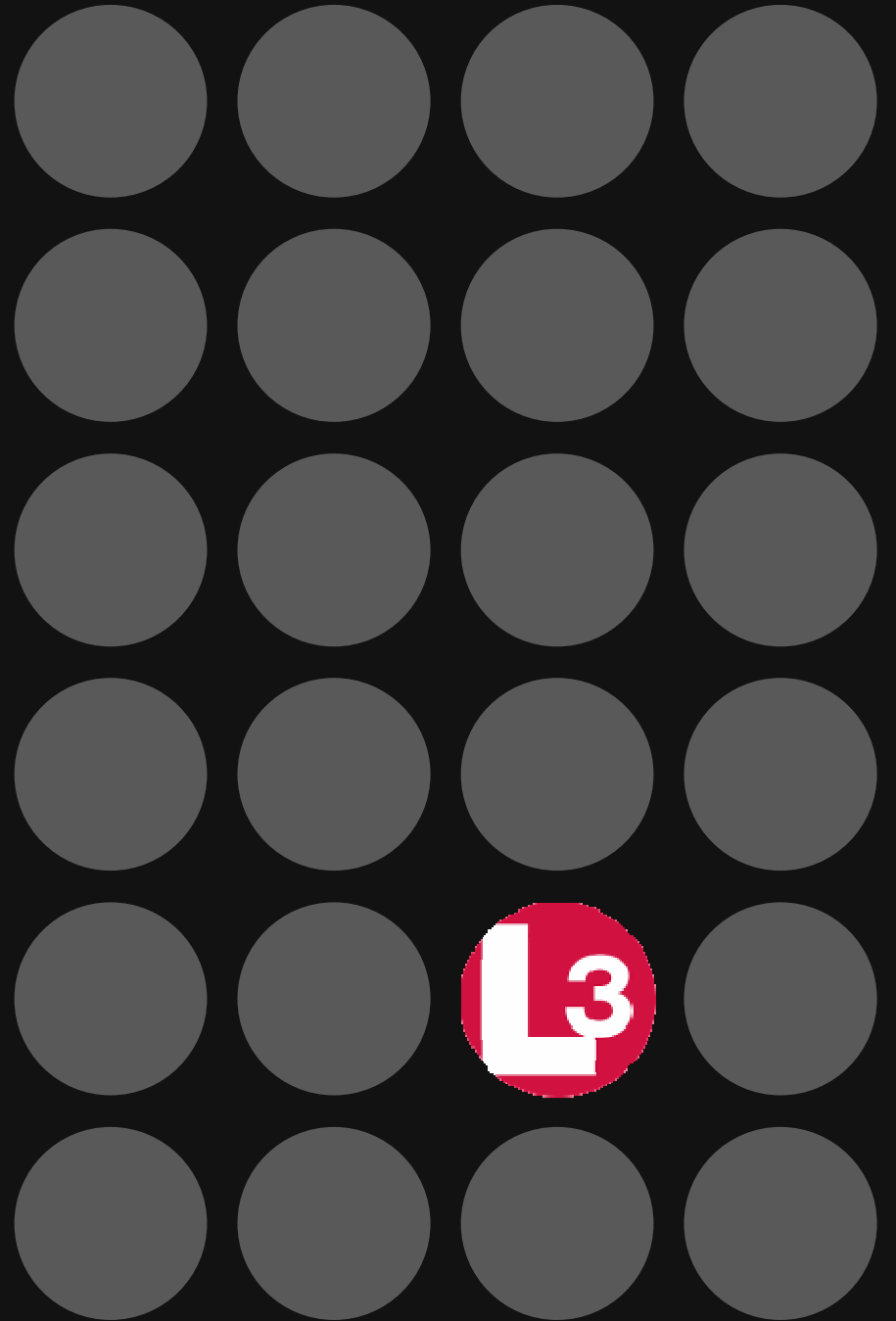# TRL Technology

The Interception Threat

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The Interception Threat – and how to protect against it.

- The threat of data interception
- The risks
- How do we encrypt data?
- What to look for in encryption devices
- The benefits of encryption

What is data interception?

- The ability to capture a stream of bytes
    - At a basic level, requires translation of electronic signals from voltage changes to numbers and letters
- Packet Sniffer
    - Began as a Diagnostic Tool
    - Capable of reading unencrypted traffic
    - Inexpensive
- How do you utilise the lowest cost means of data transmission (ie the Internet) with the risk of interception?

The consequences of data interception

- Consequences for:

  - Privacy
  - Health
  - Finance
  - National Security
  - National Economy

How do we encrypt data to prevent access through electronic eavesdropping?

- The perfect system?
  - The One Time pad
  - Not capable of keeping up with the flow of modern data
- Link encryptors
  - Good for 1-1 connections
  - Multiple connectivity a pain
- Over the last two decades encryption has come on in leaps and bounds.
- New devices are IP based
  - Capable of multiple connections
  - Provide redundancy to the network

What's the perfect encryption device?

- Minimal network impact
  - High throughput
  - Run at speeds close to line speed
  - Invisible to user
- IP encryption for multiple simultaneous connections
  - Build a mesh
  - No single point of failure
- Ability to disguise
  - MAC number
- Quick erase
  - Can be left in situ in case of emergency

Other features of the perfect encryption device?

- Track record
  - Where else is the unit in use?
- Uses highest, internationally agreed standards
  - AES-256
- Available for evaluation
  - Look for a supplier that will support trials
  - Look for a supplier that will engage with your national certification authority.

The most important feature of the perfect encryption device?

- **National Sovereignty**
  - Trust Anchor
    - Trust Anchor definition
  - Unique to your nation
  - Ability to generate own key

The most important feature of the perfect encryption device?

Conclusion

- Governments can protect against data interception through effective encryption

- Encryption systems need to be:

  - Sovereign

  - Highly Secure

  - Transparent in operation

  - Utilise internationally accepted standards