Access this webinar here: https://attendee.gotowebinar.com/recording/2999617667872996111

Access speaker bios here: https://files.asprtracie.hhs.gov/documents/healthcare-cybersecurity-response-webinar-bios.pdf

Access the transcript here: https://files.asprtracie.hhs.gov/documents/healthcare-system-cybersecurity-response--experiences-and-considerations-transcript.pdf

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# Healthcare System Cybersecurity Response: Experiences and Considerations

March 18, 2021

ASPR
ASSISTANT SECRETARY FOR PREPAREDNESS AND RESPONSE

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# ASPR TRACIE: Three Domains

**TECHNICAL RESOURCES**

- Self-service collection of audience-tailored materials
- Subject-specific, SME-reviewed "Topic Collections"
- Unpublished and SME peer-reviewed materials highlighting real-life tools and experiences

asprtracie.hhs.gov

**ASSISTANCE CENTER**

- Personalized support and responses to requests for information and technical assistance
- Accessible by toll-free number (1844-5-TRACIE), email (askasprtracie@hhs.gov), or web form (ASPRtracie.hhs.gov)

1-844-5-TRACIE

**INFORMATION EXCHANGE**

- Area for password-protected discussion among vetted users in near real-time
- Ability to support chats and the peer-to-peer exchange of user-developed templates, plans, and other materials

askasprtracie@hhs.gov

# Acknowledgements


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# Setting the Stage

- Focus on effects of cyber incidents on the healthcare operational environment, specifically:
  - Ability to effectively care for patients
  - Maintaining business practices
  - Ensuring readiness and recovery
- Cyberattacks were identified as top threat in healthcare system Hazard Vulnerability Analyses (HVAs)
- Lessons learned and best practices should be shared across the health sector to improve preparedness and response efforts

# Select Cybersecurity Resources

- ASPR TRACIE
  - Cybersecurity Topic Collection
  - Exchange Issue 2: Cybersecurity and Cyber Hygiene
  - Cybersecurity and Healthcare Facilities Video
  - Healthcare System Cybersecurity: Readiness and Response Considerations and accompanying Overview Presentation
- ASPR
  - ASPR Critical Infrastructure Protection
  - Health Sector Cybersecurity Coordination Center (HC3)
  - Joint HPH Cybersecurity Working Group/405(d) Program

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# Opening Thoughts

- IT CAN HAPPEN TO YOU!!
- It should be on everyone's HVA
- A planning committee is an important starting point
  - Multidisciplinary representation
  - External partners/vendors
  - System representation on a facility committee and vice versa are critical to success on both sides
  - Meet regularly
  - Take notes

# At the Start

- Spend some time learning about past attacks
  - What happened and how?
  - Do those vulnerabilities relate to your facility/organization?
  - What lessons learned pertain to you?
- The Incident Response Plan should be comprehensive and not just a compendium of individual downtime practices
  - Alert /notification/authorities
  - Incident Management Team
  - Business Continuity/Business Impact Analysis
- Understand what will be enterprise-wide practice/decision versus local practice/opportunity for planning and response

# Critical Preparedness Next Steps

- Maintain a list of all of your applications
  - Ensure new applications are added and they include downtime procedure and recovery steps
  - This includes biomedical equipment/ phones/ infrastructure controls
  - Keep back up copies!!
- Ensure that you understand how each application relates to one another
  - If you have links with external partners (e.g., HCC) keep them current
  - Make sure updates, patches, etc. are done on a timely basis

# More Points on Preparedness

- Consider an external audit committee to assist with planning input and guidance
- Establish a priority restoration plan – can't bring them all back at once
- Don't focus just on clinical impact of an outage
  - Gift shop, parking, security, cafeteria, HR, payroll, etc.
  - Revenue cycle impact
- Practice, Practice, Practice!!!
  - But how?!!

# Important Response Steps

- Have a clear problem reporting process
- Have clarity on definitions and who has authority to initiate the plan(s) and escalation procedures
- Duplication of alerting systems is important
- Consider having “Go Bags” containing critical items (e.g., plans, forms, checklists, etc.)

