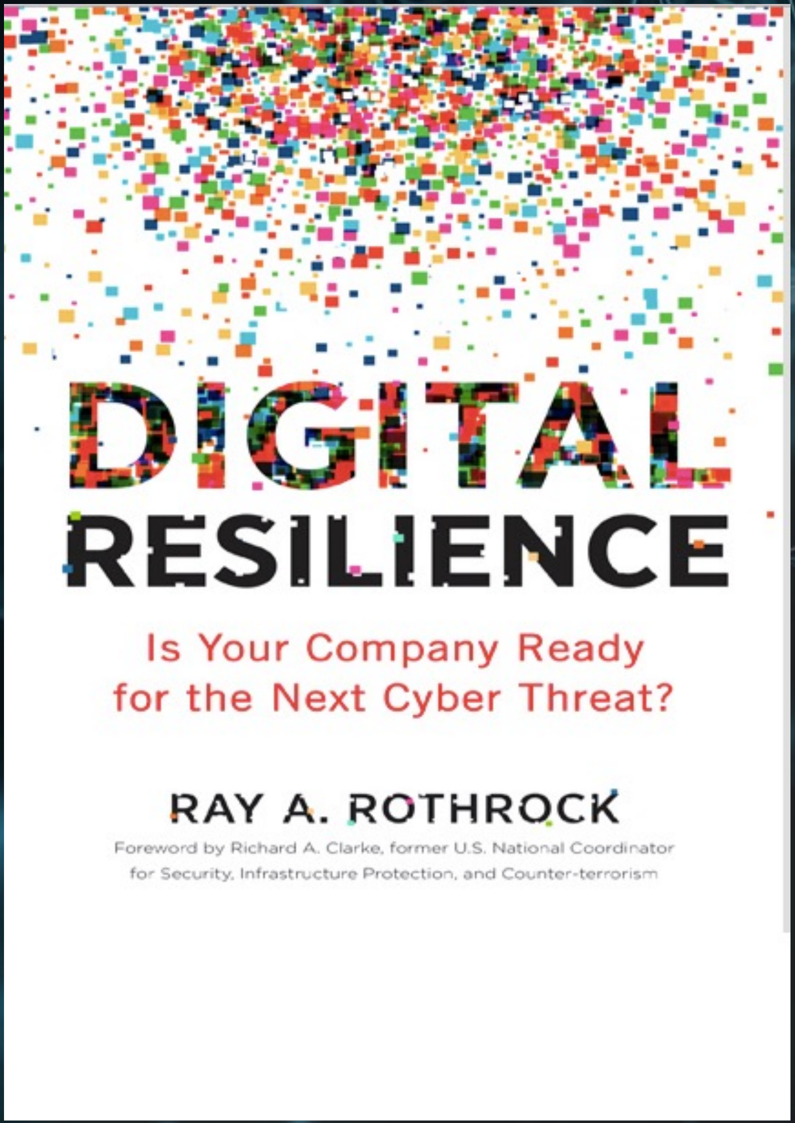


DIGITAL RESILIENCE

Is Your Company Ready for the Next Cyber Threat?

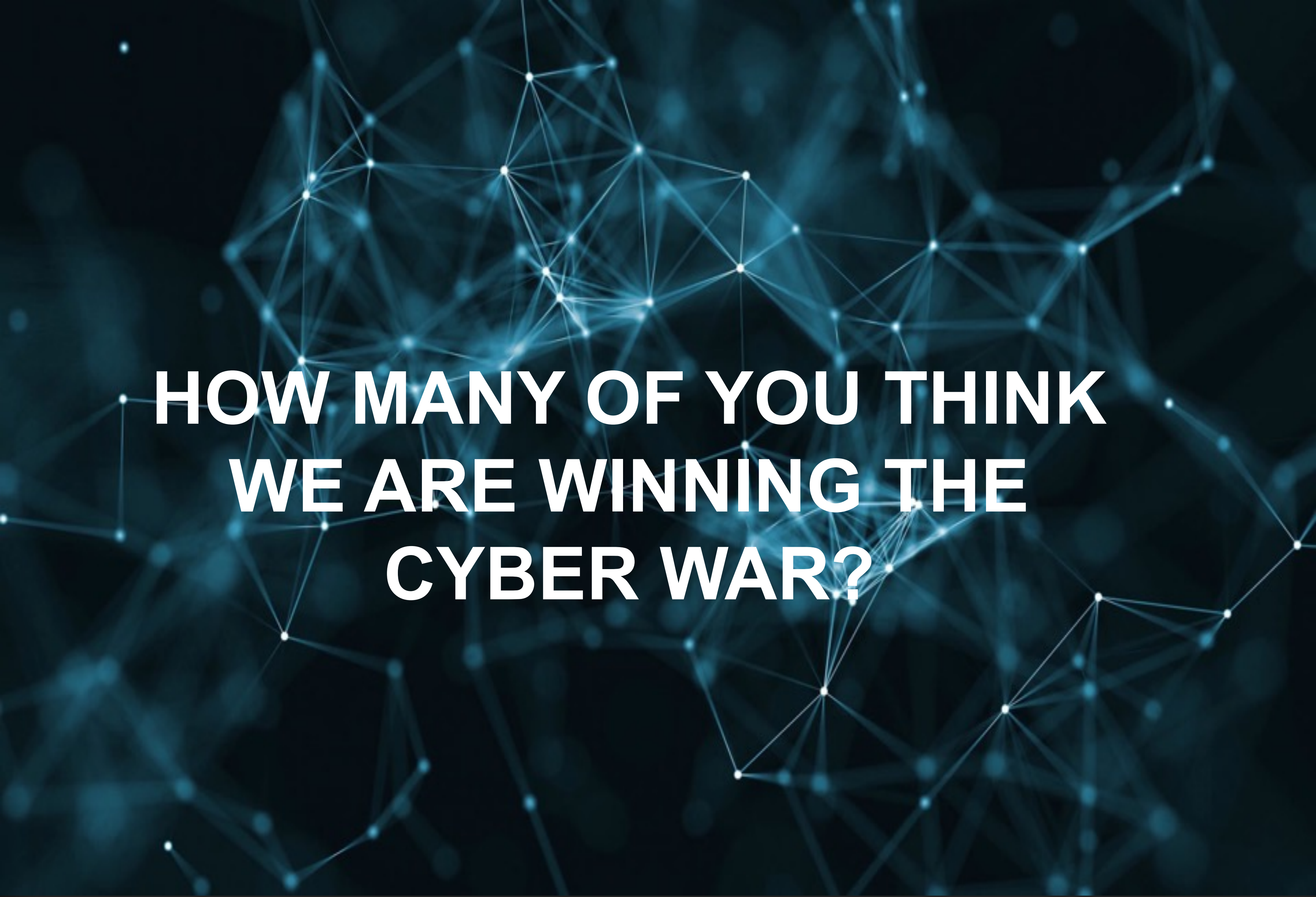
RAY A. ROTHROCK

Foreword by Richard A. Clarke, former U.S. National Coordinator for Security, Infrastructure Protection, and Counter-terrorism

