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Enhancing security and privacy in the eHealth sector

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eHealth use case

- Monitor, track and control the access to Medical Health Records (MHR) in order to ensure the privacy of patients is respected.
- The Use Case involves a set of medical services for treatment plan and clinical path of patients affected by breast cancer, hosted by **Policlinico Tor Vergata**.
- The testbed will include (pseudo/anonymized) data collected from several departments:
  - UOC of Diagnostic Imaging
  - UOS of Anatomic Pathology
  - Surgical Unit
  - Medicine Laboratory

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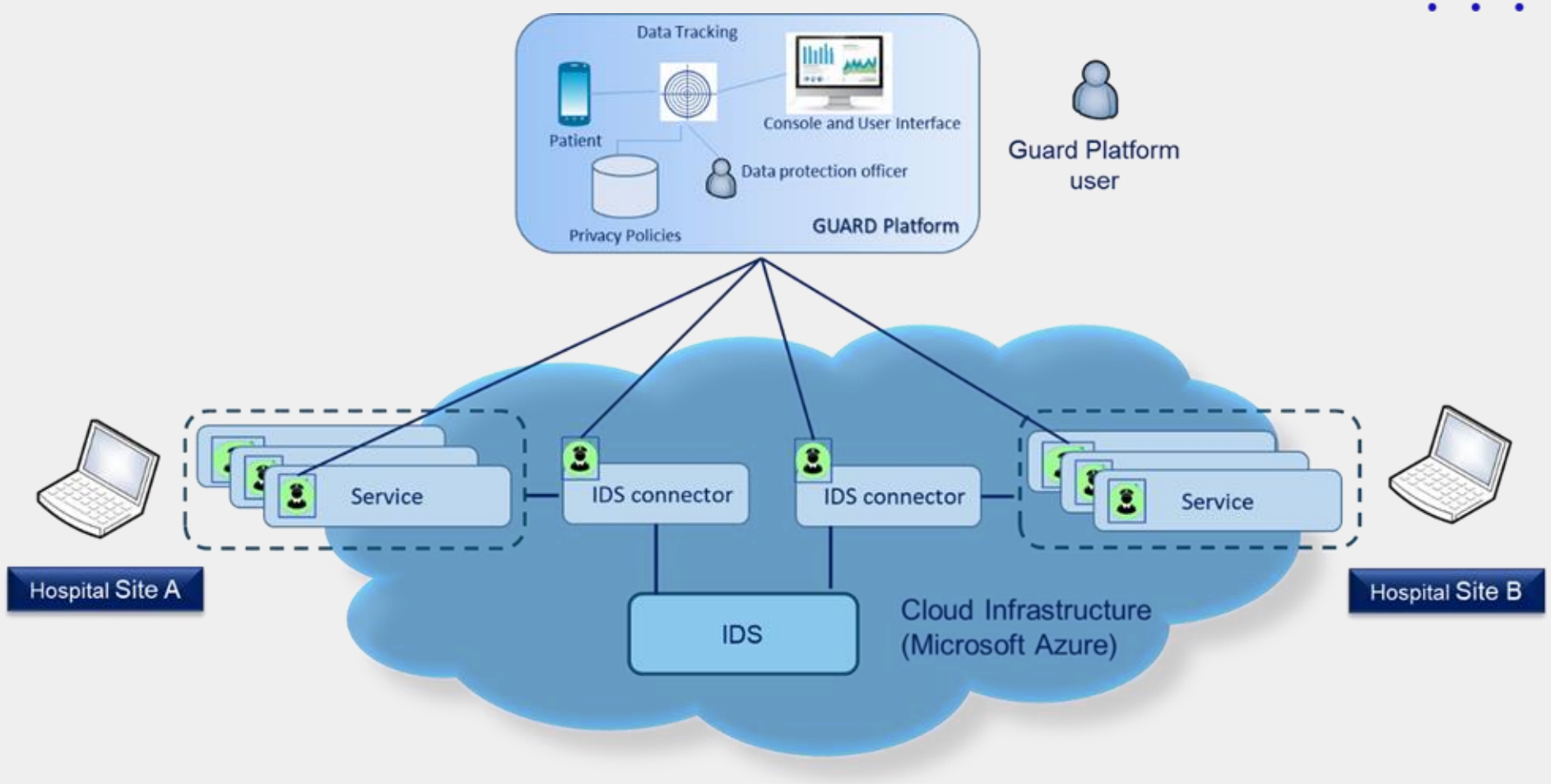
Network Layer



