The Evolution of the Cybersecurity Executive Trifecta: The CSO/CIO/CISO

Rick Howard
Chief Security Officer
Palo Alto Networks
How technical are you?
How technical are you?

Geek vs. non-Geek reaction to flaky internet connection

Hope

"hmm, this is taking long"

reload
reload
try other site
reload
switch wifi off and back on
check network settings
reset router

"that will fix everything..."

!@#^!@#&^!

ping
ifconfig
traceroute
dmesg
reboot
iptables...

call ISP
call ISP

I'll just wait a bit, maybe it'll come back

geek
non-geek

Bruno Oliveira
Plus.google.com/+BrunoOliveira

#RSAC

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How technical are you?

geek vs. non-geek reaction to flaky internet connection

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reset router

I'm a geek... I just do it
I'm a non-geek... I wait

geek non-geek

plus.google.com/+BrunoOliveira

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How technical are you?

Y-Axis: Hope

gEEK vs. non-GEEK reaction to flaky internet connection

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X-Axis: Time
How technical are you?

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Non-Geeks – The Beautiful People
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gEEKS

non-geek
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Geeks – My Peeps

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paloaltonetworks
the enterprise security company

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How technical are you?

geek vs. non-geek reaction to flaky internet connection

Geeks – My Peeps
How technical are you?

gEEKS – My Peeps

Geeks vs. non-geek reaction to flaky internet connection

- Reload
- Try other site
- Reload
- Check network settings
- Switch wifi off and back on
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- Call ISP

Non-geeks:

- "hmm, this is taking long"
- "that will fix everything..."
- ping
- ifconfig
- traceroute
- dmesg
- reboots
- iptables...
- I'll just wait a bit maybe it'll come back

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How technical are you?

Geeks – My Peeps

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Geeks – My Peeps
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Geeks – My Peeps

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Geek vs. non-geek reaction to flaky internet connection

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Geeks – My Peeps

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How technical are you?

*Geeks – My Peeps*
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gEEKS – My Peeps
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How technical are you?

Geeks – My Peeps

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- Reload
- Try other site
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  - reload
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  - check network settings

- **Non-geek**
  - "hmm, this is taking long"
  - switch wifi off and back on
  - reseat

Hope over time:
- I'll just wait a bit, maybe it'll come back

Geeks – My Peeps

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How technical are you?

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paloalto networks

the enterprise security company

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  - Reload
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  - Switch wifi on and back off
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- **Non-geek:**
  - "hmm, this is taking long"
  - Call ISP
  - Call ISP
  - Unplug router
  - Restart computer
  - Reboot network hub
  - Maybe it'll come back

### Tweet
@BrunoOliveira: paloaltonetworks #RSAC
How technical are you?

FEAR UNCERTAINTY AND DOUBT COMMITTEE
STATE OF CALIFORNIA
How technical are you?

✔ WORTHY

FEAR UNCERTAINTY AND DOUBT COMMITTEE
STATE OF CALIFORNIA
Setting the Stage: The Evolution of the Cybersecurity Executive Trifecta: The CSO/CIO/CISO
Setting the Stage
Setting the Stage

Program
Setting the Stage

PROF-M06: The Long and Winding Road: Building an InfoSec Career from Techie to CISO
Setting the Stage

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SPO4-T09: How To Become a World-Class CISO
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Jaikumar Vijayan
Source: June 2014 survey of 203 U.S.-based CEOs, CIOs, CFOs by market research firm Opinion Matters
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Completeness of Vision

CIO as Part of the Exec Staff

CSO/CISO as Part of the Exec Staff

Ability to Execute

No Representation as Part of the Exec Staff

CIO / CSO / CIO as Part of the Secondary Staff
Setting the Stage

CIO as Part of the Exec Staff

CSO/CISO as Part of the Exec Staff

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Completeness of Vision

Ability to Execute
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Completeness of Vision

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Setting the Stage

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Not an Exhaustive List

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Completeness of Vision

Ability to Execute
CIO / CSO / CIO as Part of the Secondary Staff

CSO/CISO as Part of the Exec Staff

No Representation as Part of the Exec Staff

CIO / CSO / CIO as Part of the Secondary Staff

Y-Axis: Ability to Execute

Completeness of Vision
Setting the Stage

Modified Magic Quadrant

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X-Axis: Completeness of Vision

