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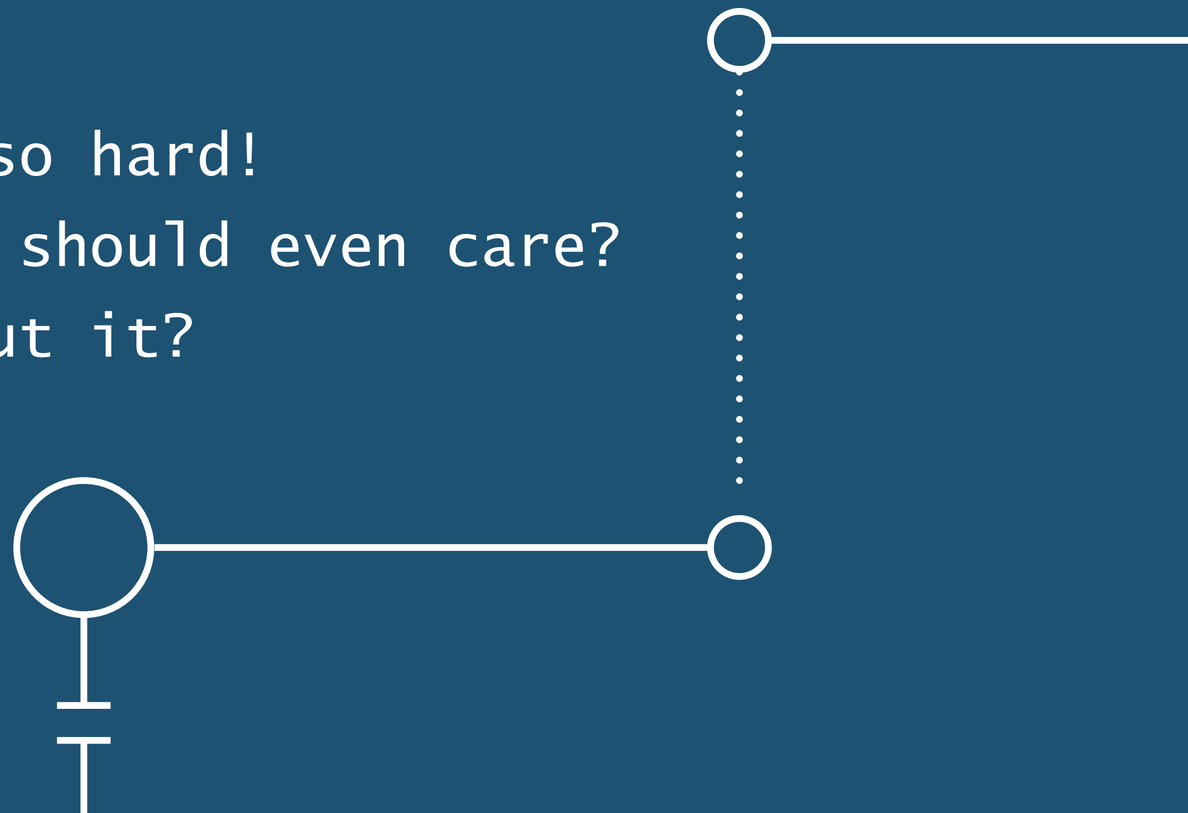
What does it take to steal $81M?

Oliver Simonnet

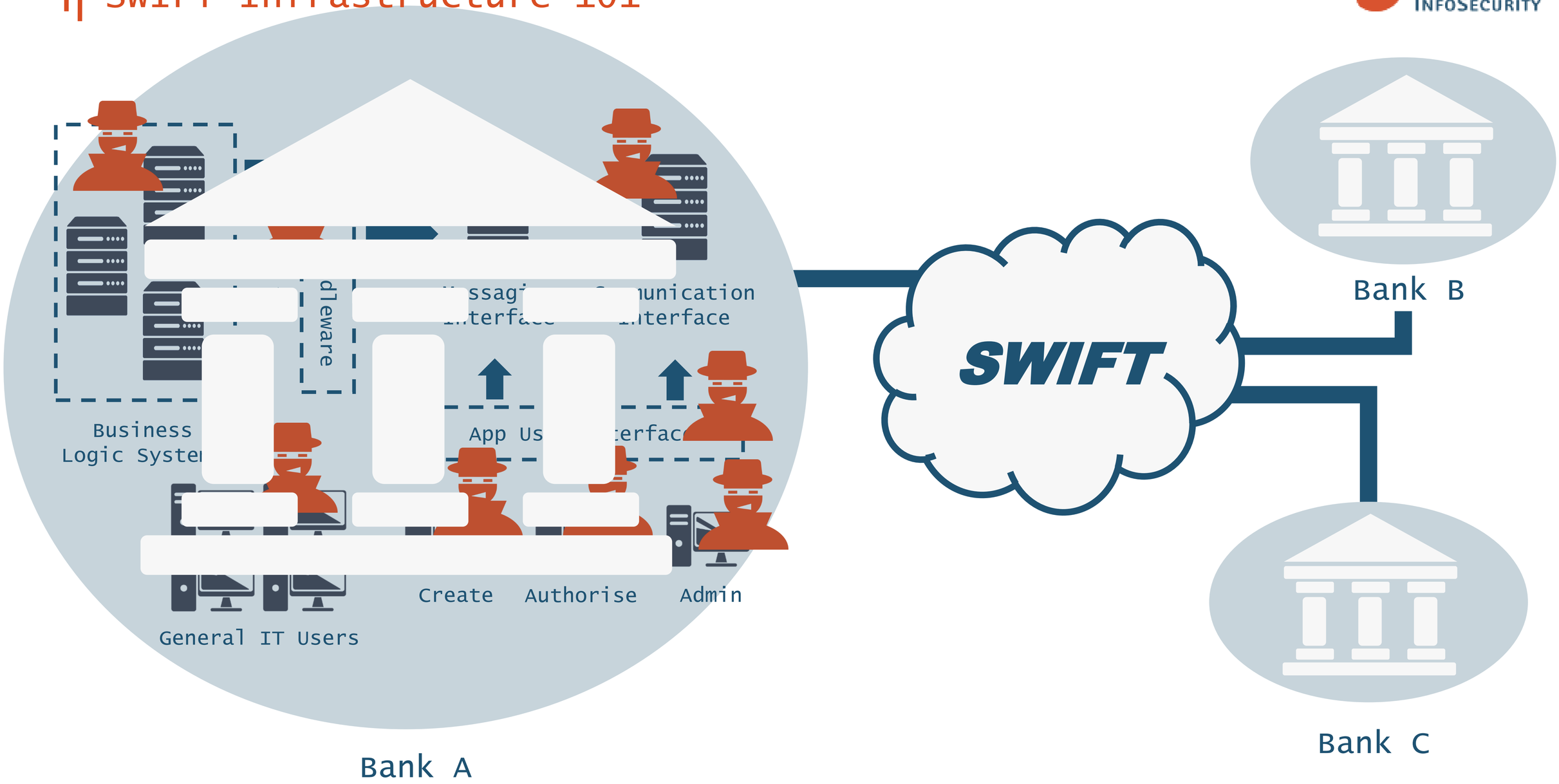
Swiss Cyber Storm – 2018

What are we going to talk about?