Ray A. Rothrock

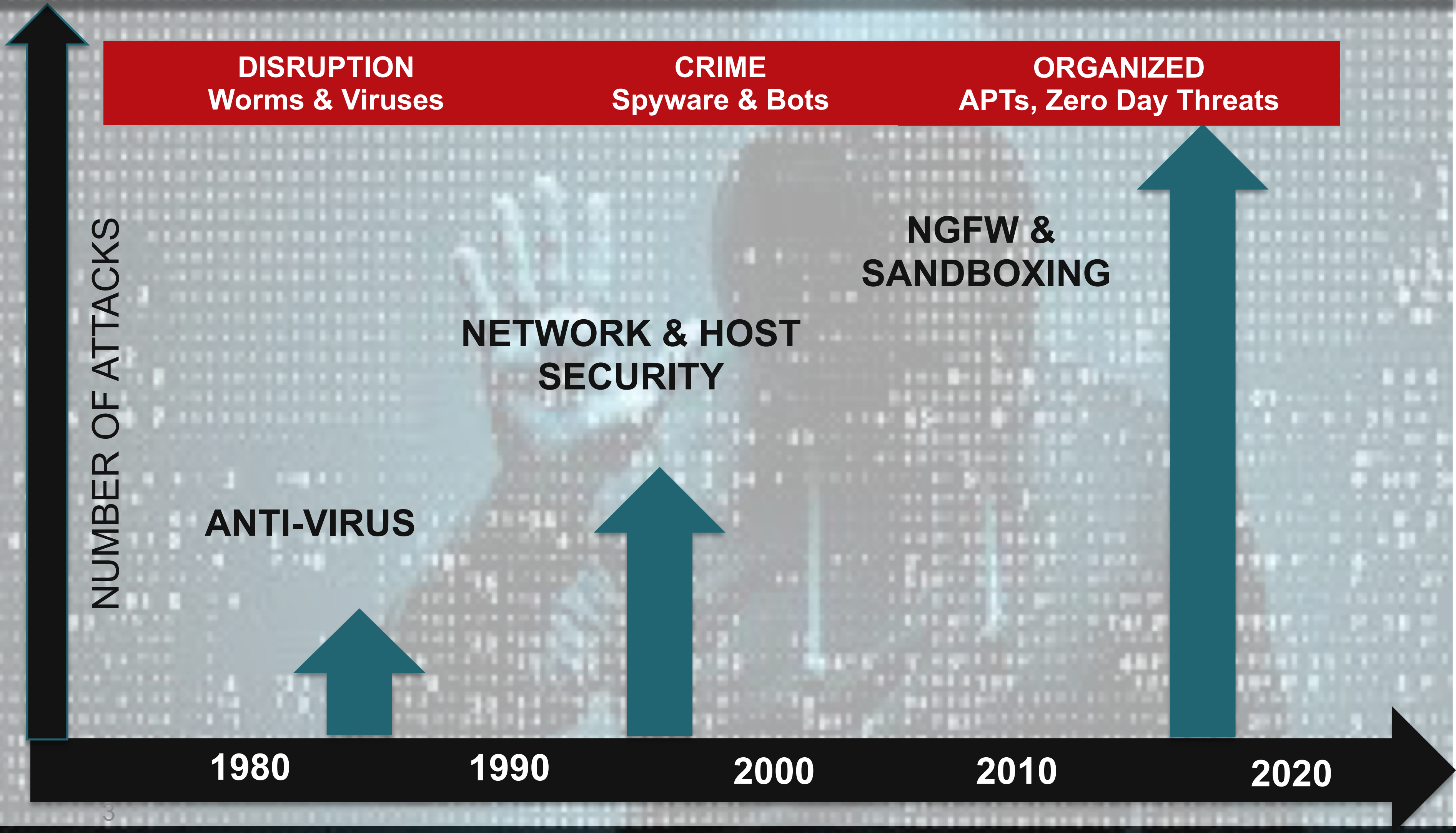
Chairman & CEO, RedSeal, Inc.
Venrock, Partner Emeritus
Forbes Midas List
Former Chair National Venture Capital Association
Member of the MIT Corporation
Vice Chairman, UTIMCO
Distinguished Alumnus Texas A&M
Director – Check Point Software Technology, Ltd.
Trustee Carnegie Institute of Science
Director – Roku, Inc.
Up and to the Right - Bassist

April 2019



HOW MANY OF YOU THINK WE ARE WINNING THE CYBER WAR?

