Information Technology Steering Committee (ITSC)

Meeting Minutes

February 28, 2019, 1:30 p.m.
1151 Punchbowl Street, Honolulu, Hawai`i
Video Conference Center

DRAFT

Members Present:
Douglas Murdock, Chair, Office of Enterprise Technology Services (ETS), State of Hawai`i
Benjamin Ancheta, Inkinen & Associates
Jared Kuroiwa, Upspring – AIO Digital
Michael Nishida, First Hawaiian Bank
Christine Sakuda, Transform Hawai`i Government
Kevin Thornton, Judiciary, State of Hawai`i
Marcus Yano, SystemMetrics Corporation

Members Excused:
Aryn Nakaoka, Tri-net Solutions
Kelly Taguchi, Spectrum
Representative Kyle Yamashita, Hawai`i State Legislature
Garret Yoshimi, University of Hawai`i

Other Attendees:
Todd Omura, ETS
Michael Otsuji, ETS
Vincent Hoang, ETS
Caroline Julian-Freitas, ETS
Valri Kunimoto, Deputy Attorney General, State of Hawai‘i
Lauren Fukuoka, Representative Yamashita's Office
Keith DeMello, Anthology
Peter Fritz, Member of the Public

[Note: Minutes are presented in the order shown on the agenda, not as discussed at the meeting.]

I. **Call to Order**
Quorum was established. Chair Murdock called the meeting to order at 1:32 p.m. and introduced himself as the newly designated ETS Chief Information Officer (CIO), pending legislative confirmation. [Note: The Senate Committee on Technology hearing took place at 3:00 p.m. after the ITSC meeting.] The CIO expressed enthusiasm at the prospect of continuing and expanding on the good work of ETS.

II. **Approval of December 13, 2018 and December 20, 2018 Minutes**
Chair Murdock called for a motion to accept the minutes as distributed. A motion was made by Member Thornton and seconded by Member Ancheta. Chair Murdock called for a vote, and the motion carried by acclamation.

III. **Public Testimony on Agenda Items**
No public testimony was given.

IV. **State Information Technology Strategic Plan – Discussion and Appropriate Action**

A. Chair Murdock presented an overview of the updated draft State IT Strategic Plan ("the plan") and reviewed changes that occurred after a February 15, 2019 workshop. The plan is essentially the same with some items combined or added and some different words or phrasing

1. **Digital Workforce Development**

   Strategy: Modernize our personnel system to enable the State to develop and sustain the digital workforce needed in a constantly evolving IT world.

   The CIO noted that our workforce is very important and will need to learn new technologies. The State will also need to look for ways to develop its digital workforce. It may become necessary to train employees without expertise due to difficulties in hiring those with expertise because of the competitive market.

2. **Extend Portfolio Planning and Portfolio Management**
   (formerly *IT Governance*)

   Strategy: Extend the State IT Governance Model to cover system life cycle to ensure the State follows industry best practices and garners the full benefits of its investments.

   The existing Sharp Cloud dashboard is a good tool for transparency and looks at current investments but not at life cycle of applications. ETS is searching for a portfolio management system that offers more depth.

3. **Partner for Successful Business Outcomes**
   [absorbs *Business Process Re-engineering* (BPR) and *Organizational Change Management* (OCM)]

   Strategy: Shape the partnership between business and IT by creating a standard framework to ensure successful business and citizen outcomes.

   BPR and OCM were incorporated as part of this larger process that includes governance, program management, and other business practices used for developing good business systems.

4. **Implement Evergreen IT Practices**
   (formerly *Modernize and Standardize State IT Infrastructure*)

   Strategy: Implement evergreen IT operations to ensure business systems are ready to support the current and future needs of business users and citizens at all times.

   This is a concept that we should use technology that refreshes itself rather than having to do upgrades all the time. Other practices include using a system that can be patched while still running, not having to bring down the entire system first, to try to help systems run better.

In the CIO's experience, business units have wanted to make regular changes to systems but were unsure if those changes could be made without breaking the system. We need to get to a point where systems are always ready to be changed to meet business needs.

5. **Optimize Enterprise Systems**
   (formerly *State IT Optimization*)

   Strategy: Optimize ETS enterprise systems to leverage the State's investment in centralized IT services.

   The focus will be to optimize and expand on enterprise systems, such as the Next Generation Network and Office 365.

6. **Enhance the Value of State Data**
   (formerly *Open Data*)

   Strategy: Maximize the value of State data by designing, implementing, and governing State systems for data stewardship, sharing, and public use.

   This expanded priority encompasses data governance and open data, as well as master data management and other data best practices.

7. **Expand Statewide Cyber Security Strategy**

   Strategy: Extend the statewide cyber security strategy to protect the State's IT infrastructure and constituent data through adoption of cyber security industry best practices across the State's IT systems.

B. Each strategy includes an outline of desired outcomes, key stakeholders, expected benefits and challenges, and near-term and long-term objectives. For the near-term and long-term objectives, the CIO would like to put in place a process for determining best practices and how to measure progress. He presented the Center for Internet Security (CIS) Controls as an example, which show basic, foundational, and organizational steps to be implemented. The CIO proposes to create a list of best practices for each strategic priority, and then start to measure how many are put in place. For the near-term, ETS will look at the big picture, exercising best practices across the enterprise and in the long-term will start to look more granularly, system by system.

