



Enhancing security and privacy in the eHealth sector

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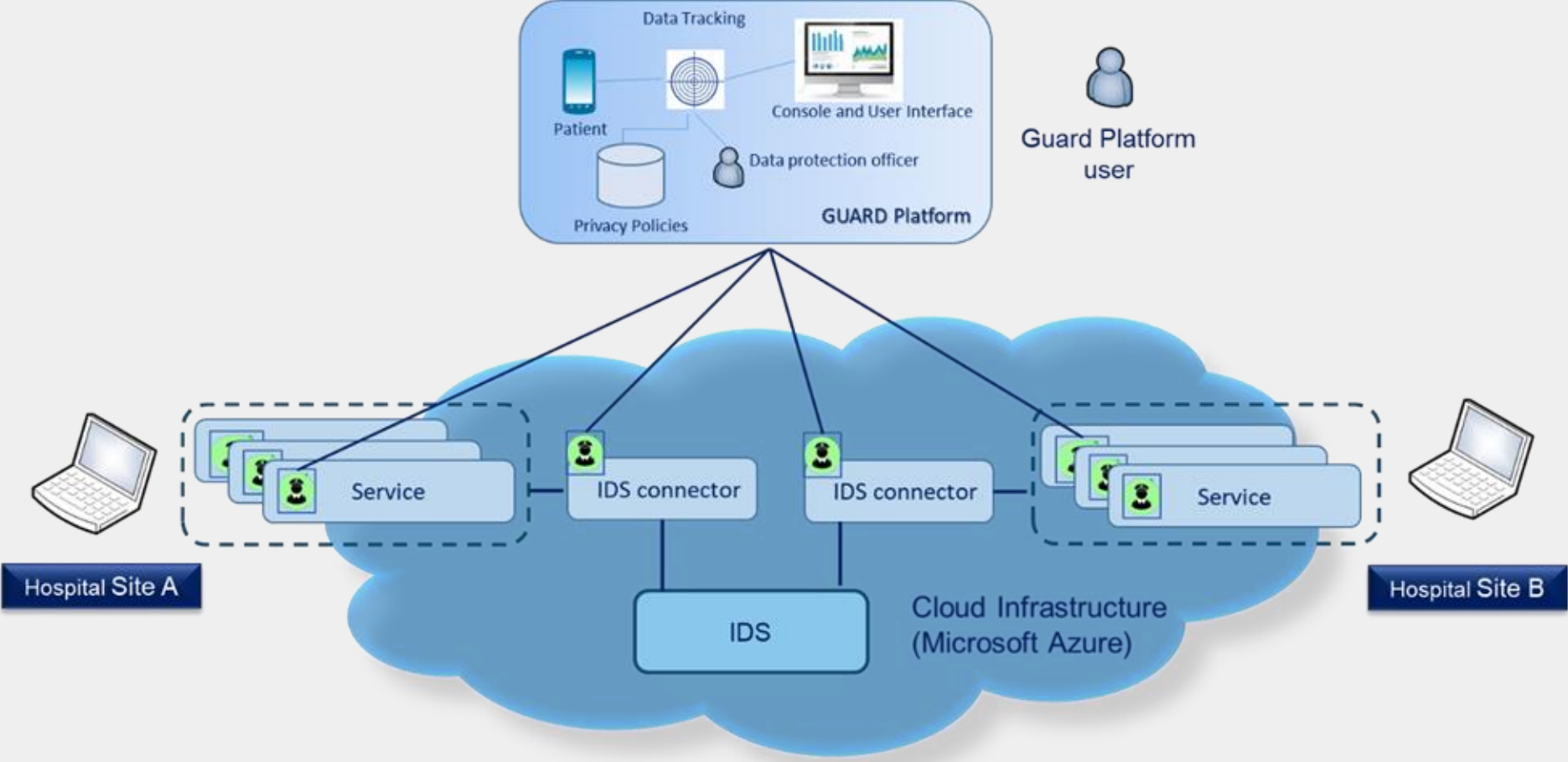
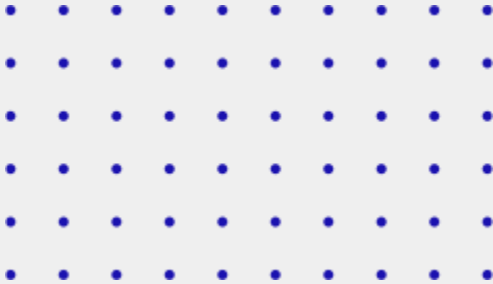


