SIPREC for ISR with ESBC Configuration and Troubleshooting Guidelines_

Revision History

Version	*Author*	*Description of Changes*	*Date Revision Completed*
520-0062-00	Soumil Vora	Initial Release	11-02-2012
520-0062-01	Bhaskar Reddy Gaddam	Rebranding with latest release 8.1	07/11/2018

Status of this memo

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Abstract

The use of the RFC 2119 keywords is an attempt to assign the correct requirement levels ("MUST", "SHOULD", "MAY", etc.).

This document defines a series of recommendations for SIPREC configuration and troubleshooting onthe Oracle Corporation Communications ESBC with ISR. They should be used when either (a) deploying a new ESBC and ISR, or (b) updating an existing configuration made before Best Current Practices were in place. When in conflict with Customer requirements or desires, the Customer's preference SHOULD take precedence.

Applicability

This document is applicable to E-CZ8.1.0 series ESBCs.

Contents

1 Scope

1.1 Background

SIPREC (session recording protocol) is based on a collection of draft standards using SIP RFC3261. It is the interaction between a Session Recording Client (SRC) and a Session Recording Server (SRS) to control the recording of media that has been transmitted in the context of a communication session (CS) between multiple user agents.

In all cases herein, the SRC is the Oracle Corporation ESBC and SRS is an Oracle Corporation Net-Net Interactive Session Recorder (ISR).

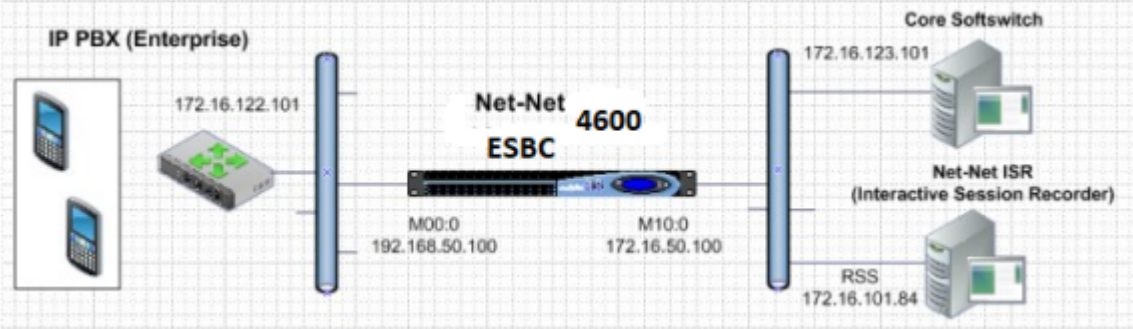
1.2 Intended Audience

This document is intended for use by Oracle Corporation HQ and Field Based Engineers. It assumes the reader is familiar with basic operations of the ESBC, and has attended the following training course(s) (or has equivalent experience):

- https://docs.oracle.com/cd/E95619_01/html/esbc_ecz810_configuration/

Further, the test plans enclosed assume familiarity with the ESBC's ACLI command line interface, retrieving and reviewing log files generated by the ESBC, standard network analysis tools (Ethereal/tcpdump), and all protocols involved in the activity.

2 Test Bed Diagram



The reference configuration presented here has been entered, tested, and verified on a NN4600 ESBC in the lab at Oracle Corporation.

In the example configurations, the Core Softswitch resides in a “trusted” network in the 172.16.123.0/24 subnet, and the ESBC interfaces to this “trusted” network are in the 172.16.50.0/24 subnet.

The Softswitch IP address is 172.16.123.101 and the IP address on the ESBC to which the Softswitch sends its SIP signaling is 172.16.50.100. The ISR RSS is at 172.16.101.84

The far end devices reside on the “untrusted” network in the 172.16.122.0/24 subnet, and the ESBC interface to this untrusted” network is in the 192.168.50.0/24 subnet.

The IP address from which the Net-Net ESBC sends its messages to the SIP trunk is 192.168.50.100. The SIP trunk far end IP address is 172.16.122.101.

3 Software/Hardware/Tools

3.1 Test Bed Hardware and Software Requirements

System Platform	Mainboard Rev.	Bootloader	Software Version/Patch
Net-Net 4600	0.1	Acme Packet ECZ8.0.0 Patch	nnECZ810.bz
Net-Net ISR	N.A	N.A	Release 6.2

3.2 Protocol Requirements

Functionalities Under Test	Signaling Protocol	Signaling Transport	Media Protocol	Transcoding Codecs (If Applicable)
Session Recording	SIP	UDP	RTP	N.A

3.3 Test Tool / Third Party Equipment used for Request Testing

Third Party Platform	Software Version/Patch
EXFO	8.9

4 Test Configuration

4.1 ESBC Configuration

Below is the configuration specific to SIPREC on the **ESBC**.

4.1.1 Session-Recording-Server

The Session-Recording-Server represents the actual session recording server that receives replicated media and recording signaling. In this case the SRS is the RSS component of the NN-ISR. It is given a name which serves as a unique identifier for referencing the object in the session-agent, realm-config, or sip-interface.

Each SRS is associated with a realm-config. The realm specifies the source interface from which the replicated traffic will originate. The destination is an IP:Port parameter (IP address or hostname with an optional port) that defines the SIP address (request URI) of the actual SRS.

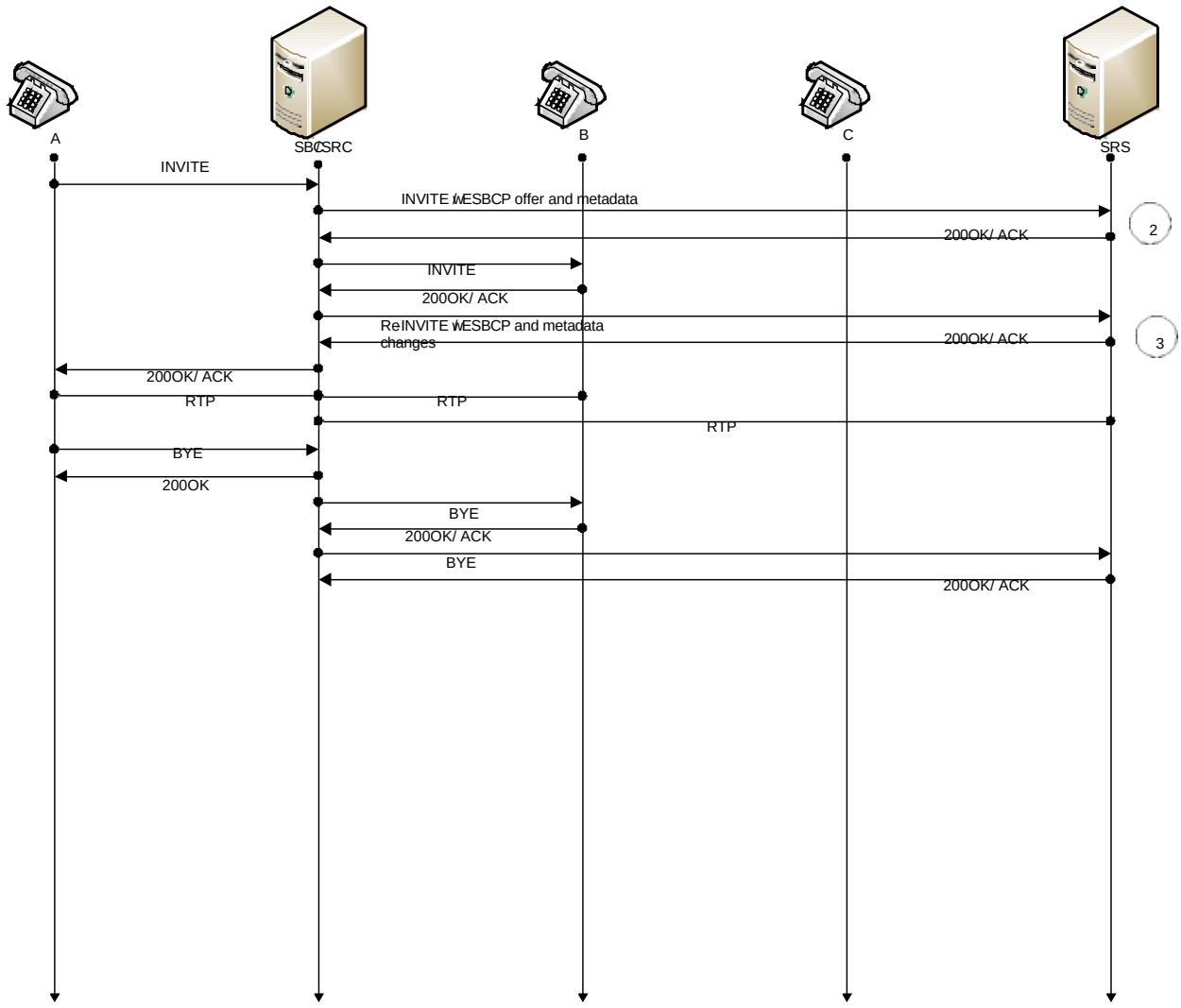
```
configure terminal  session-router  session-recording-server

session-recording-server
        name                            CSEisr
        description                     CSE ISR
        realm                           Core
        mode                            selective
        destination                     172.16.101.84
        port                            5060
        transport-method                UDP
```

4.1.2 Realm-Config/SIP-Interface/Session-Agent

As mentioned earlier the SRS name serves as a unique identifier for referencing the object in realm-config, sip-interface or session-agent.