TRENDS SUGGESTS THE HACKERS ARE WINNING



NUMBER OF ATTACKS

DISRUPTION
Worms & Viruses

CRIME
Spyware & Bots

ORGANIZED
APTs, Zero Day Threats

ANTI-VIRUS

NETWORK & HOST SECURITY

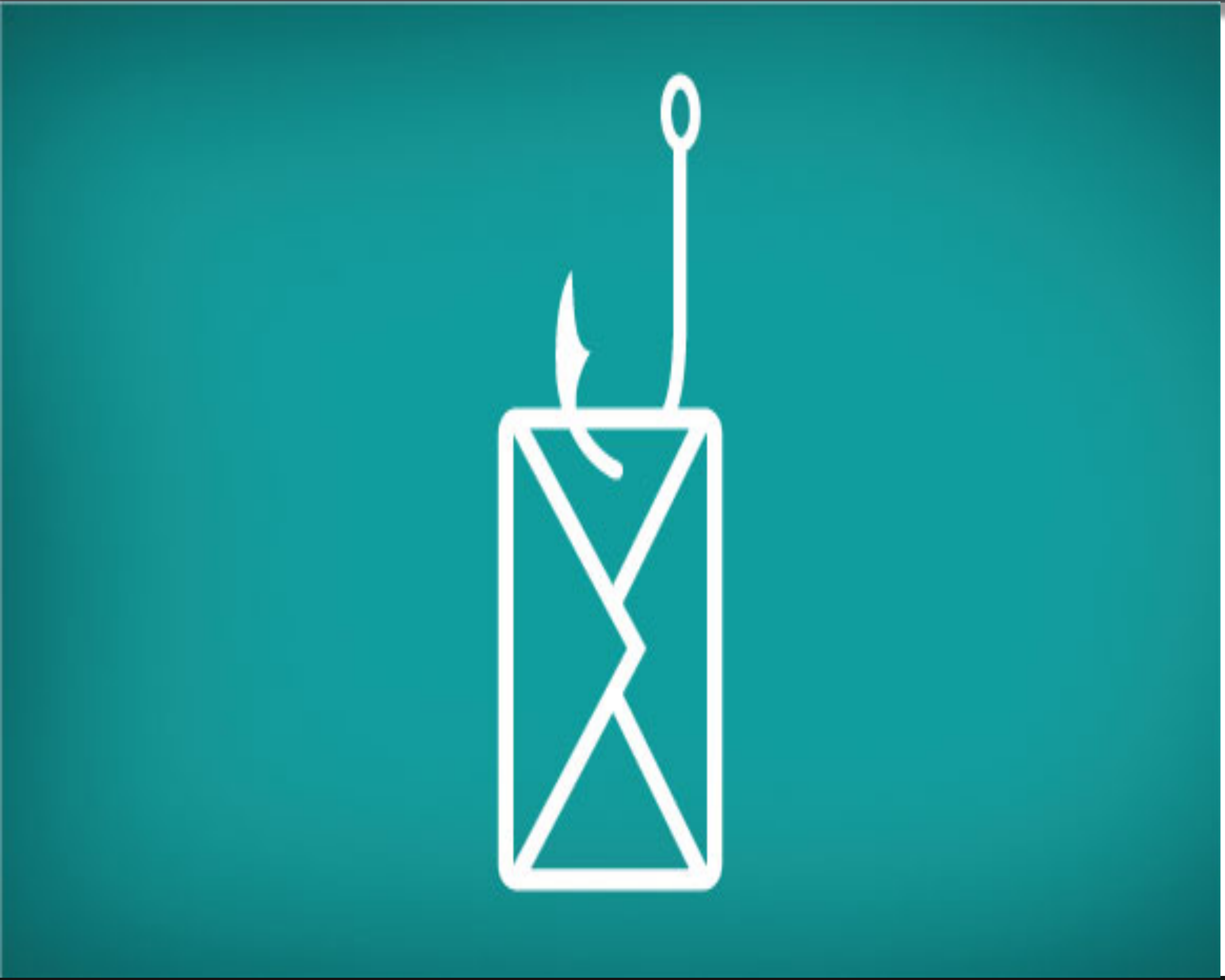
NGFW & SANDBOXING

2013 TIPPING POINT → 2018

TARGET

RUSSIA
(CHINA)

WHAT DOES THIS MEAN?



THE
HACKER
IS ALREADY
INSIDE.

AND AT WHAT COST?

$2 Trillion
By 2019
$1 Trillion
Intellectual
Property

Forbes, 2016

TRUST

CONFIDENCE

HOW DO WE KNOW THIS?

Organizations still fail basic cyber hygiene tests.

Organizations are rarely in compliance all of the time, if ever.

Organizations struggle to stay prepared to respond to latest threats.

Time is our enemy. Organizations can't respond fast enough.

Organizational leaders face tough questions, changing risks, and unknown threats.

Their customers wonder.

