

GCIS Hash-to-Password Recovery & Cryptographic Side-Channel Report

CHARGE ANALYSIS - OVERVIEW

INDIVIDUAL VALUES (32 characters):

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'0' -> -1 '1' -> -1 '2' -> -1 '3' -> -1
'4' -> -1 '5' -> -1 '6' -> -1 '7' -> -1
'8' -> -1 '9' -> -1 'A' -> -1 'D' -> -1
'F' -> -1 'H' -> -1 'J' -> -1 'L' -> -1
'M' -> -1 'P' -> -1 'R' -> -1 'V' -> -1
'b' -> -1 'c' -> -1 'g' -> -1 'k' -> -1
'n' -> -1 'q' -> -1 't' -> -1 'v' -> -1
'w' -> -1 'x' -> -1 'Y' -> -1 'z' -> -1

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TOTAL: $32x - 1$, $0x + 1$

SIGNIFICANT (100.0% uniform charge) - Dominant charge: -1

PATTERN CONSISTENCY ANALYSIS

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32/32 bytes show 100% pattern consistency  
RESULT: All password bytes have UNIQUE, CONSISTENT sign patterns
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STATISTICAL SUMMARY

Pearson Correlation: 1.0000
Bit-Sign Agreement: 100.00%

INPUT DATA

Password: M7qAz3RwkP2Lx5vJ9c4FyD0gHb8V1n6t

Password Bitstring:

Layer 1 (es17): 2048 bits

Bitstring:

Sign sequence (complete):

Layer 2 (es18): 4096 bits

Bitstring:

Sign sequence (complete):

PAGE 2: LAYER DATA + CHARGE DETAILS

LAYER: es17 (2048 bits)

Bitstring:

Character positions and charges:

character positions and charges:

'0' @ 538-->1, 991-->1, 1837-->1 -> Charge: -1
'1' @ 10-->1, 998-->1, 1091-->1, 1104-->1 -> Charge: -1
'2' @ 109-->1, 216-->1, 435-->1, 442-->1 -> Charge: -1
'3' @ 503-->1, 512-->1, 601-->1, 941-->1 -> Charge: -1
'4' @ 31-->1, 81-->1, 353-->1, 401-->1 -> Charge: -1
'5' @ 293-->1, 896-->1, 915-->1, 1158-->1 -> Charge: -1
'6' @ 56-->1, 147-->1, 359-->1, 394-->1 -> Charge: -1
'7' @ 94-->1, 257-->1, 456-->1, 964-->1 -> Charge: -1
'8' @ 40-->1, 68-->1, 136-->1, 605-->1 -> Charge: -1
'9' @ 237-->1, 507-->1, 561-->1, 945-->1 -> Charge: -1
'A' @ 35-->1, 76-->1, 119-->1, 466-->1 -> Charge: -1
'D' @ 593-->1, 703-->1, 739-->1, 985-->1 -> Charge: -1
'F' @ 841-->1, 1327-->1, 1418-->1, 1534-->1 -> Charge: -1
'H' @ 299-->1, 346-->1, 447-->1, 590-->1 -> Charge: -1
'J' @ 3-->1, 114-->1, 243-->1, 270-->1 -> Charge: -1
'L' @ 8-->1, 107-->1, 433-->1, 440-->1 -> Charge: -1
'M' @ 29-->1, 54-->1, 291-->1, 357-->1 -> Charge: -1
'P' @ 117-->1, 246-->1, 778-->1, 1170-->1 -> Charge: -1
'R' @ 1-->1, 24-->1, 297-->1, 720-->1 -> Charge: -1
'V' @ 547-->1, 1044-->1, 1785-->1, 1967-->1, 1975-->1 -> Charge: -1
'b' @ 1092-->1, 1105-->1, 1316-->1, 1916-->1, 2034-->1 -> Charge: -1
'c' @ 11-->1, 90-->1, 177-->1, 999-->1 -> Charge: -1
'g' @ 504-->1, 523-->1, 602-->1, 624-->1 -> Charge: -1
'k' @ 154-->1, 196-->1, 207-->1, 492-->1 -> Charge: -1
'n' @ 95-->1, 283-->1, 363-->1, 965-->1 -> Charge: -1
'q' @ 137-->1, 811-->1, 1472-->1, 1510-->1, 1747-->1 -> Charge: -1
't' @ 16-->1, 98-->1, 377-->1, 831-->1 -> Charge: -1
'v' @ 366-->1, 488-->1, 1312-->1, 1336-->1 -> Charge: -1
'w' @ 868-->1, 931-->1, 968-->1, 1007-->1 -> Charge: -1
'x' @ 224-->1, 328-->1, 691-->1, 766-->1 -> Charge: -1
'y' @ 422-->1, 472-->1, 527-->1, 628-->1 -> Charge: -1
'z' @ 385-->1, 580-->1, 921-->1, 1377-->1, 1611-->1 -> Charge: -1

