MINNESOTA
IT SERVICES

# Securing Minnesota: A Plan to Fill the Gaps

Thomas Baden | Commissioner and Chief Information Officer

Aaron Call | Chief Information Security Officer

# We Operate in a Threat Laden World

# The Actors

## Fraudsters

**(Financial Gain)**

- ✓ Data theft
- ✓ Ransomware

## Hacktivists

**(Civil Disobedience)**

- ✓ Denial of service
- ✓ Data disclosure

## Nation States

**(Civil Unrest)**

- ✓ Data theft or destruction
- ✓ Denial of service
- ✓ Persistent infiltration

# Breach Lessons

| | |
|---|---|
| **75%** | Hacks perpetrated by external actors |
| **93%** | Web application compromises associated with organized crime |
| **43%** | Breaches involved attacks on users |
| **98%** | Systems compromised within minutes |
| **50%** | Victims notified by third party or law enforcement |

**More Threats**
**More Targeted**
**More Sophisticated**

*2017 Verizon DBIR (http://www.verizonenterprise.com/verizon-insights-lab/dbir/2017/)

# Securing Government is a Daunting Challenge

# Pain Points

### Historical Underinvestment

- ✓ 2% of total IT Spend
- ✓ Some agencies with no dedicated budget
- ✓ Lack of process maturity

### Decentralized IT Environments

- ✓ Overlapping Technologies
- ✓ Extremely costly to secure

### Outdated Business Systems

- ✓ Security Issues no longer fixed by vendors
- ✓ Cannot run on secure operating systems

# Building A Foundation for Success

# Cybersecurity Foundation

Service Delivery Model

Policies and Standards

Strategic Plan

# Strategic Plan

- ✓ 5 year aspirational vision
- ✓ 18 core strategies
- ✓ 1 year milestones
- ✓ Extensive vetting
- ✓ Annual updates

