



**InkBridge  
Networks**

We Authenticate The Internet

**10+ YEARS, ZERO INCIDENTS**

# How Fortune 500 companies secure their networks

Document

Case Study

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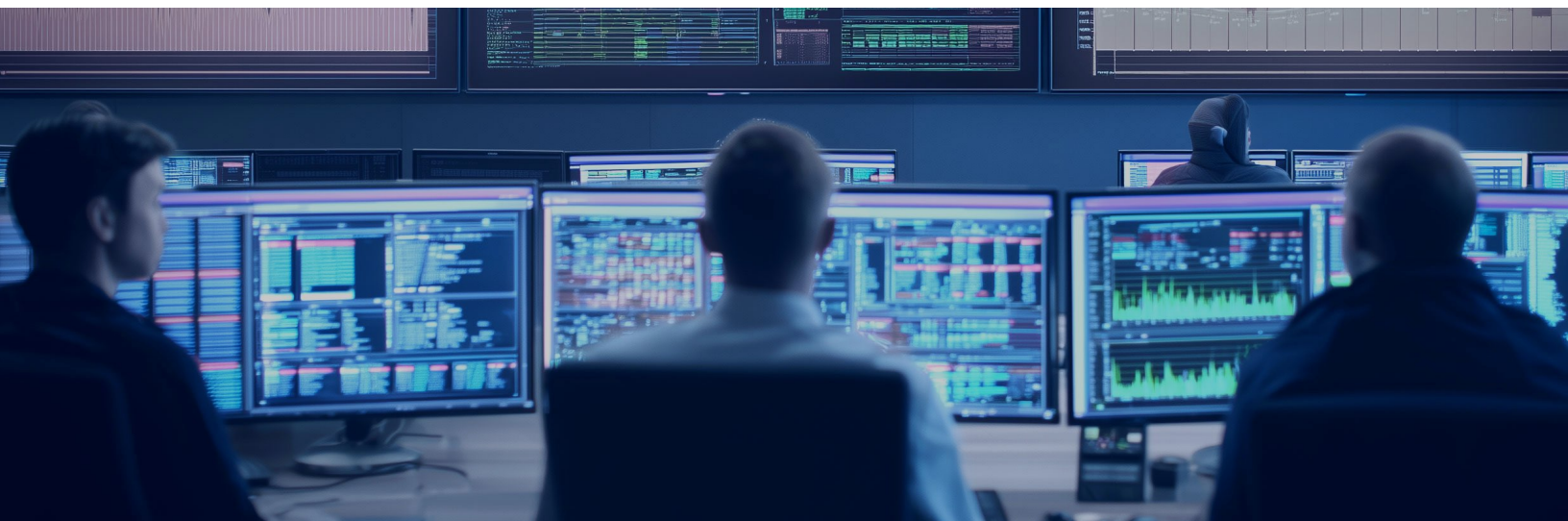
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## Global enterprises could lose millions of dollars in minutes without ironclad network security. Learn how industry leaders—including Goldman Sachs, Siemens, and a national US bank—protect critical data and infrastructure with the world's most widely used authentication server, **FreeRADIUS**.

When Goldman Sachs needs to authenticate hundreds of thousands of connections daily, or when Siemens can't afford even an hour of network failure in their manufacturing plants, they don't compromise. They choose FreeRADIUS with InkBridge Networks' enterprise support.

In a world where a single security breach can cost a fortune and vendor lock-in can cripple your agility, the best solution isn't always the most expensive one. It's the one that gives you complete control, unlimited scalability, and 100% uptime—without the enterprise software price tag that makes your CFO's eye twitch. Here's how industry leaders discovered that the world's most trusted network access system is also its most practical.



## The Challenge: Securing Global Enterprise Networks

Fortune 500 companies operate in environments where security and operations vulnerabilities can cost millions of dollars in minutes. These organizations face several critical challenges:

- **Scale:** Managing network authentication across thousands of switches and millions of ports worldwide
- **Control:** Ensuring only authorized users and devices can access corporate networks
- **Resilience:** Maintaining local network functionality even during internet outages
- **Customization:** Implementing security solutions that adapt to their unique infrastructure needs
- **Governance:** Centralizing security policy while distributing network infrastructure globally

Goldman Sachs needed to authenticate every wireless user and wired connection across their global operations. With critical financial transactions and sensitive client data at stake, even minor security vulnerabilities could expose them to significant risk.

