Presents

Pragmatic Database Security: Security Program Development

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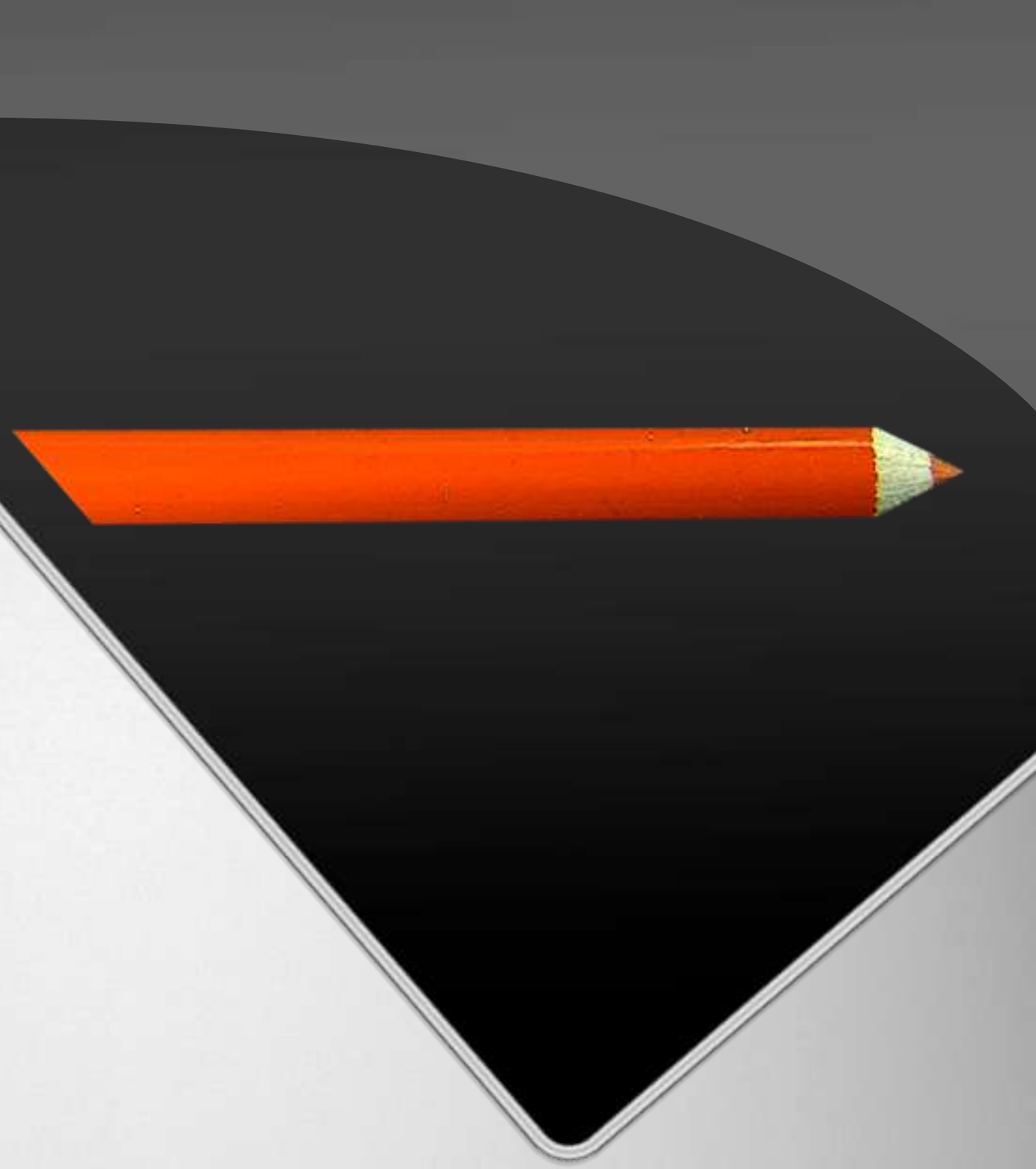
Outline

- Problem Space
- Use Cases
- Program Outline
- Recommendations



How do I create a database security program?