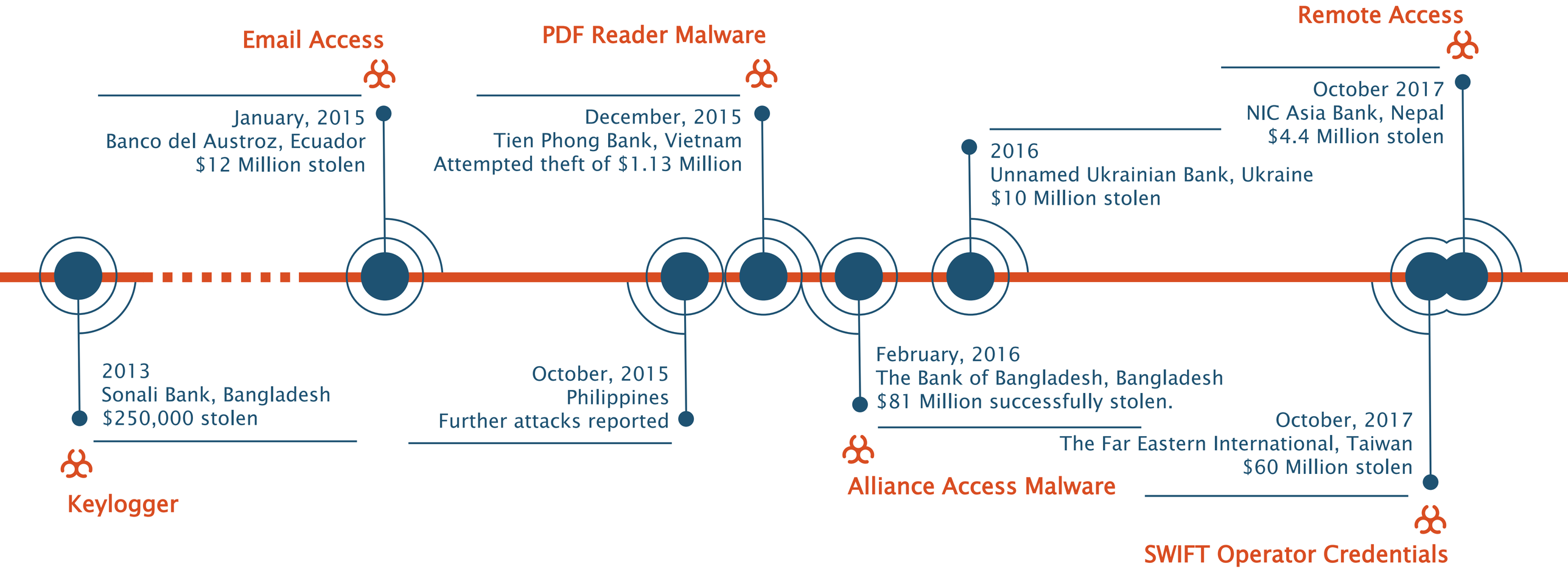
+ SWIFT from an attackers perspective
+ Attacker TTPs
+ Why it’s so easy!
+ Oh, I mean, why it’s so hard!
+ In that case, Why you should even care?
+ What’s being done about it?



SWIFT Infrastructure 101



SWIFT Related Attacks (2013 – 2017)



2018

February 2018 – $6M
Unknown Russian bank, Russia

March 2018 – Prevented!
Malaysia's central bank, Malaysia

August 2018 – $13.5M
Cosmos Bank, India

October 2018 – FireEye Reports:
NK used SWIFT network to try and steal $1.1B
from at least 16 institutions since 2014

February 2018 – $2M
City Union Bank, India

June 2018 – $10M
Banco de Chile, Chile

August 2018 – SWIFT Warning
Multiple catalogued attempts to hack
into bank systems to issues
fraudulent SWIFT messages

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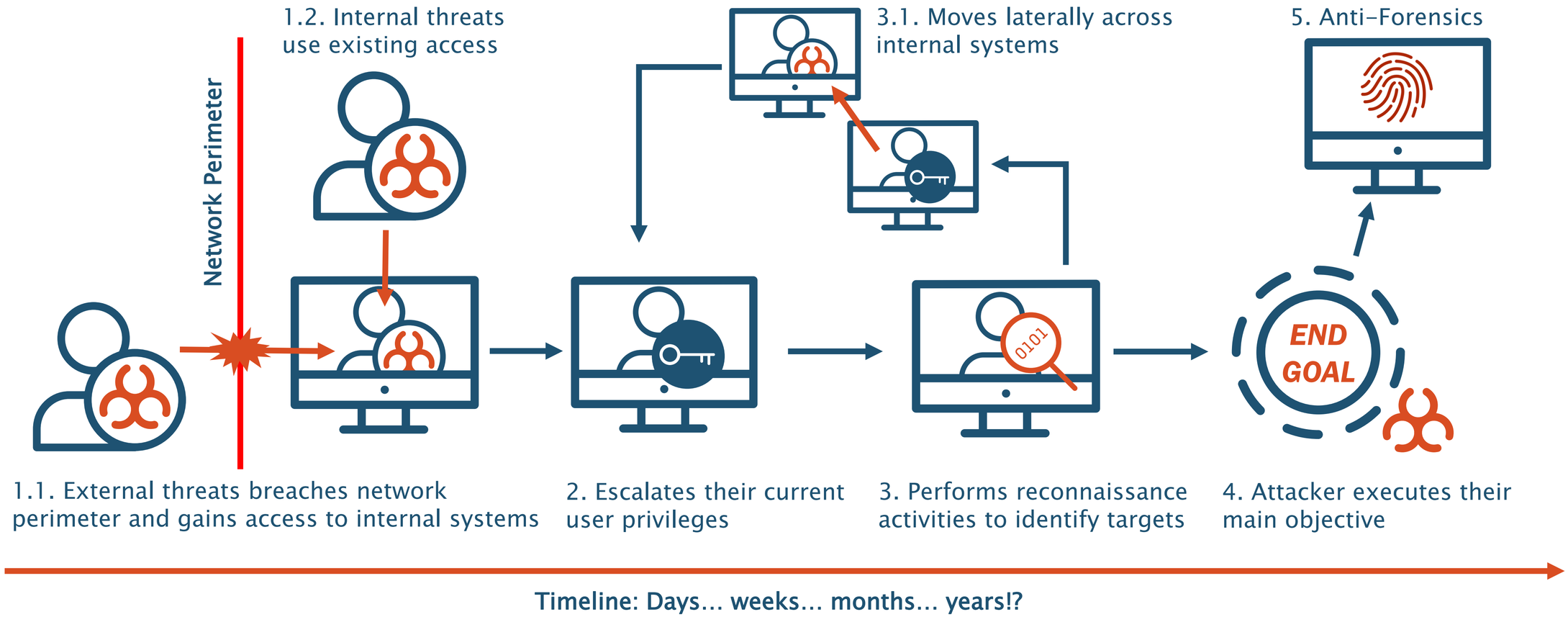
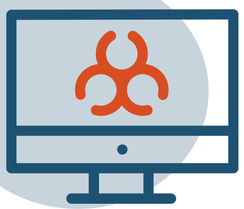
Attacker TTPs



