Red Hat Summit

Connect

Dispensing Containers, Safeguarding Citizens

UK Health Security Agency

Dan Hawker   Martha Chittenden Milton   Isaac Florence

Dan Hawker

Principal Architect
Red Hat

Martha Chittenden Milton

Engagement Lead
Red Hat

Isaac Florence

Head of Health Protection Intelligence, Systems, and Data
UK Health and Security Agency

What's Today's Session About?

- Who are the UKHSA
- How the UKHSA are using Red Hat technologies
- The UKHSA relationship with Red Hat Services
- How Services helped support the UKHSA in their hybrid, multi-cloud strategy

Protecting lives and livelihoods

OpenShift as a platform for Health Protection Para-DevOps

Isaac Florence
Head of Health Protection Intelligence, Systems, and Data

Introduction to the UKHSA

- Executive Agency of UK Government, sponsored by the Department of Health and Social Care
- Prepares and responds to events such as infectious diseases and environmental hazards, to keep communities safe
- Runs and maintains a series globally critical applications that help build the nation's health security capability

OpenShift @ UK Health Security Agency

- UKHSA is Multi-Cloud
  - On-premise for *regular* workloads
  - Migrate to Azure for *regular* workloads
  - NEW On-premise with GPUs for AI/ML and Genomics
  - NEW ROSA managed service in AWS
- Red Hat Advanced Cluster Management and Advanced Cluster Security
- Unique operating model
  - Specialist HPC and Platform teams
  - DevOps engineers managing services
  - *Para-DevOps* engineers that manage services on OpenShift, supported by HPC and Platform specialists

From the regular to bold to *wacky*

- Little internal webservices
- Comple business-process-driven APIs
- Big, complex webservices
- Operational and analytical workflows with Airflow
- Hosting LLMs with OpenShift AI
- Running crazy RPA processes and task queues

- *Plus of course CI/CD and dev environments*

How we work?

- We're *not* DevOps engineers
- We do *do* DevOps, *with support and guidance*!
- Safe by default, segmented *Project* workspaces – centrally vended
- Kustomize -> ArgoCD -> OpenShift
- Enables us
  - to work at speed
  - build with deployment in-mind
  - reduce bugs
  - *Hire and train domain experts*