eHealth use case

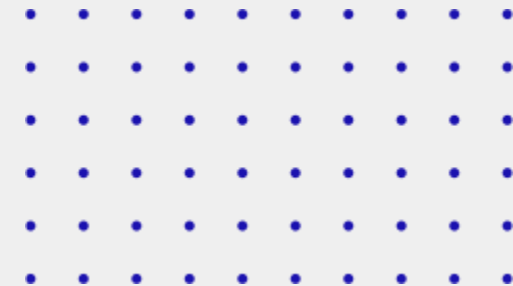
- Monitor, track and control the access to Medical Health Records (MHR) in order to ensure the privacy of patients is respected.
- The Use Case involves a set of medical services for treatment plan and clinical path of patients affected by breast cancer, hosted by **Policlinico Tor Vergata**.
- The testbed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



Network Layer

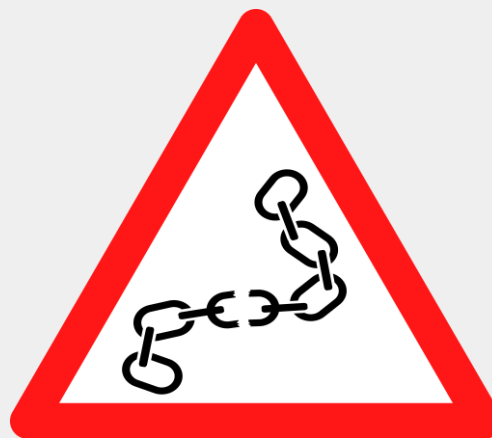


Security issue