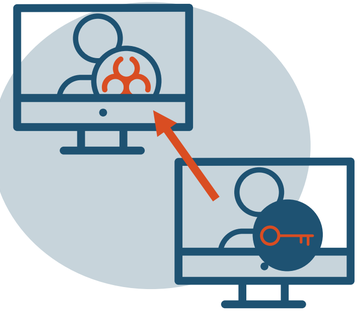
Attacker TTPs



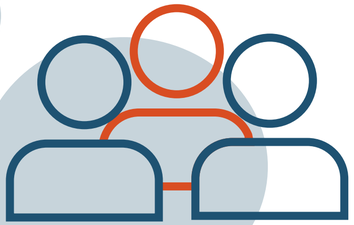
Malware

Credential Compromise

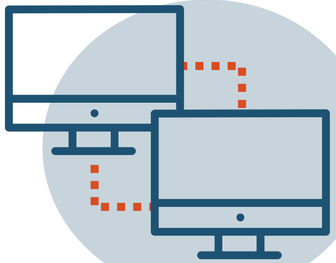
Phishing



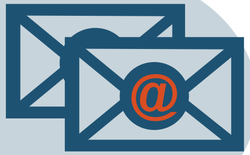
Lateral Movement



Possible Insider Threat



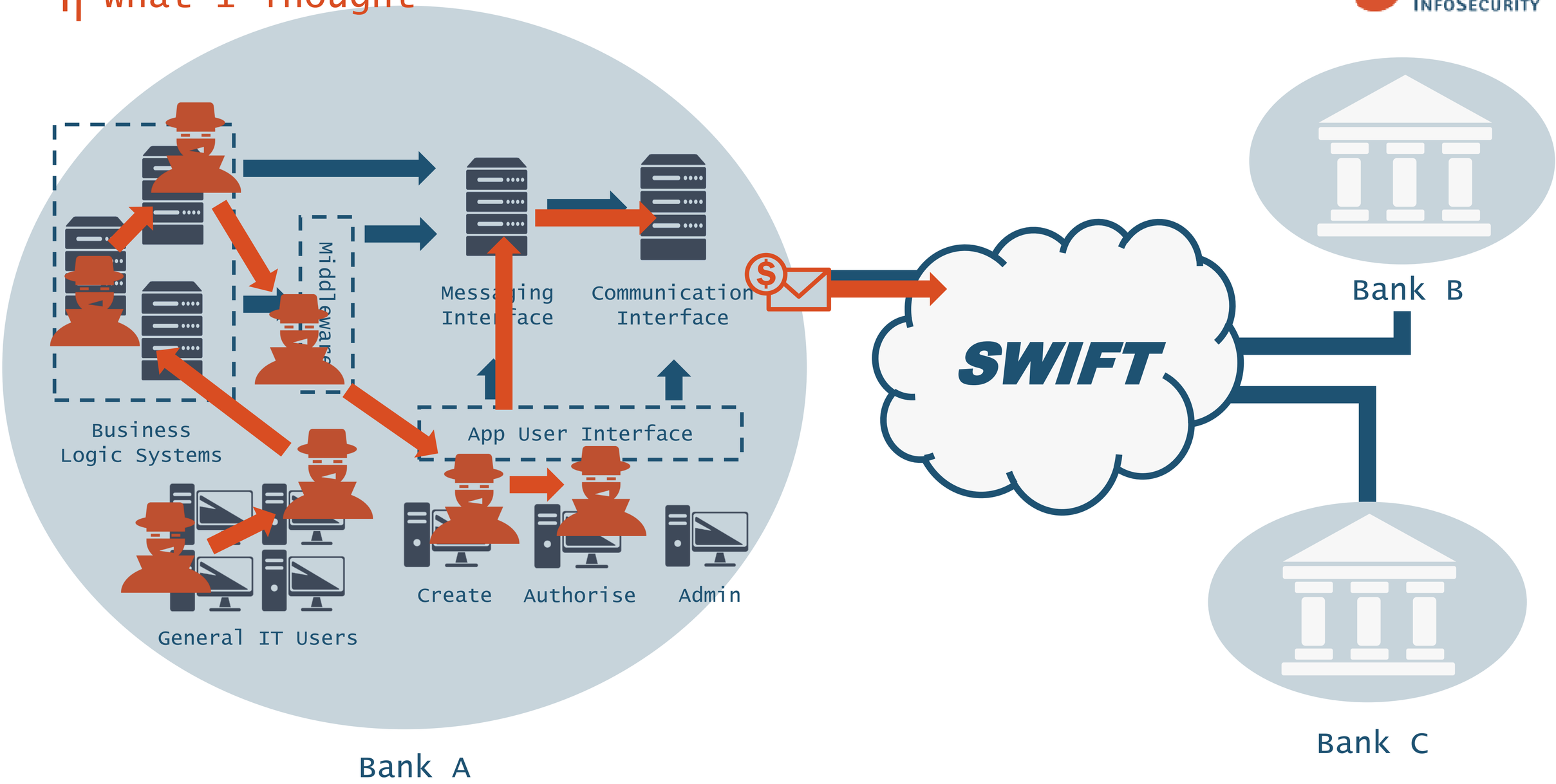