RESILIENCE DIVIDEND: BEING STRONG IN A WORLD WHERE THINGS GO WRONG*

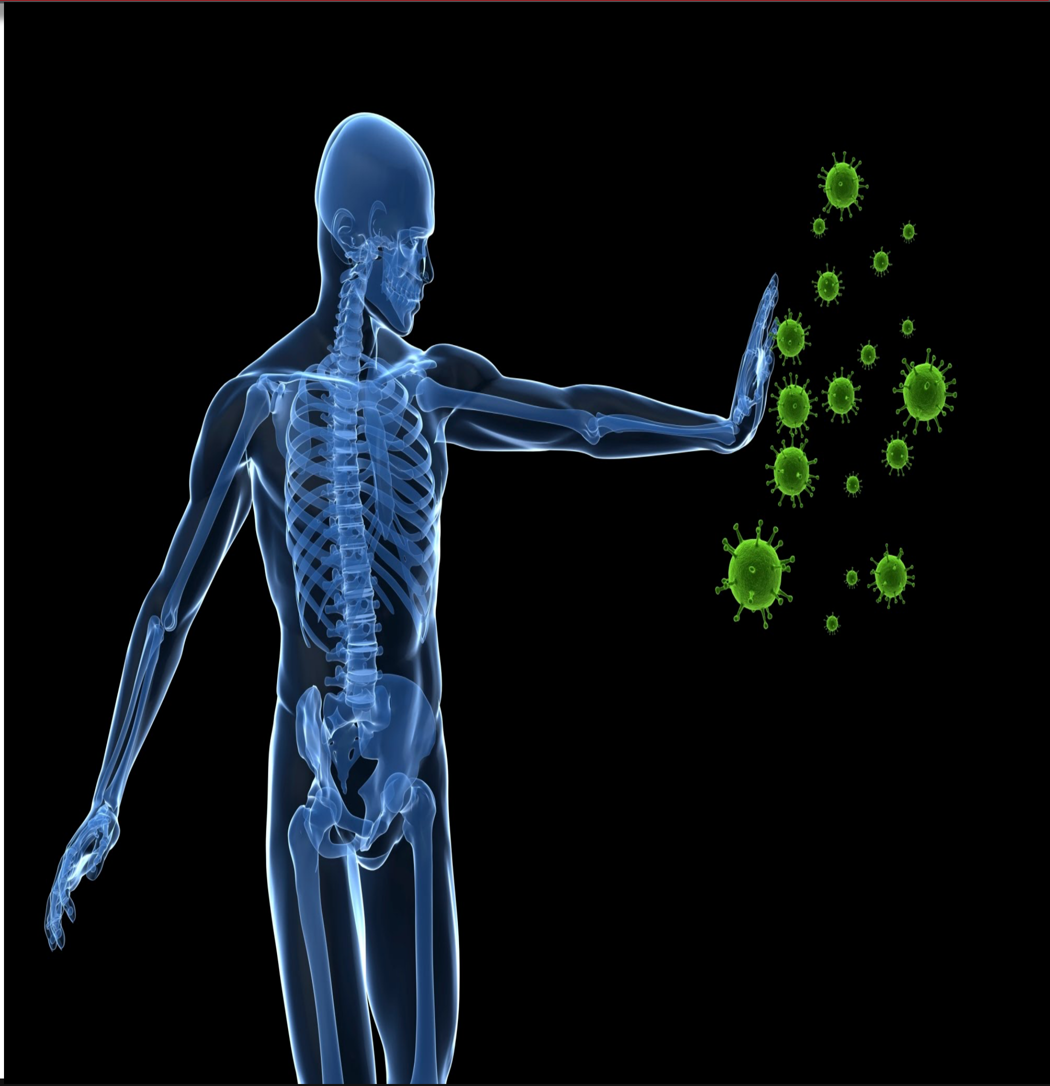
Dr. Judith Rodin

President, Rockefeller Foundation

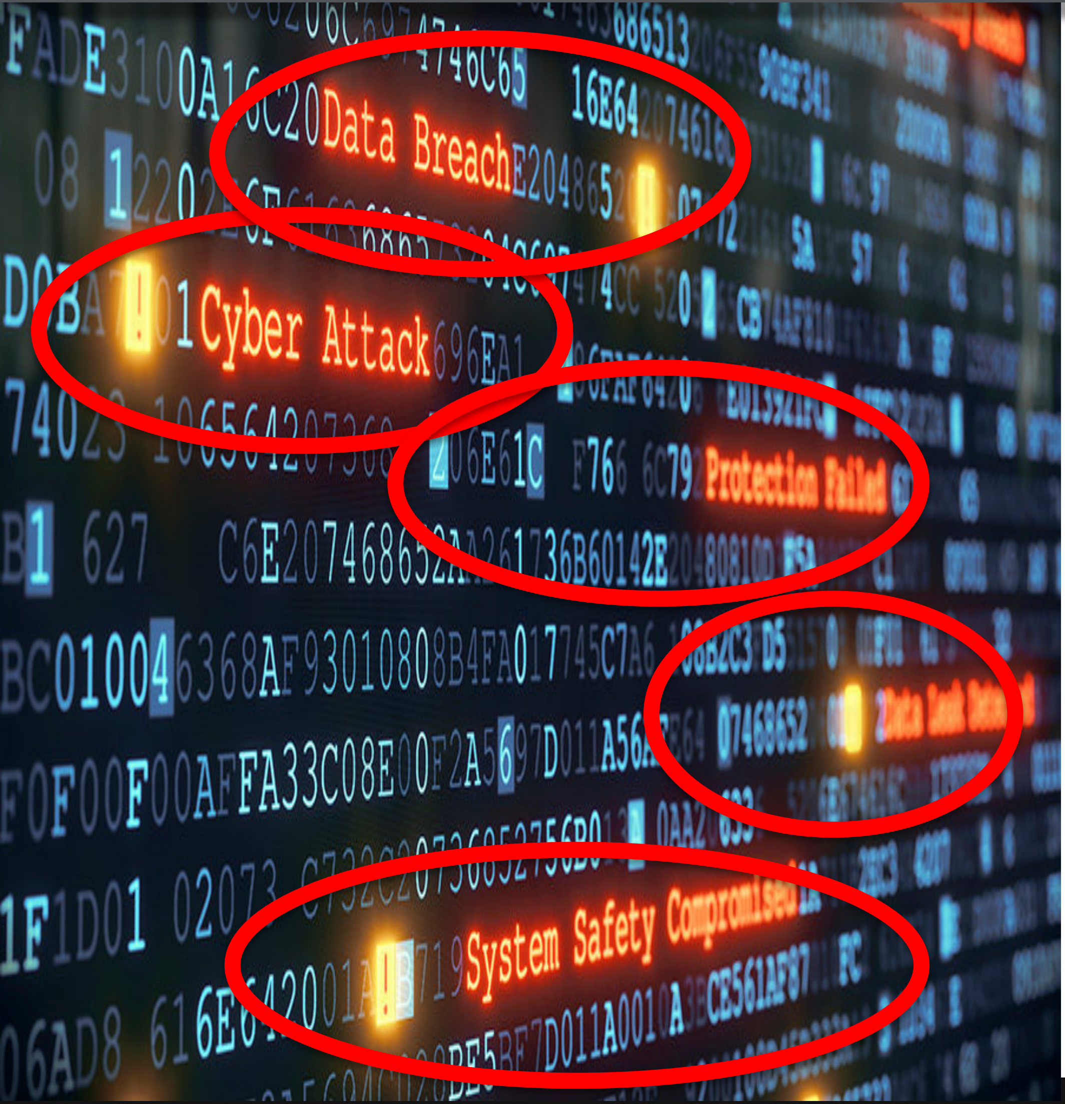
*Book originally published 2014

A MODEL FOR RESILIENCE

THE
HUMAN
BODY



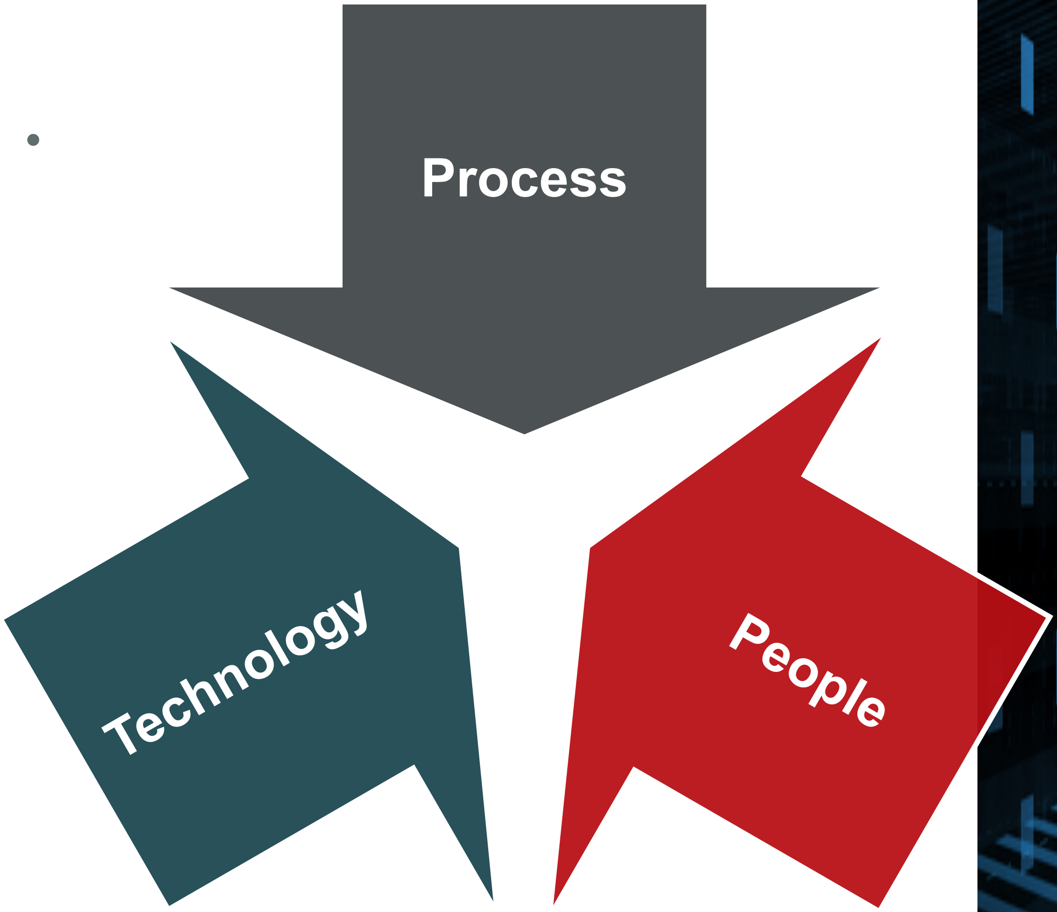
A NEW STRATEGY IS REQUIRED



MY PATTERN RECOGNITION SUGGESTED NEW THINKING WAS NEEDED:

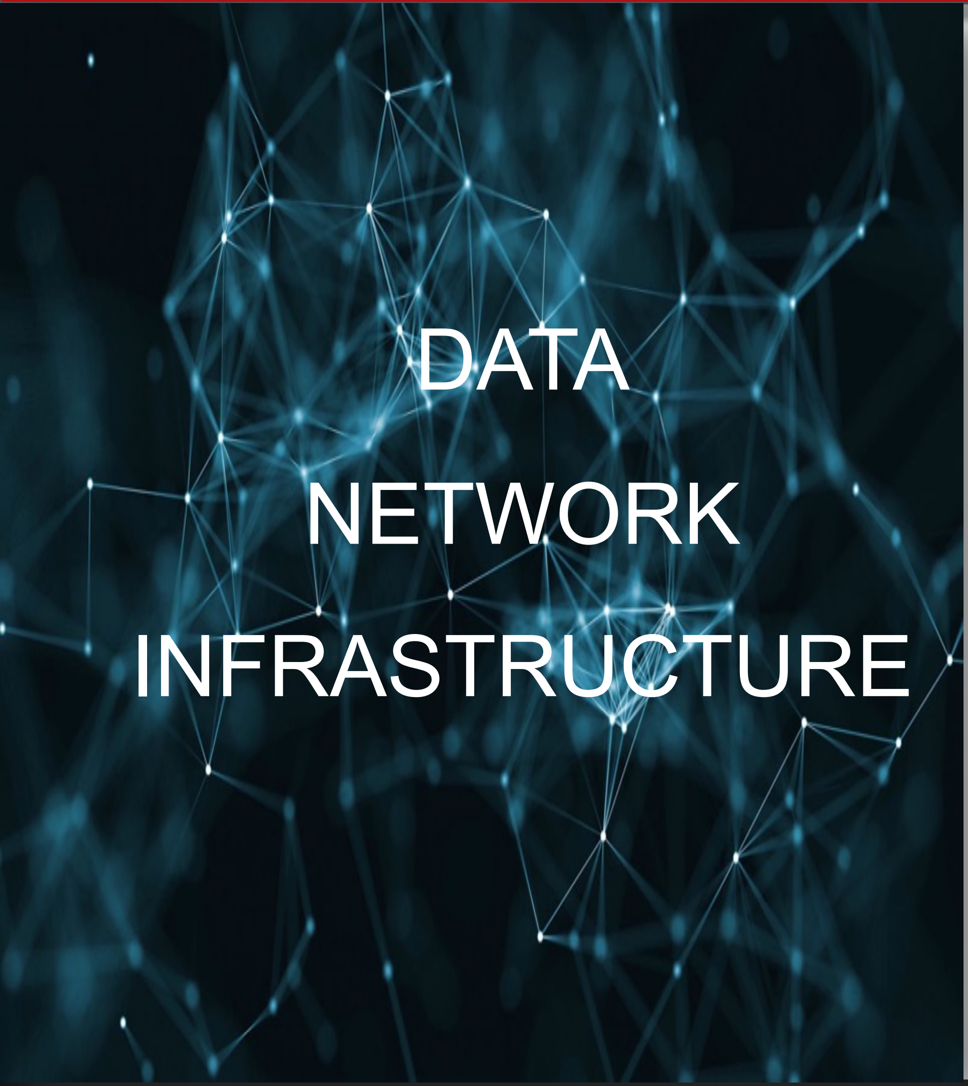
RESILIENCE

RESILIENCE IS A STRATEGY



ACROSS THE ENTERPRISE

TECHNOLOGY



DATA

NETWORK

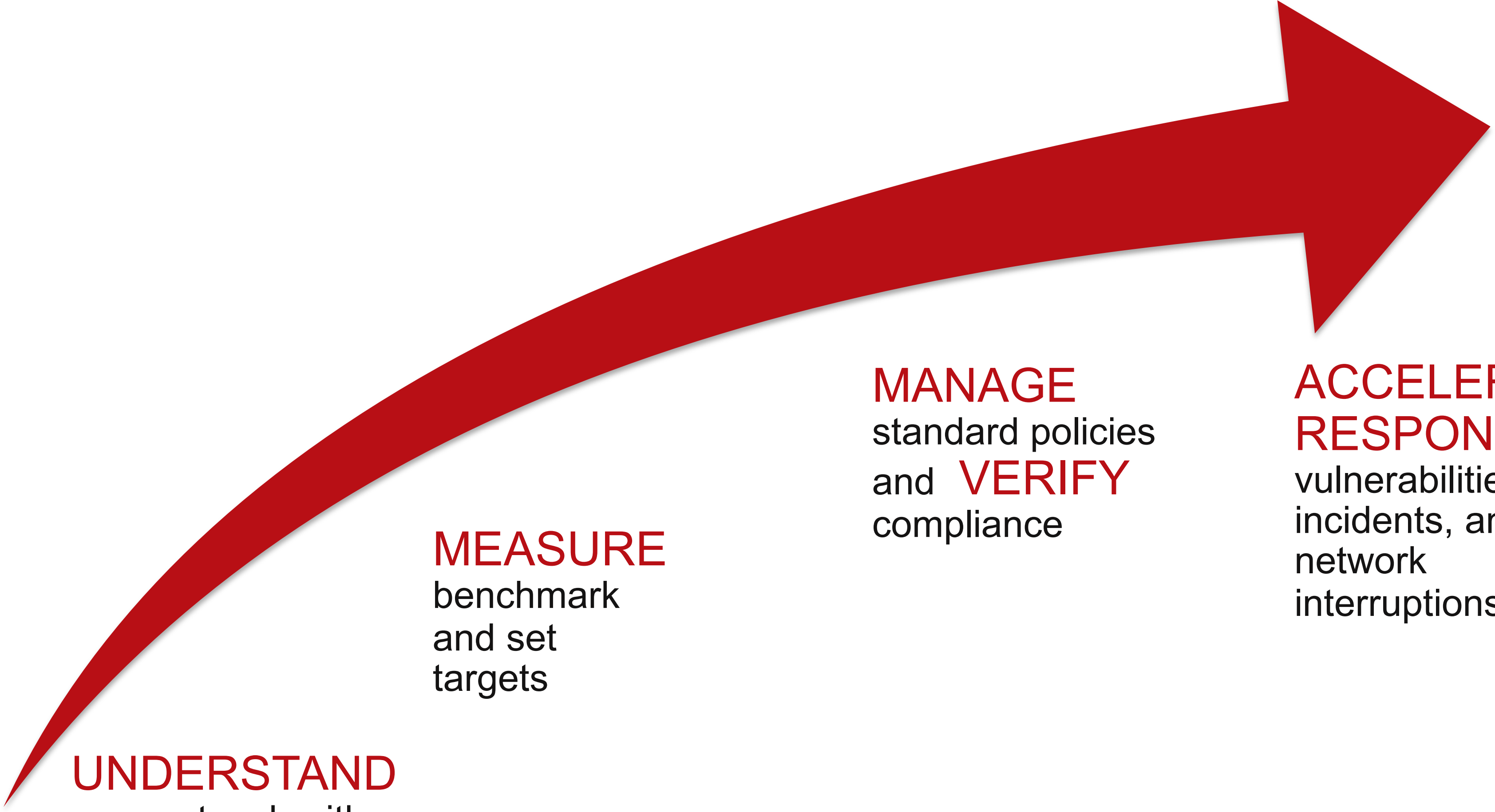
INFRASTRUCTURE

MOST SYSTEMS WERE NOT BUILT WITH *RESILIENCE* IN MIND

THE PATH TO DIGITAL RESILIENCE

1. UNDERSTANDING and VISIBILTY
2. MEASUREMENT
3. COMPLIANCE
4. ACCELERATE RESPONSE

THE BUILDING BLOCKS OF DIGITAL RESILIENCE