Similarly, Siemens, with 320,000 employees across manufacturing facilities worldwide, required robust port-level authentication that wouldn't disrupt production if internet connectivity failed.

Factories like Siemens can't afford downtime due to authentication failures. Every minute of production stoppage costs thousands of dollars. Traditional cloud-based authentication solutions would introduce unacceptable risk.

**Local FreeRADIUS servers  
eliminate this dependency.**

## The Solution: FreeRADIUS With Enterprise Support

After thorough evaluation of commercial and open-source options, these Fortune 500 companies selected FreeRADIUS, backed by InkBridge Networks' enterprise support.

Their decision was based on several key factors:

- ✓ **COMPLETE CONTROL:** Unlike proprietary solutions, FreeRADIUS provided [full visibility into the authentication system](#) with full access to source code and functionality—a critical requirement for organizations handling sensitive data.
- ✓ **DISTRIBUTED ARCHITECTURE:** The ability to distribute FreeRADIUS servers across facilities worldwide enabled local authentication even during WAN outages.
- ✓ **CUSTOMIZATION FLEXIBILITY:** The open-source foundation allowed for rapid implementation of customer-specific features without lengthy vendor development cycles.
- ✓ **ENTERPRISE-GRADE SUPPORT:** InkBridge Networks' deep expertise and same-business-day response times provided the assurance required for mission-critical systems.
- ✓ **COST-EFFECTIVE SCALING:** The solution allowed deployment of as many servers as needed without additional licensing costs, eliminating the "budget vs. security" dilemma.



## Implementation: Securing Every Network Connection

The enterprise implementations followed a similar pattern, with each organization deploying 20 to 200 FreeRADIUS servers across their global facilities.

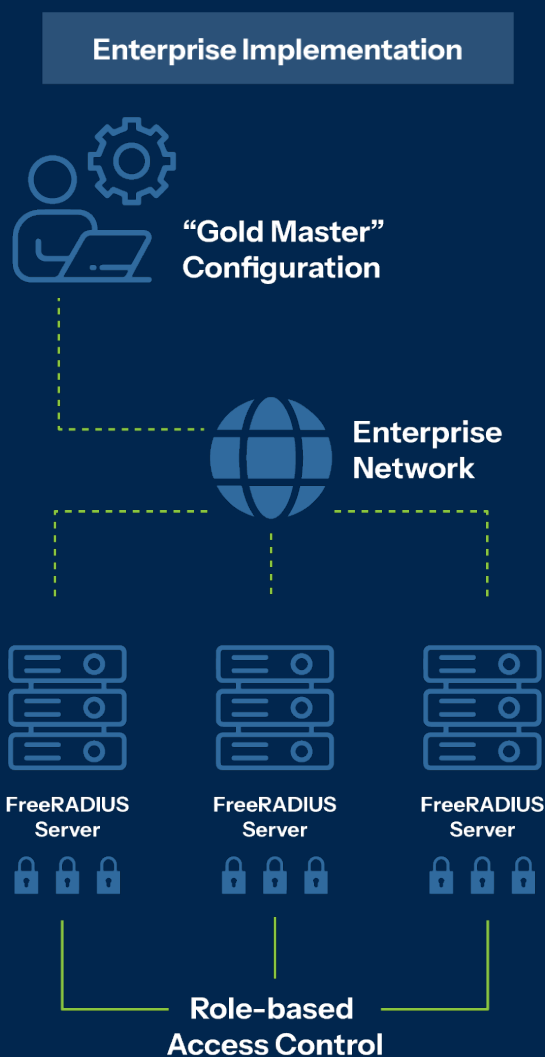
Key implementation elements included:

**Centralized management:** All FreeRADIUS servers were configured and managed by central IT teams, following a "gold master" approach that ensured consistent security policies.

**Distributed authentication:** Local FreeRADIUS servers provided authentication services for nearby network infrastructure, enabling continued operation during WAN outages.

