

### 3. Cerințe arhitecturale pentru controlerul de frontieră pentru sesiuni.

| No. | Name of evaluation criterion                                                                                                                                                                                                     | Compliance                                                                                                                                                                                                                                                                                                 |
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| 3.1 | SBC must be software-based and installed on a virtual machine                                                                                                                                                                    | Fully Compliant<br><a href="https://www.audiocodes.com/media/13155/mediant-software-cloud-virtual-server-session-border-controller-sbc-datasheet.pdf">https://www.audiocodes.com/media/13155/mediant-software-cloud-virtual-server-session-border-controller-sbc-datasheet.pdf</a> ,<br>section Hypervisor |
| 3.2 | The SBC must be delivered as a ready-to-use image for a specific virtualization environment.                                                                                                                                     | Fully Compliant<br><a href="https://www.audiocodes.com/media/13155/mediant-software-cloud-virtual-server-session-border-controller-sbc-datasheet.pdf">https://www.audiocodes.com/media/13155/mediant-software-cloud-virtual-server-session-border-controller-sbc-datasheet.pdf</a> ,<br>section Hypervisor |
| 3.3 | SBC must support the following virtualization environments: VMWare, Hyper-V, KVM, OpenStack.                                                                                                                                     | Fully Compliant<br><a href="https://www.audiocodes.com/media/13155/mediant-software-cloud-virtual-server-session-border-controller-sbc-datasheet.pdf">https://www.audiocodes.com/media/13155/mediant-software-cloud-virtual-server-session-border-controller-sbc-datasheet.pdf</a> ,<br>section Hypervisor |
| 3.4 | SBC shall support SR-IOV technology on the virtualization environment                                                                                                                                                            | Fully Compliant<br><a href="https://www.audiocodes.com/media/v0adzyjt/sbc-gateway-release-notes-for-latest-release-lr-versions-7-4.pdf">https://www.audiocodes.com/media/v0adzyjt/sbc-gateway-release-notes-for-latest-release-lr-versions-7-4.pdf</a><br>Section 3, MVE requirements                      |
| 3.5 | The SBC must be able to implement both geographic redundancy and 1+1 redundancy in a cluster with one passive and one redundant component. And this functionality should be provided by its own tools, not virtualization tools. | Fully Compliant<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section High-Availability System                                                             |

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| 3.6  | Switching time between active and standby SBC modules shall be no more than 50ms                                                                                                                                                                           | Fully Compliant<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section High-Availability System                                                                    |
| 3.7  | SBC should be able to synchronize information about the state of established SIP sessions between nodes in the cluster (signaling, media traffic) when operating in fault-tolerant mode.                                                                   | Fully Compliant<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section High-Availability System                                                                    |
| 3.8  | Minimum system requirements for the SBC Shall be no more than: 1 vCPU/2GB RAM/20 GB HDD                                                                                                                                                                    | Fully Compliant<br><a href="https://www.audiocodes.com/media/13155/mediant-software-cloud-virtual-server-session-border-controller-sbc-datasheet.pdf">https://www.audiocodes.com/media/13155/mediant-software-cloud-virtual-server-session-border-controller-sbc-datasheet.pdf</a> ,<br>section Virtual Resources |
| 3.9  | One SBC virtual machine shall support up to 24,000 concurrent sessions, together with RTP proxying on a single server.                                                                                                                                     | Fully Compliant<br><a href="https://www.audiocodes.com/media/13155/mediant-software-cloud-virtual-server-session-border-controller-sbc-datasheet.pdf">https://www.audiocodes.com/media/13155/mediant-software-cloud-virtual-server-session-border-controller-sbc-datasheet.pdf</a> ,<br>section Capacities        |
| 3.10 | The SBC shall support a distributed architecture in which all signaling traffic is handled on separate servers and voice traffic is handled on media servers. With this architecture, the virtual SBC shall support up to 48,000 simultaneous connections. | Fully Compliant<br><a href="https://www.audiocodes.com/media/13155/mediant-software-cloud-virtual-server-session-border-controller-sbc-datasheet.pdf">https://www.audiocodes.com/media/13155/mediant-software-cloud-virtual-server-session-border-controller-sbc-datasheet.pdf</a> ,<br>section Capacities        |
| 3.11 | SBC in distributed architecture mode shall support dynamic switching on and off of media servers depending on the load on the media servers.                                                                                                               | Fully Compliant<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,                                                                                                        |

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|      |                                                                                                                                                                                                                                                                                                   | section Elastic Media Cluster Feature                                                                                                                                                                                                                                      |
| 3.12 | In case of failure of one of the media servers in distributed architecture mode, the SBC shall redistribute active calls to the remaining active media servers                                                                                                                                    | Fully Compliant <a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Elastic Media Cluster Feature                           |
| 3.13 | SBC in distributed architecture mode shall be able to synchronize information about the status of established SIP sessions between nodes in a cluster of signaling components.                                                                                                                    | Fully Compliant <a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Elastic Media Cluster Feature, High-Availability System |
| 3.14 | SBC shall have the ability to switch over to the backup node automatically or manually without disrupting established connections.                                                                                                                                                                | Fully Compliant <a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section High-Availability System                                |
| 3.15 | SBC must be able to synchronize information about registered subscribers between nodes in the cluster when operating in access mode (A-SBC)                                                                                                                                                       | Fully Compliant <a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section High-Availability System                                |
| 3.16 | SBC must be able to, when operating in failover mode, save all information about calls made (CDR or SDR) in case of emergency switching between cluster elements.                                                                                                                                 | Fully Compliant <a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Call Detail Records                                     |
| 3.17 | SBC must be able to virtualize DSP processors on a virtual machine and be able to allocate these resources for transcoding. The allocated DSP resources must be statically allocated and committed when the SBC boots and must not affect the performance of signaling messages and RTP proxying. | Fully Compliant <a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-">https://www.audiocodes.com/media/15567/mediant-software-sbc-</a>                                                                                                                    |

