

FFIEC Cybersecurity Assessment Tool

Cybersecurity Controls & Incidence Mappings for
Splunk Enterprise, Enterprise Security, User
Behavior Analytics

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Agenda

- ▶ Part I: FFIEC CAT - Background, Overview, Maturity
 - What is it, and why you should you care
 - Cybersecurity Maturity according to the FFIEC
- ▶ Part II: FFIEC CAT – The Assessment
 - What does it look like, and how do you use it
- ▶ Part III: FFIEC CAT and Splunk
 - What Domains and controls does Splunk map to specifically
 - Explanation of Splunk Capabilities as they relate to the FFIEC CAT

“We have the proper **controls**,
safeguards and **procedures** in
place and have zero room for
improvement.”

-No one ever

Did You Know?

Of the data compromised in
reported financial breaches **71%**
were **Credentials**, **12%** were
Payment, and **9%** were **Personal**.

Source: 2017 Verizon Data Breach Investigation Report

Did You Know?

Denial of Service, Web
Application Attacks and Payment
Card Skimming represent **88%** of
all security incidents within
Financial Services.

Source: 2017 Verizon Data Breach Investigation Report

Part One: FFIEC CAT Background, Overview, Maturity

Assess Your Environment

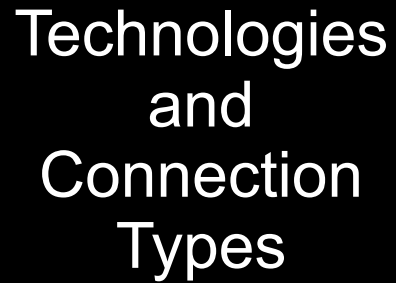
NLST



FIEEC

- ▶ Based on assessment that FFIEC members piloted in 2014
- ▶ Consistent with the National Institute of Standards and Technology (NIST) Cybersecurity Framework
- ▶ Provides a Measurable and Repeatable Process

Determine Inherent Risk Profile



Within each of the 5 Domains



Cyber Risk Management and Oversight

Within each of the 5 Domains



Domain 2

Threat Intelligence and Collaboration

Within each of the 5 Domains

Cybersecurity Controls

Within each of the 5 Domains



Domain 4

External Dependency Management

Within each of the 5 Domains



Cyber Incident Management and Resilience

The diagram consists of five concentric circles, each with a different shade of blue. The circles are arranged in a vertical stack, with the largest circle at the top and the smallest at the bottom. Each circle contains a white text label in the center. The labels, from top to bottom, are: "Innovative", "Advanced", "Intermediate", "Evolving", and "Baseline". The circles are separated by thin black lines.

Part Deux: FFIEC CAT

The Assessment

Completing the Cybersecurity Maturity

Maturity Level		Domain 1: Cyber Risk Management and Oversight		Assessment Factor: Governance	Assessment Factor
Component	OVERSIGHT	Baseline	Y, Y(C), N	Designated members of management are held accountable by the board or an appropriate board committee for implementing and managing the information security and business continuity programs. (FFIEC Information Security Booklet, page 3) Information security risks are discussed in management meetings when prompted by highly visible cyber events or regulatory alerts. (FFIEC Information Security Booklet, page 6) Management provides a written report on the overall status of the information security and business continuity programs to the board or an appropriate board committee at least annually. (FFIEC Information Security Booklet, page 5) The budgeting process includes information security related expenses and tools. (FFIEC E-Banking Booklet, page 20) Management considers the risks posed by other critical infrastructures (e.g., telecommunications, energy) to the institution. (FFIEC Business Continuity Planning Booklet, page J-12)	Declarative Statement
	Evolving		At least annually, the board or an appropriate board committee reviews and approves the institution's cybersecurity program. Management is responsible for ensuring compliance with legal and regulatory requirements related to cybersecurity. Cybersecurity tools and staff are requested through the budget process. There is a process to formally discuss and estimate potential expenses associated with cybersecurity incidents as part of the budgeting process.		

