

Global Biopharmaceutical Leader Accelerates R&D from Months to Hours with Cloud Native Security Fabric

A biopharmaceutical company with operations spanning over 80 countries is dedicated to discovering and manufacturing innovative treatments for chronic diseases.

Facing intense market pressure and ethical imperatives to accelerate time-to-market for life-saving drugs, the company initiated a massive digital transformation.

This transformation was underpinned by a critical migration to a multicloud architecture leveraging both AWS and Microsoft Azure. They use Azure to host cutting-edge R&D platforms and complex clinical trial analytics, while running high-performance computing (HPC) for genomics on AWS. They had moved beyond basic lift-and-shift to an advanced phase where cloud usage was mandatory for rapid innovation and global expansion.

Crucially, this digital transformation required a solution to enable auditable security at the speed of pharma. The company realized **Aviatrix Cloud Native Security Fabric (CNSF)** was the missing runtime control layer necessary to enforce Zero Trust between workloads across both clouds. This foundation was mandatory for achieving key pharma outcomes: faster R&D environment onboarding, auditable communication governance and encryption for GxP/HIPAA, and reduced downtime risk.

COMPANY

- International Biopharmaceutical Leader
- Focused on accelerating R&D via a multicloud strategy

CORE CHALLENGES

1. High risk of **\$1M per minute downtime**
2. A **Skill gap** between Cloud and Networking teams
3. Lack of scalability, performance, and ability to enforce a **Zero Trust model**

AVIATRIX SOLUTION

- Implemented a unified, modular fabric that delivered enterprise-grade **redundancy, control, and better performance**
- Eliminated **technical debt** and unified connectivity models.

KEY SECURITY WINS

- Enabled consistent **NGFW insertion**
- Enforced **ZeroTrust**
- Guaranteed **data-in-transit encryption** for GxP compliance.

RESULTS

- Time-to-market for R&D accelerated to **hours**
- Achieved seamless, compliant **scalability**
- Eliminated operational friction, enabling the use of **modern services**

Chokepoint Architecture Was Fragmented and Stalled Innovation

1 Availability Risk and Operational Chaos	The limitations of native cloud routing and failover mechanisms meant the network lacked the enterprise-grade redundancy required. The stakes were incredibly high: the pharmaceutical company calculated that one minute of downtime equated to \$1 million in lost revenue , creating immense pressure. The team was struggling just to maintain a baseline level of redundancy, visibility, and control .
2 Skill Gap and Unscalable Models	The rapid cloud adoption in multicloud created a massive knowledge chasm: the Cloud teams were not knowledgeable in chokepoint networking principles , and the Networking teams lacked expertise in cloud infrastructure . This created organizational friction and stalled the process of securely provisioning new R&D environments.
3 Cloud Performance Roadblocks	The reliance on complex, custom native configurations and backhauling multicloud connectivity led to a critical disconnect. Decentralized routing limited the flow of data , preventing the optimization necessary to enable modern R&D services . For example, when Azure-based Power BI was selected for crucial clinical trial analysis, the required trial data—residing securely in AWS—was subject to inconsistent security enforcement and unacceptable latency, preventing the delivery of better performance for highly sensitive genomics and trial data analysis.
4 Complexities With Workload Security	Their initial strategy was merely a "cloud shift," choosing to lift-and-shift Next-Generation Firewalls (NGFWs) from their on-premises hardware directly onto virtual software instances in both Azure and AWS. This approach immediately introduced significant architectural debt. The service insertion mechanisms available in each cloud added complexity, creating capability variances between the two providers and resulting in noticeable performance and latency bottlenecks due to hair-pinning traffic through the firewalls.

Decision Making and the Aviatrix Solution

The company determined that its complex, fragmented hybrid cloud networking was a **roadblock to its core mission of accelerating R&D**. To unify governance, eliminate downtime risk, and address the skills gap, they turned to Aviatrix.

The decision to implement the proposed solution offered the following benefits:

- Unification and Modularity:** Aviatrix delivered a single, repeatable transit architecture across 10+ regions of AWS and Azure, which unified their connectivity models and eliminated the previous technical debt. The **modular approach** allowed them to use Terraform to deploy the fabric on-demand where necessary while maintaining centralized control.
- Centralized Security and Zero Trust:** The platform enabled **consistent, automated Next-Generation Firewall (NGFW) insertion** and enforced a **Zero Trust approach** across all cloud environments. It automatically applied **data-in-transit encryption** (meeting strict GxP requirements) and delivered complete security visibility.
- Performance and Optimization:** By establishing intelligent routing, Aviatrix provided **better performance** and facilitated the **optimization of inter-cloud traffic flows** necessary to run critical data analytics against distributed data.

Expedited Value Delivery via Professional Services (ProductPlus+ Program)

The complexity of migrating off of failed native transit services meant the organization needed guaranteed, rapid results. The decision to select Aviatrix was significantly reinforced by two factors: the proven expertise of the Professional Services (PS) team and the **Aviatrix ProductPlus+ Services Credit Program**.

By utilizing the services credits allocated for **Onboarding and Adoption**, the PS team was able to leverage their specialized knowledge of pharmaceutical compliance to achieve a swift deployment. This hands-on partnership allowed the company to deploy and operationalize Aviatrix CNSF **in months, not quarters**. This expedited delivery provided several crucial benefits:

- **Immediate Mitigation of Risk:** The rapid deployment instantly activated the enterprise-grade redundancy and consistent security controls, mitigating the risk of the costly **\$1 million-per-minute downtime**.
- **Knowledge Transfer:** The PS engagement included essential, real-time knowledge transfer, rapidly upskilling the company's internal Cloud and Networking teams on the new, unified operating model.
- **Accelerated Compliance:** The team quickly configured the auditable network communication governance and mandatory **data-in-transit encryption**, allowing the company to fast-track the compliance sign-off required for their critical R&D platforms.

Results and Business Value

The implementation of the Aviatrix platform delivered immediate and tangible results that directly accelerated the company's R&D strategy:

Accelerated Research Onboarding	Time to provision secure, compliant, multicloud research collaboration environments was reduced from 3-6 months down to a few hours (in some cases).
Mitigation of Downtime	Achieved the necessary enterprise-grade redundancy and control to protect critical applications, virtually eliminating the risk of multi-million dollar revenue losses from network outages.
Unification of Operations	The unified platform eliminated the skill-gap friction, allowing the company to successfully remove significant technical debt and focus personnel on innovation rather than troubleshooting native complexity.
Enabling Data Flow	Provided the scalability and performance needed to run advanced, data-intensive AI and genomics modern services , optimizing traffic flows and accelerating insights.
Consistent Global Security	Achieved a standardized Zero Trust security posture across all public cloud regions, simplifying compliance audits (GxP/HIPAA) and significantly reducing risk.

About Aviatrix

For enterprises struggling to secure cloud workloads, **Aviatrix®** offers a single solution for pervasive cloud security. Where current cybersecurity approaches focus on securing entry points to a trusted space, Aviatrix Cloud Native Security Fabric (CNSF) delivers runtime security and enforcement within the cloud application infrastructure itself – closing gaps between existing solutions and helping organizations regain visibility and control. Aviatrix ensures security, cloud, and networking teams are empowering developer velocity, AI, serverless, and what's next. For more information, visit www.aviatrix.ai.