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Vega

Vega Systems Inc

Redundancy Management Framework (RMF)

A&E Specification

SECTION 28 23 00
REDUNDANCY FOR VIDEO MANAGEMENT SOFTWARE

PART 2. PRODUCT

2.1. SUMMARY

A. Specification of Redundancy Software for Video Management.

2.2. REFERENCES

A. Trademarks used in this document.

    1. *Milestone:* XProtect®

PART 2. PRODUCT

2.0. MANUFACTURER

A. *Contact*

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B. *Product Name:*

    1. Redundancy Management Framework (RMF) with SureStream

        a. Dependencies: Applicable Milestone Xprotect® Video Management Software (VMS) products.

2.1. SPECIFICATIONS

A. *Description*

    1. Seamless, unified, redundancy management software that smart combines video and functionality across redundant recording servers. Supplies functional redundancy to live, playback views, PTZ control, presets, bookmarks, and alarms.

B. *Redundant Camera Set up and Mapping.*

1. Redundancy software shall support easy duplication of camera set up from one set of video recording servers to another set of recording servers.

2. Redundancy software shall be able to automatically create an association map that shows which camera on the first set of recording servers corresponds to the same camera on a second set of recording servers.

3. Redundancy software shall be able to perform the above mapping even when the streams from the same camera being recorded on the two servers are dissimilar, such as with different frame rates and/or resolutions.

4. If a camera is removed from the first set of servers, redundancy software shall remove any previously created maps for this camera upon re-mapping.

5. All the functionalities above shall be supported either when the two recorders are part of different VMS units joined together in a Federated Architecture or a part of the same VMS unit.

6. All functionalities above shall be supported by an unlimited number of cameras.

C. *Redundancy Aware Live Video*

1. During live viewing of dual recorded cameras and upon failure of a recording server to supply one or more video streams for viewing, Redundancy software at the Client shall switch live view to the server that is able to supply streams.

2. The above behavior shall be democratic at a stream level. For example, if recording server A and recording Server B were a redundant pair of recorders, the software shall be able to stream from recording Server A for some streams and Server B for other streams, simultaneously.

3. If both recorders are unable to supply a live view stream for one or more cameras, Redundancy software shall continue to check both at regular intervals until one of the recorders is able to supply video.

4. During live video viewing, and upon loss of a live stream, the duration of time for which Redundancy software will wait for the same recorder to supply a stream shall be user configurable.

5. All the functionalities above shall be supported either when the two recorders are part of different Video Management Software (VMS) units joined together in a Federated Architecture or a part of the same VMS unit.

6. All functionalities above shall be supported by an unlimited number of cameras and an unlimited number of live viewers.

D. *Priority & Failback*

1. Independently, for each camera, the software shall allow an administrator to pick either of the sources as the higher priory source.

2. Live views for each camera shall try the higher priority source before the other source.

3. If a higher priority source fails and later comes back to working condition, views shall automatically failback to the higher priority source.

4. All the functionalities above shall be supported either when the two recorders are part of different Video Management Software (VMS) units joined together in a Federated Architecture or a part of the same VMS unit.

E. *Redundancy Aware Playback*

1. During video playback, and upon failure of a recorder to supply video captured at the replay time instant, Redundancy Software shall automatically obtain video from the other recorder.

2. If both recorders do not have content at this playback time instant, Redundancy software shall continuously check each recorder for video at later time instants and resume video replay at the time stamp instant at which at least one of the recorders can supply content.

3. All the functionalities above shall be supported either when the two recorders are part of different Video Management Software (VMS) units joined together in a Federated Architecture or a part of the same VMS unit.

4. All functionalities above shall be supported for an unlimited number of cameras and an unlimited number of playback viewers.

F. *Redundant Alarms*

1. If duplicate events are created on account of dual recording of video, Redundancy software shall filter these events and generate a single alarm for this event.

