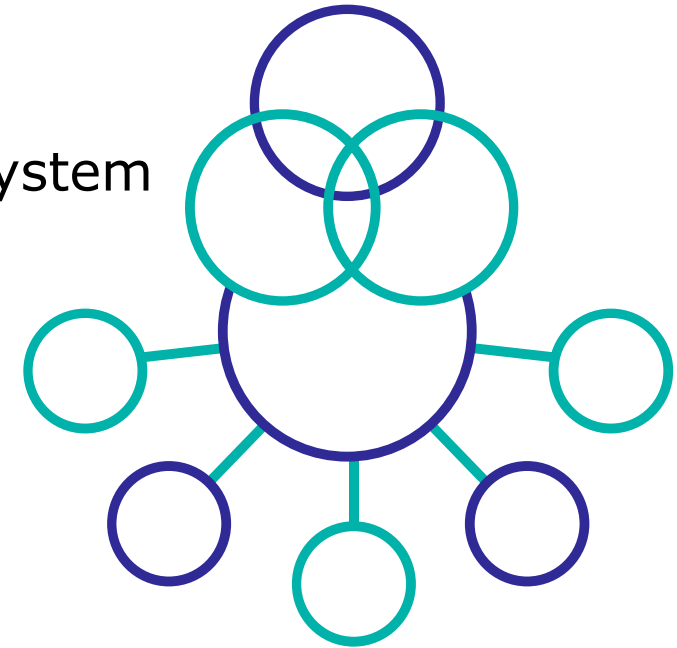**InterSystems®**
Creative data technology

