



CELLEBRITE ADVANCED SMARTPHONE ANALYSIS (CASA)

Mobile Forensics

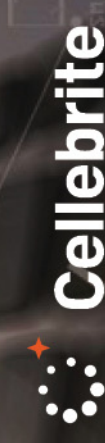
Ingham County Sheriff's Office

August 15-18, 2022

630 Cedar Street, Mason, MI 48854

Cellebrite Advanced Smartphone Analysis

\$2,995.00



H[SHUW OHYHO FRXUVH GHVLJQHG WRYSHUR YRLGHSW OIDEWQRQ Q ƧRUDH QJRLF WJRH
FODVV LV UHFRPPHQGHG IRU SUDFWQW DRJQHUUWQIG RILODLGDZD ZLHWKR3 KWKLF Ƨ3\$ F
&\$6\$ FRXUVH SDUWLFLSDQWV ZLOO QRWUJQRIRƧR QVRA GHHFRGHI Ƨ ƧEIRURRUDWQJRLQ W
ZLOO DOVR XVH WKLU G SDUW\ VRIWZDQHD OQ Ƨ 3Y WWRIRIQ DFRGL SWO D LVGR W H H R Q Ƨ L

ORELOH)RUHQVLFV &HOOHEULWH (QWYRUBQVW HV6ROXWL

&HOOHEULWH DLPV WR VXSSRUW OHQHQ' H WLVMDQO W Ƨ W HSXO V XH QVFRH VHS HIF ODHQV F H
FRPPLW WR DQ\ GHJUHH SURJUDP & H Ƨ O WKEUL WJWRV LSG Ƨ G M P G H G M D D Q Q J S U
FRQWLQRRXV VNLOO VHW GHYHORS Ƨ Ƨ WIR R Q Ƨ IOL R V HS V B UH W X LVR Q Ƨ D W H J R D Ƨ M H
% \ I R O O R Z L Q J D O H D U Q L Q J S D W K V W X X G H L Ƨ W Ƨ Q F D D Q W D U H Ƨ H S Y Ƨ V Ƨ Q Ƨ N O Ƨ S V R L
F D U H H U I R U O D Z H Q I R U F H P H Q W P L Q H M Ƨ W U R U I S Q V Ƨ H V O W J E H Q W W H V Ƨ D V Q Ƨ X Ƨ S U L Ƨ Ƨ W X I P
F R P P L W P H Q W W R G L J L W D O L Q W H O O L V I R Q Ƨ Ƨ H O W [Ƨ H U Ƨ X Ƨ Ƨ Q Ƨ F W K E H Ƨ R O Ƨ G Q D F Ƨ X W R M H V
F R P S H W H Q F H D Q G V X F F H V V D Q G W U D I H Q L Q Q J D U H R X Q Q Ƨ W K W K Z Ƨ Ƨ Ƨ O G W E V R Ƨ Ƨ Ƨ Z R
J H Q H U D O D X G L H Q F H V D Q G I R F X V D U H D V U H O D W L Y H W R W K L V F R X U V H

/HYHO

/HQJWK

^z 'LJLWDO)RUHQVLF ([DPLQHUV

7UDLQLQJ 7UDFN

'HOLYHU\ ORGH

&RXUVH 'HVFULSWLRQ
&HOOHEULWH \$GYDQFHG 6PDUWSKRQH
\$QDO\LV &\$6\$ FODVV LV IRXU GD\

&RXUVH /HDUQLQJ 2EMHFWLYHV

8SRQ VXFFHVVIXO FRPSOHWLRQ RI WKWRRFRXUVH VWXGHHQWV ZLOO EH DEO

z 5HFRJQLJH VPDUW GHYLFHV

z 5HFRYHU DQG E\SDVV SDVVZRUG ORFNV

z 8QGHUVWDQG VPDUW GHYLFH ILOH V\VVWHPV

z 8QGHUVWDQG GDWDEDVH VWUXFWXUHV DV XVHG E\ VPDUW GHYLFHV

z 8QGHUVWDQG 3URSHUW\ /LVW DQG 5HJLVWU\ VWUXFWXUHV

z /RFDWH FRPPRQ DUWLIDFWV RQ VPDUW GHYLFHV

1RM 7KH &HOOHEULWH &HUWLILHG 3K\VL E D OD \$SQDHO LHW X & \$B \$W HF W B WDLW\WFHDQ\G\ RWL K/H1 & \$ GDSYEDQ DWDH\QV\HKB\B\$ \$ WH WKRVH LQGLYLGXDOV VHHNLQJ WR DFKLHYH &\$6\$ SUH UHTXLVLWHV

