



IT Shared
Service

SITAC Meeting

December 19, 2017

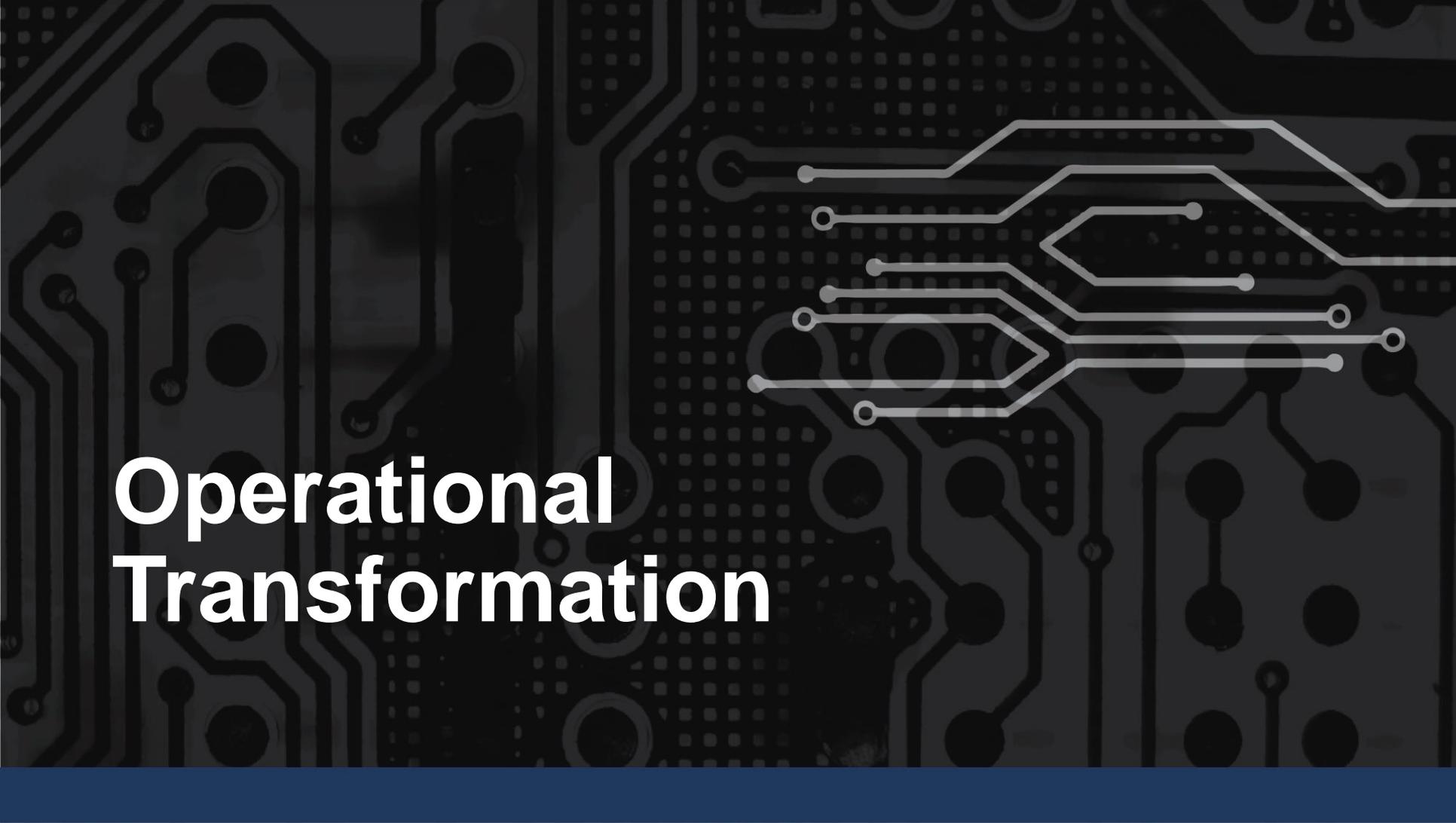
Pioneer Room, State Capitol



Agenda

Welcome/Opening Comments	Shawn Riley
Operational Assessment	Shawn Riley
Unification/Shared Service	Shawn Riley
Cybersecurity	Shawn Riley
Open Discussion/Closing Comments	Shawn Riley





Operational Transformation

Why are we completing these assessments, what is the methodology, and what are the goals?



IT STRATEGY PILLARS

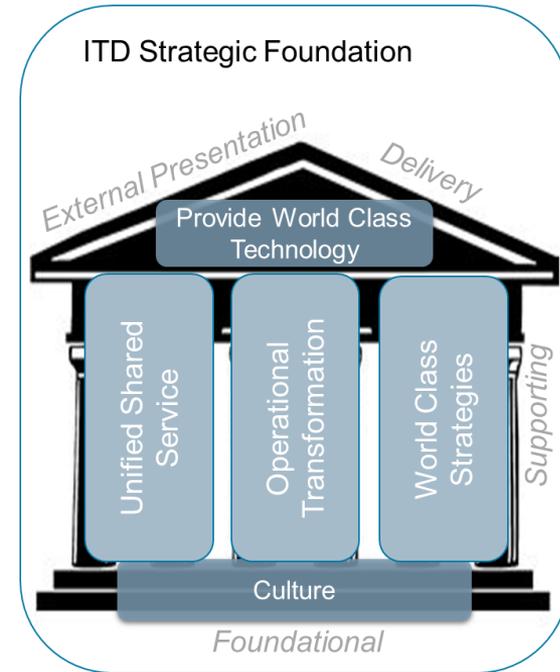
ND IT is striving to deliver World Class IT services

The IT Strategic Pillars are:

- 1) Unified Shared Service (Unification)
 - Enables **Alignment**
- 2) Operational Transformation
 - Enables **Efficiency**
- 3) World Class Strategies
 - Enables **Delivery**

To help ensure success, IT will need to enhance their Culture

Pulling all the components together will allow IT to Provide World Class Technology & Services



Why are we performing these assessments?

This assessment is being conducted to ensure that the services provided by the IT organization are performed in an optimum manner.

