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Protecting Application Delivery without Network Security Blind Spots

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Objectives

- Describe how network security blind spots occur
- Outline threat that they represent to organization
- Define the best practices to protect against them
- Explain how to configure a trusted secure system

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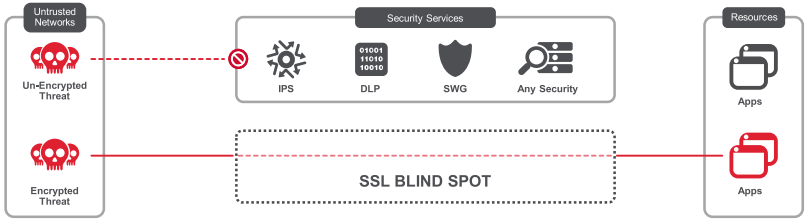
Introduction

SSL is growing and that presents a challenge for our customers

Most network architectures are obsolete. They are not built for SSL encryption. Enabling SSL on NG security products impacts performance **(80% degradation).**

Cyber criminals are growing **more sophisticated** and **evasive** in their **attacks**



Traditional network architectures are built for little or no encryption. Attackers are planting SSL-encrypted malware on compromised servers to evade network monitoring. Without security tools to inspect SSL traffic, attacker actions can go undetected.

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Network Security Blind Spots

Hinders work of network security tools

- Network health monitoring
- DLP, IDS, IPS
- Malware detection

Requires visibility into network traffic

- Security Dashboard (SIEMS)
- Policy and Privacy Enforcement
- Troubleshooting

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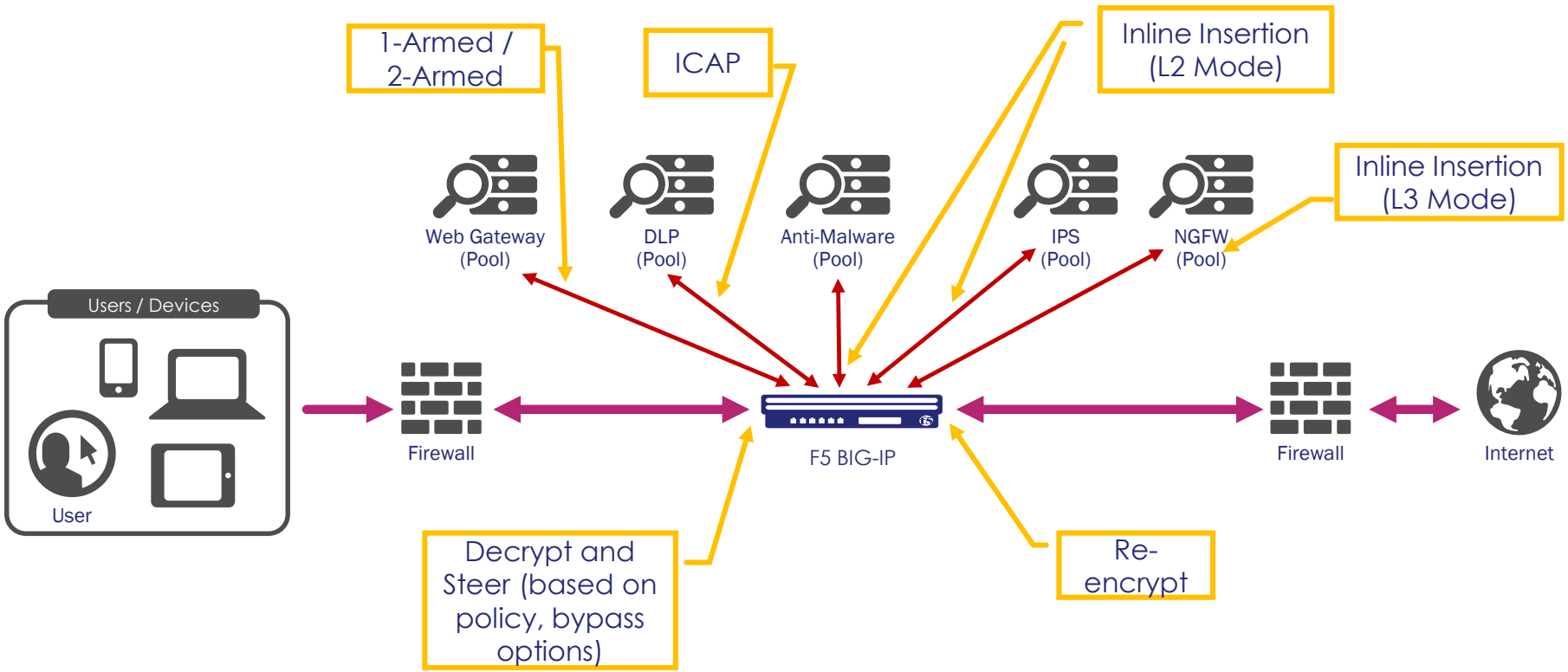
Typical Security Stack