# Additional Response Steps to Consider

- Communication will be critical – how can it best be done?!
- 24/7 IMT staffing and Unit/office downtime expertise will be needed along with Just-in-Time Training
- Address written record security and archiving
- Can we still provide high quality and safe patient care?
- Share updated work arounds/situational awareness for each shift

# Additional Response Steps to Consider, con't

- What about the Health Information Exchange – can it be accessed and used?
- Redeploy staff to needed areas
  - Pharmacists to busy units
  - Staff who can't otherwise do their job – runners, scribes
- Work from home is an option
- Safety officer(s)/ security officers/ trainers roving

# Recovery is Vital, too!!

- Planning for it starts early
- Dedicate staff to planning and executing this phase
- What are vendors doing?
- Implement the restoration priority list – and prepare for issues
- Communicate, communicate, communicate!!
- Data entry will be tedious, tiring, and labor intensive

# Finally…

- Some data may/not be reconcilable
- Some IT applications may/not become non-recoverable
  - More likely when they are not part of the planning and recovery effort
- Financial implications should be expected so record them – from the outset and work with insurance company to address
- Public messaging will be important all along – but what can be said and who should say it may not be as easy as you think
- Effective communications (not just the plan) is important

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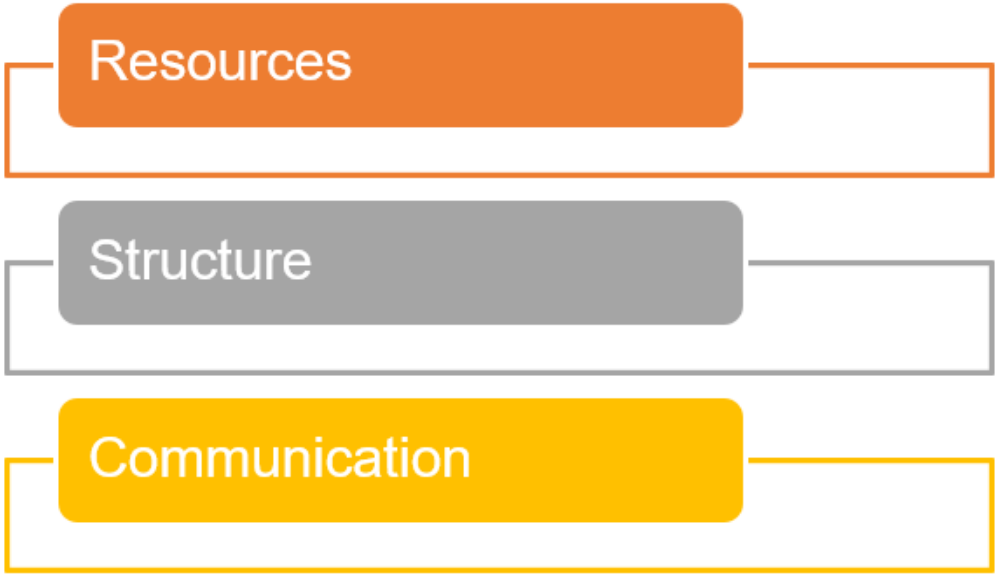
# Operational Perspective


**FEMA Emergency Management Cycle**

# Prepare - The Mindset

- The question is not “if” this will happen but “when”…
- Cyber hygiene is a patient safety goal

# Prepare - HICS Training



# Prepare - Resources

**ALL departments must have business continuity plans**

- Downtime preparedness checklist
- Systematic, on-going teams and preparedness processes
- Channels for approval and updates
- Drill, drill, drill