Remote Access



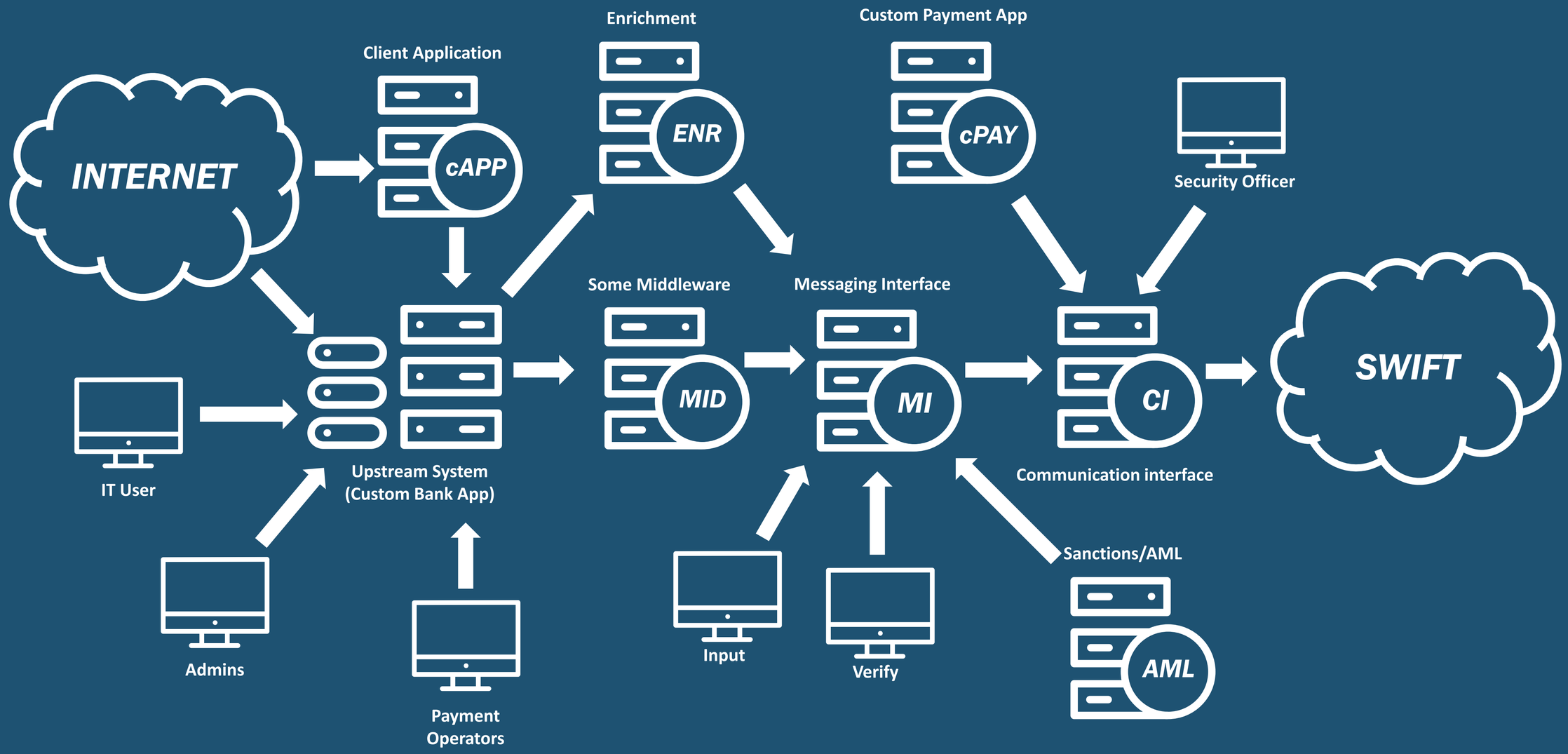
Email Access

Unknown

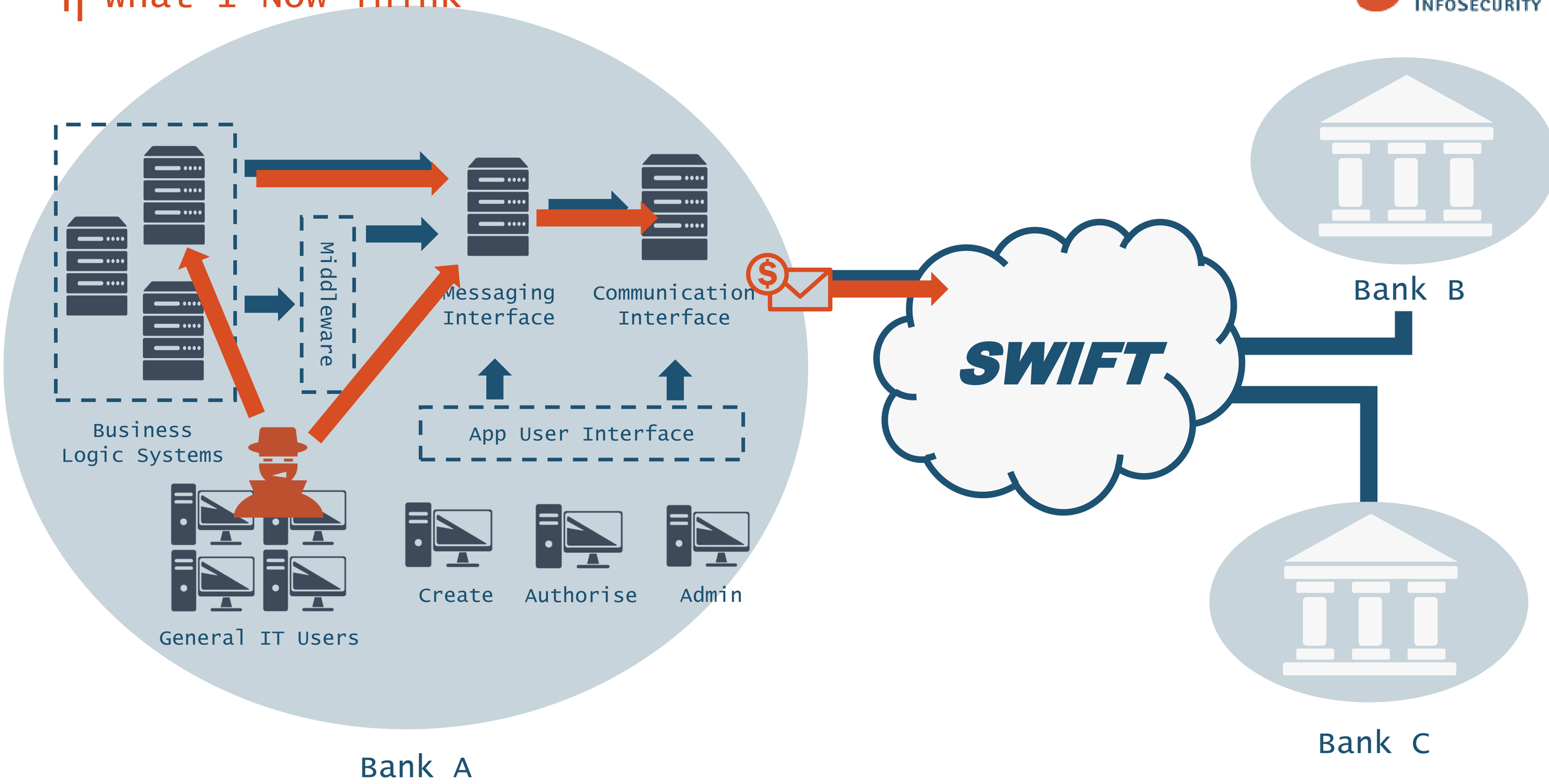
What I Thought



What I Discovered



What I Now Think



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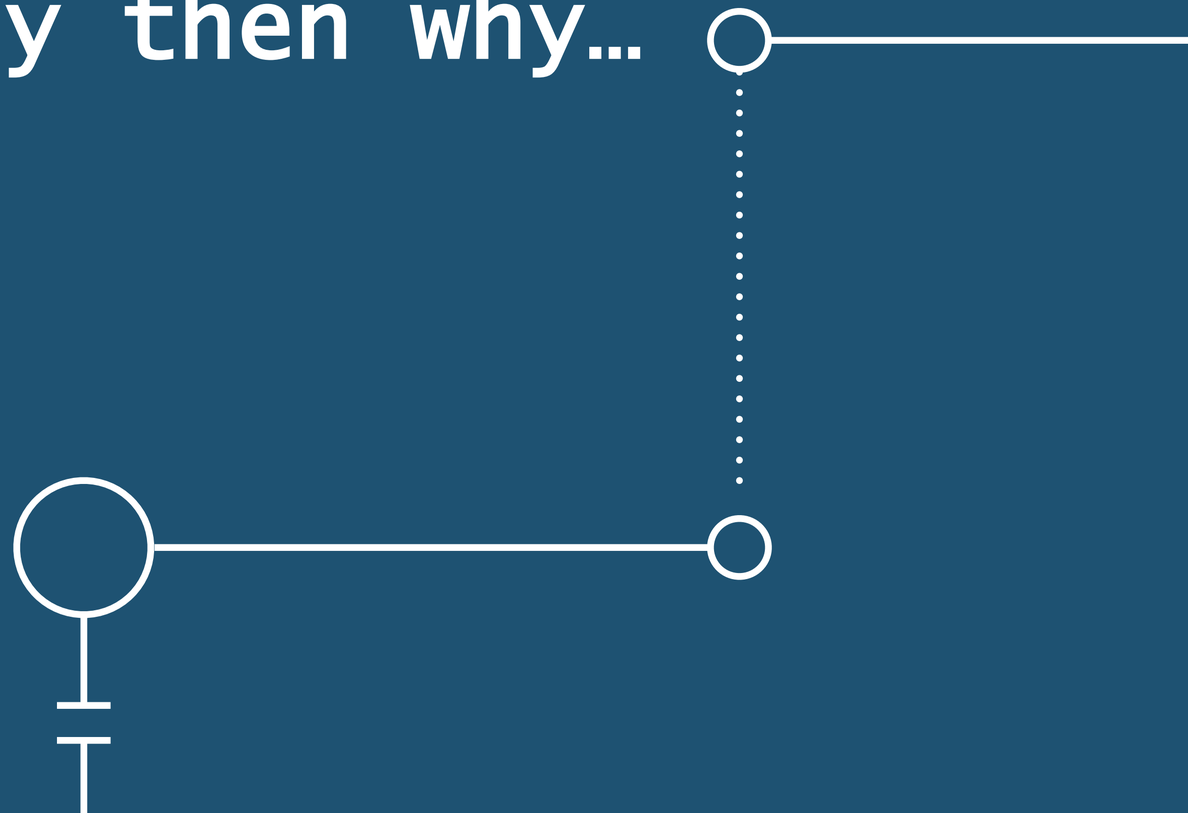
