

Technology, laws and values of encryption

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Technology of encryption



Definition

- a technology that transforms information or data into ciphers or code for purposes of ensuring its confidentiality, integrity and authenticity

States of data

- Data at rest stored data
- Data in motion communications
- Data in use processed data

Types of data under law

- Content data
- Traffic data and metadata
- Subscriber information
- Access information

Laws of encryption



Export control laws

- Dual-use
- Licensing requirement
- Encryption as technology

Substantive cybercrime laws

- Crime of misuse of devices
- Encryption technology

Criminal procedure laws

- Lawful access to encrypted data
- Search and seizure (stored data, content data)
- Reasonable provision of necessary information (access information)

Criminal procedure laws

- Surveillance (communications, content data, traffic data and metadata)
- Requirement of technical assistance (communications, traffic data and metadata)
- Production order (subscriber information)

Human rights laws

- Right against unreasonable search and seizure including surveillance
- Privilege against self-incrimination
- Freedom of expression

Information security and data protection laws

- Data protection (Privacy Act 2020)
- Industry-specific regulation (e.g., privacy codes)
- Government information security standards (e.g., NZISM)

Values of encryption



Fundamental principles and values

- Data protection
- Information security
- Law enforcement and lawful access
- National security and public safety
- Privacy
- Right against self-incrimination
- Right against unreasonable search and seizure
- Right to property
- Secrecy of correspondence
- Trust

Ranking of principles and values

Ranking compared	
Overall	
Top tier	
1	Privacy
2	Data protection
3	Information security
4	Trust
5	National security & public safety
6	Right to property
Second tier	
7	Secrecy of correspondence
8	Law enforcement & lawful access
9	Right vs. unreasonable search & seizure
10	Right vs. self-incrimination

Conclusion

- Technical, legal and social matters
- All three need to be considered in encryption regulation

Questions and comments