# Prepare

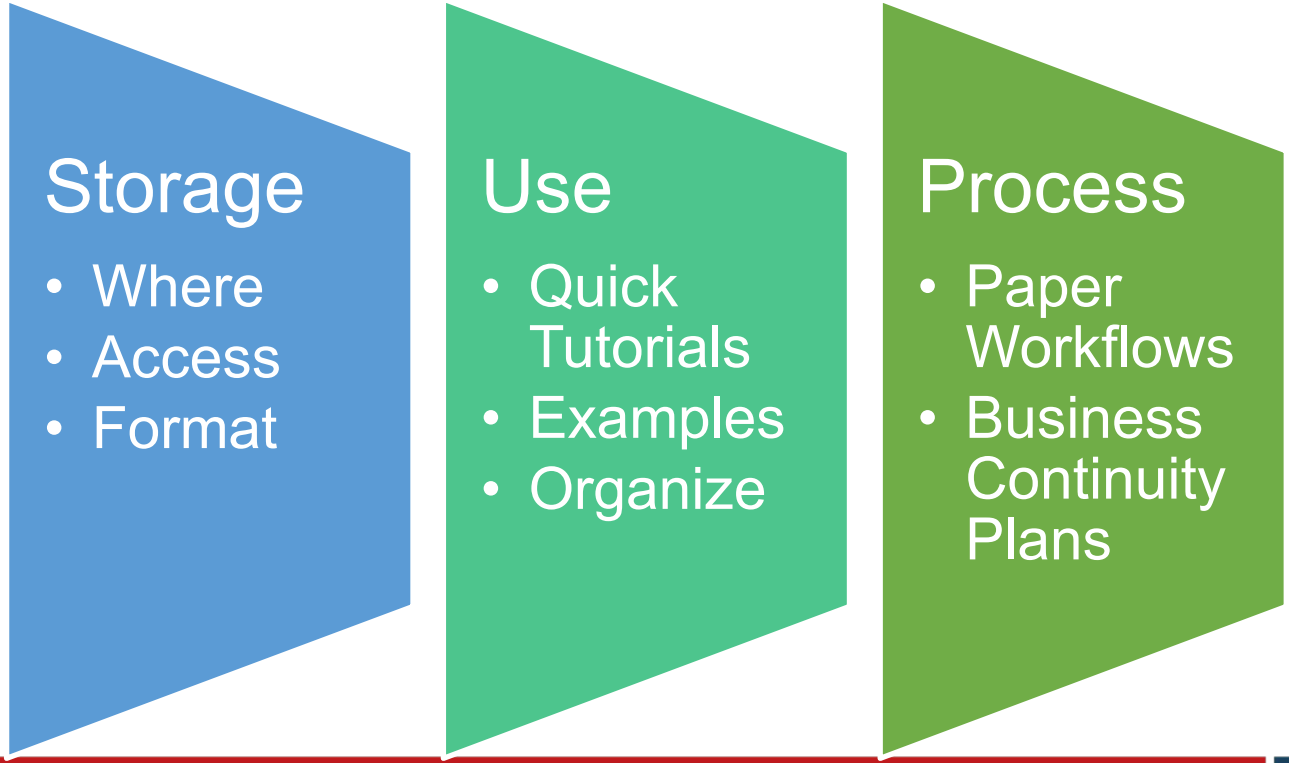
- ❑ Validate that your unit "Go Bags" are ready


**Unit "Go Bag" Contents:**

- ✓ Flashlights/Headlamps- check batteries
- ✓ White stickers with unit name on them (e.g., 6West) Unit evacuation plan
- ✓ Unit smoke compartment map
- ✓ Unit severe weather plan
- ✓ Unit fire/evacuation plan
- ✓ Both Severe Weather Checklists (Lead RN and RN-Clerk Tech-*need several copies)
- ✓ Pens, paper, clipboards
- ✓ Red, Yellow, Green arm bands (only use when you need to leave the floor via the stairwells)
- ✓ Unit supplies (e.g., masks, basins, tape, gloves, etc.)

- ❑ Review the checklists with Lead(s) & Staff
- ❑ Pull out the medsled and practice
- ❑ Check flashlights and headlights and CHANGE BATTERIES
- ❑ Participate in drill(s): Wed. March 28th – 1000 & 2000
- ❑ Provide feedback via electronic drill survey