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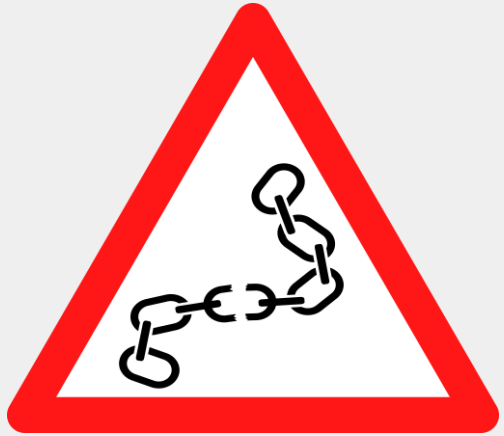
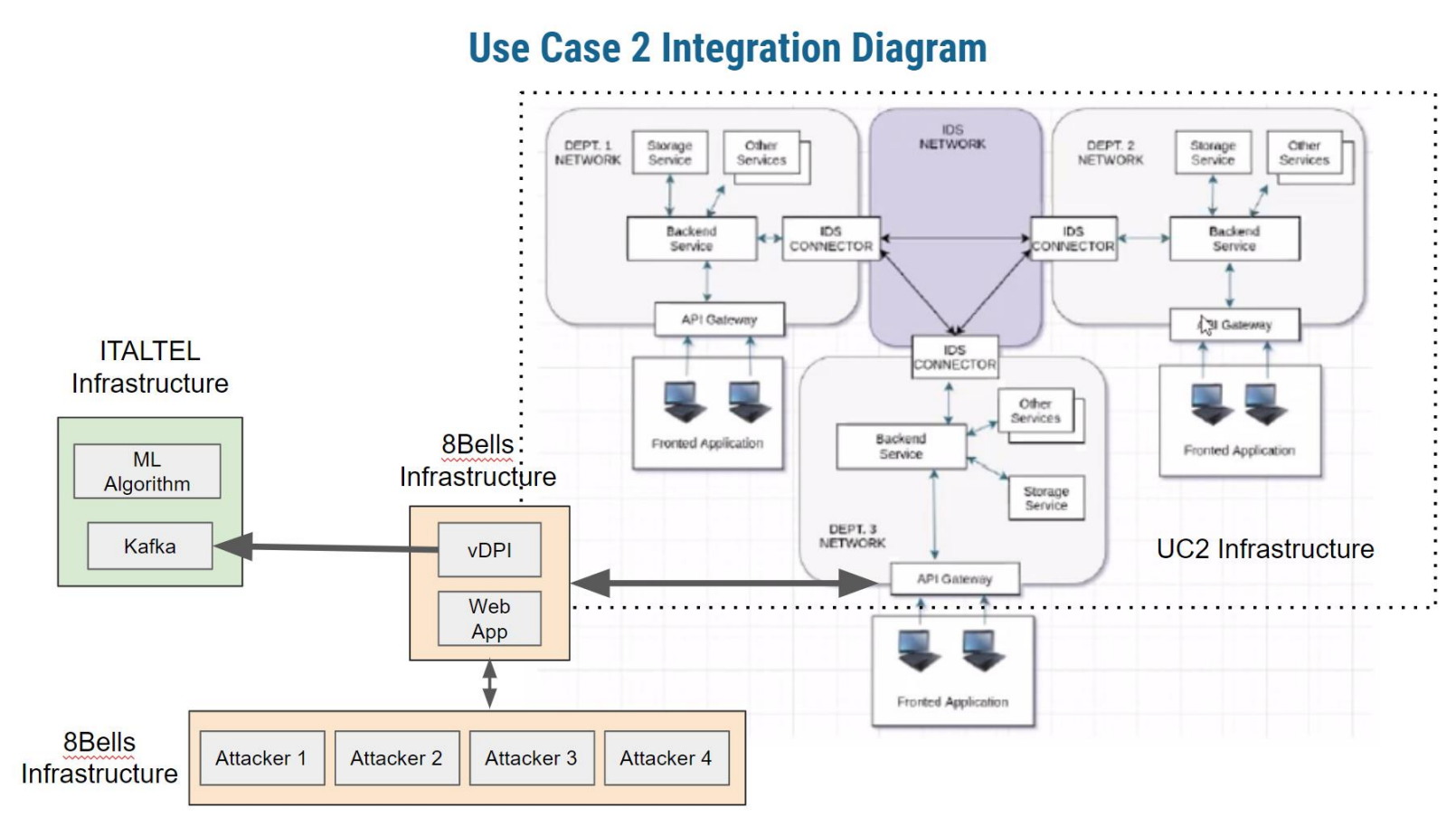
Security issue