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|      |                                                                                                                                                                                                                  | <a href="#">users-manual-ver-74.pdf</a> ,<br>section Media Handling, DSP configuration parameters                                                                                                                                                                                                                        |
| 3.18 | SBC in distributed architecture mode shall support at least up to 20 media nodes for transcoding and RTP proxying.                                                                                               | Fully Compliant<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Elastic Media Cluster Feature                                                                      |
| 3.19 | SBC shall support the following codecs for transcoding: Opus Wideband, Opus Narrowband, SILK Wideband, SILK Narrowband, G.722.2, G.722, G.729, G.711, AMR Wideband, AMR Narrowband, G.723.1, G.726.              | Fully Compliant<br><a href="https://www.audiocodes.com/media/13155/mediant-software-cloud-virtual-server-session-border-controller-sbc-datasheet.pdf">https://www.audiocodes.com/media/13155/mediant-software-cloud-virtual-server-session-border-controller-sbc-datasheet.pdf</a> ,<br>section Transcoding and Vocoders |
| 3.20 | SBC in distributed architecture mode shall support at least 600 simultaneous transcoding sessions from G.711 codec to Opus codec and vice versa on a single media node.                                          | Fully Compliant<br><a href="https://www.audiocodes.com/media/v0adzyjt/sbc-gateway-release-notes-for-latest-release-lr-versions-7-4.pdf">https://www.audiocodes.com/media/v0adzyjt/sbc-gateway-release-notes-for-latest-release-lr-versions-7-4.pdf</a> ,<br>table 3-41                                                   |
| 3.21 | SBC shall support Interworking-SBC (I-SBC) and Access-SBC (A-SBC) functionality simultaneously on one hardware node, as well as be able to organize such functionality on one IP address, including on one port. | Fully Compliant<br><a href="https://www.audiocodes.com/media/14062/audiocodes-mediant-session-border-controllers-sbcs-for-service-providers.pdf">https://www.audiocodes.com/media/14062/audiocodes-mediant-session-border-controllers-sbcs-for-service-providers.pdf</a>                                                 |
| 3.22 | SBC must have a service availability of at least 99.999% for a standard configuration of a single hardware node                                                                                                  | Fully Compliant<br><a href="https://www.audiocodes.com/media/14062/audiocodes-mediant-session-border-controllers-sbcs-for-service-providers.pdf">https://www.audiocodes.com/media/14062/audiocodes-mediant-session-border-controllers-sbcs-for-service-providers.pdf</a> ,                                               |

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| 3.23 | SBC shall have the ability to register at least 75,000 subscribers per device.                                                                                                                                                                                                                                                                  | Fully Compliant<br><a href="https://www.audiocodes.com/media/13155/mediant-software-cloud-virtual-server-session-border-controller-sbc-datasheet.pdf">https://www.audiocodes.com/media/13155/mediant-software-cloud-virtual-server-session-border-controller-sbc-datasheet.pdf</a> ,<br>section Capacities                                   |
| 3.24 | SBC must be able to handle at least 600 concurrent connection attempts (CAPS) per device (cluster)                                                                                                                                                                                                                                              | Fully Compliant<br><a href="https://www.audiocodes.com/media/13155/mediant-software-cloud-virtual-server-session-border-controller-sbc-datasheet.pdf">https://www.audiocodes.com/media/13155/mediant-software-cloud-virtual-server-session-border-controller-sbc-datasheet.pdf</a> ,<br>section Capacities with assumption for ACD = 100 sec |
| 3.25 | SBC should be able to install software complex in geographically dispersed locations to provide fault tolerance (geo-distribution of the HA pair). With geographically dispersed pairs of SBCs, the solution should be managed as if it were a single device - without the need to configure each set separately.                               | Fully Compliant<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section High-Availability System                                                                                               |
| 3.26 | SBC must ensure synchronization of geographically separated pairs of equipment with signal propagation delays of up to 15 ms (RTT).                                                                                                                                                                                                             | Fully Compliant<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section High-Availability System                                                                                               |
| 3.27 | SBC, when operating in geo-redundant pair mode, must support providing the same IP address to the network core and access equipment.                                                                                                                                                                                                            | Fully Compliant<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section High-Availability System                                                                                               |
| 3.28 | When operating in HA pair geo-redundant mode, the use of the SBC should not impose additional requirements on existing equipment in terms of setting up additional SBC IP addresses. Existing equipment should always communicate with the SBC over a single IP address without setting up a Layer 2 channel between the distributed equipment. | Fully Compliant<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,                                                                                                                                   |

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|      |                                                                                                                                                                                                                                                                                                                                                         | section High-Availability System                                                                                                                                                                                                                                      |
| 3.29 | When operating in geo-redundancy mode with two different SBCs, each SBC must handle 50% of the network traffic, and in an emergency, each SBC must handle 100% of the traffic. In this case, the licenses from the emergency SBC node must be automatically transferred to the working SBC node (without any personnel administration or other action). | Fully Compliant<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>two SBC sites, sections Floating and Flex License Model |
| 3.30 | When two different SBCs are operating in georedundant mode, the allocation of the number of licenses to each individual SBC in a geo-distributed scheme is done dynamically depending on the load.                                                                                                                                                      | Fully Compliant<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>two SBC sites, sections Floating and Flex License Model |
| 3.31 | Operational changes to the SBC configuration must not be accompanied by SBC rebooting.                                                                                                                                                                                                                                                                  | Fully Compliant<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>sections about configuring parameters                   |