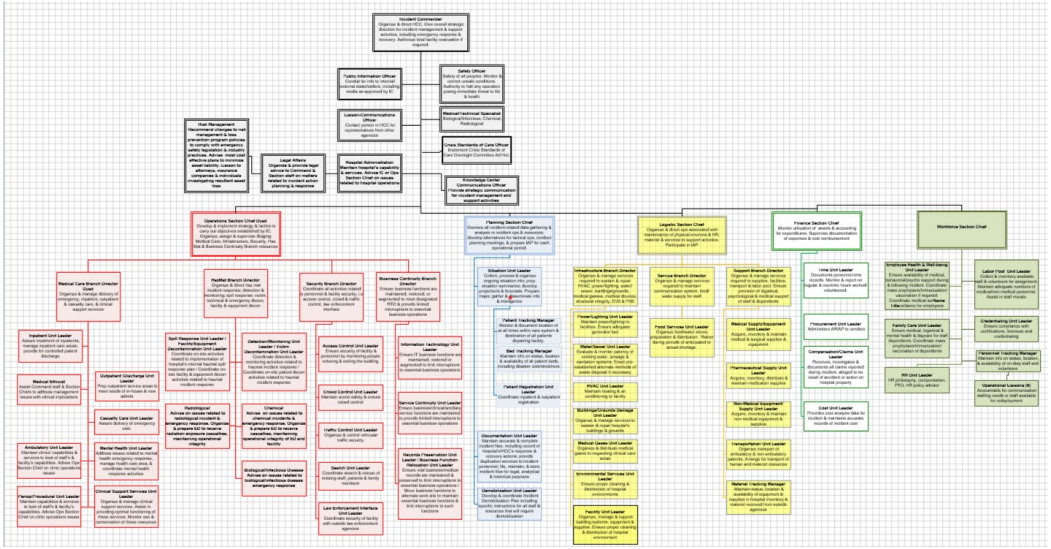
# Prepare - Forms



# Response - Implement

HICS

- Define critical services
  - Systems affected
  - Length of downtime
- Clinical Promising Practices – pg. 22



# Response - Implement

**Communicate, communicate, communicate!!**

- Consider informatics team to assist with translation of clinical/operational staff and IT staff
- Use structure to assist with internal messaging
- Assign specific resources to external communication

# Response - Workforce

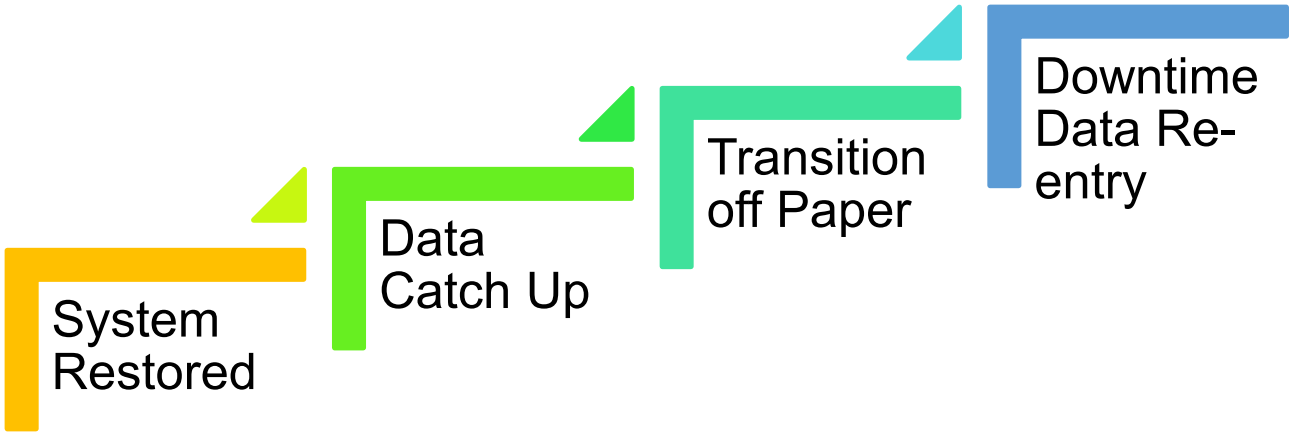
## All hands on deck

- Assign leaders with calm, cool approach
- Consider unit/department deployment for lab, pharmacy, coders
- At the elbow assistance on units
- Those who cannot work can be helpful elsewhere
  - Runners

