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Welcome

IRIS-IAM SLA & Updates

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What is IRIS-IAM?

- Identity and Access Management (IAM)
  - created for
    - IRIS system
    - Related organisation
- Federated identities from university credentials
  - No new account needed
- Use cases
  - STFC Cloud
  - GOCDB
  - IRIS Indico
  - SCD Internal services

Welcome to **IRIS IAM**

Sign in with your IRIS IAM credentials

Username

Password

Sign in

Forgot your password?

Or sign in with

SAFE for DIRAC services

EGI Check-in (Demo Env)

Your Organisation via eduGAIN

Not a member?

Apply for an account

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Agenda

1 **Dashboard and Usage Data**

Monitoring, Service management support

2 **IRIS-IAM SLA**

What can the IRIS IAM Team deliver?

3 **Future of IAM**
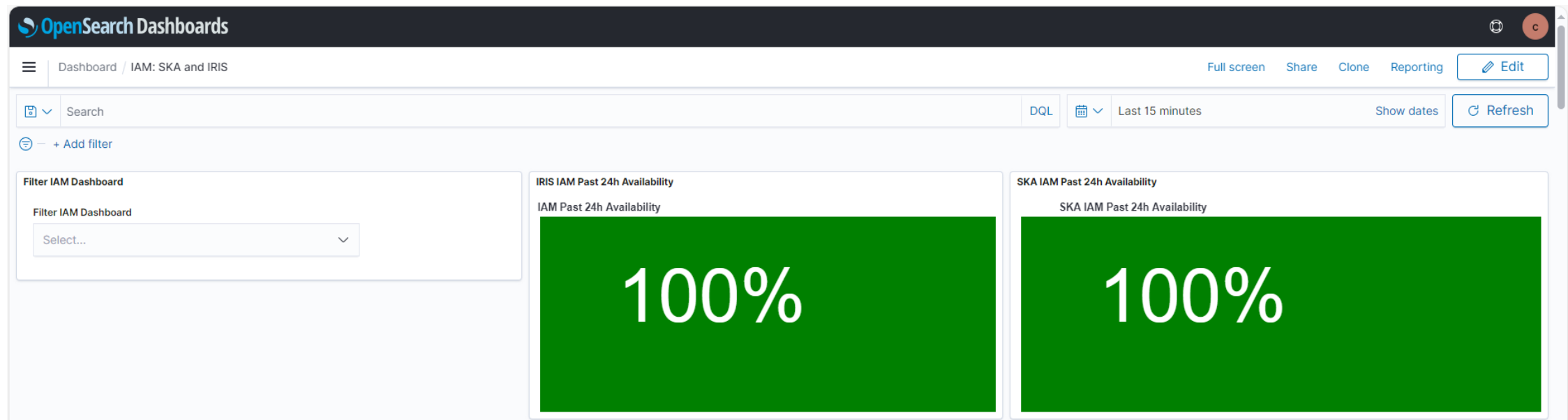
HA trials Findings + Path to HA + Performance

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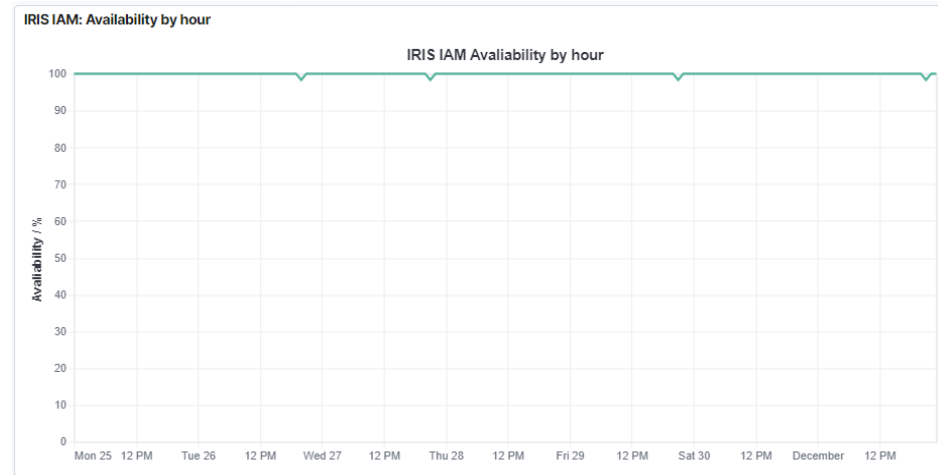
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Introducing IAM Dashboard

