Jetico

Complete Endpoint Data Protection

www.jetico.com

Erasure Standards

BCWipe

www.jetico.com/data-wiping

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General Information

Data Wiping

Data wiping, also known as secure data erasure, is a term used to describe the process of shredding the contents of a file or disk space beyond recovery. The wiping process works by overwriting text one or more times.

Erasure Standard

Data erasure standards, also known as wiping schemes, are designed to remove data beyond recovery. Each wiping scheme consists of a set of rules that differentiates them from one another.

Passes & Patterns

Each wiping scheme comes with a defined number of passes, meaning how many times the same data will be overwritten; and with a defined pattern, meaning the type of data that is written to the drive during each pass.

Issuer

Erasure standards are issued by various institutes including the U.S. Department of Defense (DoD), U.S. Army, as well as other institutes and agencies.

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Erasure Standards in BCWipe [1]

Erasure Standard	BCWipe	BCWipe Total WipeOut
Jetico HDD	✓	
Jetico SSD	✓	
U.S. DoD 5220.22-M (ECE) & (E)*	✓	✓
U.S. DoE M 205.1-2*	✓	✓
German BCI/VSITR	✓	✓
Russian GOST	✓	✓
British HMG IS6	✓	✓
NAVSO-P5239-26	✓	✓
U.S. Army AR380-19	✓	✓
NIST 800-88-1, 800-88-2 & 800-88-3*	✓	✓
Canadian RCMP TSSIT OPS-II	✓	✓

Erasure Standards in BCWipe [2]

Erasure Standard	BCWipe	BCWipe Total WipeOut
Bruce Schneier	✓	✓
Peter Gutmann	✓	✓
One-Pass Random	✓	✓
One-Pass Zero	✓	✓
One-Pass Test Mode	✓	✓
Create your own wiping scheme		
- Wiping Scheme Editor	✓	
- Read Custom Scheme from File	✓	✓

*Only available with Enterprise license

In the presentation below, every scheme comes with a security-level grade based on the number of passes: the higher the slide is, the more secure the standard is considered.

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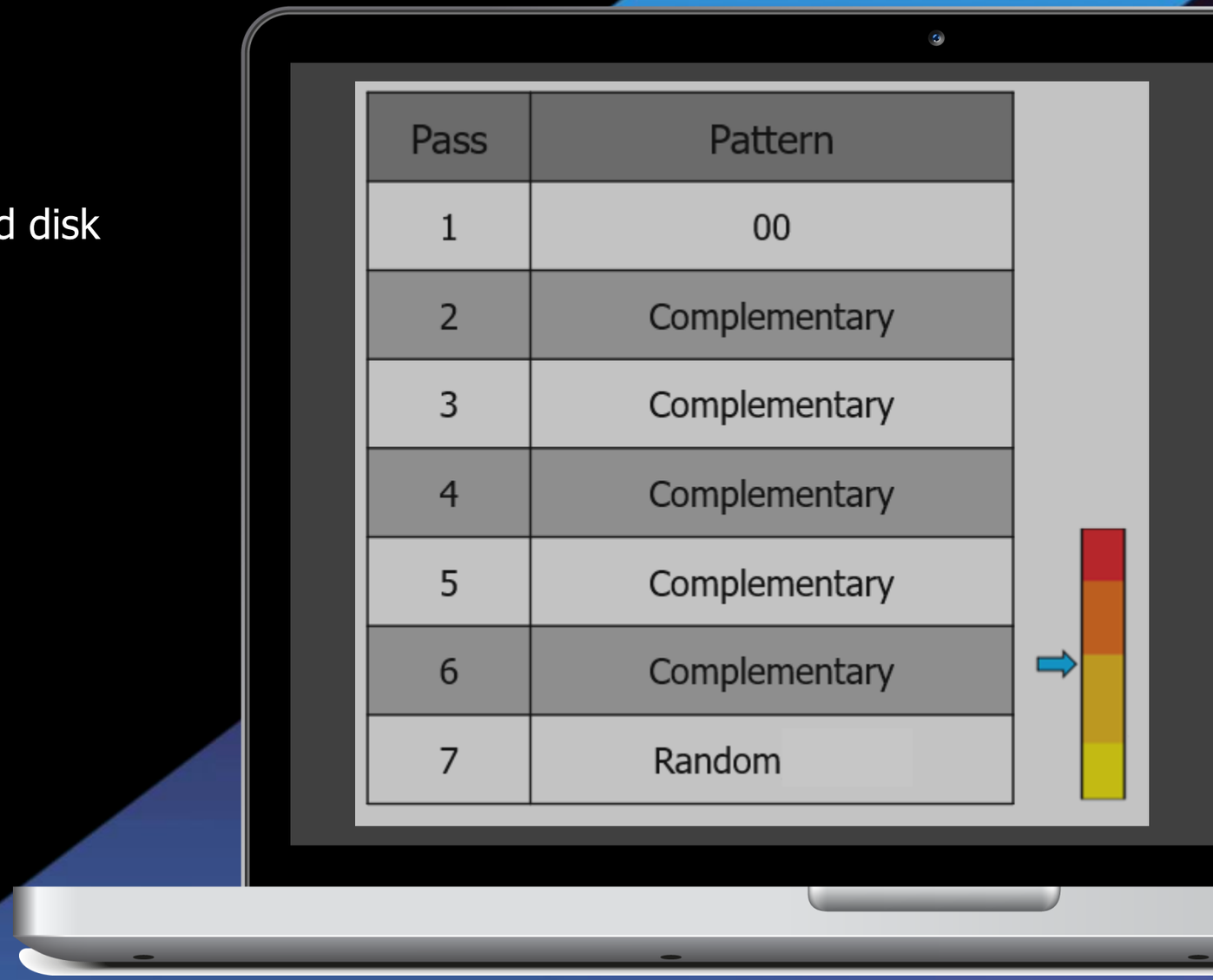
Jetico HDD

