



The Server Labs G-Cloud 15 Service Description

G-Cloud 15 Service Definition –
Data Fabric Services

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Data Fabric Readiness & Complexity Assessment for AWS

Overview

With over twenty years of AWS platform engineering experience, The Server Labs helps organisations understand whether their data environments are capable of supporting high-throughput, distributed, and AI-ready data workloads in production.

Many organisations hold large volumes of data, but lack the architectural foundations needed to ingest, move, govern, and access that data at speed and scale. This assessment provides a structured, engineering-led view of current data complexity, platform capability, and architectural constraints, with clear guidance on what must change to enable a robust data fabric.

Benefits

- Clear view of whether your data platform can support high-volume, complex workloads
- Early identification of architectural and performance constraints
- Practical guidance on enabling distributed data access and ingestion
- Focus on production capability rather than analytics tooling
- Suitable for regulated and high-assurance environments

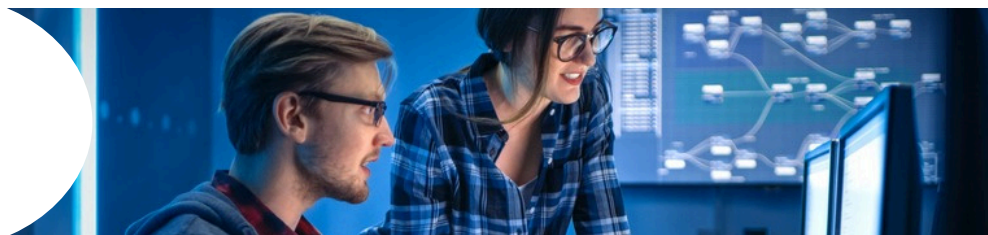
What this service provides

Data challenges are rarely caused by a lack of tools. They are usually caused by platform limitations.

Organisations often struggle with fragmented data sources, inconsistent ingestion patterns, constrained throughput, unclear access models, and data platforms that were never designed for real-time, multi-modal, or AI-driven workloads. These constraints limit the ability to use data effectively, regardless of how advanced the analytics or AI tools might be.

This service examines how the current AWS environment handles data in practice. It focuses on ingestion patterns, data movement, storage tiering, access models, metadata structures, and performance characteristics. The emphasis is on understanding whether the platform can support complex, high-volume data workloads reliably and securely.

The outcome is a practical, evidence-based view of data platform readiness, highlighting where architectural change is required to support a modern data fabric.



Who is this for

This service is suited to organisations that manage large, complex, or high-throughput data environments and need confidence that their platforms can support modern data access and processing requirements.

It is particularly relevant for organisations operating in regulated, mission-critical, or data-intensive domains such as life sciences, genomics, space, defence, and advanced research.

What's included

- Data platform readiness assessment for high-volume workloads
- Review of ingestion, streaming, and batch data patterns
- Storage tiering and performance capability analysis
- Data access and federation model assessment
- Metadata and governance structure review
- Security and access boundary evaluation
- Throughput, latency, and scalability assessment
- Constraint, dependency, and risk mapping
- Practical data fabric enablement backlog and roadmap

Delivery Approach

The assessment is delivered through a structured, engineering-led engagement focused on how data moves, is accessed, and is governed within the existing AWS environment.

Work begins with a review of the current data architecture, ingestion pipelines, storage layers, and access controls to establish a factual baseline. This is followed by targeted analysis of throughput, latency, and scalability characteristics, with particular attention to how different data types are handled in practice.

Findings are consolidated into a prioritised view of constraints and improvement opportunities, with clear recommendations on what must change to support a high-performance, distributed data fabric. The emphasis is on producing an actionable roadmap that internal teams can use to guide platform evolution.



Key Deliverables

- Data Fabric Readiness Report covering platform, performance, and access capability
- Ingestion and data movement assessment with identified constraints
- Storage tiering and throughput analysis summary
- Data access and federation risk overview
- Platform maturity baseline for data fabric readiness
- Prioritised data fabric enablement backlog
- Phased execution roadmap for platform improvements
- Executive summary for technical and leadership audiences

AWS Services & Framework Alignment

This service is aligned with the AWS Well-Architected Framework, with particular focus on the Performance Efficiency, Reliability, and Security pillars as they relate to data-intensive platforms.