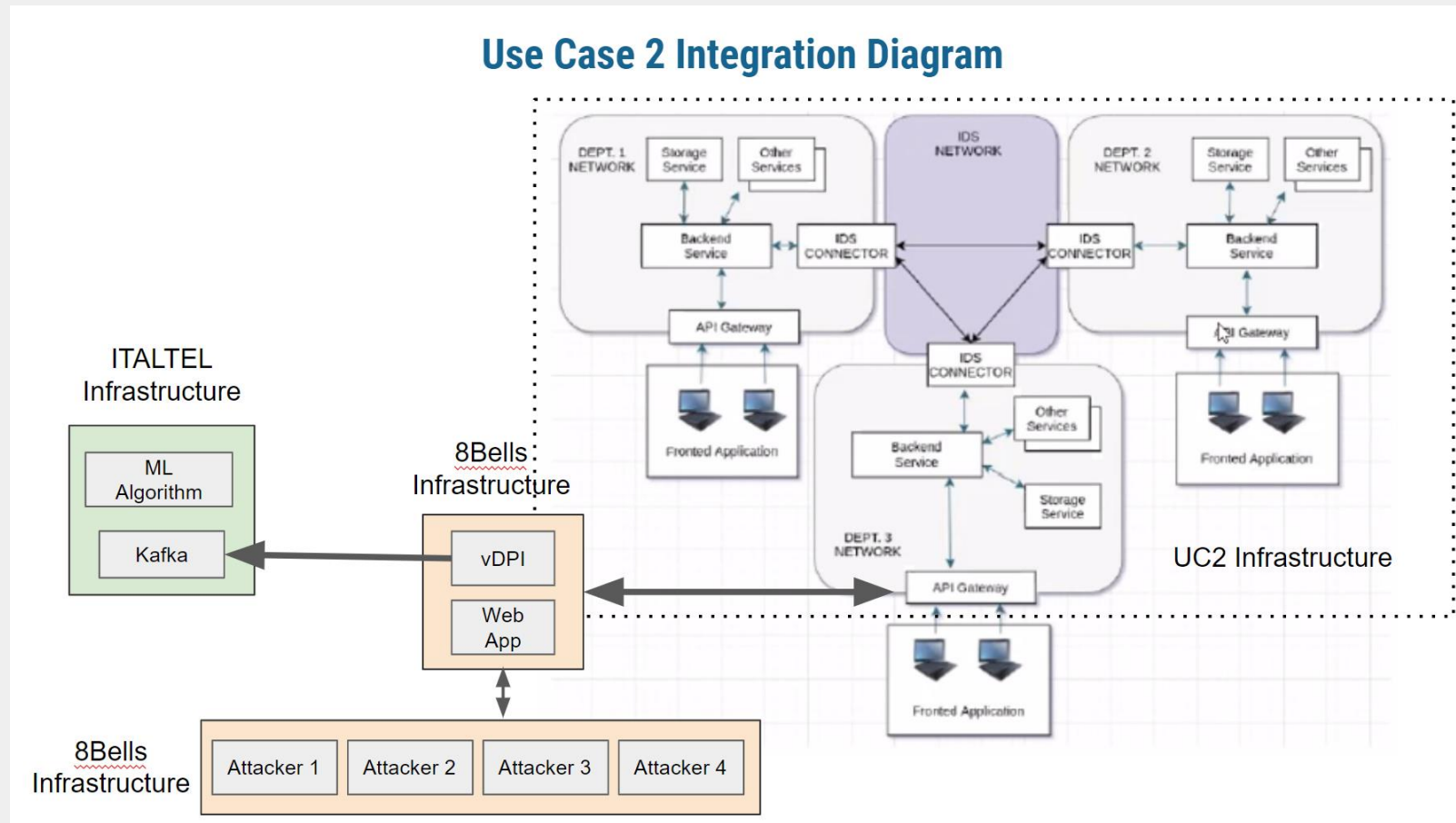


(1) Integrity and trustworthy of the business chain

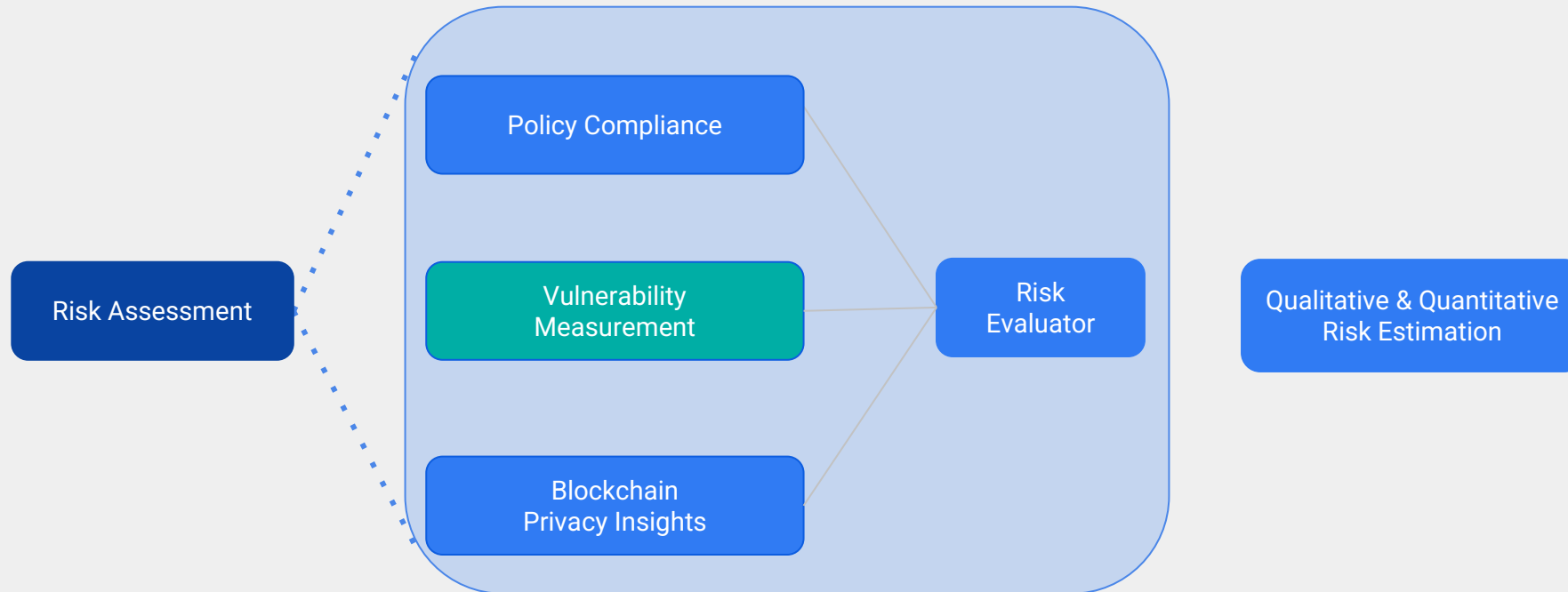
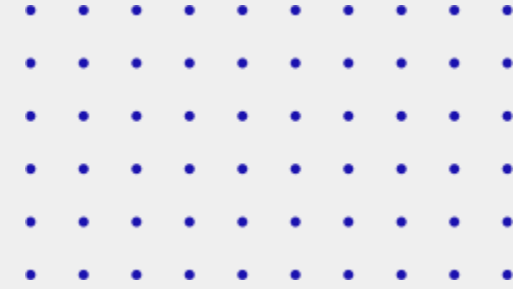
- **trustworthiness** and **reliability** of the end-to-end service chain is strictly dependent on the security in each administrative domain.
- Current identity management and access control tools developed and integrated into distributed systems can neither guarantee the integrity nor the dependability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