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Significant Performance Impact on Existing Security Stack

Malware
uses encrypted channels to evade detection

Visibility
is reduced due to the growth of SSL usage

Performance
for decryption is a significant undertaking

79% Next-Gen Firewall
Performance Impact

75% Next-Gen IPS
Performance Impact

100% Threat Defense
No SSL Support

Enabling SSL on a firewall, SWG or an IPS will reduce the overall performance of the appliance, often by more than 80%

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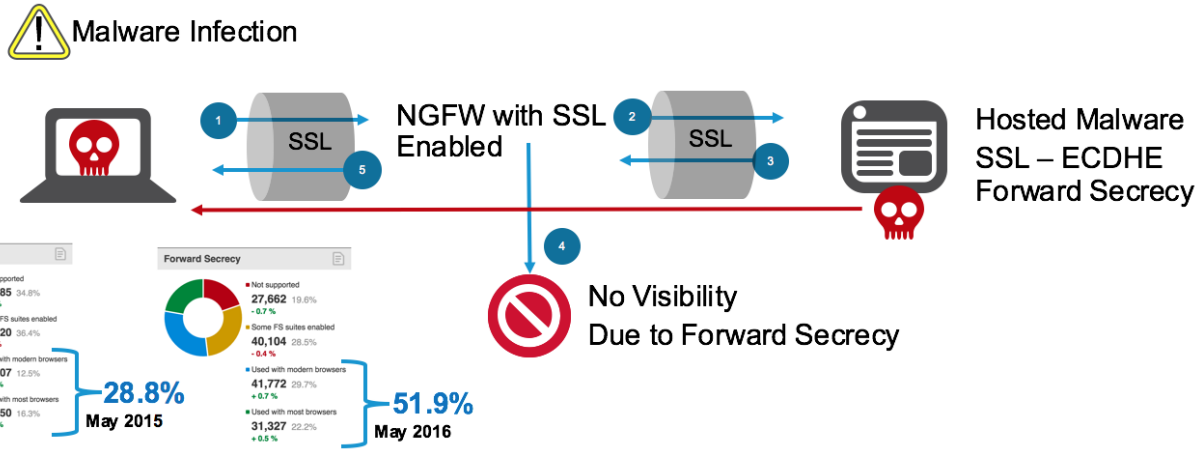
Threat to your organization