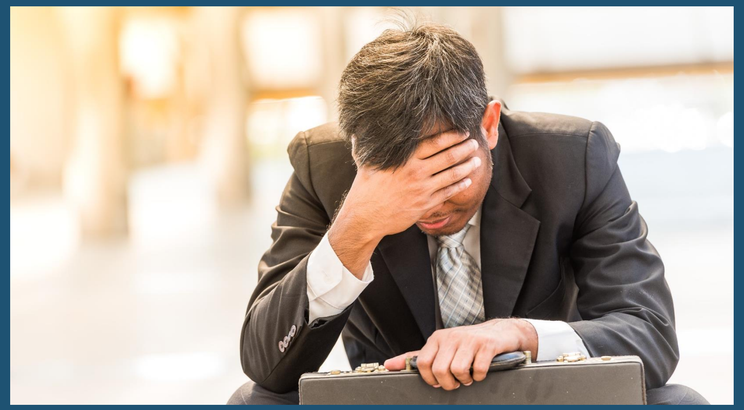
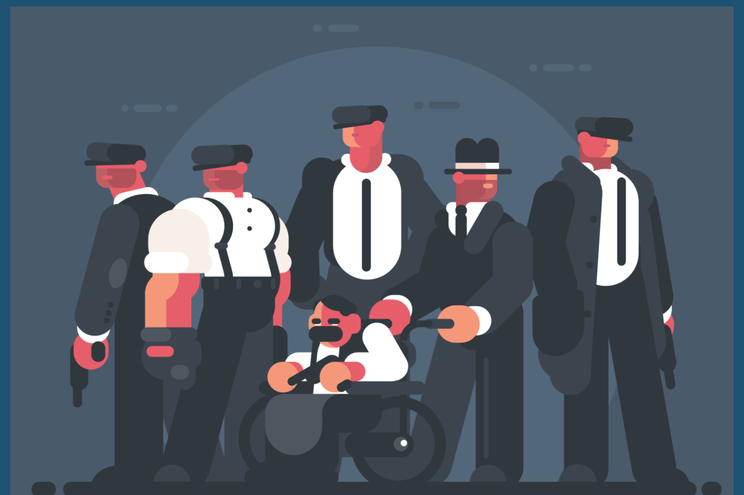
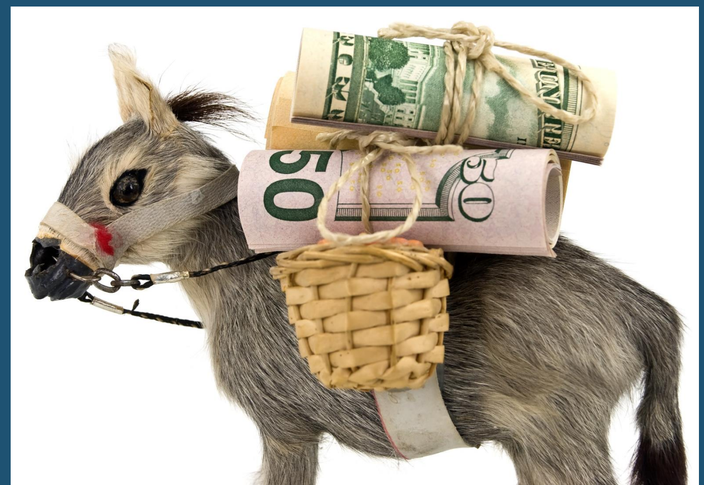
OK, if it's so easy then why…





Well…





BCB Heist – Funds Journey

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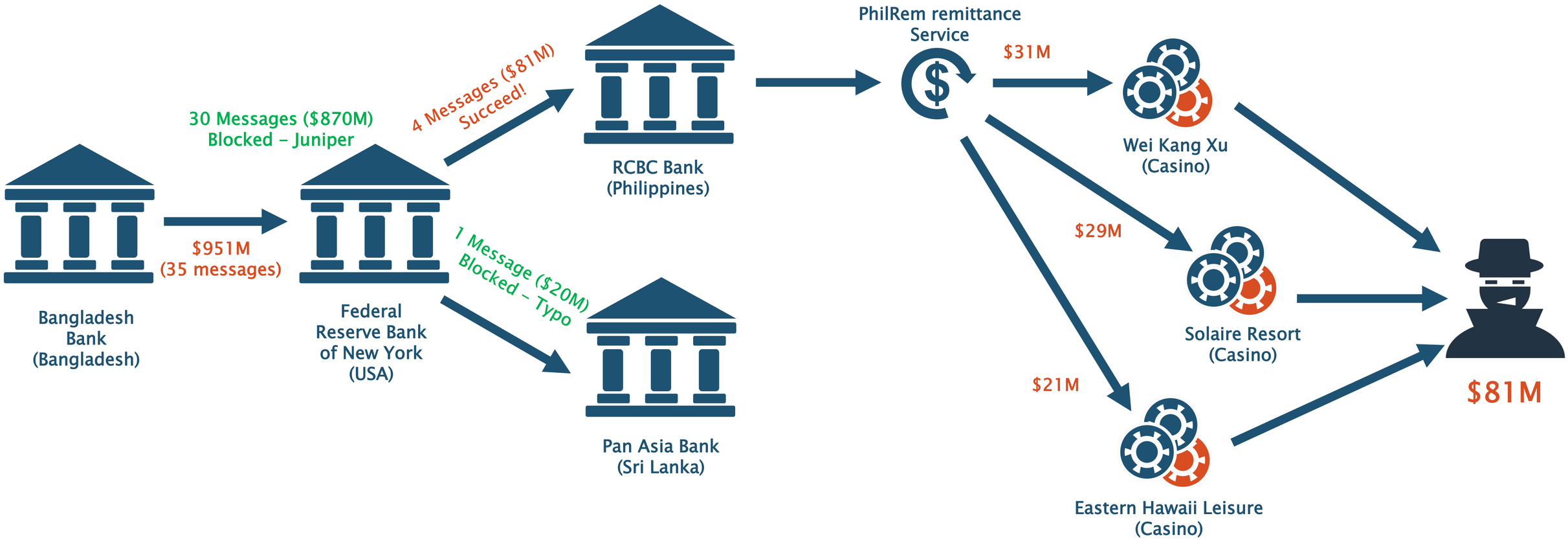