Jetico’s proprietary wiping scheme is our recommendation for securely erasing data from hard disk drives (HDDs).

- Passes: 7
- Patterns: Fixed, Complementary, Random
- Verification: Yes

Jetico’s choice for wiping Hard Disk Drives (HDD)



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Jetico SSD

Jetico’s proprietary wiping scheme is our recommendation for securely erasing data from solid-state drives (SSDs).

- Passes: 2
- Patterns: Random
- Verification: No

Jetico’s choice for wiping Solid State Drives (SSD)

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U.S. DoD 5220.22-M (E)

A widely adopted standard published by the U.S. Department of Defence in 1995. This wiping scheme requires overwriting drives with 3 passes.

- Passes: 3
- Patterns: Random, Complementary
- Verification: Yes

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U.S. DoD 5220.22-M (ECE)

This method extends the original DoD standard, including 2 complete passes of DoD 5220.22-M and an additional fixed-pattern pass in the middle.

- Passes: 7
- Patterns: Fixed, Random
- Verification: Yes

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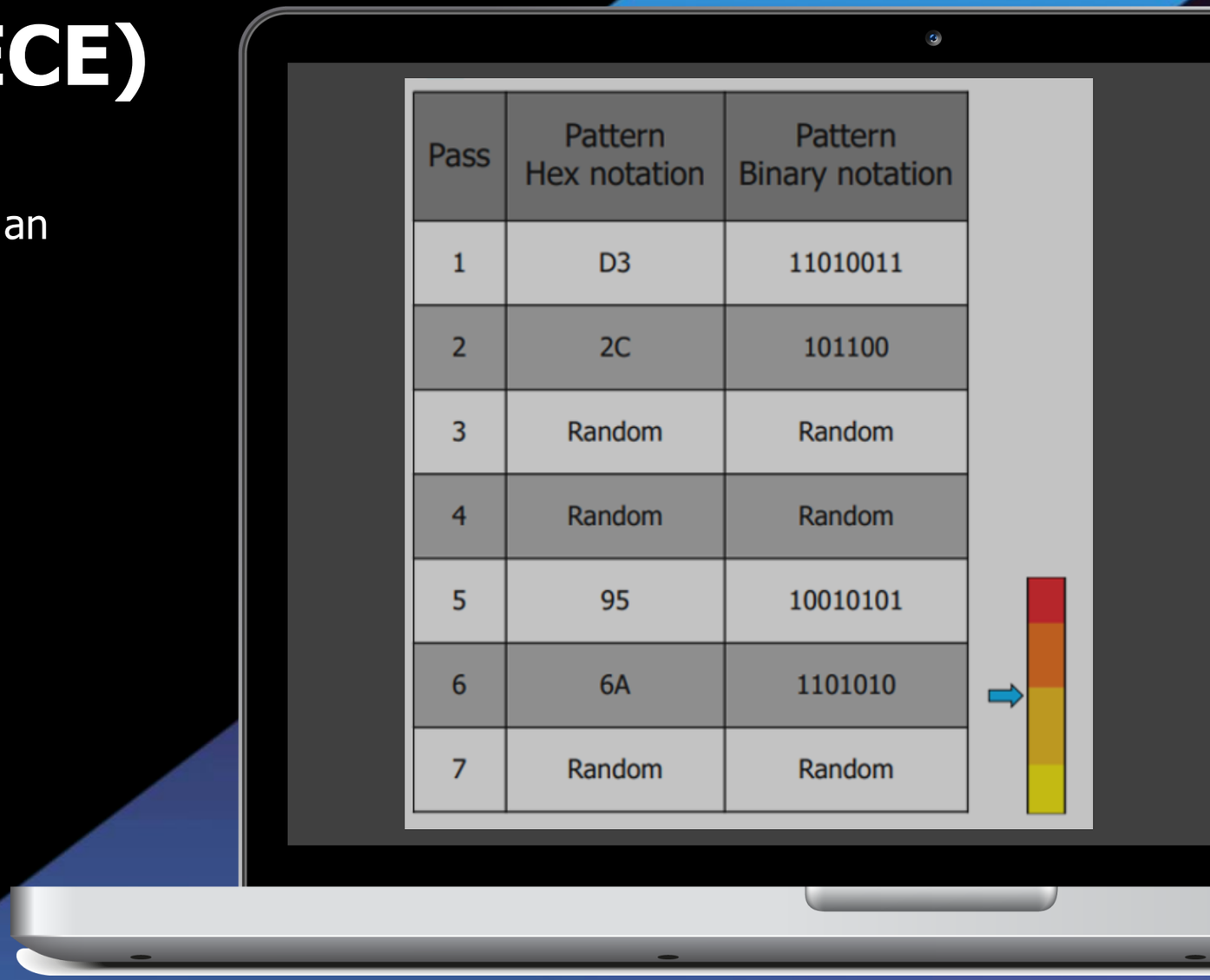

Pass	Pattern Hex notation	Pattern Binary notation
1	D3	11010011
2	2C	101100
3	Random	Random
4	Random	Random
5	95	10010101
6	6A	1101010
7	Random	Random

U.S. DoE M 205.1-2

Issued by the U.S. Department of Energy, this standard is required for clearing, sanitizing and destroying “DoE information system storage media, memory devices, and related hardware”.

- Passes: 3
- Patterns: Random, Fixed
- Verification: Yes

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German BCI/VSITR

A 7-pass wiping scheme released by the German Federal Office for Information Security (BSI).

