File No.J-1008/2024/SD-Studioautomation.

सत्यमेव जयते

प्रसार भारती/PRASAR BHARATI

भारत का लोक सेवा प्रसारक /India's Public Servic Broadcaster

योजना एवं विकास एकक / Planning & Development Unit

आकाशवाणी भवन, संसद मार्ग /Akashvani Bhavan, Parliament Street

नई दिल्ली/New Delhi-110001

सं./No.J-1008/2024/SD-Studioautomation

दिनांक:Dated: 11.04.2025

Subject: Publication of Draft Technical Specification for SITC of News Room & Studio Automation System at Akashvani Delhi & News Room Automation at 46 RNUs for seeking Vendors/OEMs feedback and budgetary quote.

1. Technical Specification of News Room & Studio Automation System at Akashvani Delhi & News Room Automation at 46 RNUs is to be uploaded to invite feedback from the Vendors/OEMs dealing with SITC of such equipments. The interested parties are requested to provide comments/feedback on this technical specification.
2. Vendors/OEMs are also requested to provide availability of local content and percentage of local content in the offered equipment.
3. The budgetary price of the offered News Room & Studio Automation System at Akashvani Delhi & News Room Automation at 46 RNUs and associated equipment may also be submitted.
4. All these information may be provided by E-mail to "airstudiodesign331@gmail.com " on or before 28.04.2025.

(B. K. OBEROI)
Dy.Director General(E-SD)
For Director General

बी. के. ओबराय / B. K. OBEROI
उप महानिदेशक (एस.ई.-एस.डी.) / DDG (S-SD)
आकाशवाणी महानिदेशालय / DG : AIR
नई दिल्ली–110001 / New Delhi-110001

PRASAR BHARATI / प्रसार भारती
DIRECTORATE GENERAL: ALL INDIA RADIO / आकाशवाणी महानिदेशालय
PLANNING AND DEVELOPMENT UNIT / योजना एवं विकास एकक

Technical Specification for SITC of News Room & Studio Automation System at Akashvani Delhi & News Room Automation at 46 RNUs

1. GENERAL

1.1 This specification is for Supply, Installation, Integration, Testing & Commissioning of software & hardware for "News Room & Studio Automation" to be used at Akashvani Delhi and only News room automation software & hardware to be used at 46 RNUs (list at Annexure-I).

1.2 The Automation Software should be of modular design and based on the field-proven modern technology available in the market. It should be suitable for uninterrupted, continuous & reliable 24x7x365 operation. The quoted Radio Automation software should be operational/deployed in reputed Radio Broadcasting Organizations.

1.3 The Hardware shall be from OEMs having ISO certifications. Hardware from hardware integrators will not be accepted.

1.4 The tenderer must submit the following documents along with the tender:

A) A Clause-by-clause full compliance statement as per format in Annexure-II in respect to all the clauses of specification from the original software developer(s) of the offered software & OEM of the offered hardware duly signed in original. Actual performance figures should be quoted under remarks column.

B) Detailed printed literature of the software & Hardware giving complete details of features and performance data on non-returnable basis to facilitate the technical evaluation.

C) The quote should either be from the **original Software Developer (News & Studio Automation Software)** or from their authorized representative/dealer by OEM.

D) Escalation matrix with resolution time details for technical support during Warranty period should be enclosed with the tender.

E) A copy of un-priced Bill of Material (BOM) as per **Annexure**-III indicating make, model no., complete configuration details, version no., modules details, License details etc. shall be quoted clearly. Any tender, showing ambiguity in above terms shall be treated as incomplete and it will be rejected.

F) Customer reference certificate and documents in support for the offered **Automation Software**, having been deployed in a reputed broadcasting organization in client server networked environment should be enclosed.

1.5 The tenderer will be required to demonstrate the functions of the tendered System during technical evaluation in New Delhi. The tenderer will be required to arrange all necessary software & hardware for demonstration during technical evaluation. The demonstration of the system will have to be conducted with-in one month from the date of issue of Call letter which will be faxed/emailed on given telephone number/Email address. Non-compliance of demonstration within the stipulated time will disqualify the tender.

1.6 Incomplete offers will be rejected out rightly.
1.7 The SITC work will have to be completed within three month after the placement of firm order.
1.8 Any Updates in system/software should be incorporated without affecting ongoing transmission.

2. SCOPE OF THE TENDER

2.1 The Scope of this tender is for supply, installation, integration, testing and commissioning of "News Room and Studio Automation Software" including requisite hardware consisting of servers, software and drivers, workstation and Ethernet switches etc as may be required for efficiently running all the functionality of the offered software.
2.2 The transition from the existing system already running (24*7) at the station to new setup/system has to be seamless. No shutdown shall be permitted for this purpose. Also specific plan for migration of existing data with provisions for validation and rollback if issues arise and required dry run to be conducted.
2.3 The Bill of Material giving item-wise requirement is given at point no.8.
2.4 All the external inputs required for the purpose for News gathering such as through VSAT, Digital receivers, ISDN/PSTN lines should be provided by All India Radio.
2.5 Supplied Hardware & already available workstations etc. shall be configured for efficient working of offered Automation software.
2.6 All the required cables, patch cords, mating connectors etc. required for implementation of system at the station will be supplied by the tenderer.
2.7 The complete system shall be tested for successful operation of the Automation software.

3. BUSINESS FUNCTION REQUIREMENT FOR NEWS ROOM & STUDIO AUTOMATION SOFTWARE

3.1 General Specification:

3.1.1 The offered software should be scalable & work equally well in a setup of minimum 4 DAWs as well as in a large setup with 300 DAWs. It should be possible to use only Studio Automation module or only News Automation module or both together.
3.1.2 The software should work in Client-server architecture capable of scaling up without any system restart. Servers shall work on Windows Server 2022/Linux/Unix OS (Latest Version) and clients shall work on Windows (Latest Version 11/10) OS.
3.1.3 The software should be modular in design to meet the requirements of News Room & Studio Automation (Ingest, Processing/production and Transmission) Monitoring, Logging, Data Transfer, Archiving & Reporting.
3.1.4 The News automation software should be compatible and integrated with studio automation software for seamless working from the same DAW.
3.1.5 Software should run with "normal" audio cards in ASIO Driver model (no specialized soundcards are required) editing work. However, balanced digital AES In/out should be available for Recording and OnAir broadcast applications with professional sound cards of multiple brands.
3.1.6 Software should also be compatible with the following:

- Clustered enabled servers with fault tolerant RAID system.

- Local caching of configurable duration on On-Air DAW.
- Virtualizations (VM Ware, Microsoft Hyper-V)
- Audio over IP interfaces (Dante, Ravenna, AES67 etc.)

3.1.7 Audio Formats:

a. Software should support multiple audio formats like BWF, Linear Wave (.WAV), MPEG 1 Layer 2 (MP2), MPEG 1 Layer 3 (MP3), Advanced Audio Coding (AAC), MP4 etc.
b. Software should also support different bitrate for MP2, MP3, MP4 & AAC.
c. Software should have feature to convert video files into MP3 or any other supported audio formats.

3.1.8 Open Structure and Interchange of Information with other software:

a. Software should be able to support standard protocols for device integration, as well as other XML based protocols for non standard device integrations.
b. Software should be able to connect and interchange data with 3rd party systems for news scheduling system using standard technologies such as XML.
c. Software should be able to connect to multiple hardware devices like Studio Mixing Consoles/desks by using GPIO and Trigger management via TCP/IP.
d. Software should support Meta Data Exports to RDS, Web, mobile App's, FTS server etc. on an open structure technologies.
e. The proposed solution should run on standard open IT solutions.

