Tech Tip 140042
VIGIL: Understanding Motion Detection

Tech Tip #: 140042-2
Date: August 28th, 2015
Product Affected: VIGIL Server
Purpose: This tech tip has been created with the purpose of educating a user on the process behind VIGIL’s Motion Detection feature.

1 INTRODUCTION

2 HOW VIGIL’S MOTION DETECTION WORKS

3 CONTACT INFORMATION

1 Introduction
This tech tip provides information and diagrams regarding VIGIL’s motion detection system. Recent improvements to the pre-buffer system to further help to further safeguard VIGIL against footage loss are also explained.

2 How VIGIL’s Motion Detection Works
To save CPU usage, 3xLOGIC has engineered VIGIL to only detect motion in Key-Frames (also referred to as I-Frames). If a difference is found between the previous and current Key Frame, the motion detection is triggered (see Fig.1).

If a long key frame interval is configured, and an object moves while in between Key Frames, than VIGIL motion detection would not be triggered (See Fig.2)
As a result, in rare circumstances where a VIGIL system’s pre-buffer is too short, and its Key Frame interval is too long, the possibility of losing small amounts of footage exists (See Fig.3).

![Fig.3](image)

If the video pre-buffer is too short and the key frame interval is too long, small amounts of footage may be lost when motion is detected between I-Frames/Key Frames.

To address this issue, 3xLOGIC has engineered, as of VIGIL v7.40.0239, a more intelligent pre-buffer system. The new pre-buffer will look to keep 1 Key Frame in the pre-buffer at all times to avoid losing any footage. When a VIGIL system has been configured to have a long Key Frame interval, the pre-buffer will automatically adjust itself to hold 90 frames to keep at least 1 Key Frame present in the pre-buffer at all times. (See Fig.4).

![Fig.4](image)

The new pre-buffer will automatically increase its size when long key frame intervals are configured, effectively preventing the loss of motion detection footage by keeping 1 Key Frame in the pre-buffer at all times.

3 Contact Information

If you require more information, or if you have any questions or concerns, please contact 3xLOGIC Support:

Email: helpdesk@3xlogic.com
Online: www.3xlogic.com