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- All security is reactive
- When someone complains
- Squeaky wheels -- reduce security
- Head’s down, silo-ed approach
  - DBA’s, security, operations and audit all have different priorities
- When you fail an audit

When working without a plan …

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Use Case: Large Financial

- Many different types of databases
- Management segregated by database type/geography
- DBA in charge of security
- Security group understands security
- The two groups don’t talk
- Security expectations not consistent
- No configuration standard

Use Case: Mid-sized Enterprise

- We know that we're under attack
- Hackers? Crazy foreign governments? Does it matter?
- They are after the data

- ISP gave us PCI checklist
- Don’t understand requirements
- Said our databases were vulnerable
- DBA says we are patched

Use Case: Small Enterprise

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Use Case: Large Health Care

- Many different types of databases
- HUGE data volumes.
- Do security tools scale?
- How do we set configuration standards across groups/systems?
- How do we tell which users are accessing data?

Trouble is most firms do not have policies, procedures or defined responsibilities

- What do you have?
- What are you accountable for?
- What do you not know?
- Chicken or the Egg:
  Monitoring vs. Assessment

Where do I start?

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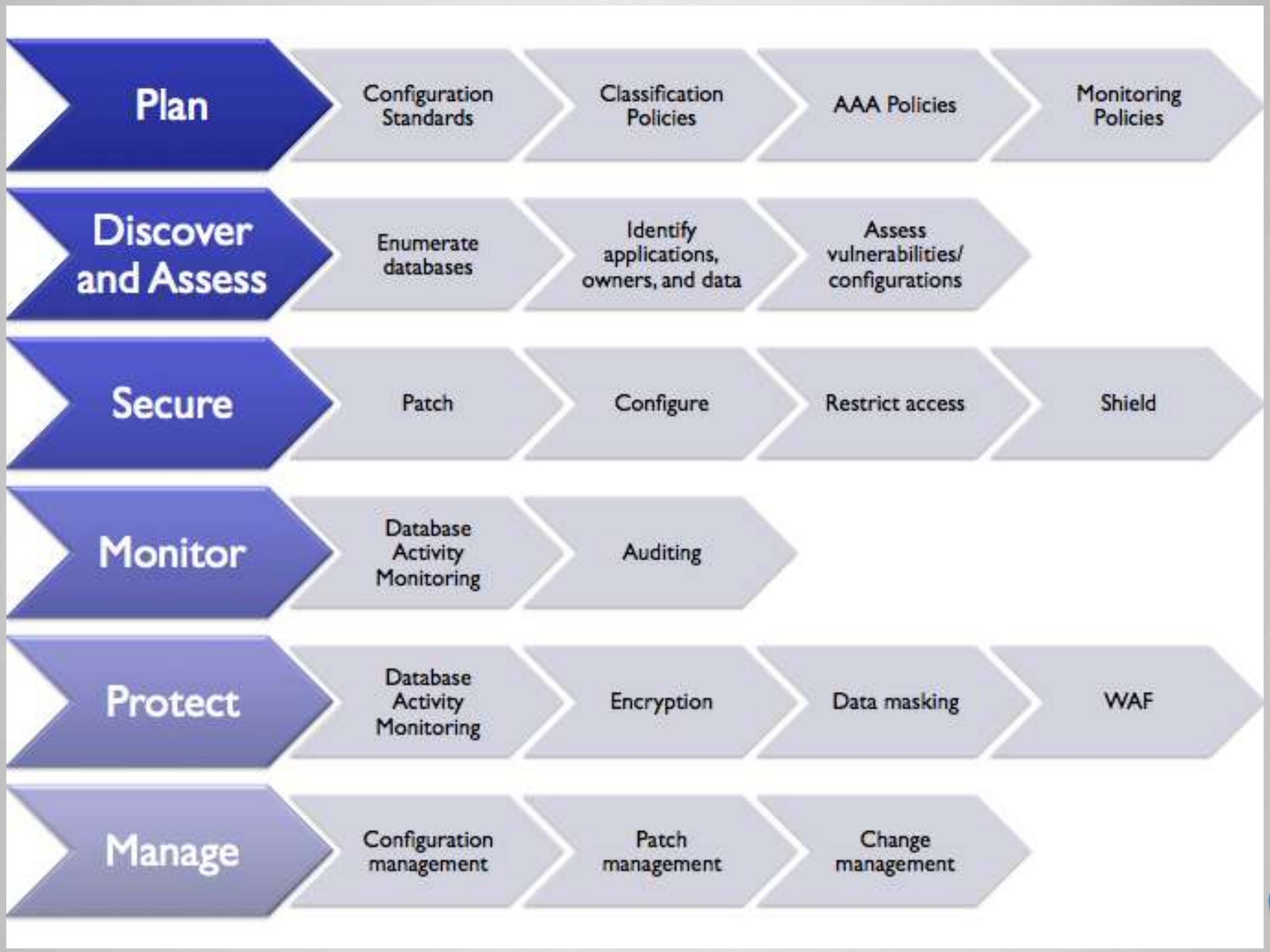
Database Security Program