LAYER: es18 (4096 bits)

Bitstring:

+1, +1, -1, -1, -1, -1, -1, -1, +1, -1, +1, +1, +1, +1, -1, +1, -1, -1, ...
Character positions and charges:

'0' @ 31->-1, 235->-1, 316->-1, 564->

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1' @ 341-->-1, 643-->-1, 1013-->-1, 1092-->-1 -> Charge: -1
2' @ 371-->-1, 385-->-1, 840-->-1, 932-->-1 -> Charge: -1
3' @ 312-->-1, 337-->-1, 434-->-1, 711-->-1 -> Charge: -1
4' @ 278-->-1, 394-->-1, 477-->-1, 491-->-1 -> Charge: -1
5' @ 325-->-1, 648-->-1, 1674-->-1, 1725-->-1 -> Charge: -1
6' @ 90-->-1, 562-->-1, 765-->-1, 968-->-1 -> Charge: -1
7' @ 303-->-1, 483-->-1, 511-->-1, 570-->-1 -> Charge: -1
8' @ 12-->-1, 244-->-1, 501-->-1, 658-->-1 -> Charge: -1
9' @ 975-->-1, 1078-->-1, 1421-->-1, 2054-->-1 -> Charge: -1
'A' @ 85-->-1, 904-->-1, 1378-->-1, 1387-->-1 -> Charge: -1
'D' @ 177-->-1, 229-->-1, 495-->-1, 624-->-1 -> Charge: -1
'F' @ 550-->-1, 1477-->-1, 2079-->-1, 2127-->-1 -> Charge: -1
'H' @ 46-->-1, 136-->-1, 742-->-1, 1163-->-1 -> Charge: -1
'J' @ 224-->-1, 944-->-1, 1019-->-1, 1234-->-1 -> Charge: -1
'L' @ 233-->-1, 562-->-1, 1011-->-1, 1030-->-1 -> Charge: -1
'M' @ 323-->-1, 392-->-1, 481-->-1, 509-->-1 -> Charge: -1
'P' @ 428-->-1, 469-->-1, 676-->-1, 953-->-1 -> Charge: -1
'R' @ 222-->-1, 1202-->-1, 1232-->-1, 1613-->-1 -> Charge: -1
'V' @ 865-->-1, 1062-->-1, 1170-->-1, 1507-->-1 -> Charge: -1
'b' @ 118-->-1, 145-->-1, 342-->-1, 860-->-1 -> Charge: -1
'c' @ 299-->-1, 644-->-1, 1093-->-1, 1123-->-1 -> Charge: -1
'g' @ 105-->-1, 435-->-1, 712-->-1, 801-->-1 -> Charge: -1
'k' @ 326-->-1, 404-->-1, 649-->-1, 2284-->-1 -> Charge: -1
'n' @ 304-->-1, 484-->-1, 512-->-1, 571-->-1 -> Charge: -1
'q' @ 57-->-1, 163-->-1, 245-->-1, 307-->-1 -> Charge: -1
't' @ 42-->-1, 193-->-1, 962-->-1, 1210-->-1 -> Charge: -1
'v' @ 1128-->-1, 1154-->-1, 1927-->-1, 2243-->-1 -> Charge: -1
'w' @ 4-->-1, 53-->-1, 152-->-1, 446-->-1 -> Charge: -1
'x' @ 109-->-1, 637-->-1, 1414-->-1, 1754-->-1 -> Charge: -1
'Y' @ 130-->-1, 288-->-1, 736-->-1, 1054-->-1 -> Charge: -1
'z' @ 525-->-1, 597-->-1, 604-->-1, 671-->-1 -> Charge: -1