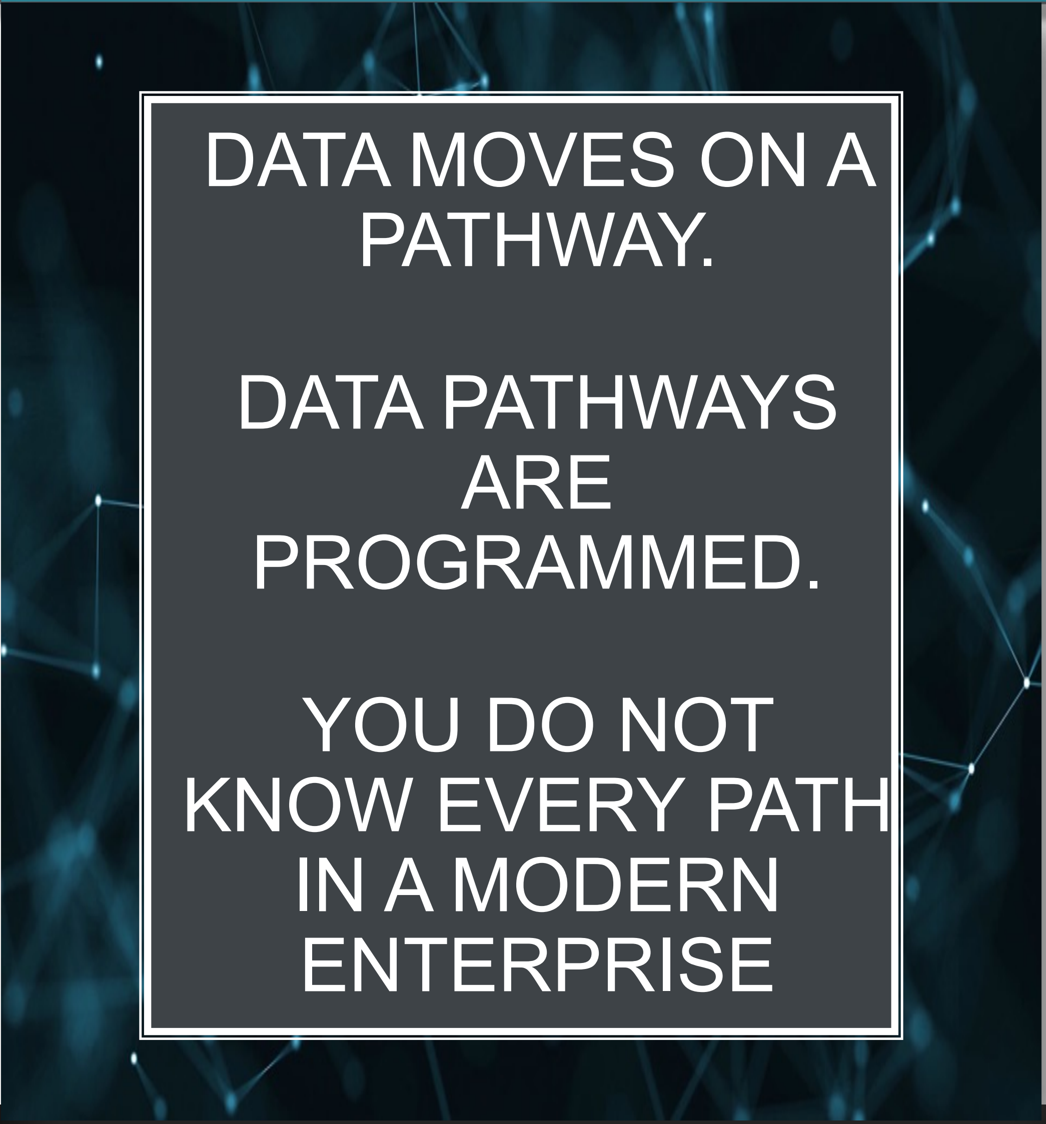
UNDERSTAND your network with as-built model

MEASURE benchmark and set targets

MANAGE standard policies and VERIFY compliance

ACCELERATE RESPONSE to vulnerabilities, incidents, and network interruptions

UNDERSTAND THE DIGITAL INFRASTRUCTURE: *NETWORK* AND *DATA*



DATA MOVES ON A PATHWAY.

DATA PATHWAYS ARE PROGRAMMED.