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*Which is **not** a pragmatic way to start*

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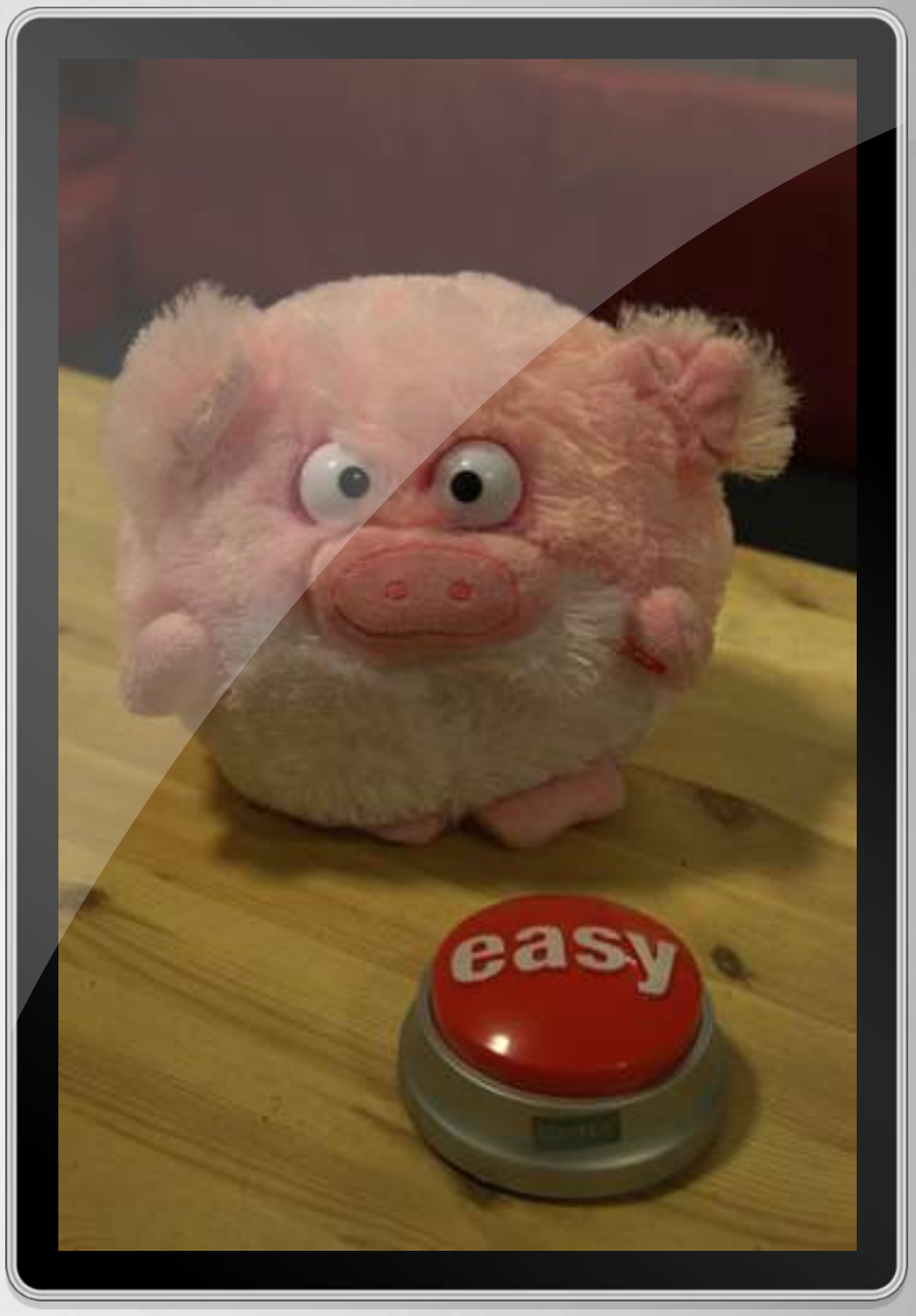
- Do what's cheap and easy first
- Find some tools:
  - Assessment
  - Discovery
  - Monitoring
- Discover what you have
- Then figure out what to do