3.1.9 Licensing:

a. All the Licenses should be in the name of "AKASHVANI".
b. Licenses of software should be provided on perpetual basis i.e. Ownership of Licenses shall be of AIR for unlimited times.
c. Tenderer shall have to supply additional licenses for the software modules on pro-rata basis for next five years.
d. AIR will have the right to divert the use of License to other stations as and when the requirement arises.

3.1.10 Security:

a. The software should offer network level security management for users, groups and folders. The software should preferably be capable to integrate with Active Directory.
b. It should be possible to assign various levels of functionality as per Akashvani's workflow & Module access rights using Active Directory or in-app security levels. User should be able to open a particular module only if he is authorized to do so base on management requirement.
c. Security features such as redundant databases, file and database backup processes etc. should be supported.
d. Servers at Central Location as well as Branch Locations should have High Availability feature. Tenderer shall specify the failover strategy followed by them.
e. Software should have features like-

- Patch Management
- Secure software development lifecycle
- Disaster/Risk management plan and mirroring of data during any unforeseen situations.

3.1.11 Support:

a. The software should provide a user interface.
b. The software should support Unicode to accommodate the complexity of Indian language scripts
c. Support for 3rd party fonts should also exist.
d. Ability to easily search database for different type of data, i.e. video, audio, text, image can be searched in one search.
e. Ability to easily configure and customize all aspects of the system.

3.1.12 Metadata:

a. Meta-data of Audio should be stored in a reputed RDBMS like MSSQL, MySql, oracle etc.
b. The system should support flexible metadata schemas. This means that an administrator of the system can add, remove, and alter metadata fields using a dedicated user interface.
    - The update of metadata fields can happen at any time during the project even after the project is running for month/years.
    - The update of metadata should be transparent to the users and should not mandate system restart.
    - There shall be no restriction on the amount or type of metadata fields and not predefined or fixed metadata schema.
c. It should be possible to search the audio as well as text on the basis of single or more Metadata field entries stored in database.
d. Support for entering metadata in Indian language using UNICODE should exist.
e. Metadata can be exported and imported to and from external system using XML in configurable schemas.
f. Metadata fields should have at least the following parameters:
    - Optional mandatory– If a user is using metadata which has a mandatory field within it the user will not be able to finish his work without filling in the mandatory metadata field.
    - Optional inheritance – If a user is creating a sub segment out of a larger media the inherited metadata fields will be copied from the parent media to the sub segment.
g. All metadata fields should be indexed and available for search in an integrated search engine embedded within the proposed solution.
h. The system should allow attaching notes and scripts to each item in the database.
i. It should be possible to store all News wire, correspondent stories, fax messages, correspondent audio reports, finished stories, final News playout script, Pool stories, talk and current affairs program and images in the database.

j. Users should be able to add metadata regardless of the status of the asset (pre ingest, after ingest, in process etc).
k. It should have ability for the metadata to link assets together (e.g. audio with other audio).
l. Metadata updates by one user should be immediately synchronized to all other users- without a need to "refresh".
m. Ability to manage Thesaurus metadata field.
n. Ability to manage Image metadata field.
o. Ability to manage Enumeration metadata field.

3.1.13 Remote Access-Web Access:

a. The system should provide a remote access to the system with a web based application or similar working on windows and mac.
b. It should be possible to login into software, search database for audio and news etc and download the same over web connectivity using special access right. Ingest/edit options to designated staff/officials/reporters should be provided.
c. It should be possible to forward the received messages, wires, finalized script and audio files to other remote station.
d. It should be possible to publish media and metadata to various destinations like internet website etc.
e. Web tool should allow user to open Chat module to share Text, audio, image title with in chat window.

3.2 News Automation Software :-

The software should support AIR's workflow environment. The software should have separate Modules/Sub-Modules for meeting the following requirements:

3.2.1 News Collection:

3.2.1.1 Wire Services Ingest module:

a. The system should support reception of news-wires from News Agencies viz. UNI, PTI, Varta, Bhasha etc. The news feeds are available from V-SAT/Serial lines/Digital receivers and these should be stored in existing separate Workstation available with station.
b. The stories so received should be automatically sorted, indexed according to subject classification defined in the news and stored with appropriate metadata.

3.2.1.2 Social Media Ingest Module:

Provision for receiving text stories/Audio/Video through social media platform (whatsapp, twitter, Youtube etc) from authorized sources should be available**.**

3.2.1.3 E-mail Ingest Module:

Provision for receiving text stories through E-mail from authorized sources should be available.

3.2.1.4 Phone- Audio Ingest Module:

Minimum two GSM Lines and two PSTN Telephone lines should be supported for Phone Audio Ingest.

3.2.1.5 SMS News Ingest Module:

The software should be able to upload SMS alerts.

3.2.1.6 Image Ingest Module:

The software should provide provision for image ingest.

3.2.1.7 FTP Ingest Module:

The software should provide provision for FTP ingest.

It should also provide specific provision for receiving inputs from different RNUs and correspondents.

3.2.2 News Processing:

Immediately after receipt of the news item, the system should notify it on active terminals which should have provision for sorting, indexing, classification and filtering based on subject, content, slugline, header etc. The news item processing facility should support multi-level On-line authentication system for broadcast purpose. Options to change the workflow after commissioning as per requirement by the authorized officials should be available.

3.2.2.1 News Text Editor Module:

a. A simple text editor with basic editing functionality like MS-word should be available for editing the news.
b. Editor should support Unicode font for Indian language support & third party fonts.
c. It should be possible to take any portion of main story to the script editor.
d. Raw news (received from wires, correspondent, FAX etc.)/approved news (final story approved by editor/ editor-in-chief) should remain unaltered and edited news should be saved as new story.
e. All edited versions of story should be available for easy access with time stamp.
f. It should display approximate time for reading out the script. The timing should be automatically updated as report is being written. Approx time for each story, soundbite, voice cast and whole script of bulletins should be given.
g. An integrated spell checker and grammar checker should be available for English language.
h. Split Screen or two editor windows for translation etc should be available.

3.2.2.2 News Explorer Module:

a. It should be possible for any user with appropriate access rights to have instant access to all the information and files for news wires, correspondent stories, finished stories,

correspondent audio reports, archived items etc. stored in database. The authorized user should be able to filter as per subject, content, heading etc.

b. It should provide a convenient display, similar to that of windows explorer. It should be possible to view title of the stories & first few lines of selected stories. Full stories, script editor & audio editor should be viewable on another pane of the explorer.
c. New news item, correspondent stories, wires, messages & finished stories should be easily distinguishable for immediate recognition in explorer view.
d. Most recent stories should be at the top of the list in the explorer view.
e. In case, a story is being selected in explorer view, its display should remain uninterrupted by arrival of fresh stories. Only an indication of arrival of fresh stories should be visible.
f. It should be possible to listen to ingested Audio.
g. The access of this module should be available to various modules like News Text Editor, News scheduler & Audio editor.
h. It should be possible to view the module from a remote terminal with proper authentication.
i. Status of the story (i.e. status of approval, scheduling, archiving etc.) should be viewable.
j. It should be possible to view contact directory, special event Directory & Image Directory. It should be possible to update & modify the same with proper access rights.
k. Approved and unapproved stories should be easily distinguishable with clear red and green color coded slugs.
l. Only editors should have the authority to alter saved or edited stories.