What we do
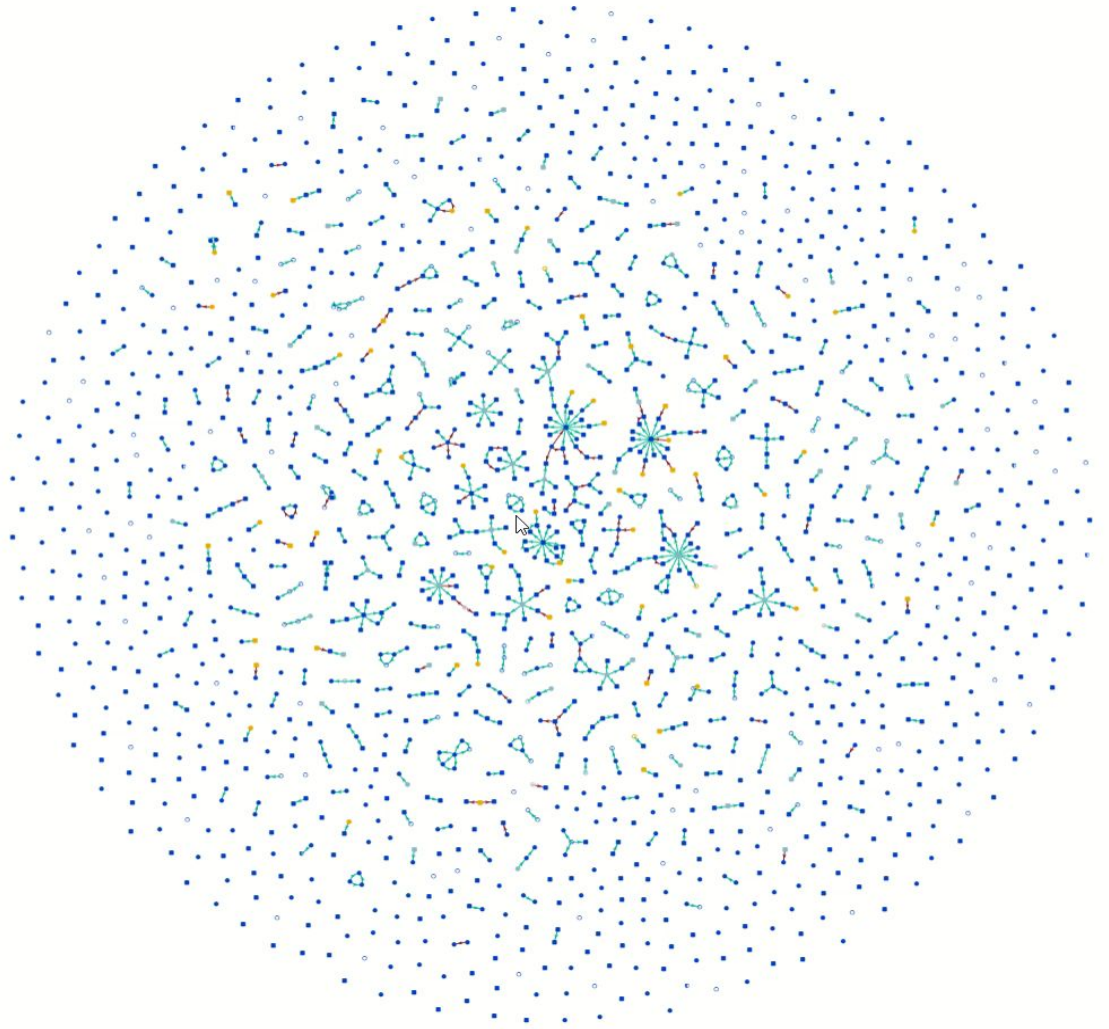
HP-ISD@ukhsa.gov.uk

UKHSA and Red Hat Journey

- Long term Red Hat customer utilising RHEL, OpenShift and OpenStack for HPC and Data Science Workloads
- Existing OpenShift clusters on-premises and in the public cloud hosting critical applications
- Committed to a hybrid cloud strategy, with multiple public cloud and private cloud environments

Why Red Hat Services?

- Existing long term relationship with Red Hat Services
- Deep and broad experience designing, building and operating OpenShift clusters across thousands of enterprises.
- Precise, targeted, expert domain knowledge of Red Hat technologies

Supporting UKHSA Strategy

Discovery
Design
Enablement

Supporting UKHSA Strategy

Discovery

- Understand desired outcomes and how to deliver maximum value
- Assess current environment and existing capabilities
- Identify candidate applications and prioritise by value, effort, and impact
- Engage stakeholders to capture needs across business and user groups
- Define the "golden path" and establish ways of working for the engagement

Supporting UKHSA Strategy

Design

- Translate insights from discovery into actionable design
- Create repeatable ROSA design patterns with UKHSA teams
- Establish referenceable design artefacts for consumption by other implementation teams
- Map and align with UKHSA processes to support approvals and compliance
- Collaborate closely with Security Architecture and wider stakeholders

Supporting UKHSA Strategy

Enablement

- Sharing insights, knowledge sharing & best practices across teams
- Documenting and centralising key learnings
- Regular sessions with stakeholders
- Enablement through Lunch & Learns and workshops
- Creating transparency with open channels for questions and feedback

What's Next?

- **Get it done:** Complete migration of existing workloads to managed clusters (ROSA / ARO)
- **Consolidate:** Streamline platforms, processes, and governance for efficiency
- **Look ahead:** Define and support plans aligned to future business and technology goals

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In brief

- ❖ The UK Health Security Agency
  - ➢ Runs and maintains a series of critical national applications that help build the nation's health security capability.
  - ➢ Mix of on-premises and public cloud
  - ➢ Wants to mature into offering a multi-cloud (private and public), hybrid

- ❖ Who he is, what he's working on etc
- ❖ Why OCP is important to HSA, why they want to move to multi cloud
- ❖ Talking about how RH services are supporting this
- ❖ Strategy on aws, azure & on-prem
- ❖ What's next

How UKHSA are using OpenShift

- Long term Red Hat customer utilising RHEL, OpenShift and OpenStack for HPC and Data Science Workloads
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UKHSA Strategy To Multi Cloud

- Organisational commitment to support applications across multiple public and private cloud environments
- Requirement to provide resilient, and highly available life-critical services to both National and International stakeholders
- Need to dynamically adjust application deployment options based on data gravity, security constraints, sovereignty and cost.
- Reduce operational overheads and cognitive loads, by using more managed service offerings where appropriate

Why is OpenShift important?

- Existing knowledge and skills of OpenShift use within the organisation
- OpenShift is a critical component in providing a flexible and consistent platform across all environments
- Agnostic to the underlying provider, services can be deployed to all environments with little to no configuration changes
- Rapid speed of delivery and ability to flex and scale in response to new challenges

Speaker
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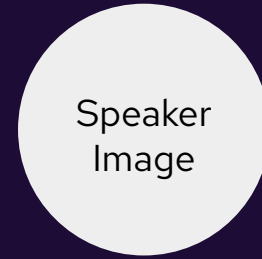Company Name