FAST!

Simplificator / Dumbdownificator

```
.B6.4:
movdqu    xmm1, XMMWORD PTR [ecx]
movdqu    xmm7, XMMWORD PTR [16+ecx+ebx]
movdqu    xmm5, XMMWORD PTR [32+ecx]
movdqu    xmm4, XMMWORD PTR [48+ecx]
movdqa    xmm2, xmm1
pslldq    xmm2, 5
psrldq    xmm1, 123
por       xmm2, xmm1
movdqu    xmm1, XMMWORD PTR [ecx+ebx]
pxor      xmm2, xmm1
movdqa    xmm1, xmm7
pslldq    xmm1, 5
pxor      xmm6, xmm2
psrldq    xmm7, 123
por       xmm1, xmm7
movdqu    xmm7, XMMWORD PTR [16+ecx]
pxor      xmm1, xmm7
movdqa    xmm7, xmm5
pslldq    xmm7, 5
pxor      xmm3, xmm1
psrldq    xmm5, 123
por       xmm7, xmm5
movdqu    xmm5, XMMWORD PTR [32+ecx+ebx]
movdqu    xmm1, XMMWORD PTR [64+ecx+ebx]
pxor      xmm7, xmm5
movdqa    xmm5, xmm4
pslldq    xmm5, 5
pxor      xmm0, xmm7
psrldq    xmm4, 123
por       xmm5, xmm4
movdqu    xmm4, XMMWORD PTR [48+ecx+ebx]
movdqu    xmm7, XMMWORD PTR [80+ecx]
movdqa    xmm2, XMMWORD PTR [_2il0floatpacket.88]
pxor      xmm5, xmm4
pmulld    xmm6, xmm2
pxor      xmm6, xmm5
movdqa    xmm5, xmm1
pslldq    xmm5, 5
psrldq    xmm1, 123
por       xmm5, xmm1
movdqa    xmm1, xmm7
pslldq    xmm1, 5
psrldq    xmm7, 123
movdqu    xmm4, XMMWORD PTR [64+ecx]
por       xmm1, xmm7
pxor      xmm5, xmm4
movdqu    xmm7, XMMWORD PTR [80+ecx+ebx]
pmulld    xmm3, xmm2
pxor      xmm1, xmm7
pmulld    xmm0, xmm2
pxor      xmm3, xmm5
pxor      xmm0, xmm1
add       ecx, 96
pmulld    xmm6, xmm2
dec       edx
pmulld    xmm3, xmm2
pmulld    xmm0, xmm2
jne       .B6.4
```

/FNV1A_penumbra main loop 192[+] keys, 32bit/

```
.B6.10:
mov       edx, DWORD PTR [esp]
mov       ebx, DWORD PTR [ecx]
rol       ebx, 5
xor       ebx, DWORD PTR [ecx+edx]
xor       esi, ebx
mov       ebx, DWORD PTR [4+ecx+edx]
rol       ebx, 5
xor       ebx, DWORD PTR [4+ecx]
xor       eax, ebx
mov       ebx, DWORD PTR [8+ecx]
rol       ebx, 5
xor       ebx, DWORD PTR [8+ecx+edx]
add       ecx, 12
xor       edi, ebx
imul      esi, esi, 709607
imul      eax, eax, 709607
imul      edi, edi, 709607
dec       DWORD PTR [4+esp]
jne       .B6.10
```

/FNV1A_penumbra main loop 192- keys, 32bit/

On Intel T7500 2,2GHz 16KB (L1 cached) block hashed at **11,262**MB/s (11,262*1024*1024)/2,200,000,000=**5.3**B/c

www.sanmayce.com/Fastest_Hash/index.html#PENUMBRA

penumbra ~ *technical: an area of slight darkness* /LDOCE definition/

HERITAGE definition:

1. *A partial shadow, as in an eclipse, between regions of complete shadow and complete illumination.*
2. *The grayish outer part of a sunspot.*
3. *An area in which something exists to a lesser or uncertain degree.*
4. *An outlying surrounding region; a periphery.*