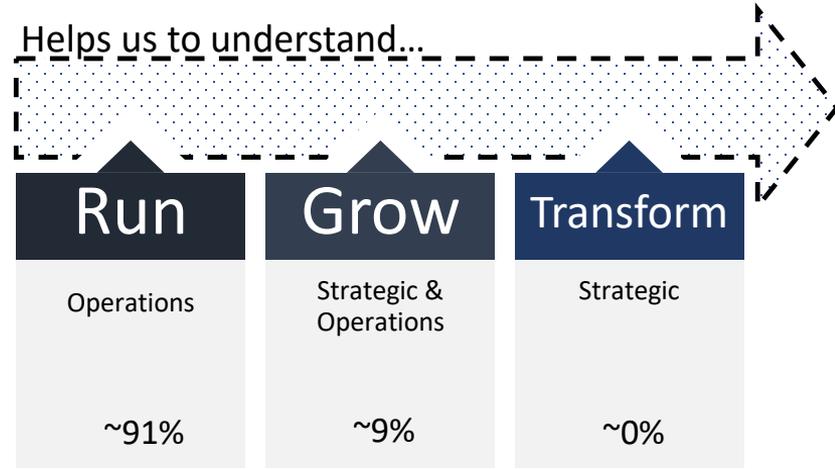
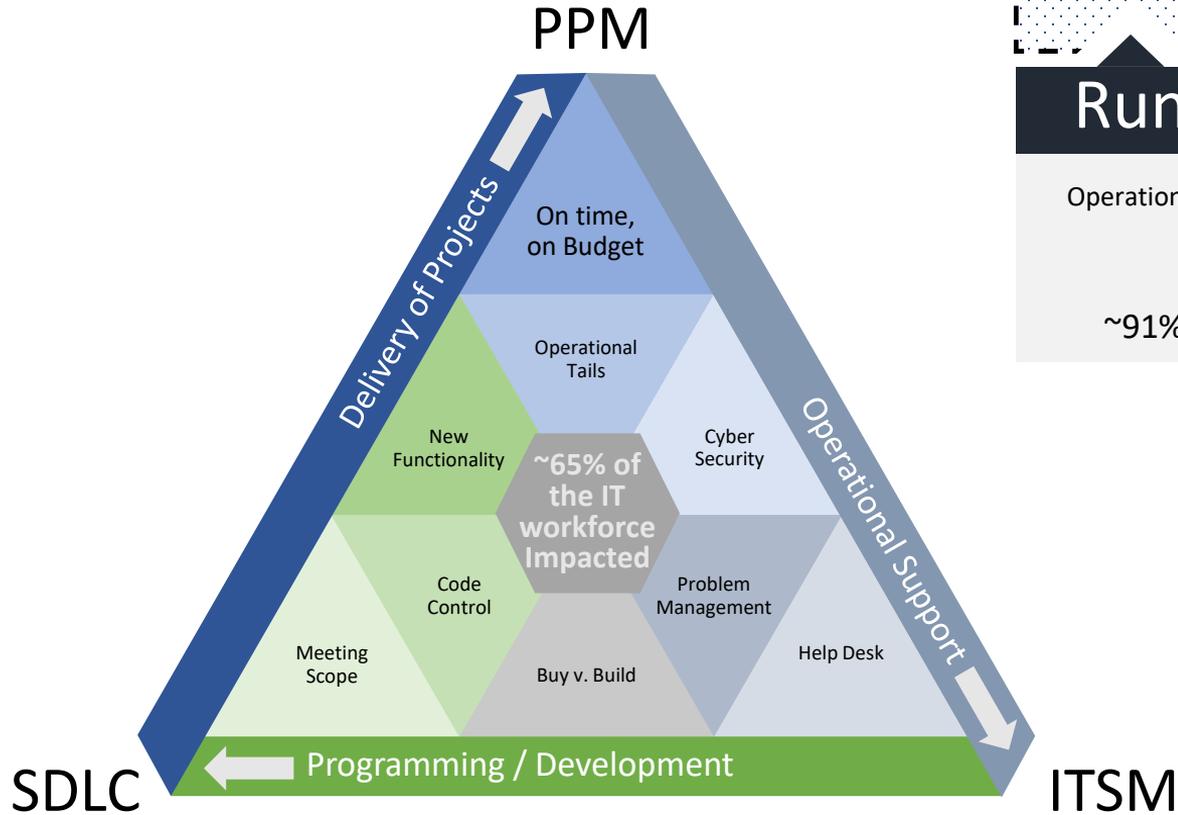
The assessment measures how consistent the IT organization's processes are with best practices in the industry. The measurement creates a baseline against which to measure future performance.

Initial areas included in the assessment are:

1. General – how is IT performing overall, general findings and observations
2. ITSM – IT Service Management
3. SDLC – Software Development Lifecycle Management
4. EPMO – Enterprise Project Management Office

*These are the first assessments of many possible areas

Why start in these areas?

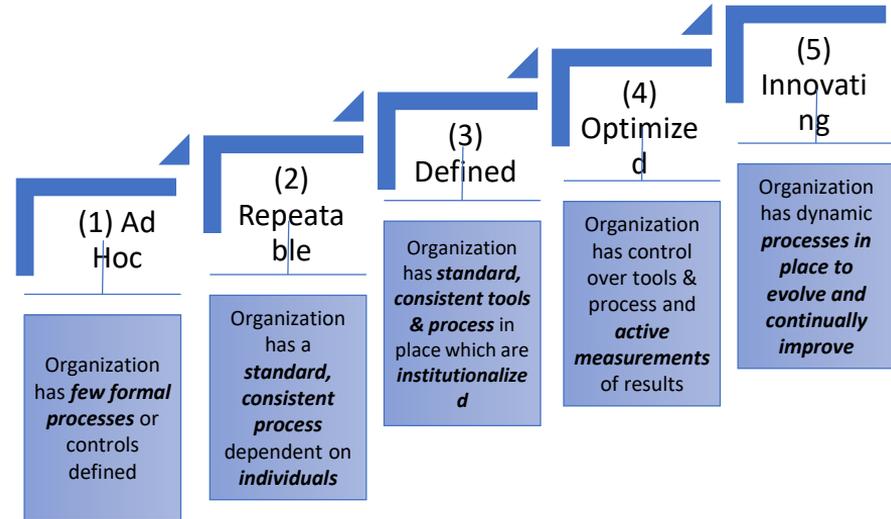


We can create greater value across IT by moving from run to grow & transform

Goals of this assessment

Utilizing the Capability Maturity Model Standard Assessment Framework:

- Conduct an unbiased assessment as to what the current maturity ratings are by capability and phase
 - Summarization of where IT is today, remaining gaps and why, and recommendations for improvement
 - Establish a maturity baseline so that focus can be made in identified areas and future measurements can be made to show progress in specific areas
 - Report based on general area of findings
-
- The desired outcome is to provide recommendations to move the organization in a planned and positive direction



ASSESSMENT METHODOLOGY

DISCOVERY

INTERVIEWS + SURVEY + DOCUMENTATION REVIEW



10 Individual, 25 Group



RECOMMENDATIONS

- ✓ IT perceptions about IT
- ✓ Business perceptions about IT
- ✓ Strengths
- ✓ Gaps
- ✓ Maturity
- ✓ Recommended Roadmap



Presentation

ANALYSIS

FINDINGS

Themes
-- Strategy & Business Alignment
-- Organization & People
-- Demand and Governance

VALIDATION / FOLLOW-UP

- ✓ What we heard
- ✓ Does it resonate
- ✓ Additional verification?



What did we
learn?