Typical AWS services and frameworks referenced during the assessment include:

- AWS Well-Architected Framework and Tool
- Amazon S3 and S3 Glacier
- Amazon Kinesis and Amazon MSK
- Amazon EventBridge
- Amazon Redshift and Amazon Aurora
- AWS Lake Formation
- AWS Identity and Access Management (IAM)
- Amazon VPC and network security services
- Amazon CloudWatch

The exact services reviewed and referenced will vary depending on the client's existing data architecture, operating model, and regulatory context.

Pricing & Commercial Model

This service is delivered as Professional Services, with pricing provided on request based on scope, complexity, and the applicable rate card.



High-Performance Data Fabric Architecture Design for AWS

Overview

With over twenty years of AWS platform engineering experience, The Server Labs designs data fabric architectures that support high-throughput, distributed, and performance-critical data workloads in complex enterprise environments.

Many organisations collect large volumes of data, but lack a coherent architecture for how that data should be ingested, moved, accessed, and governed at scale. This service defines a robust, production-ready data fabric architecture that enables reliable data flow, federated access, and performance consistency across the AWS estate.

Benefits

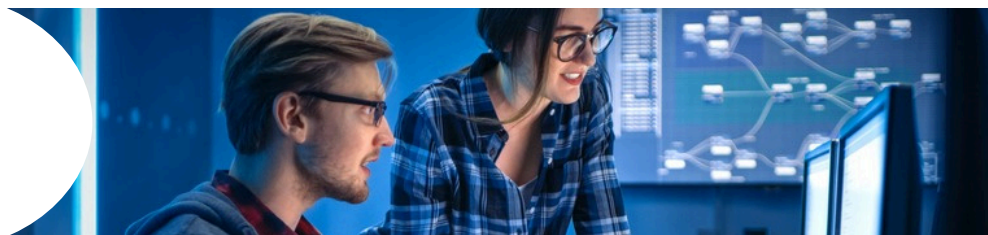
- Clear architectural blueprint for a high-performance data fabric
- Defined ingestion, streaming, and batch data patterns
- Federated and secure data access models
- Optimised storage and throughput design
- Suitable for regulated and data-intensive environments

What this service provides

A data fabric must be designed to support real-world data behaviour, not just theoretical use cases.

Organisations often operate with fragmented ingestion pipelines, inconsistent storage patterns, and unclear access models that limit throughput, resilience, and usability. These constraints make it difficult to support advanced analytics, AI workloads, or high-volume research and operational systems.

This service focuses on defining how data should flow through the AWS environment, from ingestion to storage, federation, and downstream consumption. It addresses throughput requirements, latency sensitivity, storage tiering, metadata structures, access boundaries, and security controls. The emphasis is on architectures that can sustain large-scale, multi-modal data workloads in production.



Who is this for

This service is suited to organisations that have assessed their data platform readiness and now require a clear architectural foundation for building a modern, high-performance data fabric.

It is particularly relevant for organisations operating in regulated, mission-critical, or data-intensive domains such as life sciences, genomics, space, defence, and advanced research

What's included

- High-performance data fabric architecture design
- Ingestion, streaming, and batch data flow patterns
- Storage tiering and performance optimisation design
- Federated data access and access boundary models
- Metadata and data discovery architecture
- Security and governance design for data platforms
- Network and throughput optimisation guidance
- Architecture governance artefacts for assurance and delivery

Delivery Approach

The engagement is delivered through a structured architectural design process focused on translating data volume, performance, security, and governance requirements into a practical, implementable data fabric architecture.

Work begins with a review of the existing data landscape and operating constraints, followed by the design of ingestion pipelines, storage layers, and access models that support reliable, high-throughput data movement. The architecture is refined through technical validation to ensure it aligns with real-world operational and regulatory requirements.



Key Deliverables

- Data Fabric Architecture Pack describing ingestion, storage, and access design
- High-throughput data flow and pipeline design documentation
- Storage tiering and performance optimisation model
- Federated data access and security architecture
- Metadata and discovery framework design
- Architecture governance summary for delivery and assurance

AWS Services & Framework Alignment

This service is aligned with the AWS Well-Architected Framework, with particular emphasis on the Performance Efficiency, Reliability, and Security pillars for data-intensive platforms.

