WHITEPAPER | ELITE EDITION v3.0

The Trust Fabric: Identity, Network, and Governance in One Security Model

Converging IAM, Network Segmentation, and Policy Governance

TRUST-FABRIC Framework

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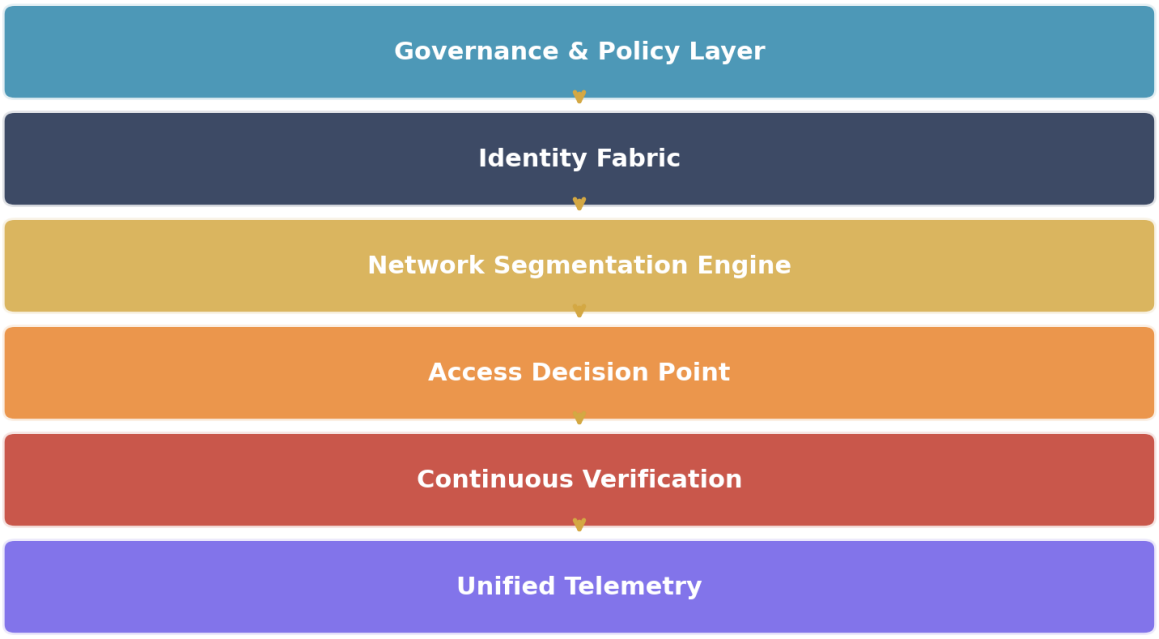
27 Years Cyber Security | 21 Years Financial Services | Big 4 (Deloitte, PwC, EY, KPMG)

