"What went wrong when your bank was hacked?"

Nezar Nassr

July 2020





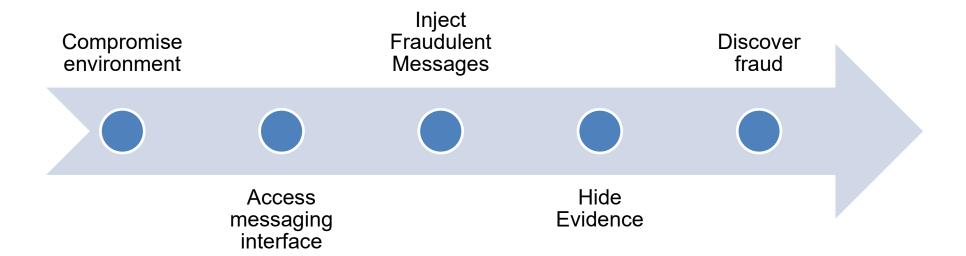






#### Modus operandi of a cyber attack



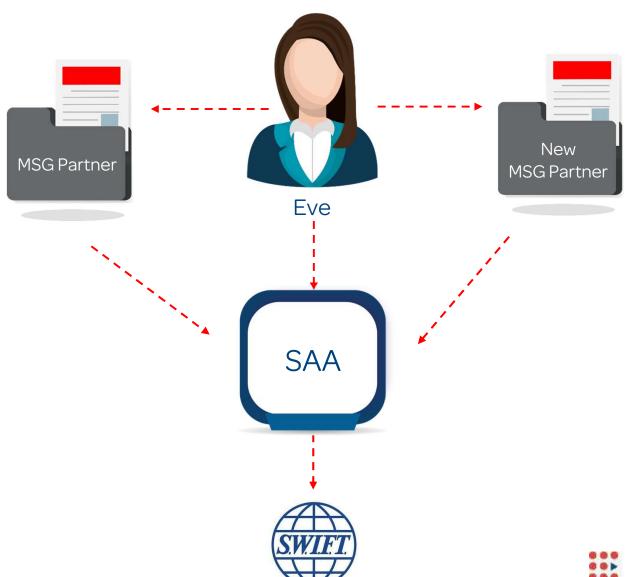






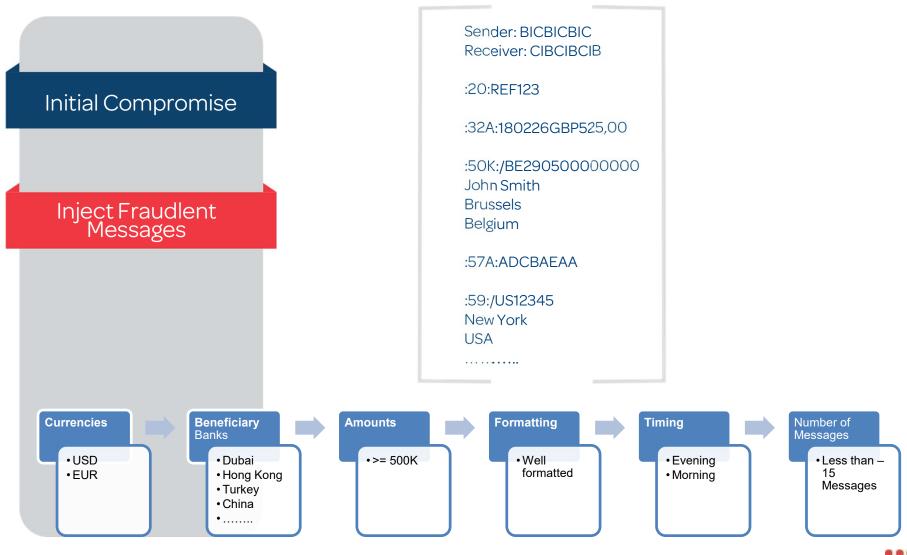


Inject Fraudlent Messages













Initial Compromise

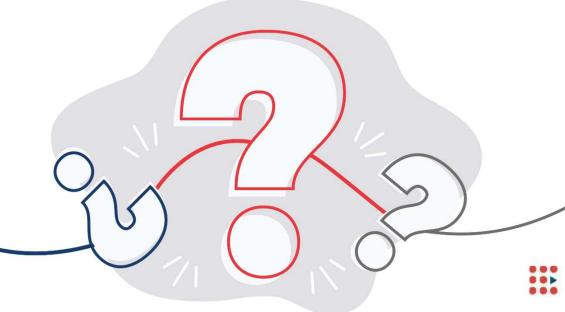
Inject Fraudlent Messages

Hide Evidences

Fraud Detection

# How?

When reconciling Nostro-Vostro accounts, from MT940, MT950





Initial Compromise

Inject Fraudlent Messages

Hide Evidences

Fraud Detection

# How do they react?

Message cancellation

But...

instant payments are the norm now

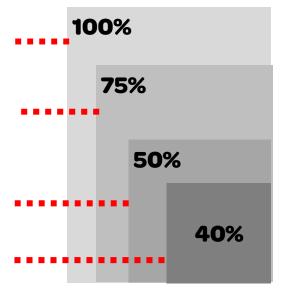


100% within 24 hours.

within 6 hours

are credited within 30 minutes

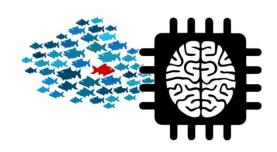
are credited to end beneficiaries within 5 minutes