- Passes: 7
- Patterns: Complementary, Fixed
- Verification: Yes

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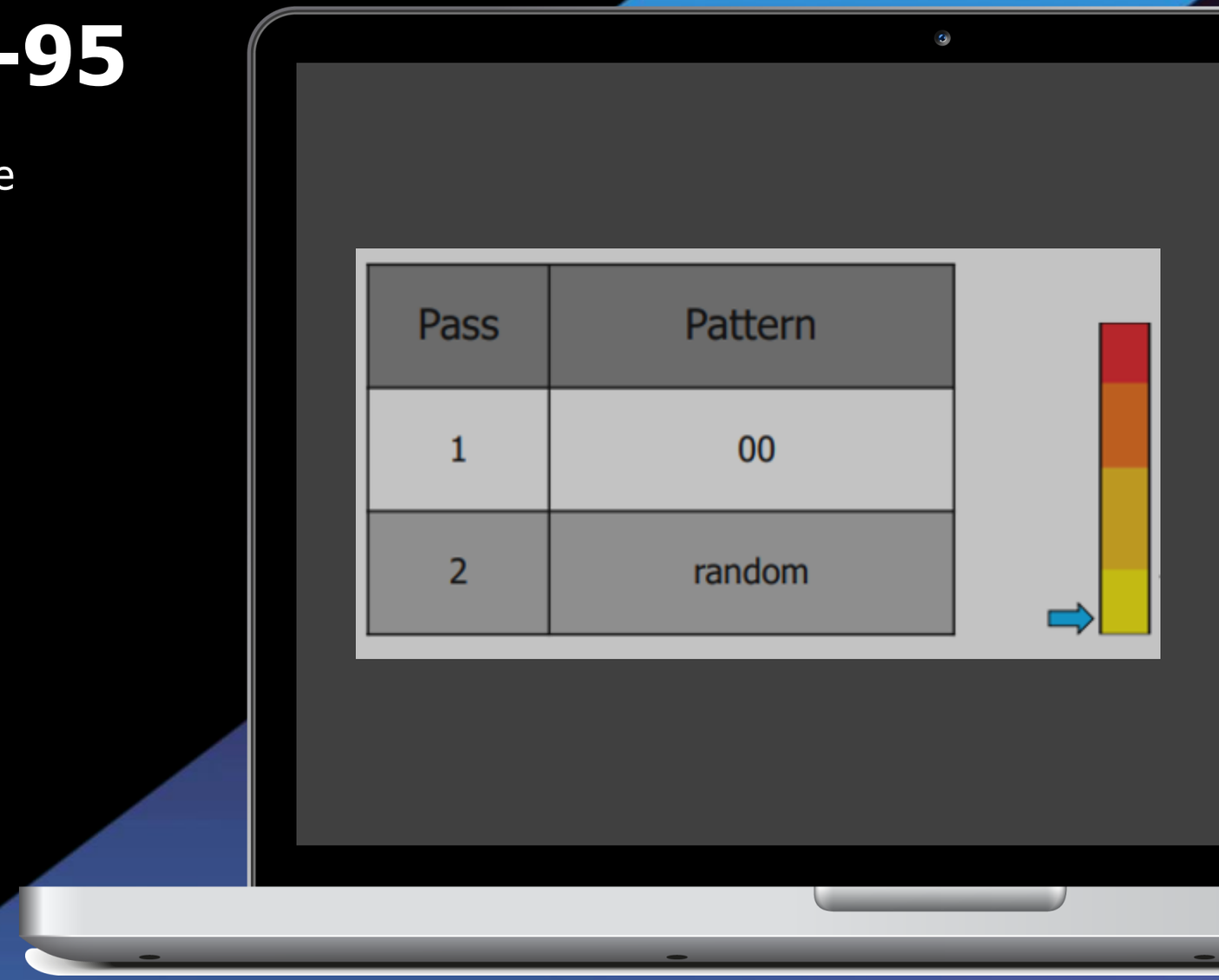
Russian GOST R50739-95

A 2-pass wiping scheme issued by the Russian State Technical Commission to protect data against unauthorized access.

- Passes: 2
- Patterns: Fixed, Random
- Verification: No



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British HMG IS6

Issued by the Communications Electronics Security Group as part of the National Cyber Security Center, this British government standard comes in 2 versions:

BASELINE

- Passes: 1
- Patterns: Fixed
- Verification: Yes

ENHANCED

- Passes: 3
- Patterns: Fixed, Random
- Verification: Yes

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NAVSO-P5239-26 (MFM)

The MFM (modified frequency modulation) version of the 3-pass wiping standard issued by the U.S. Navy in 1993.

- Passes: 3
- Patterns: Fixed, Complementary, Random
- Verification: Yes

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NAVSO-P5239-26 (RLL)

The RLL (run-length limited) version of the U.S. Navy's data sanitization method.

- Passes: 3
- Patterns: Fixed, Complementary, Random
- Verification: Yes

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U.S. Army AR380-19

This 3-pass data sanitization method was published by the U.S. Army in the Army Regulation 380-19 of 1998.

- Passes: 3
- Patterns: Random, Fixed, Complementary
- Verification: Yes

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NIST 800-88

The National Institute for Standards and Technology's (NIST) guidelines are available in 3 versions:

NIST 800-88-1

- Passes: 1
- Patterns: Fixed

NIST 800-88-2

- Passes: 1
- Patterns: Random

NIST 800-88-3

- Passes: 3
- Patterns: Fixed, Complementary, Random

- Verification: Yes

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Bruce Schneier

A data sanitization algorithm created by Bruce Schneier that first appeared in his 1994 book 'Applied Cryptography'.

