



NETWORK CONFIGURATION MANAGEMENT TOOL EVOLUTION

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Barcelona, Spain

Overview

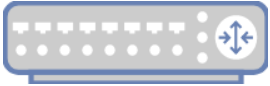
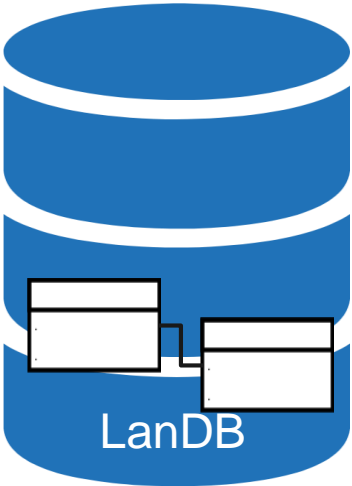


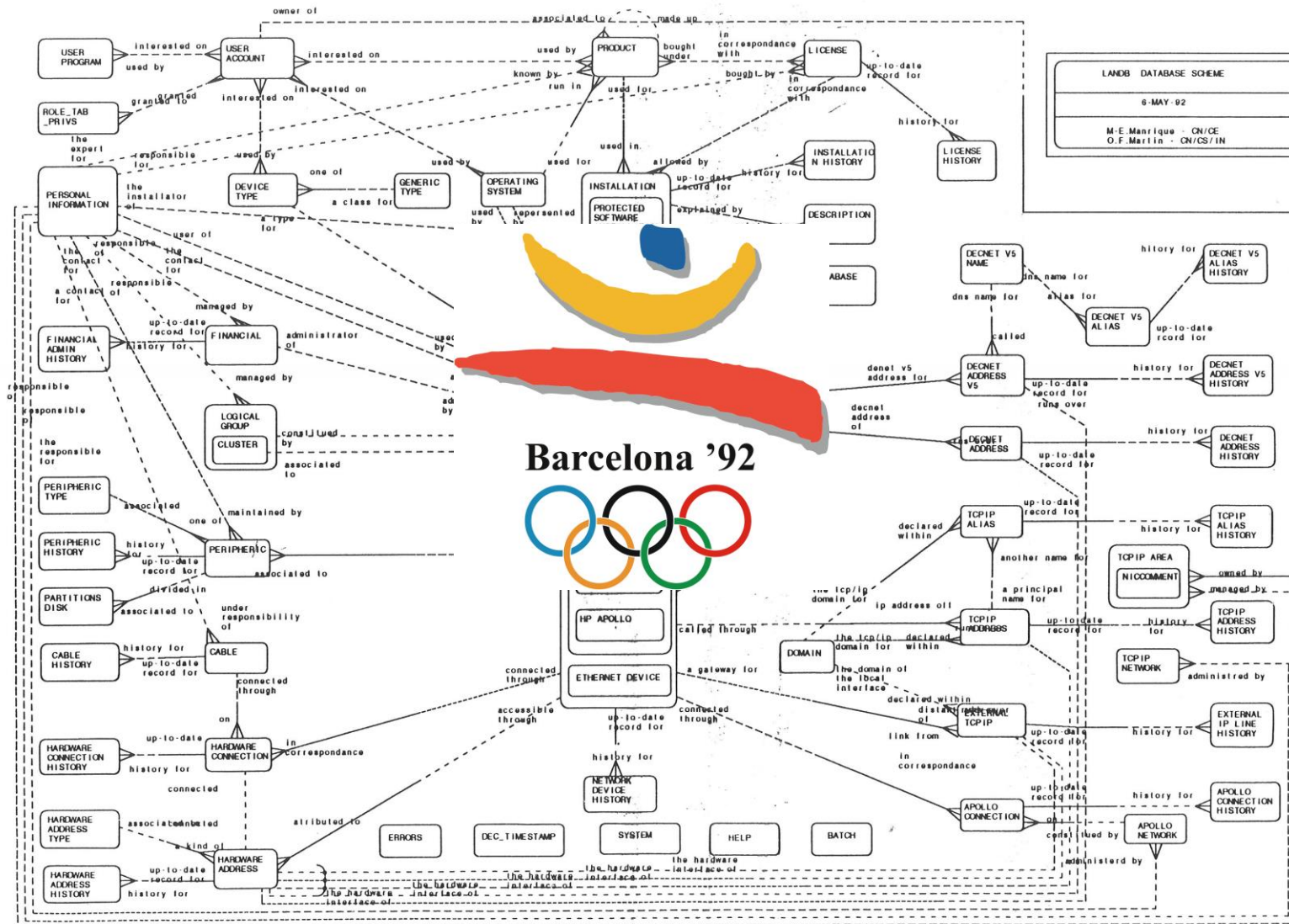
IT department

Communication Systems group

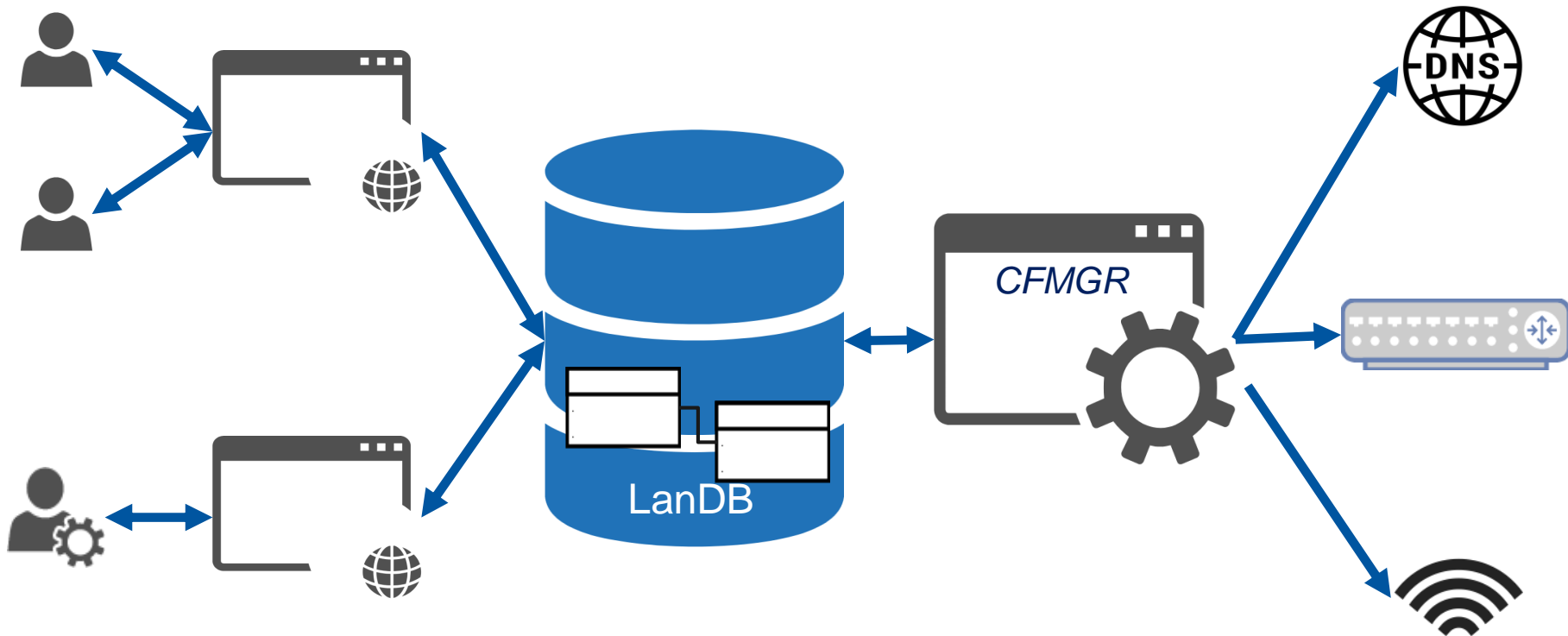
- 50.000+ ethernet connections
- 4.000+ routers & switches
- 18.000+ phone lines