#### 4. Cerințe funcționale pentru controlerul de frontieră pentru sesiuni

*Toate cerințele listate în secțiunea 4 trebuie să fie îndeplinite într-un mod de cluster SBC rezervat geografic (membrii clusterului instalați în centre de date diferite).*

| No. | Name of evaluation criterion                                                     | Compliance                                                                                                                                                                                                                                      |
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| 4.1 | SBC must support the SSH/HTTPS protocol for secure remote management of the SBC. | Fully Compliant<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a><br>section Configuring Secured (HTTPS) |

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|     |                                                                                                                                                                                                                                                                                                                         | Web, Configuring CLI over SSH                                                                                                                                                                                                                                                                          |
| 4.2 | SBC shall support DSCP marking of the IP header field for SIP and RTP protocols in order to provide QoS on IP network equipment. (For example, marking application, audio, image, message, text, video traffic). It is possible to configure different DSCP values separately for signaling, media and control traffic. | Fully Compliant<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Configuring Quality of Service                                                   |
| 4.3 | SBC shall fully support the SIP signaling layer protocol in accordance with RFC3261.                                                                                                                                                                                                                                    | Fully Compliant<br><a href="https://www.audiocodes.com/media/v0adzyjt/sbc-gateway-release-notes-for-latest-release-lr-versions-7-4.pdf">https://www.audiocodes.com/media/v0adzyjt/sbc-gateway-release-notes-for-latest-release-lr-versions-7-4.pdf</a><br>section 5.1                                  |
| 4.4 | SBC must support the SIP-I signaling layer protocol. The ability to analyze and modify message content.                                                                                                                                                                                                                 | Fully Compliant<br><a href="https://www.audiocodes.com/media/14062/audiocodes-mediast-session-border-controllers-sbcs-for-service-providers.pdf">https://www.audiocodes.com/media/14062/audiocodes-mediast-session-border-controllers-sbcs-for-service-providers.pdf</a> ,<br>section Protocol support |
| 4.5 | SBC should provide interaction between PRACK and non-PRACK scenarios.                                                                                                                                                                                                                                                   | Fully Compliant<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a><br>section Interworking SIP PRACK Messages                                                    |

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| 4.6 | SBC must support the UDP transport layer protocol.                                                           | Fully Compliant<br><a href="https://www.audiocodes.com/media/14062/audiocodes-mediant-session-border-controllers-sbcs-for-service-providers.pdf">https://www.audiocodes.com/media/14062/audiocodes-mediant-session-border-controllers-sbcs-for-service-providers.pdf</a> ,<br>section      Protocol<br>support |
| 4.7 | SBC must support the TCP transport layer protocol. (Support for SIP over TCP).                               | Fully Compliant<br><a href="https://www.audiocodes.com/media/14062/audiocodes-mediant-session-border-controllers-sbcs-for-service-providers.pdf">https://www.audiocodes.com/media/14062/audiocodes-mediant-session-border-controllers-sbcs-for-service-providers.pdf</a> ,<br>section      Protocol<br>support |
| 4.8 | SBC must support the SCTP transport layer protocol, including SCTP multihoming. (Support for SIP over SCTP). | Fully Compliant<br><a href="https://www.audiocodes.com/media/14062/audiocodes-mediant-session-border-controllers-sbcs-for-service-providers.pdf">https://www.audiocodes.com/media/14062/audiocodes-mediant-session-border-controllers-sbcs-for-service-providers.pdf</a> ,<br>section      Protocol<br>support |
| 4.9 | SBC must support the TLS transport layer protocol.                                                           | Fully Compliant<br><a href="https://www.audiocodes.com/media/14062/audiocodes-mediant-session-border-controllers-sbcs-for-service-providers.pdf">https://www.audiocodes.com/media/14062/audiocodes-mediant-session-border-controllers-sbcs-for-service-providers.pdf</a>                                       |

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|      |                                                                                                                                                                                                               | <a href="#">sbcs-for-service-providers.pdf</a> ,<br>section Protocol support                                                                                                                                                                                                                                    |
| 4.10 | SBC must support transport layer protocol conversion (i.e., the SBC input call uses TCP protocol and the output call uses UDP or SCTP or TLS).                                                                | Fully Compliant<br><a href="https://www.audiocodes.com/media/14062/audiocodes-mediant-session-border-controllers-sbcs-for-service-providers.pdf">https://www.audiocodes.com/media/14062/audiocodes-mediant-session-border-controllers-sbcs-for-service-providers.pdf</a> ,<br>section Protocol support          |
| 4.11 | SBC shall support dynamic transport layer protocol changes from the endpoint to the SBC and vice versa. For example, SIP user registration is done using UDP, but attempting to establish a session with TCP. | Fully Compliant<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Interworking SIP Signaling                                                                |
| 4.12 | SBC shall have support for the IEEE 802.1Q specification, on all interfaces                                                                                                                                   | Fully Compliant,<br><a href="https://www.audiocodes.com/media/13155/mediant-software-cloud-virtual-server-session-border-controller-sbc-datasheet.pdf">https://www.audiocodes.com/media/13155/mediant-software-cloud-virtual-server-session-border-controller-sbc-datasheet.pdf</a> ,<br>section Packet Marking |
| 4.13 | SBC must have support for ACLs (Access Lists) on the SBC. Ability to create access lists based on various criteria, including dynamic ones.                                                                   | Fully Compliant<br><a href="https://www.audiocodes.com/media/15567/mediant-software-">https://www.audiocodes.com/media/15567/mediant-software-</a>                                                                                                                                                              |