- Passes: 7
- Patterns: Fixed, Random
- Verification: Yes

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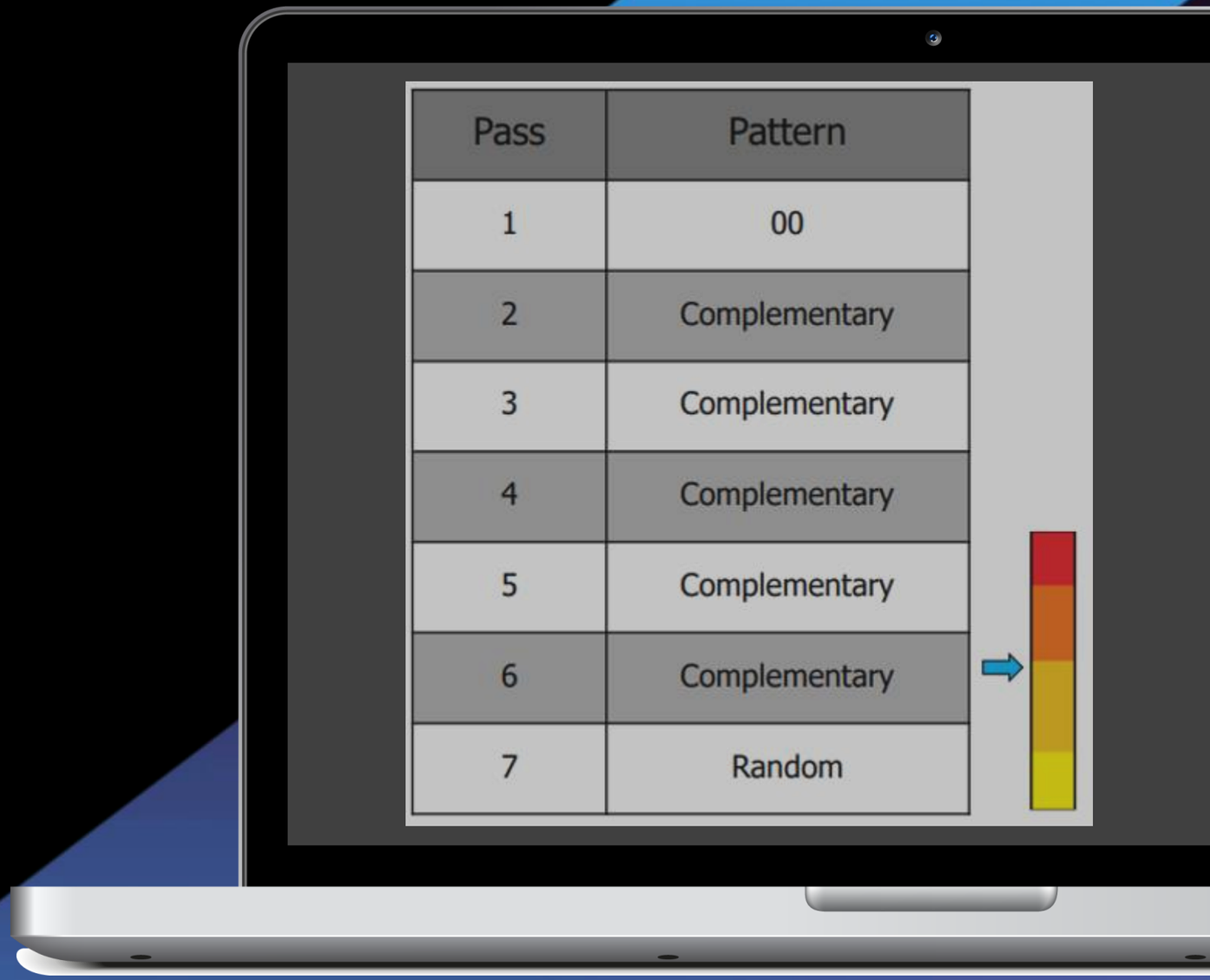
Canadian RCMP TSSIT OPS-II

This 7-pass standard was published by the Royal Canadian Mounted Police (RCMP).

- Passes: 7
- Patterns: Fixed, Complementary, Random
- Verification: Yes



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Peter Gutmann

Introduced in 1996, this scheme uses random and complex patterns. It's acknowledged as being highly effective and secure, but also time-consuming.