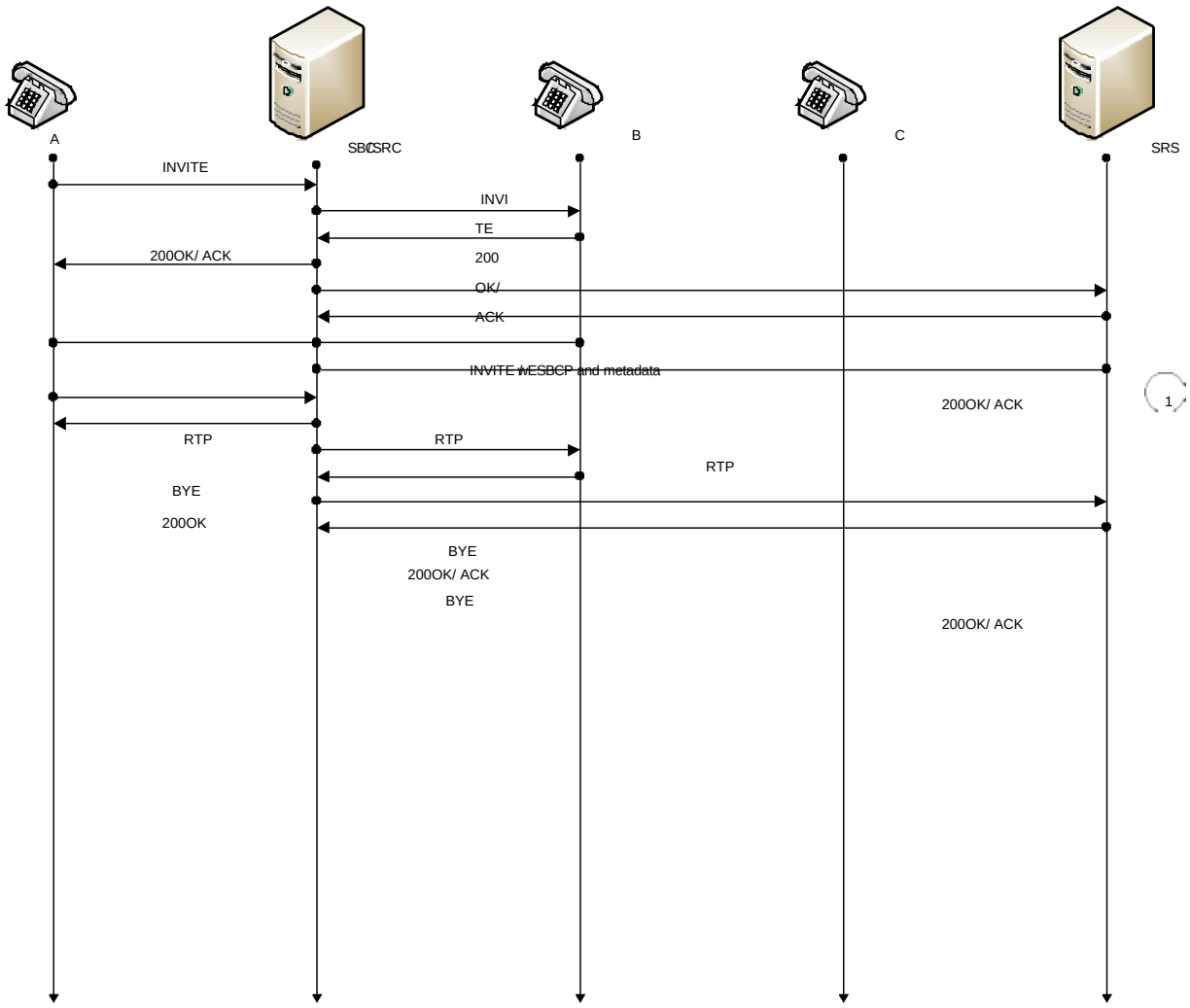
```
session-recording-server       CSEisr
session-recording-required     disabled
```

The session-recording-required is a configuration option associated with a session-agent, realm-config or sip-interface. If this attribute is set to *enabled* the recording dialogue must be established prior to the communication session being established.



SIP INVITE, "recording required", selective recording

If session-recording-required is set to *disabled*, then the communication session between the participants gets set up first, then the dialog between SRC and SRS will be attempted. If the call between SRS and SRC fails, the call between the participants will be unaffected.



SIP INVITE, "recording not required"

4.1.3 Session-recording-group

The session-recording-group is a configuration object that is used to solve problems related to high availability for third party call recorders. It defines a collection of one or more SRSs. Some SRSs may not have the ability to communicate between themselves or do not have a load-balancing device fronting the equipment to distribute the traffic in an intelligent fashion. The ESBC helps solve this problem by utilizing SIP's transport mechanism as well as keeping track of statistics on each SRS.

When multiple SRSs are in a SRG, the ESBC can use heuristics to intelligently route the recording dialog to one or more SRSs utilizing the selection strategy.

```
session-recording-group
        name                            CSEisrgroup
        description
        strategy                        Hunt
        simultaneous-recording-servers 1
        session-recording-servers       CSEisr1 CSEisr2
```


The configuration option "*simultaneous-recording-servers*" controls the number of simultaneous SIP dialogs that are established to the SRSs in the SRG. For instance, if a SRG contains 3 SRSs and "*simultaneous-recording-servers*" is set to 2, the ESBC shall initiate a SIP INVITE to the next two SRSs based on the SRG strategy. The number of simultaneous recording servers does not dictate the number of Recording Dialogs (SIP dialogs between SRC and SRS) that are required to be active for a communication session. If two SRSs exist in a SRG and "*simultaneous-recording-servers*" is set to 2, so long as at least one recording dialogue to any of the servers completes, the recording session is treated as being established, even if the option for "*session-recording-required*" is enabled. Setting "*session-recording-required*" to "enabled" does not imply that the number of simultaneous-recording-servers in a SRG MUST establish a recording dialogue for the communication session to complete.

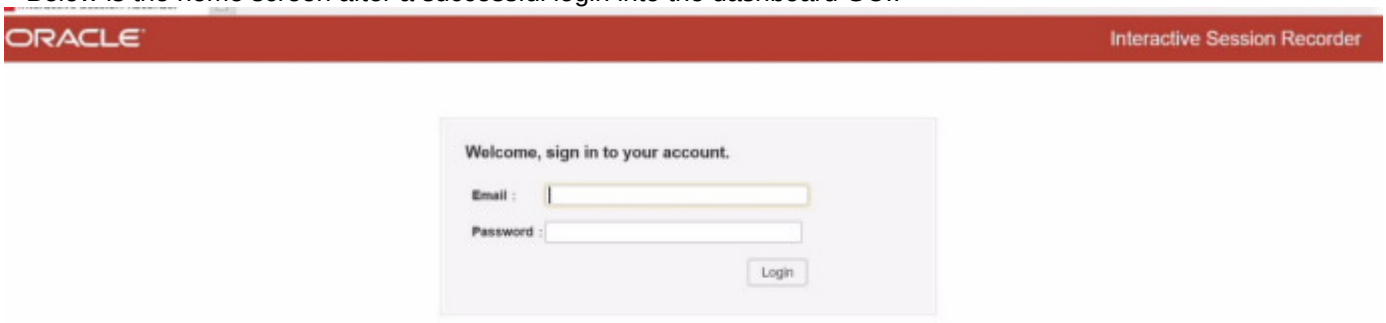
As mentioned earlier the SRS is referenced on the session-agent, realm-config or sip-interface. This attribute can also be used to specify the SRG. If a SRG is to be specified instead of a SRS, the SRG group name must be prefixed with "SRG:" followed by the SRG name. This is to distinguish between a SRS being referenced vs. a SRG being referenced. This is implemented the same way as referencing a session-agent or a session-agent-group.

