AWS
re:Invent

WPS304

Pushing Amazon RDS to the limit

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AWS re:Invent

aws

Agenda

Cloud: Why and where?

File transfer requirements

Dealing with legacy systems

Secure email

Sizing

Data center exit and cloud transformation

Ministry of Justice

Customer challenge

The national legal-aid system, Legal Aid Agencies (LAA), is a complex environment consisting of 18 integrated applications used by 50,000 external and 1,300 internal users. It processes £1.5B annually and was built on a mix of Oracle technology, including Oracle Solaris (SPARC), Oracle DB (9i – 12c), Oracle Application Server, WebLogic, Oracle E-Business Suite, and Oracle Single Sign-On.

For the LAA the main driver was the requirement to exit their data center by mid-October 2018.

Solution

We mobilized a pool of multidisciplined consultants to deliver this migration. Our team was organized into several small, mixed-skillset, agile delivery teams that would allow the applications to be migrated in parallel.

The teams faced multiple technical challenges, from the lack of best practices in the current operating model to multiple legacy applications using different technology stacks. There was also a complex environment of interdependencies between applications, environments, and multiple third-party suppliers.

Difference delivered

Version 1 helped deliver LAA's data center exit by migrating and transforming across 18 business applications to AWS.

Our approach was to deliver on time and on budget while delivering to best practices and supporting the LAA's transformation objectives.

Difference made

LAA exited their data center on time and on budget, and transformed across their enterprise application estate on AWS.

Cloud: Why?

UK government Cloud First policy

"When procuring new or existing services, public sector organisations should consider and fully evaluate potential cloud solutions first before considering any other option. This approach is mandatory for central government and strongly recommended to the wider public sector."

Government Digital Service,
published February 3, 2017

UK government digital strategy

"But this isn't just about saving money - the public increasingly expects to access services quickly and conveniently, at times and in ways that suit them. We will not leave anyone behind but we will use digital technology to drive better services and lower costs."

—Francis Maude
Member of Parliament
December 10, 2013

Cloud: Why?

Move away from proprietary hardware/software

- UK government initiative to move from commercial solutions to cloud-native IT solutions
- Flexibility and options going forward

Reduce day-to-day maintenance

- Provisioning, backup and recovery, patching, storage management

Amazon RDS vs. Amazon EC2

- **Managed service (Amazon RDS)**
  - Easier to set up, manage, and maintain
    - Provisioning, backup, recovery, patching, upgrades
  - High availability
    - Multi-AZ replication
  - BYOL
    - Use existing Oracle support account

- **Elastic compute (Amazon EC2)**
  - Flexibility in Oracle database version
  - Full control over database
    - OS-level access
      - File transfer
      - Email
    - SYS/SYSTEM user access

