx
```

 **Note:** By default, the Port for HTTPS is 444 and the port for HTTP is 4885.

```
ii. 12/4/15 11:06:28[INFO ] 2 event policies found.
```

There must be at least one event policy configured (the default configuration has two).

Verifying the FACE REST API Connection


Ensure your FACE REST API connection is working properly.

- Open the following URL in your browser:

```
https://<FACE_IP>:8443/Face/rest/version
```

- Verify the following statement in the Face.log:

```
12/4/15 11:08:58[INFO ] Answered to version request:  
<?xml version="1.0" encoding="UTF-8"?><result><version>5.1.0M6P0 build  
2015.12.04_00.23</version></result>
```

 **Note:** Your build version may be different but the "Answered to version request" line must be present.

Verifying Starting Screen Capture Controls Via the FACE REST API

Ensure the Starting Screen Capture Controls via FACE REST API are working properly.

- Open the following URL in your browser:

```
https://<FACE_IP>:8443/Face/rest/StartScreenCapture?
IsrId=<ISR_UCID>&AgentId=<DNIS_OF_IN-PROGRESS_CALL>
```

Make sure there is an in-progress call on an RSS with the <ISR_UCID> and that the Agent IP is configured in the `thirdparty_param_value` field and the DNIS of the call (% is wildcard) is configured in the `thirdparty_param` field in the `thirdparty_service_params` database table.

- Verify the following statements in the Face.log:

```
12/4/15 14:34:26[INFO ]      Received REST command StartScreenCapture,
params IsrId = <ISR_UCID> AgentId = <DNIS_OF_IN-PROGRESS_CALL>
12/4/15 14:34:26[DEBUG]      (Retrieving ObserveItWS Param) select
thirdparty_param_value, thirdparty_param from thirdparty_service_params
where thirdparty_service_id = 1 and '<DNIS_OF_IN-PROGRESS_CALL>' like
thirdparty_param
12/4/15 14:34:26[DEBUG]      (Retrieving ObserveItWS Param) Got Param
<DNIS_OF_IN-PROGRESS_CALL>: %
priority: 1
12/4/15 14:34:26[INFO ]      (Retrieving ObserveItWS Param) Got Param
<DNIS_OF_IN-PROGRESS_CALL>:
<OITAgentIP>
12/4/15 14:34:26[DEBUG]      Screen capture hostname/IP <DNIS_OF_IN-
PROGRESS_CALL> is found for <DNIS_OF_IN-PROGRESS_CALL>
12/4/15 14:34:26[INFO ]      Issuing startAgent command to <OITAgentIP>,
URL: https://<OIT_Server>:444/AgentRemoteControl.asmx
12/4/15 14:34:26[DEBUG]      done
12/4/15 14:34:26[INFO ]      Answered to StartScreenCapture request:
<?xml version="1.0" encoding="UTF-8"?> <result><code>0</code><message>ACK</
message></result>
```

Verifying Stopping Screen Capture Via the FACE REST API

Ensure the Stopping Screen Capture Controls via FACE REST API are working properly.

- Open the following URL in your browser:

```
https://<FACE_IP>:8443/Face/rest/StopScreenCapture?AgentId=<<DNIS_OF_IN-
PROGRESS_CALL>>
```

Make sure there is an in-progress call on an RSS with the <ISR_UCID> and that the Agent IP is configured in the `thirdparty_param_value` field and the DNIS of the call (% is wildcard) is configured in the `thirdparty_param` field in the `thirdparty_service_params` database table.

- Verify the following statements in the Face.log:

```
12/4/15 14:34:26[INFO ]      Received REST command StopScreenCapture,
params AgentId = <<DNIS_OF_IN-PROGRESS_CALL>>
12/4/15 14:34:26[DEBUG]      (Retrieving ObserveItWS Param) select
thirdparty_param_value, thirdparty_param from thirdparty_service_params
where thirdparty_service_id = 1 and '<<DNIS_OF_IN-PROGRESS_CALL>>' like
thirdparty_param
12/4/15 14:34:26[DEBUG]      Screen capture hostname/IP <OITAgentIp> is
found
12/4/15 14:34:26[INFO ]      Issuing stopAgent command to <OITAgentIP>,
URL: https://<OITAgentIP>:444/AgentRemoteControl.asmx
12/4/15 14:34:26[DEBUG]      done
12/4/15 14:34:26[INFO ]      Answered to StopScreenCapture request:
<?xml version="1.0" encoding="UTF-8"?> <result><code>0</code><message>ACK</
message></result>
```

Verifying Audio Recording Pause Control Via the FACE REST API

Ensure the Audio Recording Pause Controls via FACE REST API are working properly.

- Open the following URL in your browser:

```
https://<FACE_IP>:8443/Face/rest/audioRecording/pause?
audioRecordingId=<ISR_UCID>
```

Make sure there is an in-progress call on an RSS with the <ISR_UCID>.

- Verify the following statements in the Face.log, along with its result:

```
12/4/15 15:05:54 [INFO ]      KTujPlPBK+Ong61LXREQrxsw.undefined in
audioRecording/pause
12/4/15 15:05:54 [DEBUG]      KTujPlPBK+Ong61LXREQrxsw.undefined adding
parameters to map
12/4/15 15:05:54 [DEBUG]      KTujPlPBK+Ong61LXREQrxsw.undefined
audioRecording parameter (audioRecordingId) has value: <ISR_UCID>
[...]
12/4/15 15:05:54 [DEBUG]      KTujPlPBK+Ong61LXREQrxsw.undefined
audioRecording/pause return:
<?xml version="1.0" encoding="UTF-8"?>
<result><code>0</code><message>ACK</message></result>
```

Verifying the Audio Recording Resume Control Via the FACE REST API

Ensure the Audio Recording Resume Controls via FACE REST API are working properly.

- Open the following URL in your browser:

```
https://<FACE_IP>:8443/Face/rest/audioRecording/resume?
audioRecordingId=<ISR_UCID>
```

Make sure there is an in-progress call with a paused recording on an RSS with the <ISR_UCID>.

- Verify the following statements in the Face.log, along with its result:

```
12/4/15 15:05:54 [INFO ]      KTujPlPBK+Ong61LXREQrxsw.undefined in
audioRecording/resume
12/4/15 15:05:54 [DEBUG]      KTujPlPBK+Ong61LXREQrxsw.undefined adding
parameters to map
12/4/15 15:05:54 [DEBUG]      KTujPlPBK+Ong61LXREQrxsw.undefined
audioRecording parameter (audioRecordingId) has value: <ISR_UCID>
[...]
12/4/15 15:05:54 [DEBUG]      KTujPlPBK+Ong61LXREQrxsw.undefined
audioRecording/resume return:
<?xml version="1.0" encoding="UTF-8"?>
<result><code>0</code><message>ACK</message></result>
```

External Event Notifications

The External Event Notification feature provides a way to notify RESTful services of events occurring in the ISR. It can be used in two ways: to notify third-party applications of new recordings, new sessions, and updates to existing sessions and recordings, or to notify new ISR components, acting as integrations to third-party platforms, of critical ISR events.

When communicating with third-party applications, the external event notification system propagates session and recording events to a separate server that interoperates with the ObserveIT Visual Session Recording solution (the ISR FACE feature). The data provided in these notifications allows the service to coordinate ISR recordings with ObserveIT screen capture recordings in order to provide simultaneous audio and video playback on applications such as the ISR Dashboard.

External event notifications may be configured with a series of default settings for interoperation with ISR FACE and the ObserveIT Visual Session Recording solution. For more information on the interaction between ISR FACE and ObserveIT Visual Recording solution, see the "Face Policy System" section of this guide. If you require more extensive external event notification configuration, contact your Oracle representative.

Events and Notifications

The majority of the external event notifications handling Events and queueing and sending Notifications is implemented in the ISR APIs.

Supported Events

The following Events are implemented in the current version of the external event notifications:

Event	Event Description
RECORDING_STARTED_EVENT	Recording has started
RECORDING_PAUSED_EVENT	Recording paused
RECORDING_RESUMED_EVENT	Recording has resumed
RECORDING_ENDED_EVENT	Recording has ended

Notifications

When external event notification is configured, upon successful completion of a command, the API queues a Notification for a successful result for the Event. If a command is unsuccessful, the API queues a Notification for an unsuccessful result for the Event.

The API supports configuration of external event notification on a per Route, per Account, and per Realm basis. Global Events, which are delivered regardless of the Route, Account, or Realm of the Event, are also possible. The API supports multiple Notification destinations for an Event such that an Event that matches each Route, Account, and Realm configured generates Notifications for each of these matching criteria. Additionally, multiple destinations for the same Route, Account, and Realm can be configured for each supported event type.

For example:

Route => destination A, and Account => destination B (Both Route and Account for the Event have destinations configured)

Account => destination A, and Account => destination B (Redundant Event sinks for Account)

Supported General Parameters

The following General Parameters may be included in an Event:

Parameter Name	Description
SESSION_ID	SIPREC Session ID
ANI	The caller
DNIS	The callee
ISR_UCID	ISR UCID
INGRESS_CALLID	Ingress Call ID
EGRESS_CALLID	Egress Call ID
UNKNOWN_UCID	Unknown UCID
CALL_ID	Call ID
RESULT	Result (success or fail)

Supported Recording-Specific Parameters

The following Recording-Specific Parameters may be included in a recording Event (all currently supported Events are recording Events, but that may not be true of future Events).

Parameter Name	Description
FILENAME	Filename
START_TIME	Start time
END_TIME	End time
DURATION	Duration
PAUSE_LENGTH	Pause length
PAUSE_SILENCE	Whether the pause contains silence
CALLING_AORS	Calling party AORs
CALLED_AORS	Called party AORs

Supported Special Parameters

In some circumstances, it is necessary to include parameters not normally determined during the event. However, it is desirable not to have to look up or process these parameters for every Event if they are not being requested. To accommodate this need, special parameter handlers are allowed during the construction of the Notification. There are two supported special parameters.

Parameter Name	Description
CALLING_AORS	Calling party AORs
CALLED_AORS	Called party AORs

External Event Notification and Parameters Example


The following REST command shows an example of a **RECORDING_STARTED_EVENT** Notification Destination, along with the Event type, called party AORs, and ingress call ID parameters for the Notification:

```
https://1.2.3.4:8443/Face/eventNotify?
event=AudioRecordingStarted&calledAors=sip:
7654321@1.2.3.1:5060&ucid=13-23132@1.2.3.4
```

Recording File Permissions

In ISR releases prior to 5.1M6, **download** and **delete** recording file permissions were the only supported User-level configuration permissions. To be consistent with Account and Route-level configuration recording file permissions, the following enhancements have been made:

- A User-level **playback** recording file permission has been added.
- All User-level recording file permissions have been expanded to also be configurable at the user's Account level.
- Account-level configurable recording file permissions override the User-level configuration.
- You now have the ability to push a recording file permission change from the Account level down to each user of the Account at the User level.

 **Note:** New Accounts, Routes, and Users have all recording file permissions enabled by default.

For more information on recording file permissions, see the Oracle Communications Interactive Session Recorder Administrator Guide.

Configuring File Recording Permissions

Configure Account-level playback, deletion, and download recording file permissions through the ISR Dashboard's Account Detail view page. Like all other settings at the Account level, these new settings are only configurable by Super User and Account Admin user types.

ORACLE Interactive Session Recorder

Recordings Reports Settings Admin Welcome, Admin.

Home / Accounts / Edit Account 'oracle'

Account Name Recording is

Account Description Session Capacity (-1 for no limit)

Account Miscellaneous

Account Branding

Account Route Defaults

Account Routes

Account Recording File Permissions

Recording File Permissions
(Drag and Drop permissions below; then Update to apply.)

Granted	Available
Download Recording Permission	Play Recording Permission
Delete Recording Permission	

Account Users

Account Remote Archival Service Configurations

Account Remote Archival Clients

Configure Route-level playback, deletion, and download recording file permissions through the ISR Dashboard's Route Detail view page. Like all other settings at the Route level, these new settings are only configurable by Super User, Account Admin, and Tenant Admin user types.

ORACLE Interactive Session Recorder

Recordings Reports Settings Admin Welcome, Admin.

Home / Routes / Edit Route '%' [Upgrade to Route Group](#)

Account Name Virtual Pattern

Route Type Route Label

Route Pattern Route Priority

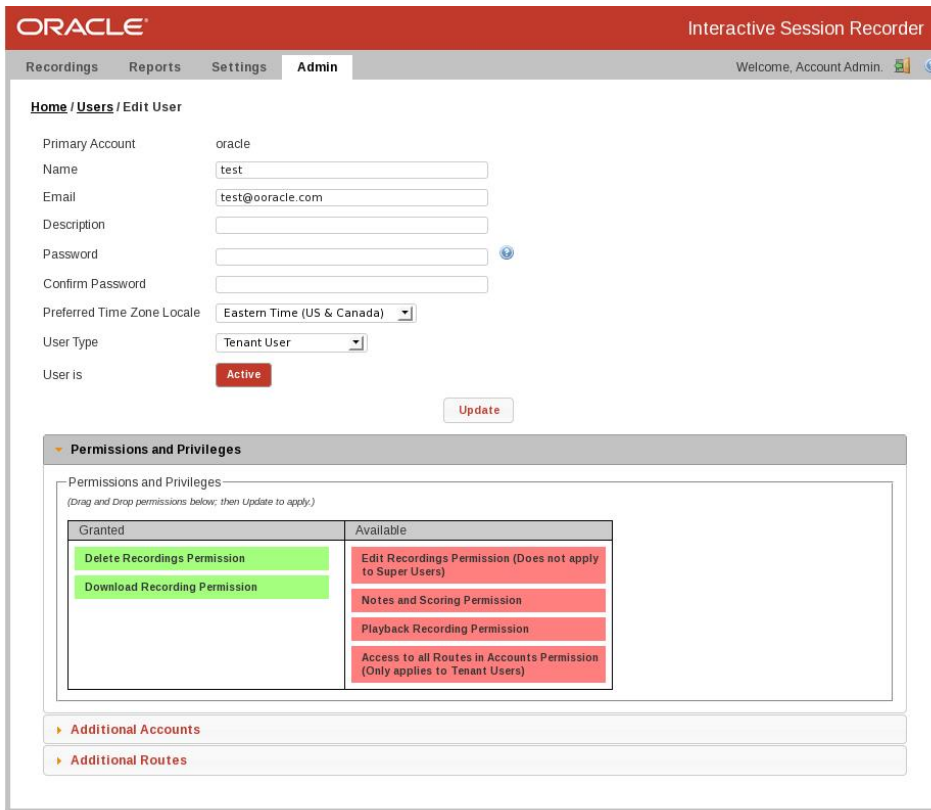
Route Advanced Configurations

Route Recording File Permissions

Recording File Permissions
(Drag and Drop permissions below; then Update to apply.)

Granted	Available
Play Recording Permission	Download Recording Permission
Delete Recording Permission	

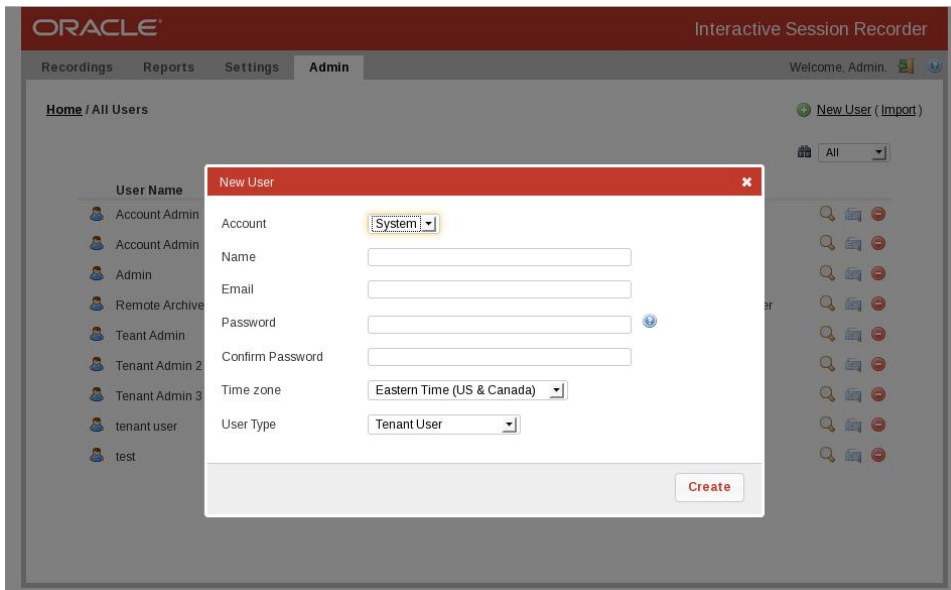
Configure User-level playback, deletion, and download recording file permissions through the ISR Dashboard's User Detail view page.



User Management Look and Feel Updates

In previous versions of the ISR, the User Management Graphical Interface did not have a look and feel consistent with that of the Accounts' and Routes' interfaces. To make the User interface consistent with that of the Accounts' and Routes', the **New User** and **Edit User** screens have been updated.

When creating a new User, instead of having to navigate to a separate page, the ISR has been updated to open a dialog box directly from the Users list view. The dialog window provides the minimum number of fields needed to create a valid new User.



Once a new User is successfully created, the Dashboard automatically navigates to the new User's **Edit User** interface to allow for any additional configuration changes.

The **Edit User** page has been rearranged, moving the following configuration properties into accordion interfaces you can click on to expand:

- User Permissions and Privileges
- Adding and removing Accounts for the User
- Adding and removing Routes for the User

The screenshot shows the Oracle Interactive Session Recorder Admin interface. The top navigation bar includes 'Recordings', 'Reports', 'Settings', and 'Admin'. The main content area is titled 'Home / Users / Edit User'. The form contains the following fields and controls:

- Primary Account: oracle
- Name: tenant user
- Email: tu@oracle.com
- Description: (empty text field)
- Password: (password field with a strength indicator)
- Confirm Password: (password field)
- Preferred Time Zone Locale: Eastern Time (US & Canada) (dropdown menu)
- User Type: Tenant User (dropdown menu)
- User is: Active (checkbox)
- Update: (button)
- Permissions and Privileges: (expandable section)
- Additional Accounts: (expandable section)
- Additional Routes: (expandable section)

Caching HTTP Recording Files

You can configure the ISR to either include or not include the following HTTP header and values (on playback of recordings and third-party media) in the response to a recording playback request:

```
Cache-Control: max-age=0, no-cache, no-store
```

To configure HTTP recording file caching:

1. Log into the Dashboard and click Admin in the main menu (or Edit System Configurations on the Home page).
2. Click Manage Security Settings.
3. Allow HTTP Cache of Recording Files?—Specify whether the ISR includes the HTTP header in response to recording playback requests. When set to Yes, the ISR does not include the header. When set to No, the ISR does include the header.
4. Click Update.

Bookmark API REST Support

The ISR now supports the **bookmark** API command in the REST format. For more information on the **bookmark** API, see the Oracle Communications Interactive Session Recorder API Reference Guide.

X-ISR-UCID Enhancements

There has been a lot of interest (both internal and field-wide) focused on populating SIPREC metadata with an X-ISR-UCID header or a SIPREC extension data field, mainly for purpose of API recording access and control. Currently, there are two SPL implementations to address populating the X-ISR-UCID field, one that properly sets the field with a provided UCID/GUID, and another that adds the value as a field in the SIPREC extension data. Prior to

Release 5.1M6

5.1M6, the latter implementation yielded a situation where the API could not access the recording with the X-ISR-UCID value because it is expected as a primary recording field.

The current ISR release has been enhanced to now populate the primary recording X-ISR-UCID field regardless of SPL implementation. For more detail on the X-ISR-UCID, refer to "Determining the UCID" in the Oracle Communications Interactive Session Recorder API Reference Guide.

Silence Padding Support

The ISR API command, **recordPause**, has been enhanced to offer the ability to include the silent media of a paused audio recording to preserve the accuracy of the duration of the call.

Parameter	Value	Description
fillWithSilence	true false	Whether or not recorded audio is padded with silence during a pause.


Remote Archival Web Service

The ISR supports a Remote Archival Web Service (RAWS).

The Remote Archival (RA) allows you to pull your recordings, in bulk, to a premise location. The RA Client (not provided) connects to the RAWS and retrieves all recordings for a single account configured on the host platform.

To support RAWS, the Oracle Communications Interactive Session Recorder Remote Archival Web Service Reference Guide has been added to the ISR doc set. This document provides the following information:

- What is the RAWS
- The Web Service Control methods, their request parameters, return results, and return code
- WSDL definitions
- Data Type Definitions
- Sample getAdministrativeData Response
- Sample siprecDataSets Response Excerpt
- Importing the RAWS' certificate into the client keystore

 **Note:** This newly created document covers the Server-side Web Service functions only and is in no way intended to represent a complete solution. The guide documents the SOAP functions that are available on the ISR for users looking to integrate to the RAWS and retrieve recordings from the ISR.

CIS Host Upgrade Enhancement

The CIS upgrade step focused on secure copy of host configuration files to the new VM has consolidated the number of password requests to one.

Issues Fixed in 5.1M6

This section describes the issues fixed in each component of the ISR in release 5.1M6.

ISR Monitor

- The ISR Monitor Dashboard now properly displays component failures in the Riga time zone. Time zone management has been updated to ensure component failures are properly displayed for Monitor deployments in different time zones.

ISR Dashboard

- Broadworks user permissions can no longer be changed in the Dashboard. Broadworks users auto-generated in the Dashboard now honor permission settings.
- Recording start times, end times, and duration are now resolved to the nearest millisecond. Previously these values were resolved to the nearest second.

ISR API

- The API logging has been updated for clarity during troubleshooting of recording control issues.
- Recording start times are now resolved to the nearest millisecond. Previously these values were resolved to the nearest second.

ISR RSS

- Recording pause and resume behavior inconsistencies, occurring in certain call flow scenarios since the 5.1M5 SIP stack upgrades, have been fixed.
- A minor fix to the realignment mechanism of the RecorderThread component addresses media misalignment situations for certain call flow scenarios.
- Inconsistencies with the silence detection timing across varying sample rates (ptime) have been fixed.
- Worker threads are now being properly cleaned to fix a race condition that occurred when there were very close start and end session events leading to worker threads remaining active and impacting subsequent "record-only" sessions to terminate with no request to record media.
- Call hold and off-hold behavior inconsistencies, occurring in certain call flow scenarios since the 5.1M5 SIP stack upgrades, have been fixed.
- The RSS now records properly after fixes were made to address a sequence disconnect after an SSRC change.
- The RSS now properly logs and displays the RSS session ID parameter, X-ISR-UCID.
- Re-INVITE media renegotiation is now properly managed to avoid a deadlock when handling SIPREC Re-INVITE situations with media renegotiation for RTP port change in certain "record-only" scenarios.
- The RSS no longer crashes during the 200 OK response to SIPREC REINVITEs.

ISR CIS Hosts (Index, Dashboard, Monitor, Remote Archival)

- The upgradeCis.sh script properly imports OS user and host changes during the CIS host upgrade process.
- The configCis.sh script has been fixed to properly set Linux configuration files upon deployment, fixed a known issue in releases 5.1M4 and 5.1M5

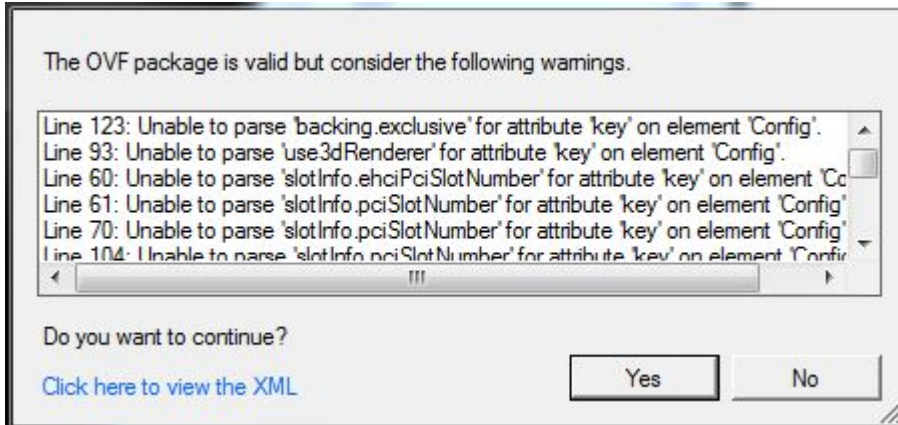
Known Problems and Restrictions in 5.1M6

Routing Configuration

When a Route is configured with **Route Mode** set to **Pass Through**, the RSS responds to INVITE requests with a reply of "405 Method Not Allowed".

RSS VM Warning

In certain versions of vSphere, deployment of the RSS VM may show a Warning dialog box concerned with parsing certain OVF attributes and looks like the following:



You may ignore this warning.

Monitor Upgrade

- When upgrading a 5.0 Monitor VM, the 5.1M5 Monitor must replace the prior-version Monitor. For more information on installing the Monitor VM, see *Chapter 2 Installing the ISR Monitor* in the *Oracle Communications Interactive Session Recorder Installation Guide*.
- When upgrading a 5.1Mx Monitor VM, existing system and test configurations and test history are not automatically imported to the new version. You must repeat the Monitor installation process once the prior-version Monitor VM is powered down.

HP DL360 G8 Server Formatting

In OS-E, the RSS cannot **format data-1 ext4** on an HP DL360 G8 server (SAS Drives).

If you are deploying the RSS on this type of server, use the following workaround:

1. Create the new partition:

```
# fdisk /dev/sdb
fdisk> Command (m for help): n
```

- Choose p for primary partition.
- Choose partition 1.
- Choose first cylinder 1.
- Choose last cylinder (the default is the maximum disk size).

```
fdisk> Command (m for help): p
```

The new partition prints. Verify the settings.

```
fdisk> Command (m for help): w
```

The RSS writes the new partition table and exits.

2. Create the file system on the new partition:

```
# mkfs /dev/sdb1 -t ext4
```

3. Verify the newly created partition:

```
# fdisk -l
```

4. Start managing the disk from the OS-E (from the shell):

```
rss>add-device data-1 ext4
```

Changes take effect at the next restart.