Overview

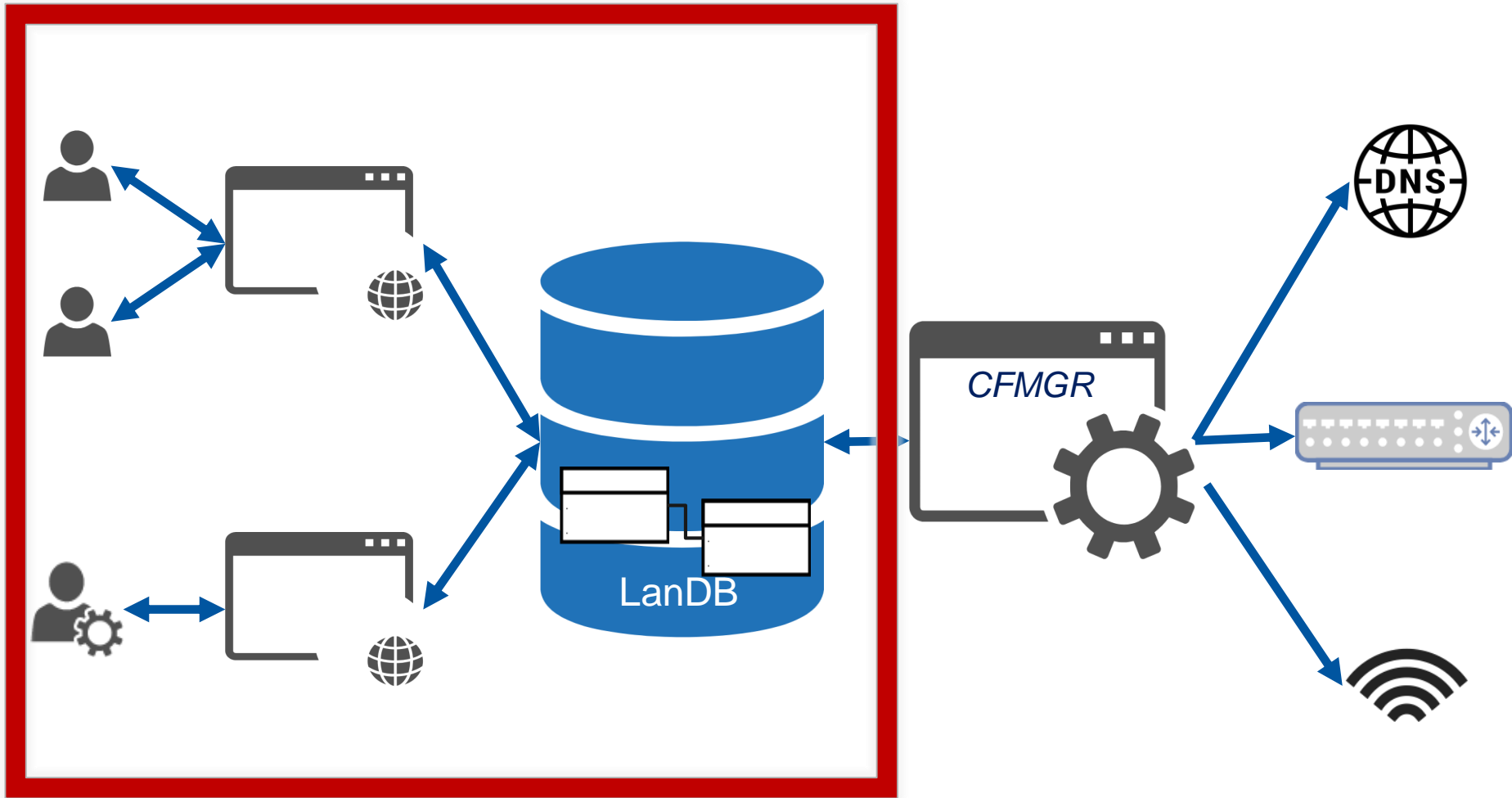




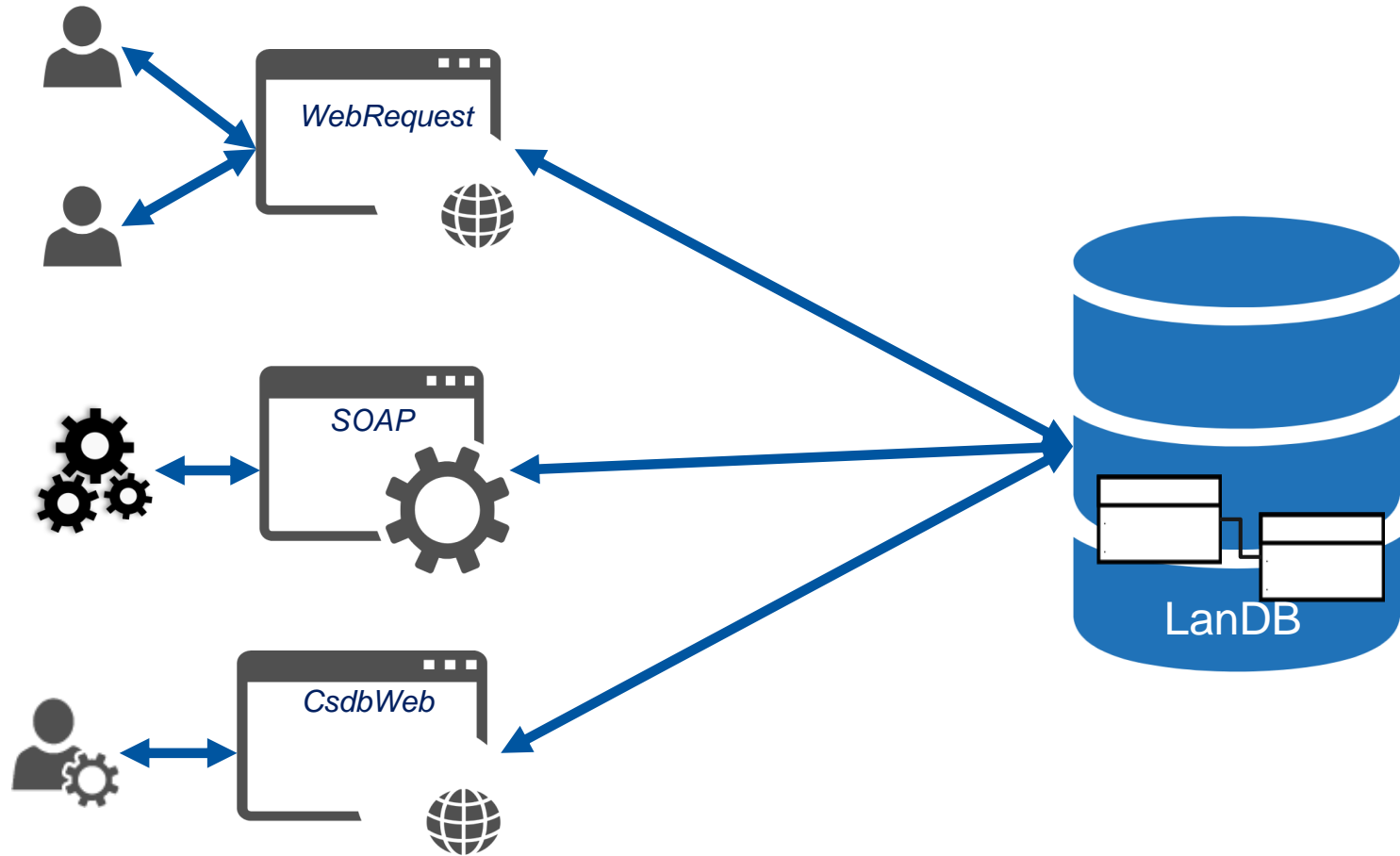
Overview



Overview



Overview

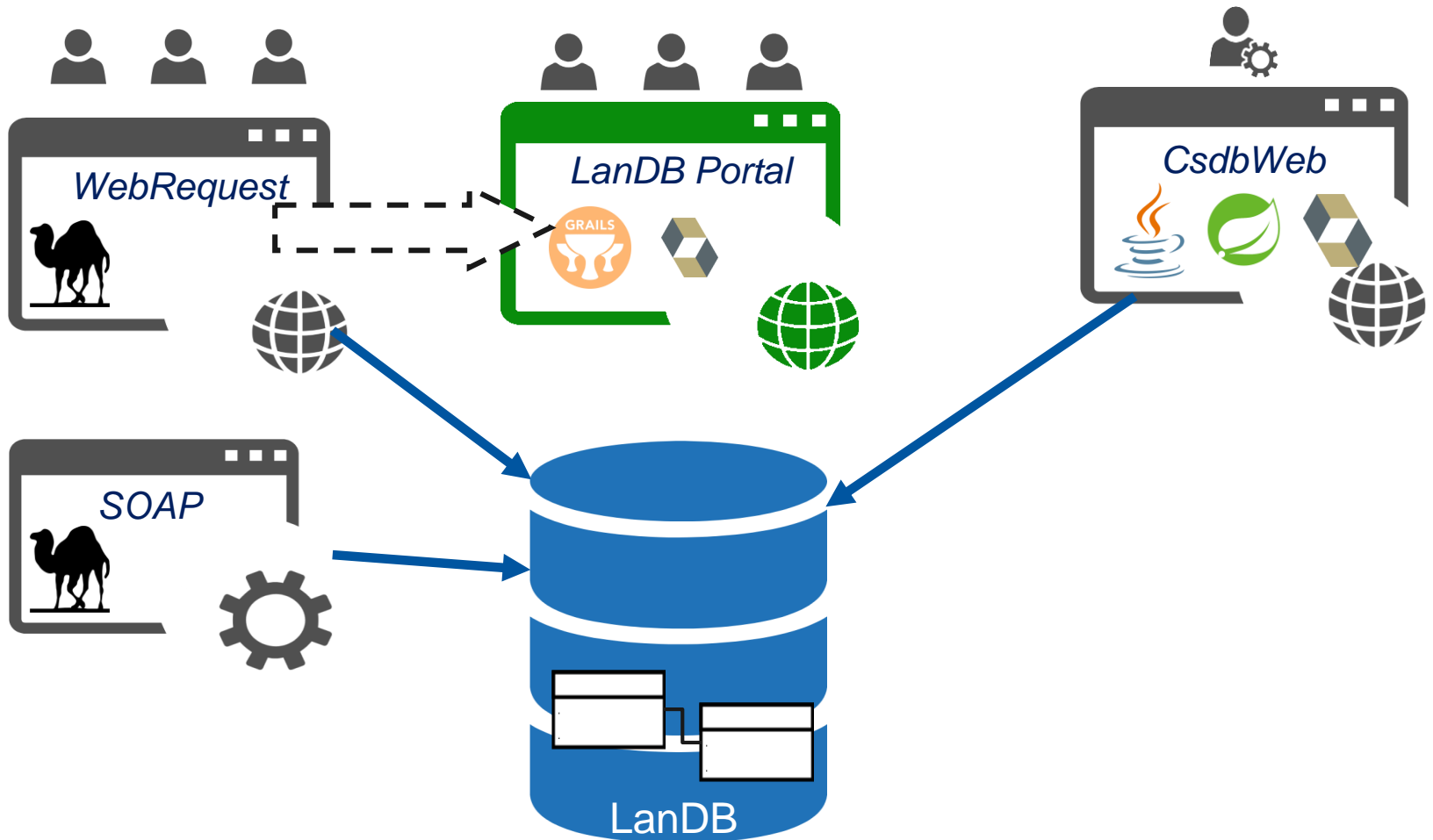


Evolution

Recent changes in architecture and development procedures in use to manage all CERN networks

- These include:
 - Homogenise technologies
 - Business Logic library
 - Microservices
 - Monorepo

Homogenise technologies





Network Connection Request Forms - Display Information

The following information about a device which is already connected to the CERN Computer network corresponds to what we have in our databases at the moment. HELP is available by selecting the links on this page. For any questions or comments, please contact NETOPS.

Device Information

▶▶ Also available in the new Landb Portal: <https://landb.cern.ch/landb/portal/device/CFMGR> ◀◀

- **Device Name:** CFMGR [Last Operation]
- **Location:** 0513 R-0060 (Zone: BDXX UAA)
- **Manufacturer:** HP
- **Model/Type:** PROLIANT DL180 G6
- **Generic Type:** COMPUTER
- **Description:**
- **Tag:**
- **Serial Number:**
- **Operating System:**
- **CERN Inventory number:**
- **Network Interface Cards:**
- **Responsible for the device:**
- **Main User of the device:**
- **HCP Response:**
- **IPv6 Ready:**
- **Last changed:**

LanDB Portal screenshot

LANDB. Portal Add Menu The previous version is temporarily accessible at: <https://network-legacy.cern.ch> EN RG

Device CFMGR

You can modify information and network configuration of the device. Delete

Information [View history] Edit

Name	CFMGR	Hardware	HP PROLIANT DL180 G6
Type	COMPUTER	Operating System	Linux LINUX; SLC6
Location	0513/R-0060	Ownership	Not defined
Rack	BDXX U00	Serial Number	CT000000000-CZ111111111
Description	NETWORK CONFIGURATION MANAGER	Inventory Number	
Tag	IT/CS	Properties	<input checked="" type="checkbox"/> DHCP <input type="checkbox"/> IPv4 <input checked="" type="checkbox"/> IPv6
Last changed	12-06-2018	DNS & Firewall openings	