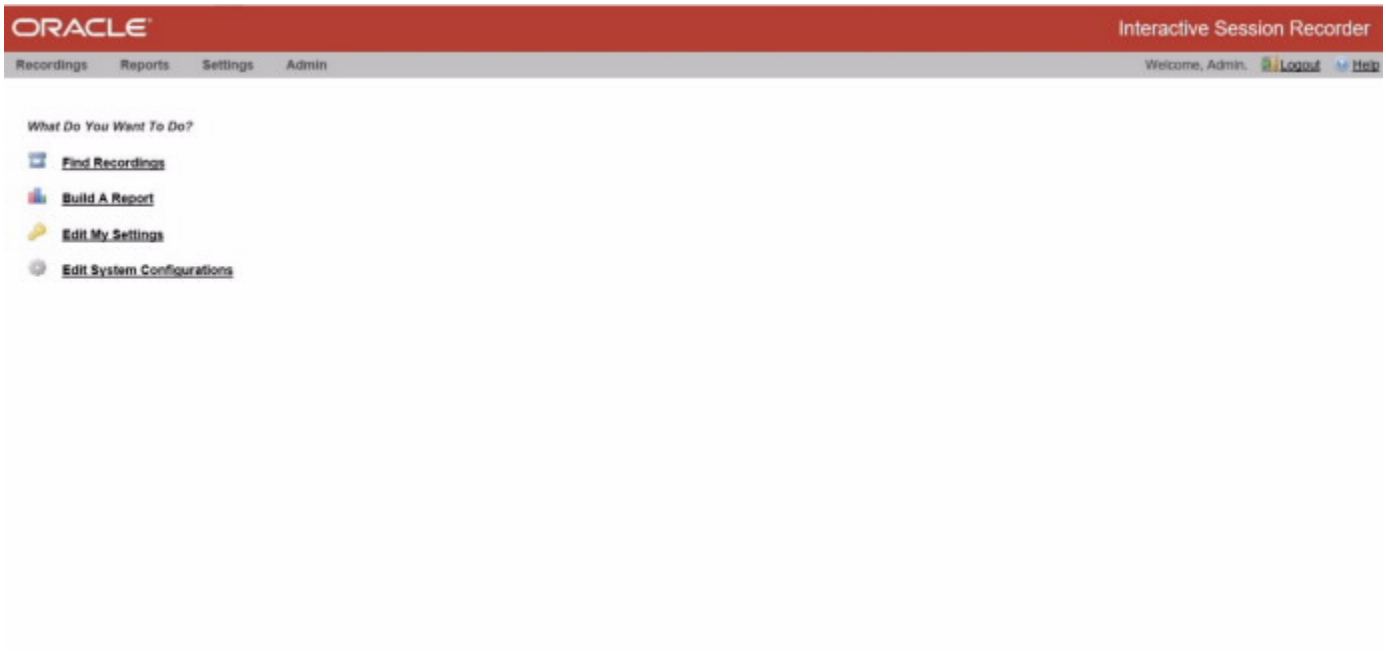
4.2 ISR Configuration

Below is the configuration on the **Interactive Session Recorder (ISR):-**

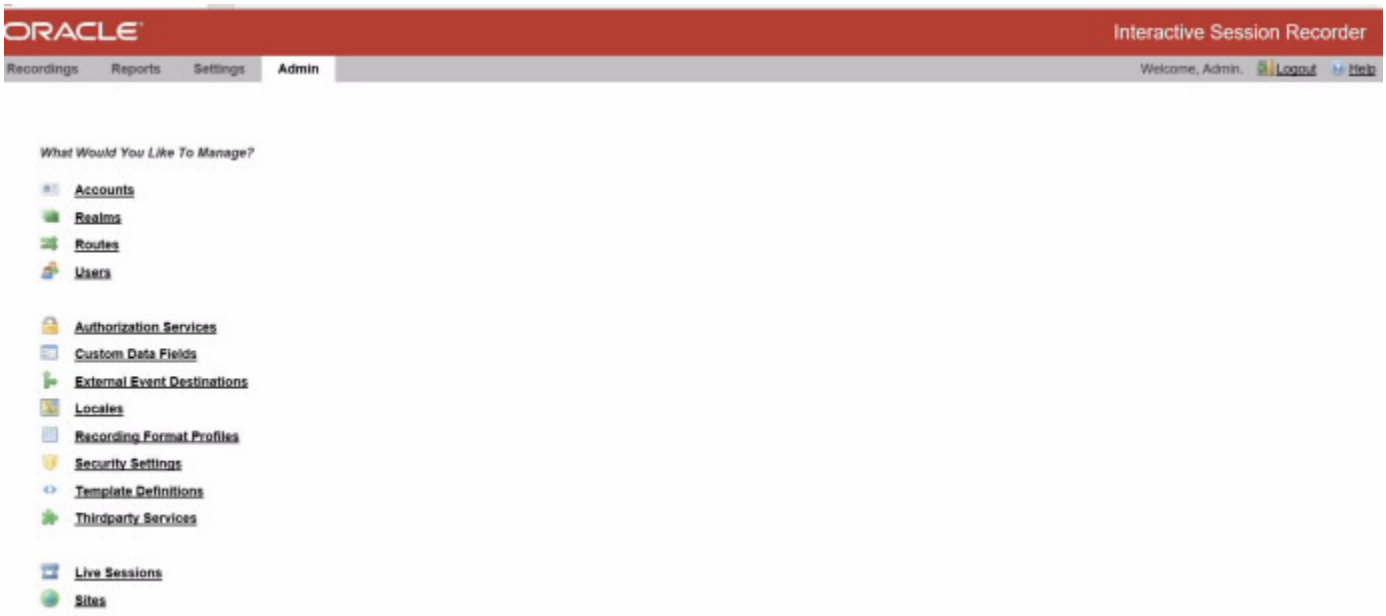
Site:-

Below is the home screen after a successful login into the dashboard GUI:-



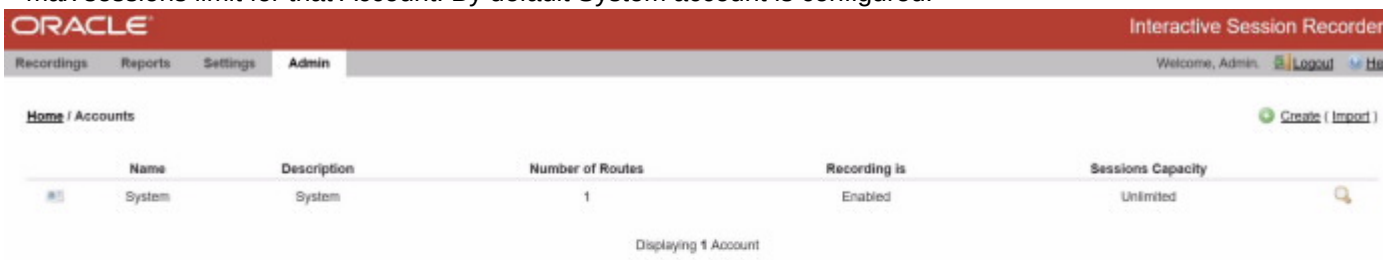


Click on Admin in order to build a configuration on the NN-ISR.



Accounts:-

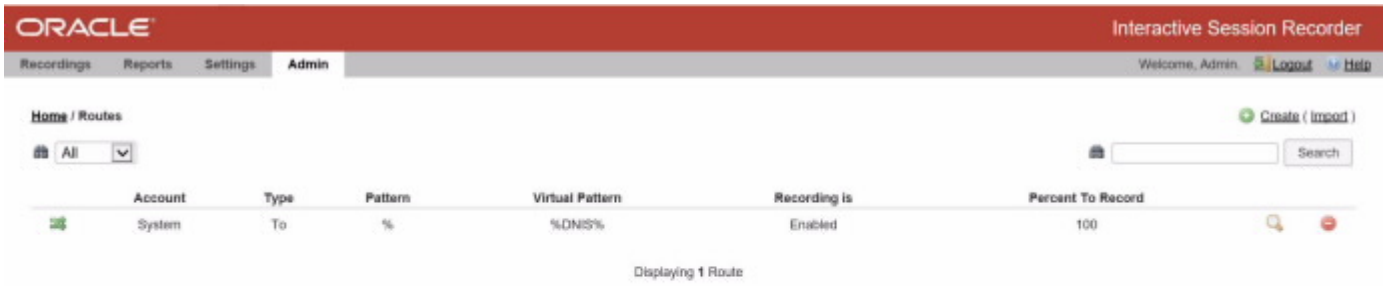
Define Account information using the Manage Accounts link. Enter the Account Name, Description and max sessions limit for that Account. By default System account is configured.