### Real-Time Message Analysis:

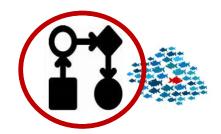






#### Events



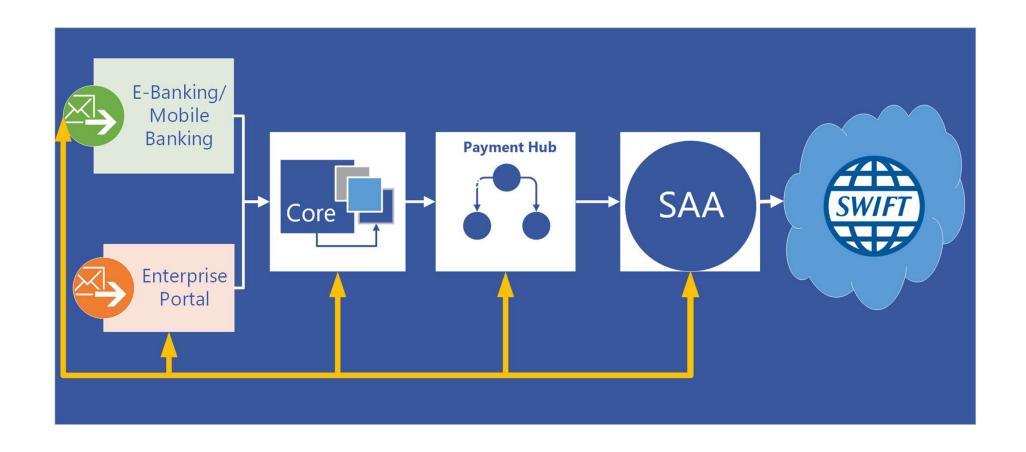






#### Message Authenticity/Payments Reconciliation







#### Transaction Risk Analysis (TRA)

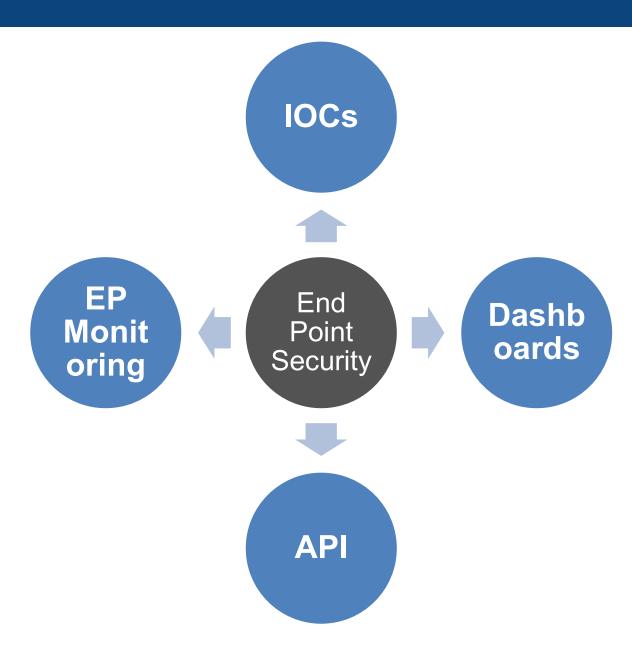


- Orchestral Scenario:
  - Risk level associated with each member scenario
  - A global threshold is associated with the orchestral scenario
  - Some member scenarios can be mandatory (AND operator)



# Security and breaches monitoring









If you are hacked, can your fraud detection get disabled?





ADK: uses queues How: change routing schema Y-Copy How: disable Y-Copy



#### Mitigation Levels



Real-time
Interception
Before
Network

Real-Time In Network

Sent MSGs
Immediately
Post Network

Notifications
Within
Minutes Post
Network





# Going beyond existing fraud detection mechanisms

Verify message authenticity using gpi tracker







Go beyond the scope of SWIFT CSP

- Develop a resilient cyber incident response plan
- Deploy a real-time Payment Fraud solutions
- In-network message authenticity controls



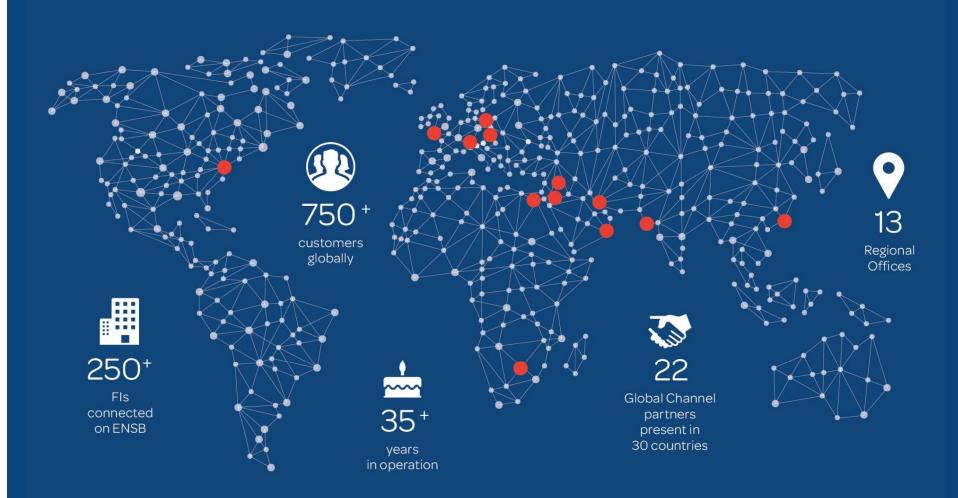












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