In One Year: You've lost half of your visibility

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Best Practices

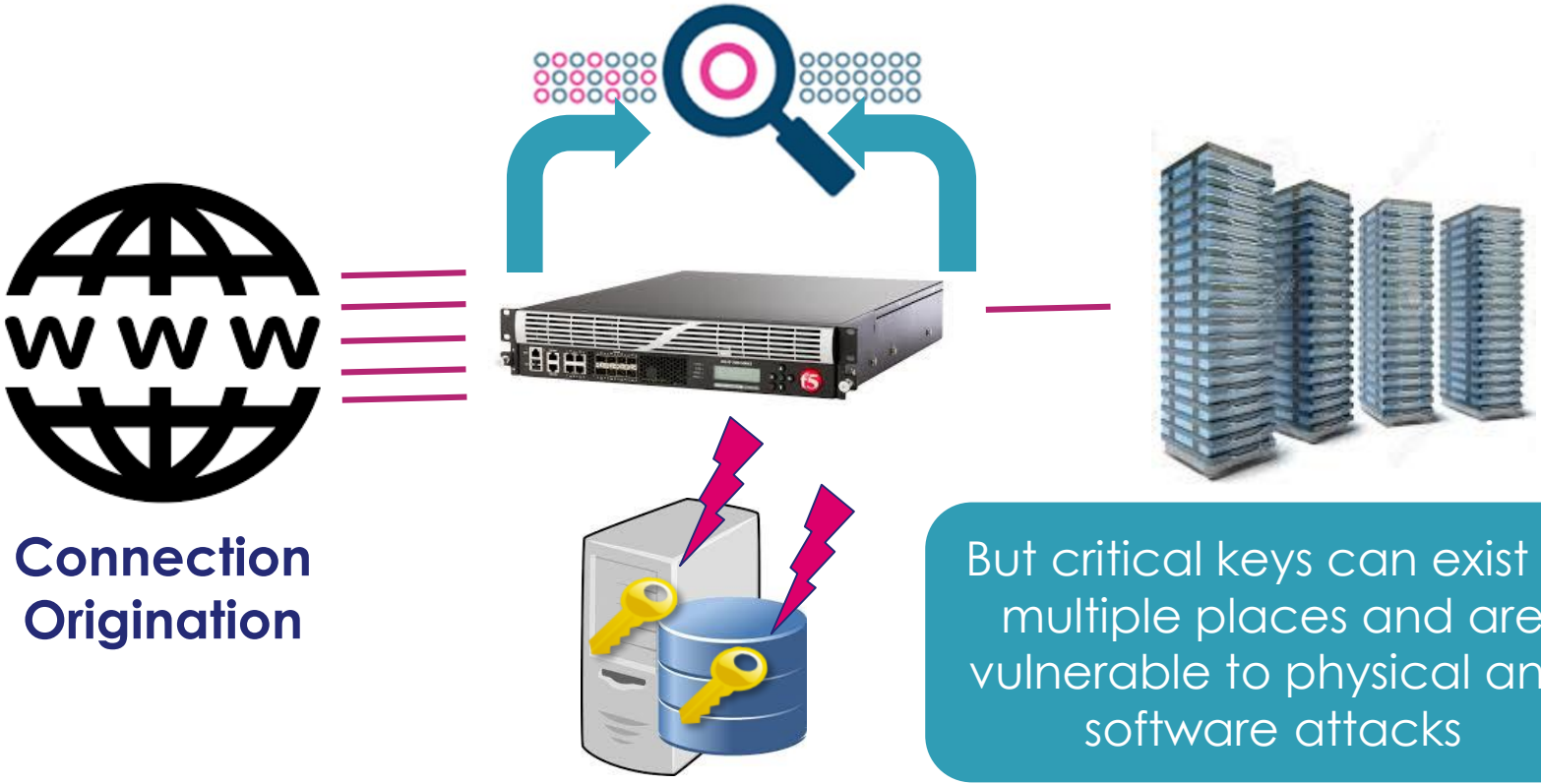
Protecting against encryption blind spots with BIG-IP

- Optimizes security stack through SSL offload
- Centralized decrypt/encrypt capability
- Support for latest ciphers and suites providing network traffic visibility
- Flexible deployment to support diverse environments

SSL/TLS and encrypt/decrypt feature use crypto keys

- Keys maintained in software can be exposed to threats
- Increasing number of crypto keys are harder to manage
- Customers require certified key protection for compliance