- Continuous improvement (CI) to service management IRIS IAM

- Data stored for 90 days

Timeframe: 24 Hr

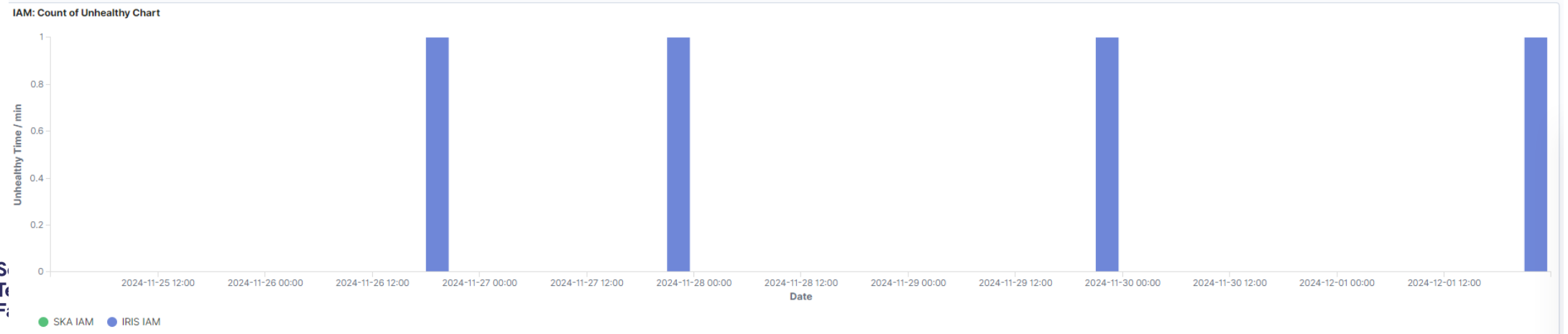# IAM Availability

IRIS IAM: Availability by hour

IRIS IAM Avaliability by hour

Timeframe: 6 days (25.11.24-01.12.2024)

IAM: Count of Unhealthy Chart

- Health test runs every minute
  - Pass=healthy & available
  - Fail=unhealthy & unavailable
- Maintain Availability >95%

IAM login data

- 19th Nov (Tue) - 25th Nov (Mon)

- 1 login per hour is by monitoring user

- Most usage clustered during office hour (Mon-Fri 09:00 – 18:00)

- Out of hour is not needed as of now.

IAM: Count of user logins
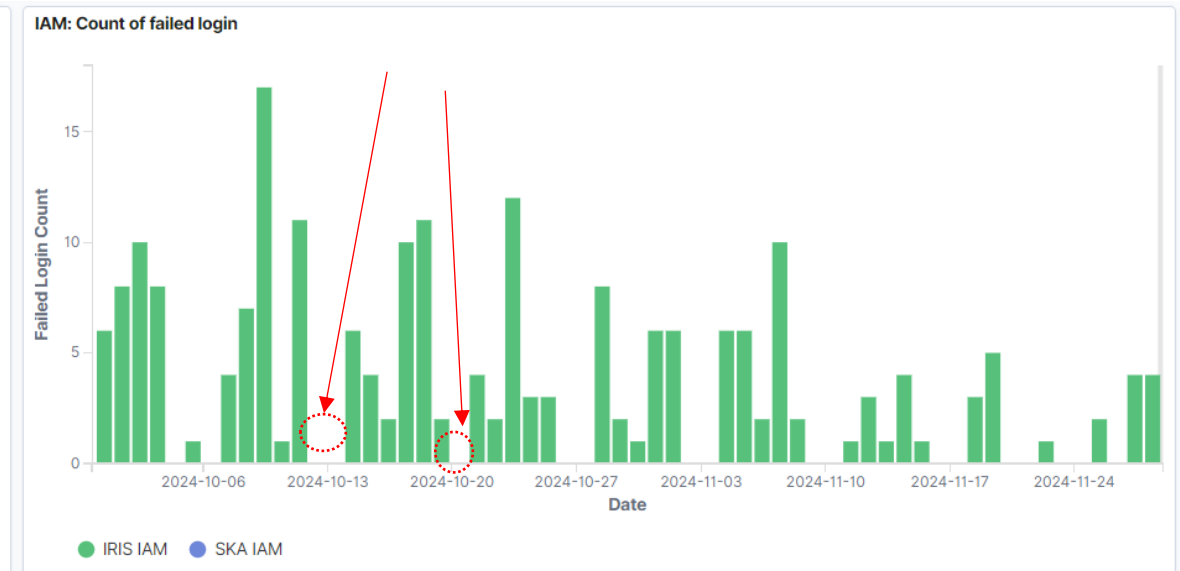
SKA IAM   IRIS IAM