(1) Integrity and trustworthy of the business chain

- **trustworthiness** and **reliability** of the end-to-end service chain is strictly dependent on the security in each administrative domain.
- Current identity management and access control tools developed and integrated into distributed systems can neither guarantee the integrity nor the dependability of the whole chain over time.



Attack detection



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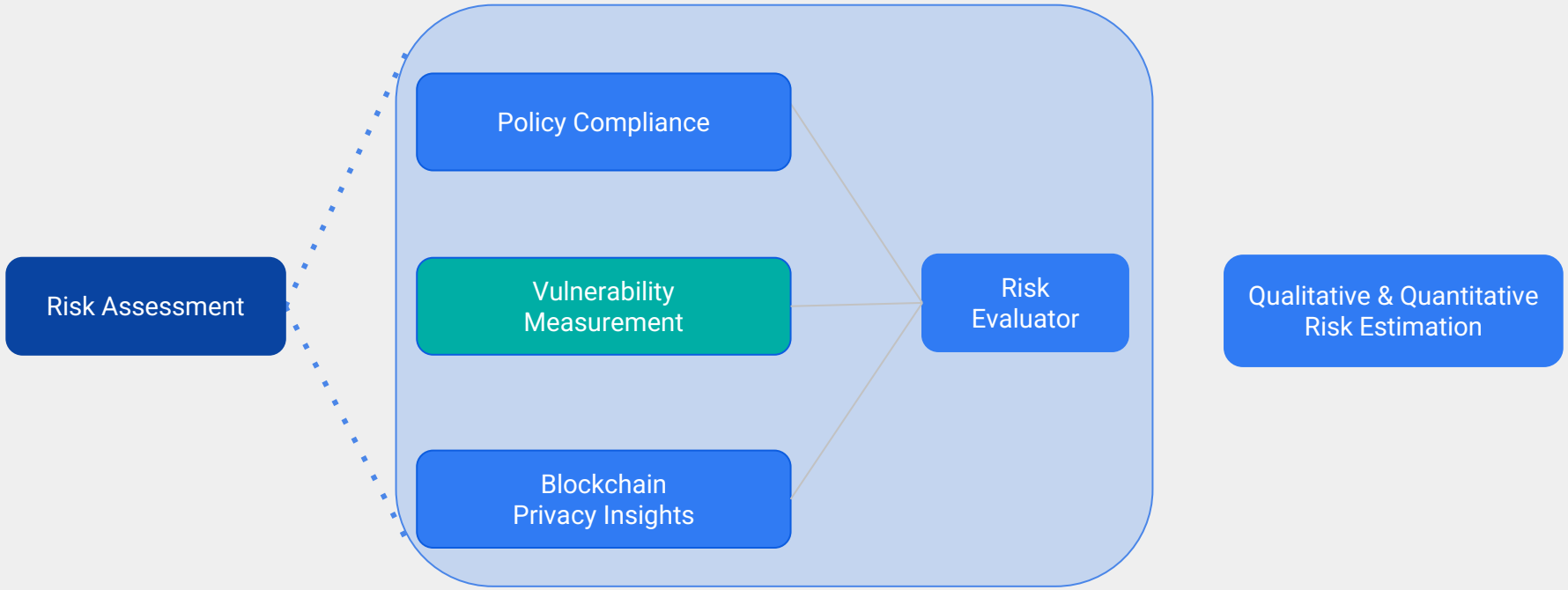
Vulnerability Scanning