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|      |                                                                                                                                                                                                                                                                                                                                                                                                         | <a href="#">sbc-users-manual-ver-74.pdf</a> ,<br>section Security                                                                                                                                                                                                                               |
| 4.14 | SBC must have support for terminating signaling and RTP traffic to one IP address/to different IP addresses.                                                                                                                                                                                                                                                                                            | Fully Compliant<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Configuring IP Network Interfaces                                         |
| 4.15 | SBC must have support for mechanisms of SBC resistance to DOS, DDOS attacks, including from different IP addresses (correct processing of distorted signaling messages). DoS and overload attack filtering, etc., confirmed by tests. Attack detection, blacklisting of the attacker with the possibility of specifying the time of blacklisting, separate queues of parasitic traffic processing, etc. | Fully Compliant,<br><a href="https://www.audiocodes.com/media/14062/audiocodes-mediand-session-border-controllers-sbcs-for-service-providers.pdf">https://www.audiocodes.com/media/14062/audiocodes-mediand-session-border-controllers-sbcs-for-service-providers.pdf</a> ,<br>section Security |
| 4.16 | SBC must have an architecture that ensures stable operation of the CPU in DoS and DDoS attack modes.                                                                                                                                                                                                                                                                                                    | Fully Compliant,<br><a href="https://www.audiocodes.com/media/14062/audiocodes-mediand-session-border-controllers-sbcs-for-service-providers.pdf">https://www.audiocodes.com/media/14062/audiocodes-mediand-session-border-controllers-sbcs-for-service-providers.pdf</a> ,<br>section Security |
| 4.17 | SBC must have support for SNMP v2C and SNMP v3 (SNMP encryption support).                                                                                                                                                                                                                                                                                                                               | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,                                                                                     |

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|      |                                                                                               | section SNMP-Based Management                                                                                                                                                                                                                                |
| 4.18 | SBC must be able to send events from the device as SNMP trap.                                 | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section SNMP-Based Management                 |
| 4.19 | SBC should be able to log all commands entered by users, specify username who made an action. | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Viewing Management User Activity Logs |
| 4.20 | SBC must be able to use syslog.                                                               | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Syslog and Debug Recording            |
| 4.21 | SBC must support NTP (Network Time Protocol) time synchronization.                            | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Synchronizing Date                    |

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|      |                                                                                                                         | and Time through<br>SNTP                                                                                                                                                                                                                         |
| 4.22 | SBC must be able to use RADIUS for online billing.                                                                      | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br><br>section RADIUS-based Services |
| 4.23 | SBC must be able to set conditions for CDR and SDR generation on local data storage with subsequent unloading           | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br><br>section Call Detail Records   |
| 4.24 | SBC must be able to automatically transmit CDRs and SDRs via RADIUS/Syslog/HTTP protocols.                              | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br><br>section Call Detail Records   |
| 4.25 | SBC must be able to customize CDR fields.                                                                               | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br><br>section Call Detail Records   |
| 4.26 | SBC must be able to collect statistics on the quality of voice connections and calculate R-Factor and MOS values (based | Fully Compliant,                                                                                                                                                                                                                                 |

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|      | on such parameters as Packet Loss, Jitter, Delay). Possibility of dynamic routing in real time based on these statistics. Sending statistical data to an external server for further analysis (via CDR).                                                                                                           | <a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br><br>section Quality of Experience                                               |
| 4.27 | SBC must be able to completely hide (spoof) user information such as IP addresses of communicating termination points, interfaces, etc. in all (any) SIP headers, thereby realizing complete concealment of the network topology. Network topology hiding should be provided for both signaling and media traffic. | Fully Compliant,<br><br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br><br>section topology hiding, 'SIP Topology Hiding Mode' |
| 4.28 | SBC must be able to manipulate any SIP headers in the received SIP message. Moving values from one header to another (store and paste). Manipulation means: deleting a certain header, adding a new header, changing the content of the header in any part of it.                                                  | Fully Compliant,<br><br><a href="https://www.audiocodes.com/media/15589/sip-message-manipulation-syntax-reference-guide-ver-74.pdf">https://www.audiocodes.com/media/15589/sip-message-manipulation-syntax-reference-guide-ver-74.pdf</a>                                  |
| 4.29 | SBC must be able to manipulate any SIP headers in the received SIP message using regular expressions. Manipulation means: deleting a certain header, adding a new header, changing the content of the header in any part of it.                                                                                    | Fully Compliant,<br><br><a href="https://www.audiocodes.com/media/15589/sip-message-manipulation-syntax-reference-guide-ver-74.pdf">https://www.audiocodes.com/media/15589/sip-message-manipulation-syntax-reference-guide-ver-74.pdf</a>                                  |
| 4.30 | SBC must be able to manipulate ISUP headers in the received SIP message. Moving values from one header to another (store and paste). Manipulation means: deleting a certain header, adding a new header, changing the content of the header in any part of it.                                                     | Fully Compliant,<br><br><a href="https://www.audiocodes.com/media/15589/sip-message-manipulation-syntax-reference-guide-ver-74.pdf">https://www.audiocodes.com/media/15589/sip-message-manipulation-syntax-reference-guide-ver-74.pdf</a>                                  |

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| 4.31 | SBC must be able to manipulate ISUP headers in a received SIP message using regular expressions. Manipulation means: deleting a certain header, adding a new header, changing the content of the header in any part of it. | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15589/sip-message-manipulation-syntax-reference-guide-ver-74.pdf">https://www.audiocodes.com/media/15589/sip-message-manipulation-syntax-reference-guide-ver-74.pdf</a>                                                                                                                                                                                                                                                                             |
| 4.32 | SBC shall have the ability to manipulate SIP headers in a received SIP message on both the incoming and outgoing interfaces.                                                                                               | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15589/sip-message-manipulation-syntax-reference-guide-ver-74.pdf">https://www.audiocodes.com/media/15589/sip-message-manipulation-syntax-reference-guide-ver-74.pdf</a>                                                                                                                                                                                                                                                                             |
| 4.33 | SBC shall have the ability to manipulate SIP headers in a received SIP message as text, prior to parsing the message to the SBC, to allow normalization of SIP messages that do not conform to RFC standards.              | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15589/sip-message-manipulation-syntax-reference-guide-ver-74.pdf">https://www.audiocodes.com/media/15589/sip-message-manipulation-syntax-reference-guide-ver-74.pdf</a> ,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Configuring SIP Message Manipulation,<br>Pre-classification Process |
| 4.34 | SBC must be able to manipulate ISUP headers in a received SIP message on both the incoming and outgoing interfaces.                                                                                                        | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,                                                                                                                                                                                                                                                                                                       |