YoshimitsuTRIADiiXMMx2

```
D:\_KAZE\Knight-Tour_FNV1A_YoshimitsuTRIADii_vs_CRC32_TRISMUS>Knight-Tour_FNV1A_YoshimitsuTRIADii_vs_CRC32_TRISMUS.exe a8 4000000000
Knight-Tour_FNV1A_YoshimitsuTRIADii_vs_CRC32_TRISMUS, subrevision E, written by Kaze (based on Kurt White's code), downloadable at
www.sanmayce.com/Fastest_Hash
Purpose: to compare FNV1A_YoshimitsuTRIADii and CRC32 by giving the highest number of collisions i.e. the deepest nest/layer, the-lesser-the-better.
Note: In this subrevision a KT is transformed to lowercase at each position ONCE, KT is transformed to lowercase and then to uppercase at each position
ONCE,
      and these two 2x64 sequences reversed, i.e. all the 4x64 combinations.
      Thus excluding the original KT we can hash 1+ trillion 1Kb UNIQUE chunks by having only 4 billion KTs.
Example: D:\>Knight-Tour_FNV1A_YoshimitsuTRIADii_vs_CRC32_TRISMUS a8 4000000000
Polynomial used:
CRC32: 0x8F6E37A0
KEYS to be hashed = 4,000,000,000x4x64
HashSizeInBits = 27
ReportAtEvery = 134,217,727
Allocating HASH memory 512MB ... OK
Allocating HASH memory 512MB ... OK
The first KT:
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
gives following 4x64 UNIQUE derivatives:
a8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8c7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7e8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8g7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7h5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5g3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3h1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1f2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2h3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3g1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1e2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2c1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1a2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2b4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4a6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6b8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8d7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7f8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8h7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7g5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5f7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7h8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8g6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6h4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4g2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2e1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1c2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2a1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1b3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3a5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5b7D8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7d8C6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8c6A7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6a7C8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7c8E7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8e7G8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7g8H6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8h6G4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6g4H2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4h2F1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2f1D2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1d2B1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2b1A3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1a3B5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3b5D6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