HealthShare Health Connect Cloud

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Agenda

- Overview of Health Connect Cloud

- Demo

- Case study – North West London Integrated Care System

- Q&A

Health Connect Cloud

Health Connect Cloud is a Platform-as-a-Service offering providing a managed, healthcare integration engine cloud service that delivers high-volume transaction support, process management, and monitoring to support mission-critical applications
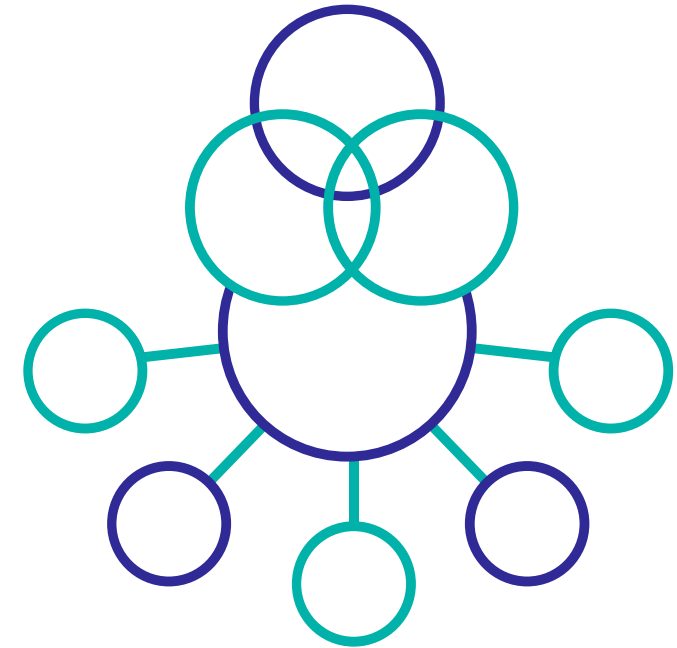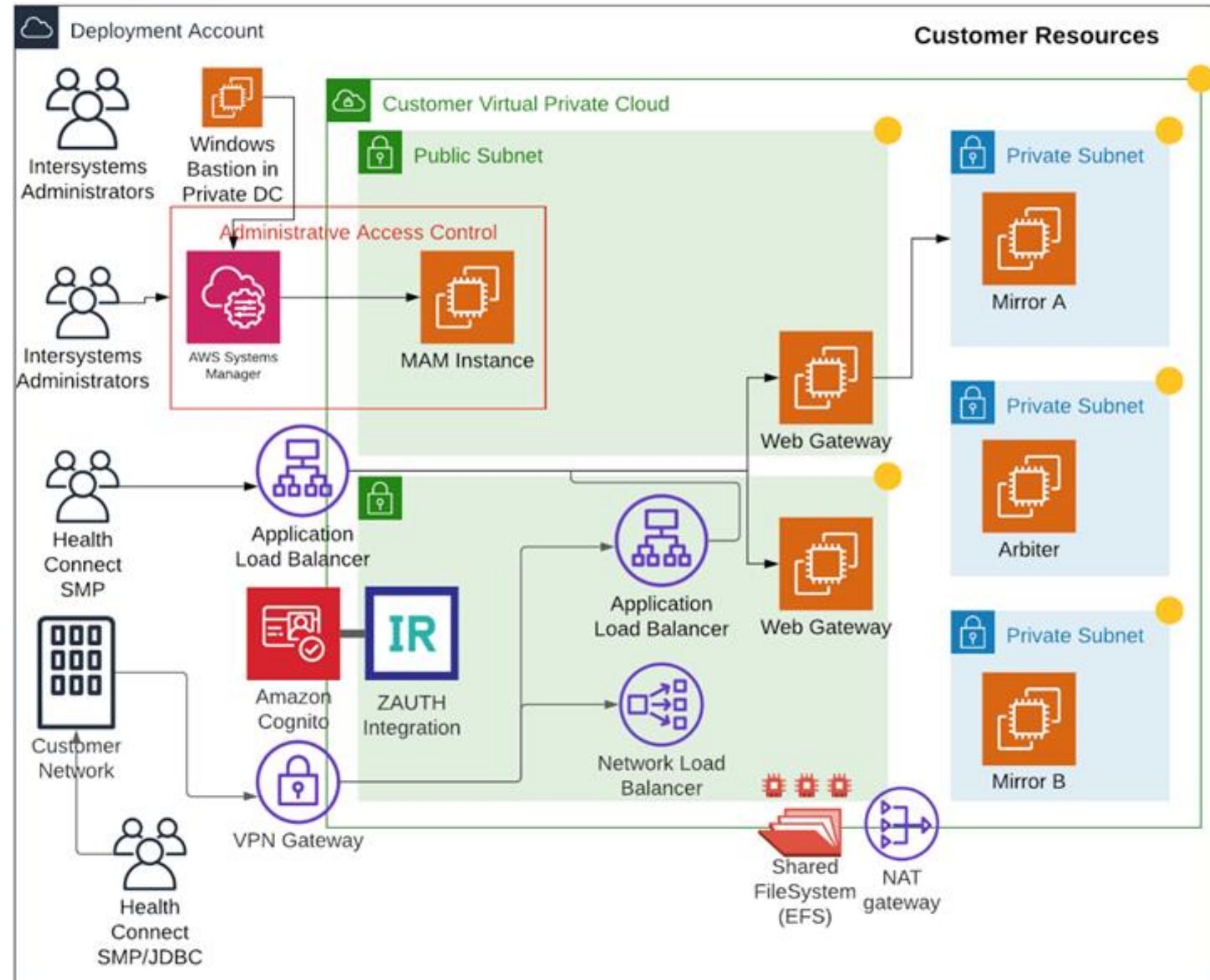
Health Connect Cloud

- At the core of Health Connect Cloud is a high-performance, multi-model data engine that seamlessly handles multiple forms of data at high speed

- Health Connect Cloud easily scales from serving small hospitals to handling the transaction volumes of the world's largest and most complex healthcare delivery systems

- Hosted on AWS and available in the UK, US, and Europe regions
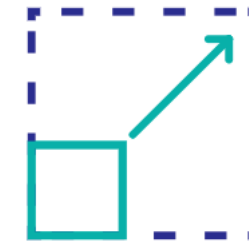
Architecture

Operations
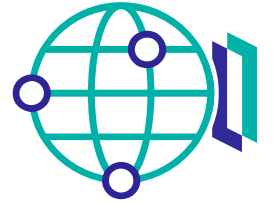
Provisioning
- Cloud Infrastructure Provisioning
- Health Connect Deployment

Ongoing Operations
- Scheduled and Monitored Backups
- DB Integrity Checks and Remediation Assistance
- Capacity & Performance Monitoring and Response