Let's make this easier …

Find some tools ...
Discover what you have ...
Determine what you need to do.

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- Database discovery
- Data discovery
- Assessment
- Monitoring

What tools are at your disposal?

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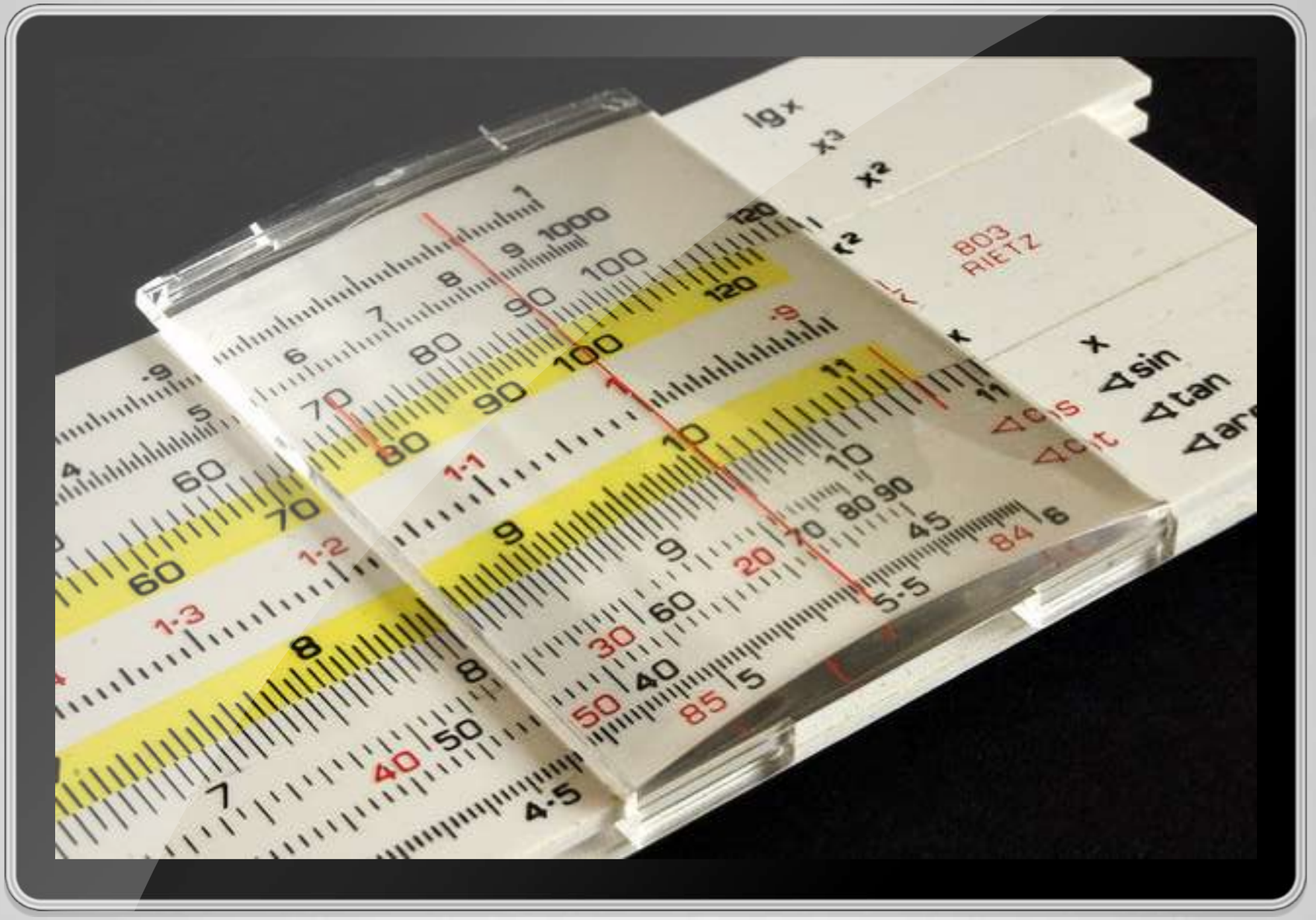