Network Interface Cards Edit

Address	Type	Bound to Interface
XX-XX-XX-XX-XX-XX	GIGABITETHERNET	CFMGR-ML.CERN.CH
YY-YY-YY-YY-YY-YY	GIGABITETHERNET	CFMGR.CERN.CH
ZZ-ZZ-ZZ-ZZ-ZZ-ZZ	GIGABITETHERNET	

People Edit

Responsible
Infrastructure NETWORK, IT-CS

Main user
E-GROUP IT-DEP-CS-SYSADMIN, IT-CS

Interfaces Expand all Collapse all

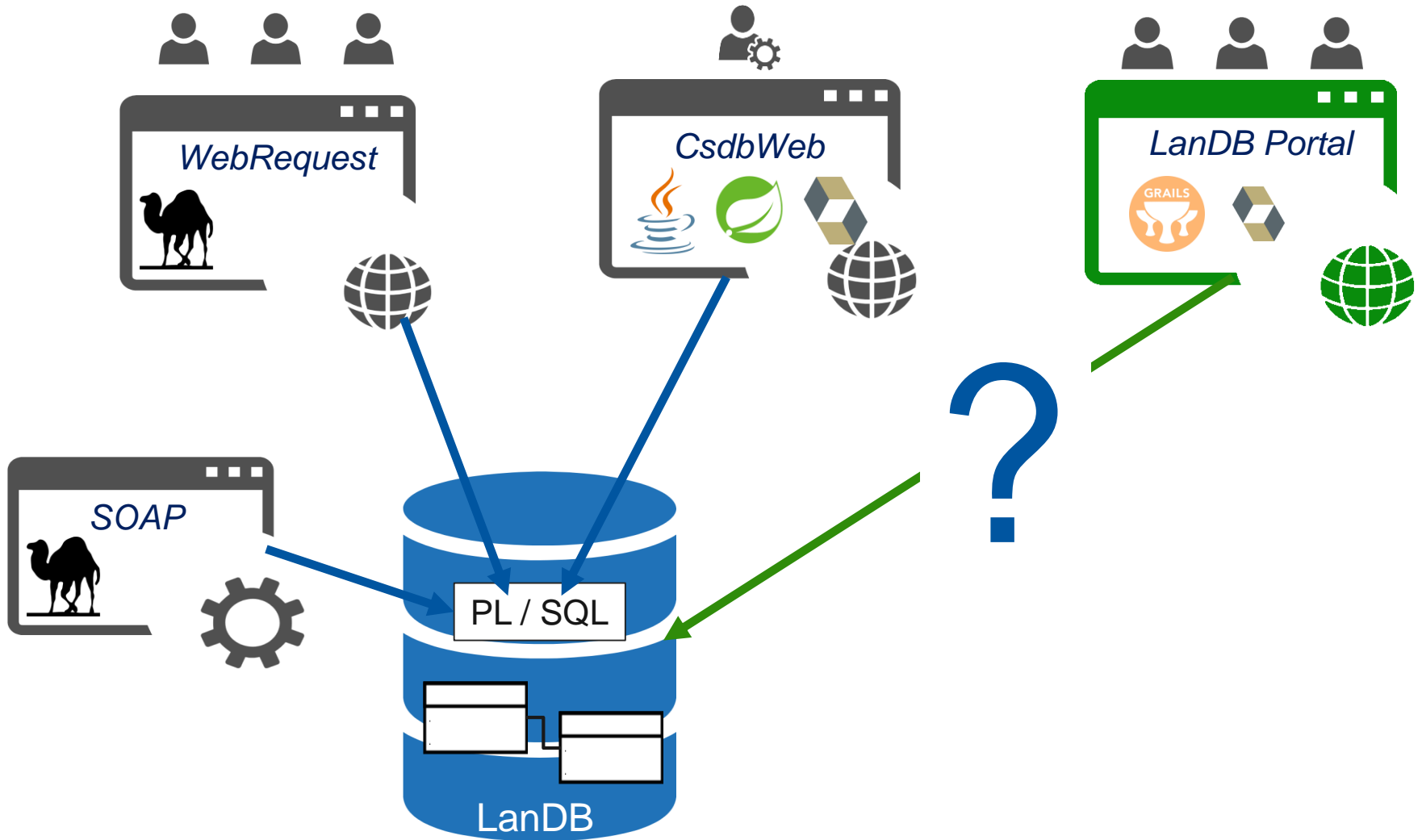
Interface(s) Information

- **Interface Name**
- CFMGR.CERN.CH

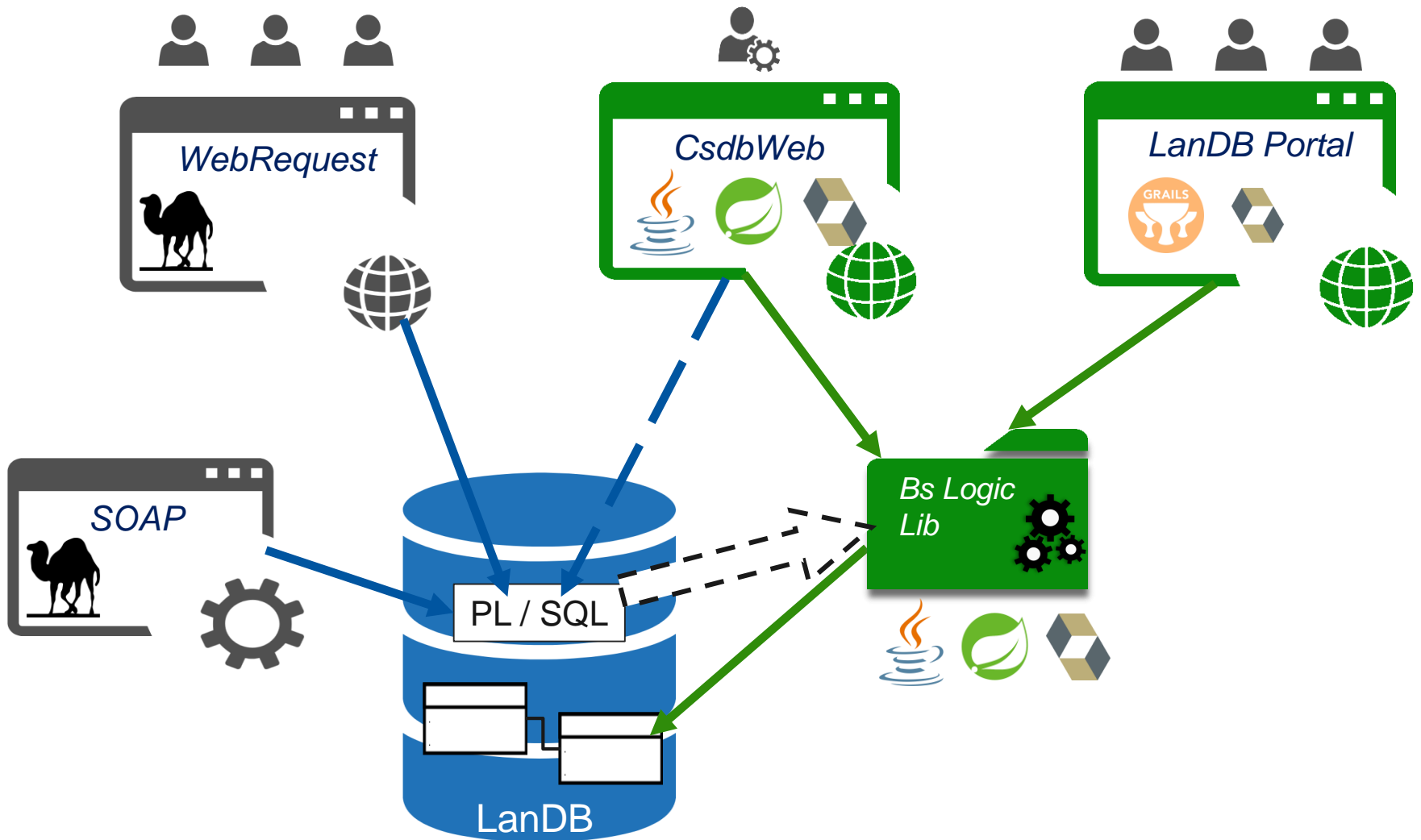
- Logout
- Admin
- Edit News
- Setup Locks
- Impersonate
- FirewallRequest
- More
- Alarms
- Display
- Add/Change
- Remove
- Maintenance
- CS Monitored
- Visitor Requests
- Procedure
- Submit
- Sign
- Register
- Set Mgmt
- Admin Requests
- News Subscribe
- IP Phone
- Tools
- DNS Lookup
- PING
- MIKE
- SOAP access
- Topology
- By Building
- By StarPoint
- Blocked Systems
- By IP
- By Hardware
- Arrows