Another tool the CIO plans to use is a Capability and Maturity Model (CMM) for business intelligence that places organizational maturity at one of five levels. The first level is ad hoc or unaware, where there is spreadsheet and information anarchy and one-off report requests. The second level is opportunistic, where there is no business sponsor, data inconsistency, and "stove-piped" systems. This is where organizations typically start. Level three has standards that exist. Level four is

enterprise, where there is an enterprise metrics framework, sophisticated program management, and proactive research of new methods and technologies. Level five is transformative, business strategy driven, and there is an enterprise performance culture, an outside-in perspective, and driving enterprise transformation. The CMM is a useful tool for each of the strategic areas for ETS and even for other departments to see where they are at in terms of maturity in running their IT organization. ETS will look for a tracking tool to show progress.

- Member Nishida asked if the CIO had a target where he wants to be. The CIO noted the ultimate goal is to be at level five. The CIO estimated current status at two or three and aims to get to three or four in the near-term. Member Nishida noted that to get to level five is expensive. The CIO agreed and is open to input. Member Yano added that it also depends on what model is used. He advised that throughout the process of developing best practices, the State needs to constantly evaluate if the practice is applicable to supporting the near-term and long-term objectives. If the practice is not going to help achieve the goal or if they will not get the budget approvals, the list may not be realistic.

The idea would be to implement a governance process for the seven strategic priorities, assigning an executive sponsor, a team lead, and a working group to work on a CMM for each area. The CIO believes success can be achieved faster by starting with a model. Member Ancheta asked if the executive sponsor would be ETS staff. The CIO said he will likely be the sponsor, ETS staff will be team leads, and he would consider options for the work group.

- Member Sakuda offered comments to reflect background and perspective. In 2018, HCR 94 tasked the ITSC to develop the plan. The ITSC provided the framework, and work groups flushed out ideas and details for ITSC review. The plan presented today is a little different than the previously defined eight priorities from 2018. Member Sakuda asked how the ITSC can contribute and support the current plan and how to proceed for presenting to the legislature.

- The CIO thinks this is the beginning of the next round of dialog, i.e., as a new CIO he needs to work with the groups on the redefined priorities. For example, digital workforce was not a part of the original plan, some other phrasing was added, such as "evergreen operations", because he wants to get the message out that the State has many systems that are "red", out of support, and need to be a focus area. Most of the original plan is the same but with some different wording.

- Member Ancheta noted that although not explicitly in the original plan, the thoughts contained in the current plan were there. The CIO said he is incorporating the same concepts as the original plan but in a way that allows him to focus in and execute the plan and make it a perpetual plan, by using the capability model and best practices for each area.

- The CIO would like the ITSC to review and digest the current plan, and he is open to input from them and from the work groups. The constraint is trying to capture everything on a PowerPoint presentation.

- Member Nishida asked what is the next step. Does the CIO takes this to the legislature, by what month, and will this be needed to get funding for the budget? How does this translate into what the CIO needs? The CIO agreed that the plan does need to be presented to the legislature, but there is no pressure from them for an immediate presentation. He believes they are close to an executable plan, but welcomes input and is willing to make changes as needed.

- Member Sakuda asked if anything more is needed from the contracted facilitator for the plan development. The CIO reviewed the documentation provided by the facilitator and thinks they are okay. He also reviewed the 2012 IT strategic plan and the *Top 10 Priorities* of the National Association of State CIOs (NASCIO) as reference for developing the current plan.

- Member Sakuda expressed thanks to the CIO for his accessibility and was pleased to see the CIO and ETS staff interacting with the community at the workshops. She asked what background information will the legislature need to accompany the plan. The CIO said things like inventory of IT systems are complicated to do in a short time. ETS is tracking current investments, but the important legacy items are not tracked. This is the reason the CIO created portfolio management as a separate category rather than simply calling it IT governance, and because it informs other areas such as cybersecurity. If unaware of what equipment and software is used, how do you know you have cybersecurity.

- As mentioned, ETS is searching for a more in-depth portfolio management tool that goes beyond Sharp Cloud capabilities. Member Yano agreed that Sharp Cloud is good as a visualization tool but lacks other capabilities such as tracking. The CIO noted that it was put in for transparency and as an initial effort for controlling investments, but now we need to go to the next level. Member Ancheta asked if portfolio management is less concerned about the projects and more about the assets. The CIO thinks it is about both.

- Member Nishida asked Member Sakuda what she thought is missing from the plan. Member Sakuda referred to background information such as the 50-plus year-old financial system, the legacy systems that are not tracked, those systems that provide services to the public. That helps to inform what the priorities are, and a plan provided to the legislature needs to be somewhat self-explanatory and communicated in a way that will stand on its own to explain the reasoning behind the prioritizations. Member Nishida asked if it is a tactical approach, and Member Sakuda said it's more about informing the public and the legislature for decision-making. Member Nishida asked if the initiative was to come up with the framework or the plan. Member Sakuda replied that it was for the plan, but the framework is important too. The plan is to help orient and connect everyone

together. If anything, we want to err on the side of less versus more, and leave it up to the leadership to flush out details and tactics. The intent of the high-level plan is to show the vision and purpose. Vince Hoang suggested that is where a technical plan fits in. Define the high-level strategic plan, then develop the technical plan to bridge all the projects that the agencies have on the roadmap.