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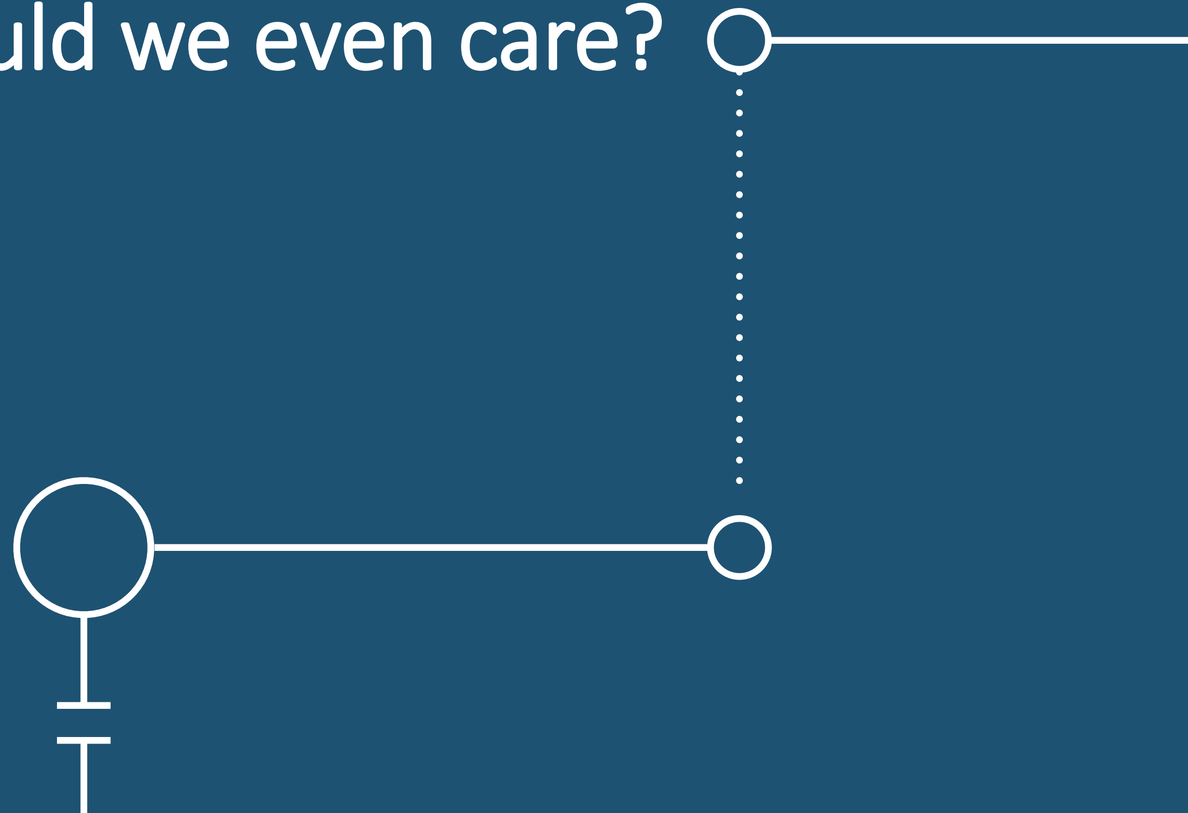
Well in that case, why should we even care?



BCB Heist – Funds Journey

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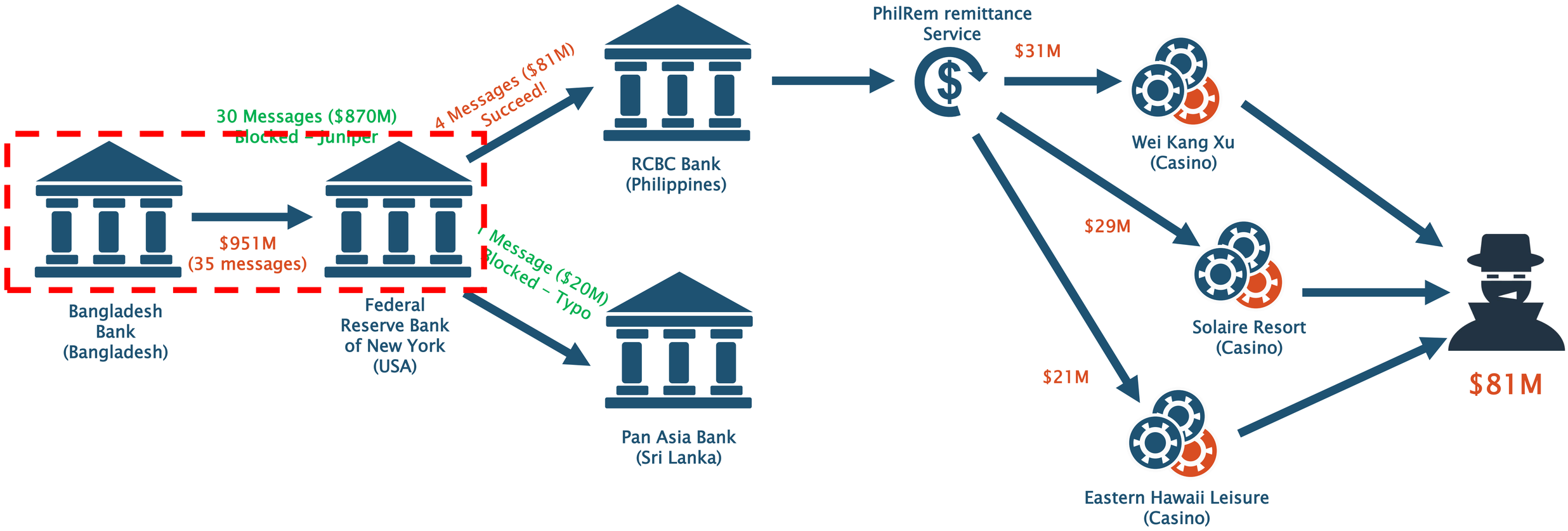


Industry Response

31st March 2017

+ SWIFT Customer Security Programme (CSP)