3.2.2.3 Audio Recording & Editing Module:

a. An Audio Recorder/editor with standard Cut, Copy & Paste, unlimited Undo's and Redo's, Time Stretching, Pitch Shifting, Insertion of Markers, Gain variation, Fade in & Fade out, storing audio segments as clipboards should be available for recording & editing.
b. Following advance feature should also be provided:-
    - Advanced Effects Integration like equalization and reverb etc
    - Multitrack Editing capability
    - Real time effects processing
    - Automation Features to facilitate dynamic audio changes such as volume, pan and advance effects
    - Comprehensive Metadata Support
    - Automated Noise Reduction
    - Adaptive Dynamic Processing
    - Enhanced User Interface
c. Voice-over facility should be available.
d. It should support non-destructive editing. Original correspondent story should never be affected after editing.
e. Users should be able to edit the same audio simultaneously.
f. It should be possible to do editing even when the recording is going on.
g. Both auto-pause editing and manual editing options should be available

3.2.2.4 Communication Module:

a. An internal instant messenger should exist for communication between different users. On-line chat & messaging should be possible between users. It should support one-on-one and group chats.
b. It should have presence indicator like online, offline or busy.
c. It should enable file sharing capabilities within the chat box.
d. The instant messenger facility should support communication over LAN & WAN of Akashvani with Regional News Units (RNUs) spread across country and abroad.
e. The software should be able to intimate a user, who is programmed to receive such messages, automatically about a desired news wire etc received/ingested or story completed.
f. It should have a customizable notification system that allows users to set preferences for alerts related to news wire ingestion or story completion.
g. It should have a real time notifications update to promptly inform editors and other users.
h. It should provide a notification history log for users to review past alerts.
i. Provision of Independent installation of the communication module on systems which does not have the capability of the automation software.

3.2.2.5 News Scheduling Module:

a. Scheduler should support template with fixed contents/blocks so that the items can be dragged and dropped to make a complete schedule.
b. It should be possible to make various templates for a period of up to one month.
c. It should be possible to create Schedules for more than one News Channels simultaneously.
d. It should be possible to line-up a finished story & related audio (sound bite) in a sequence. The line-up should be displayed in real-time.
e. It should be possible to chain consecutive sound bites and then play these automatically by the system.
f. Total presentation time of stories (text + audio) should be automatically calculated depending upon the reading speed of presenter and should be viewable on the screen.
g. A user with proper access rights should be able to change the order of sequences of news, delete a story, add a new story and make changes to the existing stories till last minute before concerned story goes On-Air.
h. The embedded audio & text should be easily distinguishable.
i. It should have strict security and access control to prevent unauthorized usage.
j. It should have an automatic saving feature for stories to prevent data loss.
k. A simple feature for bunching news stories, such as dragging and dropping, should be available.

3.2.3 News Broadcasting & Publishing Module:

3.2.3.1 News Broadcast Module:

a. Full stories as per schedule should scroll on the prompter/ monitor of News presenter.

b. When a news item/Audio is On-Air, it should be possible to make last minute changes in the next story by an authorized user in the news room and transfer the same to on-air module. It should be possible to include last minute stories even while news is being broadcast.
c. Changes in the story should be highlighted in different colors and previous version should also be accessible if needed.
d. Consecutive sound bites should be played automatically by the system.
e. Next text News item should start scrolling immediately after completion of sound bite.
f. Total remaining time out of allotted time & time required for completion of rest of scheduled news (as per the average reading speed of presenter) should be displayed prominently on the presenter monitor so that presenter could speed up or slow down presentation of rest of the news.
g. It should be possible to skip a news item by presenter depending upon availability of time.
h. It should be possible to change the order of the Schedule by authorized user.
i. Local caching of one bulletin duration of upto half hour on DAW on On-Air studio should be provided.
j. Hotkeys for playing various Jingles, signature tune, underplay, break, promos & commercials should be provided.
k. It may have an option to provide Live inputs from TV, online platforms/Phone in/Whatsapp live etc.

3.2.3.2 Text Prompter Module:

a. Prompter should be configurable with the adjustable fonts, font size & colors. The configuration should be savable for future recall.
b. It should be possible to scroll text items line by line as well as page by page.
c. Scrolling should be smooth & jerk free. Scrolling speed of text items should be adjustable by user.
d. It should be possible to stop scrolling or slightly scroll backwards by upto two lines in line by line scrolling mode.
e. It should reflect any last minute change in subsequent news items while news is being scrolled. Last minute changes in the story should be highlighted in different colors
f. Lined up Audio should be displayed prominently and it should start playing after intervention by presenter.
g. Only green labeled (approved/saved) stories should be sent to the prompter.
h. If any changes are made during a live broadcast, the editor should have the capability to sync updates immediately to avoid prompter discrepancies.

3.2.3.3 Web Publication Module:

a. It should be possible to publish various finished news stories with proper access rights on AIR website under different headings.
b. It should be possible to upload images & Audio files from Database source to website.
c. Live streaming/webcasting should be available.

d. Facility to publish Auto logged news bulletins on web site should be available for delayed listening for internet users in streaming mode. Auto uploading news bulletins/stencil to website option should be available.
e. Support social media with Meta data like facebook, twitter, Youtube etc.
f. There should be an option to download and share the news bulletins and news scripts (in DOC and PDF formats).

3.3 Studio Automation Software :-

The software should have separate Modules/Sub-Modules for meeting the following requirements:

3.3.1 Production Module:

a. **File based Ingest:** It should be possible to ingest audio file from Windows Compatible File system & from CD drive, Networked drive or USB connected removable disk, Secured Digital (SD) card & Web downloads. The system should not have any limitation in the number of simultaneous file based ingest that can be processed.
b. Supported Audio Formats should be ingested.
c. User desired Audio Normalization at time of ingest should be supported.
d. It should be possible to automatically import different audio into database after applying necessary audio leveling and trimming.
e. Ability to notify the users for a new file base ingests.
f. Ability to define naming convention for file based ingests.
g. User should be able to add and edit metadata at the time of ingest after proper authentication.
h. It should have support for cloud storage platforms eg. Google Drive, Dropbox
i. It should be integrated with remote FTP/SFTP servers for direct audio ingestion.
j. It must support error- checking mechanisms to ensure file integrity.

3.3.2 Programme Scheduling Module:

a. The Module should support multiple channels format. The playlist of any channel should be available to a group of users with proper access rights associated with that channel.
b. Complete workflow from automated scheduling, building clocks and Playlist generation for multiple Channels should be available.
c. It should be possible to schedule from Central Office as well as Local Office.
d. Creation of Playlist by Channel name & date basis should be possible.
e. Audio content selected from Search Engine Module should be inserted by drag and drop operation.
f. A day's playlist may consist of different sections and be put together to consist a full days playlist.
g. Program schedule may contain audio, text or mixed titles.
h. It should be possible to control program timing with the following options-
    - No Regulation.
    - Mandatory start on time with different settings

- Don't start on time if previous item finishes within defined amount of time.
- If the previous title is too long, a fade-out or cross fade can be applied for a specific duration.
- If the previous title is too short, fillers (jingles) can be automatically inserted.

- Mandatory wait for the end of the previous element.

i. Schedule should be modifiable till last minute before execution by the creator/ supervisor with access rights. A notification of last minute update should be pop-up.
j. Print out facility of play list should exist.
k. Facility to chain multiple play schedules should be available.
l. It should be possible to put in markers where the audio should start and when it ends.
m. Provision of templates to enable auto creation of block-schedules of playlist.
n. Software should support automated import of Commercials from traffic (commercials) systems (Third Party) for multiple channels including multiple Regional/Local split channels.
o. It should be possible to schedule a Satellite feed for Transmission as well as background recording.
p. The search engine should support Boolean, fuzzy, controlled vocabulary and complex queries on the index.
q. Ability to run a full text search over all the meta data field.