Part Tres: FFIEC CAT and Splunk = ❤️

How Splunk maps to the FFIEC CAT

Cybersecurity Controls



Cyber Incident Management and Resilience

The Paper

Mappings for Splunk Enterprise (Core),
Enterprise Security (ES), User Behavior
Analytics (UBA)

- ▶ 160 Pages of Content
- ▶ Mappings to NIST CSF
- ▶ Track your FFIEC CAT Initiative
- ▶ <http://bit.ly/2vxNpeC>

splunk>	
FFIEC Cybersecurity Assessment Tool: Cybersecurity Controls & Cyber Incidence	
<i>Mappings for Splunk Enterprise (Core), Enterprise Security (ES), User Behavior Analytics (UBA)</i>	
Curtis Johnson & James Brodsky, Splunk	
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Execution: Splunk capabilities allow execution against this control. No third-party data sources are needed because Splunk can service this control entirely. Splunk then provides a central place to report on the efficacy of this control.

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Verification: Splunk does not perform this control directly but can ingest the data from data sources that support this control. Splunk then provides a central place to report on the efficacy of this control.

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Supporting: This generally applies to controls that are more process/policy or human oriented. Splunk may serve as an information input for the process so that the control can be met.

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Not Applicable: The control is entirely process/policy oriented, and there is no timestamped machine data output from the implementation of the control, therefore there is no clear role for Splunk.

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How to Use this Mapping Guide

FFIEC Cybersecurity Assessment Tool Control	FFIEC Description	NIST Cybersecurity Framework Mapping	NIST Description	Implemented
D3.PC.Im.B.5	Systems configurations (for servers, desktops, routers, etc.) follow industry standards and are enforced.	PR.IP-1	A baseline configuration of information technology/industrial control systems is created and maintained. (p. 26)	☐ YES ☐ NO

- **D3 – Domain** (Domain 3)
- **PC – Assessment Factor** (Preventative Controls)
- **Im – Component** (Infrastructure Management)
- **B – Maturity Level** (Baseline)
- **5 – Mapping Number** (5)

Mapping Example

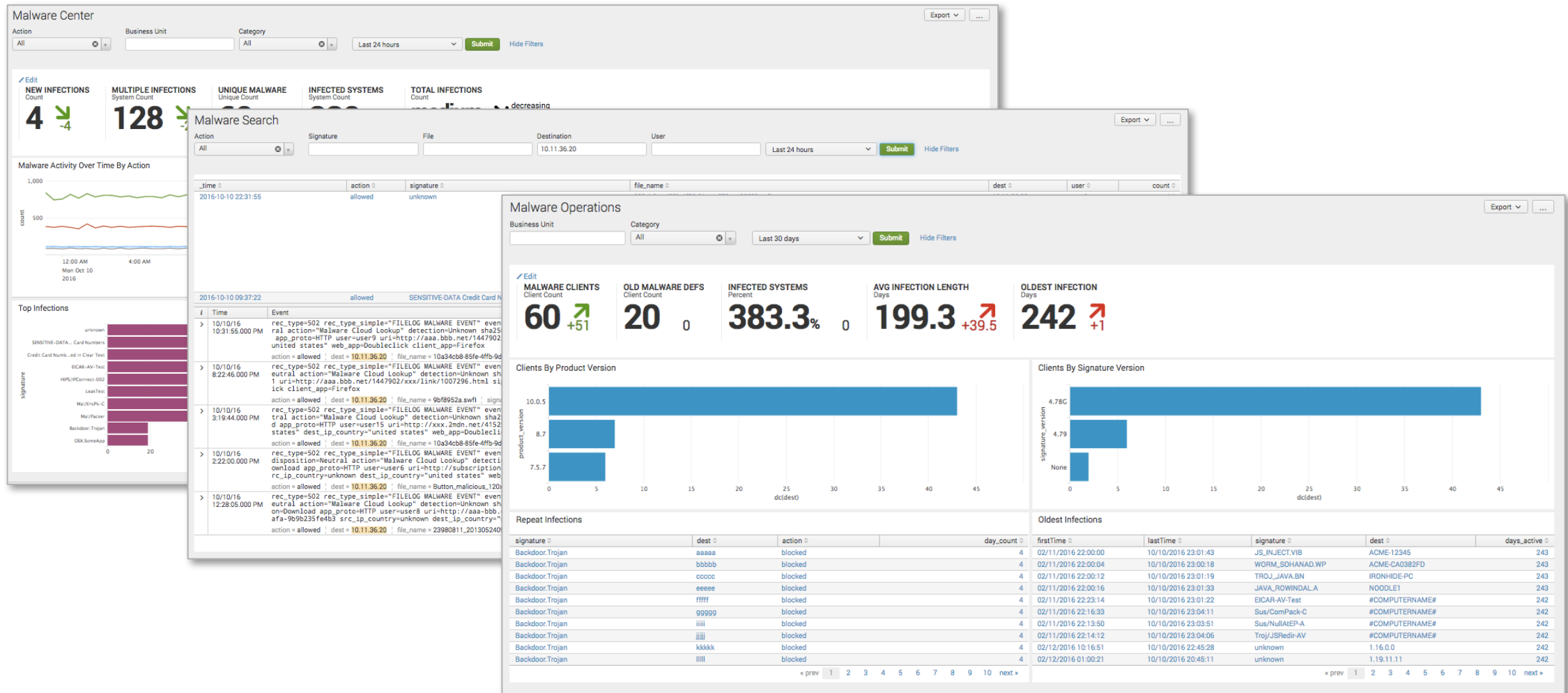
Up to date antivirus and anti-malware tools are used.