Business Logic library

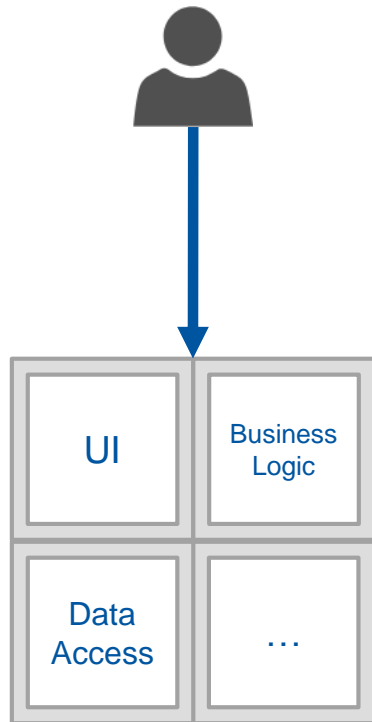


Business Logic library

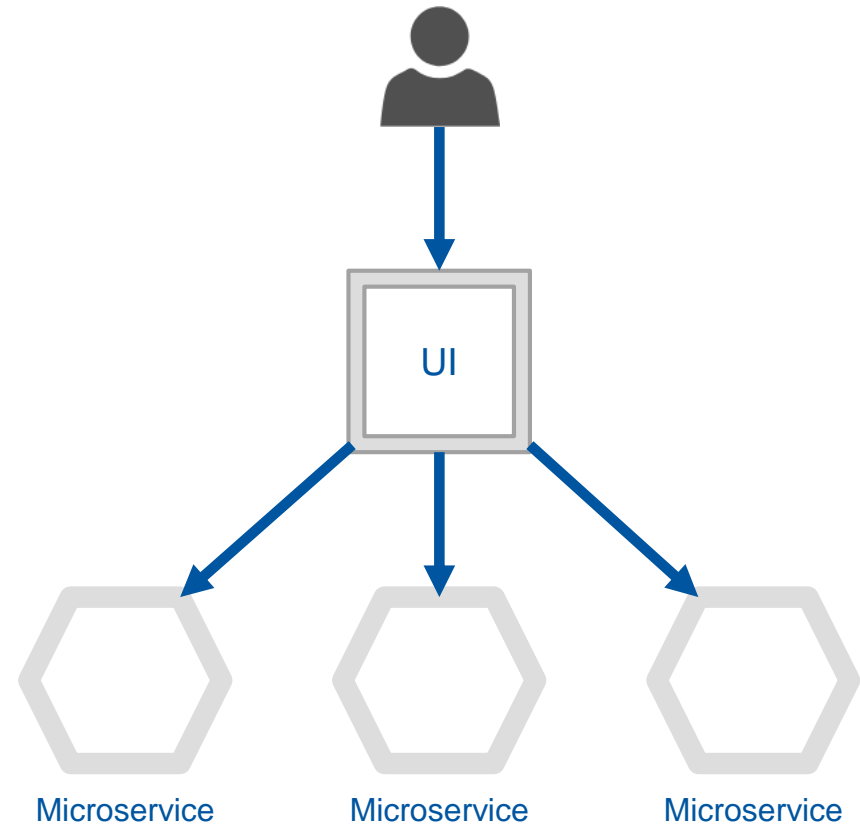


Microservices

Monolithic

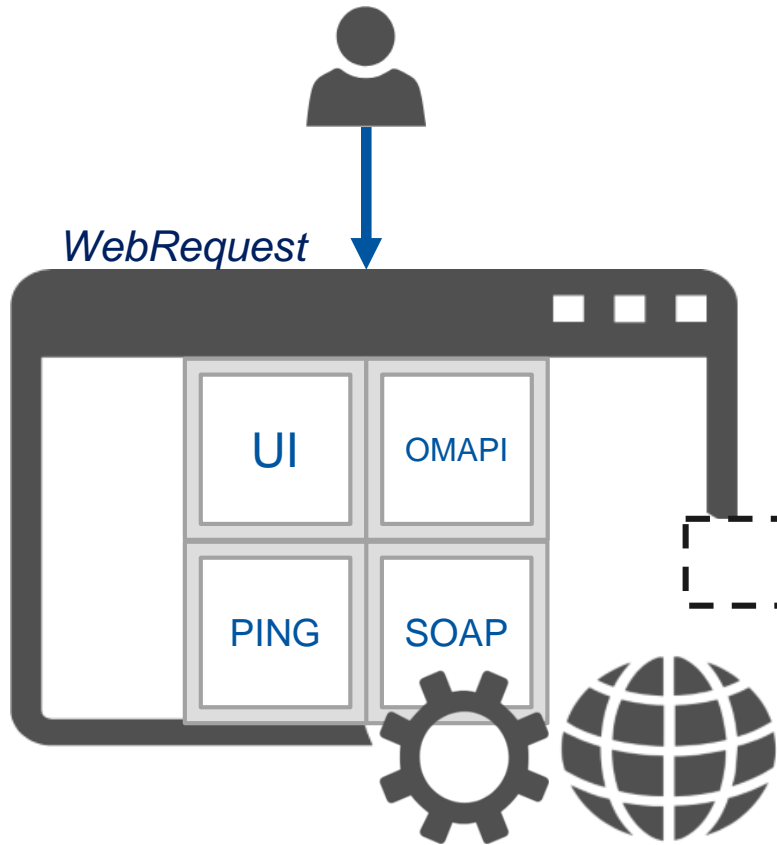


Microservices