3.3.3 Recording Module:

a. It should be possible to record in mono or stereo or multi-track mode. Recording format, bit rate, sampling rate, bit depth should be user selectable.
b. Ability to record from analog and digital audio source using compliant audio PC boards and Audio over IP networks.
c. Activation of automatic recording by time, Audio level or fader start, phone-in console ringtone.
d. It should have facility of PPM meter for input signal level monitoring.
e. Visual indication in waveform should be available during recording.
f. It should have facility for preview of input level before start of recording.
g. It should be possible to enter & alter the metadata when the recording is going on.
h. Ability to drag and drop file from other source/ Microsoft windows explorer.
i. Both Auto trim and manual trim feature to remove silence from beginning and end of a recording.
j. Facility for inserting markers during recording should exist.
k. It should be possible to play and edit the file currently being recorded from the same or any other DAW in the LAN.
l. It should have facility to export files to any of the supported audio formats.
m. It should have facility of automatic saving during recording.
n. The software should give warning if 'Window Close button' is pressed accidently during recording process.
o. Ability to have an overview of all the recordings (Status, history).

3.3.4 Editing Module:

a. The system should support non-destructive and non-linear editing.
b. Edit and extract clips while record should be possible.
c. It should be possible to drag and drop files from database, windows file manager or another application.
d. Standard features like Cut, Copy, Paste, Mix, Undo, Redo, Extract, and Fade-in / Fade-outs, Cross-fade, Punch IN / Punch OUT etc. should be supported.
e. Standard facility for conversion of file format with time stretching and pitch shifting, bit depth and sample rate conversion should be available.
f. The editing screen should be in multi-track format and have transport panel, graphic waveform display and Zoom facility for precise locations of edit points.
g. The following features should be provided
    i. User defined filters for reduction/removal of clicks, pops, crackling general noise reduction, Hum & Hiss.
    ii. Amplitude Control: level increase, decrease, volume maximization/normalization.
    iii. Phase: Facility of phase inversion and reversal.
    iv. Insertion of various effects from other sources/files.
h. Voice-over recording facility with editing level control feature should be available.
i. It should be possible to save edited audio along with metadata into database.
j. It should be possible to play multiple-tracks after mixing, selected audio portion or single track.
k. It should be able to edit in a connected or disconnected mode.
l. It should be possible to auto save project at a configurable period.
m. Ability to recover an Auto Saved project even if the project had never been saved properly before
n. It should be able to manage WAVE/VST effects.
o. Ability to add WAVE/VST effect's plug-in easily.
p. Ability to mix audio format while editing.
q. Ability to add remove audio tracks when needed
r. Ability to define per user which media essence the user can access and edit
s. Ability to apply effects when playing
t. Ability to change meter method and meter profile
u. Ability to select multiple segments
v. Ability to manage Overlap/Destructive/blocking mode
w. Ability to group/ungroup multiple segments
x. Ability to manage auto overlap, overlap at range, cross-fade on overlap
y. Ability to preview in Jog and Shuttle mode
z. Ability to attach Images and Texts at some positions of the audio to produce multimedia packages for DAB/DMB programs.
aa. **External Editor: Standard Audio editing software (Sony Sound Forge, Adobe Audition, audacity or similar software) should be integrated for editing purpose. It should be possible to call this integrated Audio Editing software from the**

Automation software by single click or Keyboard shortcut. It should also be possible to save audio edited using this Audio Editing software directly into Software's Database/storage.

3.3.5 ON-AIR Module:

a. On-Air player should support at least two virtual players, monitoring support for cueing, Search Engine support, playlist(s) and hotkeys.
b. One Virtual player should be dedicated for ON-AIR Play out & other configurable for standby/Cueing purpose.
c. With Search Engine support, it should be possible to browse server's Database instantaneously and play audio ON-AIR.
d. It should be possible to playback the playlist in Manual or automated mode.
e. Ability to configure whether playlists shall be loaded automatically according to a moving time window or whether playlists shall be loaded manually.
f. Playlist Audio being played, audio already Played & audio in pipeline should be easily distinguishable in the playlist.
g. It should be possible to use hardware button panel/software button panel for play-out.
h. It should be possible to incorporate changes in the playlist with proper access rights while the system is in play mode.
i. Monitoring of complete audio, beginning & end of any Playlist items on cue Player should be possible.
j. Software should provide fader start facility.
k. Cross-faded or overlapped play of Playlist Audios should be possible.
l. It should be able to configure various counters for play-out.
m. Features like Hotkeys, Priority play buttons should be available for playing frequently used items such as signature tunes, promos etc.
n. Details of audios played out On-Air should be properly logged in database for future reference.
o. Ability to publish PAD (Program Associated Data) in synchronization with play-out operations.
p. Text editor for entering, editing & reading the script should be available.
q. Current Date, Day & Time should be displayed prominently on ON-AIR Player.
r. Local caching of 24 hour duration on DAW in On-AIR studio should be available.
s. Ability to deliver counters information to a third party system.
t. In case of failure of Main studio, it should be possible to switch to different Studio.
u. Software should support emergency play-out system which should be seamlessly switch on in case of some major studio failure. The system should also feature the ability to keep the backup player totally in sync so the audio will have minimal drop outs.
v. Software should support decentralized play-out solutions in case of network failure by caching the audio and other data locally so if there is network failure the system would go to the local drives.
w. Fully bi-directional real time updating between NRCS (News Room computing system) rundowns and play-out playlists.

x. Ability to drag and drop an audio to be played at any time.
y. Ability to send GPI from the play-out automation.
z. Ability to receive GPI and translate it into commands (play, pause, stop etc).
aa. Ability to mix multiple audio formats in same rundown/playlist.
bb. Ability to play an audio content over several channels simultaneously.
cc. Ability to support template operations.
dd. It should support Third- party plug-in with popular audio processing plug-in.

3.4 Common Functionalities :-

- Dark Mode & System default mode
- User customizable theme
- Comprehensive Training and help manual for each module
- Interactive Tutorials

The following functionalities should be available both for Studio and News Automation software:

3.4.1 System Administration Module:

a. It should be possible to define/ create one or more Super Users (Administrators) for various administrative jobs.
b. Administrators should be able to administer the database & application using simple GUIs. Administrator should be able to define various rules/policies using this module.
c. Creation, deletion & updating of Users, Groups with different access rights for various functionality of software should be possible.
d. Auto-purging of Audio, news, old schedules and database entries as per defined policy should be possible.
e. A manual or automatic purging should be possible. It should be possible to mark certain items which should never be purged.
f. Updating of Policy Guidelines separately for each channel should be possible.
g. User should be able to access different functionalities of the application modules after proper authentication in form of User Name & Password and access rights allocated.
h. The software should keep a complete log of each transaction made by any user so that it can be viewed at any time.
i. In the event of serious errors, software should display the alert messages on screen.
j. The software should be able to make standard reports to provide administrators on accurate statics on utilization of the system.
k. It should be possible to generate various customized reports like transmission logs, daily schedule report and Royalty payment reports etc.
l. The report system should keep track of everything that has been played and ingested. Report system should keep track of every function performed by system.
m. Ability to send warning by email or SMS message to users (administrators).

3.4.2 Export Module:

a. Ability to trigger a process (migration, conversion, purge) to a media by a simple drag and drop.
b. Ability to export and convert the media in different format with associated metadata (XML file).
c. Ability to export and convert the media and its associated other media (image, script, video etc)
d. Ability to associate a media to a script.
e. Ability to export file in different format to archive server and web server.
f. It should be able to provide a standard method of importing and exporting data into the system and out of the system e.g. using ASCII, XML and HTML etc.
g. Ability to export media and metadata to Social Networks, e.g. Facebook, Twitter, Youtube.