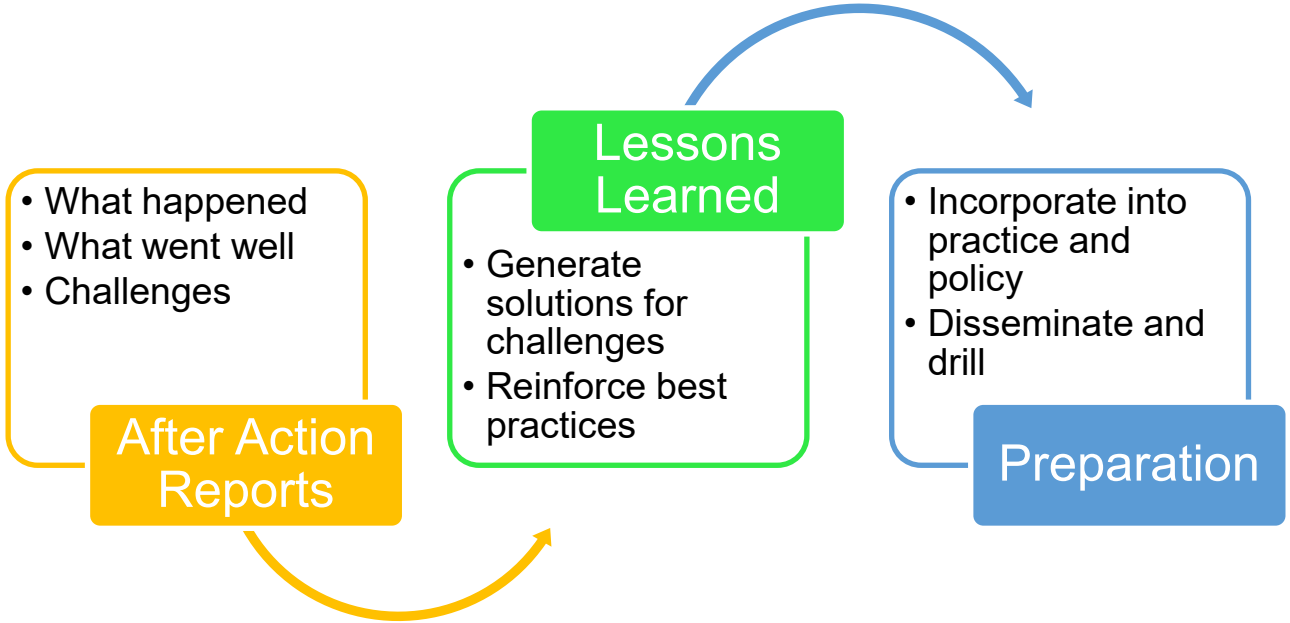
# Recovery

**Communicate, communicate, communicate!!**

- Marathon
- Dimmer Switch Approach



# Mitigation


• What happened
• What went well
• Challenges
After Action Reports
Lessons Learned
• Generate solutions for challenges
• Reinforce best practices
• Incorporate into practice and policy
• Disseminate and drill
Preparation