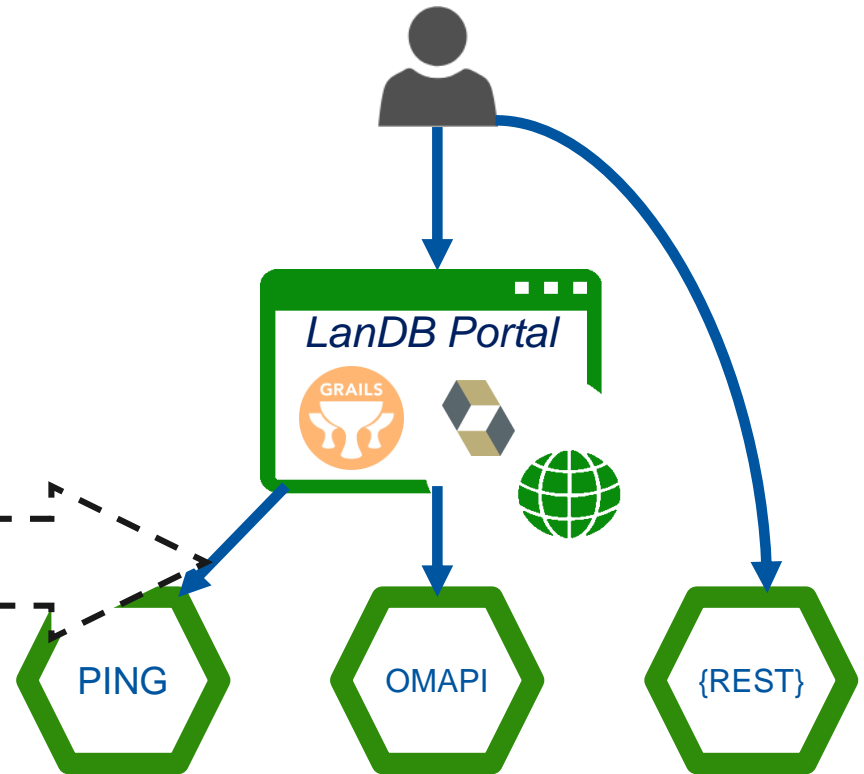


Microservices

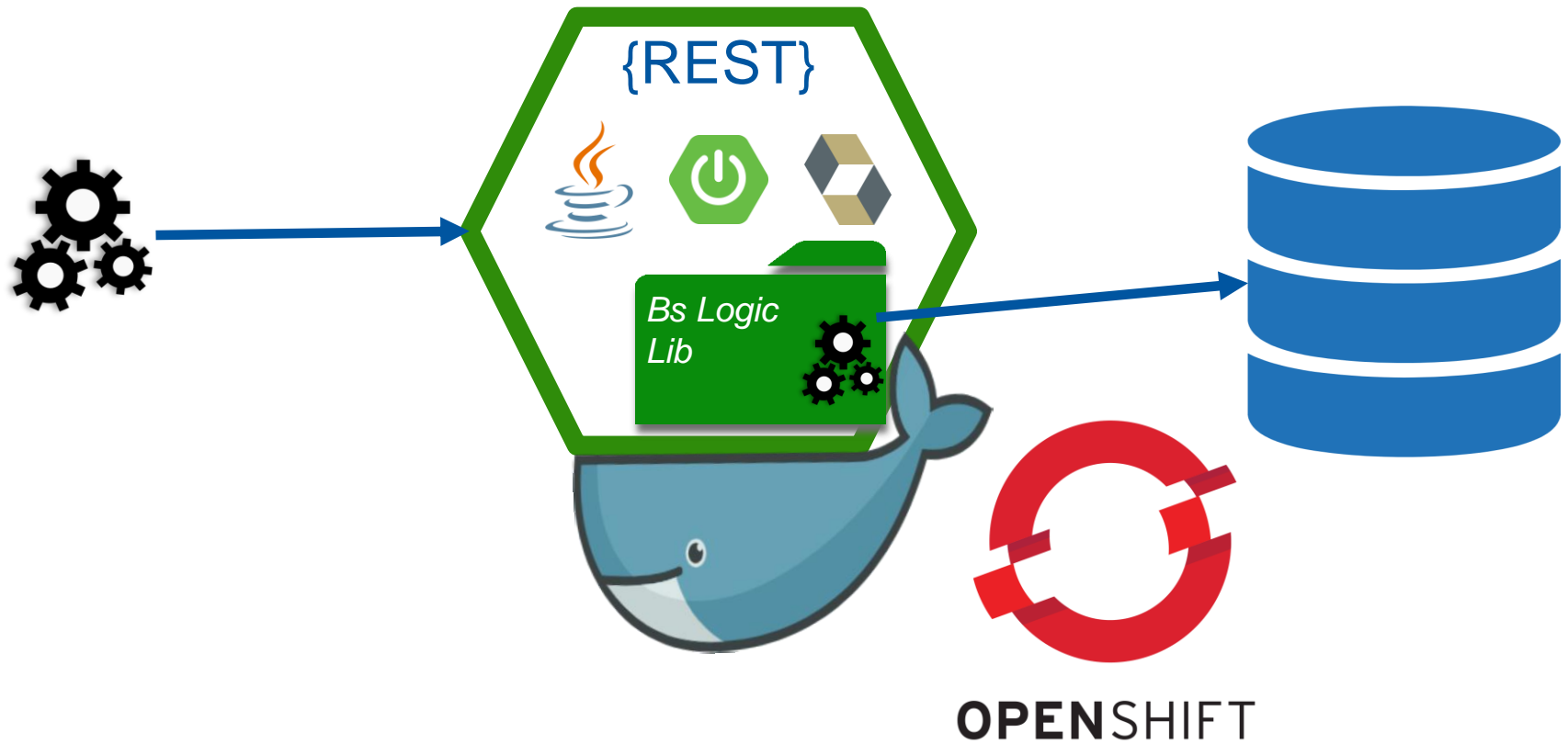
Monolithic



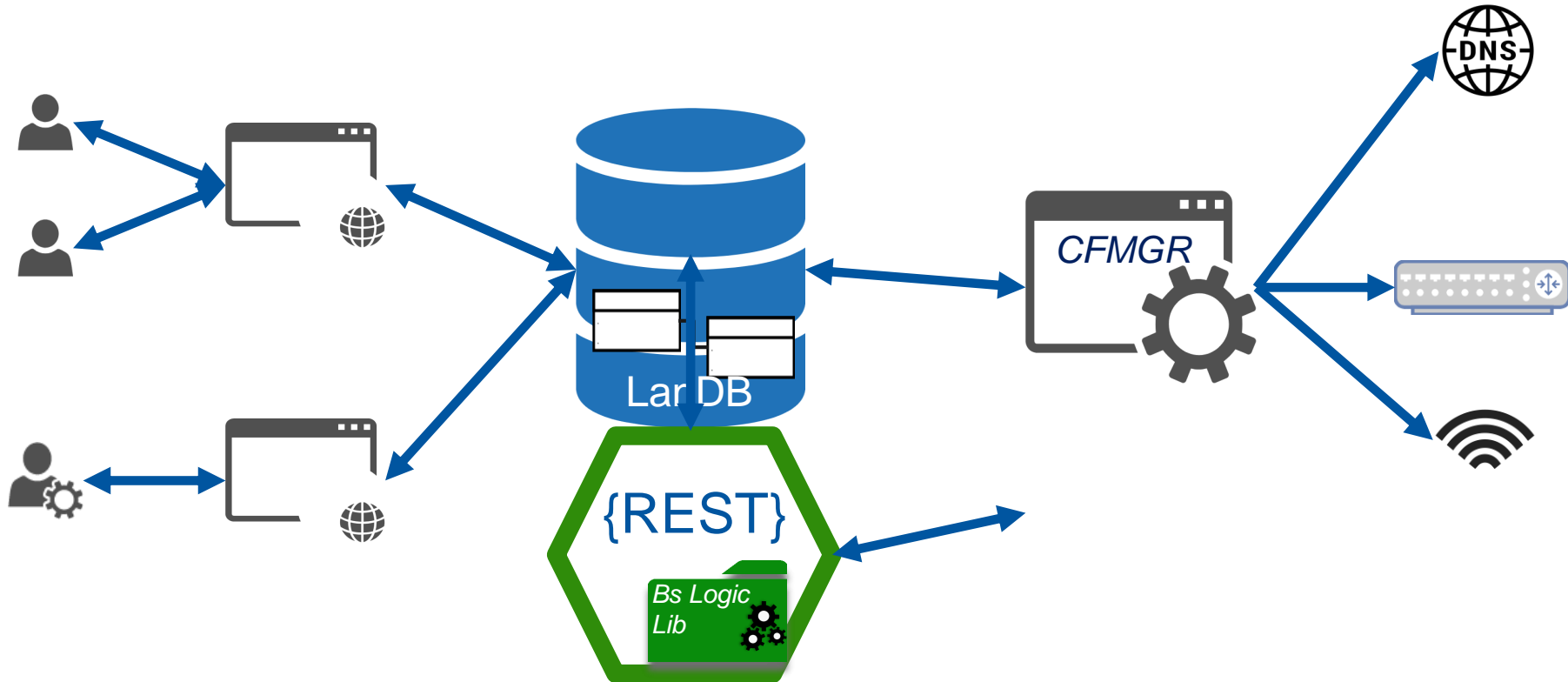
Microservices



Microservices: example REST-API



Microservices: example REST-API