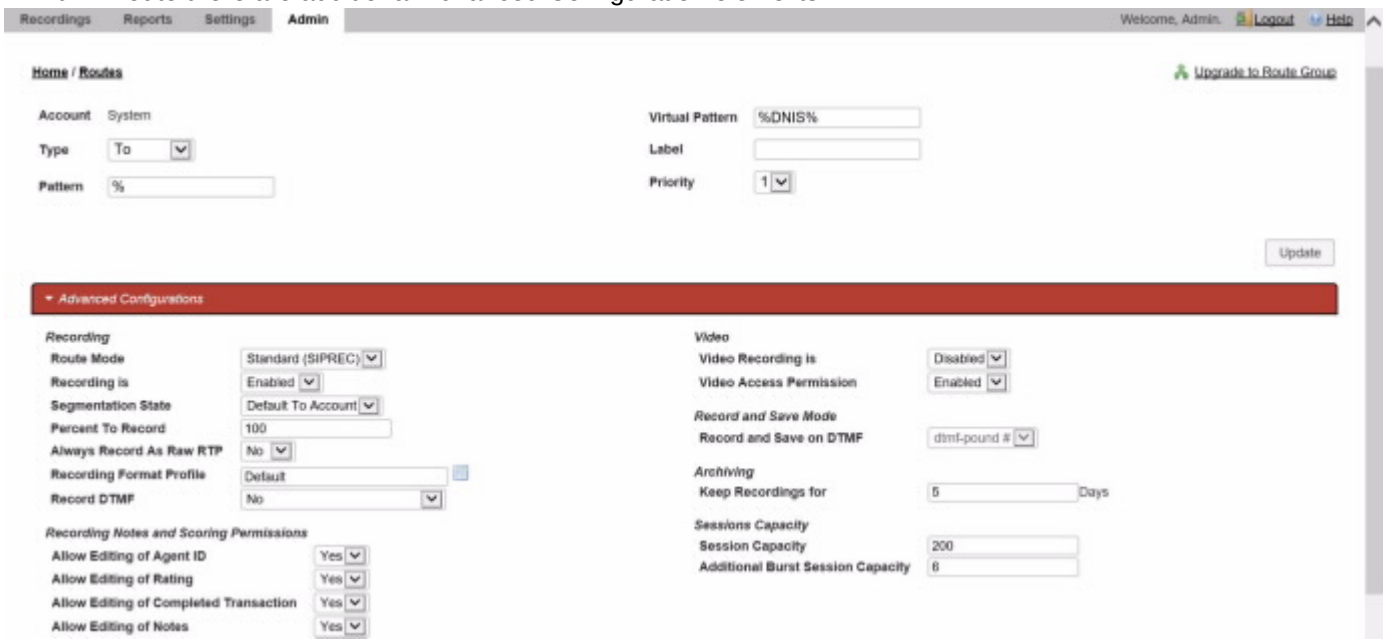
Routes:-

The Manage Routes link allows you to link the appropriate Account to the Route Type (From, To, From/To) and Route Pattern used for determining if the call should be recorded or not.

For example in the Route below, all calls originating from prefix 555 within Account System will be recorded.