Reporting
- Continuous monitoring of customer environment
- Operational and Security Best Practices Insights
- Capacity Planning, Trends and Analysis

High Availability
- Mirroring

Data Security
- Database Encryption and SSL/TLS Comms
- Secure Architecture for Access Control
- Vulnerability Scanning

Configuration Management
- Cloud Resource Provisioning and Data Retention
- CI/CD Pipeline and Source Control

Support
- InterSystems iService 24/7/365
- Incident Management and Reporting
- SLA commitment of 99.9% availability

CI/CD Configuration Management

- Easy promotion of code between all environments while keeping code consistency

- Easy rollback to any previous state

- Single point of troubleshooting, monitoring, auditing, and code comparison

- Prevent access to PID

- Consistent process of development and code delivery

Updates

- Upgrades are included and semi-automated

- Monthly Security Vulnerabilities fixes (OS and IRIS)

- Critical Security Vulnerabilities are addressed or remediated in 24 hours

Monitoring

- InterSystems extensively and constantly monitors Health Connect Cloud:

  - Availability
  - Environment consistency
  - Incident occurrences

  - Abnormal activity
  - Vulnerabilities

- The InterSystems Cloud Delivery team is alerted to any issues and any critical alerts result in an immediate notification. The monitoring information is tracked and used to troubleshoot issues, as well as for information to be used for capacity planning. Any incident that results in a service interruption to the client is reported to the client.

Networking

- Ensure easy and secure communication with customer's datacenters or other cloud services. It consolidates the communication with DEV, TEST, and PROD while guaranteeing isolation.

- Self-service network connection, avoiding long discussions between network teams

- Provides several types of connections:

  - VPC Attachments (existing systems in AWS)

  - Direct Connect Attachments (physical network connection with AWS

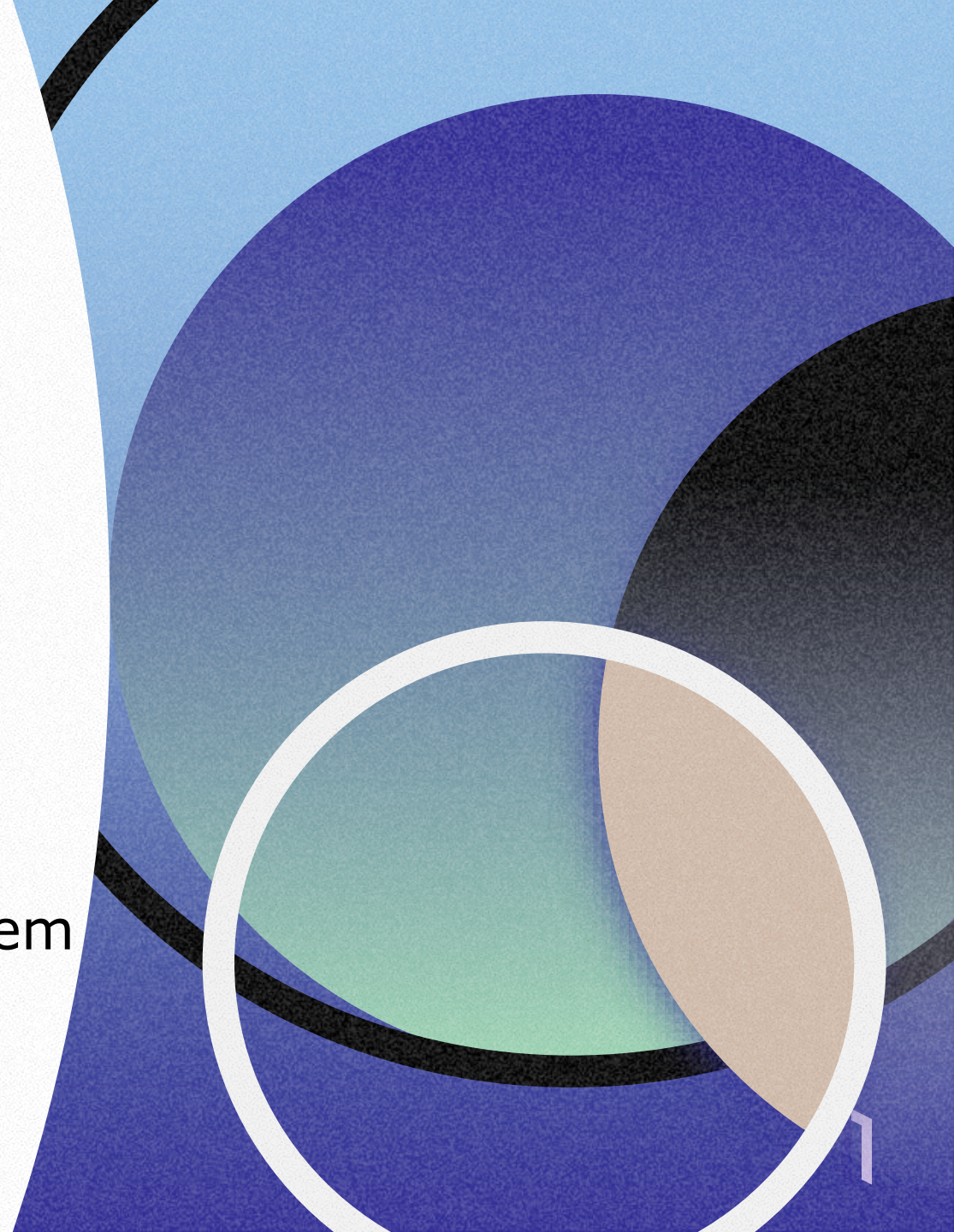 - VPN Connections (encrypted communication over public internet)