Architectural designs typically reference the following AWS services and frameworks:

- AWS Well-Architected Framework and Tool
- Amazon S3 and S3 Glacier
- Amazon Kinesis and Amazon MSK
- Amazon EventBridge
- Amazon Redshift and Amazon Aurora
- AWS Lake Formation
- AWS Glue
- AWS Identity and Access Management (IAM)
- Amazon VPC and network security services
- Amazon CloudWatch

The specific services and patterns used will vary depending on the client's existing data architecture, operating model, and regulatory context.

Pricing & Commercial Model

This service is delivered as Professional Services, with pricing provided on request based on scope, complexity, and the applicable rate card.



Data Fabric Implementation & Integration for AWS

Overview

With over twenty years of AWS platform engineering experience, The Server Labs implements high-performance data fabric platforms that support reliable data ingestion, movement, and access across complex enterprise environments.

Many organisations have well-defined data architectures but struggle to translate them into functioning, operationally robust platforms. This service delivers the practical engineering required to implement the data fabric design, integrate it with existing systems, and establish the operational foundations needed for sustained performance and reliability.

Benefits

- Delivers a working data fabric platform on AWS
- Implements high-throughput ingestion and data pipelines
- Integrates data platforms with existing systems
- Embeds security, access, and governance controls
- Supports operational handover and sustainability

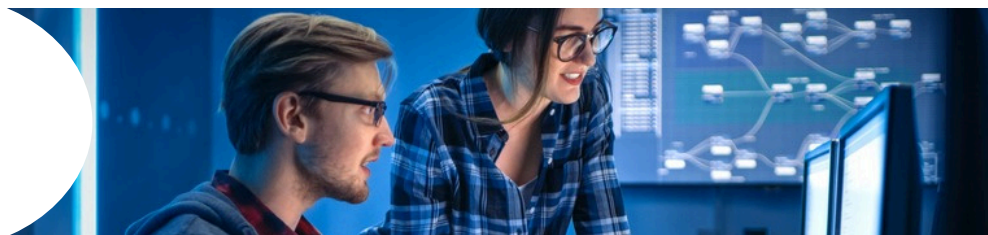
What this service provides

A data fabric only becomes valuable when it is built, integrated, and operated as part of the wider platform ecosystem.

This service focuses on implementing the approved data fabric architecture within the client's AWS environment, ensuring that ingestion pipelines, storage layers, federation mechanisms, and access controls are deployed in a way that supports real-world data behaviour. Particular attention is given to throughput characteristics, latency sensitivity, storage tiering, and access patterns, so that the platform can handle large, diverse, and performance-critical datasets reliably.

The implementation work also addresses how the data fabric integrates with existing applications, services, and delivery pipelines. This ensures that data flows become a natural part of the enterprise platform rather than a parallel or isolated capability. Security boundaries, governance controls, and operational responsibilities are embedded into the implementation so that the data fabric can be owned, supported, and evolved by internal teams.

The emphasis is on creating a dependable, production-ready data platform that supports sustained performance, regulatory compliance, and long-term operational stability.



Who is this for

This service is suited to organisations that have approved data fabric designs and now require practical engineering delivery to establish a secure, production-ready data platform.

It is particularly relevant for organisations operating in regulated, mission-critical, or data-intensive environments where data platforms must meet defined standards for security, reliability, and operational control.

What's included

- Deployment of data fabric platform components
- Implementation of ingestion and streaming pipelines
- Storage layer configuration and optimisation
- Federated data access and integration setup
- Identity, access, and governance controls
- Integration with existing enterprise systems
- Observability and monitoring configuration
- Operational runbook development
- Knowledge transfer to internal teams

Delivery Approach

The engagement is delivered through hands-on engineering work focused on implementing the approved data fabric architecture within the client's AWS environment.

Work begins with the establishment of core ingestion pipelines and storage layers, ensuring that data can be captured, moved, and persisted at the required scale and performance levels. Federation mechanisms and access controls are then implemented so that data can be discovered and accessed securely across different teams, services, and environments.

Integration with existing enterprise systems and delivery pipelines follows, allowing data flows to support operational and analytical workloads without disrupting established processes. Throughout the engagement, security, governance, and observability considerations are addressed so that the data fabric can be operated confidently in production.

Documentation, runbooks, and knowledge transfer are provided to ensure that internal teams can support, maintain, and evolve the platform over time.



Key Deliverables

- Deployed data fabric platform with ingestion and storage components
- Secure access, federation, and governance configurations
- Integrated data interfaces for enterprise systems
- Observability dashboards and monitoring configuration
- Operational runbooks for support and maintenance
- Handover and enablement pack for internal teams

AWS Services & Framework Alignment

This service is aligned with the AWS Well-Architected Framework, with particular emphasis on the Performance Efficiency, Reliability, and Security pillars for data-intensive platforms.