- Member Yano asked if the concern is that the plan is missing some explanations, or that the legislature or the public would question why the objectives were chosen, or they may not know what else is there, and for transparency the background needs to be included. In the private sector, they would not want to invest more in legacy systems because there's a plan to retire them, but for the State, is the concern that the legacy systems are not identified. Member Sakuda said it's to be transparent so we know where we're at so that the State can start to address them with the support of the ITSC.

- The CIO said that with portfolio planning we can identify the highest need for modernization, and potentially that would be the financial systems, FAMIS and Data Mart, but he doesn't know what he doesn't know at this point. The CIO is meeting with each department and they are starting to discuss legacy systems. But he pointed out that even fairly modern systems, such as KOLEA, are already on outdated software (from 2013).

- Member Yano said a Capability Maturity Model Integration (CMMI) will show what level you're at, but in perpetuity, he does not think we could ever ideally be where we want to be and keep up-to-date. He is comfortable with the plan providing holistic frameworks guiding departments to adopt the vision.

- Member Thornton thought the target audience is the legislature, for HCR 94, then afterwards proceed with the next step, the budget. He felt they should not wait until next year to share the plan. The CIO agreed, and noted there is an Administrative Directive (18-03) directing departments to submit IT project requests to ETS for program governance. The plan can help manage the budget and governance aspects.

- Member Thornton believes there's also a public side, the need to share with the public. The CIO agreed and feels they need to make informational presentations to concerned legislative committees and get feedback. Member Thornton restated that he feels it is a year-round process.

- Member Sakuda noted that it's unfortunate Representative Yamashita could not attend today's meeting for consultation. Chair Murdock said he will talk with him before the next meeting. Lauren Fukuoka, from the Representative's office, apologized that he was unable to attend today's meeting because session ran long and offered to take back whatever the ITSC would like him to review.

- Member Ancheta noted a gaping hole in Sharp Cloud has been that certain departments opted out of ETS oversight and asked if addressing that issue would be a part of the plan. The CIO noted that UH has some constitutional separation from the executive branch. He has met with DOE, and he does not foresee them being comfortable with ETS oversight. The Independent Verification and Validation Reports (IV&V) requirement would be a hard sell. Ultimately, the DOE is accountable to follow the Board of Education's direction.

- Member Sakuda noted that part of the reason for the oversight is that initiatives cross over, and the State makes large investments, and there's no coordination because of this independence, which is not productive. The CIO feels there is a real opportunity in front of us with the dire need to replace the financial system. The DOE is also in need of a replacement financial system, and the CIO believes they can work together and leverage contracting for the same system.

- Member Sakuda noted that last year the ITSC spent time evaluating the CIO on related metrics for coordinating with other departments and asked if Chair Murdock had looked at the evaluation. Chair Murdock replied that he did review the evaluation, but it has not been on his to do list. He mentioned that the previous CIO initiated the evaluation process. Chair Murdock feels that progress should be measured against the strategic plan progress for ETS, but the discussion can be put on a future agenda if the ITSC so desires. The prior CIO appreciated having a grade. Chair Murdock would prefer to see them focus on the strategic plan and its execution.

- Member Ancheta noted that in absence of a strategic plan they had evaluated the previous CIO to identify the gaps in his authority and reach. Chair Murdock also noted grades may have been helpful to ETS staff, but that he prefers to measure progress against the strategic plan.

- Member Kuroiwa noted also that because the CIO position reports directly to the Governor, the previous CIO wanted the grading to be a guide for hiring and firing the CIO and as a stopgap; Member Ancheta agreed he wanted "guardrails". Chair Murdock acknowledged that the previous CIO felt the CIO position had a lot of power. Chair Murdock still talks a lot with the previous CIO, and the Governor is extremely interested in the effectiveness of the CIO and ETS.

- Member Sakuda asked if the Governor had seen the strategic plan, and the CIO said he hadn't yet shown it to him. Member Sakuda expressed that she likes the vision of the plan. Chair Murdock said it's worth further discussion of the vision. The one part he doesn't like about the vision is that it's very IT focused, and that IT shouldn't drive government; business should drive government. IT is a tool.

- Member Yano recalled the discussion of IT as a tool, but because it's ETS' goals, they decided at the time that it should be IT focused as opposed to things like renewable energy, which would be a statewide focused goal. However, he agrees

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that ETS is part of the machine that should help deliver the overall vision for the State; one of the tools in the toolbox. The CIO also thinks it's important to educate the State's IT workforce in that way; their priority is to make business and citizen outcomes that are good, not to get cool toys. We're doing it so citizens get good results and our lines of business can finish what they're supposed to do efficiently.

- Member Sakuda asked what the next steps would be. Chair Murdock said the ITSC should look at the plan, digest it, and provide feedback for the next meeting. They can look at making revisions as needed and approve it when ready. He will take it to the legislature.

V.   Status of Legislative Bills

Chair Murdock gave an overview of the bills in legislative session that ETS is supporting, and he confirmed with ETS Senior Communications Manager, Caroline Julian-Freitas, that both bills were still alive and moving in session.