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|      |                                                                                                                                                                                                                                                                                                               | section Configuring SIP Message Manipulation                                                                                                                                                                                                                          |
| 4.35 | <p>SBC shall have support for different DTMF translation/transcoding methods from one to another:</p> <ul style="list-style-type: none"> <li>• SIP INFO</li> <li>• RFC 2833</li> <li>• In-band (G711)</li> </ul>                                                                                              | <p>Fully Compliant,</p> <p><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a>,</p> <p>section Interworking DTMF Methods</p>        |
| 4.36 | <p>SBC must have support for voice transcoding features - provide a list of codecs available for transcoding. Minimum required set of codecs with transcoding support: G711(PCMA/PCMU), G729, OPUS, SILK, G.722, AMR, AMR-WB</p>                                                                              | <p>Fully Compliant,</p> <p><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a>,</p> <p>section Transcoding Mode, Media Handling</p> |
| 4.37 | <p>SBC must have support for voice trans-rating features (changing the packetization time of media traffic) - provide a list of codecs available for trans-rating. Minimum required set of codecs with support for transrating in the range up to 100 msec: G711(PCMA/PCMU), G729, OPUS, SILK, G.722, AMR</p> | <p>Fully Compliant,</p> <p><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a>,</p> <p>section Coder Transcoding</p>                |
| 4.38 | <p>SBC must be able to selectively enable (disable) RTP proxying for an individual direction.</p>                                                                                                                                                                                                             | <p>Fully Compliant,</p> <p><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a>,</p> <p>section Media Anchoring</p>                  |

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| 4.39 | SBC must be able to manipulate SDP headers. Manipulation means adding, deleting, manipulating any value of any SDP protocol field. Changing codecs priority. | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15589/sip-message-manipulation-syntax-reference-guide-ver-74.pdf">https://www.audiocodes.com/media/15589/sip-message-manipulation-syntax-reference-guide-ver-74.pdf</a> ,<br>section SDP Body Fields |
| 4.40 | SBC must be able to route based on trunk group information.                                                                                                  | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Configuring SBC IP-to-IP Routing Rules      |
| 4.41 | SBC must be able to route based on information about the codec being used.                                                                                   | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Configuring SBC IP-to-IP Routing Rules      |
| 4.42 | SBC must be able to route based on priority. (Based on the posted destination cost or weight parameter).                                                     | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Configuring SBC IP-to-IP Routing Rules      |

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| 4.43 | SBC shall have the ability to route outgoing calls based on call establishment time. (Based on time of day and/or days of the week). | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Configuring SBC IP-to-IP Routing Rules, Least cost routing               |
| 4.44 | SBC must have policy-based routing capability. Policies refer to the ability to flexibly analyze several parameters simultaneously.  | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Configuring SBC IP-to-IP Routing Rules, Configuring SBC Routing Policies |
| 4.45 | SBC Must have routing capability with the ability to use multiple policies to handle a single call.                                  | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Configuring SBC IP-to-IP Routing Rules, Configuring SBC Routing Policies |
| 4.46 | SBC must be able to route a call based on any header (part of a header) in a SIP message.                                            | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,                                                                                     |

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|      |                                                                                                                                                                                                                                                    | section Configuring SBC IP-to-IP Routing Rules                                                                                                                                                                                                                             |
| 4.47 | SBC must be able to add up to 100 thousand unique routes (numbers or prefixes), without using third-party voice call routing systems.                                                                                                              | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Configuring SBC IP-to-IP Routing Rules              |
| 4.48 | SBC must be able to use LDAP/LDAPS protocols for call routing.                                                                                                                                                                                     | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Configuring SBC IP-to-IP Routing Rules, configuring |
| 4.49 | SBC must be able to combine the created SIP destination addresses into a group, and route calls towards this group.                                                                                                                                | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section<br>Configuring IP Group Sets                        |
| 4.50 | SBC shall support re-routing based on unsuccessful response code (4xx, 5xx), using recursion. Recursion refers to rerouting to the next available destination address in the same group selected as a result of the initial routing rule analysis. | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,                                                                |

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|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | section Configuring SIP Response Codes for Alternative Routing Reasons                                                                                                                                                                                                                |
| 4.51 | SBC shall support re-routing based on unsuccessful response code (4xx, 5xx), without using recursion. I.e. rerouting does not take place in the same address group, but on the basis of the next routing rule, e.g. in the direction of an alternative address group.                                                                                                                                                                                                                                                                     | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Configuring SIP Response Codes for Alternative Routing Reasons |
| 4.52 | SBC Should support different call balancing strategies. For example, Hunt, Round robin, Proportional distribution.                                                                                                                                                                                                                                                                                                                                                                                                                        | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Configuring Proxy Sets                                         |
| 4.53 | SBC must be able to track the availability of the destination address and set the corresponding destination to the "not in use" status in the following cases (keep-alive):<br><br>- in case of non-receipt of a response to SIP OPTIONS within a given time interval<br><br>- receipt of a response code characterizing it as unavailable with the possibility of specifying these codes<br><br>- in case the destination address is FQDN and is translated to several IP-addresses, availability check for all addresses from the list. | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Configuring Proxy Sets, keep alive options                     |
| 4.54 | SBC must be able to route calls based on the availability of the destination address.                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a>                                                                             |