Assessment

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Assessment tools provide:

- Configuration assessment
- Patch assessment
- Data & database discovery
- Catalog features
- Advise on security best practices
- Usually show roles/permissions

- What queries?
- What applications?
- What are users doing?
- What's failing?

Monitoring

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- Which users have access
- User permissions
- Group account access
- Roles
- Admin account setup
- SOD: platform vs. database
- Public access

Identity Management

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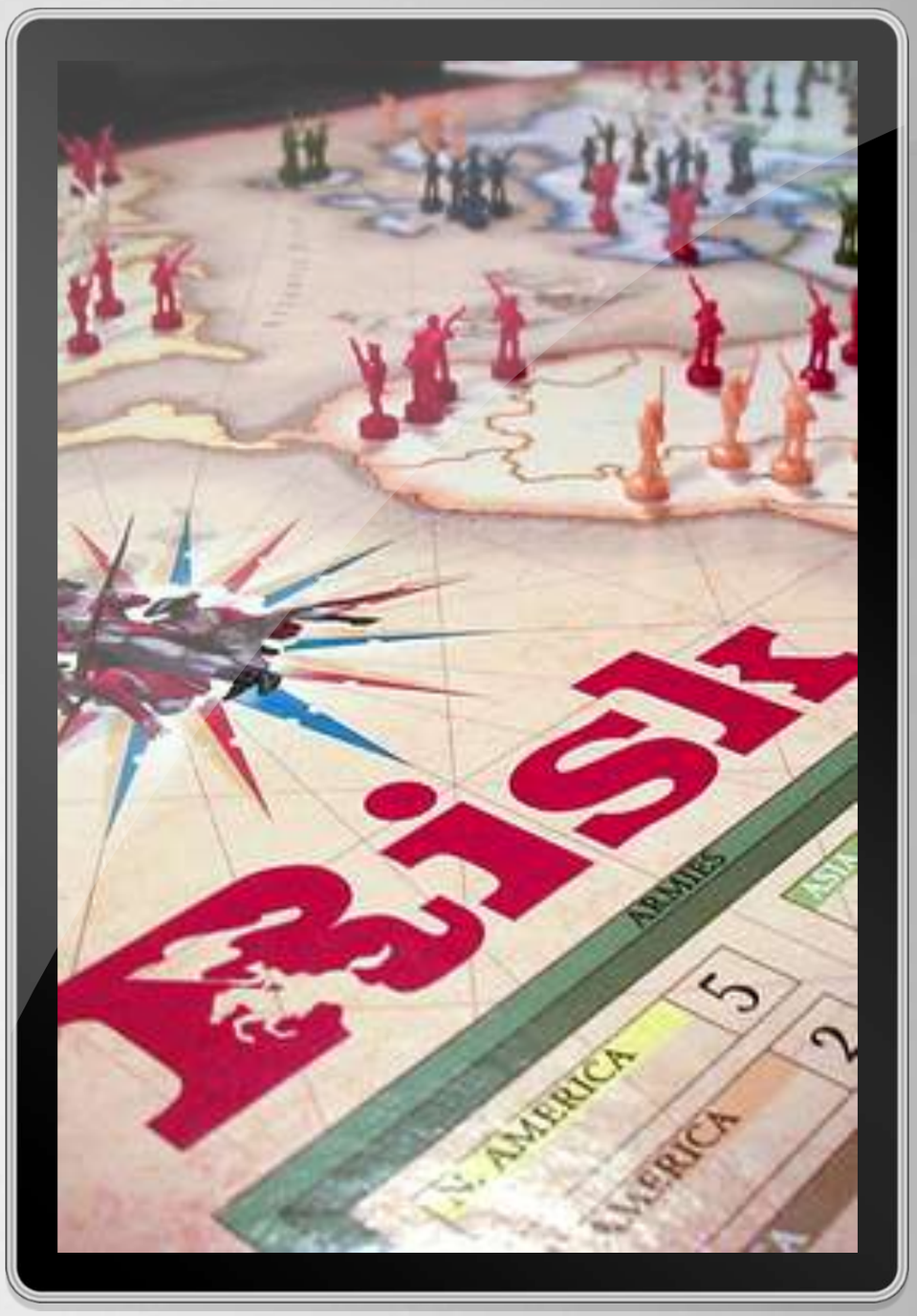
Now that you know what you have, it's time to determine what to fix.

- Answer these questions:
  - What are the security requirements?
  - What are the compliance requirements?
  - What’s the distance between where we are and where we need to be?



What is your “Risk”

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Planning Process

Prepare

- Determine security & compliance requirements.
- Identify tools
- Get access
- Automate!

Discover

- What databases do you have?
- What data do they contain?
- What's sensitive?

Assess

- How are databases configured?
- How are they patched?
- User Access Rights?
- SOD?

Monitor

- How do users use the database?
- What applications are supported?

Document & Analyze

- What did you find?
- Select remediation steps

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The tools you used to discover and plan are the same one's you'll use to implement policies.

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Recommendations

Your success depends on your ability to prioritize

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Plan For:

Identity and Access

Monitoring

Metrics

Compliance

Encryption

Assessment

Threat Modeling

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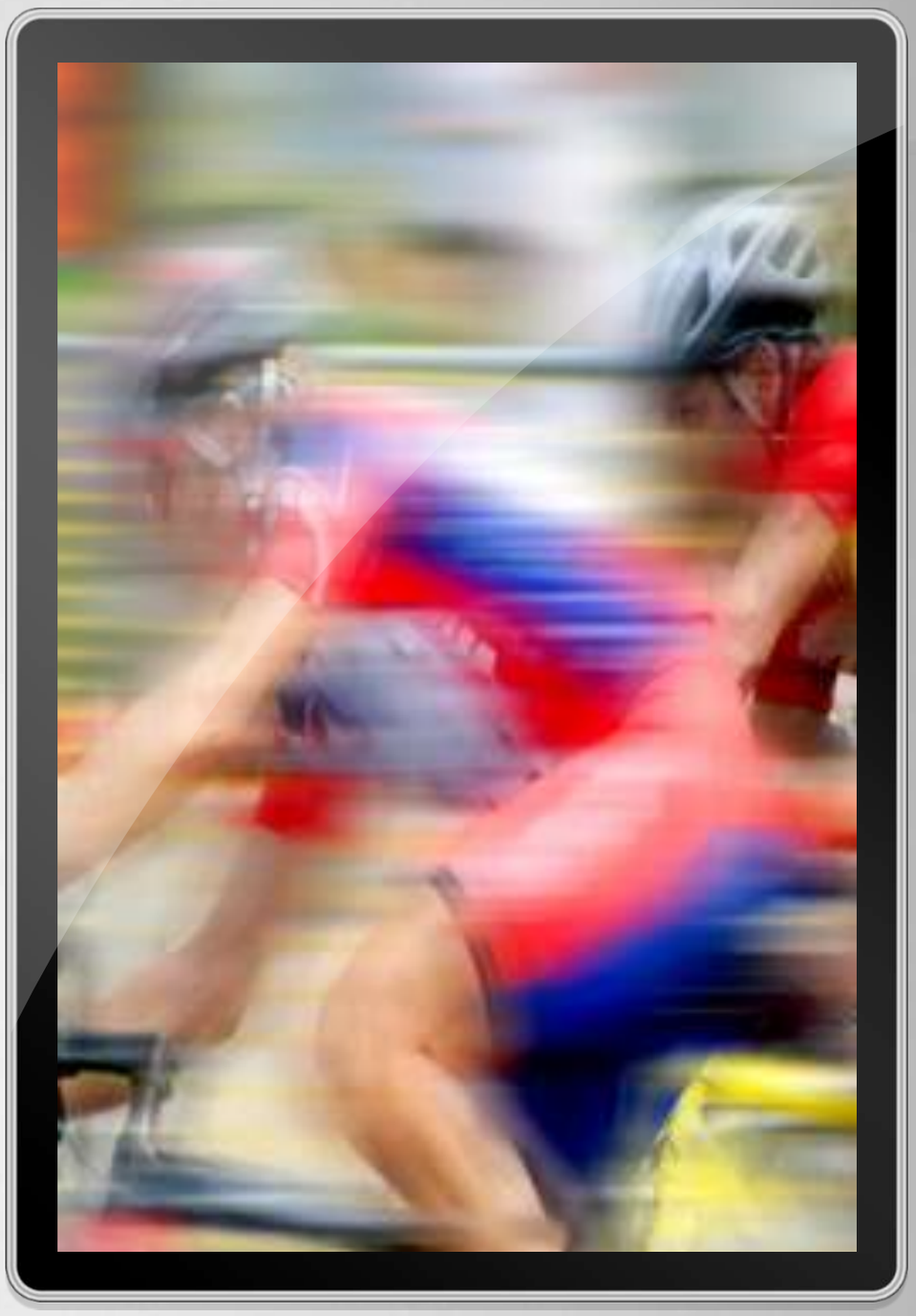
- Your data center is always changing, and thus your risk is always changing.
- Iterative process
- Those changes impact the security posture, and thus the risk faced by an organization.
- Change is happening faster than ever.



