

## High-speed data lookup

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High-speed data lookups form a central part of most applications and are often the cause of network bottlenecks. Roke Manor Research provides services and skills in consultancy, hardware, software and COTS to solve your high-speed data lookup problems and improve overall network speed and efficiency.



## Today's challenges

Translating one address into another for a high-speed router, or finding a small piece of information in a vast data stream is becoming more important. Additionally, the security of networks and the people who use them are increasingly coming under threat. **Network Providers** are being forced to increase the size, bandwidth and speed of their infrastructure in an attempt to gain faster and more efficient IP (Internet Protocol) address lookups. This change is due to:

- Increasing routing table sizes and exponential traffic growth
- Higher speed links and migration to 128-bit IPv6 addressing

Roke draws on its extensive knowledge to help find the right solution for your high-speed data lookup needs. Other applications we can help with include:

- **Security** within networks is increasingly important for the protection of data and the prevention of unauthorised access to systems. High-speed lookup engines can provide wire-speed security policy enforcement, denial-of-service attack mitigation and server load balancing.
- **Network Monitoring** and "Deep Packet Inspection" using a combination of signature-matching technologies and heuristic analysis to permit decisions to be made on the content of data.
- **Lawful Interception** allowing transparent interception of specified network data.

## Why Roke for high-speed data searching?

Roke has extensive experience in both hardware and software implementations of existing lookup and data search algorithms. We have developed new, faster, more robust algorithms for the increasingly complex search and lookup requirements of today's networks.

Under development is the latest in hardware pattern (string) matching algorithms to allow wire-speed searches for key words and phrases.

We are able to offer the full range of services to our customers including:

- Full consultancy
- Feasibility studies
- Software and algorithm development
- Bespoke or COTS systems
- Wire-speed hardware solutions

This is just a small subset of our capabilities in this area as a great deal of our work cannot be publicised.

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