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|      |                                                                                                                                                           | <a href="#">sbc-users-manual-ver-74.pdf</a> ,<br>section Configuring Proxy Sets                                                                                                                                                                           |
| 4.55 | SBC must be able to set limits on the number of simultaneous incoming or outgoing sessions for a single destination, for a single registered user.        | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Configuring Call Admission Control |
| 4.56 | SBC must be able to re-route calls to an alternative direction when the thresholds for the number of simultaneous calls in a given direction are reached. | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>Alternative Routing                        |
| 4.57 | SBC must be able to set limits on the speed (number of calls per second) of incoming or outgoing sessions for an individual direction.                    | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Configuring Call Admission Control |
| 4.58 | SBC must be able to control the bandwidth used for a particular direction.                                                                                | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,                                               |

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|      |                                                                                                                                                                                                                                                                                  | section Configuring<br>Call Admission<br>Control                                                                                                                                                                                                                   |
| 4.59 | SBC shall be able to control the absence of RTP packets separately for both directions of RTP transmission during a separate call. In case of absence of RTP activity in one of the directions, the ability to form a BYE with encapsulated ISUP part, with appropriate release. | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br><br>section Broken<br>Connection Mode               |
| 4.60 | SBC must be able to work only with destination addresses known to the SBC (SIP-trunks).                                                                                                                                                                                          | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br><br>section Configuring<br>Proxy Sets               |
| 4.61 | SBC must support the ability to replicate the conversation to the call recording system (SRS) using the SIPREC protocol (RFC 6341).                                                                                                                                              | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br><br>section SIPREC SIP-<br>based Media<br>Recording |
| 4.62 | When working with Session Recording Server (SRS), the SBC must be able to replicate a SIPREC session simultaneously towards 3 SRSs with traffic balancing between them (Round Robin, Hunt).                                                                                      | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,                                                        |

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|      |                                                                                                                                                | section SIPREC SIP-based Media Recording                                                                                                                                                                                                                   |
| 4.63 | SBC shall support the transfer of call metadata to the SRS in XML format, per RFC 7865 protocol                                                | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section SIPREC SIP-based Media Recording    |
| 4.64 | SBC must be able to work with SIP endpoints behind NAT.                                                                                        | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Network Address Translation Support |
| 4.65 | SBC shall support dynamic detection of remote NAT port closure times, to optimize re-registration methods in the case of Hosted NAT traversal. | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Network Address Translation Support |
| 4.66 | SBC must support working with SIP URIs and Tel URIs.                                                                                           | Fully Compliant<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,                                                 |

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|      |                                                                                                                                                                                                                                                                                | parameter 'Use Tel URI for Asserted Identity'                                                                                                                                                                                                                                            |
| 4.67 | SBC must support generation of RTCP/RTCP-XR reports for calls that have RTP proxied through the SBC.                                                                                                                                                                           | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br><br>section Configuring Interval for QoE Report Collection and Generation |
| 4.68 | SBC Must support simultaneous encryption of media traffic (SRTP) and transcoding within a single call.                                                                                                                                                                         | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br><br>section Media handling, SRTP-RTP and SRTP-SRTP Transcoding            |
| 4.69 | SBC must be able to locally terminate REFER (call forwarding) messages with the ability to route this call through the local routing table.                                                                                                                                    | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br><br>section Interworking SIP REFER Messages                               |
| 4.70 | SBC should be able to decide on the method of processing the REFER message based on the values of the REFER message header (in accordance with RFC 3515). For example, for certain REFER messages, process locally, and for others skip transparently, for the same direction. | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a>                                                                                |

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|      |                                                                                                                                                | <a href="#">sbc-users-manual-ver-74.pdf</a> ,<br>section Interworking SIP REFER Messages                                                                                                                                                                 |
| 4.71 | In the case of local REFER processing, the SBC shall be able to automatically transfer the User-To-User parameter/header from REFER to INVITE. | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Interworking SIP REFER Messages   |
| 4.72 | SBC must support T.38<-> G.711Passthrough <-> G.711 fax broadcasts (without VBD mode).                                                         | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Fax and Modem Capabilities        |
| 4.73 | SBC must support the ability to register on a third-party SIP server on behalf of the IP PBX (surrogate registration)                          | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Configuring Registration Accounts |
| 4.74 | SBC must be able to generate the dial tone independently.                                                                                      | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,                                              |

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|      |                                                                                                                                                        | section Call Progress Tones File                                                                                                                                                                                                                              |
| 4.75 | SBC must be able to convert IPv4 protocols to IPv6 and vice versa for SIP calls.                                                                       | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Configuring IP Network Interfaces      |
| 4.76 | SBC must be able to assign IPv4 and IPv6 addresses simultaneously on the same interface.                                                               | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Configuring IP Network Interfaces      |
| 4.77 | SBC must be able to authorize users through external systems using RADIUS protocols.                                                                   | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section RADIUS-based User Login Authentication |
| 4.78 | SBC must support HTTP/HTTPS proxy functionality with the ability to set the number of simultaneous HTTP(S) connections from a single sip client/phone. | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Enabling the HTTP Proxy Application    |

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| 4.79 | SBC must support SIP protocol operation via WebSocket and HTTP/HTTPS protocol.                                                              | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section WebRTC                                |
| 4.80 | SBC must support the ICE (Interactive Connectivity Establishment) and ICE Lite protocols                                                    | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Implementing ICE for Media Sessions   |
| 4.81 | SBC must support encryption of media information (RTP) using the DTLS protocol.                                                             | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section SRTP using DTLS Protocol              |
| 4.82 | SBC must support RTCP Feedback (RFC 5124), which allows SIP devices to exchange information about the current bit rate of the media stream. | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section VoIPerfect, parameter 'RTCP Feedback' |
| 4.83 | SBC shall support number modification using information obtained through the LDAP protocol.                                                 | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a>                                                    |