,P,SRUWQW 6XFFHVVIXO FRPSOHWLRQ RI WKLVW FEXH\QH DV EHH IW Q HGHB R QW\KHU D W XIGSHQF MLH E W/Q F H V QE W \$BIV&R XUV ([DP DVVHVVPHQW ZLWK D PLQLXP VFDZHDURGHG D R HUKWUJLHFD W\HR FFIH&RPSOHWLRQ

,1752' 8&7,21

,Q WKLV PRGXOH \RX ZLOO OHDUQ YLEFHXW W & H D DQ\LEQJL WDHQ\G\ FSHURW & ILW D W\OHHQ F S LVF R H V V\HVD DQ\ DQJ /HUUQHUV ZLOO EH LQWURGXFHG WRQW\KH B Q & UD\GHP R M W W W D W H Y HURSTW L B B FFW R GH V Q D E X U VKGW RU SURIHVVLRQDO JRDOV <RX ZLOOW\UH DWQGH &HOOHHFURQ\QMHF WH B B Q WQD &WHQ FRQQHFH ZLWK YD

64/,7(' \$7\$%£6(6758&785(6

,Q WKL V PRGXOH \RX ZLOO OHDUQ D P R R X W U A U L W H V D K E L I Q U O W I R O D L Q J E V I E M U R E F E V I V I K I B Q E O H Q J D Q G E I B H
YDFXXP IXQFWLRQ DQG KRZ WDEOH EWMWFDQV KVRQ. QW E Q < I R I X I E O V H X V X I V S Q Q E Y E O H E U L W L W H I L S K I I V Q
RWKHU VRIWZDUH WRROV

z ,GHQWLI\ 64/LWH GDWDEDVHV

z 5HFRJQLJH 64/LWH GDWDEDVH VWUXFWXUHV DQG SRVVLEOH DSSOLFDWLRQV

z ,GHQWLI\ WKH GDWD VWRUDJH PHWKRG IRU 64/LWH GDWDEDVHV

z ([DPLQH 64/LWH GDWDEDVHV DQG KRZ WDEOHV DUH MRLQHG WRJHWKHU

z 'HVFULEH WKH HYHQWV UHODWHG W L W I K H G E W O E W L R Q R I G D W D I U R P D Q 64/

z 5HFDOO GDWDEDVHV SHUIRUPDQFH EH M D Y L R U V F D S D E O H R I G H V W U R \ L Q J G D

z ,O O X V W U D W H W K H X V H R I S U D F W L F E O R V S H I L Q E M P D Q E J N Q E E D O V I I E J I X Q I H E R E W I D U L Q J S U R F H G X U H

,2629(59,(: \$1' \$1\$/<6,6

,Q WKL V PRGXOH \RX ZLOO OHDUQ Q K S U U R I R H F X U R V D E U L L Q J G W I K H F H I W D Q D F E M W P W L S Q J D E W Y E F H V V I R I H V Z
\RX KRZ DSSOLFDWLRQV DUH VWRUHG G H F F E G I N V L H Q G R W R E W Y L R Q L R X X Q Z D L Q V E H E Q W Q I D E O R X V W V G I D W I H V D Q
H Q F R G L Q J V F K H P H V D Q G X V L Q J V H Y H U D I E X Z Q E O R Q D E I U D I E I O H H V R I L Q W H U H V W

z %ULHIO\ UHFRXQW WKH HYROXWLRQ RI L26

z /HDUQ KRZ WR SURSHUO\ VHLJH L26 GHYLFHV

z 'HVFULEH WKH VWUXFWXUH RI WKH L26 ILOH V\VWHP

z \$QDO\JH DSSOLFDWLRQV DQG UHOHYDQW GDWD

z ,GHQWLI\ 3URSHUW\ /LVW VWUXFWXUHV

z *DLQ DGGWLWRQDO DUWLIDFWV IURP 6DIDUL

,26\$' 9\$1&(' \$1\$ / <6,6

,Q WKLV PRGXOH \RX ZLOO DQDO\JH DMK B DQJWZ HRV WRX UWLZID FVWUUDHF FRL RHQJH BQ XUKRQZYW R WKLV DQWLLJ RR PRGXOH DSSOLHV FRQWH[W WR DQDO\JH RGWGLDWD DQ B YW Q D FEKLIG Q GRM XW RV G U B QJWHQGL DHEQL B HFQJHF C