```
rss>restart warm
Are you sure (y or n)?
Net-Net ISR is restarting
```

5. Verify the mount is successful:

```
rss>show mounts
```

The data-1 drive should be mounted to /dev/sdb1 using filesystem type ext4.

ISR FACE Requirement

The ISR Dashboard must be configured for HTTPS in order to support secure integration with the ObserveIT Visual Session Recorder platform over HTTPS.

Error Possible When Upgrading From Some Versions

Dashboard application database configuration files imported during upgrades from versions before 5.1M4 may contain an improper driver setting. The improper driver setting leads to a "500 Server Error" message when navigating a web browser to the Dashboard URL and stack traces in the Dashboard "production.log" file that look like the following:

```
Status: 500 Internal Server Error
no such file to load -- mysql
  /usr/lib/ruby/site_ruby/1.8/rubygems/custom_require.rb:36:in
`gem_original_require'
...
```

To resolve this issue, edit the file "/var/www/dashboard/current/config/database.yml", and change the following line:

From:

```
production:
  adapter:mysql
```

To:

```
production:
  adapter:mysql2
```

Then restart the web server with the **service nginx restart** command.



Note: If configured for HTTPS, the PEM pass phrase may be required to stop and start the nginx service.

Recording Conversion Issue After an Upgrade

To avoid potential corruption, you must ensure all recordings have successfully completed the conversion process from their original "RPDD" format (for example, recordings in the G.729 transport codec) to their playable format prior to a maintenance-level, minor, or major ISR upgrade. You can configure the Archival process to convert recordings while moving the files between Locations or while the files remain in their final Archival destination.

ISR Universal Call Identifier Order of Precedence Change

The 5.1M6 feature, described in the *X-ISR-UCID Enhancements* section of this guide may impact expected behaviors when the SRC/SBC is configured to use both the "AvayaCiscoUCID64" and the "SipHeaderExtensionMetadata. 1.2" SPL.

If the expectation exists, either for searching or API control, that a third-party Universal Call Identifier (UCID) value populates the ISR UCID using the above two SPL configurations to pull Communication Session (CS) UCID and Call ID into the Recording Session (RS) extension data, then the below change in precedence should be noted.

When the SRC/SBC is configured for both the "AvayaCiscoUCID64" and the "SipHeaderExtensionMetadata. 1.2.spl" SPL the ISR's UCID is now populated in the following order of precedence:

- X-ISR-UCID (or any other field name configured in the "<Sip><IsrUcidHeaderField>" tag of the RSS configuration file /cxc/vmgConfig.xml). For example:

```

    <participant id="hq18GJs3TtJdhjPsfPNV8A=="
    session="BYiC7uSZQGN3VQdzWI1HWw==">
        <nameID aor="sip:sipp@192.168.10.1">
    ...
        <extensiondata xmlns:apkt="http://acmepacket.com/siprec/
    extensiondata">
    ...
            <apkt:header label="X-ISR-UCID">
                <value>X-ISR-UCID-1-150323161627-1979582260@0a0af9f9</value>
            </apkt:header>
    ...
        </extensiondata>

```

- Call ID populated in the RS extension data. For example:

```

    <participant id="hq18GJs3TtJdhjPsfPNV8A=="
    session="BYiC7uSZQGN3VQdzWI1HWw==">
        <nameID aor="sip:sipp@192.168.10.1">
    ...
        <extensiondata xmlns:apkt="http://acmepacket.com/siprec/
    extensiondata">
    ...
            <apkt:header label="Call-ID">
                <value>1-150323161627-1979582260@0a0af9f9</value>
            </apkt:header>
        </extensiondata>

```


- Third-party UCID. For example:

```

<session id="/Bo3JD1jRnZluCz1VhPHeg==">
    <associate-time>2016-03-15T01:33:46</associate-time>
    <extensiondata xmlns:apkt="http://acmepacket.com/siprec/extensiondata">
        <apkt:ucid>00FA080200000F56E7667A;encoding=hex</apkt:ucid>
        <apkt:callerOrig>true</apkt:callerOrig>
    ...

```

To revert to the behavior prior to 5.1M6 in this specific instance, change the "AvayaCiscoUCID64" SPL to no longer pull the "Call-ID" and "X-ISR-UCID" into the RS or change the header names if still required.

 **Note:** To pursue other options not described here, contact your Oracle representative for more information.

ISR Recording Playback Errors With Versions of Some Browsers

ISR recording playback errors have been reported for the following versions of these web browsers:

- Firefox ESR 45.2.0—The playback controls appear only briefly before becoming unavailable
- Internet Explorer 11.0.9600.x—The "Invalid Source" error appears in the player popup

To avoid recording playback errors, switch to the Chrome browser.

Playback failures may also occur with the Quicktime plug-in version 7.7.7. Downgrade to version Quicktime 7.7.4 if you encounter these issues.

Dashboard Routes and Accounts Set the Codec Profile to an Invalid ID

When the Dashboard creates new Routes and Accounts, the Codec Profile of the account or route is set to an invalid ID. The invalid Codec Profile yields g.729 session recordings written with .wav file extensions, but indexed with .RPDD extensions in the file name, and causes Dashboard playback and download and Remote Archival failures.

To avoid this issue execute the following SQL statement in the MySQL command-line client of the Index host:

```
ALTER TABLE `ipcr_db`.`accounts` CHANGE COLUMN `codec_profile_id`  
`codec_profile_id` INT DEFAULT 1;  
ALTER TABLE `ipcr_db`.`route_config` CHANGE COLUMN `codec_profile_id`  
`codec_profile_id` INT DEFAULT 1;
```

If existing accounts or routes have been impacted by the invalid Codec Profile setting and g.729 recordings cannot be properly converted for playback, download or Remote Archival, the following query fixes existing accounts and routes when executed in the MySQL command-line client of the Index host:

```
UPDATE route_config SET codec_profile_id=1;
```

CDR Remote Not Updated After File Conversion

When including sessions originally recorded in the RPDD file format, the Remote Archival getList responses, are listed with the errant ".rpdd" extension despite successful conversion. Once the ".rpdd" file name and recording ID are included in the getFile request, the proper ".wav" file and file name are returned in the getFile response.

Default Codec Profile g.711/ADPCM Not Playable in Chrome

For g.729 sessions, the ISR's "**Default**" **Codec Profile** records in the lower-bandwidth 4-bit ADPCM format, which currently is not playable with the latest version of the Chrome browser. The media player pops up with the Play icon becoming disabled quickly.

Upgrading the ISR


This section provides the information and procedures required for upgrading the ISR from the current release to subsequent releases (feature, maintenance, and/or patch releases).


Each CIS host displays its version in the “Annotation” element in the VM’s .ovf file. This may also be viewed in the summary tab of the virtual host using the vSphere client. The RSS version can be viewed by executing the command `tail /cxc_common/ISR/ISRLogs/ISRService.log` and searching for a line similar to the following:

```
2014-03-04 03:58:28 >> VoIP Media Gateway v5.1.1.0 (M1P0 built on  
20131021.185908) starting
```

To upgrade the ISR, you must perform the upgrade in the following order:

- Index
- RSS
- Dashboard
- Remote Archival Webservice (rWebservice)
- Monitor

 **Note:** When upgrading a 5.0 Monitor VM, the 5.1M3 Monitor must replace the prior-version Monitor. For more information on installing the Monitor VM, see Chapter 2 Installing the ISR Monitor in the *Oracle Communications Interactive Session Recorder Installation Guide*.

 **Note:** When upgrading a 5.1Mx Monitor VM, existing system and test configurations and test history are not automatically imported to the new version. You must repeat the Monitor installation process once the prior-version Monitor VM is powered down.

Upgrading the CIS

Use the procedures in this section to upgrade the CIS. Upgrade procedures include:

- Before You Begin Upgrading the CIS
- Upgrading a CIS VM Instance
- Importing the new CIS VM
- Deleting the Prior CIS VMs
- Configuring Automatic Start of the Upgraded VMs
- Verifying the CIS Upgrade
- Reverting Your CIS Installation To the Previous Version

Before You Begin Upgrading the CIS

Before you begin the CIS upgrade, the following conditions must be met:

- New VM files (unzipped) for each CIS host (*ISR -<component> Version <#>Build <date>.zip*) must reside on your Windows host machine that is managing the VM with the vSphere Client.
- There are two ways to upgrade when dealing with two Index hosts configured as a MySQL replication pair. The safest way is to stop all call traffic to the ISR and upgrade all ISR components during one maintenance window.



Note: If you are unable to stop call traffic, you can perform the upgrade by site, where each ISR component on a given site is upgraded while the other site remains available to take calls. It is important to note that the rollback procedure for upgrading with active calls is beyond the scope of this document. Contact your account representative for more information on that procedure.

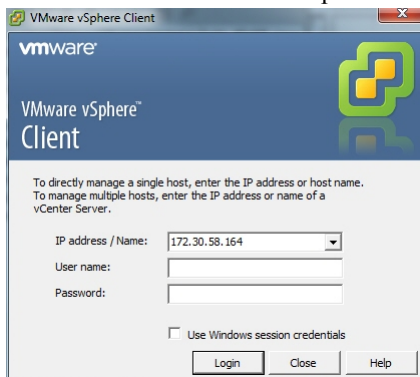
Upgrading a CIS VM Instance

When upgrading the CIS, you must upgrade each CIS VM instance. CIS VM instances include the Dashboard, Index, Remote Archival Webservice, and Monitor. The following instructions apply to the upgrade of each of these CIS components.

When upgrading a CIS component VM, you must run the latest version host on the same hypervisor server as the CIS host being replaced. Once a CIS VM is deployed and powered on, you must connect to it using the vSphere console and log in.

To log into the vSphere server:

1. Double-click the VMware vSphere Client icon. The following screen displays.

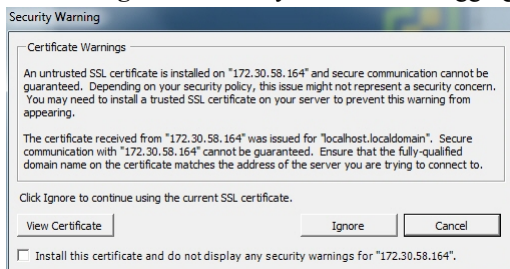


2. **IP address/name**—Enter the IP address or domain name of the ESXi host.
IP address/Name: 172.30.53.164
3. **User name**—Enter the user name assigned to you by the system administrator of the ESXi host.
user name: root
4. **Password**—Enter the password assigned to you by the system administrator of the ESXi host.
Password: jrs453i



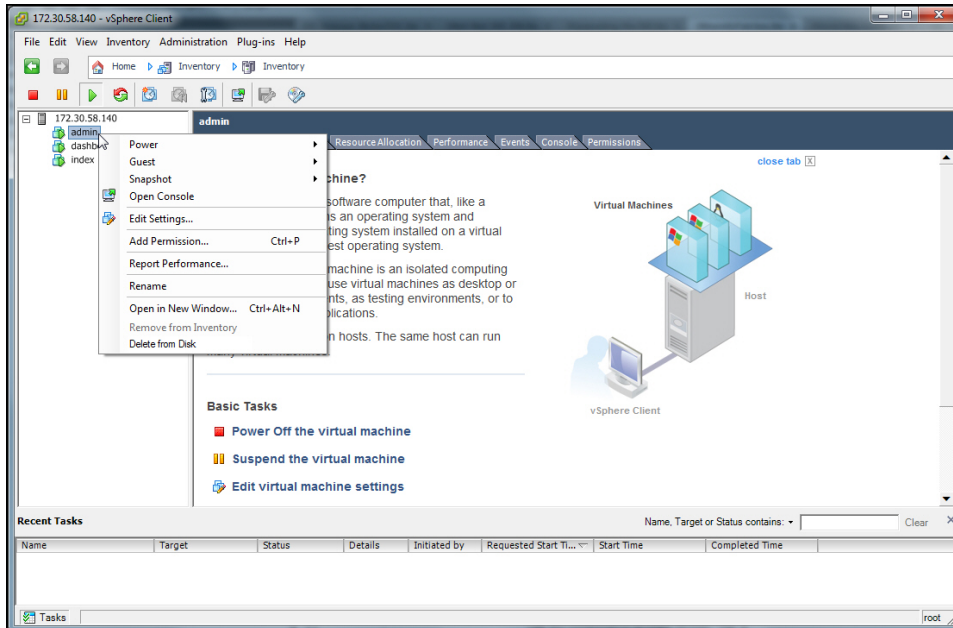