Opportunities & Observations

- 57 initiatives identified to improve IT effectiveness across the 3 primary assessment areas
- 26 priority recommendations
- IT is highly built on heroics – which is admirable, but not scalable
- Lots of opportunities for improvement
- Full assessment (77 pages) has been made available

GENERAL

Funding Model is shaping poor behavior

Unification will have an impact but it is unknown at this point

Very limited Demand Management Visibility

Work is not being done at the optimum level

CULTURE

People enjoy being part of ITD

Colocation in new building significantly improved collaboration across IT

Silos still exist

Fear and worry about Unification

PPM – 1.50

Documented Process – Not Followed by All

Mandated for large Projects

Resource conflicts between PMO and Development teams

ITSM – 1.1

Processes are very immature – rely on people and heroics

Single points of support failure

Lack of training hampers effective use of processes

Missing Opportunity for increased FLR

SDLC – 1.52

Waterfall based - rigid with significant overhead

Testing is inconsistently applied / QA group overwhelmed

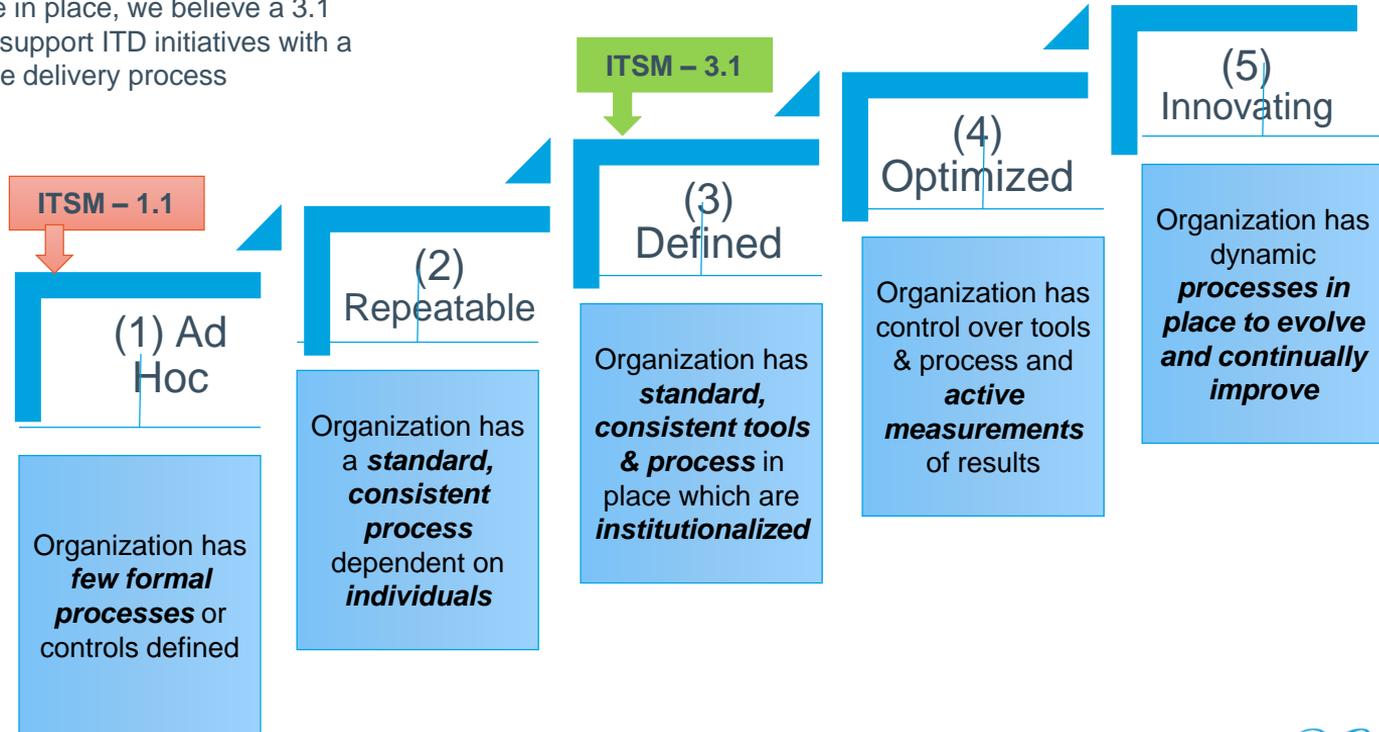
No consistent production turnover

Metrics are sparse

Architecture collaboration

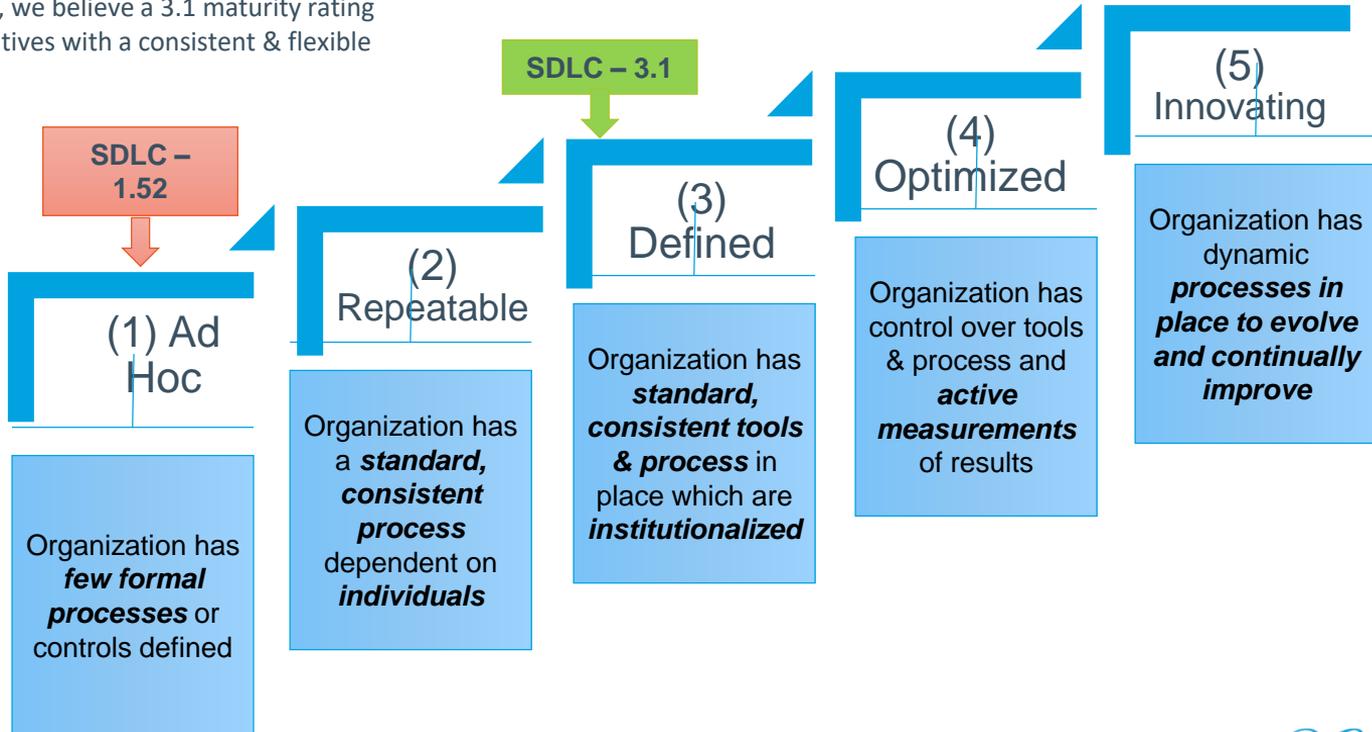
ITSM MATURITY RATINGS

Based on what Aeritae understands of the ITD vision and baseline in place, we believe a 3.1 maturity rating will support ITD initiatives with a consistent & flexible delivery process