Constant Change

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Operations, Security and Compliance need to be aligned

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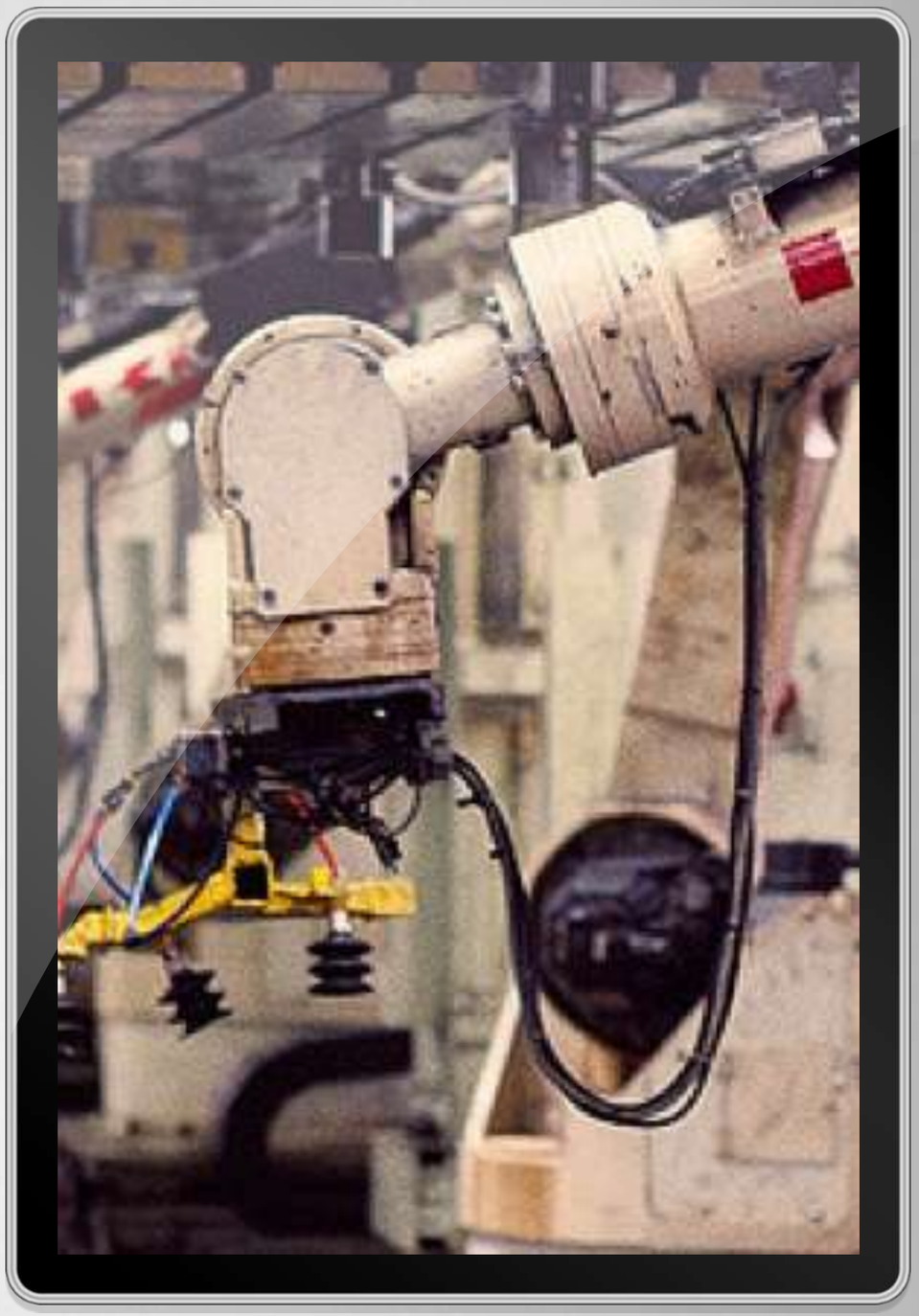
- You will need to continuously monitor and audit.
- You cannot keep pace with changes w/o help.
- You're not a security researcher.



Automate!

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- Do what’s cheap and easy first
- Show value of:
  - Assessment
  - Discovery
  - Monitoring
- Once you get executive buy-in, things get easier.
- That means budget and help

Start with quick wins!

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