Completeness of Vision

Ability to Execute

RSA Conference 2015
Setting the Stage

Modified Magic Quadrant

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Completeness of Vision

Ability to Execute
Setting the Stage

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Completeness of Vision

Ability to Execute
Setting the Stage

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Axis:
- Completeness of Vision
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RSA Conference 2015
Setting the Stage

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Completeness of Vision vs. Ability to Execute
Setting the Stage

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Completeness of Vision

Ability to Execute

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Palo Alto Networks Leadership Team

**NIR ZUK**
Founder and CEO
Nir Zuk brings a wealth of network security expertise and industry experience to Palo Alto Networks. Prior to co-founding Palo Alto Networks, Nir was CTO at NetScreen Technologies, which was acquired by Juniper Networks in 2004. Prior to NetScreen, Nir was co-founder and CTO at OneSecure, a pioneer in intrusion prevention and detection appliances. Nir was also a principal engineer at Check Point Software Technologies, and was one of the developers of stateful inspection technology.

**RICK HOWARD**
CSO
Rick is the CSO for Palo Alto Networks where he is responsible for the company's internal security program, the oversight of the Palo Alto Networks Threat Intelligence Team and the development of thought leadership for the cyber security community. His prior role include the CSIO for TASC, the CIA's Defense and the SEC Director at Counterpane. He served in the U.S. Army for 23 years and spent the last 2 years of his career running the Army's CERT. Rick holds a Master of Computer Science degree from the Naval Postgraduate School and an engineering degree from the US Military Academy. He taught computer science at the Military Academy and contributed as an executive editor to two books: "Cyber Power: Tactics, Techniques and Procedures" and "Cyber Security Essentials."

**MARK D. MCLAUGHLIN**
Chairman, President, and CEO
Mark D. McLaughlin joined as president and CEO of Palo Alto Networks in August of 2011 and became Chairman of the Board in 2012. Before coming to Palo Alto Networks, Mark served as President and CEO of Versatis. He held a number of key positions at Versatis from 2000 to 2007, including serving as Chief Operating Officer, Executive Vice President of Products and Marketing, and head of the company's Naming Services business. Prior to Versatis, he was the Vice President of Sales and Business Development for Signo, a leading Internet payment company, and was instrumental in driving the acquisition of Signo by Verisign in 1998. Before joining Signo, he was the Vice President of Business Development for Glasspa, the world's leading anoplastic company. Previous to Glasspa, Mark served as General Counsel of Glasspa Corporation and practiced law as an associate at a major San Francisco law firm.
Palo Alto Networks Leadership Team
The Palo Alto Networks leadership team consists of: Nir Zuk, founder and CEO; Rick Howard, CSO; Mark D. McLaughlin, chairman and president; and Bob Quinn, general counsel and chief legal officer. Additionally, the leadership team includes top experts in cybersecurity and technology, such as Jeff Holmes, senior vice president of sales and business development; and Jim C. Goodnight, senior vice president of engineering. The team is dedicated to providing innovative solutions in cybersecurity and technology.
The Palo Alto Networks founders, management team, and board of directors have been key drivers of some of the most important network security companies and related technologies in the last 15+ years, including the invention of zero trust, network-based security, and intrusion prevention. The engineering team brings a proven track record in delivering high quality networking and security solutions at companies like Check Point, NetScreen, McAfee, Juniper Networks, Cisco, and many others.

**NIR ZUK**
Founder and CEO
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**BOB QUINN**
Bob is responsible for Global IT and Technical Operations, including the hosting of cloud services for Palo Alto Network’s security subscription offerings. He has leadership experience at an array of companies, including British Petroleum, Sun Microsystems, ebay, KLA-Tencor, Genentech, and Blue Coat Systems, where he has developed a reputation for successfully tackling the most challenging projects, providing innovative approaches to the most difficult problems, and developing highly motivated and organized teams. Bob holds a Bachelor of Arts in Economics & Accounting from Baldwin-Wallace University. He has been a Certified Information Systems Auditor (CISA) and has spoken widely at University lecture forums and industry thought leadership conferences.