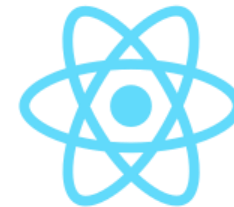
Monorepo



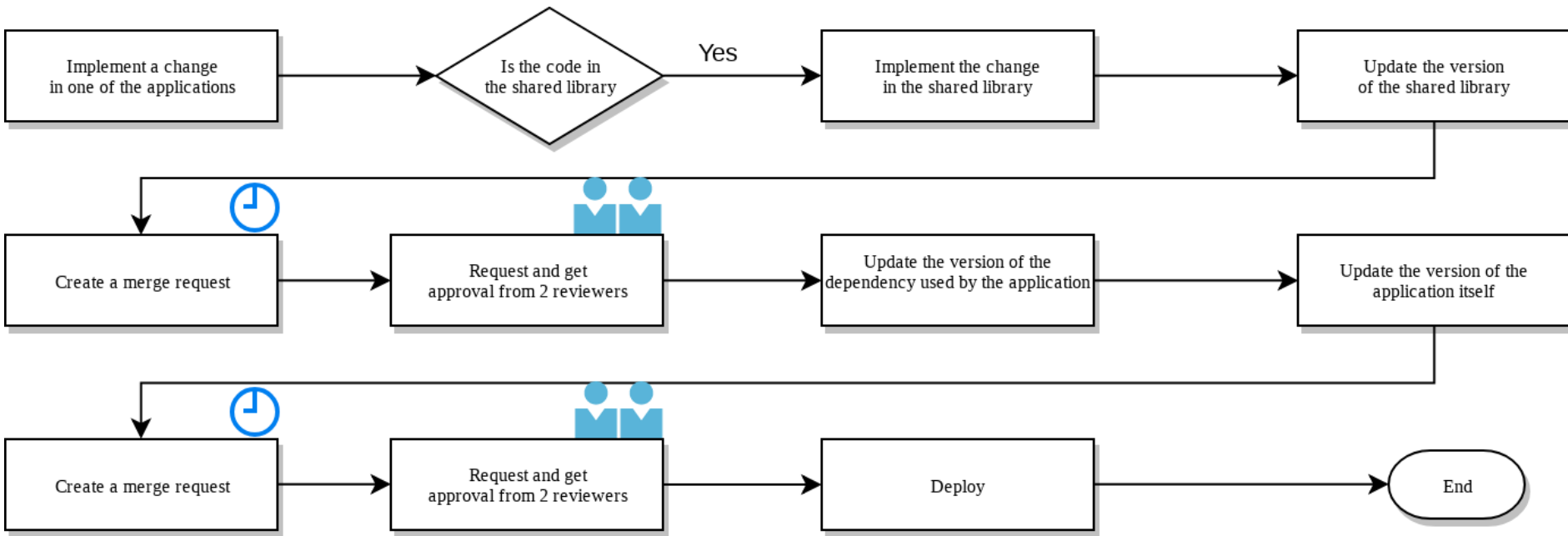
Monorepo



BABEL

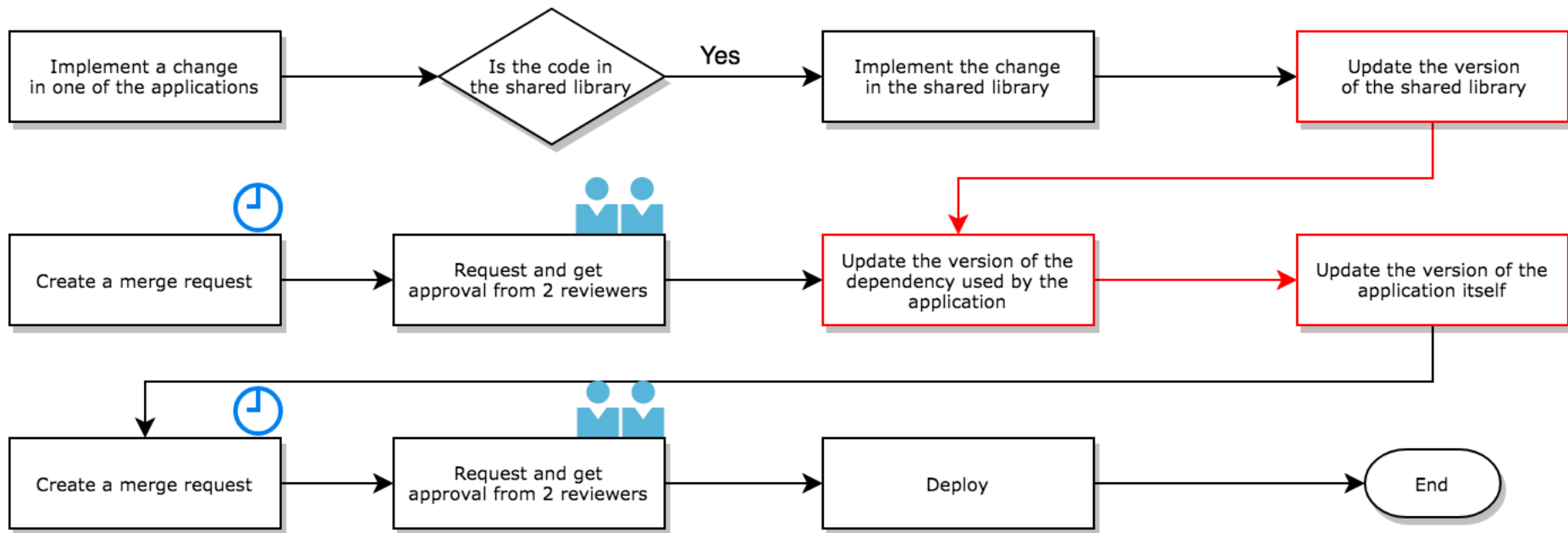


Monorepo



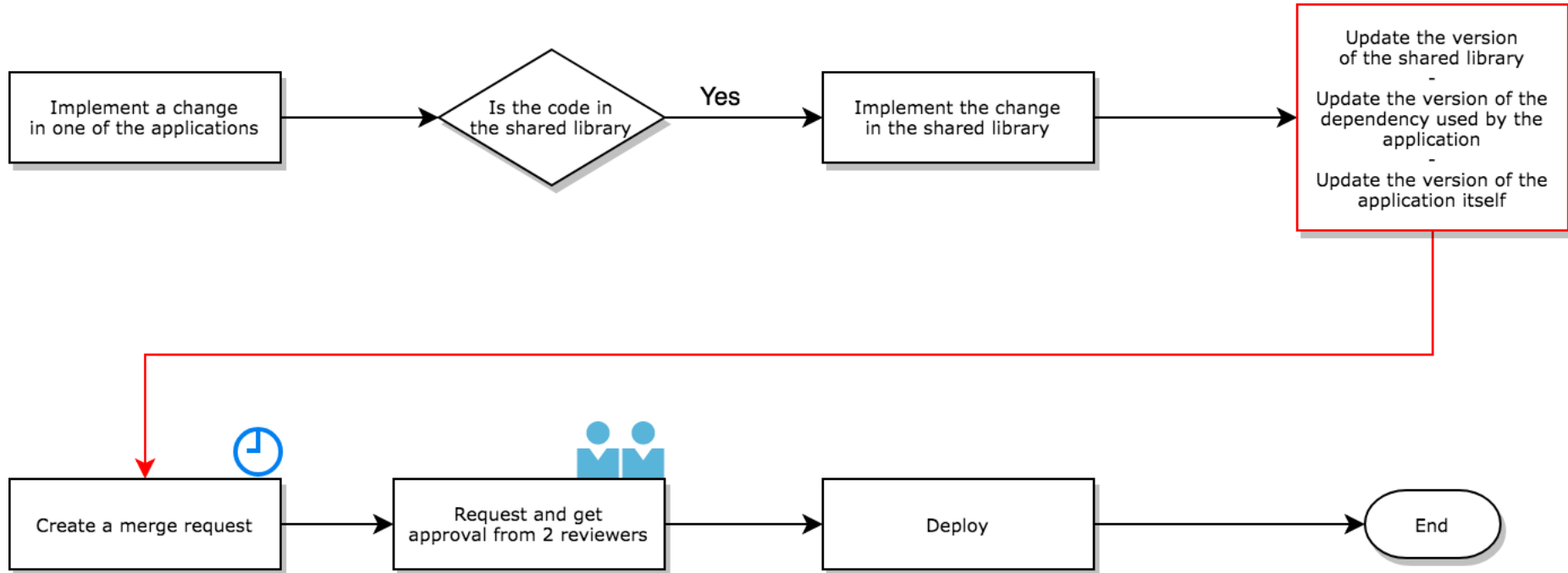