- Passes: 35
- Patterns: Random, Fixed
- Verification: No

Pass	Pattern	Pattern Binary notation
1-4	Random	Random
5	55	01010101 01010101 01010101
6	AA	10101010 10101010 10101010
7	92, 49, 24	10010010 01001001 00100100
8	49, 24, 92	01001001 00100100 10010010
9	24, 92, 49	00100100 10010010 01001001
10	00	00000000 00000000 00000000
11	11	00010001 00010001 00010001
12	22	00100010 00100010 00100010
13	33	00110011 00110011 00110011
14	44	01000100 01000100 01000100
15	55	01010101 01010101 01010101
16	66	01100110 01100110 01100110
17	77	01110111 01110111 01110111
18	88	10001000 10001000 10001000
19	99	10011001 10011001 10011001
20	AA	10101010 10101010 10101010
21	BB	10111011 10111011 10111011
22	CC	11001100 11001100 11001100
23	DD	11011101 11011101 11011101
24	EE	11101110 11101110 11101110
25	FF	11111111 11111111 11111111
26	92, 49, 24	10010010 01001001 00100100
27	49, 24, 92	01001001 00100100 10010010
28	24, 92, 49	00100100 10010010 01001001
29	6D, B6, DB	01101101 10110110 11011011
30	B6, DB, 6D	10110110 11011011 01101101
31	DB, 6D, B6	11011011 01101101 10110110
32-35	Random	Random

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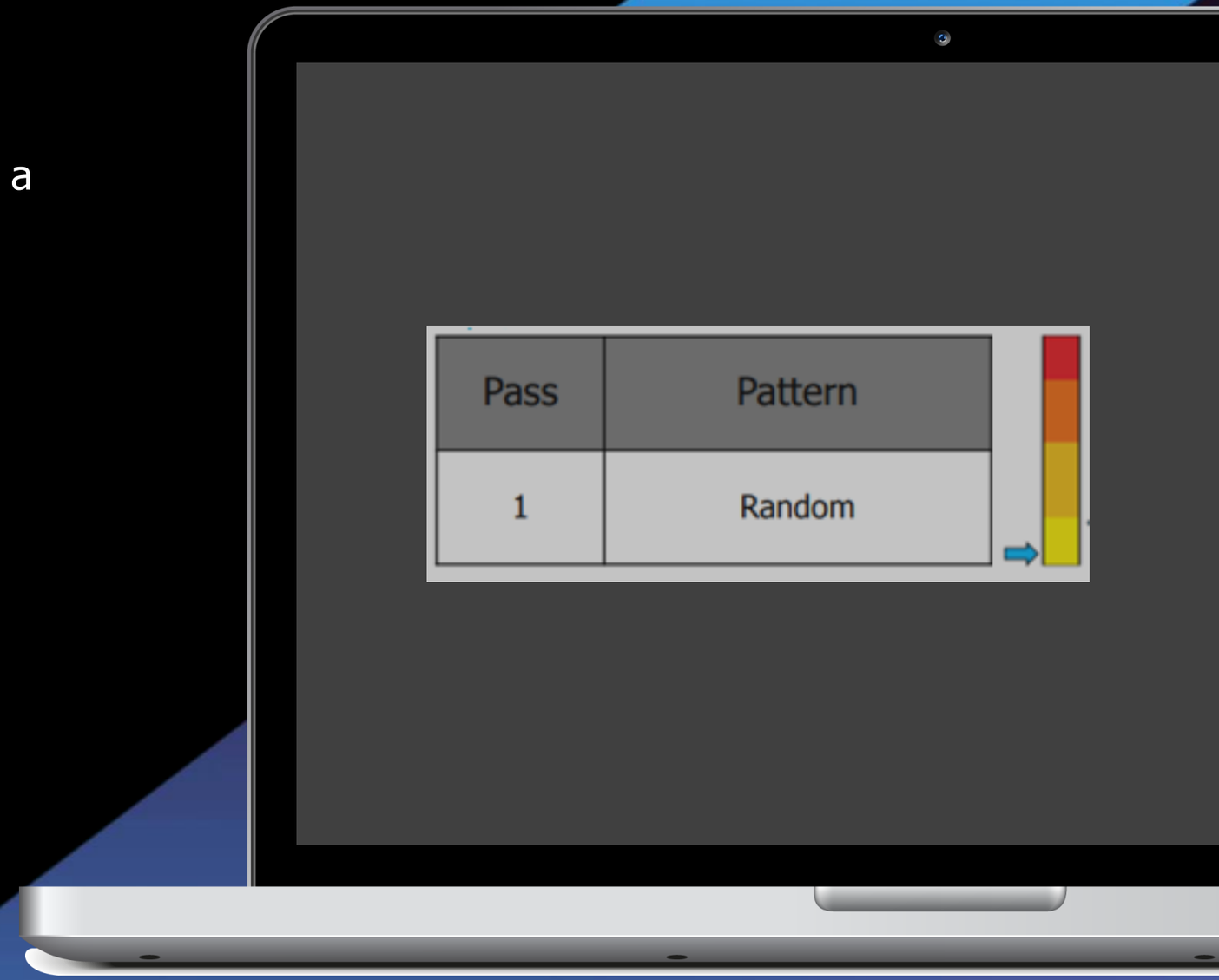
One-Pass Random

This 1-pass data sanitization method involves using a random overwriting pattern.