A8C7E8G7H5G3H1F2H3G1E2C1A2B4A6B8D7F8H7G5F7H8G6H4G2E1C2A1B3A5B7D8C6A7C8E7G8H6G4H2F1D2B1A3B5d6F5D4F3E5C4B2D3F4E6C5A4B6D5F6E4C3D1E3
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```
e3d1c3e4f6d5b6a4c5e6f4d3b2c4e5f3d4f5d6b5a3b1d2f1h2g4h6g8e7c8a7c6d8b7a5b3a1c2e1g2h4g6h8f7g5h7f8d7b8a6b4a2c1e2g1h3F2h1g3h5g7e8c7a8
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FNV1A_YoshimitsuTRIADii: KT_DumpCounter = 0,000,134,217,729; 000,000,001 x MAXcollisionsAtSomeSlots = 000,012; HASHfreeSLOTS = 0,050,530,128
CRC32 0x8F6E37A0, iSCSI: KT_DumpCounter = 0,000,134,217,729; 000,000,004 x MAXcollisionsAtSomeSlots = 000,011; HASHfreeSLOTS = 0,049,561,215
FNV1A_YoshimitsuTRIADii: KT_DumpCounter = 0,000,268,435,457; 000,000,003 x MAXcollisionsAtSomeSlots = 000,015; HASHfreeSLOTS = 0,019,089,321
CRC32 0x8F6E37A0, iSCSI: KT_DumpCounter = 0,000,268,435,457; 000,000,004 x MAXcollisionsAtSomeSlots = 000,014; HASHfreeSLOTS = 0,018,307,048
FNV1A_YoshimitsuTRIADii: KT_DumpCounter = 0,000,402,653,185; 000,000,001 x MAXcollisionsAtSomeSlots = 000,019; HASHfreeSLOTS = 0,007,194,504
CRC32 0x8F6E37A0, iSCSI: KT_DumpCounter = 0,000,402,653,185; 000,000,008 x MAXcollisionsAtSomeSlots = 000,017; HASHfreeSLOTS = 0,006,762,415
FNV1A_YoshimitsuTRIADii: KT_DumpCounter = 0,000,536,870,913; 000,000,002 x MAXcollisionsAtSomeSlots = 000,021; HASHfreeSLOTS = 0,002,708,588
CRC32 0x8F6E37A0, iSCSI: KT_DumpCounter = 0,000,536,870,913; 000,000,002 x MAXcollisionsAtSomeSlots = 000,020; HASHfreeSLOTS = 0,002,496,170
FNV1A_YoshimitsuTRIADii: KT_DumpCounter = 0,000,671,088,641; 000,000,002 x MAXcollisionsAtSomeSlots = 000,023; HASHfreeSLOTS = 0,001,022,485
CRC32 0x8F6E37A0, iSCSI: KT_DumpCounter = 0,000,671,088,641; 000,000,002 x MAXcollisionsAtSomeSlots = 000,023; HASHfreeSLOTS = 0,000,922,884
FNV1A_YoshimitsuTRIADii: KT_DumpCounter = 0,000,805,306,369; 000,000,001 x MAXcollisionsAtSomeSlots = 000,025; HASHfreeSLOTS = 0,000,385,342
CRC32 0x8F6E37A0, iSCSI: KT_DumpCounter = 0,000,805,306,369; 000,000,002 x MAXcollisionsAtSomeSlots = 000,026; HASHfreeSLOTS = 0,000,339,990
FNV1A_YoshimitsuTRIADii: KT_DumpCounter = 0,000,939,524,097; 000,000,001 x MAXcollisionsAtSomeSlots = 000,028; HASHfreeSLOTS = 0,000,145,022
CRC32 0x8F6E37A0, iSCSI: KT_DumpCounter = 0,000,939,524,097; 000,000,002 x MAXcollisionsAtSomeSlots = 000,028; HASHfreeSLOTS = 0,000,126,260
FNV1A_YoshimitsuTRIADii: KT_DumpCounter = 0,001,073,741,825; 000,000,002 x MAXcollisionsAtSomeSlots = 000,030; HASHfreeSLOTS = 0,000,054,694
CRC32 0x8F6E37A0, iSCSI: KT_DumpCounter = 0,001,073,741,825; 000,000,002 x MAXcollisionsAtSomeSlots = 000,030; HASHfreeSLOTS = 0,000,046,780
FNV1A_YoshimitsuTRIADii: KT_DumpCounter = 0,001,207,959,553; 000,000,001 x MAXcollisionsAtSomeSlots = 000,033; HASHfreeSLOTS = 0,000,020,600
CRC32 0x8F6E37A0, iSCSI: KT_DumpCounter = 0,001,207,959,553; 000,000,002 x MAXcollisionsAtSomeSlots = 000,030; HASHfreeSLOTS = 0,000,017,200
FNV1A_YoshimitsuTRIADii: KT_DumpCounter = 0,001,342,177,281; 000,000,003 x MAXcollisionsAtSomeSlots = 000,033; HASHfreeSLOTS = 0,000,007,850
CRC32 0x8F6E37A0, iSCSI: KT_DumpCounter = 0,001,342,177,281; 000,000,002 x MAXcollisionsAtSomeSlots = 000,033; HASHfreeSLOTS = 0,000,006,284
FNV1A_YoshimitsuTRIADii: KT_DumpCounter = 0,001,476,395,009; 000,000,001 x MAXcollisionsAtSomeSlots = 000,036; HASHfreeSLOTS = 0,000,002,943