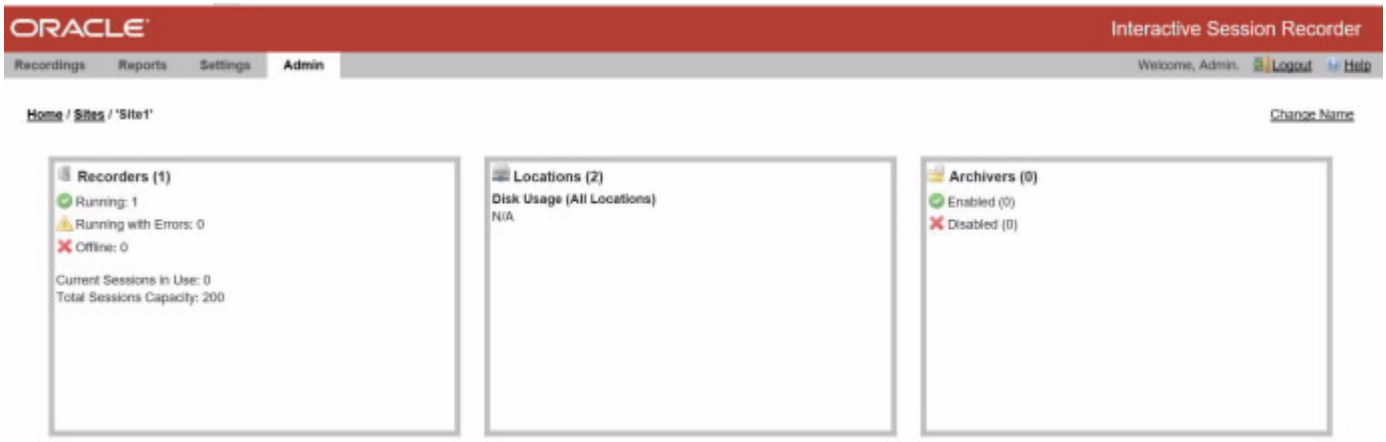


Within Route there are additional Advanced Configuration elements:-

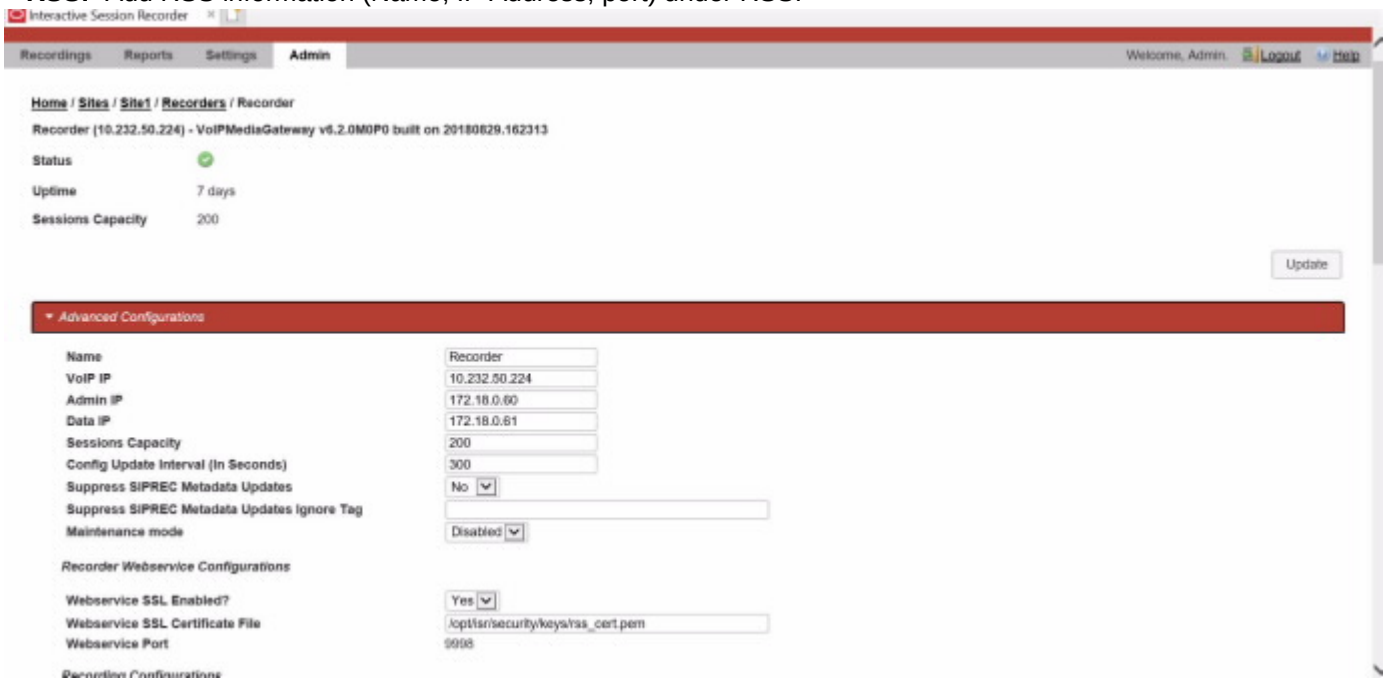


Sites:-

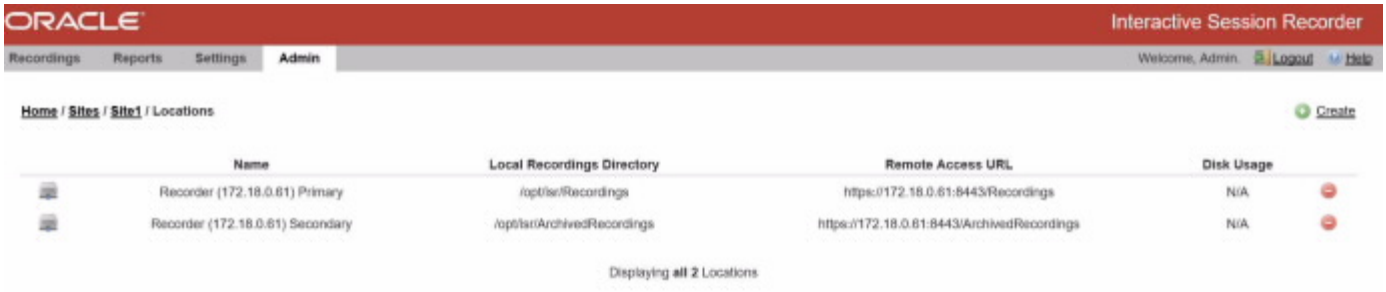
A site is where we define the RSS, ESBC and Archiver information.



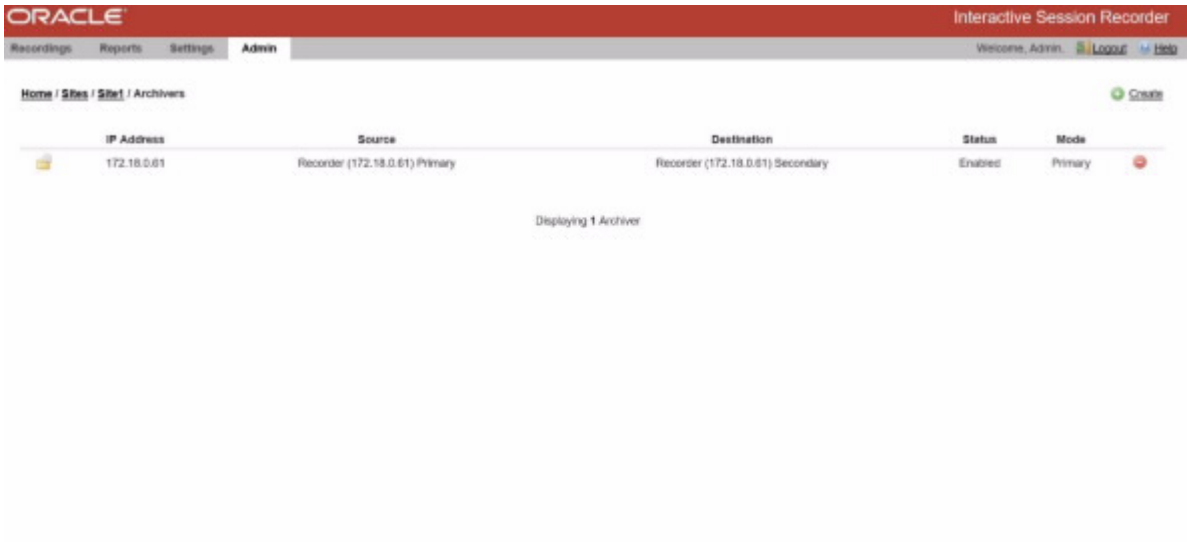
RSS:- Add RSS information (Name, IP Address, port) under RSS.



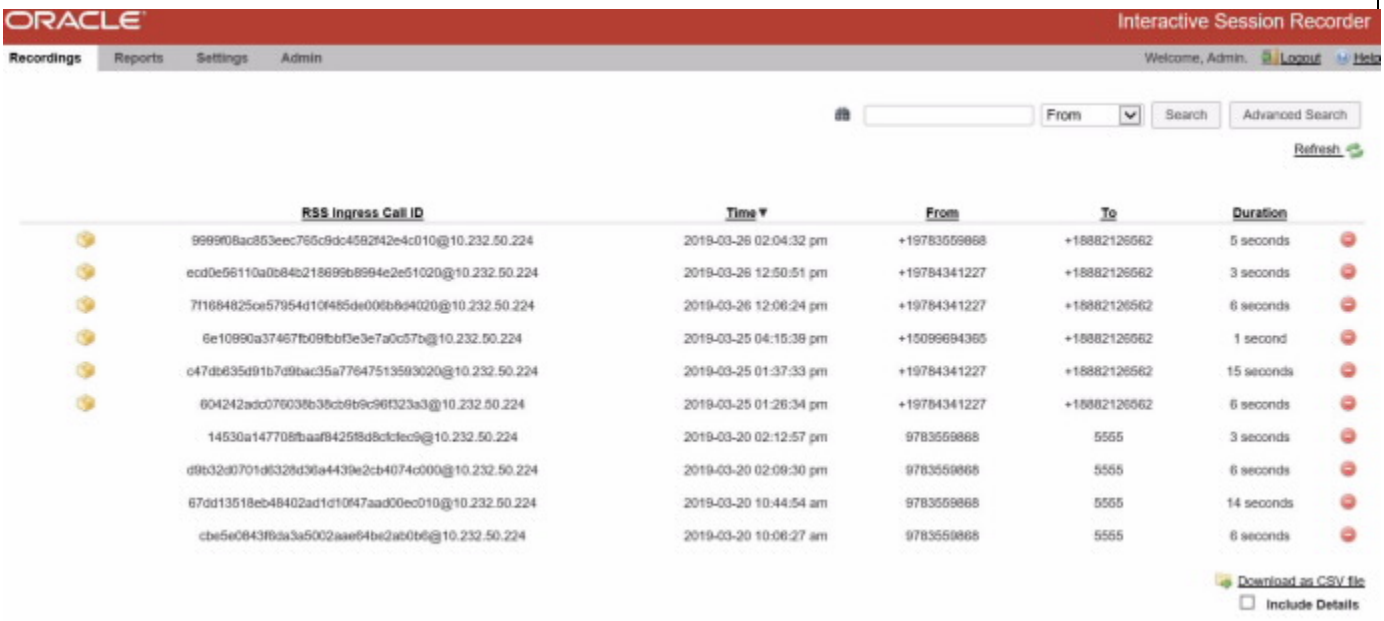
Location:- Define a location for archiving recordings.



Archiver:- Add Archiver information if there is an archiver setup to archive recordings. For example:- Initially we define a Location (in this case it is a directory on the RSS itself) which is then referenced on the Archiver configuration as the Destination.



The recordings are stored in the recording tab ,after all the configuration is completed and for each call recorded information is displayed as below.



5 ACLI Commands and Statistical Definitions

```
SIPREC_ISR# show rec
17:03:30-2187
Recording Agent Status        -- Period -- -------- Lifetime --------
                Active    High   Total      Total  PerMax    High
Rec Sessions         1       1       8          8       8       1
Comm Groups          0       0       0          0       0       0
Comm Sessions        1       1       8          8       8       1
Media Streams        2       2      13         13      13       2
Participants         2       2      16         16      16       2
```


6 Debugging Methodology and Techniques

ISR.log under /cxc_common/ISR/ISRLogs provides helpful information when troubleshooting call recording on the RSS.