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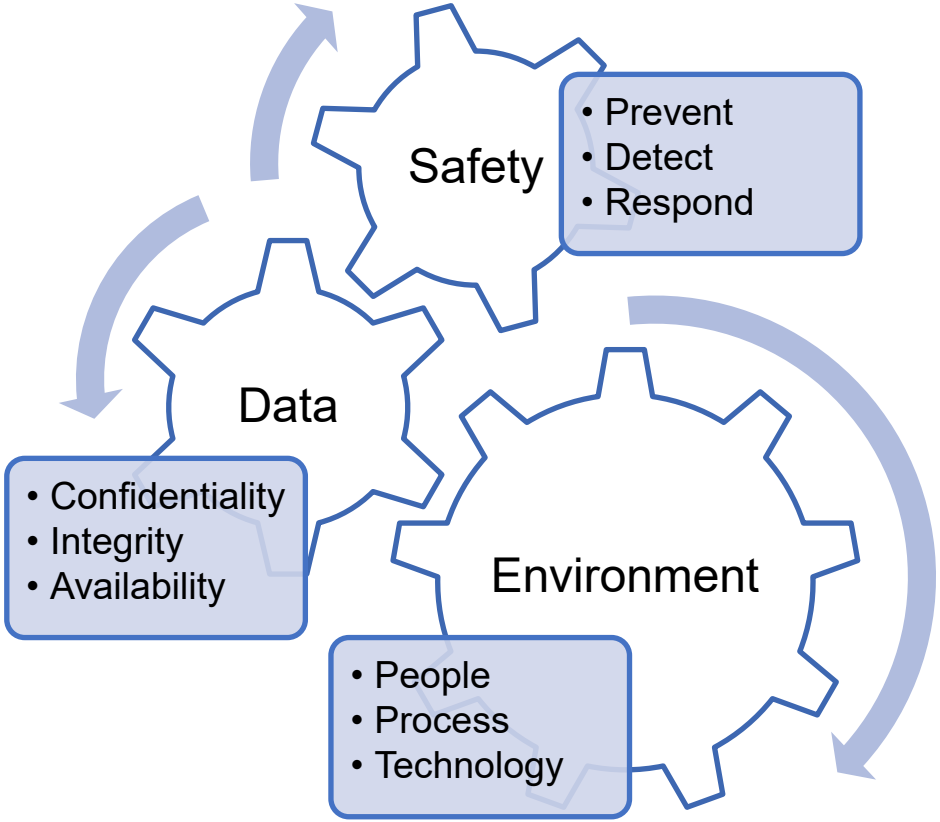
# Cyber Security – Not just an IT issue


Trust
Accountability
Empowerment


- Understand
- Know
- Learn
- Recover


Safety
• Prevent
• Detect
• Respond
Data
• Confidentiality
• Integrity
• Availability
Environment
• People
• Process
• Technology


SECURI
RECOVERY
RESILIENCE
CONTINGENCY
BUSINESS
OPERATE
PLANNING
INCIDENT
CONTINUITY
MANAGEMENT
ROCEDURES
RISK
ORGANIZATION
PLAN
PREPARATION
ANDARD
DISASTER