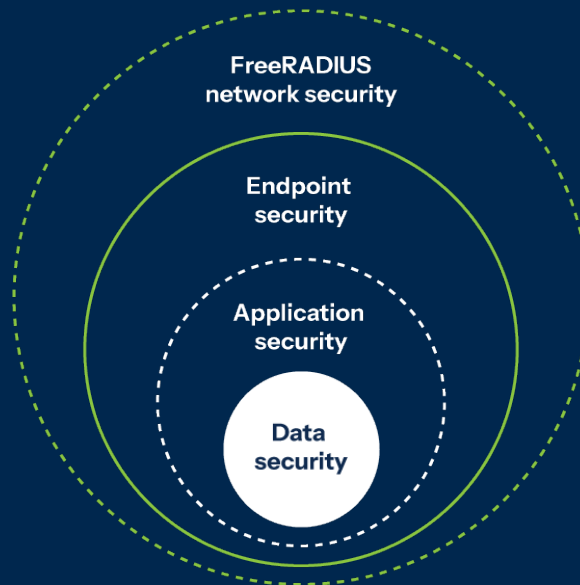
**Defence-in-depth integration:** FreeRADIUS became the first line of defence in a comprehensive security architecture, working alongside other security controls.

**Role-based administration:** Local IT staff could manage and support end-user devices but lacked permissions to modify network authentication policies.



*A typical deployment of local FreeRADIUS servers with centralized configuration*

## Defence in Depth



*FreeRADIUS is the first of many layers of protection for enterprise infrastructure*

One particularly illustrative example came from a manufacturing client:

"The central IT department initially proposed moving all authentication to their cloud services for simplified management. Our factory leadership immediately pushed back, noting that internet outages could cost us up to millions of dollars per hour in lost production. **IT quickly revised their plan, deploying locally managed FreeRADIUS servers in our network closet that continued functioning regardless of WAN connectivity.**"

## Results: 10+ Years of Secure, Resilient Operation

This document is intended for system administrators and network administrators. Anyone who manages a network composed of switches, routers, access points, VPN concentrators, administrator login to systems, etc. should read this document, and follow the steps outlined here.

These Fortune 500 enterprises have now operated their FreeRADIUS implementations—in most cases, for over a decade—with remarkable outcomes:

- **Zero FreeRADIUS-related security incidents** across millions of authentication events daily
- **Minimal support requirements** with only a handful of tickets submitted annually
- **100% authentication uptime** at local facilities, even during network disruptions
- **Complete control** over security policies and authentication requirements
- **Significant cost savings** compared to commercial alternatives



For Goldman Sachs, this translated to secure authentication for every wireless user and wired port worldwide. Siemens achieved comprehensive protection across their manufacturing operations without compromising production uptime.

**The most telling result?** These organizations rarely contact InkBridge Networks for support—not because they don't value the relationship, but because the implementation works exactly as designed year after year.

## Key Takeaways for Enterprise Network Security

The success of these implementations demonstrates several important principles for enterprise network security:

1. **Security without compromise:** Properly implemented authentication can provide both security and operational resilience.
2. **Local resilience matters:** Distributed authentication architecture prevents productivity losses during connectivity disruptions.
3. **Control is critical:** Open-source solutions with proper enterprise support provide both transparency and assurance.
4. **Scale affordably:** Organizations should deploy as many RADIUS servers as their security requires, not as many as their budget permits.
5. **Expert support creates value:** Even with minimal day-to-day needs, having direct access to the world's foremost FreeRADIUS experts provides confidence and rapid resolution when issues arise.

### Get enterprise-grade support

Inkbridge Networks provides enterprise network solutions focusing on Authentication, Authorization, and Accounting. The company created and maintains FreeRADIUS, the world's most widely deployed RADIUS server, supporting hundreds of millions of users daily.

With decades of experience in network authentication protocols, InkBridge Networks offers enterprise support, consulting, and custom development for organizations requiring robust security solutions that don't compromise on control or resilience

[Learn more about our enterprise solutions](#) or [contact us](#) to discuss how we can help secure your network infrastructure.







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