Example log output for a successful call recording:-

```
09/06/2012 09:18:56[  INFO]  sipProxy: [Channel 1] SIPREC_EVENT_NEW call back
09/06/2012 09:18:56[  INFO]  sipProxy: [Channel 1] Looking up call w/ ANI:
5550000004 DNIS: ACE6660000004
09/06/2012 09:18:56[  INFO]callManager: [Channel 1] Enqueueing SipCall, callId:
a1ca85bbe864aadf1be0a5338dfc33b5@172.16.101.84
09/06/2012 09:18:56[  INFO]callManager: [Channel 1] Dequeueing SipCall, callId:
a1ca85bbe864aadf1be0a5338dfc33b5@172.16.101.84, queueSize: 1
09/06/2012 09:18:56[  INFO]callManager: [Channel 1] Looking up call w/ ANI:
5550000004 DNIS: ACE6660000004
09/06/2012 09:18:56[  INFO]  RouteMap: Call route with ANI: 5550000004 DNIS:
ACE6660000004 in-realm: Core returned CALL_TYPE_CONFERENCE accountName: System
09/06/2012 09:18:56[  INFO]callManager: [Channel 1] Call type is changed from
CALL_TYPE_CONFERENCE to CALL_TYPE_SIPREC
09/06/2012 09:18:56[  WARN]  RouteMap: vDnis contains escape char '%', stripping...
09/06/2012 09:18:56[  INFO]  RouteMap: [Channel 1] getRouteInfo returned with
vDnis: 555, inviteIpAddress: 172.16.50.100, isRecordable: true
09/06/2012 09:18:56[  INFO]xmlRpcQueryAgent: XmlRpcQueryAgent::execute: method
addDirectVmgEntry (_connectionState 0).
09/06/2012 09:18:57[  INFO]xmlRpcQueryAgent: XmlRpcQueryAgent::execute: method
addDirectVmgEntry completed.
09/06/2012 09:18:57[  INFO]callManager: [Channel 1] addDirectVmgEntry return with
ACK.
09/06/2012 09:18:57[  INFO]callManager: [Channel 1] addDirectVmgEntry is successful
with ANI: 5550000004 DNIS: ACE6660000004 channelId 1
09/06/2012 09:18:57[  INFO]callManager: [Channel 1] routeId 1 adjusted limit is
490, adjusted burst ports is 10.
09/06/2012 09:18:57[  INFO]callManager: [Channel 1] accountId 1 acct limit is 500.
09/06/2012 09:18:57[  INFO]callManager: [Channel 1] Current route (1) usage: 58,
account (1) usage: 58.
09/06/2012 09:18:57[  INFO]  sipProxy: [Channel 1] Call State Transition: Idle ->
Called
09/06/2012 09:18:57[  INFO]  sipProxy: [Channel 1] Got rtp port 22000, 22002 for
Caller->Mixer RTP Stream.
09/06/2012 09:18:57[  INFO]  sipProxy: [Channel 1] Call State Transition: Called ->
OneWayConnected
09/06/2012 09:18:57[  INFO]negotiator: added payload for type=0  (0 PCMU/8000)
09/06/2012 09:18:57[  INFO]eventQueue: Enqueueing New SIPREC Call event
09/06/2012 09:18:57[NOTICE]  sipProxy: [Channel 1] New Call Started,
callId=a1ca85bbe864aadf1be0a5338dfc33b5@172.16.101.84, callerId=5550000004
09/06/2012 09:18:57[  INFO]eventQueue: Enqueueing New Call event
09/06/2012 09:18:57[  INFO]  sipProxy: (SIP Event - ACK received [cid = 1, did =
2])
```

Other helpful log files:-

Admin VM:- /var/www/user_dash/log/production.log
RSS:- /cxc_common/ISR/Archiver/Archiver.log

7 References

[1] "Selective Call Recording using SIPREC Functional Specification #2899", Oracle Corporation.

[2] "Interactive Session Recorder Installation Guide, Release 6.1", Oracle Corporation (https://docs.oracle.com/cd/E93040_01/doc/isr_61_installation.pdf)

[3] "Oracle Enterprise Session Boarder Controller Release E-CZ8.1.0 (https://docs.oracle.com/cd/E95619_01/index.htm)