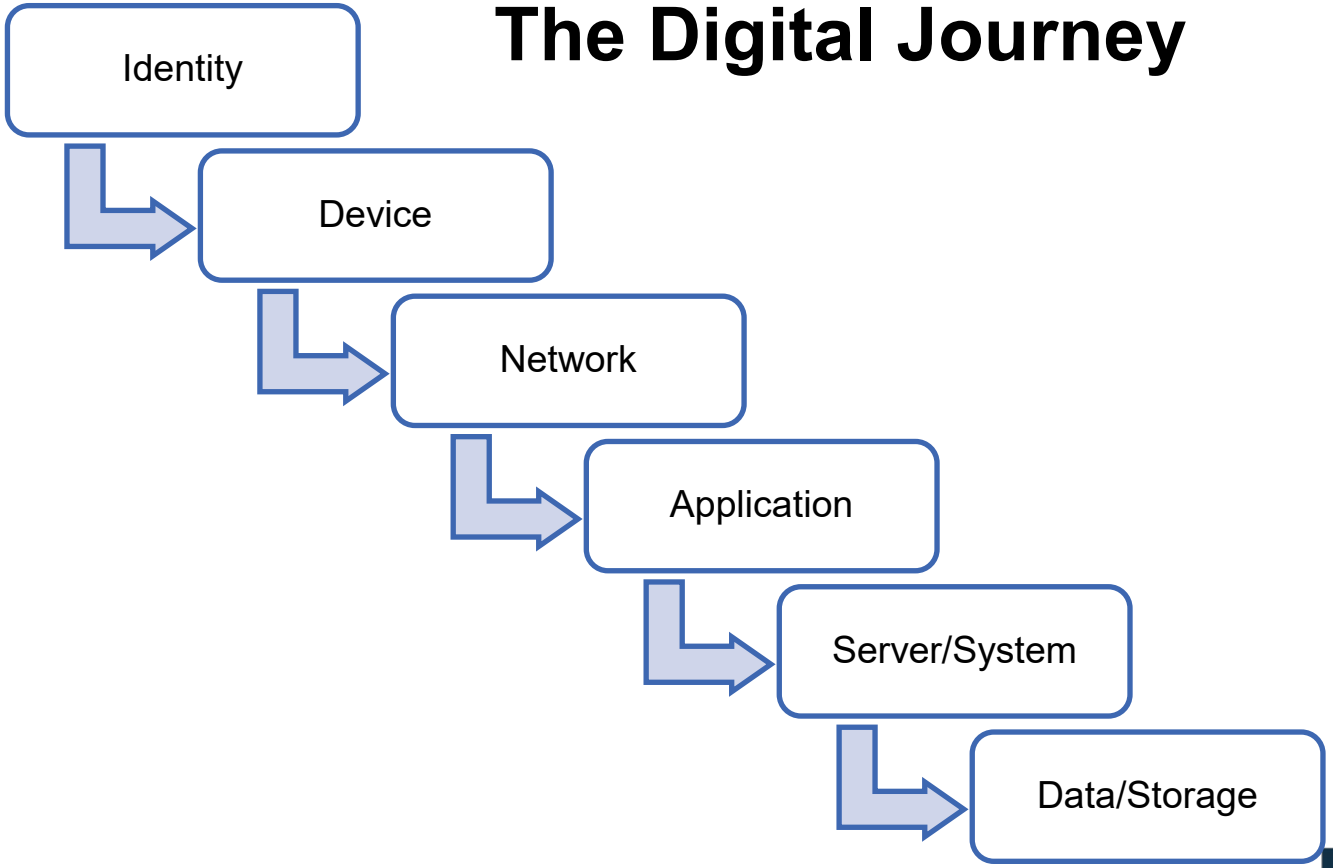
# How to Build Business Continuity

- Application/System Inventory & Interconnections
  - Know the technical & business owners
- Application Business Value Rating (ABVR)
- Drills/Exercises/Downtimes

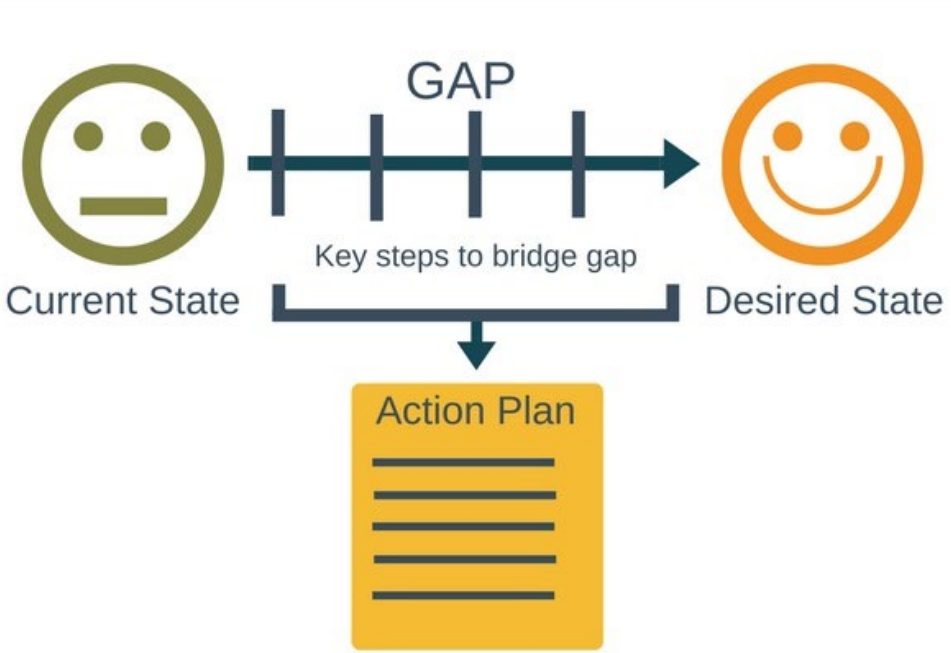
# How to Handle the Fire

- Protect
- Detect
- Suppress
- Contain
- Restore

# The Digital Journey



# Create the Gap Assessment



# Positive Outcomes

Safety

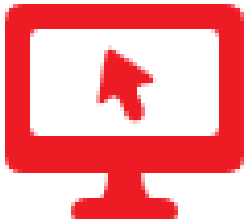
Business

Reputation

Board Of Directors

# Question & Answer

# Contact Us



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