**STEFFAN TOMLINSON**
Chief Financial Officer and Senior Vice President
Steffan Tomlinson brings deep financial and operational management experience to Palo Alto Networks and oversees the company’s finance, accounting, IT, and manufacturing functions. Steffan served as Chief Financial Officer of Aruba Networks and was instrumental in both their Initial Public Offering and helping the company scale to future growth. From 2000 to 2009, he was the first non-founder employee and, ultimately, Chief Financial Officer of F5 Networks. He earned an MBA from Santa Clara University and a BA from Trinity College.
Setting the Stage

Modified Magic Quadrant

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CSO/CISO as Part of the Exec Staff

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Completeness of Vision

Ability to Execute
Setting the Stage

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Completeness of Vision

Ability to Execute

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RSA Conference 2015
Setting the Stage

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  - Cisco
  - FireEye
  - Gartner
  - McAfee
  - RSA
  - Symantec

- **CSO/CISO as Part of the Exec Staff**
  - Check Point
  - Fortinet
  - Juniper
  - Mandiant
  - Sourcefire

- **No Representation as Part of the Exec Staff**
  - Palo Alto Networks
  - Qualys

- **CIO / CSO / CIO as Part of the Secondary Staff**
  - RSA

Completeness of Vision

Ability to Execute
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Modified Magic Quadrant

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Completeness of Vision vs. Ability to Execute

RSA Conference 2015
Setting the Stage

Modified Magic Quadrant

CIO as Part of the Exec Staff

CSO/CISO as Part of the Exec Staff

Completeness of Vision

Ability to Execute

No Representation as Part of the Exec Staff

CIO / CSO / CIO as Part of the Secondary Staff
Setting the Stage

Modified Magic Quadrant

<table>
<thead>
<tr>
<th>CIO as Part of the Exec Staff</th>
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</table>

Completeness of Vision

Ability to Execute
74% said CISOs did not deserve a seat at the leadership table.

60% said CISOs would not succeed in non-security leadership position.
Setting the Stage

Modified Magic Quadrant

- CIO as Part of the Exec Staff
  - Cisco
  - FireEye
  - Gartner
  - McAfee
  - RSA
  - Symantec
- CSO/CISO as Part of the Exec Staff
  - Qualys
- No Representation as Part of the Exec Staff
- CIO / CSO / CIO as Part of the Secondary Staff

Completeness of Vision

Ability to Execute

RSA Conference 2015
Setting the Stage

Modified Magic Quadrant

- CIO / CSO / CIO as Part of the Secondary Staff
- CSO/CISO as Part of the Exec Staff
- CIO as Part of the Exec Staff
- No Representation as Part of the Exec Staff

Completeness of Vision

Ability to Execute
Setting the Stage

Modified Magic Quadrant

CIO as Part of the Exec Staff
- Cisco
- FireEye
- Gartner
- McAfee
- RSA
- Symantec

CSO/CISO as Part of the Exec Staff
- Qualys

No Representation as Part of the Exec Staff
- Check Point
- Fortinet
- Juniper
- Mandiant
- Sourcefire
- Cisco

Completeness of Vision

Ability to Execute

CIO / CSO / CIO as Part of the Secondary Staff

Security Vendor

RSA Conference 2015
Setting the Stage

Modified Magic Quadrant

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CSO/CISO as Part of the Exec Staff

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Completeness of Vision

Ability to Execute

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Setting the Stage

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Completeness of Vision

Ability to Execute

CIO / CSO / CIO as Part of the Secondary Staff

No Representation as Part of the Exec Staff

Modified Magic Quadrant
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Completeness of Vision

Ability to Execute
Setting the Stage

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Completeness of Vision vs. Ability to Execute
Setting the Stage

Completeness of Vision

CIO as Part of the Exec Staff

CSO/CISO as Part of the Exec Staff

Ability to Execute

No Representation as Part of the Exec Staff

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CIO as Part of the Exec Staff
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Completeness of Vision

Ability to Execute
Key Take-Away

Today:

Business leaders do not value the Cybersecurity Trifecta as a contributor to the overall growth and innovation of the business.
Setting the Stage
Setting the Stage

74% said CISOs did not deserve a seat at the leadership table.

60% said CISOs would not succeed in non-security leadership position.

44% said CISOs should be held accountable for data breaches.

50% said CISOs should not be responsible for security purchases.

Source: June 2014 survey of 203 U.S.-based CEOs, CIOs, CFOs by market research firm Opinion Matters
Setting the Stage

The average tenure of a CISO is 18 Months.