FFIEC Cybersecurity Assessment Tool Control	FFIEC Description	NIST Cybersecurity Framework Mapping	NIST Description	Implemented
D3.PC.Im.B.4	Up to date antivirus and anti-malware tools are used.	N/A	N/A	☐ YES ☐ NO

Splunk Role: *Verification*. Splunk ES provides the Malware Center, Malware Operations, and Malware Search dashboards and related reports and alerts. In particular, the Malware Operations dashboard allows for the tracking of systems that are failing malware updates. Data is on-boarded from common endpoint and malware solutions against the Malware data model.

Mapping Example

Up to date antivirus and anti-malware tools are used.



Mapping Example

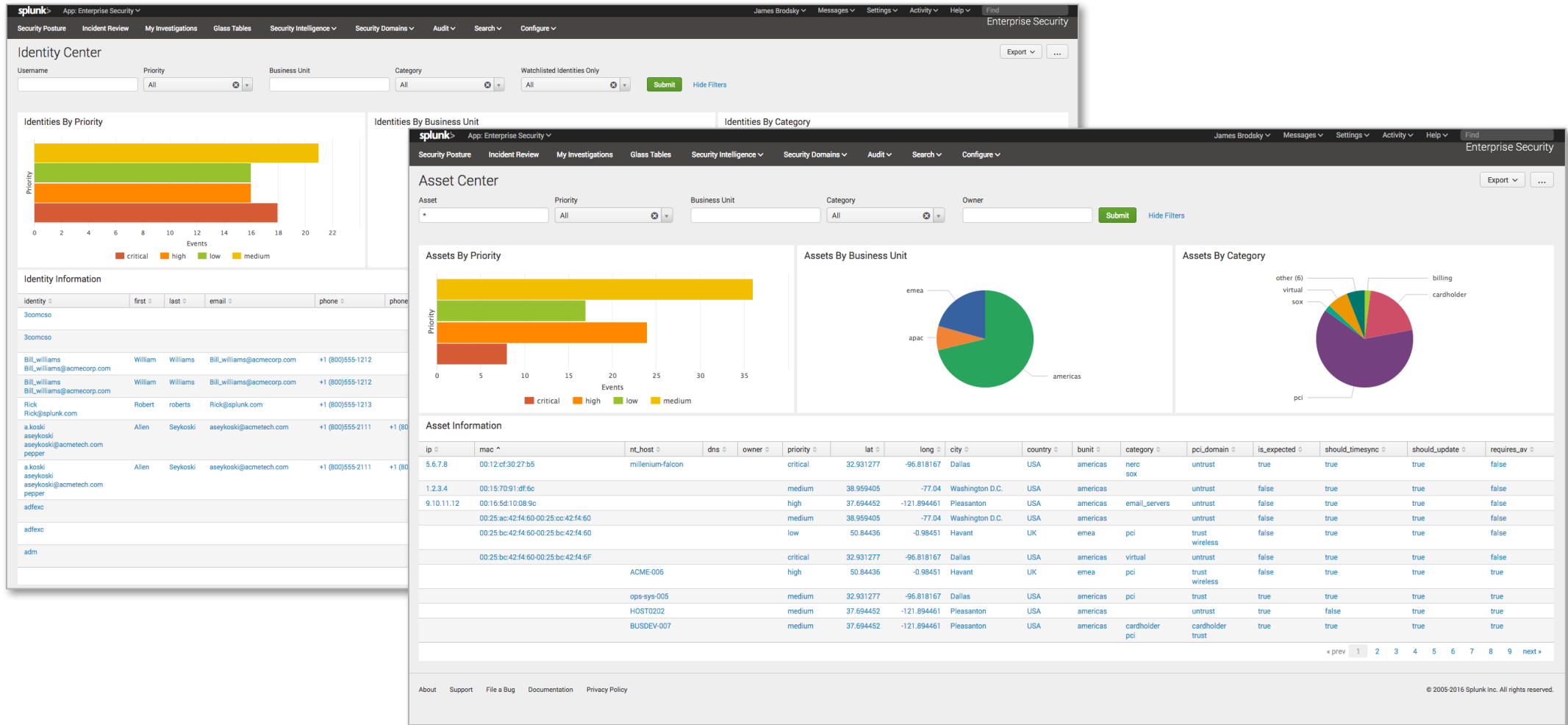
Security controls are used for remote access to all administrative consoles.