CRC32 0x8F6E37A0, iSCSI: KT_DumpCounter = 0,001,476,395,009; 000,000,002 x MAXcollisionsAtSomeSlots = 000,034; HASHfreeSLOTS = 0,000,002,338
FNV1A_YoshimitsuTRIADii: KT_DumpCounter = 0,001,610,612,737; 000,000,003 x MAXcollisionsAtSomeSlots = 000,037; HASHfreeSLOTS = 0,000,001,099
CRC32 0x8F6E37A0, iSCSI: KT_DumpCounter = 0,001,610,612,737; 000,000,006 x MAXcollisionsAtSomeSlots = 000,035; HASHfreeSLOTS = 0,000,000,834
FNV1A_YoshimitsuTRIADii: KT_DumpCounter = 0,001,744,830,465; 000,000,001 x MAXcollisionsAtSomeSlots = 000,040; HASHfreeSLOTS = 0,000,000,413
CRC32 0x8F6E37A0, iSCSI: KT_DumpCounter = 0,001,744,830,465; 000,000,002 x MAXcollisionsAtSomeSlots = 000,038; HASHfreeSLOTS = 0,000,000,304
FNV1A_YoshimitsuTRIADii: KT_DumpCounter = 0,001,879,048,193; 000,000,004 x MAXcollisionsAtSomeSlots = 000,040; HASHfreeSLOTS = 0,000,000,155
CRC32 0x8F6E37A0, iSCSI: KT_DumpCounter = 0,001,879,048,193; 000,000,004 x MAXcollisionsAtSomeSlots = 000,040; HASHfreeSLOTS = 0,000,000,124
FNV1A_YoshimitsuTRIADii: KT_DumpCounter = 0,002,013,265,921; 000,000,001 x MAXcollisionsAtSomeSlots = 000,043; HASHfreeSLOTS = 0,000,000,054
CRC32 0x8F6E37A0, iSCSI: KT_DumpCounter = 0,002,013,265,921; 000,000,006 x MAXcollisionsAtSomeSlots = 000,041; HASHfreeSLOTS = 0,000,000,046
FNV1A_YoshimitsuTRIADii: KT_DumpCounter = 0,002,147,483,649; 000,000,001 x MAXcollisionsAtSomeSlots = 000,045; HASHfreeSLOTS = 0,000,000,019
CRC32 0x8F6E37A0, iSCSI: KT_DumpCounter = 0,002,147,483,649; 000,000,004 x MAXcollisionsAtSomeSlots = 000,043; HASHfreeSLOTS = 0,000,000,008
FNV1A_YoshimitsuTRIADii: KT_DumpCounter = 0,002,281,701,377; 000,000,001 x MAXcollisionsAtSomeSlots = 000,047; HASHfreeSLOTS = 0,000,000,007
CRC32 0x8F6E37A0, iSCSI: KT_DumpCounter = 0,002,281,701,377; 000,000,002 x MAXcollisionsAtSomeSlots = 000,045; HASHfreeSLOTS = 0,000,000,002
FNV1A_YoshimitsuTRIADii: KT_DumpCounter = 0,002,415,919,105; 000,000,001 x MAXcollisionsAtSomeSlots = 000,049; HASHfreeSLOTS = 0,000,000,002
CRC32 0x8F6E37A0, iSCSI: KT_DumpCounter = 0,002,415,919,105; 000,000,002 x MAXcollisionsAtSomeSlots = 000,047; HASHfreeSLOTS = 0,000,000,000
FNV1A_YoshimitsuTRIADii: KT_DumpCounter = 0,002,550,136,833; 000,000,001 x MAXcollisionsAtSomeSlots = 000,050; HASHfreeSLOTS = 0,000,000,001
CRC32 0x8F6E37A0, iSCSI: KT_DumpCounter = 0,002,550,136,833; 000,000,002 x MAXcollisionsAtSomeSlots = 000,048; HASHfreeSLOTS = 0,000,000,000
FNV1A_YoshimitsuTRIADii: KT_DumpCounter = 0,002,684,354,561; 000,000,007 x MAXcollisionsAtSomeSlots = 000,050; HASHfreeSLOTS = 0,000,000,000
CRC32 0x8F6E37A0, iSCSI: KT_DumpCounter = 0,002,684,354,561; 000,000,002 x MAXcollisionsAtSomeSlots = 000,050; HASHfreeSLOTS = 0,000,000,000
...
FNV1A_YoshimitsuTRIADii: KT_DumpCounter = 0,134,217,728,001; 000,000,001 x MAXcollisionsAtSomeSlots = 001,207; HASHfreeSLOTS = 0,000,000,000
CRC32 0x8F6E37A0, iSCSI: KT_DumpCounter = 0,134,217,728,001; 000,000,002 x MAXcollisionsAtSomeSlots = 001,188; HASHfreeSLOTS = 0,000,000,000
...
FNV1A_YoshimitsuTRIADii: KT_DumpCounter = 0,268,435,456,001; 000,000,001 x MAXcollisionsAtSomeSlots = 002,264; HASHfreeSLOTS = 0,000,000,000
CRC32 0x8F6E37A0, iSCSI: KT_DumpCounter = 0,268,435,456,001; 000,000,004 x MAXcollisionsAtSomeSlots = 002,242; HASHfreeSLOTS = 0,000,000,000
...
FNV1A_YoshimitsuTRIADii: KT_DumpCounter = 1,000,056,291,329; 000,000,001 x MAXcollisionsAtSomeSlots = 007,930; HASHfreeSLOTS = 0,000,000,000
CRC32 0x8F6E37A0, iSCSI: KT_DumpCounter = 1,000,056,291,329; 000,000,002 x MAXcollisionsAtSomeSlots = 007,910; HASHfreeSLOTS = 0,000,000,000
...
```