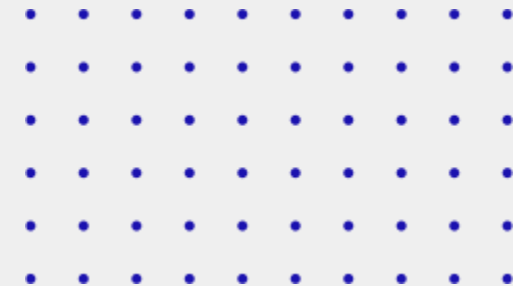
Attack detection



Vulnerability Scanning



Security issue

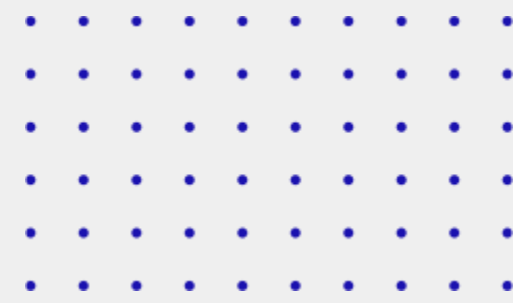
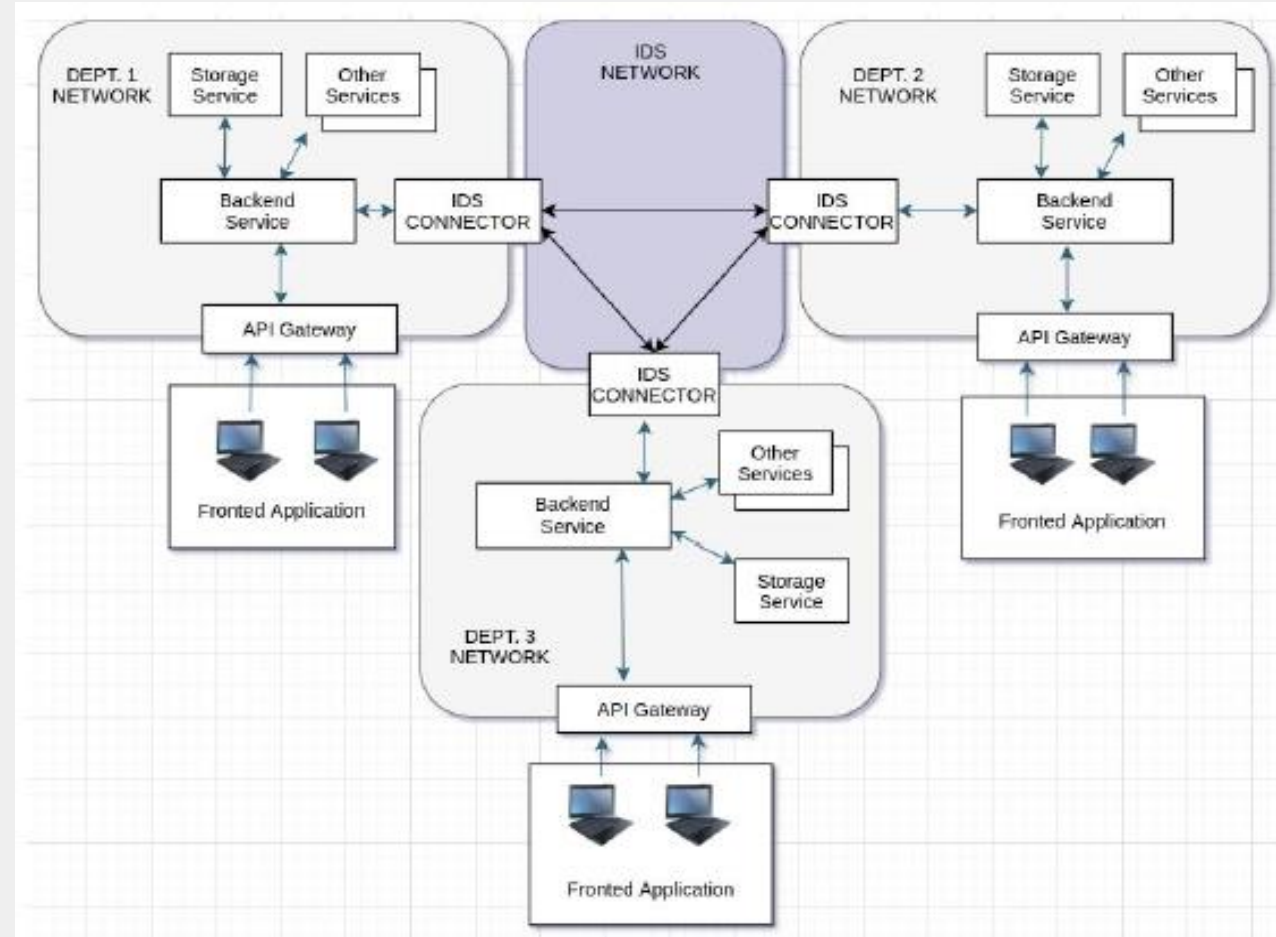