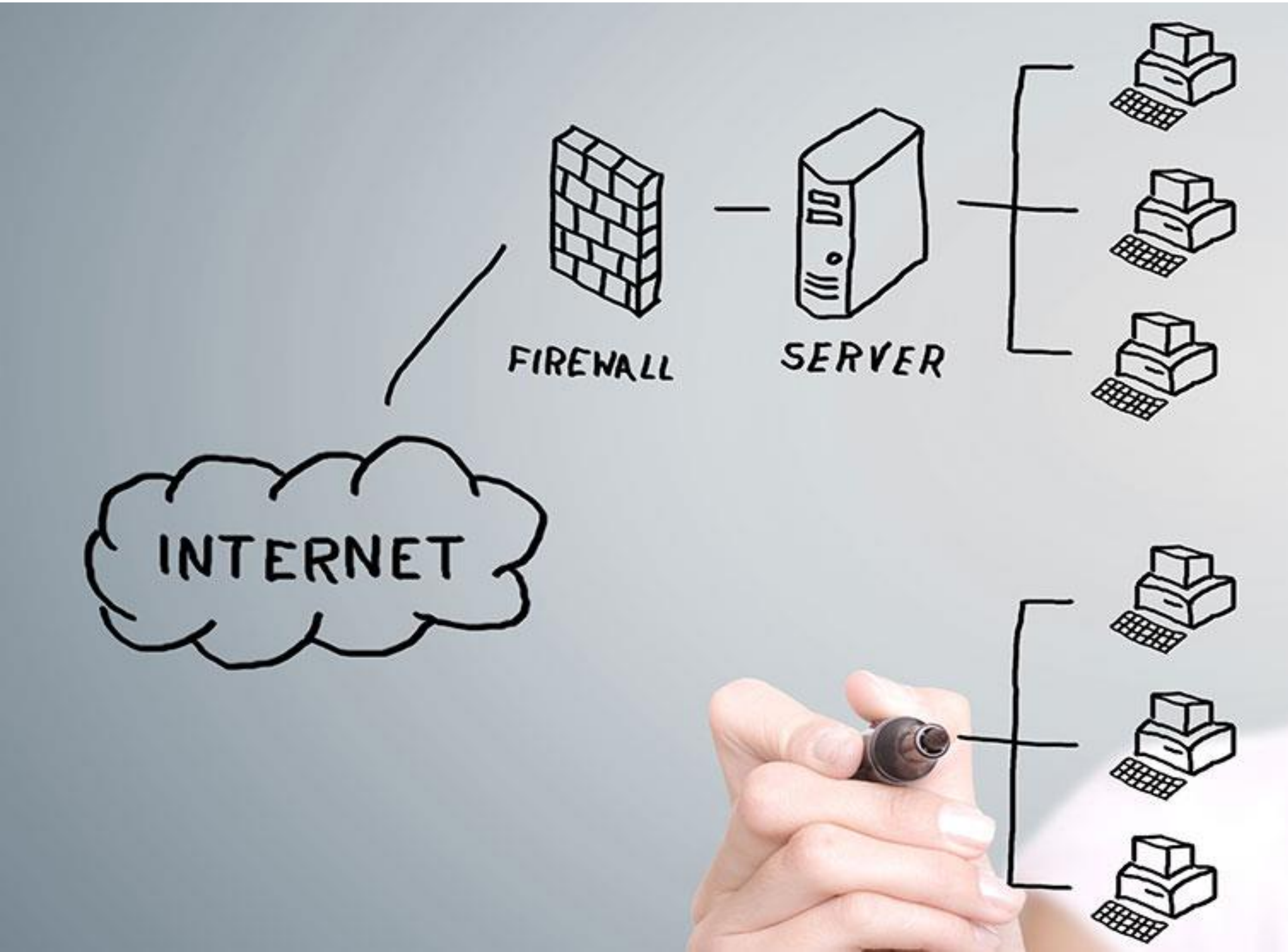
INFORMATION SECURITY STRATEGIC PLAN

AUGUST 2017

MINNESOTA IT SERVICES

# Theme #1: **Build Secure Systems**

# Security Engineering



- ✓ Integrated system development
- ✓ Specialized security tools
- ✓ System security plans
- ✓ Risk communication

# Secure Datacenters

- ✓ 24*7*365 staffing
- ✓ Physical security
- ✓ Consistent and frequent patching
- ✓ Enterprise security program tools and processes

# Secure Network

- ✓ Advanced monitoring tools
- ✓ Strong perimeter protection
- ✓ Data loss prevention

# Theme #2: **Improve Situational Awareness**

# Risk Management

- ✓ Ongoing application risk assessments
- ✓ Cybersecurity risk scorecards
- ✓ Cybersecurity insurance