Note: The above IP address, user name, and password are examples and not default values.

5. Click **<Login>**. If this is your first time logging in, the following Security Warning Displays:



If you do not see this warning, skip to Step 8.

6. Place a checkmark beside **Install this certificate and do not display any security warnings for <ip_address>**. The IP address is the address of the ESXi host.
7. Click **<Ignore>**. The following window displays.

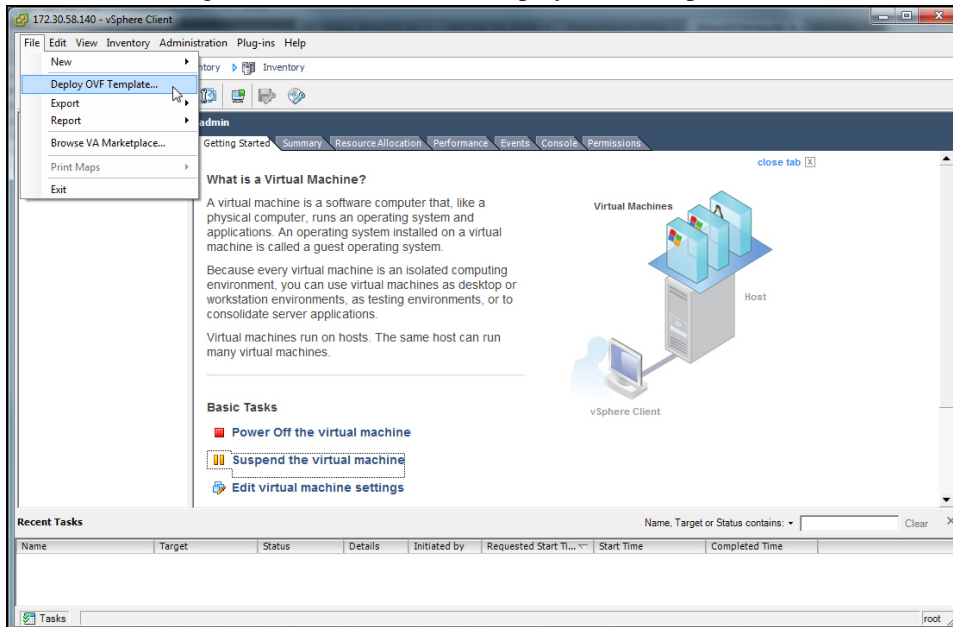


8. In the left column, click the IP address to display the VMs.

Importing the New CIS Component VM

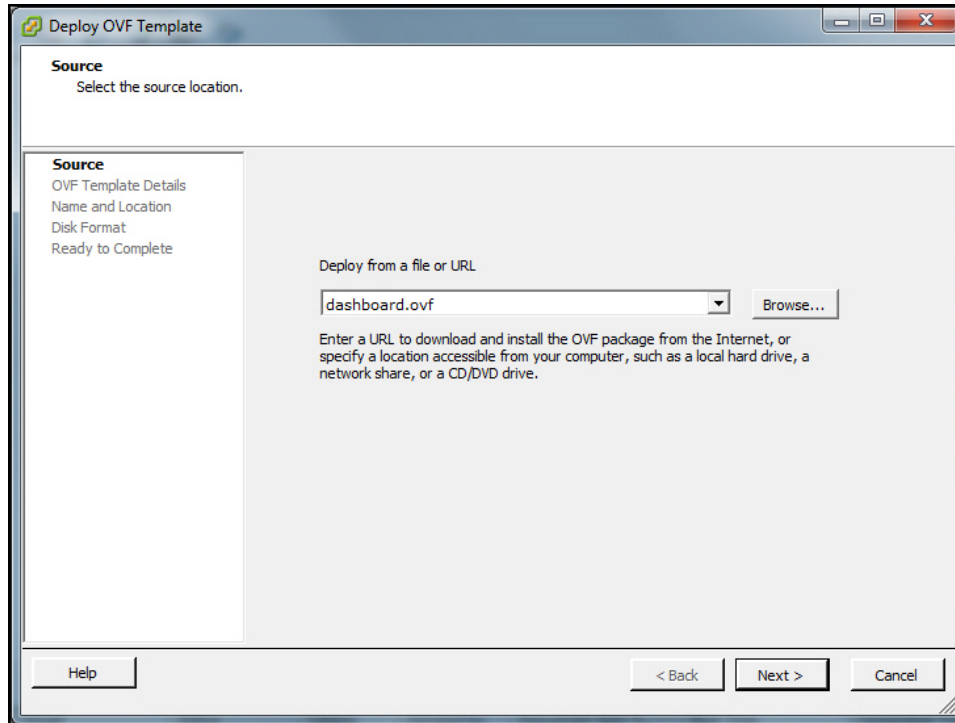
To import the new CIS Component VM:

1. In the VMware vSphere Client, select **File > Deploy OVF Template...**



Upgrading the ISR

The following window displays.

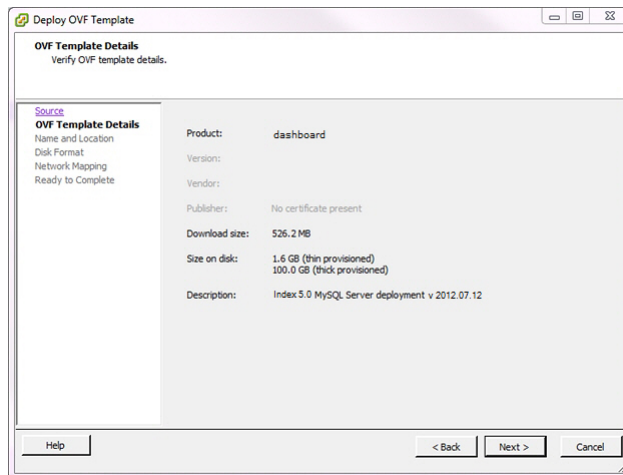


2. **Deploy from a file or URL**—Browse to the directory that contains the files you unzipped from the *ISR* `<Component> Version <#> build <date>.zip` file on your Windows host machine.



Note: For more information about transferring the required new files to your Windows host machine, see the *Oracle Communications Interactive Session Recorder Installation Guide*.

3. Select the `<component>.ovf` file and click **<Open>**. This can be either `index`, `rWebservice`, `monitor`, or `dashboard`.
4. Click **<Next>**. The following window displays.

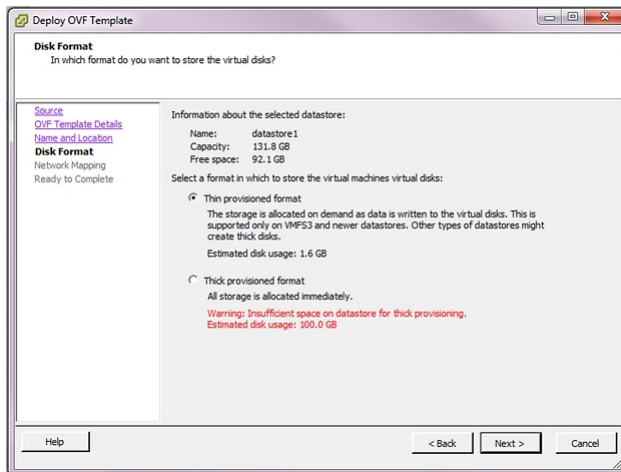



5. Click **<Next>** in the "OVF Template Details" window. The "Name and Location" window displays. This field is automatically populated with the name and location of the virtual machine you selected in Step 3.



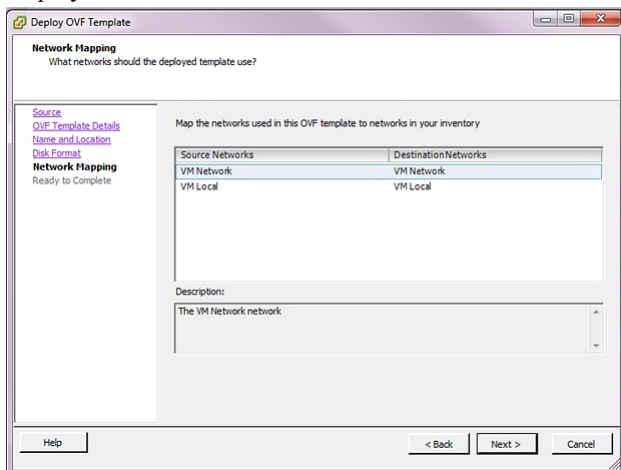
Note: The new CIS VM instance is automatically assigned a name that may be the same as the old CIS VM. You may choose a new name or you may quit the Deploy OVF dialog to change the old VM name.

6. Click **<Next>**. The "Disk Format" window displays.

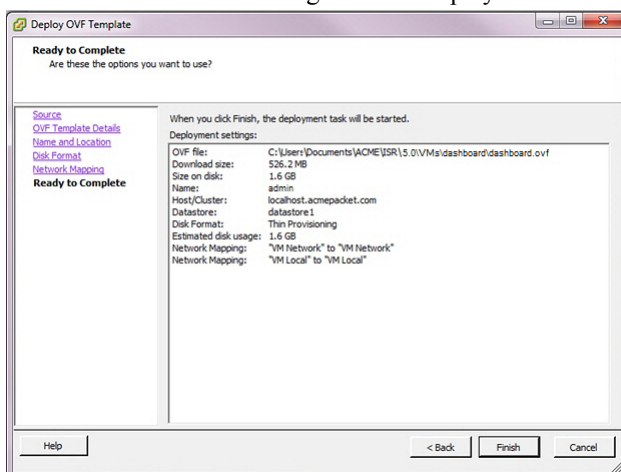


 **Note:** If using CIS certified hardware, verify the datastore name is correct.

7. Select **Thin provisioned format** and specify the disk usage. Click **<Next>**. The “Network Mapping” window displays.



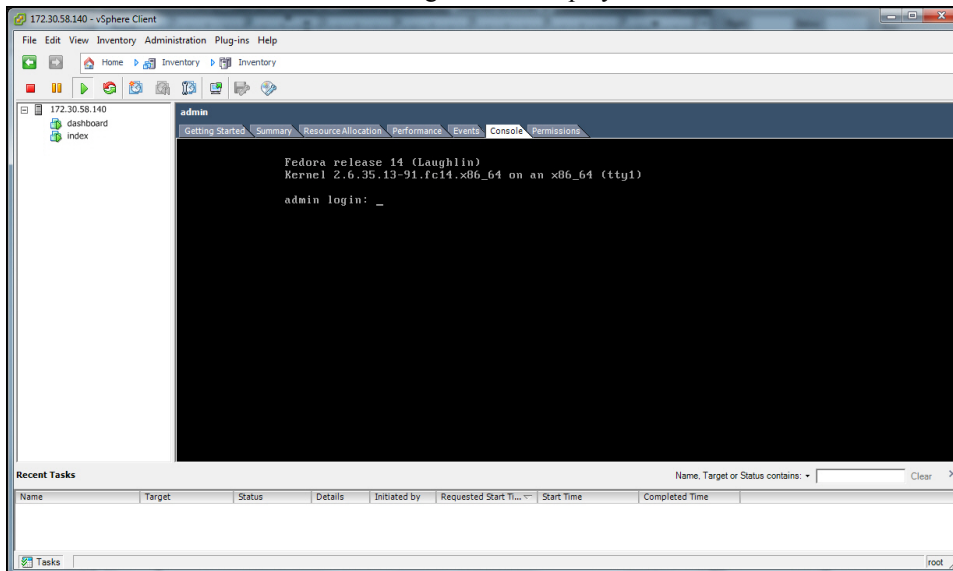
8. Verify that “VM Network” and the “VM Local” are in both the Source Network column and the Destination Network column.
9. Click **<Next>**. The following window displays.




10. Verify that all selections in the “Ready to Complete” window are correct and click **<Finish>**.
11. When the deployment of the *<component>.ovf* is complete, close the “Deploy OVF Template” window by clicking the “X” in the upper right corner.

Upgrading the ISR

- In the VMware vSphere Client window, select the VM from the left column.
- Click the Power on button.
- Click on the **Console** tab. The following window displays.

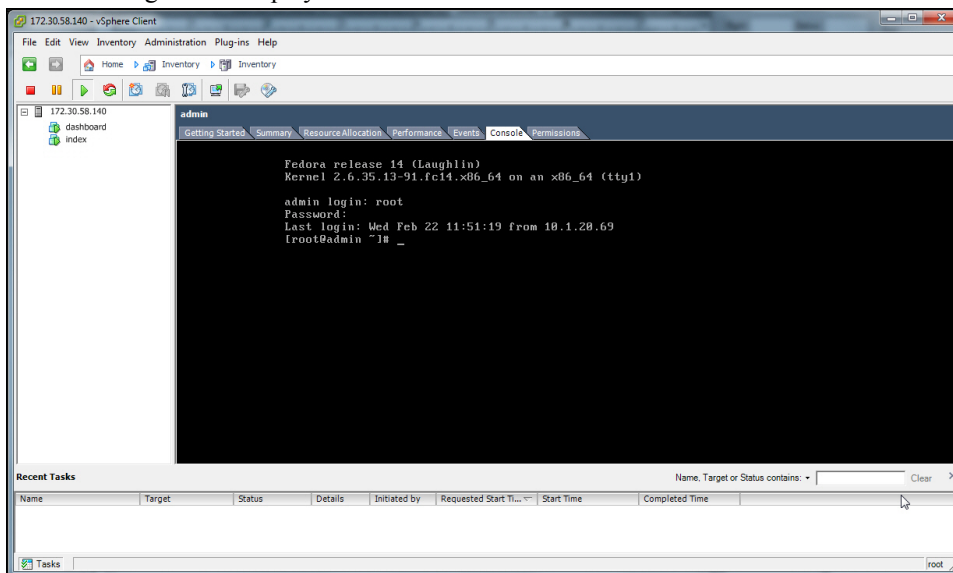


 **Note:** During the remaining procedures using the "Console" window, the mouse may be confined to the console pane. Press **<Alt><Ctrl>** to release it at any time.


- Login using ID root and password 64^5377.