IAM login data

- Understand IAM user behaviors, and issues

- Weekends: Reduced number of user logins

- IRIS – user failed logins due to human errors

What other information is on the dashboard?

Event Count	Tabular Data
• tokens issued • groups created, group request created and approved • user register request and approved • client created and registered	• tokens issued • refreshed tokens issued • groups created, group request created and approved • user logins, register request and approved, password change, authority change • client created and registered • Not healthy logs/unavailability logs

- **IAM Dashboard** is a recent beneficial implementation

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IRIS-IAM SLA

Why SLA?

- **Why we need an SLA (Service Level Agreement) now?**
  - Give clarity for the community
  - Improve transparency for our service
  - IRIS IAM is a core service
    - Widespread Impact during service disruption
      - Reduced customer satisfaction
    - User community can understand what can be delivered
      - Potentially what needs to be done if we need more

Service level

Service hours & Downtime

- Support hours: **09:30 AM – 16:30 PM (Mon – Fri)**
- No weekly at-risk period
- Planned Downtime: Written Notice **>4 weeks** in advance
  - Endeavour to avoid University/working Hours
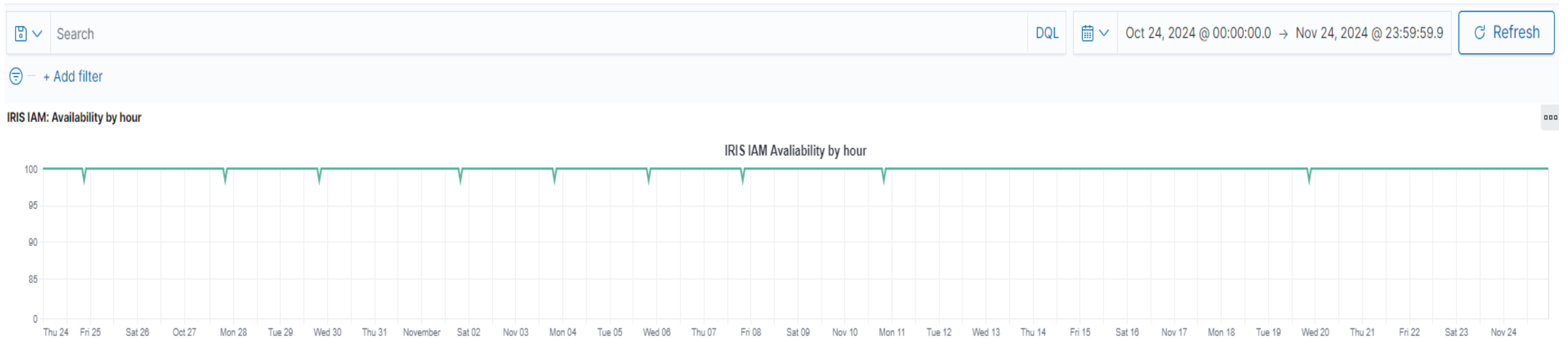   - Complete before 9:30AM if possible
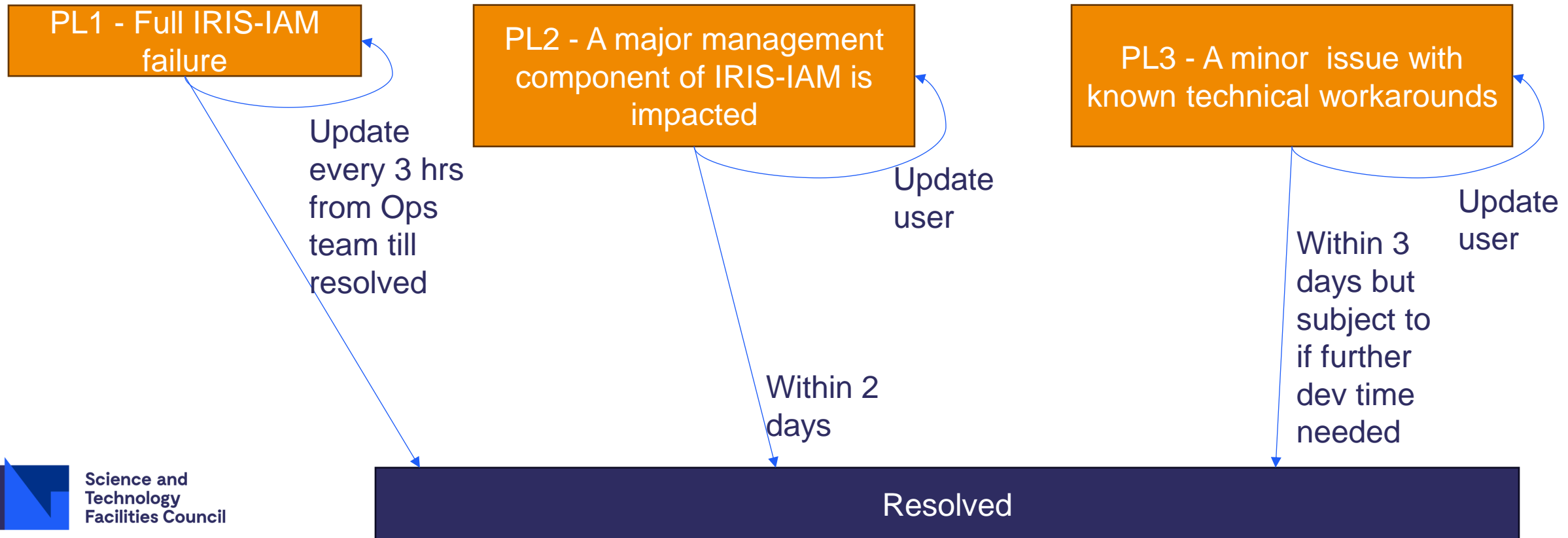- Emergency Downtime: **>2 working days** in advance