(2) Control over propagation of private/sensitive data

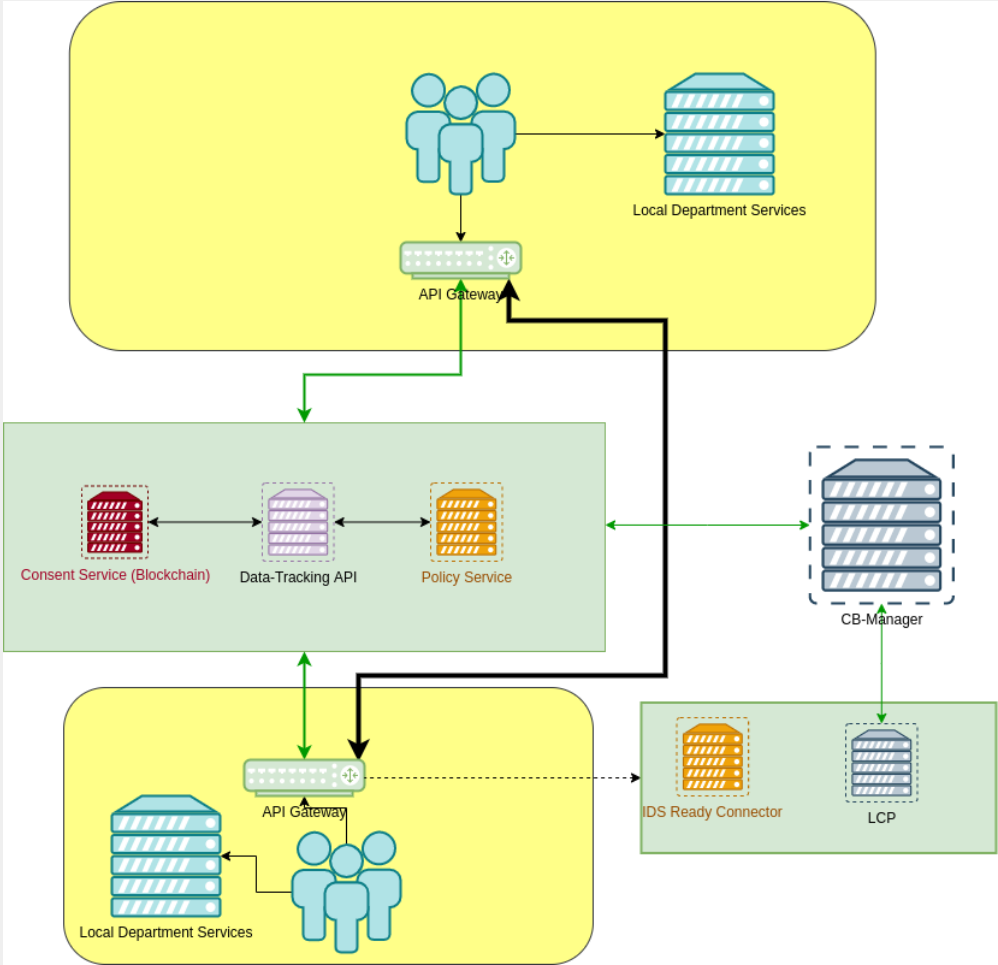
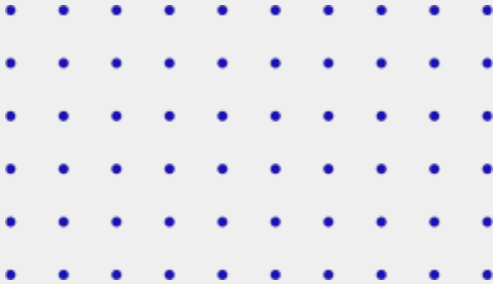
- The service chain topology and composition are usually unknown and hardly trackable to/by the user, who cannot easily check whether service owners, security mechanisms (e.g., encryption, integrity), and confidentiality policies are compliant with his own requirements.
- When private data and sensitive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



Architecture




Data Tracking



Dashboard




GUARD


MINDS&SPARKS
Information security officer

MAIN MENU

- Home
- Service Topology
- Anomalies Analysis
- Kafka Notifications
- Smart Controller
- User Data Traceability**

Alerts  MINDS&SPARKS

User Data Traceability - Patient requests

Example subtitle

Home / User Data Traceability / Patient requests

Actions

Requests | Flows | Policies | Departments | Rawg

Filter: Type to filter... Show: 10

Id	Created by	Patient ID	From Department	To Department	Created at	Status	Actions