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|      |                                                                                                    | <a href="#">7/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Configuring Call Setup Rules                                                                                                                                                          |
| 4.84 | SBC must support call routing based on information received through the Rest API protocol.         | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section REST-Based Management                      |
| 4.85 | SBC shall support number modification based on information received through the Rest API protocol. | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section REST-Based Management                      |
| 4.86 | SBC must support call authorization using the OAuth 2.0 protocol.                                  | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section OAuth 2.0 Based SIP Message Authentication |
| 4.87 | SBC shall support call duplication to the recording system using the SIPREC protocol.              | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,                                                       |

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|      |                                                                                                                                                                                          | section SIPREC SIP-based Media Recording                                                                                                                                                                                                                          |
| 4.88 | SBC must support simultaneous DTMF sending in SIP INFO and RFC2833 formats.                                                                                                              | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Interworking DTMF Methods, DTMF Parameters |
| 4.89 | SBC must be able to split the call based on information obtained through the LDAP protocol.                                                                                              | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Configuring Call Setup Rules               |
| 4.90 | SBC must support the DHCP server function.                                                                                                                                               | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section DHCP Server Functionality                  |
| 4.91 | In case of loss of connection to the telephone exchange in Access mode, the SBC must support base call functions for registered devices between each other and to an external SIP trunk. | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Call Survivability                         |

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| 4.92 | SBC must support up to 5 alternate names (SAN) in a downloadable TLS certificate.                                                                             | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Configuring TLS Certificates          |
| 4.93 | SBC must support playing an external audio file on hold.                                                                                                      | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Uploading Auxiliary Files             |
| 4.94 | SBC must be able to reroute a call based on the QoS value (e.g., MOS) if the average quality of calls in a given direction is lower than the specified value. | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Configuring Quality of Service Rules  |
| 4.95 | SBC must be able to snapshot the system with its own hardware, regardless of the snapshot of the virtualization system.                                       | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Rescue Options using System Snapshots |

## 5. Cerințe de administrare pentru controlerul de frontieră pentru sesiuni.

*Toate cerințele listate în secțiunea 5 trebuie să fie îndeplinite în modul de cluster SBC redundant geografic (elementele clusterului sunt instalate în centre de date diferite)*

| No. | Name of evaluation criterion                                                                                                    | Compliance                                                                                                                                                                                                                                                                                          |
|-----|---------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5.1 | SBC must be configurable via a Graphical User Interface (GUI) as well as a Command Line Interface (CLI)                         | Fully Compliant<br><a href="https://www.audiocodes.com/media/13155/mediant-software-cloud-virtual-server-session-border-controller-sbc-datasheet.pdf">https://www.audiocodes.com/media/13155/mediant-software-cloud-virtual-server-session-border-controller-sbc-datasheet.pdf</a><br>section OAM&P |
| 5.2 | SBC should be able to display basic system KPIs (CAPS, memory/CPU utilization, number of sessions, etc.) in the form of graphs. | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Performance Monitoring Graphs                                                |
| 5.3 | SBC should have a built-in capability to dump network (signaling, service traffic) traffic passing through SBC in pcap format   | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Syslog and Debug Recording                                                   |
| 5.4 | SBC must support viewing CDR records from the Web interface.                                                                    | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Viewing CDR History of SBC and Test Calls                                    |
| 5.5 | SBC must be able to connect securely to the GUI via https protocol.                                                             | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Configuring Secured (HTTPS) Web                                              |
| 5.6 | SBC must be able to act as a source of information (sample) for the Monitoring System                                           | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Reporting Voice Quality of Experience to OVOC                                |
| 5.7 | SBC must support system management via external REST API interface                                                              | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section REST-Based Management                                                        |
| 5.8 | SBC must support system monitoring via external Rest API interface                                                              | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section REST-Based Management                                                        |

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| 5.9  | SBC must support different access levels for different user groups.                                                                                                    | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Customizing Access Levels per Web Page        |
| 5.10 | SBC must support authentication to the SBC via corporate directory credentials (Active Directory)                                                                      | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>section Enabling LDAP-based User Login Authentication |
| 5.11 | SBC should provide syntax checking and auto-filling of fields in tables where internal variables, header names, internal parameters, regular expressions are required. | Fully Compliant,<br><a href="https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf">https://www.audiocodes.com/media/15567/mediant-software-sbc-users-manual-ver-74.pdf</a> ,<br>editor button                                         |

## 6. Cerințe pentru sistemul de management al controlerului de frontieră pentru sesiuni cu funcționalitate extinsă pentru monitorizarea rețelelor UC/VoIP

| No. | Name of evaluation criterion                                                                                                                                                           | Compliance                                                                                                                                                                                                                                                                                |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6.1 | The system must support SIP protocol monitoring.                                                                                                                                       | Fully Compliant<br><a href="https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf">https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf</a> ,<br>section SIP Call Flow                         |
| 6.2 | SBC as a source of information.                                                                                                                                                        | Fully Compliant<br><a href="https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf">https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf</a> ,<br>section Obtaining Quality Statistics on Calls |
| 6.3 | The system should be able to measure the call quality (R-Factor, MOS) using as a source of information: RTP, RTCP, RTCP - XR . And also using information from the devices themselves. | Fully Compliant<br><a href="https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf">https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf</a>                                                    |