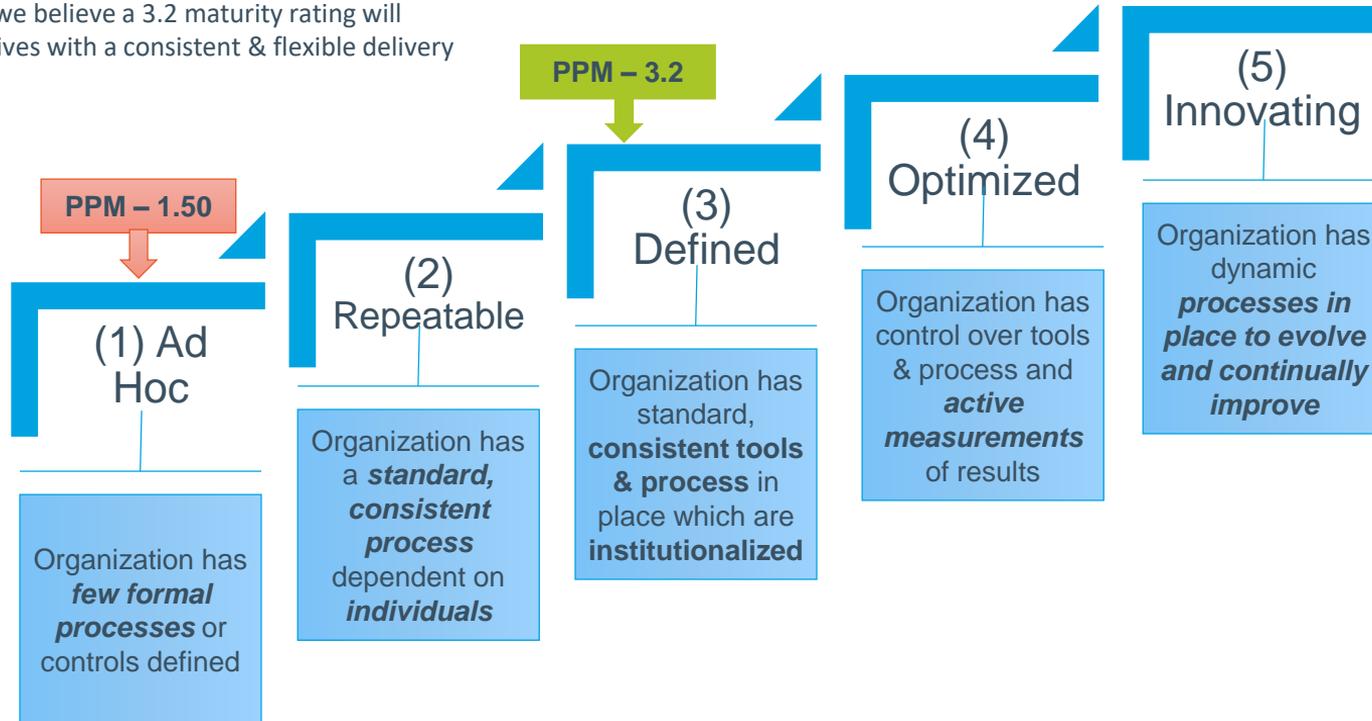
SDLC MATURITY RATINGS

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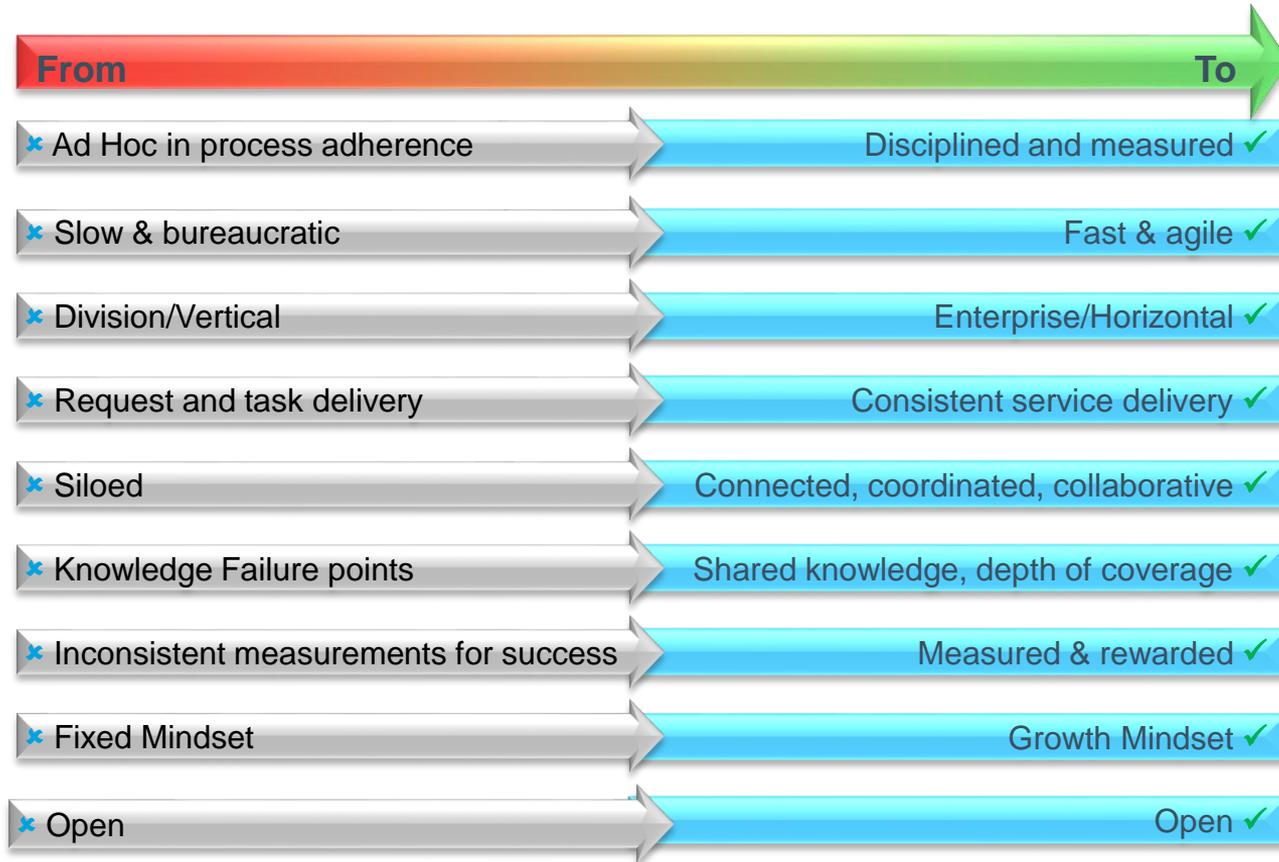