A. HB531 HD1, Requires the Office of Enterprise Technology Services Chief Information Officer to update the state information technology strategic plan every four years, with the first update to be completed in advance of the 2021 regular session.
(https://www.capitol.hawaii.gov/measure_indiv.aspx?billtype=HB&billnumber=531&year=2019)

B. HB532 HD1, Establishes a Chief Data Officer (CDO) and Data Task Force in the Office of Enterprise Technology Services to develop, implement, and manage statewide data set policies, procedures, and standards. Appropriates moneys.
(https://www.capitol.hawaii.gov/measure_indiv.aspx?billtype=HB&billnumber=532&year=2019)

The CIO noted the catch is that the bill would not create a position or funding. ETS may need to make someone internally a CDO and then go back next year and ask for a position. Chair Murdock said his understanding is that positions and funding have to go through budget bills as opposed to legislation.

Member Sakuda asked if ETS will plan to ask for funding for a CDO. The CIO affirmed that if the law passes, then next year ETS would request funding through the regular budget process. Member Sakuda asked for clarification that the bill doesn't account for funding and Member Nishida asked if the first year is to get the position and the second year is to get funding. The CIO confirmed that is the case.

VI.   CIO Priorities, Strategic Initiatives

Most of today's discussion was around this topic, but the CIO wanted to give specific targeted project information. Enterprise Resource Planning (ERP) completion is top of the list. The Human Resources Management System (HRMS) upgrade and Payroll Modernization projects were completed, and the Time and Attendance phase has started. The financial system would be next, and in the current session there is related legislation

pending. The other top priorities are portfolio management, digital workforce, the IT strategic plan, and cybersecurity.

VII.   Good of the Order

The next ITSC meeting is scheduled for April 25, 2019, 9:00 a.m., at 1151 Punchbowl Street, in the basement Video Conference Center, Honolulu, Hawai`i

VIII.   Adjournment

Chair Murdock called for a motion to adjourn. Motion made by Member Sakuda was seconded by Member Nishida. None opposed. Meeting adjourned at 2:30 p.m.
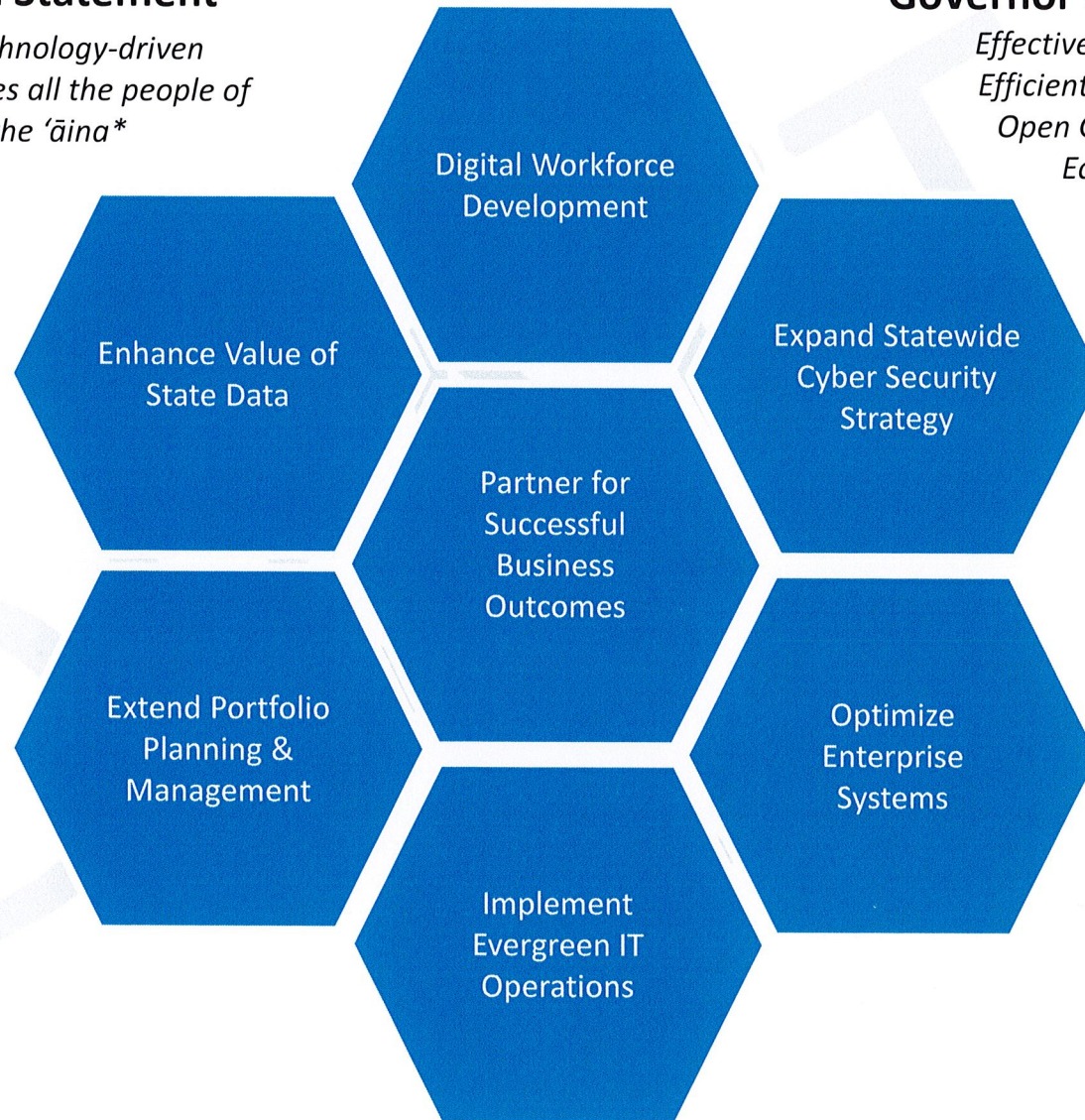
State IT Strategic Plan Overview