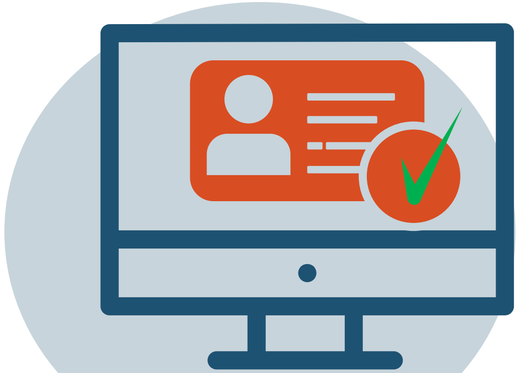
+ Set of 27 mandatory/advisory controls

+ Self-attestation via online portal by 1st January 2018

+ Compliant by 1st January 2019

SWIFT CSP

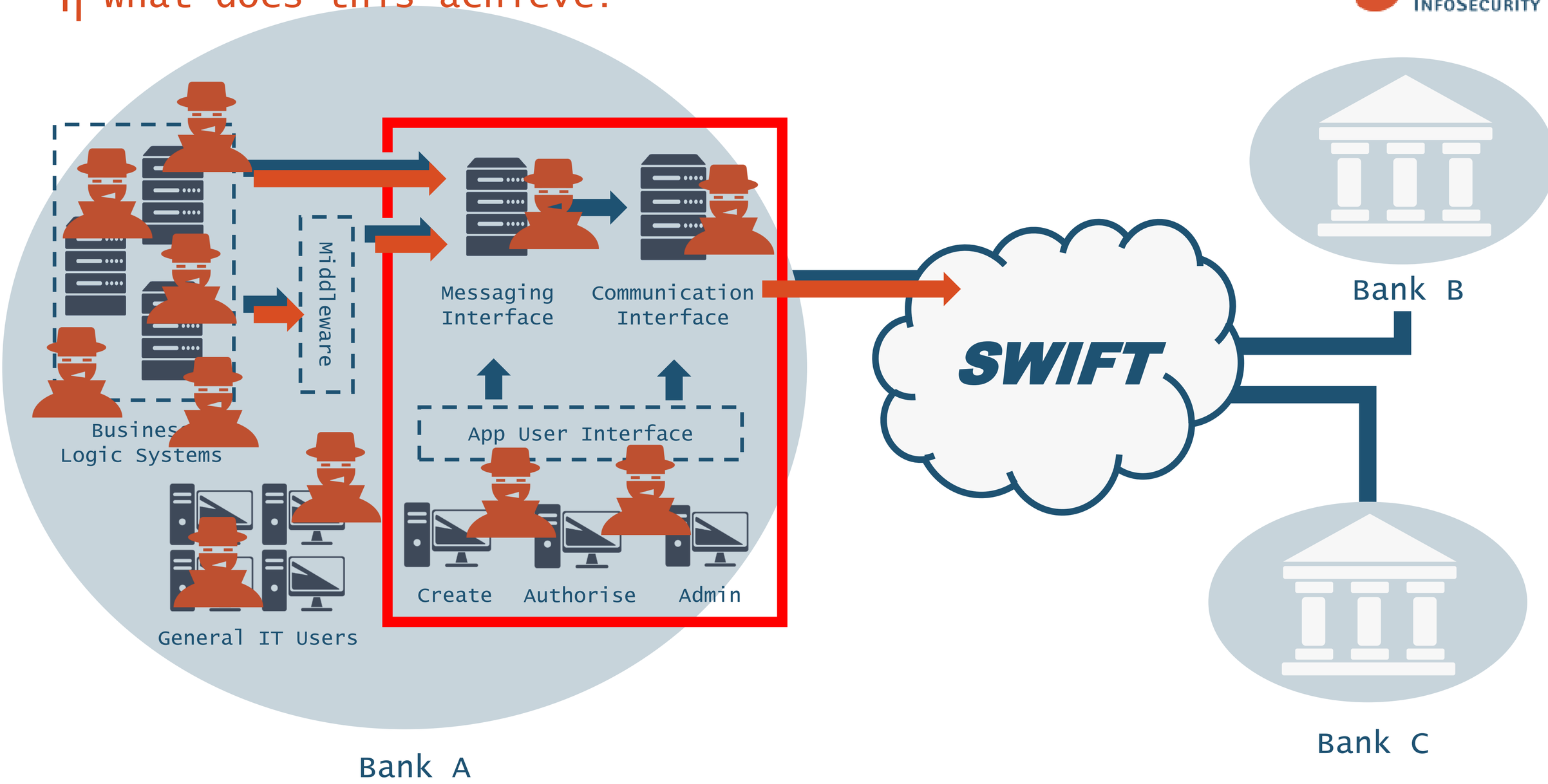
Secure Your Environment



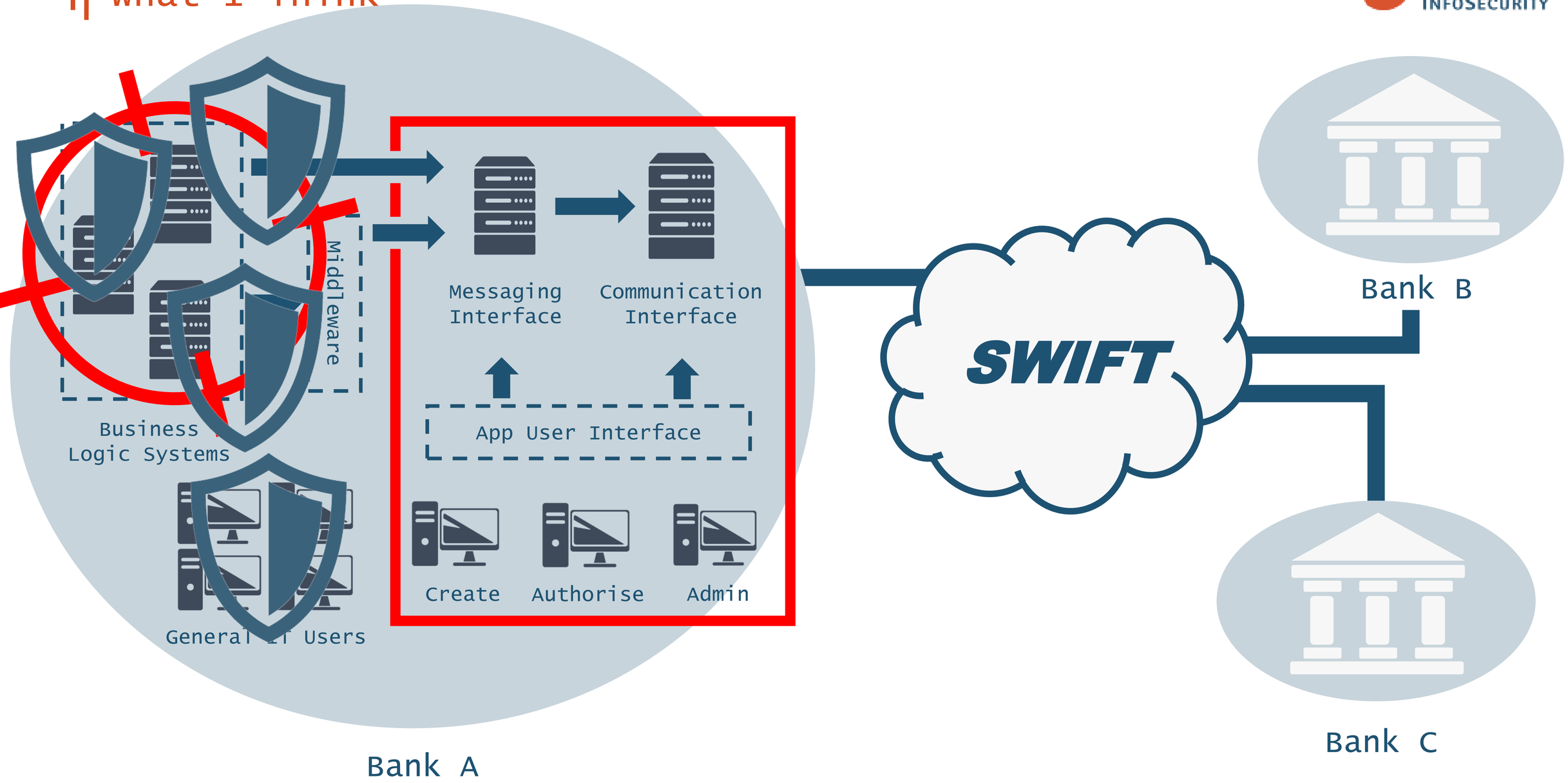
Know and Limit Access

Detect and Respond

What does this achieve?