44% said CISOs should be held accountable for data breaches.

50% said CISOs should not be responsible for security purchases.

Source: May 2013 State of Software Security Report by Veracode
Setting the Stage

The average tenure of a CISO is 18 Months.

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Setting the Stage

The average tenure of a CISO is 18 Months.
Setting the Stage

EBIT

COGS

CAGR

GAAP

ARPU

Market Cap

Profit

Business
Setting the Stage

Geek  Business

#RSAC

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Setting the Stage

Geek

Business
Setting the Stage

Geek

Business
Setting the Stage

Geek

Business
Setting the Stage

Geek

Business
Setting the Stage

Geek

Business
Setting the Stage

Geek

How Likely?
How Impactful?
Setting the Stage

Geek

How Likely?
How Impactful?
Setting the Stage

How Likely?
How Impactful?

Geek
Setting the Stage

The average tenure of a CISO is 18 Months.

Key Take-Away

Today:
The Cybersecurity Trifecta is not helping the business grow and innovate because it has not learned to speak the language of business.
A Little Biz History:
The Evolution of the Cybersecurity Executive Trifecta: The CSO/CIO/CISO
History of the C-Suite

Source: “Durant vs Sloan” by Steve Blank, 2009
History of the C-Suite

Source: “Durant vs Sloan” by Steve Blank, 2009
History of the C-Suite

1923 - 1960

Source: “Durant vs Sloan” by Steve Blank, 2009
History of the C-Suite

Centralized Management

1923

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Centralized Management

Alfred Sloan
1875 – 1966
President, General Motors

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History of the C-Suite

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History of the C-Suite

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History of the C-Suite

- **Invented Forecasting**: Comparing division forecasts with the corporation financial goals.
- **Invented Sales Dashboards**: Reports to indicated when divisions deviated from plan.
- **Invented Performance Rewards**: Allocated resources and compensation based on performance criteria.
- **Invented Business as a Profession**: Leaders duty-bound to put the interests of the enterprise ahead of his own.

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History of the C-Suite

Source: “Durant vs Sloan” by Steve Blank, 2009
History of the C-Suite

In 1923:

- Ford had 60% of the market
- GM had 20%

Source: “Durant vs Sloan” by Steve Blank, 2009
History of the C-Suite

In 1923:
- Ford had 60% of the market
- GM had 20%

In 1932:
- Ford had 20% of the market
- GM had 43%

- A lead it never relinquished.

Source: “Durant vs Sloan” by Steve Blank, 2009
History of the C-Suite

Source: “Durant vs Sloan” by Steve Blank, 2009
Evolution of the CIO – CISO - CSO

1980s
Evolution of the CIO – CISO - CSO

1980s
Evolution of the CIO – CISO - CSO
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1986

Source: “The Emergence of the CIO,” IBM
Evolution of the CIO – CISO - CSO

Management’s Newest Star:
Meet the Chief Information Officer

1986

Source: “The Emergence of the CIO,” IBM
Evolution of the CIO – CISO - CSO

Steve Katz

CISO 1995

Evolution of the CIO – CISO - CSO

Evolution of the CIO – CISO - CSO

First CISOs
Evolution of the CIO – CISO - CSO

VENDOR SOLUTIONS

First CISOs

MITIGATION
Evolution of the CIO – CISO - CSO

First CISOs

Business
Risk → Management
Operation
Marketing
Financial
Evolution of the CIO – CISO - CSO

First CISOs
Evolution of the CIO – CISO - CSO

First CISOs
Evolution of the CIO – CISO - CSO
Evolution of the CIO – CISO - CSO

Late 1990s
Key Take-Away

How we got here:

The Cybersecurity Trifecta is a relatively recent development in the modern corporation but it has failed to make itself relevant.
Where do we go from here?

