

Overview

This technical brief provides methods for improving automatic recording speed by reducing or eliminating the delay caused by the end-of-study timeout. The features described in this technical brief are only supported in Version 2.0.0 software or higher.

Background

When images are sent to the Virtua Medical Disc Publisher, a trigger is needed for the Virtua to determine that all images for an auto-record job have been received. This is normally done with an end-of-study timeout set to 30 seconds; requiring a 30-second delay from the end of transmission to the start of the recording process. For some systems (typically with fast networks), this setting can be reduced to as low as 10 seconds. For other systems, the end of the DICOM association can be used as the trigger to eliminate this delay altogether.

Note: Since all of the settings described in this technical brief are in Job Profiles, they can be configured on a per-host basis. That is, different profiles can be set up and optimized for each sending host.

Note: Optimizing the auto-record trigger is only important for applications using the automatic recording mode (`doAutoRecord = true` in a Job Profile). Users not using automatic recording can disregard this technical brief.

Note: The methods described in this technical brief will not work for all host systems and networks, so some experimentation may be required to find optimal settings that do not cause side-effects (described in the troubleshooting sections below).

Method 1: Reducing End of Study Timeout

Job Profiles contain an `endOfStudyTimeout` parameter that tells the Virtua how long to wait after the last image is received before considering a study (or a group of studies for the same patient) to be complete and beginning the automatic recording process. This value defaults to 30 seconds for most Job Profiles. The timeout can be reduced to as low as 10 seconds to increase system performance and reduce the time required to automatically record a disc.

Configuration Guidelines

The `endOfStudyTimeout` parameter should be set to the highest expected delay from the end of transmission of one image to the end of transmission of the next. The faster and more reliable the network is, the lower the timeout value can be set. Also, smaller images, which transfer more quickly, allow a lower timeout value than larger images. It may take some experimentation to find the optimal setting.

Troubleshooting

If the `endOfStudyTimeout` is set too low, it may result in duplicate discs (or sets of discs for multi-disc jobs) being recorded for the same study, with some of the discs containing an incomplete set of images. If this occurs, even occasionally, increase the `endOfStudyTimeout` setting.

Method 2: Trigger on End of Association

Some host systems open one DICOM association for the entire study (for all images) or several simultaneous associations for the entire study with groups of images. For these hosts, the auto-record trigger can be based on the last association closing without the need to wait for a timeout. This mode provides the fastest time to automatically record a disc.

Configuration Guidelines

To allow auto-record to be triggered by the last association closing for a study, set `submitAutoRecordJob = onAssociationEnd`. To set auto-record back to being triggered by the end-of-study timeout, set `submitAutoRecordJob = onTimeout` (the default setting for most Job Profiles).

Troubleshooting

If `submitAutoRecordJob = onAssociationEnd` and the sending host is not compatible with this mode (e.g., it opens one DICOM association per image), duplicate discs (or sets of discs for multi-disc jobs) will be recorded for the same study with some of them containing an incomplete set of images. If this problem occurs, set `submitAutoRecordJob = onTimeout` for the Job Profile used by this host or select a different Job Profile with this setting.

Note: Setting `submitAutoRecordJob = OnTimeout` with the `endOfStudyTimeout` parameter set too low would cause the same symptoms as described above.

Note: Using the end-of-association to trigger an auto-record job should not be done if multiple studies from the same patient are being sent back-to-back to record on the same disc (`discStudyGrouping = byPatient`), unless the sending host system actually holds the association open between the individual studies or consistently sends the studies simultaneously.

Note: If `submitAutoRecordJob = onAssociationEnd`, the study will be considered complete if the `endOfStudyTimeout` time elapses, even if the association is left open.

Technical Support

If problems occur during software installation, contact Codonics Technical Support between the hours of 8:30AM and 5:30PM EST (weekends and U.S. holidays excluded).

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