YOU DO NOT KNOW EVERY PATH IN A MODERN ENTERPRISE

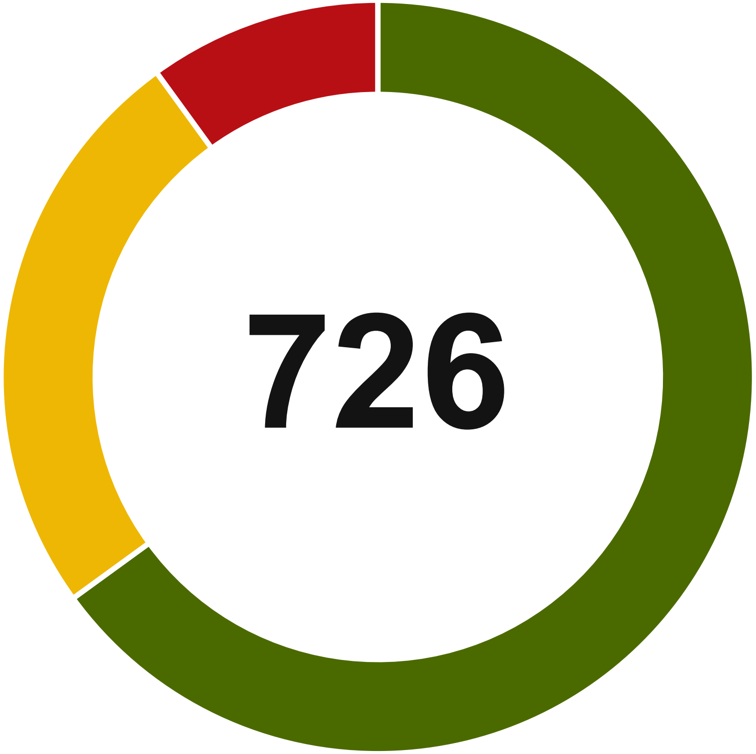
76%

Of CEOs believe they have an accurate blue print of their network infrastructure

100%

Of RedSeal customers find network devices, sub nets, and pathways that weren’t on the blueprint, if they had one

YOU CAN MEASURE RESILIENCE



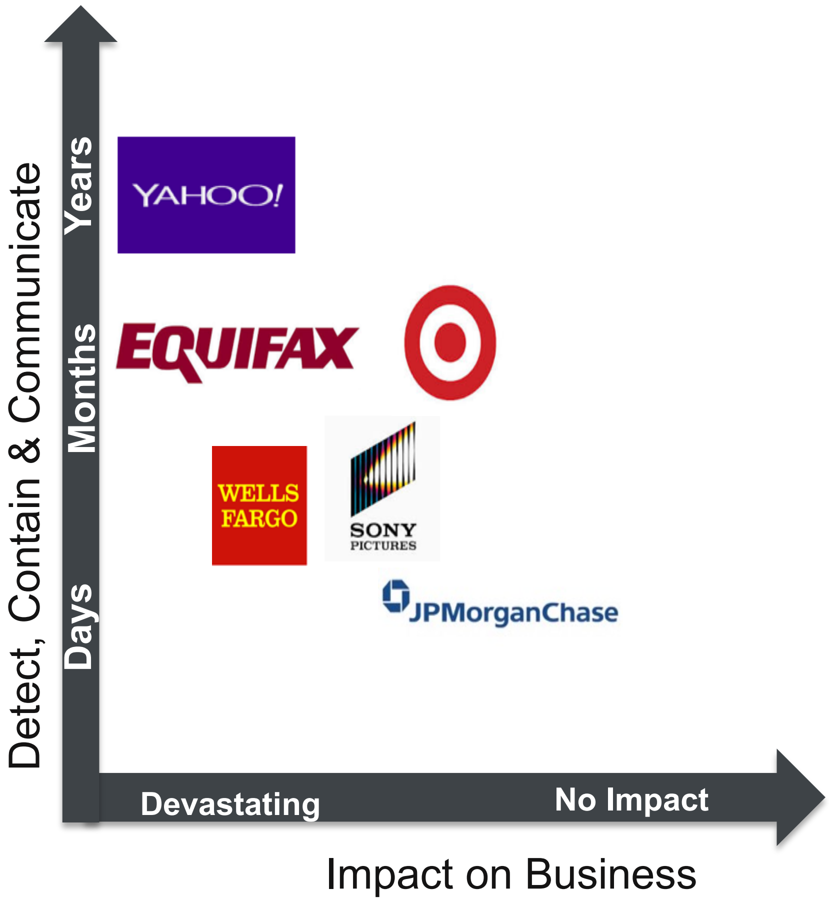
🟩 Vulnerabilities in Network Context

🟨 Routing Configurations - Secure and Proper

🟥 Pathways - Known, Unknown or Inapproriate Pathways

PRESCRIBE ACTIONS TO IMPROVE RESILIENCE.

WE ARE A LONG WAY FROM RESPONSIVE



40% rank detection as their strongest cyber capability

PERCEPTION	REALITY
It takes an average of	Studies reveal very different answers
6 HOURS to detect an incident	24 HOURS — 2017 SANS Incident Response Survey
	49 DAYS — 2017 Trustwave Report
	99 DAYS — The 2017 Mandiant M-Trends Report

Source: RedSeal Resilience Report

ACCELERATE RESPONSE | TECHNOLOGY

MUCH TO DO WHEN UNDER ATTACK.

TIME IS NOT YOUR FRIEND.