What I Think


Middleware
Business Logic Systems
General IT Users
Messaging Interface
Communication Interface
App User Interface
Create
Authorise
Admin
SWIFT
Bank B
Bank C
Bank A

In Conclusion

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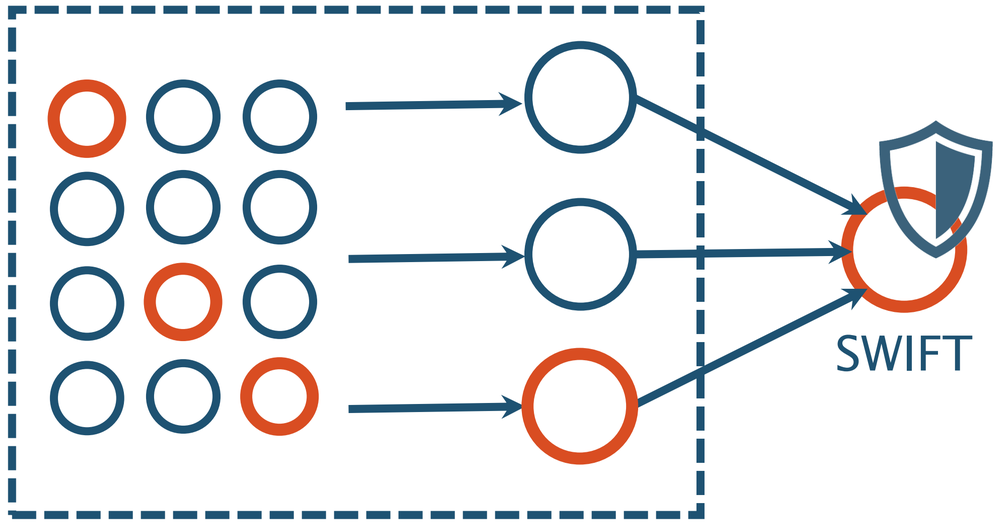
As we further segregate, isolate and protect SWIFT systems and users, attackers will evolve.



Are upstream systems secure?

In Conclusion

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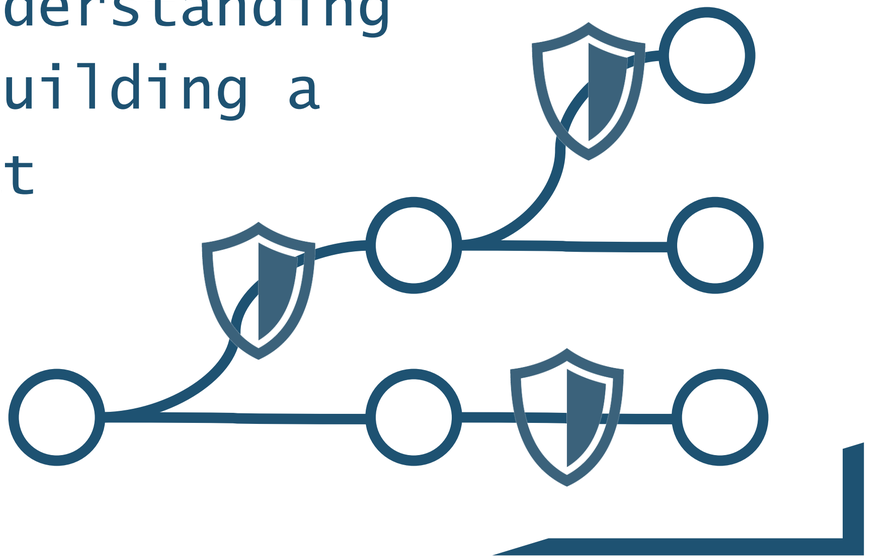
Defending payment infrastructure like SWIFT means understanding the attackers and building a defences around that understanding



Thank you

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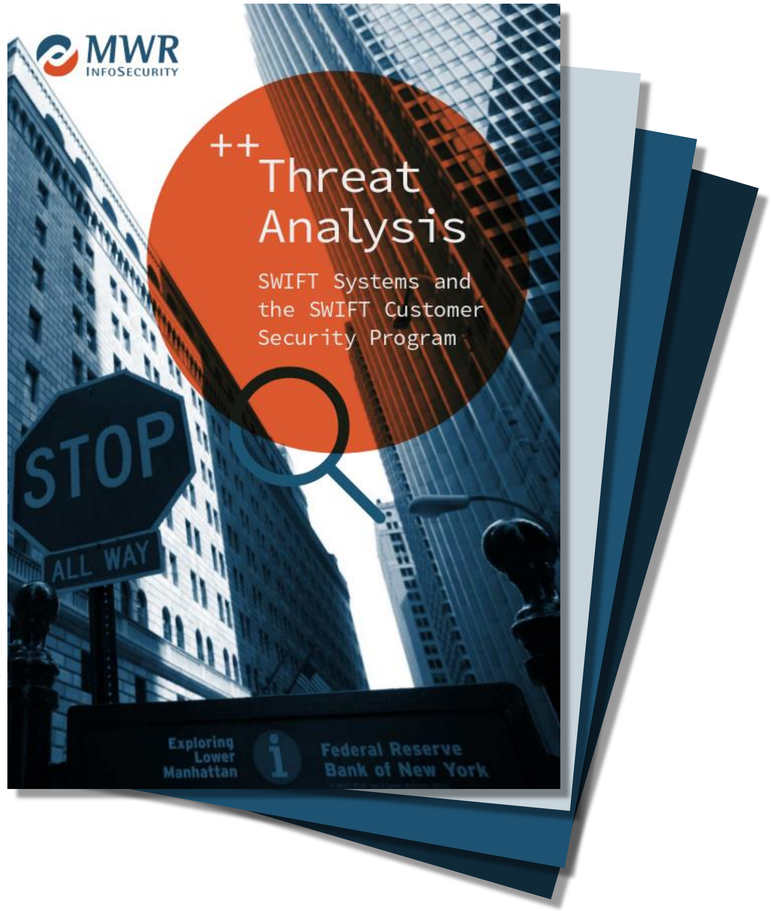
MWR SWIFT Resources

+ Threat Analysis: SWIFT Systems and the CSP
  https://www.mwrinfosecurity.com/assets/swift-whitepaper/mwr-swift-payment-systems-v2.pdf

+ Defending SWIFT payment systems from attack
  https://www.mwrinfosecurity.com/our-thinking/defending-swift-payment-systems-from-attack/



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Questions?