Technical Requirements
Aug 8, 2011

SOFIA Segment 3 DVDS IP Video Purchase

Selection and award will be made to the lowest priced, technically acceptable offeror. Technical acceptability will be determined by review of information submitted by the offeror which must provide a description in sufficient detail to show that the product/service offered meets the Government's requirement. To be technically acceptable, the Contractor must meet the following criteria:

1.0 SCOPE

NASA has a requirement to provide a video distribution system for the SOFIA MCCS platform. The SOFIA MCCS video system is designed to leverage commercial IP video products. Sources including NTSC cameras and DVI signals will be encoded and distributed on the onboard network. Viewers will access the live video through browser based viewer or viewing software. Each video source will be captured to digital video files, with option to stop recording. Files will be written to network attached storage.

2.0 Deliverables

Item, Quantity, and Technical specifications Description:

Management/Viewing/Recording Server(s)

- Quantity: One license
- This system should be supplied as software that will be installed on compatible server hardware supplied by Dryden. (Will need confirmation on compatibility for hardware selection)
- Support for virtual machines.
- Browser/application based administration with controls over aspects of the system.
- Real time viewing for HD and SD video streams with 4-channel mosaic viewing
- Support 500 concurrent viewers.
- Support IP video stream from sources other than those encoded through related encoders.
- Real time recording and archiving (to network attached storage) of all video sources, with option to not record selected sources. (Assume 16 SD, 21 HD sources)
- User defined segmentation of recorded video files.
- Integrates with an external NAS
- Time data needed to be included with video.
- Allow a way for Solaris 10 (x-86) workstation users to access the administration features

SD/HD Encoders

- Quantity – enough to simultaneously encode:
  - 12 NTSC cameras (plus one spare unit for testing)
  - 20 HD sources (most 1600x1200 resolution on DVI-I (dual link), possibly some DVI-I 1920x1080 or HD-SDI) (plus one spare unit for testing)
- Need to include time with video.
- Must be small sized and low power use per channel.
- Mounting options for installation into aircraft.
- Support multiple input options. (DVI-I, Analog, HD-SDI, etc…)
- Web based remote management.
- H.264 video compression.
- Powered by 115 VAC, 60 Hz source.

Decoder/Set Top Box

- Quantity: 12
- Needed to display IP video sources on HD displays (up to 1080p).
- Network controlled function.
- Must be small sized and low power use per channel.
- Powered by 115 VAC, 60 Hz source.

Hardware Environmental Requirements

- Operating temperature is required to be 0F to +160F. If the operating temperature range could not be met, NASA can evaluate the proposed temperature range for a possible waiver.
- Operating altitude is required to be 0 to 20,000 feet, if this could not be met, NASA will evaluate the proposed operating altitude for a possible waiver.
- Storage altitude is required to be at least 50,000 feet, if this could not be met, NASA will evaluate the proposed storage altitude for a possible waiver.
- Relative humidity is required to be 5 – 95% operating (might accept slightly less)
- Vibration is required to be at least DO160D, curve C1 (5.2grms random, up to 2000hz) (might accept differently after assessing the proposed vibration information)

Additional Requirements

- Time format should be user definable.
- Overall source to viewer latency should be low enough to support live viewing such that video does not significantly lag behind the live audio from the mission audio system.
- Allow viewing of video with Solaris 10 (x-86) workstation either with browser or through application (e.g. VLC)
- Other power source options could be 28 VDC.
- A complete set of any certifications and relevant test reports.
- Applicable Manuals & Support Software
- Initial training/Installation support
- Support including 24-hour phone support, and critical software updates. (for at least one year)

Milestone Delivery & Payment Schedule

Description	Delivery Date	Amount	Payment Date
Two HD encoders units, Two SD encoder units, Two decoder/set top box units, and Server Software	30 days after award	TBP*	30 days after acceptance
Remaining order.	60 days after award	TBP*	30 days after acceptance

* To be proposed