IT PPM MATURITY RATING DEFINITIONS

Based on what Aeritae understands of the ITD vision and baseline in place, we believe a 3.2 maturity rating will support ITD initiatives with a consistent & flexible delivery process



CULTURE ROADMAP



World Class IT

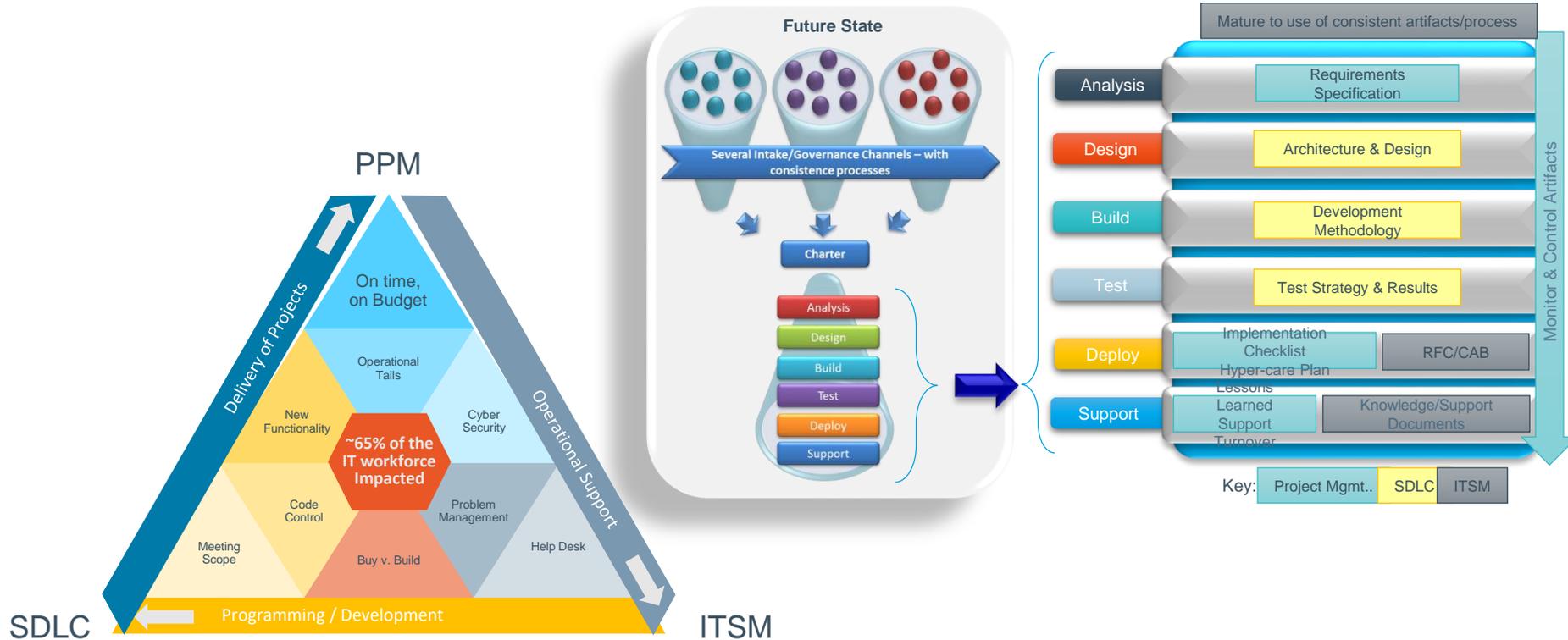
- Business fully understands IT
- Culture of continuous improvement with metrics
- Deep business understanding by IT
- Differentiated by Automation enterprise wide
- IT continuously evaluates to leverage partners
- Excellence in Customer Sat
- Known for talented and engaged employees

Next Steps



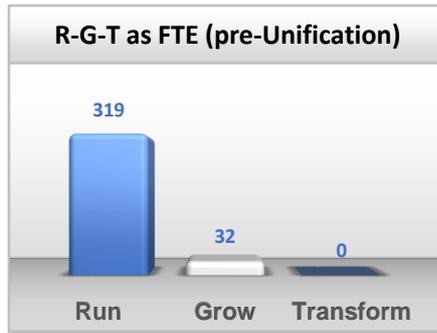
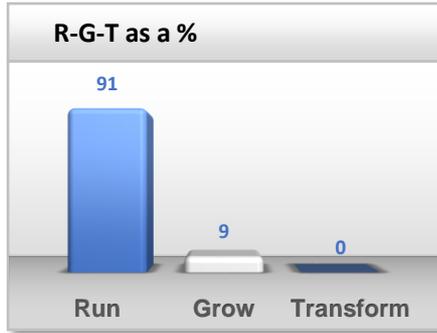
UNIFY PROJECT MANAGEMENT, SLDC AND ITSM

To achieve the Future State, IT must mature to consistent usage of the *Project Management -AND- the SDLC -AND- the ITSM* artifacts/processes

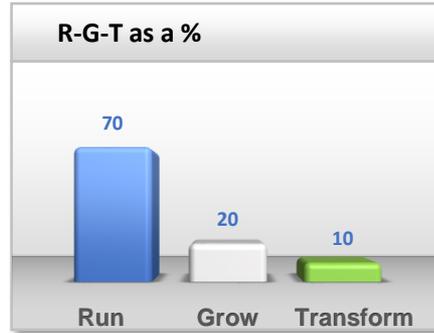


Run Grow Transform Opportunity

Current



Mid-Term Goal



World Class



ZERO decrease in overall FTE, but significantly improved operations (moving away from heroics and towards process and automation enhancement) frees large resources to take on grow and transform

Taking Action

- 10 initiatives currently at the front of the list to kickoff immediately
 - All 50+ will be undertaken in time
 - Top 10 take into consideration and prioritized on:
 - Impact on Unification
 - Impact on Run, Grow, Transfer percentages
 - Impact on strategic pillars (State of ND, IT, etc)
 - Impact on service (both positive and negative)
 - Resource availability
- Timeline
 - 18-24 month range for ~24 of the initiatives
- Challenges
 - Dependencies on Unification – we don't want to change the process multiple times
 - Must change operations in order to have resources to change operations
- Next Assessment: Cyber Security

Initiatives



Leading 10

ITSM

- Major Incident Process
- Knowledge & Config Management
- Incident Management Redesign

SDLC

- Move development to Dev-PaaS
- Develop in a bi-modal model
- Automate build/deploy activities

PPM

- Deploy Program and Portfolio Management
- Management in a bi-modal model
- Deploy PM-light processes