Integration hub pre-migration overview

Whiteboard

aws
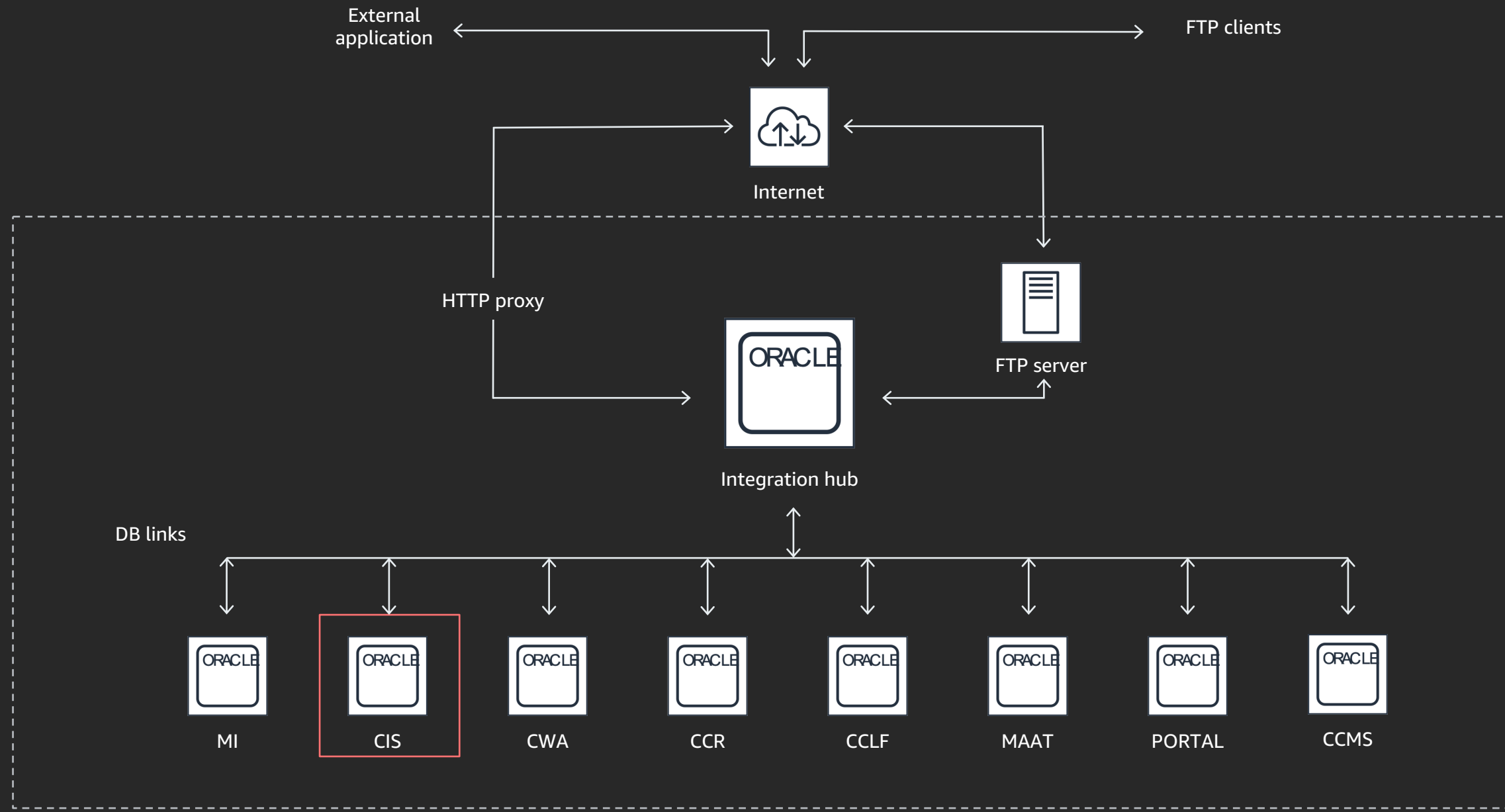
Sizing workloads on AWS

- **RDS shapes**
  - Burstable performance
    - 1 vCPU x 1 GiB memory
    - 8 vCPU x 32 GiB memory
  - General purpose
    - 2 vCPU x 8 GiB memory
    - 96 vCPU x 384 GiB memory
  - Memory optimized
    - 2 vCPU x 16 GiB memory
    - 96 vCPU x 768 GiB memory
  - Large memory instances
    - 4 vCPU x 122 GiB memory
    - 128 vCPU x 3,904 GiB memory

- **Amazon EC2 shapes**
  - Burstable instances
    - 1 vCPU x 0.5 GiB memory
    - 8 vCPU x 192 GiB memory
  - General-purpose instances
    - 2 vCPU x 8 GiB memory
    - 96 vCPU x 384 GiB memory
  - Compute optimized
    - 2 vCPU x 4 GiB memory
    - 72 vCPU x 192 GiB memory
  - Memory optimized
    - 2 vCPU x 16 GiB memory
    - 488 vCPU x 12,288 GiB memory

Thank you!

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