To: Amberlynn Griffin
SANDAG
Date: October 24, 2017
From: Jason Bergerson
Subject: Summary of Findings for Project: SO# 6072992

Dear Ms. Griffin:

KrolLDiscovery was engaged to preserve the “Hana” server and perform a review of the active and deleted file activity within a specific folder named “\\Tools”. This project was assigned KrolLDiscovery project ID: 6072992 (secondary project ID: LD6078407).

Analysis:
On October 11, 2017 KrolLDiscovery forensic consultant Sergio Garcia took possession of six (6) 1 terabyte (TB) hard drives. The six (6) hard drives were a part of a Dell PowerVault NF500 Network Attached Storage (NAS) device bearing serial number GPJXQG1 and service code 36373658401. This Dell NAS was identified to KrolLDiscovery as the “Hana” server. The drives were removed and inventoried as below:

Drive Bay	Make	Model	Serial Number
0	Hitachi	HVA721010KLA330	GTF000PAK4UDZF
1	Hitachi	HVA721010KLA330	GTF000PAK2ZB8E
2	Hitachi	HVA721010KLA330	GTF000PAK5GENF
3	Hitachi	HVA721010KLA330	GTF000PAK66P1F
4	Hitachi	HVA721010KLA330	GTF000PAK3TE0F
5	Hitachi	HVA721010KLA330	GTF000PAK6NM4F

The six (6) hard drives were shipped to our Eden Prairie, MN forensic lab for preservation and analysis. All six (6) drives were received and logged under the electronic chain of custody using the secondary project ID and a unique media asset number:

Unique Media ID	Serial Number
LD06078407A0001	GTF000PAK4UDZF
LD06078407A0002	GTF000PAK2ZB8E
LD06078407A0003	GTF000PAK5GENF
LD06078407A0004	GTF000PAK66P1F
LD06078407A0005	GTF000PAK3TE0F
LD06078407A0006	GTF000PAK6NM4F

All six (6) media were forensically preserved using Guidance Software’s EnCase forensic examination software. All six (6) media were successfully verified using the MD5 HASH algorithm.

The six (6) original drives remain in KrolLDiscovery's possession and can be returned upon client request.

The original hard drives in the NAS device were configured in a RAID5 configuration. This is done for redundancy during normal operation. In order to perform the required analysis the six (6) preservation images were configured into a RAID5 configuration and another forensic image was made of the resultant logical volume.

Complete Active and Deleted file listings were created from the forensic logical volume. These listings encompass all possible files that are either generally accessible (Active) to the user or are recoverable (Deleted) with the file record intact.

Analysis of the Active file listing regarding the specific "Tools" folder indicates 364 files and folders are present under the "Tools" folder. The "Tools" folder was created on the "Hana" server on 11/1/2016 and was last modified on 7/27/2017. All specific files and folders contained with the "Tools" folder were created or accessed within the time window between 11/1/2016 and 7/27/2017.

Analysis of the Deleted file listing regarding the specific "Tools" folder indicates that there are no files on the Deleted file listing containing the folder path "Tools". Moreover, the recovered Entry Modified time on all files either in the "RECYCLER" or "Lost Files" paths (this path is used by EnCase when the path to the original file location is no longer recoverable) do not indicate any file deletion activity past 1/27/2016. It should be noted that this date is prior to the creation date of the "Tools" folder.

For the reasons stated above the analysis indicates that there has been no file deletion activity within the "Tools" folder on the "Hana" server.

The above statements are a complete description of KrolLDiscovery's examination of the submitted evidence. The conclusions and opinions set forth herein are made to a reasonable degree of scientific certainty based upon examination of the available evidence as of the date of this report. These conclusions and opinions may change if new or additional evidence is made available for analysis.

Sincerely,

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