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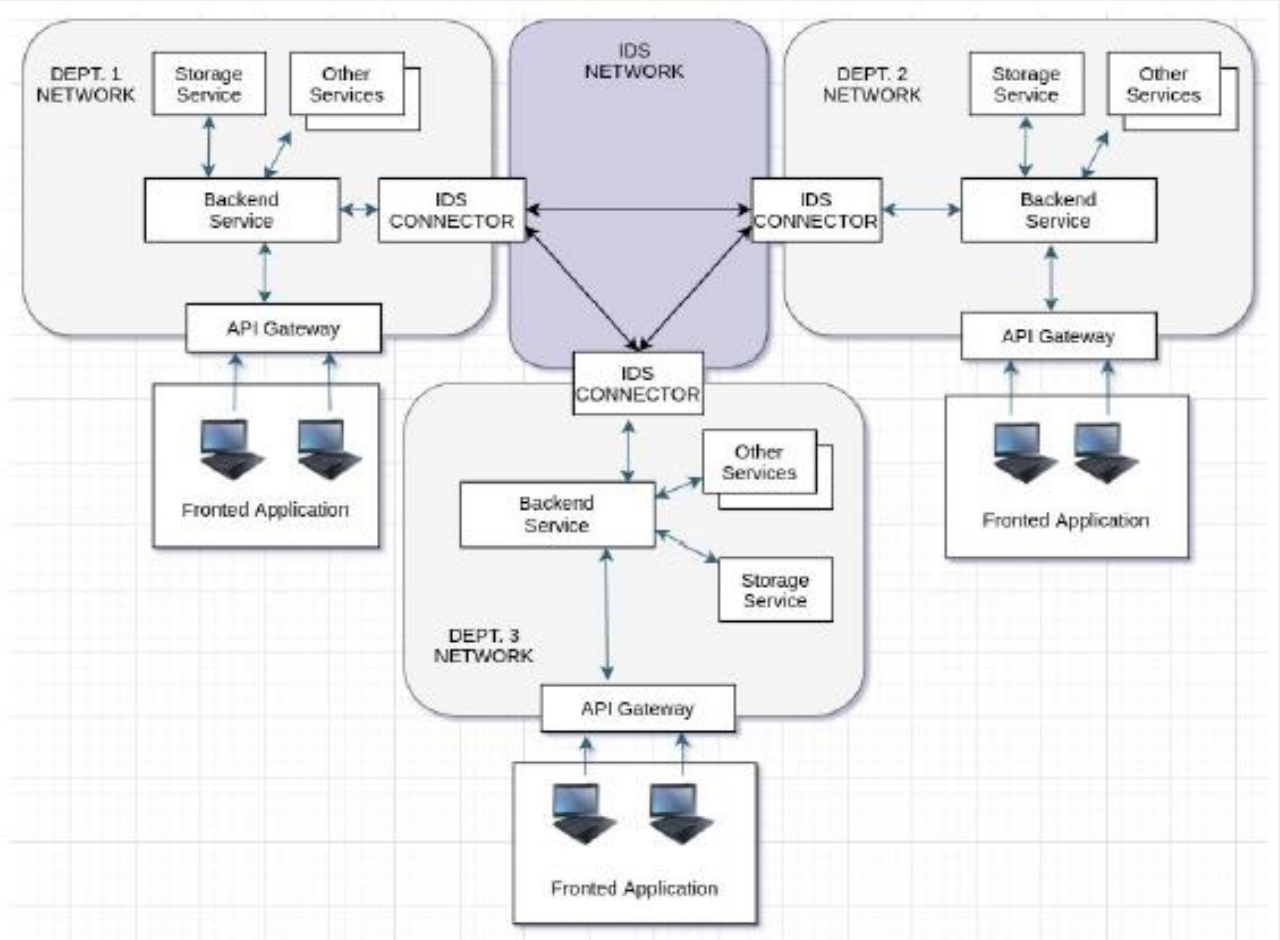
Security issue