State IT Vision Statement

Transformative technology-driven government that serves all the people of Hawai'i and the 'āina*

Governor Ige's Priorities

Effective Government
Efficient Government
Open Government
Economy

STATE'S IT STRATEGIC PRIORITIES

Digital Workforce Development

Enhance Value of State Data

Expand Statewide Cyber Security Strategy

Partner for Successful Business Outcomes

Extend Portfolio Planning & Management

Optimize Enterprise Systems

Implement Evergreen IT Operations

*The 'āina (land) is not just soil, sand or dirt. The 'āina is a heart issue for the people of Hawai'i. The very word 'āina brings forth deep emotion evolved from ancestral times when people lived in nature as an integral part of it. We chose to incorporate the ethical, philosophical, and spiritual aspects not only present in Governor Ige's vision and mission statements, but also that are present in the culture that make Hawai'i Hawai'i.

State IT Strategic Plan Overview

State IT Vision Statement

Transformative technology-driven government that serves all the people of Hawaiʻi and the ʻāina*
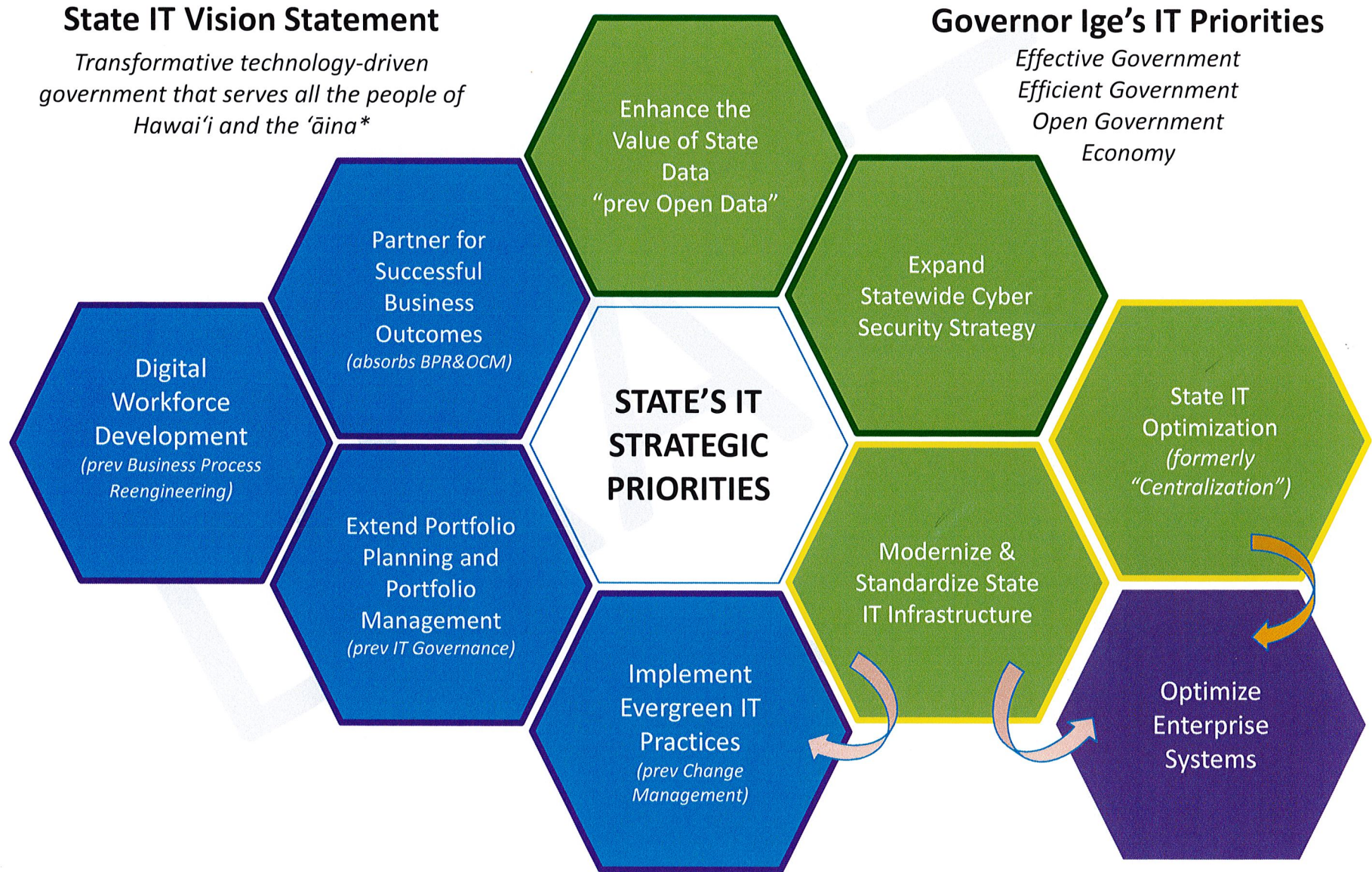
Governor Ige's IT Priorities