Demo

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NW London ICS Organisations

- 2.1 M citizens
- Variety of Health and Social Care organisations

Central and North West London NHS Foundation Trust	Central London Community Healthcare NHS Trust	Chelsea and Westminster NHS Foundation Trust
The Hillingdon Hospitals NHS Foundation Trust	Imperial College Healthcare NHS Trust	London North West University Healthcare NHS Trust
North West London ICS	Royal Brompton and Harefield Hospitals	West London NHS Trust
Brent Council	Ealing Council	Hammersmith and Fulham Council
Harrow Council	Hillingdon Council	Royal Borough of Kensington and Chelsea
London Borough of Hounslow	Westminster City Council	
West London Alliance	Imperial College Health Partners	Hounslow and Richmond Community Healthcare NHS Trust
London Ambulance Service NHS Trust	Health Education England	NHS England

Existing integration sites

- 4 Acute Trusts
  - Chelsea and Westminster Hospital NHS Foundation Trust
    - 80k messages per day
  - The Hillingdon Hospitals NHS Foundation Trust
    - 50k messages per day
  - London North West University Healthcare NHS Trust
    - 100k messages per day
  - Imperial College Healthcare NHS Trust
    - 250k messages per day

  - All using Health Connect apart from Imperial (Oracle SOA)
  - Optimus IT Infra Ltd. delivering services to 3 of the Trusts

Drivers for change

- Single Cerner instance by 2023

- Collaboration on developing interfaces – build once and reuse

- Difficulty in managing environment

  - Upgrades, patches…

- Move towards a more agile development paradigm

- NHS cloud-first directive

North West London Architecture

- eu-west-2 AWS region (London)

- NW London includes the following initial services and products:

  - Health Connect

  - Message Bank

  - Spine Mini-Services

  - FHIR repository (option)