F5 BIG-IP Solution



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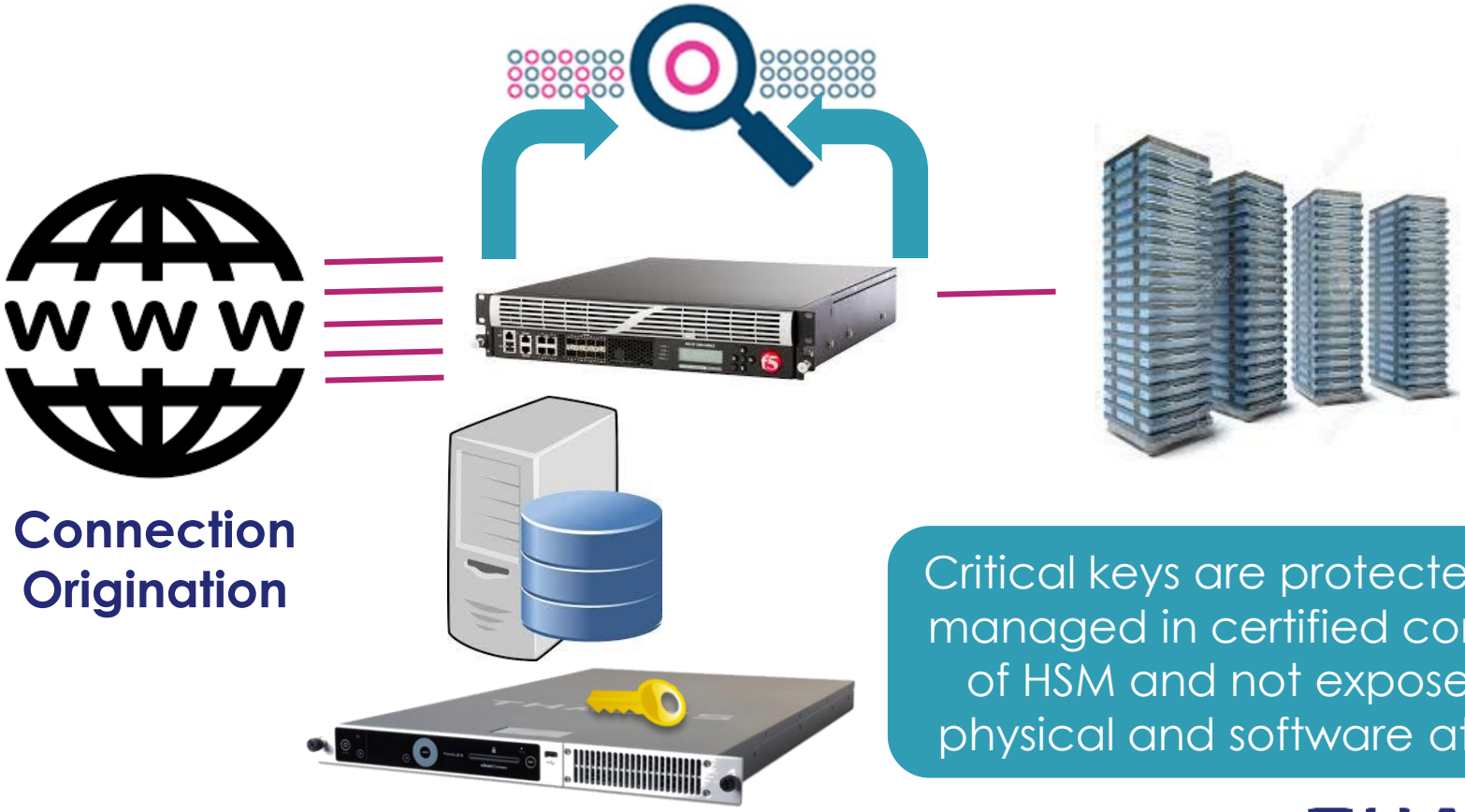
F5 BIG-IP Solution with Thales nShield HSM



Critical keys are protected and managed in certified confined of HSM and not exposed to physical and software attacks

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Protecting and Managing the Keys

External nShield HSM enables enhanced security

- Protects and manages critical SSL keys used by BIG-IP and encrypt/decrypt feature
- Isolate cryptography and keys in secure FIPS 140-2 Level 3 and Common Criteria EAL 4+ boundary
- Deliver lifecycle hardware key management, mitigates risks, and facilitates regulatory compliance

Value of HSM Integration

F5 BIG-IP

- Optimizes SSL traffic, response times, and customer experience
- Provide traffic visibility and prevent security blind spots

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Enhances security protecting crypto keys in dedicated hardware
Provide dual controls facilitating auditing/regulatory compliance