Effective Government
Efficient Government
Open Government
Economy

Enhance the Value of State Data "prev Open Data"

Partner for Successful Business Outcomes *(absorbs BPR&OCM)*

Digital Workforce Development *(prev Business Process Reengineering)*

Expand Statewide Cyber Security Strategy

STATE'S IT STRATEGIC PRIORITIES

State IT Optimization *(formerly "Centralization")*

Extend Portfolio Planning and Portfolio Management *(prev IT Governance)*

Modernize & Standardize State IT Infrastructure

Implement Evergreen IT Practices *(prev Change Management)*

Optimize Enterprise Systems

*The ʻāina (land) is not just soil, sand or dirt. The ʻāina is a heart issue for the people of Hawaiʻi. The very word ʻāina brings forth deep emotion evolved from ancestral times when people lived in nature as an integral part of it. We chose to incorporate the ethical, philosophical, and spiritual aspects not only present in Governor Ige's vision and mission statements, but also that are present in the culture that make Hawaiʻi Hawaiʻi.

Strategy

Maximize the value of State data by designing, implementing and governing State systems for data stewardship, sharing, and public use

Enhance the Value of State Data

Desired Outcomes

- *Data Usage: State data is more valuable for economic and public purposes*
- *Transparency & Accessibility: All appropriate State-stored/managed data is available to the public and to other State departments, agencies, and users*
- *Increased awareness – all stakeholders know what is accessible and why specific data classes are not*

Key Strategic Stakeholders

- *Data Stewards: Jurisdiction, department and program leadership (buy-in, commitment, support, use, reporting)*
- *State leadership and employees*
- *Office of Information Practices (OIP) and Attorney General*
- *Federal agencies*
- *Legislature (funding, policy changes)*
- *Open Data advocates and users including businesses*

Expected Benefits

- *Increased constituent trust in government and civic engagement*
- *Improved cross-department, cross-agency, cross-sector collaboration that benefits Hawai'i*
- *Broader data visibility leads to problem identification & solutioning*
- *Increased data interoperability & sharing – more opportunity for informed decision-making*
- *Better service delivery & client experience*
- *Decreased redundancy – greater efficiency in gov't*

METRICS

- Visits to data.hi.gov site
- # of Data sets inventoried and classified
- % of data sets available on data.Hawaii.gov
- Reference Model & CMM Scores

Expected Challenges

- *Change Management – new systems, processes, relationships, expectations (Culture of Sharing)*
- *Inconsistency across agencies – resistance to standardization*
- *Culture – public interest vs. sole client focus*
- *Adequate funding*
- *State & federal law – inter-agency sharing, confidentiality rules*
- *Fear of data integrity, quality, security, ownership/governance*

Near-Term Objectives (12 months)

- *Establish a strategy governance process, executive sponsor, charter, program lead, staff, working group and user groups*
- *Develop a high-level prioritized reference model for best practices in tactics, techniques and procedures and begin measurement*
- *Establish a high-level Capability Maturity Model measurement framework and begin measurement*
- *Plan & begin implementing change management efforts to address culture & gain departmental and employee buy*
- *Standardize business intelligence tools*
- *Establish business case analysis model for open data and data sharing*

Longer-Term Objectives (2-4 years)

- *Capability Maturity Model: Increase level attained and granularity in for state, departments and agencies*
- *Reference Model: Increase progress in prioritized reference model and adjust as necessary*
- *Identify & drive next-tier legislative changes/additions*
- *Data drives government and economic decisions*
- *Sharing data becomes the norm*

Strategy

Shape the partnership between business and IT by creating a standard framework to ensure successful business and citizen outcomes

Partner for Successful Business Outcomes

Desired Outcomes

- Successful business process implementation
- IT systems are well-engineered and appropriately designed for their intended use
- Effective partnership between IT and business
- Procurement efficiency and cost savings
- Standard governance, business process re-engineering, program management, organizational change management systems followed

Key Strategic Stakeholders

- Functional business owner/decision-maker
- IT leaders and next-tier teams tasked with the work
- Governance Groups
- Procurement
- Cabinet – buy-in to drive culture/process changes

Expected Benefits

- Business process outcome improvement
- Confidence in state's ability to implement systems
- ETS/CIO are broker of technology solutions
- Successful procurement, design and implementation of department and agency IT projects

METRICS

- Cost, schedule, and performance on development
- # of re-baselines
- CMM and Reference model score

Expected Challenges

- IT may not have "consultant" skills to aid business
- Culture shift – both IT and business will need to see the value and initiate partnership
- Trust & understanding may be lacking between business & IT
- Time & re-prioritization – using consultants vs. State IT

Near-Term Objectives (12 months)