Availability Target

- **>95% availability** within <u>support hours</u>
- Endeavour to achieve this target 24/7
- No out-of-hour support
- 24-Oct – 24-Nov: **No 60min intervals <98%**

Incident handling

- First response: 4 hours (within office hours)

PL1 - Full IRIS-IAM failure

Update every 3 hrs from Ops team till resolved

PL2 - A major management component of IRIS-IAM is impacted

Update user

Within 2 days

PL3 - A minor issue with known technical workarounds

Update user

Within 3 days but subject to if further dev time needed

Resolved

User Request

- Targeted response time: 4 hours (within office hours)
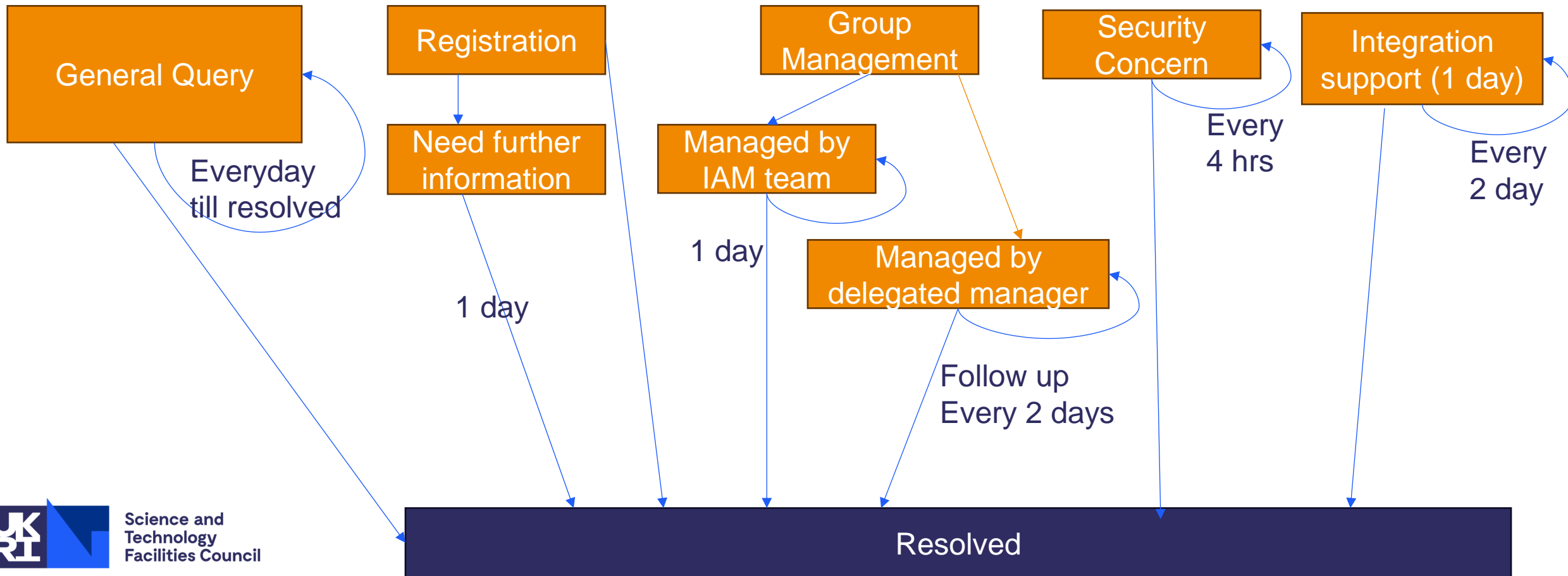
SLA exceptions

- Governed by our SLA with the service provider
- Best effort
  - Database
  - RAL
    - Network
    - Data centre

Conclusion – SLA

- Provides clarity to our services
- Improve confidence/satisfaction when using the IRIS IAM as your identity management solution
- Communicate with downstream service manager

Future of IRIS-IAM

How can we do better?

Why HA(High availability) and HA-trial

- Why
  - RAL data centres is the **single point of failure**
  - Increase availability without out of hour on-call
- HA Trial findings
  - Docker
    - Not easy to manage cross site
    - Not recommended for production service management
  - IAM might run into technical issues
    - Difficult to solve remotely
  - No confidence in implementation of this architecture will leads to better availability

New path to HA

- Need Geographically distributed HA
  - Resilience when a data centre is down
  - Improved performance via proximity
  - Resilience to data loss
- Kubernetes
  - Semi-official solution (CERN, IAM dev etc.)
  - But