FFIEC Cybersecurity Assessment Tool Control	FFIEC Description	NIST Cybersecurity Framework Mapping	NIST Description	Implemented
D3.PC.Im.Int.2	Security controls are used for remote access to all administrative consoles, including restricted virtual systems.	PR.AC-3	Remote access is managed. (p. 23)	☐ YES ☐ NO

Splunk Role: *Verification*. Splunk can be used to monitor all accesses to all assets on the network. With the help of Identity Center and Asset Center, both built into Splunk Enterprise Security, it is simple to report on these accesses, using administrative credentials, against assets that are designated as providing admin consoles.

Mapping Example

Security controls are used for remote access to all administrative consoles.



Mapping Example

Proactively Identify High-Risk Behavior

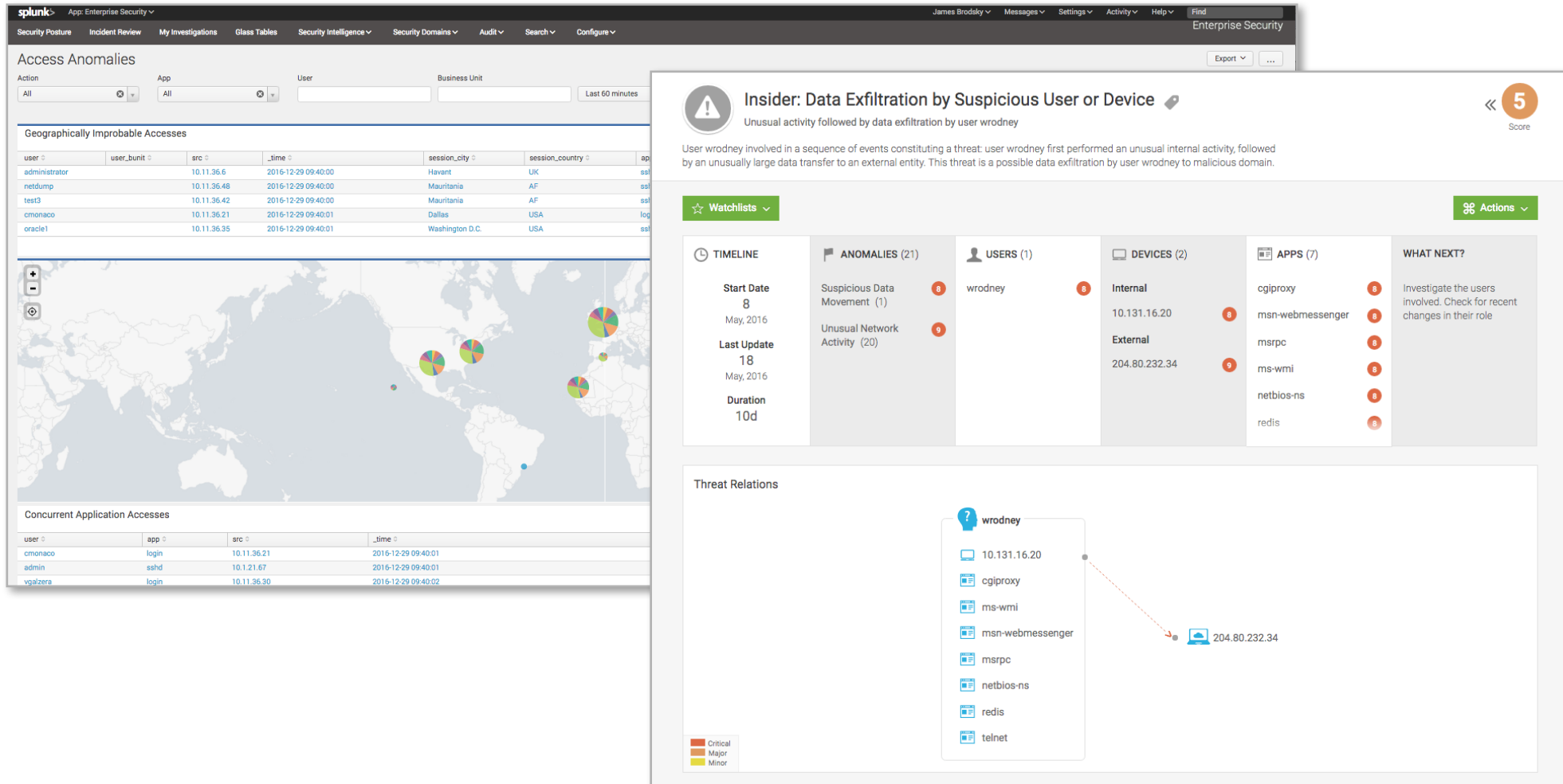
FFIEC Cybersecurity Assessment Tool Control	FFIEC Description	NIST Cybersecurity Framework Mapping	NIST Description	Implemented
D3.DC.Th.A.3	Automated tool(s) proactively identifies high-risk behavior signaling an employee who may pose an insider threat.	N/A	N/A	☐ YES ☐ NO