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10 Full Copyright Statement

Appendix A: Reference Configuration on Session Director

Below is the reference configuration for SIPREC on a ESBC. Note the configuration highlighted in yellow specific to SIPREC.

```
local-policy
        from-address
                                        *
        to-address
                                        *
        source-realm
                                        access
        description


        activate-time                   N/A
        deactivate-time                 N/A
        state                           enabled
        policy-priority                 none
        last-modified-by                admin@172.41.1.2
        last-modified-date              2012-10-12 13:29:32
        policy-attribute
                next-hop                        172.16.123.101
                realm                           core
                action                          none
                terminate-recursion             enabled
                carrier
                start-time                      0000
                end-time                        2400
                days-of-week                    U-S
                cost                            10
                app-protocol                    SIP
                state                           enabled
                methods
                media-profiles
                lookup                          single
                next-key
                eloc-str-lkup                   disabled
                eloc-str-match
local-policy
        from-address
                                        *
        to-address
                                        *
        source-realm
                                        core
        description


        activate-time                   N/A
        deactivate-time                 N/A
        state                           enabled
        policy-priority                 none
        last-modified-by                admin@172.41.1.2
        last-modified-date              2012-04-18 13:29:18
        policy-attribute
                next-hop                        172.16.122.101
                realm                           access
                action                          none
                terminate-recursion             disabled
                carrier
                start-time                      0000
```



```
end-time                        2400
days-of-week                    U-S
cost                            0
```



```
                app-protocol
                state                           enabled
                methods
                media-profiles
                lookup                          single
                next-key
                eloc-str-lkup                   disabled
                eloc-str-match
media-manager
        state                           enabled
        latching                        enabled
        flow-time-limit                 86400
        initial-guard-timer             300
        subsq-guard-timer               300
        tcp-flow-time-limit             86400
        tcp-initial-guard-timer         300
        tcp-subsq-guard-timer           300
        tcp-number-of-ports-per-flow    2
        hnt-rtcp                        disabled
        algd-log-level                  NOTICE
        mbcd-log-level                  NOTICE
        red-flow-port                   1985
        red-mgcp-port                   1986
        red-max-trans                   10000
        red-sync-start-time             5000
        red-sync-comp-time              1000
        media-policing                  enabled
        max-signaling-bandwidth         10000000
        max-untrusted-signaling         100
        min-untrusted-signaling         30
        app-signaling-bandwidth         0
        tolerance-window                30
        rtcp-rate-limit                 0
        trap-on-demote-to-deny          disabled
        anonymous-ESBCp                 disabled
        arp-msg-bandwidth               32000
        fragment-msg-bandwidth          0
        rfc2833-timestamp               disabled
        default-2833-duration           100
        rfc2833-end-pkts-only-for-non-sig enabled
        translate-non-rfc2833-event     disabled
        media-supervision-traps         disabled
        dnsalg-server-failover          disabled
        last-modified-by                admin@console
        last-modified-date              2012-02-08 14:37:41
network-interface
        name                            M00
        sub-port-id                     0
        description
        hostname
        ip-address                      192.168.50.100
        pri-utility-addr
        sec-utility-addr
        netmask                         255.255.255.0
        gateway                         192.168.50.1
        sec-gateway
        gw-heartbeat
                state                           disabled
                heartbeat                       0
                retry-count                     0
                retry-timeout                   1
                health-score                    0
        dns-ip-primary
        dns-ip-backup1
```



```
        dns-ip-backup2
        dns-domain
        dns-timeout                    11
        hip-ip-list                    192.168.50.100
        ftp-address
        icmp-address                   192.168.50.100
        snmp-address
        telnet-address
        ssh-address
        signaling-mtu                  0
        last-modified-by               admin@console
        last-modified-date             2012-02-08 14:36:54
network-interface
        name                           M10
        sub-port-id                    0
        description
        hostname
        ip-address                     172.16.50.100
        pri-utility-addr
        sec-utility-addr
        netmask                        255.255.255.0
        gateway                        172.16.50.100
        sec-gateway
        gw-heartbeat
                state                          disabled
                heartbeat                      0
                retry-count                    0
                retry-timeout                  1
                health-score                   0
        dns-ip-primary
        dns-ip-backup1
        dns-ip-backup2
        dns-domain
        dns-timeout                    11
        hip-ip-list                    172.16.50.100
        ftp-address
        icmp-address                   172.16.50.100
        snmp-address
        telnet-address
        ssh-address
        signaling-mtu                  0
        last-modified-by               admin@console
        last-modified-date             2012-02-08 14:37:22
phy-interface
        name                           M00
        operation-type                 Media
        port                           0
        slot                           0
        virtual-mac
        admin-state                    enabled
        auto-negotiation               enabled
        duplex-mode                    FULL
        speed                          100
        overload-protection            disabled
        last-modified-by               admin@console
        last-modified-date             2012-02-08 14:34:46
phy-interface
        name                           M10
        operation-type                 Media
        port                           0
        slot                           1
        virtual-mac
        admin-state                    enabled
        auto-negotiation               enabled
```

```
        duplex-mode                     FULL
        speed                           100
        overload-protection             disabled
        last-modified-by                admin@console
        last-modified-date              2012-02-08 14:35:00
realm-config
        identifier                      access
        description
        addr-prefix                     0.0.0.0
        network-interfaces
                                        M00:0
        mm-in-realm                     enabled
        mm-in-network                   enabled
        mm-same-ip                      enabled
        mm-in-system                    enabled
        bw-cac-non-mm                   disabled
        msm-release                     disabled
        qos-enable                      disabled
        generate-UDP-checksum           disabled
        max-bandwidth                   0
        fallback-bandwidth              0
        max-priority-bandwidth          0
        max-latency                     0
        max-jitter                      0
        max-packet-loss                 0
        observ-window-size              0
        parent-realm
        dns-realm
        media-policy
        media-sec-policy
        srtp-msm-passthrough            disabled
        in-translationid
        out-translationid
        in-manipulationid
        out-manipulationid
        manipulation-string
        manipulation-pattern
        class-profile
        average-rate-limit              0
        access-control-trust-level      none
        invalid-signal-threshold        0
        maximum-signal-threshold        0
        untrusted-signal-threshold      0
        nat-trust-threshold             0
        deny-period                     30
        ext-policy-svr
        diam-e2-address-realm
        symmetric-latching              disabled
        pai-strip                       disabled
        trunk-context
        early-media-allow
        enforcement-profile
        additional-prefixes
        restricted-latching             none
        restriction-mask                32
        spl-options
        accounting-enable               enabled
        user-cac-mode                   none
        user-cac-bandwidth              0
        user-cac-sessions               0
        icmp-detect-multiplier          0
        icmp-advertisement-interval     0
        icmp-target-ip
        monthly-minutes                 0
```



```
        net-management-control          disabled
        delay-media-update              disabled
        refer-call-transfer             disabled
        refer-notify-provisional        none
        dyn-refer-term                  disabled
        codec-policy
        codec-manip-in-realm            disabled
        constraint-name
        call-recording-server-id
        xnq-state                       xnq-unknown
        hairpin-id                      0
        stun-enable                     disabled
        stun-server-ip                  0.0.0.0
        stun-server-port                3478
        stun-changed-ip                 0.0.0.0
        stun-changed-port               3479
        match-media-profiles
        qos-constraint
        sip-profile
        sip-isup-profile
        session-recording-server
        session-recording-required      disabled
        block-rtcp                      disabled
        hide-egress-media-update        disabled
        monitoring-filters
        last-modified-by                admin@172.41.1.2
        last-modified-date              2012-10-12 13:30:56
realm-config
        identifier                      core
        description
        addr-prefix                     0.0.0.0
        network-interfaces
                                        M10:0
        mm-in-realm                     enabled
        mm-in-network                   enabled
        mm-same-ip                      enabled
        mm-in-system                    enabled
        bw-cac-non-mm                   disabled
        msm-release                     disabled
        qos-enable                      disabled
        generate-UDP-checksum           disabled
        max-bandwidth                   0
        fallback-bandwidth              0
        max-priority-bandwidth          0
        max-latency                     0
        max-jitter                      0
        max-packet-loss                 0
        observ-window-size              0
        parent-realm
        dns-realm
        media-policy
        media-sec-policy
        srtp-msm-passthrough            disabled
        in-translationid
        out-translationid
        in-manipulationid
        out-manipulationid
        manipulation-string
        manipulation-pattern
        class-profile
        average-rate-limit              0
        access-control-trust-level      none
        invalid-signal-threshold        0
        maximum-signal-threshold        0
```



```
        untrusted-signal-threshold     0
        nat-trust-threshold            0
        deny-period                    30
        ext-policy-svr
        diam-e2-address-realm
        symmetric-latching             disabled
        pai-strip                      disabled
        trunk-context
        early-media-allow
        enforcement-profile
        additional-prefixes
        restricted-latching            none
        restriction-mask               32
        spl-options
        accounting-enable              enabled
        user-cac-mode                  none
        user-cac-bandwidth             0
        user-cac-sessions              0
        icmp-detect-multiplier         0
        icmp-advertisement-interval    0
        icmp-target-ip
        monthly-minutes                0
        net-management-control         disabled
        delay-media-update             disabled
        refer-call-transfer            disabled
        refer-notify-provisional       none
        dyn-refer-term                 disabled
        codec-policy
        codec-manip-in-realm           disabled
        constraint-name
        call-recording-server-id
        xnq-state                      xnq-unknown
        hairpin-id                     0
        stun-enable                    disabled
        stun-server-ip                 0.0.0.0
        stun-server-port               3478
        stun-changed-ip                0.0.0.0
        stun-changed-port              3479
        match-media-profiles
        qos-constraint
        sip-profile
        sip-isup-profile
        session-recording-server       CSEisr
        session-recording-required     enabled
        block-rtcp                     disabled
        hide-egress-media-update       disabled
        monitoring-filters
        last-modified-by               admin@172.41.1.2
        last-modified-date             2012-10-12 13:59:40
session-agent
        hostname                       172.16.123.101
        ip-address                     172.16.123.101
        port                           5060
        state                          enabled
        app-protocol                   SIP
        app-type
        transport-method               UDP
        realm-id                       core
        egress-realm-id
        description
        carriers
        allow-next-hop-lp              enabled
        constraints                    disabled
        max-sessions                   0
```

```
        max-inbound-sessions            0
        max-outbound-sessions           0
        max-burst-rate                  0
        max-inbound-burst-rate          0
        max-outbound-burst-rate         0
        max-sustain-rate                0
        max-inbound-sustain-rate        0
        max-outbound-sustain-rate       0
        min-seizures                    5
        min-asr                         0
        time-to-resume                  0
        ttr-no-response                 0
        in-service-period               0
        burst-rate-window               0
        sustain-rate-window             0
        req-uri-carrier-mode            None
        proxy-mode
        redirect-action
        loose-routing                   enabled
        send-media-session              enabled
        response-map
        ping-method
        ping-interval                   0
        ping-send-mode                  keep-alive
        ping-all-addresses              disabled
        ping-in-service-response-codes
        out-service-response-codes
        load-balance-dns-query          hunt
        media-profiles
        spl-options
        in-translationid