3.4.3 Archiving Module:

a. Auto archival of the audio material/News should be based on policy to be decided by administrator.
b. It should be possible to Archive audio/News data & related metadata in LTO/Tape Library. Details of archived material should be stored in the database so that any query/retrieval of archived material should be possible.
c. Automatic interface for Tape-library should exist so that archived material is automatically re-ingested from tape-library when asked for by a user with proper access rights.
d. List of archived items should be accessible to authorized users from any workstation.
e. It should provide archiving and integration of the past data into the new system as per requirement.

3.4.4 Logging Module:

a. It should be possible to keep Low-bit rate audio copies of On-Air audio for 10 channels simultaneously on a DAW by using necessary hardware.
b. It should be possible to keep the logged programme for a pre-defined duration. It should be possible to Auto-purge old data after completion of user defined period.
c. Access/retrieval of audio from logger based on date and time stamp for each channel logged should be available.
d. 24 hour recording tools for documentation with direct access from any workstations for file generating as well as direct import to editing tools. System will keep track of everything being done with the workstation, both manually and within automation.
e. The software should keep a complete log of each transaction made by any user so that it can be viewed at any time.

3.4.5 API Module:

a. The systems should provide fully open APIs. Ideally, these APIs should be SOA compliant and based on web services.

b. APIs must be capable of allowing the following types of operations:
   - creating, modifying and deleting media entities (audio)
   - creating, modifying and deleting newsroom entities (planning, stories, rundowns)
   - Accessing wire feeds
   - Searching
   - Manipulating scheduled recordings (creation, update and deletion)
   - Manipulating media jobs (conversions, transfers)

3.4.6 AI Driven Functionalities:

a. **Audio Editing and Noise Reduction** – Advanced audio processing algorithms to automatically enhance audio quality, reduce background noise and maintain clarity for broadcasts. Policy based purging of old files and their meta data should be available.
b. **Auto Metadata Ingestion**- Automated extraction and tagging of metadata such as timestamps, speaker identification and keywords to streamline archival and search processes for smooth and fast process. Archiving and Web publishing facility should be available.
c. **Transcription and Translation-** AI based real time transcription of audio into text and translation capability to convert news into different language.
d. **Spell check and Grammar check** to maintain linguistic accuracy and professional standard.
e. **Content Monitoring and Compliance module** to ensure adherence to content requirements like voice-over, sound bite, anchor time and commercial time as defined by Akashvani protocols.
f. **AI- Powered News Bulletin Generation** to generate news in fully autonomous mode which is free from human intervention. Also The AI anchor's voice can be model and train into existing AIR anchor with advance processing and optimization.
g. **Automatic summarization of news content** to improve editorial efficiency.
h. AI to analyze news content for sentiment, feedback and automatically tag keywords to support better classification and retrieval.

4. HARDWARE

4.1 Hardware Requirements

4.1.1 The Hardware & System software specification & quantity mentioned under this section are broad & minimum requirements. The tenderer shall quote Hardware of Higher specs & higher quantity for efficient working of the quoted software as mentioned.
4.1.2 The hardware as per Bill of Material shall be supplied at various stations & Delhi.
4.1.3 No Products / equipments supplied under the tender should be end of life.
4.1.4 The hardware should be able to operate on 230 V +/- 10% V, 48-52 Hz, single phase AC power supply.
4.1.5 All the drivers for hardware shall be supplied along with hardware.

4.1.6 Operating Environmental conditions: The equipment shall be able to work without any problem in the following conditions:

4.1.7 Operating Temperature: From 10º C to 35º C

4.1.8 Operating Humidity : Up to 80% RH (non-condensing) at 30º C.

4.1.9 Storage Environmental conditions: The equipment should be able to withstand the following conditions while being stored:

4.1.10 Storage Temperature : From -10º C to 65º C

4.1.11 Storage Humidity : From 5 to 95% humidity.

4.1.12 The system shall be used in the vicinity of high frequency & high Power Radio field. Therefore, the system shall conform to be protection requirements relevant to electromagnetic phenomena as per national/international standards.

4.1.13 The tenderer shall indicate & quote any additional hardware (additional to that mentioned in Bill of Material) as may be required for efficiently running all the functionality of the offered Automation software.

4.2 High End Server:

Four No's of servers for Akashvani Delhi as per following minimum configuration shall be provided.

A.	Processor	Processor with 25 MB Cache, 16 Cores or better, speed 3.8 Ghz or better	Remarks
	No. of Processor	Two	
B.	Memory	256 GB DDR4 Expandable up to 1024 GB	
C.	Storage Controller	PCI Based Storage controller support RAID 0/1/5/6**.**	
D.	Hard Disk	6x12TB SAS 7.2K 12 GBPS HDD or higher	
E.	Network	Dual Port 16 GB Fibre Channel HBA+ 10G SFP + Quad Port 1 GBe Ethernet Ports	
F.	Form Factor	1 or 2 U Rack Mountable	
G.	System Fans	Hot Plug fans(with N+1 redundancy	
H.	Graphics	Integrated Graphics Card	
I.	I/O Ports	3 standard USB 3.0 ports 1 front, 2 rear, 1 x VGA port	
J.	Power	Dual Hot Plugable power supply	
K.	System Security	Chassis Intrusion detection option	
		UEFI Secure Boot and Secure Start support	
		Advanced Encryption Standard (AES) and Triple Data Encryption	
		Bezel Locking Kit option	
		Standard (3DES) on browser Secure Recovery - recover critical firmware	

		to known good state on detection of compromised firmware	
L.	Server Management	Software shall support dashboard view to quickly scan the managed resources to assess the overall health of the data center. It shall provide an at-a-glance visual health summary of the resources user is authorized to view.	
		The Dashboard minimum shall display a health summary of the following:	
		• Server Profiles	
		• Server Hardware	
		• Appliance alerts	
		The Systems Management software shall provide Role-based access control	
		Management software shall support integration with popular virtualization platform management software like Vmware, vCenter & vRealize Operations, and Microsoft System Center & Admin Center	
		Shall help provide proactive notification of actual or impending component failure alerts on critical components like CPU, Memory and HDD.	
		Shall help to proactively identify out-of-date BIOS, drivers, and Server Management agents and enable the remote update of system software/ firmware components.	
M.	Indicators	System shall have feature of visual indicators (LED/LCD) for System Health, Network and Power.	
N.	Redundancy	The System shall be supplied with Redundant Fans and Power Supplies.	
O.	Certification	• ACPI 6.1 Compliant • PCIe 4.0 Compliant • Microsoft®Logo certifications • USB 3.1 Gen1 Compliant • Energy Star • SMBIOS 3.1 • UEFI 2.6 • IPMI 2.0 • Secure Digital 2.0 • Advanced Encryption Standard (AES) • Triple Data Encrytion Standard	

		(3DES) • SNMP v3 • TLS 1.2 • Active Directory v1.0	
P.	OS	Windows Server 2022 Standard 16 Core with Hyper-V or higher	
Q.	SQL Server	Microsoft SQL Server 2019 Standard Edition with 5 Device CALS or higher	
R.	Warranty	5 Years onsite.	
S.	Display	Wide Aspect 24" Full HD Monitor supporting Resolution of 1920x1080 (Same make as Server OEM)	
T.	Keyboard	USB Standard Black Keybord (English-IN) (Same make as Server OEM)	
U.	Mouse	USB Optical scroll Mouse (Same make as Server OEM)	

4.3 Server:

Servers as per following minimum configuration shall be provided.