Overall

- Develop a Growth Mindset / Servant Leadership Culture

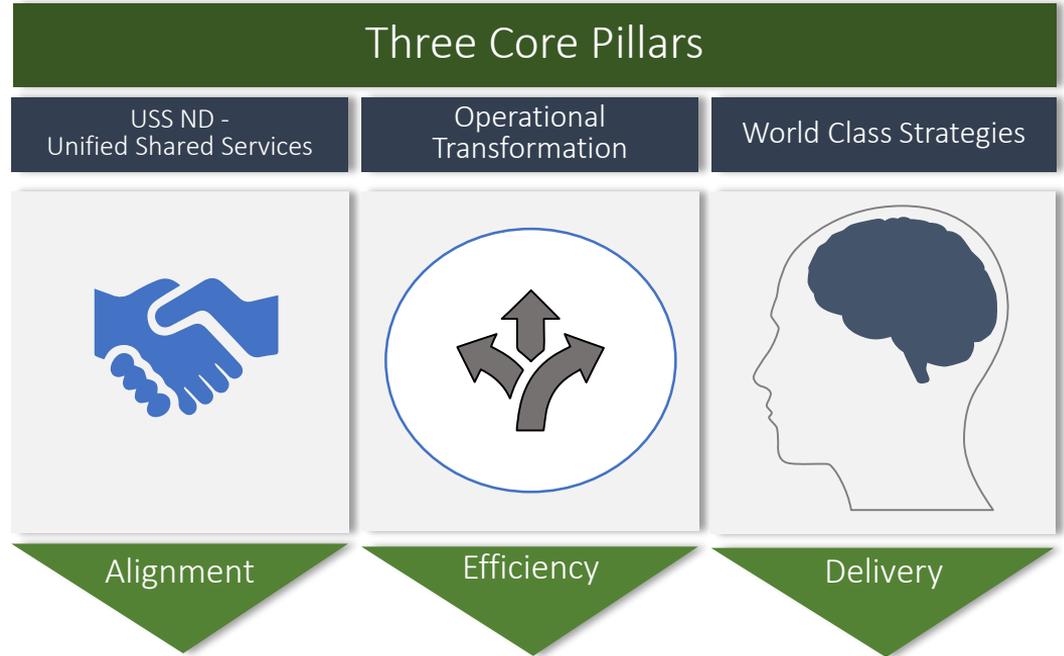
Questions & Appendix





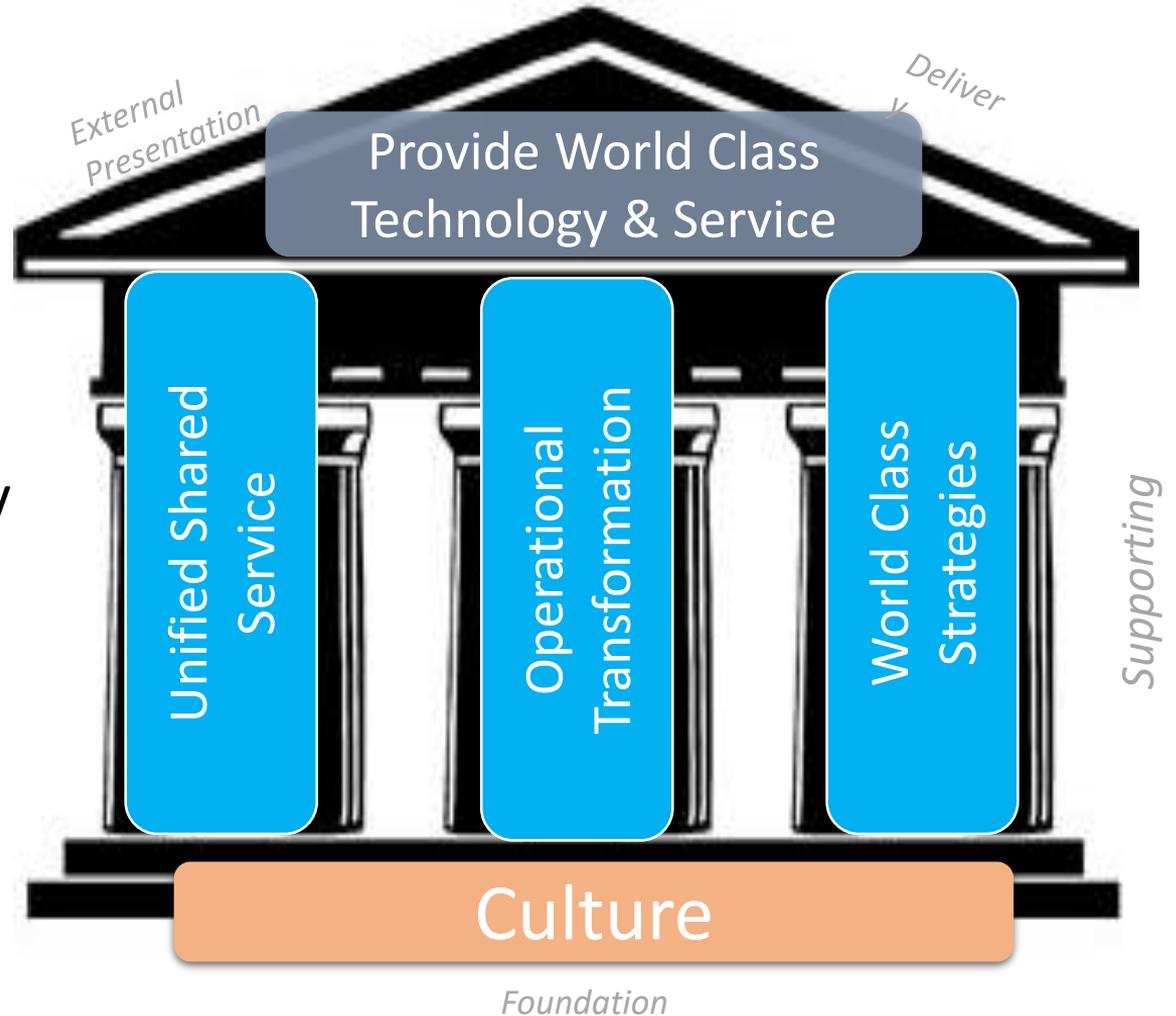
Unification Update

IT Strategic Pillars



C U L T U R E

Information Technology Strategic Foundation

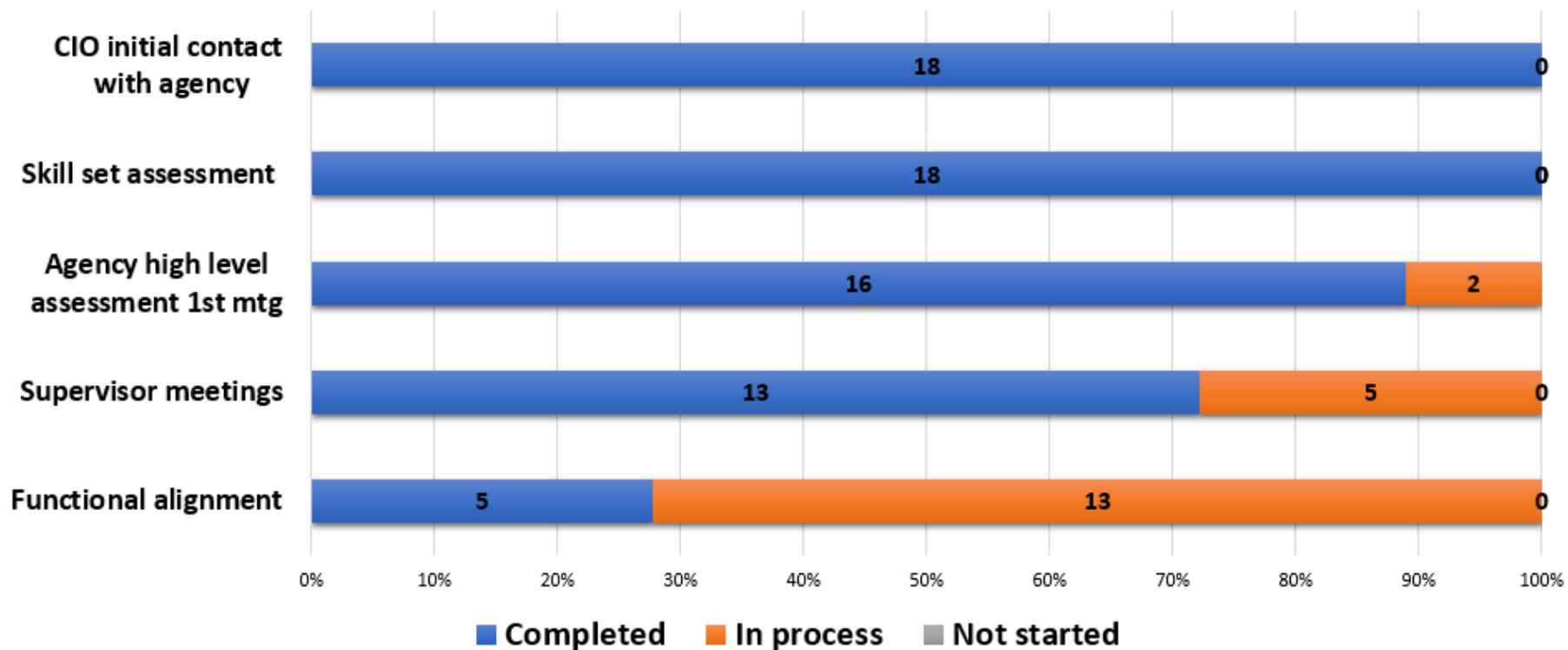


IT Unification

- Governor Burgum has charged the Executive Cabinet Agencies to align their IT functions into a single shared service
 - Why
 - Economies of scale
 - Opportunities for process alignment
 - Cost efficiencies
 - Skillset and workforce
 - Etc
 - How
 - Use the defined Workforce Transition process facilitated via today's ITD
 - All 17 cabinet agencies included (~600-650 IT staff)

Progress

IT Shared Services efforts Summary agency activity status December 18, 2017



Opportunities

- Numerous areas where processes can be streamlined (short list)
 - Same data being input multiple times into different systems
 - Information moving from digital to paper and back to digital again