Note: One fourth of 'TRISMUS' torture completed says that for 1000:1/2000:1 i.e. keys:slots CRC32 iSCSI disperses better by 19/22 collisions than FNV1A_YoshimitsuTRIADii.

So, 'TRISMUS' says:

For 1,000,056,291,329:134,217,727 = 7,451:1 ratio the DFTID (deviation-from-the-ideal-dispersion) is:
DFTID = (MAX_depthness-(NumberOfKeys+1)/Slots) / ((NumberOfKeys+1)/Slots) * 100%
or
FNV1A_YoshimitsuTRIADii's DFTID = (7,930-7,451)/7,451*100% = **6.4**%

```
// FNV1A_YoshimitsuTRIADiiXMMx2 (revision 2 of FNV1A_YoshimitsuTRIADiiXMM, just unrolled once) aka FNV1A_penumbra, copyleft 2013-Jun-15 Kaze.
// PENUMBRA: Any partial shade or shadow round a thing; a surrounding area of uncertain extent (lit. & fig.). [mod. Latin, from Latin paene almost + umbra shadow.]
//
// Hoy en mi ventana brilla el sol / The sun shines through my window today
// Y el corazón se pone triste contemplando la ciudad / And my heart feels sad while contemplating the city
// Porque te vas / Because you are leaving
// Como cada noche desperté pensando en ti / Just like every night, I woke up thinking of you
// Y en mi reloj todas las horas vi pasar / And I saw as all the hours passed by in my clock
// Porque te vas / Because you are leaving
// Todas las promesas de mi amor se irán contigo / All my love promises will be gone with you
// Me olvidaras, me olvidaras / You will forget me, you will forget me
// Junto a la estación lloraré igual que un niño / Next to the station I will cry like a child
// Porque te vas, porque te vas / Because you are leaving, because you are leaving
// Bajo la penumbra de un farol se dormirán / Under the shadow of a street lamp they will sleep
// Todas las cosas que quedaron por decir se dormirán / All the things left unsaid will sleep there
// Junto a las manillas de un reloj esperarán / They will wait next to a clock's hands
// Todas las horas que quedaron por vivir esperarán / They will wait for all those hours that we had yet to live
// /J[e]anette - 'Porque te vas' lyrics/
//
// Many dependencies, many mini-goals, many restrictions... Blah-blah-blah...
// Yet in my amateurish view the NIFTIEST HT lookups function emerged, it is FNV1A_YoshimitsuTRIADii.
// Main feature: general purpose HT lookups function targeted as 32bit code and 32bit stamp, superfast for 'any length' keys, escpecially useful for text messages.
//
//#include <emmintrin.h> //SSE2
//#include <smmintrin.h> //SSE4.1
//#include <immintrin.h> //AVX
#define xmmload(p) _mm_load_si128((__m128i const*)(p))
#define xmmloadu(p) _mm_loadu_si128((__m128i const*)(p))
#define _rotl_KAZE128(x, n) _mm_or_si128(_mm_slli_si128(x, n) , _mm_srli_si128(x, 128-n))
#define _rotl_KAZE32(x, n) (((x) << (n)) | ((x) >> (32-(n))))
#define XMM_KAZE_SSE2
// For better mixing the above 'define' should be commented while the next one uncommented!
//#define XMM_KAZE_SSE4
uint32_t FNV1A_penumbra(const char *str, uint32_t wrdlen)
{
    const uint32_t PRIME = 709607;
    uint32_t hash32 = 2166136261;
    uint32_t hash32B = 2166136261;
    uint32_t hash32C = 2166136261;
    const char *p = str;
    uint32_t Loop_Counter;
    uint32_t Second_Line_Offset;

#if defined(XMM_KAZE_SSE2) || defined(XMM_KAZE_SSE4) || defined(XMM_KAZE_AVX)