A.	Processor	Processor with 25 MB Cache, 16 Cores or better, speed 3.8 Ghz or better	Remarks
	No. of Processor	Two	
B.	Memory	64 GB DDR4 Expandable up to 256 GB	
C.	Storage Controller	PCI Based Storage controller support RAID 0/1/5/6**.**	
D.	Hard Disk	3x12TB SAS 7.2K 12 GBPS HDD or higher	
E.	Network	Dual Port 16 GB Fibre Channel HBA+ 10G SFP + Quad Port 1 GBe Ethernet Ports	
F.	Form Factor	1 or 2 U Rack Mountable	
G.	System Fans	Hot Plug fans(with N+1 redundancy	
H.	Graphics	Integrated Graphics Card	
I.	I/O Ports	3 standard USB 3.0 ports 1 front, 2 rear, 1 x VGA port	
J.	Power	Dual Hot Plugable power supply	
K.	System Security	Chassis Intrusion detection option	
		UEFI Secure Boot and Secure Start support	
		Advanced Encryption Standard (AES) and Triple Data Encryption	
		Bezel Locking Kit option	
		Standard (3DES) on browser Secure Recovery - recover critical firmware to known good state on detection of compromised firmware	

L.	Server Management	Software shall support dashboard view to quickly scan the managed resources to assess the overall health of the data center. It shall provide an at-a-glance visual health summary of the resources user is authorized to view.	
		The Dashboard minimum shall display a health summary of the following:	
		• Server Profiles	
		• Server Hardware	
		• Appliance alerts	
		The Systems Management software shall provide Role-based access control	
		Management software shall support integration with popular virtualization platform management software like Vmware, vCenter & vRealize Operations, and Microsoft System Center & Admin Center	
		Shall help provide proactive notification of actual or impending component failure alerts on critical components like CPU, Memory and HDD.	
		Shall help to proactively identify out-of-date BIOS, drivers, and Server Management agents and enable the remote update of system software/ firmware components.	
M.	Indicators	System shall have feature of visual indicators (LED/LCD) for System Health, Network and Power.	
N.	Redundancy	The System shall be supplied with Redundant Fans and Power Supplies.	
O.	Certification	• ACPI 6.1 Compliant • PCIe 4.0 Compliant • Microsoft®Logo certifications • USB 3.1 Gen1 Compliant • Energy Star • SMBIOS 3.1 • UEFI 2.6 • IPMI 2.0 • Secure Digital 2.0 • Advanced Encryption Standard (AES) • Triple Data Encrytion Standard (3DES) • SNMP v3	

		• TLS 1.2 • Active Directory v1.0	
P.	OS	Windows Server 2022 Standard 16 Core with Hyper-V or higher	
Q.	SQL Server	Microsoft SQL Server 2019 Standard Edition with 5 Device CALS or higher	
R.	Warranty	5 Years onsite.	
S.	Display	Wide Aspect 24" Full HD Monitor supporting Resolution of 1920x1080 (Same make as Server OEM)	
T.	Keyboard	USB Standard Black Keybord (English-IN) (Same make as Server OEM)	
U.	Mouse	USB Optical scroll Mouse (Same make as Server OEM)	

4.4 Switches (24 ports):

Two No's of central switch (24 ports) for Akashvani Delhi as per following minimum configuration shall be provided.

S.No.	Technical Specification	Remarks
1.	**Architecture & Port Density**	
1.1	The Switch should offer Wire-Speed Non-Blocking Switching & Routing Performance at Layer 2 & Layer 3.	
1.2	The Switch should have minimum Sixteen (16) 10G SFP+ ports and should have and Eight (8) 10/25 QSFP28 Slots .Each switch should be supplied with 3Mtrs 25G DAC cable.	
1.3	The Switch should support Stacking up to 12 Switches with than 100Gbps Stacking bandwidth per Switch.	
1.4	The Switch should provide USB-C serial Port,RJ45 Serial port and RJ45 OOB access for management, it should also provide USB-A Port for remote updates and backup	
2.	**Performance**	
2.1	Switching Bandwidth: Should provide Non-Blocking switch fabric capacity of 720 Gbps or more.	
2.2	Forwarding Capacity: Should provide wire-speed packet forwarding of 530 Mpps or more.	
2.3	Should shall have 4Gb DRAM and 8Gb FLASH with 4Mb Packet buffer	
2.4	Should shall aggregated stacking bandwidth of 1.2Tbps	
3.	**Layer 2 features**	
3.1	Should support for VXLAN for advanced network segmentation and data confidentiality	
3.2	Should support 32K MAC addresses or more.	
3.3	Shall support IP multicast snooping with support for IGMP v1, v2, v3 and MLD v1 & v2	

3.4	Should support Jumbo Frames (up to 9K bytes)	
3.5	should support 802.1BR Bridge Port Extension for building scalable campus fabric based on industry standard	
3.6	Switch should support Software defined video over Ethernet (SDVoE)	
4.	**Layer 3 features**	
4.1	Should support minimum 16K IPv4 routes and 4K IPv6 or more	
4.2	Should support the following lPv4 and IPv6 Layer 3 Routing features; • Routing Between Directly Connected Subnets • Host routes & Virtual Interfaces • IPv4 & IPv6 Static Routes • RIP v1/v2 & RIPng • ECMP • OSPF v2, OSPF v3 • PIM-SM, PIM-SSM, PIM-DM, PIM passive • Policy Based Routing (PBR) • VRRP v2 & VRRP v3 • Non-Stop Routing (NSR) • GRE IP Tunnels • IPv6 over IPv4 tunnels • VRF • DHCP Server • MSDP	
5.	**Security**	
5.1	Should support the following security features-	
	• Layer 3 & Layer 4 ACLs • Layer 2 ACLs(MAC) • DHCP Snooping • DHCP client & server • Dynamic ARP Inspection • Neighbor Discovery (ND) Inspection • Protection against Denial of Service (DoS) attacks • MAC port security • RADIUS/TACACS/TACACS+ • Secure copy (SCP) • Secure Shell (SSHv2) • Trusted platform module • Protected ports • IP Source Guard (v4 & v6) • IPv6 RA Guard • RADSEC	
6.	**Manageability**	
6.1	The Switch should support the following Monitoring & Management features;	

	• RSPAN • NTP • LLDP & LLDP-MED • Cisco Discovery Protocol (CDP) for IPv4 and IPv6 traffic • Automation with Ansible & RESTCONF • DHCP Auto Configuration • SNMP v1,v2 and v3 • Mirroring based on Port,IP ACL,MAC ACL and VLAN • Configuration Archive, Replace and Roll back • IP DHCP binding scalability of minimum 2k devices	
6.2	Should support manageability using Centralized Management platform using Web based Graphical User Interface (GUI)	
6.3	Integrated Standard based Command Line Interface (CLI), Telnet, TFTP, HTTP access to switch management/monitoring.	
6.4	Should support SDN features in native as well as hybrid modes	
6.5	Should support Digital Optical Monitoring and Virtual Cable Tester (VCT)	
7.	**Physical Attributes and Mandatory Compliance**	
7.1	The switch should be configured with 19" universal rack mount kit	
7.2	The switch OS should be EAL/NDPP and ROHS6 certified. Certificate needs to be enclosed along with the bid.	
7.3	The switch must be MTCTE certified and TEC certificate shall be submitted	
7.4	The switch should have MTBF of > 800k Hours at 25º C	
7.5	OEM should not share land border with India. OEM needs to share declaration on the letter head for the same.	