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PASSWORD BYTE SIGN PATTERNS

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BYTE 0 | ASCII: 'M' | Bit Pattern: 01001101
Found at 174 location(s)
SIGN PATTERN: -1 +1 -1 -1 +1 +1 -1 +1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 1 | ASCII: '7' | Bit Pattern: 00110111
Found at 191 location(s)
SIGN PATTERN: -1 -1 +1 +1 -1 +1 +1 +1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 2 | ASCII: 'q' | Bit Pattern: 01110001
Found at 184 location(s)
SIGN PATTERN: -1 +1 +1 +1 -1 -1 -1 +1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 3 | ASCII: 'A' | Bit Pattern: 01000001
Found at 165 location(s)
SIGN PATTERN: -1 +1 -1 -1 -1 -1 -1 +1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 4 | ASCII: 'z' | Bit Pattern: 01111010
Found at 178 location(s)
SIGN PATTERN: -1 +1 +1 +1 +1 -1 +1 -1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 5 | ASCII: '3' | Bit Pattern: 00110011
Found at 173 location(s)
SIGN PATTERN: -1 -1 +1 +1 -1 -1 +1 +1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 6 | ASCII: 'R' | Bit Pattern: 01010010
Found at 172 location(s)
SIGN PATTERN: -1 +1 -1 +1 -1 -1 +1 -1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 7 | ASCII: 'w' | Bit Pattern: 01110111
Found at 192 location(s)
SIGN PATTERN: -1 +1 +1 +1 -1 +1 +1 +1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 8 | ASCII: 'k' | Bit Pattern: 01101011
Found at 190 location(s)
SIGN PATTERN: -1 +1 +1 -1 +1 -1 +1 +1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 9 | ASCII: 'P' | Bit Pattern: 01010000
Found at 183 location(s)
SIGN PATTERN: -1 +1 -1 +1 -1 -1 -1 -1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 10 | ASCII: '2' | Bit Pattern: 00110010
Found at 174 location(s)
SIGN PATTERN: -1 -1 +1 +1 -1 -1 +1 -1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 11 | ASCII: 'L' | Bit Pattern: 01001100
Found at 199 location(s)
SIGN PATTERN: -1 +1 -1 -1 +1 +1 -1 -1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 12 | ASCII: 'x' | Bit Pattern: 01111000
Found at 187 location(s)
SIGN PATTERN: -1 +1 +1 +1 +1 -1 -1 -1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 13 | ASCII: '5' | Bit Pattern: 00110101
Found at 184 location(s)
SIGN PATTERN: -1 -1 +1 +1 -1 +1 -1 +1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 14 | ASCII: 'v' | Bit Pattern: 01110110
Found at 190 location(s)
SIGN PATTERN: -1 +1 +1 +1 -1 +1 +1 -1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 15 | ASCII: 'J' | Bit Pattern: 01001010
Found at 209 location(s)
SIGN PATTERN: -1 +1 -1 -1 +1 -1 +1 -1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 16 | ASCII: '9' | Bit Pattern: 00111001
Found at 173 location(s)
SIGN PATTERN: -1 -1 +1 +1 +1 -1 -1 +1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%
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BYTE 17 | ASCII: 'c' | Bit Pattern: 01100011
Found at 188 location(s)
SIGN PATTERN: -1 +1 +1 -1 -1 -1 +1 +1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 18 | ASCII: '4' | Bit Pattern: 00110100
Found at 165 location(s)
SIGN PATTERN: -1 -1 +1 +1 -1 +1 -1 -1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 19 | ASCII: 'F' | Bit Pattern: 01000110
Found at 182 location(s)
SIGN PATTERN: -1 +1 -1 -1 -1 +1 +1 -1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 20 | ASCII: 'y' | Bit Pattern: 01111001
Found at 198 location(s)
SIGN PATTERN: -1 +1 +1 +1 +1 -1 -1 +1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 21 | ASCII: 'D' | Bit Pattern: 01000100
Found at 196 location(s)
SIGN PATTERN: -1 +1 -1 -1 -1 +1 -1 -1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 22 | ASCII: '0' | Bit Pattern: 00110000
Found at 193 location(s)
SIGN PATTERN: -1 -1 +1 +1 -1 -1 -1 -1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 23 | ASCII: 'g' | Bit Pattern: 01100111
Found at 182 location(s)
SIGN PATTERN: -1 +1 +1 -1 -1 +1 +1 +1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 24 | ASCII: 'H' | Bit Pattern: 01001000
Found at 201 location(s)
SIGN PATTERN: -1 +1 -1 -1 +1 -1 -1 -1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 25 | ASCII: 'b' | Bit Pattern: 01100010
Found at 203 location(s)
SIGN PATTERN: -1 +1 +1 -1 -1 -1 +1 -1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 26 | ASCII: '8' | Bit Pattern: 00111000
Found at 190 location(s)
SIGN PATTERN: -1 -1 +1 +1 +1 -1 -1 -1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 27 | ASCII: 'V' | Bit Pattern: 01010110
Found at 201 location(s)
SIGN PATTERN: -1 +1 -1 +1 -1 +1 +1 -1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 28 | ASCII: '1' | Bit Pattern: 00110001
Found at 193 location(s)
SIGN PATTERN: -1 -1 +1 +1 -1 -1 -1 +1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 29 | ASCII: 'n' | Bit Pattern: 01101110
Found at 190 location(s)
SIGN PATTERN: -1 +1 +1 -1 +1 +1 +1 -1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 30 | ASCII: '6' | Bit Pattern: 00110110
Found at 175 location(s)
SIGN PATTERN: -1 -1 +1 +1 -1 +1 +1 -1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

BYTE 31 | ASCII: 't' | Bit Pattern: 01110100
Found at 190 location(s)
SIGN PATTERN: -1 +1 +1 +1 -1 +1 -1 -1
CONSISTENCY: 100.0%
BIT-SIGN MATCH: 100.0%

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