    __m128i xmm0;   // Defined for clarity: No need of defining it, the compiler sees well and uses no intermediate.
    __m128i xmm1;   // Defined for clarity: No need of defining it, the compiler sees well and uses no intermediate.
    __m128i xmm2;   // Defined for clarity: No need of defining it, the compiler sees well and uses no intermediate.
    __m128i xmm3;   // Defined for clarity: No need of defining it, the compiler sees well and uses no intermediate.
    __m128i xmm4;   // Defined for clarity: No need of defining it, the compiler sees well and uses no intermediate.
    __m128i xmm5;   // Defined for clarity: No need of defining it, the compiler sees well and uses no intermediate.
    __m128i xmm0nd; // Defined for clarity: No need of defining it, the compiler sees well and uses no intermediate.
    __m128i xmm1nd; // Defined for clarity: No need of defining it, the compiler sees well and uses no intermediate.
    __m128i xmm2nd; // Defined for clarity: No need of defining it, the compiler sees well and uses no intermediate.
    __m128i xmm3nd; // Defined for clarity: No need of defining it, the compiler sees well and uses no intermediate.
    __m128i xmm4nd; // Defined for clarity: No need of defining it, the compiler sees well and uses no intermediate.
    __m128i xmm5nd; // Defined for clarity: No need of defining it, the compiler sees well and uses no intermediate.
    __m128i hash32xmm = _mm_set1_epi32(2166136261);
    __m128i hash32Bxmm = _mm_set1_epi32(2166136261);
    __m128i hash32Cxmm = _mm_set1_epi32(2166136261);
    __m128i PRIMExmm = _mm_set1_epi32(709607);
#endif

#if defined(XMM_KAZE_SSE2) || defined(XMM_KAZE_SSE4) || defined(XMM_KAZE_AVX)
if (wrdlen >= 2*4*24) { // Actually 2*4*24 is the minimum and not useful, 200++ makes more sense.
    Loop_Counter = (wrdlen/(2*4*24));
    Loop_Counter++;
    Second_Line_Offset = wrdlen-(Loop_Counter)*(2*4*3*4);
    for(; Loop_Counter; Loop_Counter--, p += 2*4*3*sizeof(uint32_t)) {
    xmm0 = xmmloadu(p+0*16);
    xmm1 = xmmloadu(p+0*16+Second_Line_Offset);
    xmm2 = xmmloadu(p+1*16);
    xmm3 = xmmloadu(p+1*16+Second_Line_Offset);
    xmm4 = xmmloadu(p+2*16);
    xmm5 = xmmloadu(p+2*16+Second_Line_Offset);
    xmm0nd = xmmloadu(p+3*16);
    xmm1nd = xmmloadu(p+3*16+Second_Line_Offset);
    xmm2nd = xmmloadu(p+4*16);
    xmm3nd = xmmloadu(p+4*16+Second_Line_Offset);
    xmm4nd = xmmloadu(p+5*16);
    xmm5nd = xmmloadu(p+5*16+Second_Line_Offset);
#if defined(XMM_KAZE_SSE2)
        hash32xmm = _mm_mullo_epi16(_mm_xor_si128(hash32xmm , _mm_xor_si128(_rotl_KAZE128(xmm0,5) , xmm1)) , PRIMExmm);
        hash32Bxmm = _mm_mullo_epi16(_mm_xor_si128(hash32Bxmm , _mm_xor_si128(_rotl_KAZE128(xmm3,5) , xmm2)) , PRIMExmm);
        hash32Cxmm = _mm_mullo_epi16(_mm_xor_si128(hash32Cxmm , _mm_xor_si128(_rotl_KAZE128(xmm4,5) , xmm5)) , PRIMExmm);
        hash32xmm = _mm_mullo_epi16(_mm_xor_si128(hash32xmm , _mm_xor_si128(_rotl_KAZE128(xmm0nd,5) , xmm1nd)) , PRIMExmm);
        hash32Bxmm = _mm_mullo_epi16(_mm_xor_si128(hash32Bxmm , _mm_xor_si128(_rotl_KAZE128(xmm3nd,5) , xmm2nd)) , PRIMExmm);