4.5 Technical Parameter of Digital Audio Workstation:

Workstation as per following minimum configuration shall be provided.

S.No.	Component	Description	Compliance (Yes/No)	Remarks
A.	Processor	Processor with 8 Core 16 Thread, Base Frequency 3.10/2.10 Ghz or better , Max. Turbo Frequency 4.5 Ghz or better		
B.	No. of Processor	One		
C.	Memory	16 GB non- ECC DDR4 or better , 4400 Mhz or better, upto 128 GB ECC Memory 4 DIMM Slots Expandable		
D.	Storage	1x512 GB, M.2 NVMe SSD for OS and Application Software and 1x1 TB SATA 7200 RPM HDD		
E.	Storage Controller	Supports up to (3) M.2 PCIe NVMe SSD and up to (3) 3.5" SATA® or (4) 2.5" SATA® on motherboard slot.		

F.	Graphics	Integrated Graphics Card		
G..	Display	Wide Aspect 23.8" TFT Monitor supporting resolution of 1920x1020		
H.	Keyboard	USB Standard Black Keyboard (Same OEM as Workstation))		
I.	Mouse	USB Optical Scroll Mouse (Same OEM as Workstation)		
J.	Audio Controller	Professional PCIe Audio Card		
K.	Network	Factory Installed 10/100/1000 Ethernet Port (2 Nos.)		
L.	PCI Slots	Min 1 PCIe Gen4 x16 2 PCIe Gen3 x4 Slot		
M.	I/O Ports	Min. 1x USB 3.2 Gen2 Type-A with PowerShare Min. 3x USB 3.2 Gen2 Type- A Ports Min 1x USB3.2 Gen2 Type –C Ports Min. 4xUSB 2.0 Type-A 3 Audio Jacks (In/Out/Mic) 1 RJ45 Ports 1 DP 1.4 Ports 1 x HDMI/DVI		
N.	Networking Protocols	IPv4 & IPv6 should be supported		
O.	Operating System	Windows 11 Professional(64 Bits) **OS may either be Factory (Hardware OEM) preloaded (with Recovery Media/Disk) or Licensed to "Akashvani" with Media .**		
P.	Cabinet	Tower Toolless Chasis		
Q.	OS Certification	Windows Certification		
R.	Power Supply	Minimum W 80+ Gold Power Supply or better		
S.	Safety Certification	BIS, FCC and CE Certification		
T.	Security	Integrated Panel /Pad lock/Chassis intrusion switch		
U.	Noise Emission	Noise Level should be 20-25 db with Hard-Disk operating. The tenderer shall submit document mentioning the noise level		
V.	Software	Anti-virus software licenced to **"Akashvani"(**with Free Virus definition updates & patches for a period of one years)		

4.6 Technical Parameter of 16 Port Ethernet Switch

S.No.	Description	Compliance (Yes/No)	Remarks
4.4.1	Gigabit Ethernet Switch shall be provided for interconnecting different equipments.		
4.4.2	The switch shall be pre-installed and preconfigured.		
4.4.3	Each switch port should set itself independently for the optimal speed and determines whether to run in half- or full-duplex mode automatically.		
4.4.4	Switch shall support both Fast and Gigabit Ethernet devices in the same network.		
4.4.5	The switch should also provide automatic cable detection.		

5. WARRANTY

a) The software & hardware shall be warranted for trouble free operation for a minimum period of five years from the date of commissioning.
b) The bidder shall submit a letter from OEM/Software Developer for confirmation of back to back support commitment for five years from the date of commissioning at sites to All India Radio in respect of Automation Software.
c) Tenderer shall provide round the clock support for satisfactory working of complete system.
d) No separate charges will be paid for visit of engineers for attending to faults and repairs or supply of spare parts.
e) Tenderer will ensure that the existing data along with associated text, audio, metadata etc. is transferred successfully upon any hardware/software change, loading of software patches as well as upgrade.
f) It will be the responsibility of tenderer to ensure supply and installation of all patches of software as soon as these are released during the warrantee period at free of cost.

6. PRE-DISPATCH INSPECTION & SUPPLY OF EQUIPMENT

6.1 All the Software & Hardware would be inspected by indenter before dispatch.

6.2 The pre-dispatch inspection shall be done by authorized representatives of Akashvani at suppliers premises in India before shipment.

6.3 An Acceptance Test Procedure (ATP) should be prepared by the tenderer and got approved from the indenter after the firm order is placed.

6.4 The tenderer will give a notice in writing to the indentor at least 4 weeks before the commencement of inspection. The tenderer shall provide all equipment, materials and manpower as may be required for performing various tests as per ATP. In case of inspection outside Delhi, the expenses on air travel, and accommodation and daily allowances for AIR's inspecting officers would be borne by All India Radio.

6.5 The successful bidder will have to supply set of printed operation, service and maintenance manuals with respect to each equipment/Software to each station.

7. TRAINING

7.1 The Tenderer shall provide 1000 Man –days of training to AIR Delhi staff as per details below:

S.No.	Staff to be Trained	Type of Training	No. of Persons/Days
1.	Engineering	Administration+ Operation & Maintenance	
2.	Programme	Operation of Studio Automation S/w	
3.	News staff	Operation of News Room Automation S/w	

7.2 A two days hands-on training is also to be imparted to the ten Akashvani staff at each of the stations after installation and commissioning of the software.

7.3 Cost of Training, if any, may be quoted. This cost will be included in the calculation of lowest bid.

8. BILL OF MATERIAL (BOM)

8.1 Akashvani Delhi requires following equipments/services as per specifications detailed under section 1 to 4.

S.no.	Item Description	Min. Qty Required	Qty unit	AIR's Remark
1.	News Automation Software- wire service Ingest Module Ref spec- 3.2.1.1	4 (6 news feed)	No's	
2.	News Automation Software- Social Media Module Ref spec- 3.2.1.2	5	No's	
3.	News Automation Software- E-mail Ingest Module Ref spec- 3.2.1.3	2	No's	
4.	News Automation Software- Phone Audio Ingest Module Ref spec- 3.2.1.4	4	No's	2 PSTN, 2 GSM
5.	News Automation Software- SMS Ingest Module Ref spec- 3.2.1.5	1	No's	
6.	News Automation Software- Image Ingest Module Ref spec- 3.2.1.6	1	No's	

7.	News Automation Software- FTP Ingest Module Ref spec- 3.2.1.7	2	No's	
8.	News Automation Software- News Text Editor Module Ref spec- 3.2.2.1	50	No's	
9.	News Automation Software- News Explorer Module Ref spec- 3.2.2.2	104	No's	
10	News Automation Software- Audio Recoding & Editing Module Ref spec- 3.2.2.3	20	No's	
11	News Automation Software- Communication Module Ref spec- 3.2.2.4	104	No's	
12	News Automation Software- News Scheduling Module Ref spec- 3.2.2.5	10	No's	
13	News Automation Software- News Broadcast Module Ref spec- 3.2.3.1	14	No's	
14	News Automation Software- Text Prompter Module Ref spec- 3.2.3.2	14	No's	
15	News Automation Software- Web publication Module Ref spec- 3.2.3.3	4	License	
16	Studio Automation Software- Production Module Ref spec 3.3.1	35	License	
17	Studio Automation Software- Programme scheduling Module Ref spec 3.3.2	30	No's	
18	Studio Automation Software- Recording Module Ref spec 3.3.3	35	License	
19	Studio Automation Software- Editing Module Ref spec 3.3.4	35	License	
20	Studio Automation Software- ON-AIR Module Ref spec 3.3.5	45	No's	
21	Studio & News Automation Software- System Administration Module Ref spec 3.4.1	2	License	
22	Studio & News Automation Software- Export Module Ref spec 3.4.2	10	No's	
23	Studio & News Automation Software- Archiving Module Ref spec 3.4.3	5	License	
24	Studio & News Automation Software- Logging Module Ref spec 3.4.4	12	License	
25	Studio & News Automation Software- API Module Ref spec 3.4.5	2	License	
26	Studio & News Automation Software- AI driven Module Ref spec 3.4.6			
27	High End Servers Ref spec 4.2	4	No's	
28	Servers Ref spec 4.3	10	No's	