        out-translationid
        trust-me                        disabled
        request-uri-headers
        stop-recurse
        local-response-map
        ping-to-user-part
        ping-from-user-part
        li-trust-me                     disabled
        in-manipulationid
        out-manipulationid
        manipulation-string
        manipulation-pattern
        p-asserted-id
        trunk-group
        max-register-sustain-rate       0
        early-media-allow
        invalidate-registrations        disabled
        rfc2833-mode                    none
        rfc2833-payload                 0
        codec-policy
        enforcement-profile
        refer-call-transfer             disabled
        refer-notify-provisional        none
        reuse-connections               NONE
        tcp-keepalive                   none
        tcp-reconn-interval             0
        max-register-burst-rate         0
        register-burst-window           0
        sip-profile
        sip-isup-profile
        kpml-interworking               inherit
        monitoring-filters
        session-recording-server
```



```
        session-recording-required     disabled
        last-modified-by               admin@172.41.1.2
        last-modified-date             2012-10-12 13:28:49
session-agent
        hostname                       172.16.122.101
        ip-address                     172.16.122.101
        port                           5060
        state                          enabled
        app-protocol                   SIP
        app-type
        transport-method               UDP
        realm-id                       access
        egress-realm-id
        description
        carriers
        allow-next-hop-lp              enabled
        constraints                    disabled
        max-sessions                   0
        max-inbound-sessions           0
        max-outbound-sessions          0
        max-burst-rate                 0
        max-inbound-burst-rate         0
        max-outbound-burst-rate        0
        max-sustain-rate               0
        max-inbound-sustain-rate       0
        max-outbound-sustain-rate      0
        min-seizures                   5
        min-asr                        0
        time-to-resume                 0
        ttr-no-response                0
        in-service-period              0
        burst-rate-window              0
        sustain-rate-window            0
        req-uri-carrier-mode           None
        proxy-mode
        redirect-action
        loose-routing                  enabled
        send-media-session             enabled
        response-map
        ping-method
        ping-interval                  0
        ping-send-mode                 keep-alive
        ping-all-addresses             disabled
        ping-in-service-response-codes
        out-service-response-codes
        load-balance-dns-query         hunt
        media-profiles
        spl-options
        in-translationid
        out-translationid
        trust-me                       disabled
        request-uri-headers
        stop-recurse
        local-response-map
        ping-to-user-part
        ping-from-user-part
        li-trust-me                    disabled
        in-manipulationid
        out-manipulationid
        manipulation-string
        manipulation-pattern
        p-asserted-id
        trunk-group
        max-register-sustain-rate      0
```

```
        early-media-allow
        invalidate-registrations        disabled
        rfc2833-mode                    none
        rfc2833-payload                 0
        codec-policy
        enforcement-profile
        refer-call-transfer             disabled
        refer-notify-provisional        none
        reuse-connections               NONE
        tcp-keepalive                   none
        tcp-reconn-interval             0
        max-register-burst-rate         0
        register-burst-window           0
        sip-profile
        sip-isup-profile
        kpml-interworking               inherit
        monitoring-filters
        session-recording-server
        session-recording-required      disabled
        last-modified-by                admin@172.41.1.2
        last-modified-date              2012-10-12 13:30:16
session-recording-server
        name                            CSEisr
        description                     ISR RSS
        realm                           core
        mode                            selective
        destination                     172.16.101.84
        port                            5060
        transport-method                UDP
        last-modified-by                admin@172.41.1.2
        last-modified-date              2012-10-12 13:36:39
sip-config
        state                           enabled
        operation-mode                  dialog
        dialog-transparency             enabled
        home-realm-id                   core
        egress-realm-id
        nat-mode                        None
        registrar-domain                *
        registrar-host                  *
        registrar-port                  5060
        register-service-route          always
        init-timer                      500
        max-timer                       4000
        trans-expire                    8
        invite-expire                   180
        inactive-dynamic-conn           32
        enforcement-profile
        pac-method
        pac-interval                    10
        pac-strategy                    PropDist
        pac-load-weight                 1
        pac-session-weight              1
        pac-route-weight                1
        pac-callid-lifetime             600
        pac-user-lifetime               3600
        red-sip-port                    1988
        red-max-trans                   10000
        red-sync-start-time             5000
        red-sync-comp-time              1000
        add-reason-header               disabled
        sip-message-len                 4096
        enum-sag-match                  disabled
        extra-method-stats              disabled
```

```
        rph-feature                     disabled
        nsep-user-sessions-rate         0
        nsep-sa-sessions-rate           0
        registration-cache-limit        0
        register-use-to-for-lp          disabled
        options                         max-udp-length=0
        refer-src-routing               disabled
        add-ucid-header                 disabled
        proxy-sub-events
        allow-pani-for-trusted-only     disabled
        pass-gruu-contact               disabled
        sag-lookup-on-redirect          disabled
        set-disconnect-time-on-bye      disabled
        last-modified-by                admin@172.41.1.2
        last-modified-date              2012-03-26 17:44:42
sip-interface
        state                           enabled
        realm-id                        access
        description
        sip-port
                address                         192.168.50.100
                port                            5060
                transport-protocol              UDP
                tls-profile
                multi-home-addrs
                allow-anonymous                 agents-only
                ims-aka-profile
        carriers
        trans-expire                    0
        invite-expire                   0
        max-redirect-contacts           0
        proxy-mode
        redirect-action
        contact-mode                    none
        nat-traversal                   none
        nat-interval                    30
        tcp-nat-interval                90
        registration-caching            enabled
        min-reg-expire                  300
        registration-interval           3600
        route-to-registrar              enabled
        secured-network                 disabled
        teluri-scheme                   disabled
        uri-fqdn-domain
        spl-options
        trust-mode                      all
        max-nat-interval                3600
        nat-int-increment               10
        nat-test-increment              30
        sip-dynamic-hnt                 disabled
        stop-recurse                    401,407
        port-map-start                  0
        port-map-end                    0
        in-manipulationid
        out-manipulationid
        manipulation-string
        manipulation-pattern
        sip-ims-feature                 disabled
        subscribe-reg-event             disabled
        operator-identifier
        anonymous-priority              none
        max-incoming-conns              0
        per-src-ip-max-incoming-conns   0
        inactive-conn-timeout           0
```



```
        untrusted-conn-timeout          0
        network-id
        ext-policy-server
        default-location-string
        charging-vector-mode            pass
        charging-function-address-mode pass
        ccf-address
        ecf-address
        term-tgrp-mode                  none
        implicit-service-route          disabled
        rfc2833-payload                 101
        rfc2833-mode                    transparent
        constraint-name
        response-map
        local-response-map
        ims-aka-feature                 disabled
        enforcement-profile
        route-unauthorized-calls
        tcp-keepalive                   none
        add-ESBCp-invite                disabled
        add-ESBCp-profiles
        sip-profile
        sip-isup-profile
        tcp-conn-dereg                  0
        register-keep-alive             none
        kpml-interworking               disabled
        tunnel-name
        session-recording-server
        session-recording-required      disabled
        last-modified-by                admin@172.41.1.2
        last-modified-date              2012-10-12 13:41:18
sip-interface
        state                           enabled
        realm-id                        core
        description
        sip-port
                address                         172.16.50.100
                port                            5060
                transport-protocol              UDP
                tls-profile
                multi-home-addrs
                allow-anonymous                 agents-only
                ims-aka-profile
        carriers
        trans-expire                    0
        invite-expire                   0
        max-redirect-contacts           0
        proxy-mode
        redirect-action
        contact-mode                    none
        nat-traversal                   none
        nat-interval                    30
        tcp-nat-interval                90
        registration-caching            disabled
        min-reg-expire                  300
        registration-interval           3600
        route-to-registrar              disabled
        secured-network                 disabled
        teluri-scheme                   disabled
        uri-fqdn-domain
        spl-options
        trust-mode                      all
        max-nat-interval                3600
        nat-int-increment               10
```



```
        nat-test-increment              30
        sip-dynamic-hnt                 disabled
        stop-recurse                    401,407
        port-map-start                  0
        port-map-end                    0
        in-manipulationid
        out-manipulationid
        manipulation-string
        manipulation-pattern
        sip-ims-feature                 disabled
        subscribe-reg-event             disabled
        operator-identifier
        anonymous-priority              none
        max-incoming-conns              0
        per-src-ip-max-incoming-conns   0
        inactive-conn-timeout           0
        untrusted-conn-timeout          0
        network-id
        ext-policy-server
        default-location-string
        charging-vector-mode            pass
        charging-function-address-mode pass
        ccf-address
        ecf-address
        term-tgrp-mode                  none
        implicit-service-route          disabled
        rfc2833-payload                 101
        rfc2833-mode                    transparent
        constraint-name
        response-map
        local-response-map
        ims-aka-feature                 disabled
        enforcement-profile
        route-unauthorized-calls
        tcp-keepalive                   none
        add-ESBCp-invite                disabled
        add-ESBCp-profiles
        sip-profile
        sip-isup-profile
        tcp-conn-dereg                  0
        register-keep-alive             none
        kpml-interworking               disabled
        tunnel-name
        session-recording-server
        session-recording-required      disabled last-
        modified-by                     admin@console
        last-modified-date              2012-02-08 14:40:58
steering-pool
        ip-address                      192.168.50.100
        start-port                      49156
        end-port                        65535
        realm-id                        access
        network-interface
        last-modified-by                admin@console
        last-modified-date              2012-02-08 14:38:59
steering-pool
        ip-address                      172.16.50.100
        start-port                      49156
        end-port                        65535
        realm-id                        core
        network-interface
        last-modified-by                admin@console
        last-modified-date              2012-02-08 14:39:18
system-config
```



```
        hostname
        description                    SIPREC with ISR Testing
        location
        mib-system-contact
        mib-system-name
        mib-system-location
        snmp-enabled                   enabled
        enable-snmp-auth-traps  disabled enable-
        snmp-syslog-notify disabled enable-snmp-
        monitor-traps      disabled enable-env-
        monitor-traps  disabled snmp-syslog-his-
        table-length 1
        snmp-syslog-level              WARNING
        system-log-level               WARNING
        process-log-level              NOTICE
        process-log-ip-address         0.0.0.0
        process-log-port               0
        collect
                sample-interval                5
                push-interval                  15
                boot-state                     disabled
                start-time                     now
                end-time                       never
                red-collect-state              disabled
                red-max-trans                  1000
                red-sync-start-time            5000
                red-sync-comp-time             1000
                push-success-trap-state        disabled
        call-trace                     disabled
        internal-trace                 disabled
        log-filter                     all
        default-gateway                172.41.0.1
        restart                        enabled
        exceptions
        telnet-timeout                 0
        console-timeout                0
        remote-control                 enabled
        cli-audit-trail                enabled
        link-redundancy-state          disabled
        source-routing                 disabled
        cli-more                       disabled
        terminal-height                24
        debug-timeout                  0
        trap-event-lifetime            0
        default-v6-gateway             ::
        ipv6-signaling-mtu             1500
        ipv4-signaling-mtu             1500
        cleanup-time-of-day            00:00
        snmp-engine-id-suffix
        snmp-agent-mode                v1v2
        comm-monitor
                state                          disabled
                qos-enable                     enabled
                sbc-grp-id                     0
                tls-profile
                network-interface              wancom0:0
      last-modified-by              admin@console
      last-modified-date            2012-02-08 14:34:26
```