Multi-repo

Monorepo



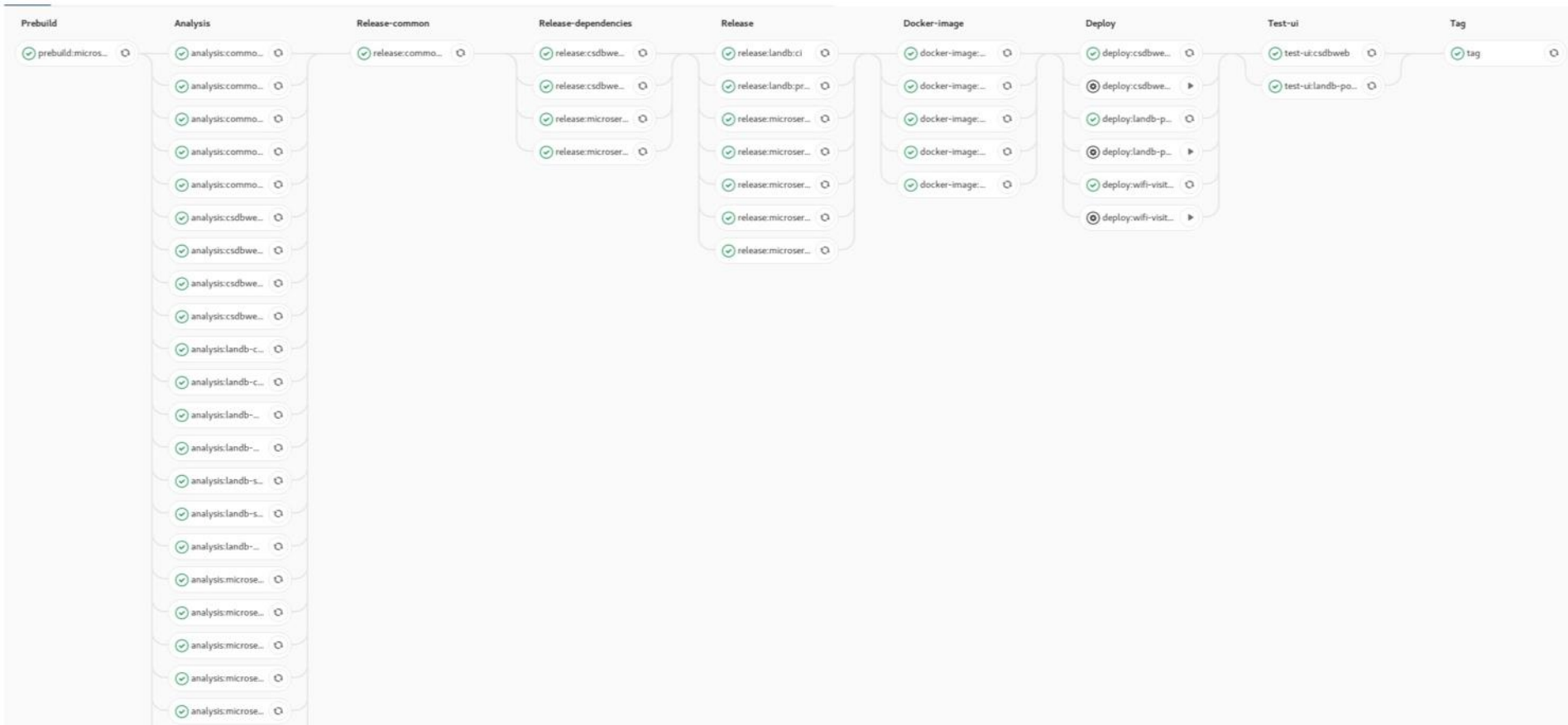
Monorepo

Monorepo



Monorepo

Monorepo



Summary

- Homogenise technologies
- Business Logic library
- Microservices
- Monorepo

Questions?

Thank you!