Implementation work typically references the following AWS services and frameworks:

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- Amazon Redshift and Amazon Aurora
- AWS Glue
- AWS Lake Formation
- AWS Identity and Access Management (IAM)
- Amazon VPC and network security services
- Amazon CloudWatch

The specific services and patterns used will vary depending on the client's existing data architecture, operational maturity, and regulatory context.

Pricing & Commercial Model

This service is delivered as Professional Services, with pricing provided on request based on scope, complexity, and the applicable rate card.



TSL Company Profile

Founded in 2004, TSL are cloud architects and integrators.

We offer a full range of lifecycle cloud solutions and services, from consultancy, software/application development, to cloud architecture design, and integration, to fully managed services.

Our specialisations are High Performance Computing and AI/ML deployed in highly secure cloud environments, with best practice built in from day one.

Our clients include private and public organisations, with an emphasis on those processing large amounts of data in mission critical environments, particularly in the Lifesciences, Utilities, Banking, Space, Metrology and Telecoms sectors.



The Server Labs 3 Layer Service Map



AI Readiness

Ultra Compute

Scalable, Burstable, Parallel Compute Orchestration

Data Fabric

Massive Scale, Optimised, Multimodal Data Platforms



Cloud Maturity Accelerators

Cloud Migration Factory
& Migrations

Cloud Adoption Accelerator
& Landing Zones

Cloud Modernisation &
Optimisation Toolkits

Cloud Centre Of Excellence
Rollout Accelerator



Trusted Foundations

Zero-Trust Security
Blueprint & Security
Hardening Toolkit

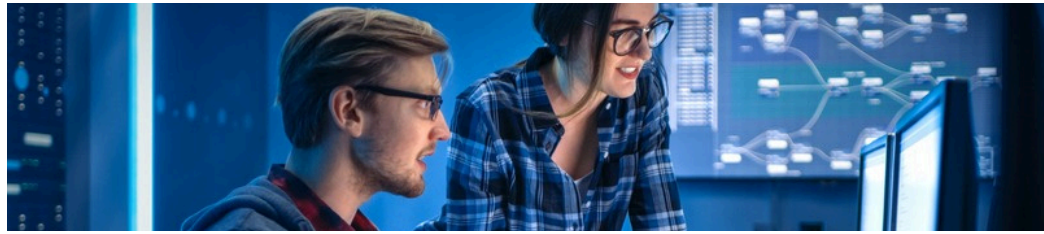
FinOps and
Sustainability Toolkit

Backup, Resilience &
SRE Best Practice
Blueprints

Sovereignty
& Regulatory
Compliance Toolkits

Modern DevSecOps
Automation Practices

Well Architected



The Company's mission is:

- To provide expert services in the field of cloud architectures, High Performance Computing, and advanced cloud software engineering
- To radically improve cloud software development processes
- To help organisations achieve better business results through the correct use of cloud technologies
- To create high quality innovative cloud software solutions, providing added value to our customers

The specific value, experience and expertise that The Server Labs can provide are:

1. **Technical excellence** and capability to act as lead on architectural decisions and as technology expert in software and system subjects.
2. **Proven experience** in implementing HPC, FinOps, Cloud Security and Big Data Projects.
 - FinOps sustainable change management to enable innovation
 - Industry leading experts in high performance computing
 - Cloud security and sensitive, big data management and processing
3. **Cloud migration:** Proven track record in migrating large, complex and sensitive dataset from on-premise to cloud environments and from legacy to target cloud.
4. **Architecture experience** at software and system level.

AWS MAP and WAF certified

TSL have achieved AWS MAP competence, which is a rigorous and demanding standard to achieve and few boutique consultancies like TSL have achieved this.

Our architects and engineers are experts with an average of 10 years' experience in the planning, design and development of complex software systems. Our multinational team has been a pioneer in cloud native service, serverless computing, automation, infrastructure as code, and distributed architectures, and has the required hands-on experience in many state of the art technologies.

The Server Labs is a leader in cloud computing solutions and services, helping organisations to move to the cloud at all levels.

Ready to lead the future?

Explore what's possible with TSL—
where innovation meets execution.
Contact us today to start your journey.

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