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|     |                                                                                                                                                                                       | <a href="#">ovoc-users-manual-ver-84.pdf</a> ,<br>section Obtaining Quality Statistics on Calls                                                                                                                                                                                                   |
| 6.4 | The system should be able to analyze and display the voice quality for each call individually.                                                                                        | Fully Compliant<br><a href="https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf">https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf</a> ,<br>section Details of a Call Made over an AudioCodes SBC |
| 6.5 | The system should be able to display the average total quality by direction, device, VoIP network as a whole                                                                          | Fully Compliant<br><a href="https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf">https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf</a> ,<br>section Assessing Network Health                      |
| 6.6 | The call information must contain information about all signaling messages (and their content) for the given call and the voice quality at all call segments monitored by the system. | Fully Compliant<br><a href="https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf">https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf</a> ,<br>section SIP Call Flow                                 |
| 6.7 | The system should be able to filter calls by: call start/end time, call duration, voice quality, A/B numbers, call end code, etc.                                                     | Fully Compliant<br><a href="https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf">https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf</a> ,<br>section Accessing the Calls List                      |
| 6.8 | The system must be able to display the call in graphical form (a diagram of the call flow through network devices) with detail down to each signaling message and its content.        | Fully Compliant<br><a href="https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf">https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf</a> ,                                                          |

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|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | section Details of a Call Made over an AudioCodes SBC                                                                                                                                                                                                                                                             |
| 6.9  | <p>The system must have the ability to control key traffic parameters (Key Performance Indicator) on VoIP network segments with the ability to customize them:</p> <ul style="list-style-type: none"> <li>• Basic parameters – number of call attempts, number of unsuccessful calls, etc.</li> <li>• Advanced parameters – ASR, average call duration, average connection establishment time, etc.</li> <li>• Quality control parameters at the network, device, and direction levels</li> </ul> | <p>Fully Compliant<br/> <a href="https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf">https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf</a>,<br/> section Obtaining Quality Statistics on Calls</p>               |
| 6.10 | <p>The system must have the ability to set KPI threshold values, upon reaching which the system must inform the service personnel about this event using SNMP trap or by means of an e-mail message.</p>                                                                                                                                                                                                                                                                                          | <p>Fully Compliant<br/> <a href="https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf">https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf</a>,<br/> section Forwarding Alarms</p>                                   |
| 6.11 | <p>The system must be able to be installed on VMWare, Hyper – V media</p>                                                                                                                                                                                                                                                                                                                                                                                                                         | <p>Fully Compliant<br/> <a href="https://www.audiocodes.com/media/qkeiwd5q/one-voice-operations-center-iom-manual-ver-84.pdf">https://www.audiocodes.com/media/qkeiwd5q/one-voice-operations-center-iom-manual-ver-84.pdf</a><br/> section OVOC Server Installation</p>                                           |
| 6.12 | <p>The system should be able to import SBC configuration for automatic provisioning of monitoring functionality.</p>                                                                                                                                                                                                                                                                                                                                                                              | <p>Fully Compliant<br/> <a href="https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf">https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf</a>,<br/> section Adding Configuration Files to OVOC Software Manager</p> |
| 6.13 | <p>The system should be able to download call statistics. It should support up to 1,000,000 records per download.</p>                                                                                                                                                                                                                                                                                                                                                                             | <p>Fully Compliant<br/> <a href="https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf">https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf</a></p>                                                                   |

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|      |                                                                                                                                                          | <a href="#">ovoc-users-manual-ver-84.pdf</a> ,<br>section Customizing Calls Storage                                                                                                                                                                                                               |
| 6.14 | The system must support backup and restore of the configuration.                                                                                         | Fully Compliant<br><a href="https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf">https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf</a> ,<br>section Enabling Automatic Device Backup Periodically |
| 6.15 | The system must support mass configuration changes on a group or all SBCs.                                                                               | Fully Compliant<br><a href="https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf">https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf</a> ,<br>section Performing Management Actions                 |
| 6.16 | The system must support monitoring of device performance (Performance monitoring). The system must support at least 500,000 different metrics            | Fully Compliant<br><a href="https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf">https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf</a> ,<br>section Monitoring Performance                        |
| 6.17 | The management system must support monitoring of device performance (Performance monitoring). The system must support at least 500,000 different metrics | Fully Compliant<br><a href="https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf">https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf</a> ,<br>section Monitoring Performance                        |
| 6.18 | The system must support user authentication using information from the corporate directory (Active Directory)                                            | Fully Compliant<br><a href="https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf">https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf</a> ,                                                          |

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|      |                                                                                                                                             | section Configuring Operator Authentication Centrally using an LDAP Server                                                                                                                                                                                                           |
| 6.19 | The system must support the collection of connection quality information from end devices using the RFC 6035 protocol.                      | Fully Compliant<br><a href="https://www.audiocodes.com/media/v0adzyjt/sbc-gateway-release-notes-for-latest-release-lr-versions-7-4.pdf">https://www.audiocodes.com/media/v0adzyjt/sbc-gateway-release-notes-for-latest-release-lr-versions-7-4.pdf</a><br>section Supported SIP RFCs |
| 6.20 | The system should provide the ability to download reports on various parameters. Downloading should be done either manually or on schedule. | Fully Compliant<br><a href="https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf">https://www.audiocodes.com/media/0qmd4s45/one-voice-operations-center-ovoc-users-manual-ver-84.pdf</a> ,<br>section Managing Reports                 |
| 6.21 | The system must support integration with external monitoring systems to redirect SNMP system messages.                                      | Fully Compliant<br><a href="https://www.audiocodes.com/media/0ghh4k5i/one-voice-operations-center-integration-with-northbound-interfaces-ver-8-2.pdf">https://www.audiocodes.com/media/0ghh4k5i/one-voice-operations-center-integration-with-northbound-interfaces-ver-8-2.pdf</a>   |