```
Index login: root
Password: 64^5377
```

The following screen displays.



- Type `upgradeCis.sh` and press **<Enter>** to begin the upgrade process, then follow the instructions provided in the CIS host upgrade script.

 **Note:** The following prompt may display:

```
The authenticity of host '169.254.1.50 (169.254.1.50)' can't be
established. RSA key fingerprint is a2:19:ea:b2:6f:
58:41:d5:89:63:56:88:94:8d:80:74. Are you sure you want to continue
connecting (yes/no)?
```

Type yes to agree.



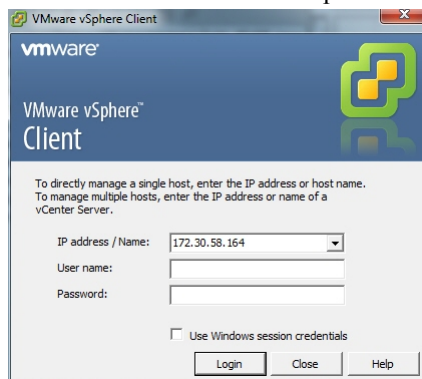
Note: In some upgrade situations, the old component VM may not have the openssh package you need for the secure copying portion of the upgrade. If the old VM was originally installed with a pre-5.0 version, ensure the package is included. To do this, execute the yum list openssh-clients command and confirm the openssh-clients package appears under “Installed Packages”.

Deleting the Prior CIS VMs

WARNING: Before deleting the ISR VM hosts from the prior release, understand that the prior-version CIS VMs remain the simplest rollback solution to address any upgrade problems that may require reverting to a previous release.

To delete the prior CIS VMs:

1. Double-click the VMware vSphere Client icon. The following screen displays:



2. **IP address / Name**—Enter the IP address or the domain name of the ESXi host.

IP address / Name: 172.30.58.164

3. **User name**—Enter the user name assigned to you by the system administrator of the ESXi host.

User name: root

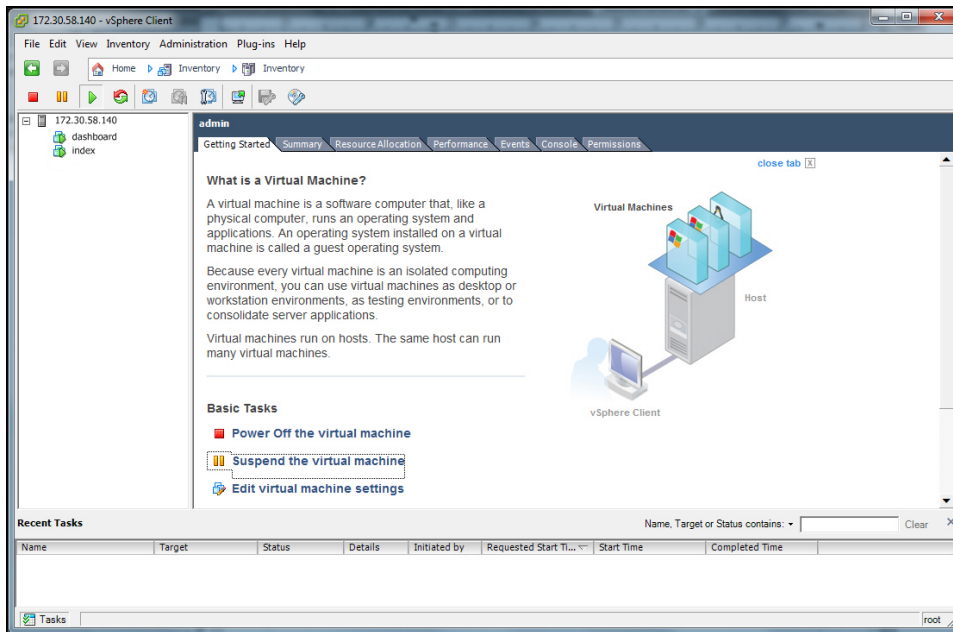
4. **Password**—Enter the password assigned to you by the system administrator of the ESXi host.

Password: jrs453i



Note: The above IP address, user name, and password are examples and not default values.

5. Click **<Login>**.
6. In the left column, click the IP address to display the VMs.
7. Right-click the appropriate VM and select **Delete from Disk**. A prompt displays verifying you want to delete the CIS VM.
8. Click **<Yes>**. The prior CIS VM deletes from the server.

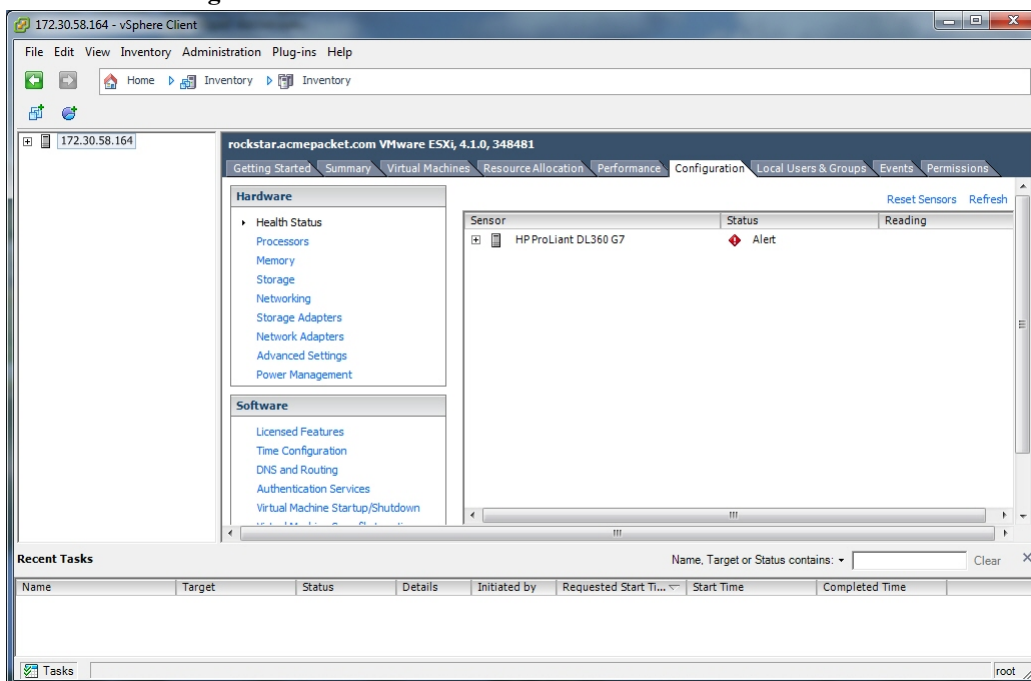


Configuring Automatic Start of the Upgraded VMs

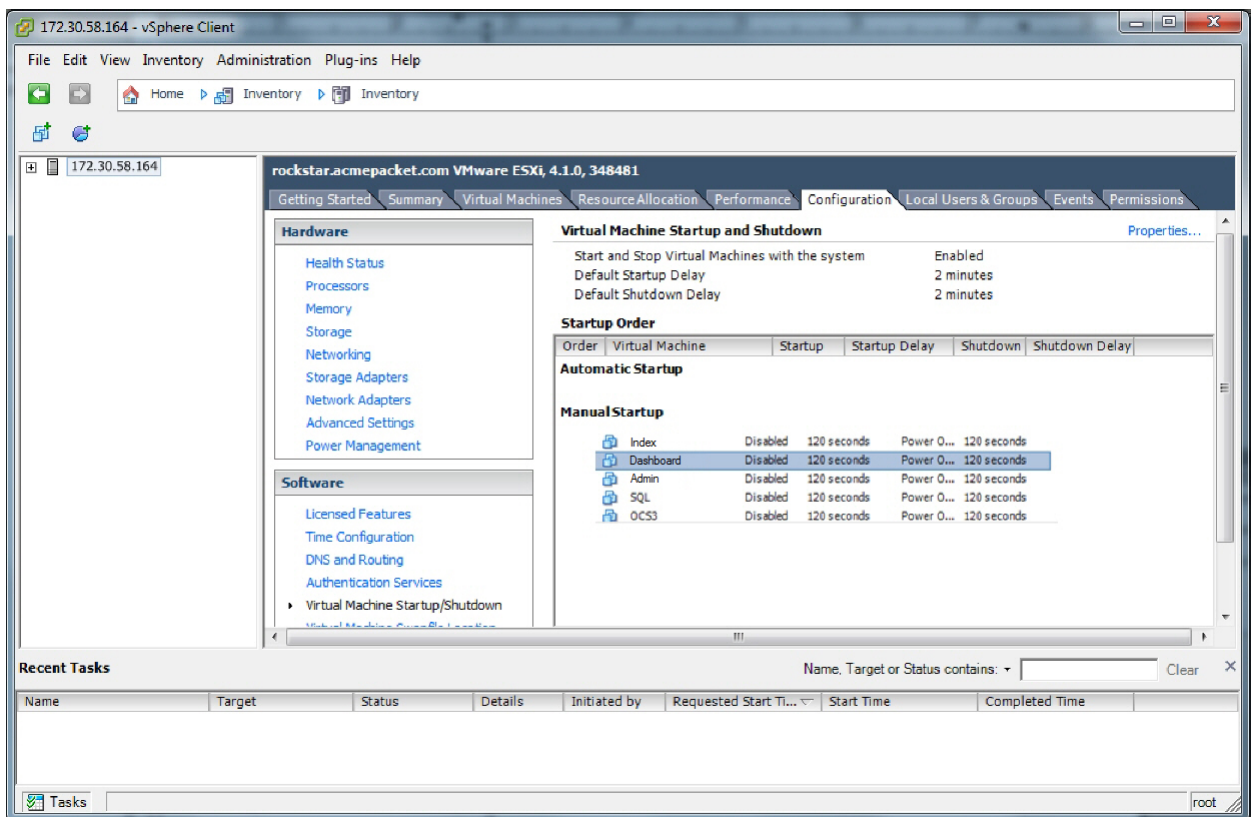
When all updated CIS components are installed, you must configure the VMs to start automatically.

To configure the VMs to start automatically:

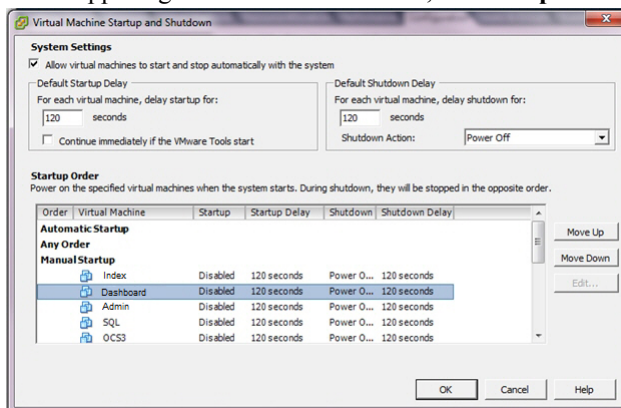
1. Open the vSphere Client application to the Home page.
2. Click on the **Configuration** tab.



3. In the left column, under the Software category, click on **Virtual Machine Startup/Shutdown**. The following screen displays.




4. In the upper right corner of the window, click **Properties**. The following window displays.



5. In System Settings, enable the **Allow virtual machines to start and stop automatically with the system** property by placing a check mark in the box.

6. In Startup Order, select **Index** and click **<Move Up>** to include the index virtual machine in the Automatic Startup group.

 **Note:** When moving the entry up in the window, continue to click **<Move Up>** until the entry is in the appropriate category.

7. Select **Dashboard** and click **<Move Up>** to place the Dashboard VM just below the Index entry in the Automatic Startup group.

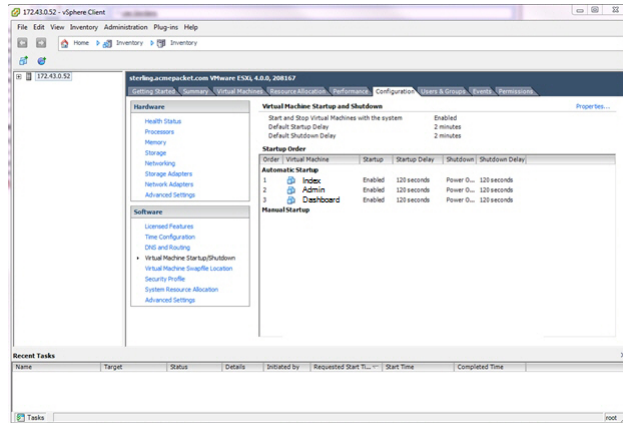
8. Select **rWebservice** and click **<Move Up>** to place the rWebservice VM just below the Dashboard entry in the Automatic Startup group.

9. Select **Monitor** and click **<Move Up>** to place the Monitor VM just below the rWebservice entry in the Automatic Startup group.

10. If the RSS is deployed as a VM, select **RSS** and click **<Move Up>** to place the RSS VM just below the Index entry in the Automatic Startup group.

Upgrading the ISR

11. Click <OK>. The following window displays.



Verifying the CIS Upgrade

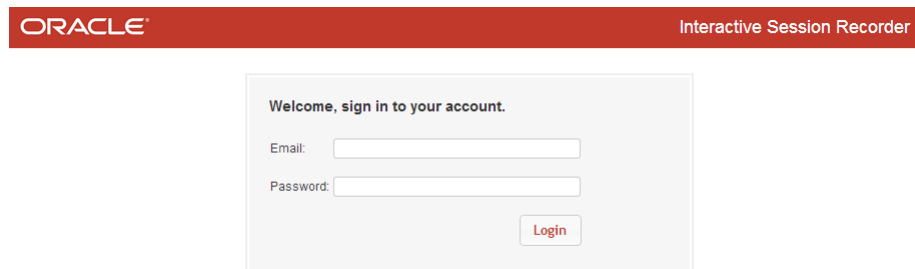
You can log into the ISR Dashboard to verify that the upgrade was successful.

To log into the ISR Dashboard:


1. Open your Internet Web browser. For information on compatible browsers, see *ISR Dashboard Requirements* in the *ISR Release Notes*.
2. Enter the IP address of the Dashboard in your network:

`http://<Dashboard IP address>`

The Login page displays.



3. **Email**—Enter user email address. By default this is `isisradmin@acmepacket.com`, however this may have been changed.
4. **Password**— Enter the current super user password.

 **Note:** If you changed your password from the default in your prior software, enter that password in the **Password** field. The password from the prior software has been saved to your new version software.

Respond to the prompts appropriately to change your password.

5. Click the Help link to verify the ISR version number.


The Dashboard is now ready to use.

Reverting Your CIS Installation To the Previous Version

In certain failing and critical scenarios, reverting the upgraded ISR to the prior version may be required.

To revert the CIS back to the previous-version:

- Power down the running ISR CIS VMs.
- Power on all prior-version ISR CIS VMs.

 **Note:** CIS VMs in versions prior to 5.1 do not automatically configure network services to run at start up. Confirm that the network service is running on each CIS host after powering on 5.0Mx versions.



Note: If critical recordings occur after an upgrade but before the rollback, the recordings may be lost. If this occurs, contact your account representative for special instructions.

Upgrading the RSS

Use the procedures in this section to upgrade the RSS. Upgrade procedures include:

- Before You Begin Upgrading the RSS
- Determining the RSS System Partitions
- Mounting a Different Partition
- Upgrading the RSS
- Reverting Your Installation to the Previous Version



Note: Configuration scripts, which are automatically included in every distributed ISR component, have replaced manually editing configuration files.

Before You Begin Upgrading the RSS

Before you begin the upgrade of the RSS, the following conditions must be met:

- The new RSS file (*nnRSS<version>-<build_date>.upgrade-a.tar.gz*) must reside on your RSS host machine in the directory `/cxc_common/releases/`. This file must be extracted from the RSS upgrade zip file included in the release (*nnRSS-v<version>-<build>-upgrade.zip* (for example, *nnRSS-vf.1.0M3P0-20140428-upgrade.zip*).
- Determine the system partition on which the RSS is currently running.

Determining the RSS System Partitions

Before beginning the upgrade, you must determine the RSS system partition on which the NN-ISR is currently running.

To determine the RSS partition:

1. Startup the ISR system.
2. At the "Login as" prompt, enter root and press **<Enter>**.