(2) Control over propagation of private/sensitive data

- The service chain topology and composition are usually unknown and hardly trackable to/by the user, who cannot easily check whether service owners, security mechanisms (e.g., encryption, integrity), and confidentiality policies are compliant with his own requirements.
- When private data and sensitive information are shared among components in multiple domains, it is almost impossible to track and limit their propagation

Architecture



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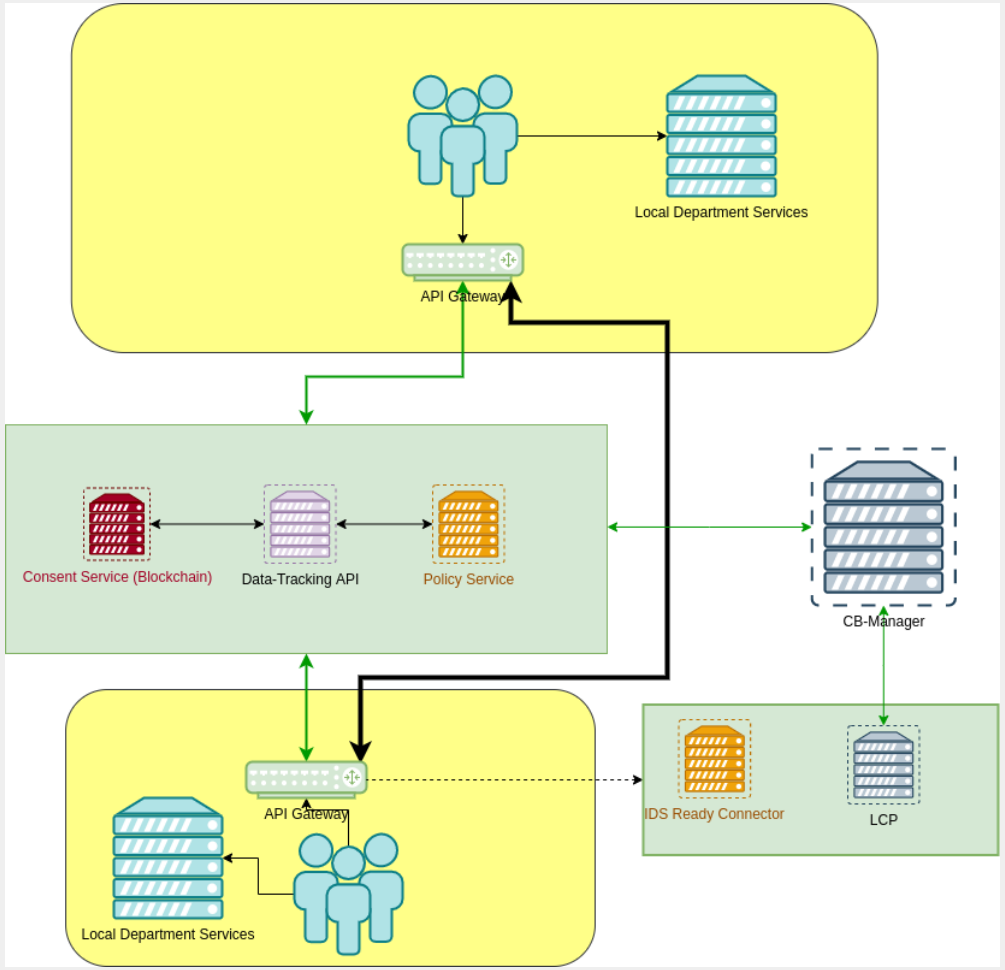
Data Tracking