  - HSCN network connectivity

  - VPN connectivity
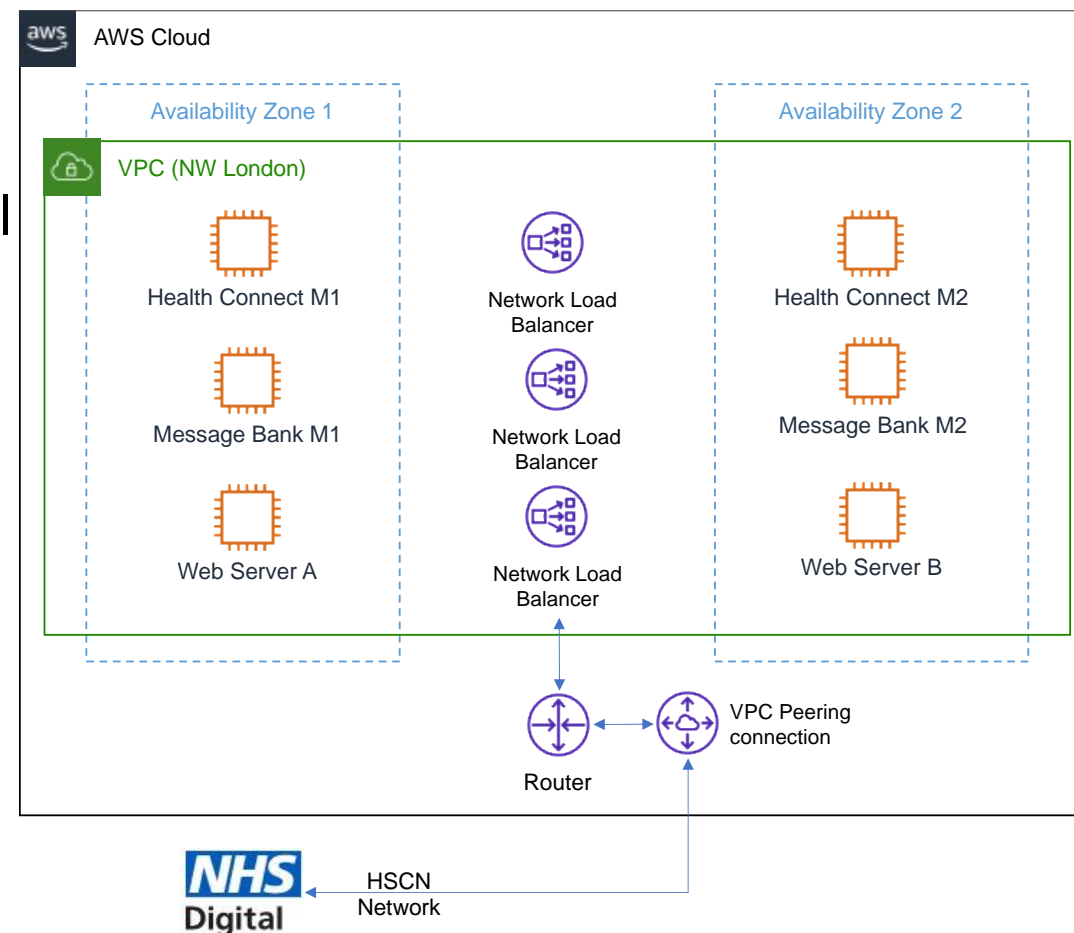
Deployment architecture

- One set of instances

  - Mirrored production and test

  - Single development

- One production namespace per Trust, shared namespace with a database mapped to the %ALL namespace

- Security setup to enable separation of concerns

Deployment further detail

- HSCN connection is part of the solution

- Message Bank

    - Specialised Health Connect production

    - Search and replay of messages

- Messages held for a month in Health Connect and a year in Message Bank

- GitLab for CICD and VSCode for development

Evolution of service

- Most interfaces are HL7 over TCP/IP, but not all

- Handling on-prem files

  - Use of Wasabi (cost effective cloud storage on AWS)

- Use of MESH Client will be moved to use MESH API

  - Discharge summaries and clinic letters

- ODBC access to on prem databases

- Making changes to the AWS service is relatively straight forward

Progress so far

- Initial go-live achieved early October 2022 with 3 interfaces

- Many Health Connect interfaces have been migrated and tested

- Oracle SOA interfaces are being rewritten in Health Connect

- Migration will be phased across Trusts and interfaces

- Looking to complete full migration by Q1 2023

Summary of benefits

- Solution fully managed by InterSystems

- Upgrades and patches also managed

- Flexing of capacity is easy to achieve

- Provides an integration solution for the entire ICS

- Enables sharing of code and joint development

- Easy to trial

Next Steps

InterSystems Cloud Services Overview

What is Health Connect Cloud?

Ask for a meeting with your InterSystems account team

Questions?

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Thank you.

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