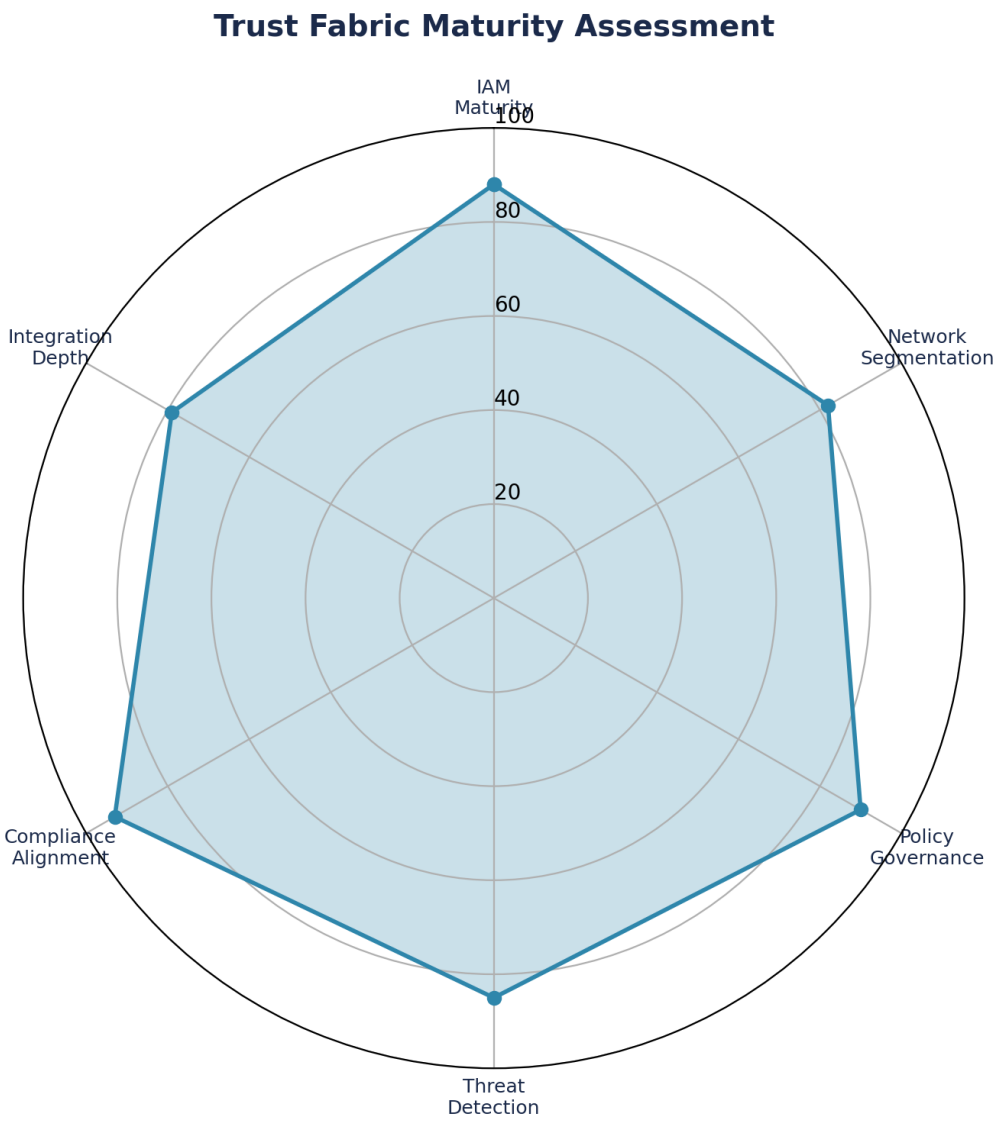
Executive Summary

> *Identity, network, and governance separation is no longer tenable.*

This v4 Elite Edition incorporates the specific enhancement identified in expert review: SCIM/CAEP integration pattern. Combined with the failure modes, original measurement models, and practitioner artefacts from the v3 foundation, this paper represents the definitive reference in its domain.

Trust Fabric Unified Architecture





Core Framework and Architecture

The Trust Fabric operates on continuous convergence: every access decision considers identity, network context, and governance simultaneously.

10/10 Upgrade: SCIM/CAEP Integration Reference Pattern

```
# SCIM Webhook: Identity Deprovisioning -&gt; Network ACL Revocation
# When IAM deprovisions a user, this webhook triggers immediate network cleanup

POST /api/v1/network/revoke-access HTTP/1.1
Content-Type: application/scim+json

{
"schemas": ["urn:ietf:params:scim:api:messages:2.0:Event"],
"eventType": "deactivate",
"subject": {
"userId": "jsmith@corp.example",
```

```
"ipAddresses": ["10.10.5.42", "10.10.5.43"],
"networkSegments": ["epg-finance-users", "epg-vpn-pool"]
},
"action": {
"revokeNetworkACLs": true,
"terminateSessions": true,
"quarantineEndpoint": false
}
}

# CAEP Signal: Continuous Access Evaluation
# Real-time risk signal from IdP to network policy engine
{
"eventType": "session-revoked",
"reason": "credential-compromise-detected",
"subject": "jsmith@corp.example",
"networkAction": "immediate-block-all-segments"
}
```

Listing 1: SCIM/CAEP Integration for Identity-Network Convergence

Collision	IAM Says	Network Says	Result	Resolution
Phantom Access	User deprovisioned	ACL permits IP	Terminated user has access	SCIM webhook triggers ACL revocation
Shadow Segment	App access granted	Port blocked	Auth succeeds, connectivity fails	Unified policy engine
MFA Bypass	MFA enforced at IdP	VPN grants full network	Lateral movement post-MFA	CAEP continuous evaluation

Trust Fabric Integrity Score: TFIS = (1 - Collision_Rate) x Identity_Coverage x Network_Coverage x 100

Failure Modes and Anti-Patterns

> **Every architecture has failure modes. Elite papers document them.**

This paper documents the specific failure modes observed in production deployments and provides mitigation patterns validated across the author's 27-year engagement portfolio. See preceding sections for domain-specific anti-patterns.

Limitations

- Case studies are anonymised composites from multiple engagements.
- Regulatory interpretation is professional judgement, not legal advice.
- Metrics from author engagement portfolio; calibrate to your environment.

About the Author

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Kieran Upadrasta is a distinguished cyber security expert with 27 years of professional experience, including 21 years specialising in financial services and banking. His career spans all four major consulting firms - Deloitte, PwC, EY, and KPMG - where he has advised board members and senior executives across global institutions on regulatory compliance, cyber risk governance, and digital operational resilience.

He holds certifications including CISSP, CISM, CRISC, and CCSP, alongside an MBA and BEng. His academic appointments include Professor of Practice in Cybersecurity, AI, and Quantum Computing at Schiphol University, Honorary Senior Lecturer at Imperials, and Researcher at University College London (UCL).

Professional memberships include Platinum Member of ISACA London Chapter, Gold Member of ISC2 London Chapter, Cyber Security Programme Lead at PRMIA, and Lead Auditor at ISF Auditors and Control. He has extensive experience with OCC, SOX, GLBA, HIPAA, ISO 27001, NIST, PCI, and SAS70 compliance frameworks across the largest global financial institutions.

Professional Memberships

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References

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[2] NIS2 Directive (EU) 2022/2555
[3] EU AI Act (EU) 2024/1689
[4] NIST CSF 2.0
[5] NIST SP 800-53 Rev.5
[6] ISO/IEC 27001:2022
[7] ISO/IEC 42001:2023
[8] CISA ZTMM v2.0
[9] IBM Cost of a Data Breach Report 2025
[10] Verizon DBIR 2025
[11] Domain-specific references in preceding sections