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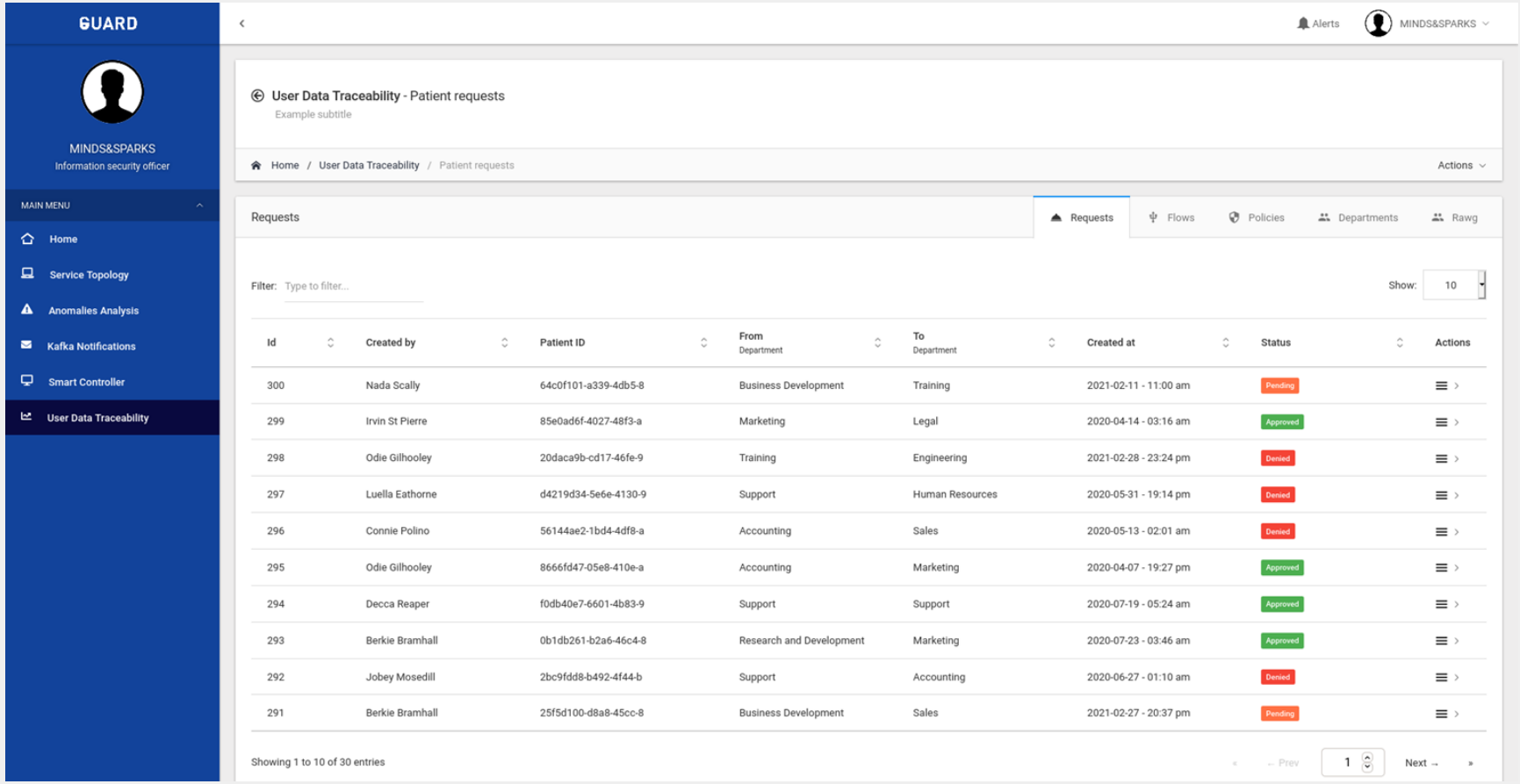
Dashboard



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THANK YOU FOR LISTENING!

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