```
Login as: root
```

The password prompt displays.

3. At the "Password" prompt, enter sips and press **<Enter>**.

```
root@<hostname>'s password> sips
```

```
Net-Net OS-E
Copyright (c) 2004-2012 Acme Packet Inc.
Username:
```



Note: The login input shown is the default security settings and may be different on your NN-ISR if it has been changed.

4. No username is required. Press **<Enter>**.

```
Username: (leave blank)
```

The password prompt displays.

5. No password is required. Press **<Enter>**.

```
Password: (leave blank)
```

The hostname prompt appears.

6. Enter show chassis-config and press **<Enter>**.

Upgrading the ISR

```
NN-ISR> show chassis-config

boot-partition: system-2
system-partitions: 2
management-console: vga
ipmi-admin: enabled
```

The boot-partition field should indicate either "system-1" or "system-2".

7. If you want to mount the partition other than the partition that displays in the output, see *Mounting a Different Partition*.

Mounting a Different Partition

You can mount another partition to use for the RSS upgrade if required.

To mount another partition:

1. At the prompt, enter show mounts and press <Enter>.

```
ISR> show mounts
```

The following is an example of the output:

drive	mount-point	drive-name	file-system	drive-size	percent-free
system-1	/mnt/backup			0	0
system-2	/	/dev/root	raisarfs	7164	66

The active mounted system in this example is the "system-2" partition.

2. Enter mount system-# and press <Enter>.


```
ISR> mount system-1
```

where "system-#" is the system you want to mount.

This mounts the other partition to */mnt/backup/*. You can access the available RSS files on the newly mounted partition as required.

Upgrading the RSS

After determining the RSS partition (or mounting another partition), you can upgrade the RSS as required.

-  **Note:** This upgrade procedure installs the new version of software to the inactive partition and then makes the partition active.

To upgrade the RSS:

1. At the prompt, enter a shell session by entering shell and press <Enter>.

```
ISR> shell
```

The hostname prompt displays.

2. Copy the RSS supertar upgrade file to the RSS host's filesystem by entering the following:

```
<hostname> # cp nnRSS-v<version>-<build>-upgrade.tar.gz /cxc_common/
releases/
```


3. Enter exit to exit the shell.

```
<hostname> # exit
```

4. At the prompt, enter install file /releases/nnSE-a.tar.gz and press <Enter>.

```
ISR> install file /releases/nnSE-a.tar.gz
```

The upgrade process proceeds on the RSS using the specified file. When the upgrade is complete, the RSS server reboots.

-  **Note:** The CLI remains at this prompt while files are decompressed and copied. Note that you can expect to be at this prompt for some time.

5. At the "Login as" prompt, enter root and press <Enter>.

```
Login as: root
```

The password prompt displays.

6. At the "Password" prompt, enter sips and press <Enter>.

```
root@<hostname>'s password>: sips
```

The following prompt and message display.

```
Net-Net OS-E  
Copyright (c) 2004-2012 Acme Packet Inc.  
Username:
```

7. No username is required. Press <Enter>.
8. No password is required. Press <Enter>.
The hostname prompt appears.
9. Verify the active partition is correct by entering show chassis-config and press <Enter>.


The following is an example of the output that displays.

```
boot-partition: system-1  
system-partitions: 2  
management-console: vga  
ipmi-admin: enabled
```

The RSS upgrade is complete.

Reverting Your RSS Installation to the Previous Version

During the upgrade process, the RSS installs the new version of software, as well as copies of the current configuration, to the non-active partition. You have the ability to revert back to the last version that was installed.

-  **Note:** For more information on determining which partition is active, see the section Determining the RSS System Partitions.

To revert your installation to the previous version:

At the prompt, enter set-chassis-config-boot system-# and press <Enter>.

```
ISR> set-chassis-config-boot system-2
```

where "system-#" is the inactive partition you want to access.