2. Redundancy software should supply a way to set up alarms for events that are expected to be duplicated.

3. During replay of alarms, Redundancy Software shall fetch video from the recording server that is able to supply video. If one of the recording servers is unable to provide this video, the Redundancy Software shall automatically fetch video from the other server.

4. All the functionalities above shall be supported either when the two recorders are part of different Video Management Software (VMS) units joined together in a Federated Architecture or a part of the same VMS unit.

5. All functionalities above shall be supported even with an unlimited number of cameras.

G. *Redundant Bookmarks Support*

1. When a bookmark is saved for camera that is being dual recorded, Redundancy software shall save the bookmark on each copy of the video.

2. When a bookmark is retrieved, Redundancy software shall retrieve the bookmark from both copies of video, filter duplication and present a single entry for each result that matches search criteria.

3. When a bookmark video is played, Redundancy software shall retrieve video from the recording server that can provide this video at the time of playing.

4. All the functionalities above shall be supported either when the two recorders are part of different Video Management Software (VMS) units joined together in a Federated Architecture or a part of the same VMS unit.

5. All functionalities above shall be supported with an unlimited number of cameras.

H. *PTZ operation and preset support with Redundancy*

1. Redundancy software shall enable a user at a live view console to pan/tilt/zoom any redundantly recorded PTZ even when one of the recorders for this camera is not functional.

2. PTZ presets saved by a user from a live view client shall be saved by Redundancy software on both instances of camera record.

3. End user shall have access to PTZ presets even when one of the recorders is not functional.

4. Redundancy software shall detect PTZ preset mismatches between the two recorders and prompt/provide steps to the user to make these identical. Such a mismatch can happen when presets are saved when one of the recorders for the camera is not functional.

5. All the functionalities above shall be supported either when the two recorders are part of different Video Management Software (VMS) units joined together in a Federated Architecture or a part of the same VMS unit.

6. All functionalities above shall be supported with an unlimited number of cameras.

I. *Web API*

1. Redundancy Software shall supply a Web API that can be used to obtain camera to Recording Server mapping information. Such a map can be used by other software components in the surveillance installation to dynamically obtain redundant recording information for each camera.

2. The Web API shall require authentication prior to supplying information.

3. All the functionalities above shall be supported either when the two recorders are part of different Video Management Software (VMS) units joined together in a Federated Architecture or a part of the same VMS unit.

      4.   All functionalities above shall be supported with an unlimited number of cameras.

J.   *Asymmetric Redundancy*

      1.   Redundancy Software shall support an M to N camera map, where in cameras on M primary recorders shall be able to be recorded on N secondary recorders.

      2.   Further, the Software shall make easy, the setting up recordings at different frame rates and resolutions on the primary and the secondary, for the same camera.

      3.   All the functionalities above shall be supported either when the two recorders are part of different Video Management Software (VMS) units joined together in a Federated Architecture or a part of the same VMS unit.

      4.   All functionalities above shall be supported with an unlimited number of cameras.

K.   *Detection of Stream Inconsistencies*

      1.   Redundancy Software shall supply tools to detect stream definition inconsistencies between primary and secondary recorders and supply easy mitigation mechanisms.

      2.   All the functionalities above shall be supported either when the two recorders are part of different Video Management Software (VMS) units joined together in a Federated Architecture or a part of the same VMS unit.

      3.   All functionalities above shall be supported with an unlimited number of cameras.

L.   *Role Management*

      1.   Software shall support easy replication of roles between a primary and a secondary datacenter when datacenters are set up in a Federated configuration.

      2.   Software shall flag role inconsistencies with redundantly recorded cameras and supply tools to mitigate such inconsistencies.

M.   *Direct Streaming from Cameras*

      1.   Software shall be able to stream live unicast or multicast streams directly from cameras to clients.

      2.   Such functionality shall be made available even when all server infrastructure fails so that the end consumers of video are able to monitor feeds from cameras even during such catastrophic failure episodes.