INCIDENT LOCATION

BLAST RADIUS

ALL POSSIBLE PATHS

WHAT DATA AND ASSETS ARE AT RISK

WHAT ARE MY OPTIONS

INITIATE CONTAIMENT

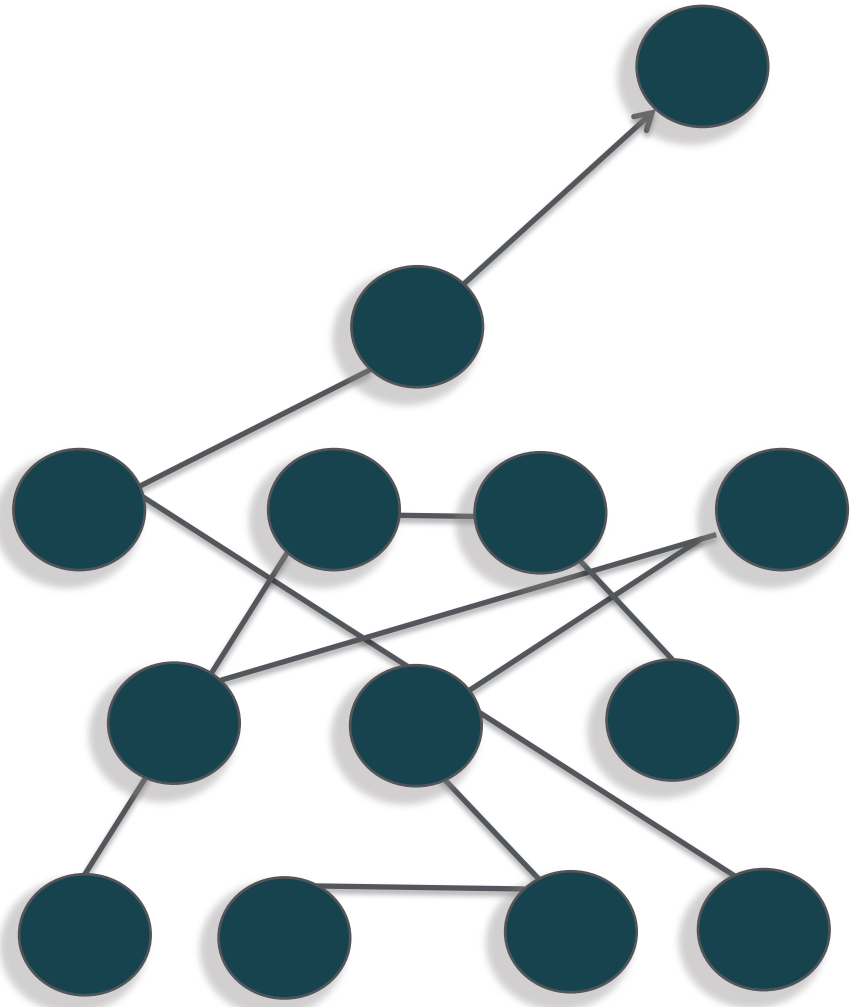
VALIDATE CONTAINMENT

ASSESS DAMAGE

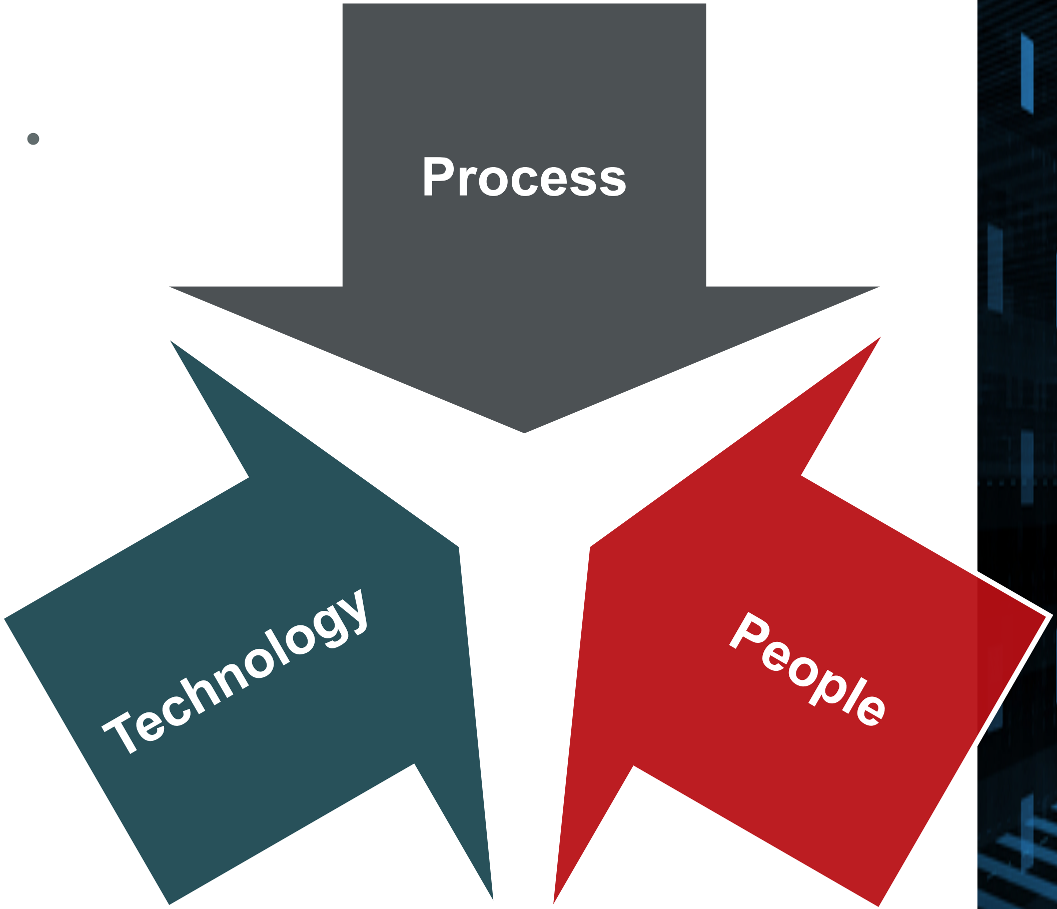
REPAIR & RECOVER

NO STRAIGHT LINE TO SUCCESS

SKILLED PEOPLE, DEFINED AND REHEARSED PROCESSES, AND TECHNOLOGY ARE INVOLVED



RESILIENCE IS A STRATEGY



Starts in the C-Suite
then
THROUGHOUT THE ENTERPRISE

WE CAN DO THIS: DIGITAL RESILIENCE

We *must* be better prepared, through digital resilience.

We *must* create trust, confidence, and capability.

Starts in the C-suite

STRATEGY

PEOPLE

PROCESS

TECHNOLOGY

KEY TAKEAWAYS from D.R.

- Frame RESILIENCE as a business issue, not a cyber security issue.
- Ask "What can go wrong?"
- Basic cyber training for everyone.
- Share the truth about visibility, infrastructure and issues.
- Put experts at the table.
- Establish metrics and measure often.
- Preparation is critical to your cyber strategy.

WHAT’S A BOARD TO DO

- Frame RESILIENCE & CYBER as business issues, not a technical cyber security issue.
- Basic cyber training for everyone. Step and repeat.
- Create a standing Cyber Resilience Committee.
  - Ask “What can go wrong?”
  - Share the truth about visibility, infrastructure and issues.
  - Put experts at the table.
  - Establish metrics and measure often.
- Resilience requires preparation. Both are critical to your cyber strategy.

WHAT’S A PERSON TO DO

- Learn to recognizing a phishing email – delete it.
- Use two-factor authentication wherever you can.
- Make backups of your computers (ransomeware).
- Patch and upgrade your hardware and software.
- Manage your passwords. Change your passwords.
- Don’t do sensitive business on public WiFi.
- Check regularly and lock your credit bureau records.
- Think before you act on email, browsers and your phone.

MY VISION

A world where DIGITAL RESILIENCE delivers CONFIDENCE in the face of cyber attack.

QUESTIONS