z ([DPLQH .QRZOHGJH& 6FUHHQWLPH 'DWRN WLV B JORDV W LIDFWV DQG GLDJQ

z 8VH &HOOHEULWH WR JHQHUDWH DQBQDQVQ RUVRPWHK O WILSQ B HG WY IPHHOL QSD BQ WYQJ D VQD SVK

z /HDUQ WKH YDULRXV VRXUFHV RI JH RQGR EQ WR BQGR BQW D Q JV WKKLHP RLBQDQQL QJXW F DVH

z &RPSOHWH D FKDOOHQJLQJ VFHQDUL BHB BXBKWQ D W6L RRQR RQZ KBW \RX OHDU

,26\$1' ,&/28' %\$&. 836

,Q WKLV PRGXOH \RX ZLOO OHDUQ D ERMKW VLV6WEHPAN XBSQF LR S QJH Q 2FRRP SXU D FWWLRQQA/D Q B ZLWKLQ WKHP :H ZLOO GLVFXVV EDFNRQS XVQJ JHRQSFHUQSWALXUQF B QGR B B ULSW R X G EDFNXSV DQG

z /RFDWLRQ RI L26 EDFNXS ILOHV

z 1DPLQJ FRQYHQWLRQ DQ L26 EDFNXS

z +DQGOLQJ (QFU\SWHG L26 %DFNXS DQG ([WUDFWLRQV

z L&ORXG (YLGHQFH

z 3URFHVV LQJ DQ L26 %DFNXS

\$1' 52,' 29(59,(:

,Q WKLV PRGXOH \RX ZLOO OHDUQ DUEVR XMD FLW S R B R/XO Q WO\$Q BQJW B Q D ERMKW B RQW W V QJHQW ZGRDMMIV VHWV VHWLQJVV PRXQWHG ILOH V\VWHPV B W&BQG DXQJ JHS H\BQXHLQJ B RWWKWLQJ RUFUV B QW L FDKQ W RQWRK LQYHVWLJDWLRQ

\$1.52, 29(59),(:

7KH HYROXWLRQ RI \$QGURLG 26
\$QGURLG ILOH V\VWHPV DQG HQFU\SWLRQ
&HOOHEULWH 8>(' VXSSRUW IRU \$QGURLG ([WUDFWLRQ DQG DQDO\VLV
([WUDFWLRQV PHWKRGV IURP \$QGURLG GHYLFHV

\$1' 52,' 6<67(0 \$57,)\$&76

Q WKLV PRGXOH IRX ZLOO OHDUQ DUEVRKMD HAWSRERWQZ WO\$QWJRW Q DEVRXHWB RQWVWV QQLQW ZRGJND VWV
VHWWLQJV PRXQWHG ILOH VVWHPV BW&BQG DXQG JHS HMDXHLVQB RWWKLFH RULPHV EBQWL RDKX W RQWRKL
LQYHVWLJDWL RQ

z /H DUQ WKH YDULRXV IROGHUV DQG WKHLU UHOHYDQFH RQ \$QGURLG GHYLFH
z 8QGHUVVWDQG \$QGURLG PXOWLSOH XVHUV
z ,QWHUSUHW 6,0 &DUG GDWD
z ,QWHUSUHW YDULRXV W\SHV RI GHYLFH DQG XVHU WUDFNLQJ DUWLIDFWV
z ,QVWDOO DQG XVH D/(\$33 WR WULDJH DQG YLHZ YDULRXV GDWD VHWV
z 8VH X)]\ ORGHOLQJ WR JDLQ DGGLW\WDOO LQVLJKWV LQWR ORFDWLRQ GD

\$1' 52, 86(5 \$57,)\$&76

Q WKLV PRGXOH \RX ZLOO OHDU QVDEHJ\XWL QW WU DFFMLR Q UZLDMWKHGL EINH W H RRA/TL S\$OKLF Q GWL RQO/ SRQD
H[HUFLVHV \RX ZLOO H[DPLQH *RRJOHFDMSLR Q V WIDQ G Q W XLS B E W H G V B S O V V S R B H LGDHW DDD E R X O X
WRROV WR LQWHUSUHW

\$1' 52, 86(5 \$57,) \$&76

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z /H DUQH G WKH VWUXFWXUH DQG WR GHFRGH $QGURLG DSSOLF DWLRQV
z 3URFHVVHG LQVWDOOHG DSSOLF DWLRQV
z $QDO\HG WKH $QGURLG 0HVVDJLQJ DSS DQG 606 006
z 8VHG $QGURLG :HOO %HLQJ
z 3URFHVVHG ,QWHUQH W KLVWRU\
z 'HFRGHG *RRJOH 0DSV
z 8VHG WKH ORFDWL RQ FDUYHU DQG YDOLGDWH UHVXOWV

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0\$1\$/:\$0

[illegible]

*HW VNLOOHG *HW FHUWLILHG

FHOQHEULWHOHDUQLQJFHQWHU FRP