    - Require resilience for data centre failure
    - Circular dependencies issue prevents the use of STFC cloud Kubernetes

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New path to HA (2)

- Possible solution
  - Kubernetes specifically for the use of IRIS IAM
    - Not efficient but a possible path
  - Federation of Kubernetes cluster in multiple sites
    - RAL +
      - Public cloud
      - IRIS partners
  - Federated Kubernetes
    - Offloading when RAL is down
    - Increased performance/capacity due to horizontal scaling
  - Possible projects
    - Liqo (liqotech/liqo: Enable dynamic and seamless Kubernetes multi-cluster topologies)
    - Admiralty (admiraltyio/admiralty: A system of Kubernetes controllers that intelligently schedules workloads across clusters.)
    - KubeEdge (kubeedge/kubeedge: Kubernetes Native Edge Computing Framework (project under CNCF))

Performance

- CERN
  - 200ms Token Exchange
- Optimisation possible
  - Workflow change
    - MitreID (Old OIDC client) deprecation
  - Database Change
    - Officially it support MySQL 5.x/8.x
    - Other drop-in replacement possible?
    - Migration to Postgres

Conclusion – Why IRIS IAM?

- Delivering secure community IAM services for IRIS community
  - Works with eduGAIN federation
  - High performance / availability
  - Based on robust framework tested in the industry
  - New feature coming 2024-25
    - Multi-factor authentication (MFA)
    - React based dashboard
- Please get in touch if you need support:
  - Contact Email (STFC Federating Service Team): iris-iam-support@gridpp.rl.ac.uk
  - Customer portal: https://stfc.atlassian.net/servicedesk/customer/portal/31

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