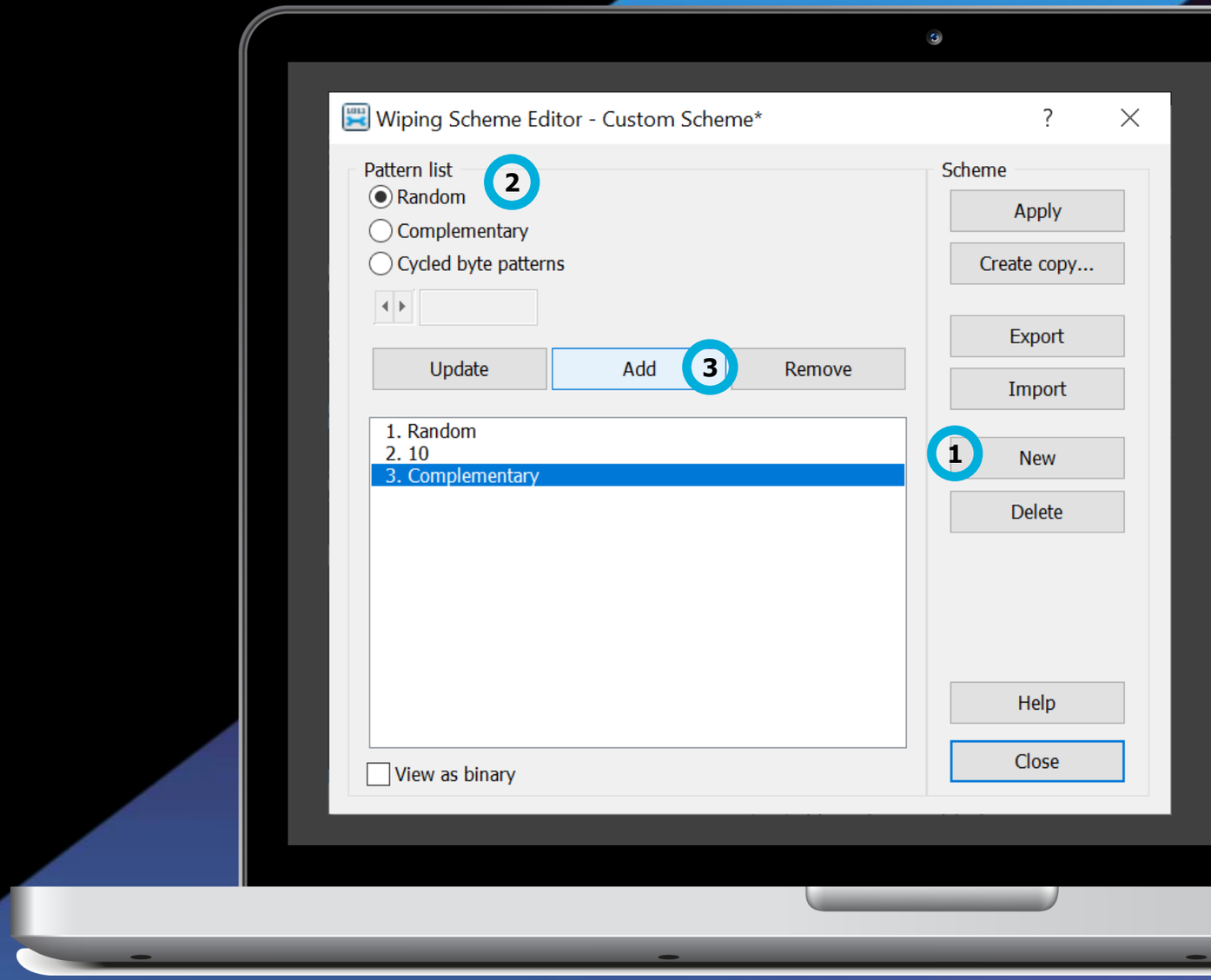
- Passes: 1
- Patterns: Random
- Verification: No