- Numerous areas where technologies can be streamlined (short list)
 - Redundant applications across the state
 - 7 incident management systems identified to date
 - Licensing agreements that are not 'enterprise'
 - Systems not configured (or unable) to meet the needs of the business
 - Different versions of software in use for same purposes

Questions





Cyber Update



THREATS

CYBERSECURITY

Changing Threat Landscape

The threat landscape has significantly changed over recent years, driven by state-actor industrialized hacking, and increasing business complexity:

Then...



Perimeter defense

Security control focus

Assume the inside is secure

System focus

Fantasy of 100% compliance with zero-risk

Now...



Defense-in-depth

Security culture focus

Monitor everything

Data focus

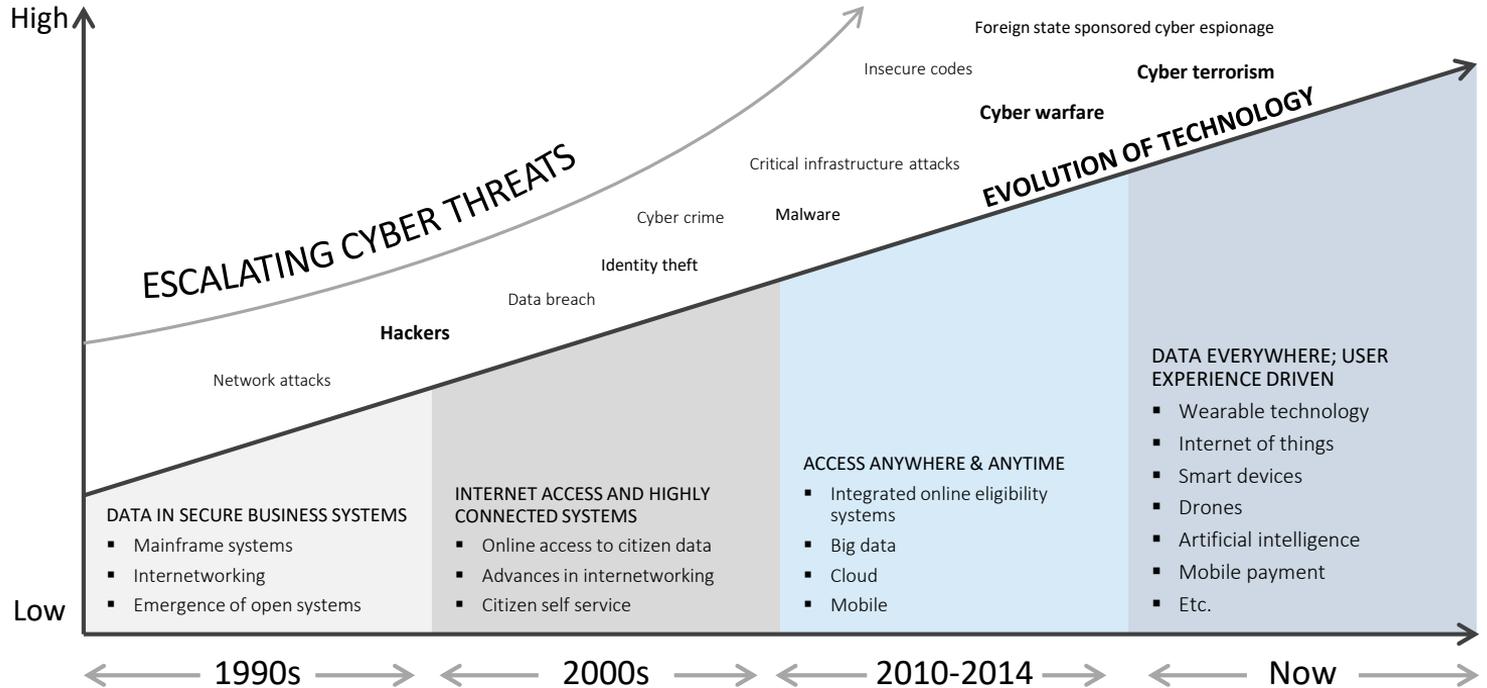
Transparent information risk management

THREATS

Complexity of Cyber Attack Capabilities are Growing (2015 Survey)