29	Switches(24 ports) Ref spec 4.4	2	No's	
30	Display Ref spec 4.2 and 4.3	7	No's	
31	Keyboard and Mouse Ref spec 4.2 and 4.3	14	No's each	

8.2 RNUs (46 nos) requires following equipments/services as per specifications detailed under section 1 to 4.

	BOM for RNUs				
S.No.	**Item**	**Category I (Major RNU)- 9 Nos**	**Category II (Medium RNU)- 12 Nos**	**Category III (Minor RNU)- 25 Nos**	**Total**
1	Wire Service Ingest Module Ref spec- 3.2.1.1	1	1	1	46
2	Social Media Module Ref spec- 3.2.1.2	1	1	1	46
3	E-mail Ingest Module Ref spec- 3.2.1.3	1	1	1	46
4	Phone Audio ingest module Ref spec- 3.2.1.4	1	1	1	46
5	SMS Ingest Module Ref spec- 3.2.1.5	1	1	1	46
6	Image Ingest Module Ref spec- 3.2.1.6	1	1	1	46
7	FTP Ingest Module Ref spec- 3.2.1.7	1	1	1	46
8	News Text Editor Module Ref spec- 3.2.2.1	6	4	3	177
9	News Explorer Module Ref spec- 3.2.2.2	Station-wise details in Annexure -A			469
10	Audio Rec. & Editing Module Ref spec- 3.2.2.3	4	2	2	110
11	Communication Module Ref spec- 3.2.2.4	Station-wise details in Annexure -A			469
12	News Scheduling Module Ref spec- 3.2.2.5	2	1	1	55
13	News Broadcast Module Ref spec- 3.2.3.1	Station-wise details in Annexure -A			114
14	Text Prompter Module Ref spec 3.3.2	Station-wise details in Annexure -A			114
15	Web Publication Module Ref spec 3.3.3	1	1	1	46

16	System Administration Module Ref spec 3.4.1	2	2	2	92
17	Export Module Ref spec 3.4.2	Station-wise details in Annexure -A			88
18	Archiving Module Ref spec 3.4.3	3	2	2	101
19	ON-AIR Logging Module Ref spec 3.4.4	Station-wise details in Annexure -A			52
20	API Module Ref spec 3.4.5	1	1	1	46
21	AI Driven Module Ref spec 3.4.6	1	1	1	46
22	Servers Ref spec 4.3	2	2	2	92
23	Workstation Ref specs 4.5	4	3	3	147
24	Network switch(16 port) Ref specs 4.6	1	1	1	46
25	Display Ref spec 4.2 and 4.3	1	1	1	46
26	Keyboard and Mouse Ref spec 4.2 and 4.3	1	1	1	46 (each)

List of RNUs **Annexure –I**

S.No.	Name of RNU

A. Major RNUs (Category I)	
1	Mumbai
2	Chennai
3	Kolkata
4	Banglore
5	Hyderabad
6	Lucknow
7	Srinagar
8	Patna
9	Guwahati
B. Medium RNUs (Category II)	
10	Ahmedabad
11	Bhopal
12	Chandigarh
13	Cuttack
14	Jaipur
15	Jammu
16	Kohima
17	Panaji
18	Raipur
19	Ranchi
20	Shimla
21	Thiruvananthapuram
C. Minor RNUs (Category III)	
22	Agartala
23	Aizwal
24	Aurangabad
25	Bhuj
26	Calicut
27	Dharwad
28	Dehradun
29	Dibrugarh
30	Gangtok
31	Gorakhpur
32	Imphal
33	Indore
34	Itanagar
35	Kurseong
36	Leh
37	Nagpur
38	Pondicherry
39	Portblair
40	Pune
41	Shillong
42	Silchar
43	Trichy
44	Vijaywada
45	Sambalpur
46	Vadodra

Annexure –II

Format of Compliance statement

Sr. No of AIR specs.	AIR specs.	Compliance (Yes/No)	Performance Fig. of equipment Offered.	Reference to the Page Number of enclosed literature	Deviations, in case of non-compliance	Optional items if any required to make the system Compliant to AIR specs.	Features in the offered Product which exceeds AIR specs.
1.	2.	3.	4.	5.	6.	7.	8.

Annexure –III

Format for BOM statement by Tenderer

S. No.	Item Details	Total Quantity	Tenderer's Offer		
			Make	Model/Module Name /Version Number	Complete Details of Offered product

Annexure-A

Details of Module for RNUs

Annexure-A							
S.No.	**Stations**	**Software Modules**					
		News Explorer Module	**News Broadcast Module**	**Text Prompter Module**	**Communication Module**	**On- AIR Logging Module**	**Export Module**
1	Mumbai	22	9	9	22	2	5
2	Chennai	20	7	7	20	2	5
3	Kolkata	20	7	7	20	2	5
4	Banglore	13	5	5	13	2	4
5	Hyderabad	13	5	5	13	2	4
6	Lucknow	11	3	3	11	1	4
7	Srinagar	9	2	2	9	1	4
8	Patna	10	2	2	10	1	4
9	Guwahati	11	4	4	11	1	4
10	Ahmedabad	11	3	3	11	1	2
11	Bhopal	11	3	3	11	1	2
12	Chandigarh	11	3	3	11	1	2
13	Cuttack	11	4	4	11	1	2
14	Jaipur	10	2	2	10	1	2
15	Jammu	10	3	3	10	1	2
16	Kohima	8	1	1	8	1	2
17	Panaji	10	3	3	10	1	2
18	Raipur	10	3	3	10	1	2
19	Ranchi	9	2	2	9	1	2
20	Shimla	9	2	2	9	1	2
21	Thiruvananthapuram	11	3	3	11	2	2
22	Agartala	10	1	1	10	1	1
23	Aizwal	8	1	1	8	1	1
24	Aurangabad	8	1	1	8	1	1
25	Bhuj	8	1	1	8	1	1
26	Calicut	9	2	2	9	1	1
27	Dharwad	9	2	2	9	1	1
28	Dehradun	10	2	2	10	1	1

29	Dibrugarh	8	1	1	8	1	1
30	Gangtok	9	2	2	9	1	1
31	Gorakhpur	8	1	1	8	1	1
32	Imphal	9	2	2	9	1	1
33	Indore	10	2	2	10	1	1
34	Itanagar	8	1	1	8	1	1
35	Kurseong	8	1	1	8	1	1
36	Leh	8	1	1	8	1	1
37	Nagpur	10	2	2	10	1	1
38	Pondicherry	8	1	1	8	1	1
39	Portblair	8	1	1	8	1	1
40	Pune	10	2	2	10	1	1
41	Shillong	9	2	2	9	1	1
42	Silchar	8	1	1	8	1	1
43	Trichy	10	3	3	10	1	1
44	Vijaywada	10	3	3	10	1	1
45	Sambalpur	8	1	1	8	1	1
46	Vadodra	8	1	1	8	1	1