# Training

- ✓ General awareness training
- ✓ Targeted training
- ✓ Executive awareness

# Theme #3: **Minimize Operational Risk**

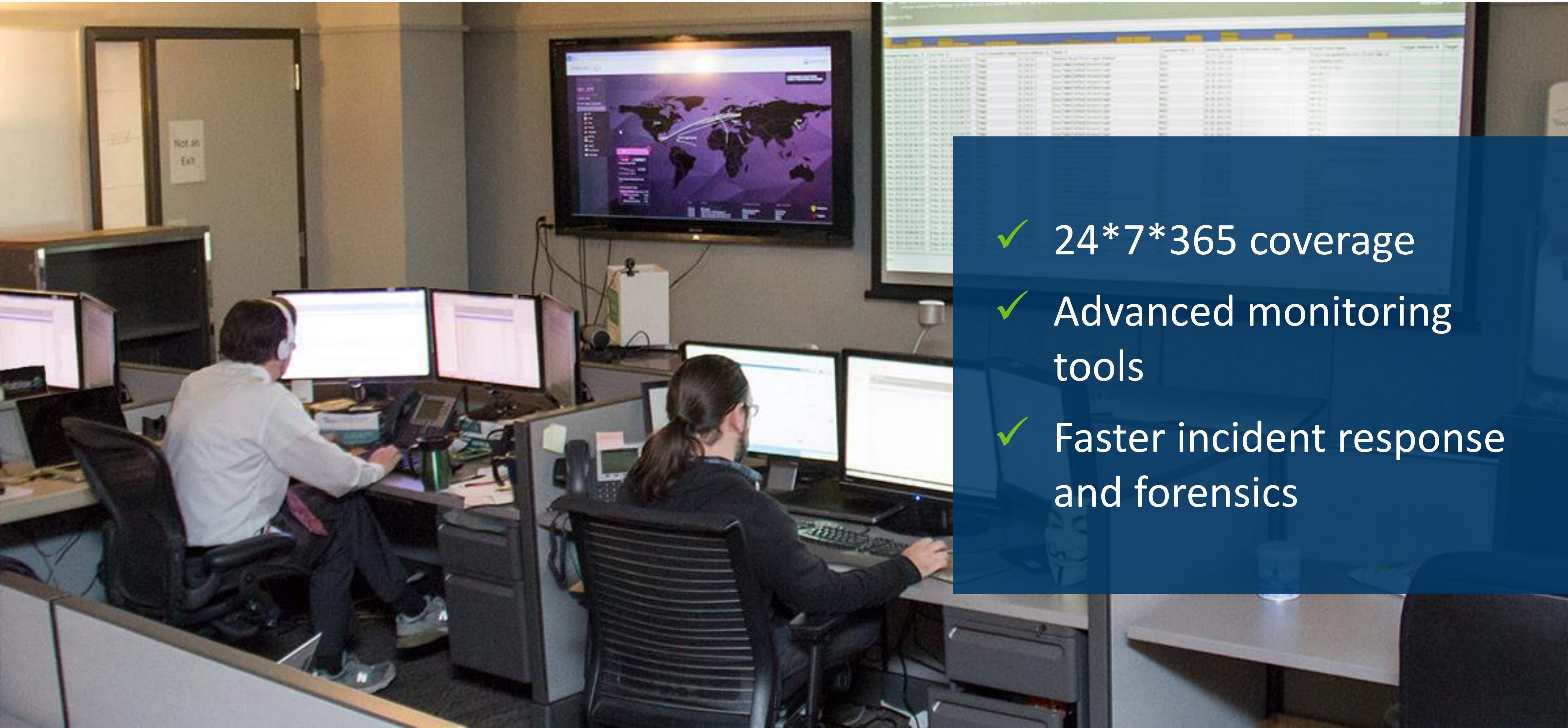
# Denial of Service

- ✓ Streamline mitigation processes
- ✓ Prepare for massive attacks

# Vulnerability Management

- ✓ Find exploitable vulnerabilities faster
- ✓ Reduce time to remediate issues

# Monitoring



- ✓ 24*7*365 coverage
- ✓ Advanced monitoring tools
- ✓ Faster incident response and forensics

# Disaster Recovery

- ✓ Testable recovery strategies
- ✓ Exercise viability of plans

# Theme #4: **Foster Strategic Partnerships**

# Threat Intelligence

- ✓ More intelligence feeds
- ✓ Local government coordination

MS-ISAC

MULTI-STATE
Information Sharing
& Analysis Center™

iSIGHTPARTNERS℠
Security beyond the edge℠

DEPARTMENT OF PUBLIC SAFETY
STATE OF MINNESOTA

Minnesota
BCA
Bureau of Criminal Apprehension

Minnesota
Fusion Center

# Talent

- ✓ College talent feeder program
- ✓ Scholarship for Service

# Gaps in the Foundation

# Strategic Plan

- ✓ 104 total outcomes
- ✓ 60 cannot be addressed, 12 of which are high risk

| Previous Initiative | FY18 | Ongoing |
|---|---|---|
| Enterprise Security Program | $8.04M | $4.78M |

# Secure Datacenters

- ✓ Progress to reduce number of legacy datacenters hampered by lack of seed capital
- ✓ Complete transition may take 5 years or longer at current pace

| Previous Initiative | FY18 | Ongoing |
|---|---|---|
| Data Center Consolidation | $14.1M | $0 |

# Outdated Business Systems

- ✓ System upgrade Initiatives in all budget bills
- ✓ Only a small percentage of initiatives funded
- ✓ Legacy technology security issues will continue to get worse

We are all part of the cybersecurity risk equation. MNIT needs policymaker support to protect citizens' data and ensure the continued availability of critical government services.

MINNESOTA
IT SERVICES

# Thank you!

Thomas.Baden@state.mn.us

Aaron.Call@state.mn.us