        hash32Cxmm = _mm_mullo_epi16(_mm_xor_si128(hash32Cxmm , _mm_xor_si128(_rotl_KAZE128(xmm4nd,5) , xmm5nd)) , PRIMExmm);
#else
        hash32xmm = _mm_mullo_epi32(_mm_xor_si128(hash32xmm , _mm_xor_si128(_rotl_KAZE128(xmm0,5) , xmm1)) , PRIMExmm);
        hash32Bxmm = _mm_mullo_epi32(_mm_xor_si128(hash32Bxmm , _mm_xor_si128(_rotl_KAZE128(xmm3,5) , xmm2)) , PRIMExmm);
        hash32Cxmm = _mm_mullo_epi32(_mm_xor_si128(hash32Cxmm , _mm_xor_si128(_rotl_KAZE128(xmm4,5) , xmm5)) , PRIMExmm);
        hash32xmm = _mm_mullo_epi32(_mm_xor_si128(hash32xmm , _mm_xor_si128(_rotl_KAZE128(xmm0nd,5) , xmm1nd)) , PRIMExmm);
        hash32Bxmm = _mm_mullo_epi32(_mm_xor_si128(hash32Bxmm , _mm_xor_si128(_rotl_KAZE128(xmm3nd,5) , xmm2nd)) , PRIMExmm);
        hash32Cxmm = _mm_mullo_epi32(_mm_xor_si128(hash32Cxmm , _mm_xor_si128(_rotl_KAZE128(xmm4nd,5) , xmm5nd)) , PRIMExmm);
#endif
    }
#if defined(XMM_KAZE_SSE2)
    hash32xmm = _mm_mullo_epi16(_mm_xor_si128(hash32xmm , hash32Bxmm) , PRIMExmm);
    hash32xmm = _mm_mullo_epi16(_mm_xor_si128(hash32xmm , hash32Cxmm) , PRIMExmm);
#else
    hash32xmm = _mm_mullo_epi32(_mm_xor_si128(hash32xmm , hash32Bxmm) , PRIMExmm);
    hash32xmm = _mm_mullo_epi32(_mm_xor_si128(hash32xmm , hash32Cxmm) , PRIMExmm);
#endif
    hash32 = (hash32 ^ hash32xmm.m128i_u32[0]) * PRIME;
    hash32B = (hash32B ^ hash32xmm.m128i_u32[3]) * PRIME;
    hash32 = (hash32 ^ hash32xmm.m128i_u32[1]) * PRIME;
    hash32B = (hash32B ^ hash32xmm.m128i_u32[2]) * PRIME;
} else if (wrdlen >= 24)
#else
if (wrdlen >= 24)
#endif
{
    Loop_Counter = (wrdlen/24);
    Loop_Counter++;
    Second_Line_Offset = wrdlen-(Loop_Counter)*(3*4);
    for(; Loop_Counter; Loop_Counter--, p += 3*sizeof(uint32_t)) {
        hash32 = (hash32 ^ (_rotl_KAZE32(*(uint32_t *)(p+0),5) ^ *(uint32_t *)(p+0+Second_Line_Offset))) * PRIME;
        hash32B = (hash32B ^ (_rotl_KAZE32(*(uint32_t *)(p+4+Second_Line_Offset),5) ^ *(uint32_t *)(p+4))) * PRIME;
        hash32C = (hash32C ^ (_rotl_KAZE32(*(uint32_t *)(p+8),5) ^ *(uint32_t *)(p+8+Second_Line_Offset))) * PRIME;
    }
        hash32 = (hash32 ^ _rotl_KAZE32(hash32C,5) ) * PRIME;
} else {
    // 1111=15; 10111=23
    if (wrdlen & 4*sizeof(uint32_t)) {
        hash32 = (hash32 ^ (_rotl_KAZE32(*(uint32_t *)(p+0),5) ^ *(uint32_t *)(p+4))) * PRIME;
        hash32B = (hash32B ^ (_rotl_KAZE32(*(uint32_t *)(p+8),5) ^ *(uint32_t *)(p+12))) * PRIME;
        p += 8*sizeof(uint16_t);
    }
    // Cases: 0,1,2,3,4,5,6,7,...,15
    if (wrdlen & 2*sizeof(uint32_t)) {
        hash32 = (hash32 ^ *(uint32_t*)(p+0)) * PRIME;
        hash32B = (hash32B ^ *(uint32_t*)(p+4)) * PRIME;
        p += 4*sizeof(uint16_t);
    }
    // Cases: 0,1,2,3,4,5,6,7
    if (wrdlen & sizeof(uint32_t)) {
        hash32 = (hash32 ^ *(uint16_t*)(p+0)) * PRIME;
        hash32B = (hash32B ^ *(uint16_t*)(p+2)) * PRIME;
        p += 2*sizeof(uint16_t);
    }
    if (wrdlen & sizeof(uint16_t)) {
        hash32 = (hash32 ^ *(uint16_t*)p) * PRIME;
        p += sizeof(uint16_t);
    }
    if (wrdlen & 1)
        hash32 = (hash32 ^ *p) * PRIME;
}
    hash32 = (hash32 ^ _rotl_KAZE32(hash32B,5) ) * PRIME;
    return hash32 ^ (hash32 >> 16);
}
```

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Machinely yours,
Kaze