300	Nada Scally	64c0f101-a339-4db5-8	Business Development	Training	2021-02-11 - 11:00 am	Pending	
299	Irvin St Pierre	85e0ad6f-4027-48f3-a	Marketing	Legal	2020-04-14 - 03:16 am	Approved	
298	Odie Gilhooley	20daca9b-cd17-46fe-9	Training	Engineering	2021-02-28 - 23:24 pm	Denied	
297	Luella Eathorne	d4219d34-5e6e-4130-9	Support	Human Resources	2020-05-31 - 19:14 pm	Denied	
296	Connie Polino	56144ae2-1bd4-4df8-a	Accounting	Sales	2020-05-13 - 02:01 am	Denied	
295	Odie Gilhooley	8666fd47-05e8-410e-a	Accounting	Marketing	2020-04-07 - 19:27 pm	Approved	
294	Decca Reaper	f0db40e7-6601-4b83-9	Support	Support	2020-07-19 - 05:24 am	Approved	
293	Berkie Bramhall	0b1db261-b2a6-46c4-8	Research and Development	Marketing	2020-07-23 - 03:46 am	Approved	
292	Jobey Mosedill	2bc9fdd8-b492-4f44-b	Support	Accounting	2020-06-27 - 01:10 am	Denied	
291	Berkie Bramhall	25f5d100-d8a8-45cc-8	Business Development	Sales	2021-02-27 - 20:37 pm	Pending	

Showing 1 to 10 of 30 entries



THANK YOU FOR LISTENING!

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