BUSINESS IMPACT:

- Citizen trust
- Cost to protect
- Legal/ regulatory
- Critical infrastructure



42+ organizations in the US had over 1,000,000 records stolen in 2017

THREATS

Specific to Energy Sector

Attackers and tools

- Dragonfly 2.0
 - Successfully breached 20 companies this summer gaining control of corporate services and operations controls
 - Had the ability to shut down circuits and disrupt generation
- Ukrainian grid
 - Successful attacks with power disruption
- BlackEnergy
 - Tools specifically built for the purpose of attacking energy generation





The Response

State of North Dakota's Cyber Security

The Response

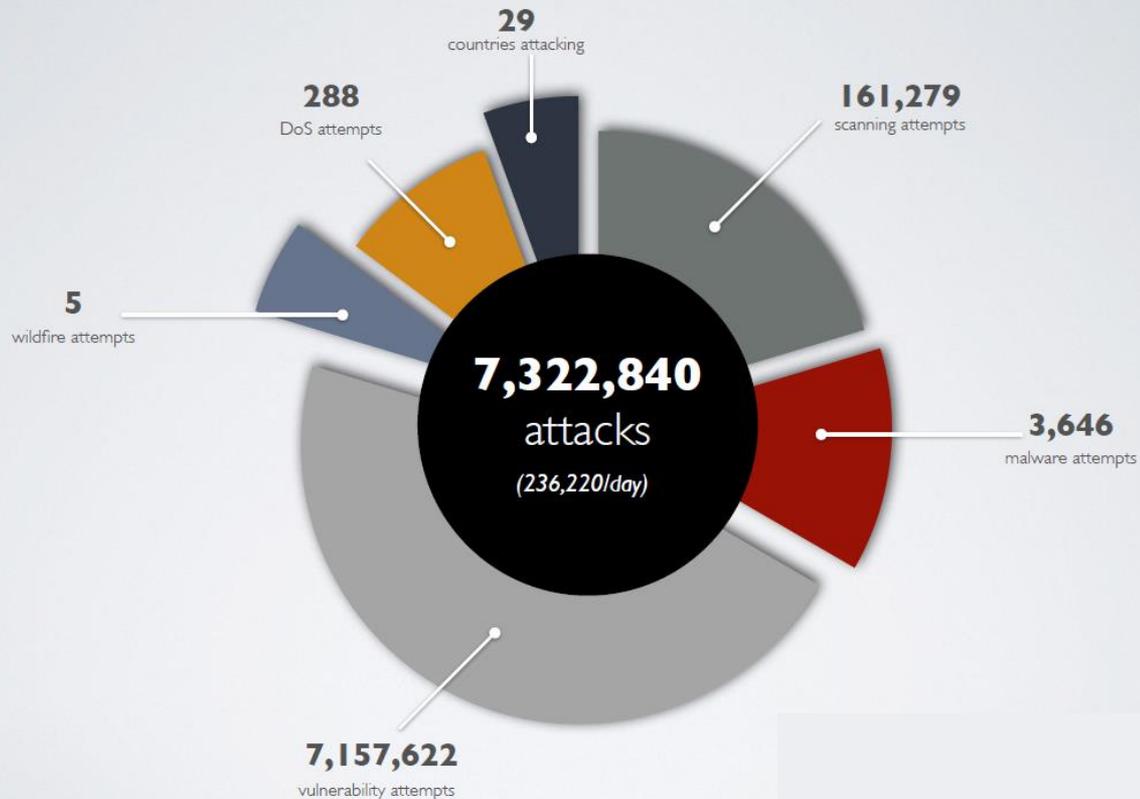
State of North Dakota IT Cyber

Approaches

- Operational Security
 - Manage multi-million threat attacks per month
 - Numerous tools deployed over segments of the environment
- Strategic Security
 - Numerous systems being considered to vastly improve our security posture
- Workforce
 - Partnering with education organizations to determine options towards a K-16 security curriculum

October 2017

North Dakota - State of Cybersecurity STAGEnet Threat Activity Snapshot



A close-up, shallow depth-of-field photograph of a person's hands typing on a laptop keyboard. The laptop screen is visible in the background, displaying a code editor with syntax-highlighted code. To the right of the laptop, a black mug with a white crown logo is partially visible. The overall scene is dimly lit, with the primary light source being the laptop screen.

The opportunity

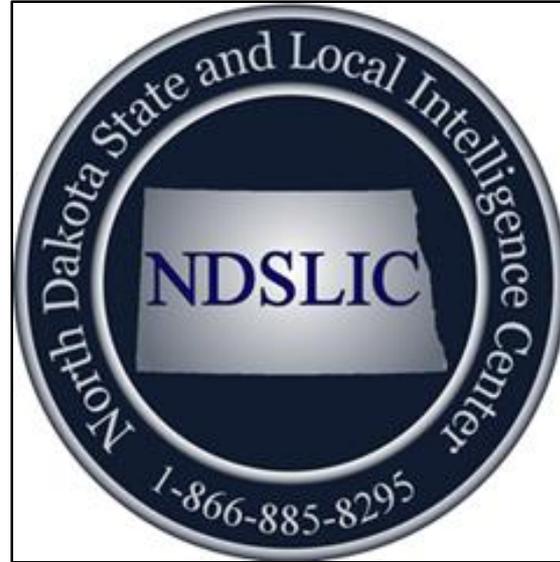
Partnerships

The Opportunity

- Across the state of North Dakota

Approaches

- SLIC (State and Local Intelligence Center)
 - Information sharing organization
 - Made of numerous partners across the state (Department of Emergency Services, National Guard, State Patrol, Homeland Security, BCI, State IT Service, etc.)
- Cyber Task Force
 - Private / Public partnership
 - Focuses on Critical Infrastructure information sharing and protection
 - Kicked off in November
 - First critical infrastructure: Energy / Electrical



The Opportunity

In an effort to evaluate the State of North Dakota's (the State) current state of IT and information security maturity; in conjunction with the State's unification efforts, ND Cyber Defense (NDCD) is conducting an IT and Information Security Assessment. The following assessment objectives have been identified:

Assessment Objectives

- 1 Identify the State's "Crown Jewel" assets (e.g., Servers, Applications, Databases, Data)
- 2 Conduct a vulnerability assessment and penetration test of selected State "Crown Jewels"
- 3 Evaluate the maturity of the State's IT and information security program
- 4 Examine NDCD's IT and information security strategy and identify opportunities to enhance

Questions

Security





THANK YOU