INTEGRATION

- Delivers a proven solution with a strong and certified root of trust

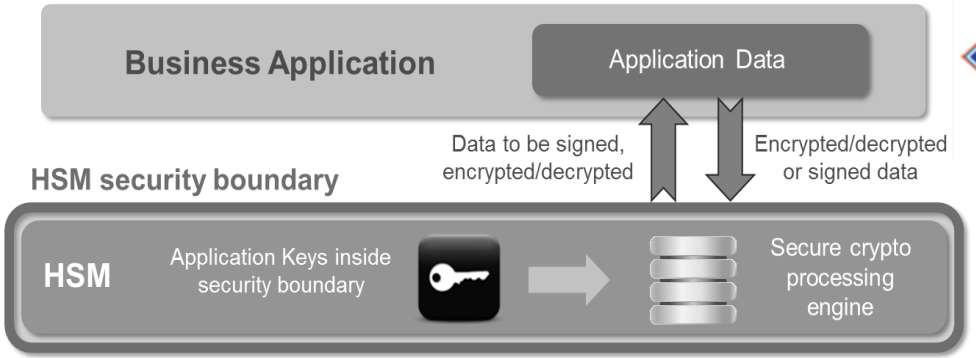
HSMs and Problems they Address

What are HSMs?

- Hardware Security Module
- Hardened, tamper-resistant devices isolated from host environment
- Alternative to software crypto libraries

What do HSMs do?

- Secure cryptographic operations
- Protect critical cryptographic keys
- Segregate administration and security domains and enforce policy over the use of keys



nShield HSMs are FIPS 140-2 Level 3 and Common Criteria EAL4+ certified

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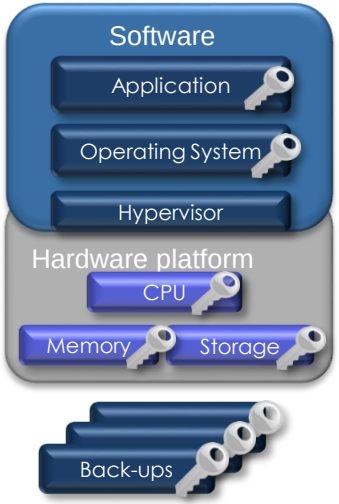
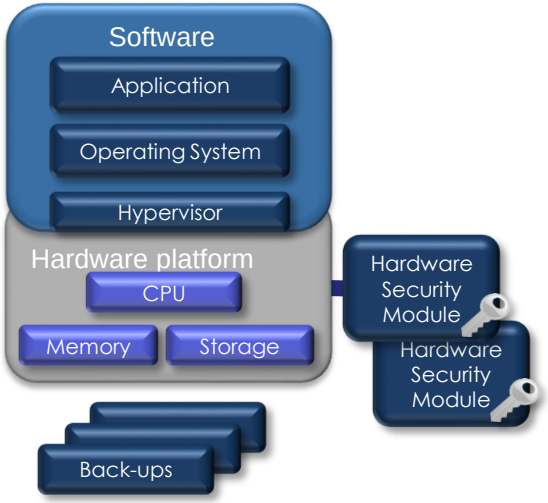
Enhanced Security for Application Delivery Controllers

- Software-only system
- Numerous copies of keys across system and backups



- Hardened security system
- Keys are segregated within isolated security environment



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Root of Trust

- Provides FIPS 140-2 and Common Criteria certified security
- Isolates crypto keys and processes from host environment
- Enforces dual controls and protects from rogue super users
- Enhances security and ensures availability of critical keys
- Facilitates security compliance, auditing, and reporting

Why Thales e-Security?

- **Experience** – Leading global provider of data protection solutions for 40+ years
- **Leadership** – HSMs help secure more than 80% of the world's payment transactions and most valuable corporate and government information
- **Market focus** – Provides the best data protection solutions possible
- **Independently certified** – Products certified to FIPS standards
- **Expert advice** – Provides training and deployment assistance


Banking


Government


Utilities


High Tech


Mobile

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Why F5?

- **Experience** – 7+ Years providing SSL offload and transformation
- **Leadership** – Gartner ADC Magic Quadrant Leader
- **Market focus** – Application Availability, Security and Performance
- **Certified** – Products certified for US Government and Global Markets
- **Partnerships** – Marketing leading partnerships and ecosystem

In Summary…

- Preventing network security blind spots should be priority
- ADCs increasingly taking on task/enabling traffic visibility
- Solution delivers better performance and robust root of trust

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Time for Questions…

Thank you !

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