Custom Scheme

BCWipe allows you to create and use your own customized wiping scheme. Here are step-by-step instructions:

- Select ‘Advanced’ settings when setting up any wiping task
- In the ‘Wiping options’ tab, select ‘Edit scheme’
- Click ‘New’
- Select a pattern from the ‘Pattern list’
- Use ‘Add’ to create your scheme



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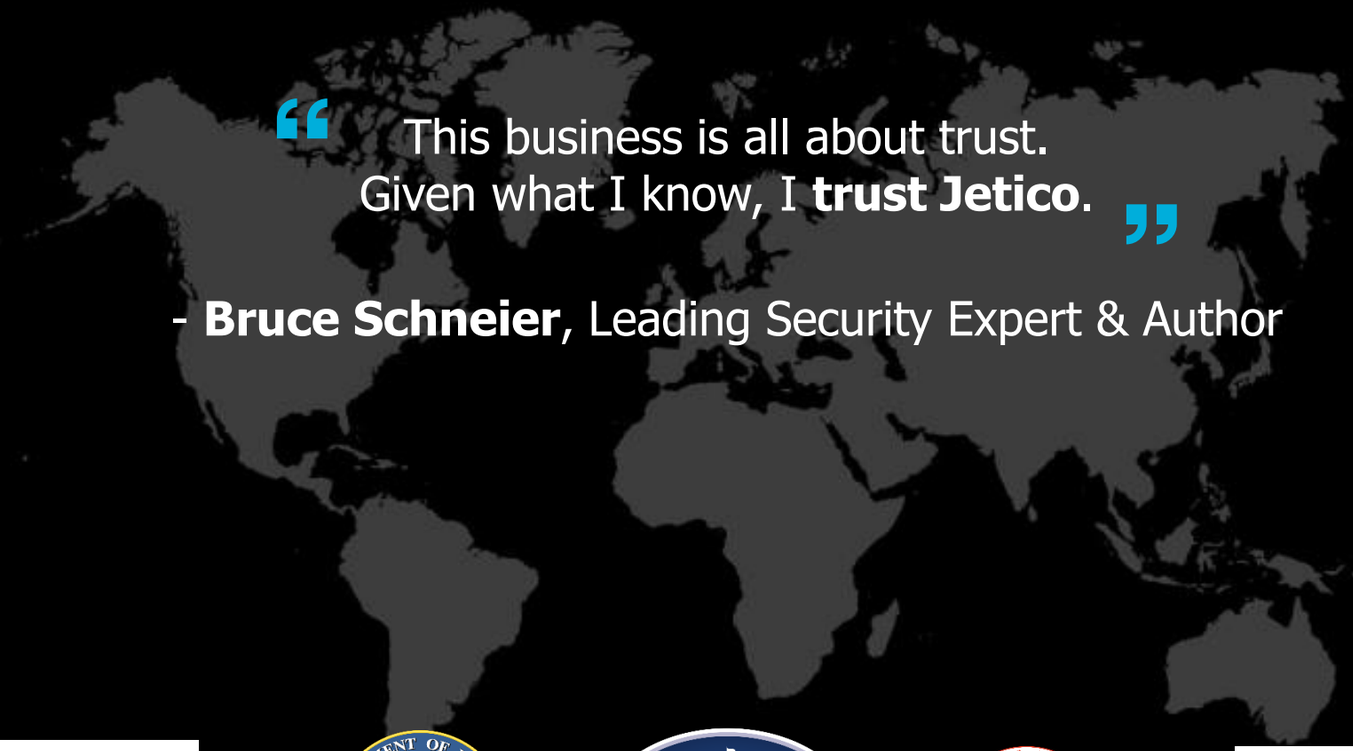
Top Security Organizations Trust Jetico



> This business is all about trust.
> Given what I know, I **trust Jetico**.

- **Bruce Schneier**, Leading Security Expert & Author

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DEPARTMENT OF DEFENSE · UNITED STATES OF AMERICA

THE WHITE HOUSE · WASHINGTON

HONG KONG

IRS

Thank You

Our Vision

Beyond unbreakable data protection,
the best security works the way you do
– naturally and transparently.

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