- Establish a strategy governance process, executive sponsor, charter, program lead, staff, working group and user groups
- Develop a high-level prioritized reference model for best practices in tactics, techniques and procedures and begin measurement
- Establish a high-level Capability Maturity Model measurement framework and begin measurement
- Plan & begin implementing change management efforts – early communications: Threats, benefits, timing, current action
- Research and implement IT tools to standardize processes

Longer-Term Objectives (2-4 years)

- Capability Maturity Model: Increase level attained and granularity in for state, departments and agencies
- Reference Model: Increase progress in prioritized reference model and adjust as necessary
- Identify & drive next-tier legislative changes/additions
- Enhance/expand IT governance model to ensure modernization success
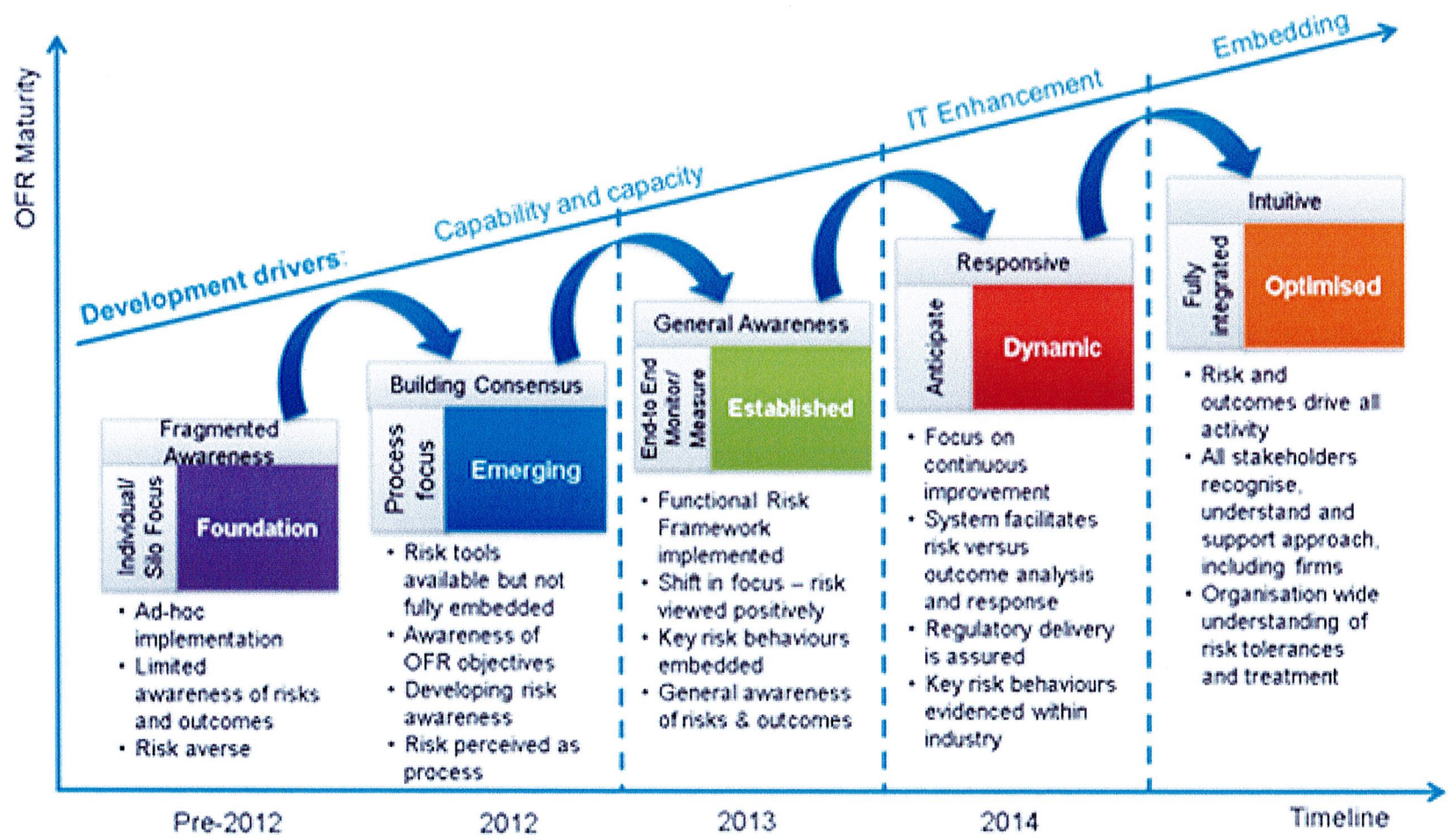- Standardize to include SPO at onset of all modernization efforts