Splunk Role: *Execution*. Splunk Enterprise Security and Splunk UBA both provide ways of identifying high-risk insider behavior, and there are also statistical behavior-based searches that can be run in Splunk Enterprise to augment.

130.60.4 - - [07/Jun 18:10:57:153] "GET /category.screen?category_id=GIFTS&JSESSIONID=5D1SLAFF10ADFF10 HTTP 1.1" 404 720 "http://buttercup-shopping.com/cart.do?action=view&itemId=EST-6&product_id=F1-SW-03" "Opera/9.80 (Win
128.241.220.82 - - [07/Jun 18:10:57:123] "GET /product.screen?product_id=FL-DSH-01&JSESSIONID=5D5SL7FF6ADFF9 HTTP 1.1" 404 3322 "http://buttercup-shopping.com/cart.do?action=purchase&itemId=EST-26&product_id=K9-CW-01" "Comodo11.0.1 (Win
ows NT 5.1; SV1; .NET CLR 1.1.4322)" 468 125.17 14 - - [07/Jun 18:10:56:156] "GET /oldlink?item_id=EST-26&JSESSIONID=5D5SL9FF1ADFF3 HTTP 1.1" 200 1318 "http://buttercup-shopping.com/cart.do?action=changequantity&itemId=EST-18&product_id=AV-CB-01&JSESSIONID=5D18SL8FF3ADFF9 HTTP 1.1" 200 3885 "http://buttercup-shopping.com/cart.do?action=remove&itemId=EST-6&product_id=F1-SW-03" "Opera/9.80 (Win
item_id=EST-16&product_id=RP-LI-02" 468 125.17 14 - - [07/Jun 18:10:56:156] "GET /oldlink?item_id=EST-26&JSESSIONID=5D5SL9FF1ADFF3 HTTP 1.1" 200 1318 "http://buttercup-shopping.com/cart.do?action=changequantity&itemId=EST-18&product_id=AV-CB-01&JSESSIONID=5D18SL8FF3ADFF9 HTTP 1.1" 200 3885 "http://buttercup-shopping.com/cart.do?action=remove&itemId=EST-6&product_id=F1-SW-03" "Opera/9.80 (Win
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Mapping Example

Proactively Identify High-Risk Behavior



Key Takeaways

1. The FFIEC CAT and what it is
2. How the FFIEC CAT defines inherent risk and cybersecurity maturity
3. Where Splunk maps to the FFIEC CAT



Making Machine Data Accessible, Usable And Valuable To Everyone.

Thank You

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