The Evolution of the Cybersecurity Executive Trifecta: The CSO/CIO/CISO
Evolution of the CIO – CISO - CSO

Cyber Risk

MITIGATION
Evolution of the CIO – CISO - CSO

Cyber Risk

Business Continuity
Evolution of the CIO – CISO - CSO

Compliance

Cyber Risk

Business Continuity
Evolution of the CIO – CISO - CSO

Physical

Compliance

Cyber Risk

Business Continuity
Evolution of the CIO – CISO - CSO

Physical

Compliance

Cyber Risk

Fraud Prevention

Business Continuity
Evolution of the CIO – CISO - CSO

Physical

Compliance

Cyber Risk

Safety

Fraud Prevention

Business Continuity
Evolution of the CIO – CISO - CSO

Physical

Compliance

Privacy

Safety

Fraud Prevention

Cyber Risk

Business Continuity
Evolution of the CIO – CISO - CSO

Physical

Compliance

Cyber Risk

Ethics

Privacy

Safety

Fraud Prevention

Business Continuity
Evolution of the CIO – CISO - CSO

- Physical
- Compliance
- Brand Protection
- Business Continuity
- Cyber Risk
- Ethics
- Privacy
- Safety
- Fraud Prevention

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Physical
Compliance
Brand Protection
Fraud Prevention
Ethics
Privacy
Safety
Business Continuity
Evolution of the CIO – CISO - CSO

1996

2002

2004
Evolution of the CIO – CISO - CSO
Evolution of the CIO – CISO - CSO

1996

2002

2004
Evolution of the CIO – CISO - CSO

WINNING AS A CISO

A Guide for Security Executives
By Rich Baich

2005

Rich Baich
Wells Fargo CISO

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WINNING AS A CISO

2005

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2015 Canon Award Winners
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Not
Evolution of the CIO – CISO - CSO

Healthy

Tension
Evolution of the CIO – CISO - CSO

Healthy Tension
Evolution of the CIO – CISO - CSO

Healthy

Tension

1

Rich Baich
Wells Fargo CISO

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Evolution of the CIO – CISO - CSO
Evolution of the CIO – CISO - CSO
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Business

CSO

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A Guide For Security Executives
By Rich Baich

2

RADICALISM

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Wells Fargo CISO
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Business

Product

2

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Radicalism
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Business

CSO

Product

Marketing

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2

RADICALISM

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Evolution of the CIO – CISO - CSO

Business

- CSO

Product

Marketing

Profit & Loss
Evolution of the CIO – CISO - CSO

Business

- CSO

Product

Marketing

Profit & Loss

Customer Service
Evolution of the CIO – CISO - CSO

Business

Product

Marketing

Profit & Loss

Customer Service
Evolution of the CIO – CISO - CSO
Evolution of the CIO – CISO - CSO

CISO Skills
Evolution of the CIO – CISO - CSO

CISO Skills

• Must have an MBA
Evolution of the CIO – CISO - CSO

CISO Skills

- Must have an MBA
- Prior budget or P&L experience
Evolution of the CIO – CISO - CSO

CISO Skills

• Must have an MBA

• Prior budget or P&L experience

• A proven ability to lead an effective information security organization
Evolution of the CIO – CISO - CSO

CISO Skills

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“If performing vulnerability assessments, configuring firewalls, and performing network forensics makes you happy then becoming Chief Information Security Officer may not be the right career choice for you.”
The Cybersecurity Trifecta must become business people first and then they can become security people.
Key Take-Away

Where we need to go:

The **CIO and the CISO/CSO are peers** that help each other help the CEO grow the business.
Conclusion:
The Evolution of the Cybersecurity Executive Trifecta: The CSO/CIO/CISO
Conclusion

- Current Situation
- How We Got here
- Where do We Need to Go
Conclusion

◆ Current Situation
◆ How We Got here
◆ Where do We Need to Go

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Conclusion

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1986
Conclusion

- Current Situation
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- Where do We Need to Go

CISO Skills

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Apply What You Have Learned Today

◆ Next week you should:
Apply What You Have Learned Today

- Next week you should:
  - Go to the Cybersecurity Canon Website
Apply What You Have Learned Today

- Next week you should:
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- In the first three months following this presentation you should:
Apply What You Have Learned Today

Next week you should:
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In the first three months following this presentation you should:
- Read “Winning as a CISO”
Apply What You Have Learned Today

- Next week you should:
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- Within six months you should:
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- In the first three months following this presentation you should:
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- Within six months you should:
  - Consider changes in your skillset if you want to become a CISO
Questions?

Rick Howard: CSO Palo Alto Networks
Email: rhoward@paloaltonetworks.com
Twitter: @raceBannon99


https://paloaltonetworks.com/threat-research/cybercanon.html