CIS Controls™

V7

Basic

1 Inventory and Control of Hardware Assets

2 Inventory and Control of Software Assets

3 Continuous Vulnerability Management

4 Controlled Use of Administrative Privileges

5 Secure Configuration for Hardware and Software on Mobile Devices, Laptops, Workstations and Servers

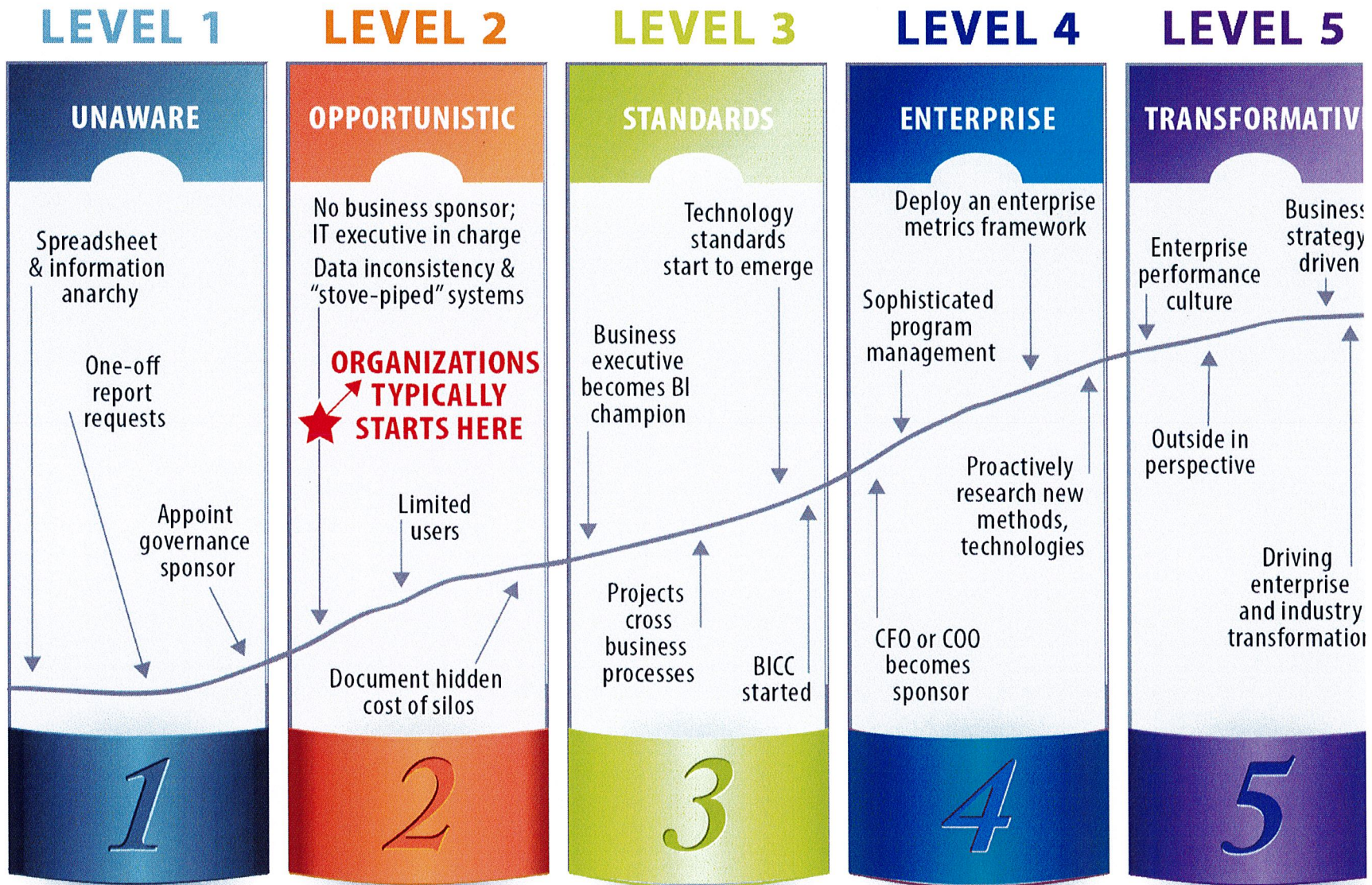**6** Maintenance, Monitoring and Analysis of Audit Logs

Foundational

7 Email and Web Browser Protections

8 Malware Defenses

9 Limitation and Control of Network Ports, Protocols, and Services

10 Data Recovery Capabilities

11 Secure Configuration for Network Devices, such as Firewalls, Routers and Switches

12 Boundary Defense

13 Data Protection

14 Controlled Access Based on the Need to Know

15 Wireless Access Control

16 Account Monitoring and Control

Organizational

17 Implement a Security Awareness and Training Program

18 Application Software Security

19 Incident Response and Management

20 Penetration Tests and Red Team Exercises

CIS Controls™

CIS Center for Internet Security®

OFR Maturity (vertical axis)

Embedding

IT Enhancement

Capability and capacity

Development drivers:

Fragmented Awareness

Individual/Silo Focus

Foundation

- Ad-hoc implementation
- Limited awareness of risks and outcomes
- Risk averse

Building Consensus

Process focus

Emerging

- Risk tools available but not fully embedded
- Awareness of OFR objectives
- Developing risk awareness
- Risk perceived as process

General Awareness

End-to End Monitor/ Measure

Established

- Functional Risk Framework implemented
- Shift in focus – risk viewed positively
- Key risk behaviours embedded
- General awareness of risks & outcomes

Responsive

Anticipate

Dynamic

- Focus on continuous improvement
- System facilitates risk versus outcome analysis and response
- Regulatory delivery is assured
- Key risk behaviours evidenced within industry

Intuitive

Fully integrated

Optimised

- Risk and outcomes drive all activity
- All stakeholders recognise, understand and support approach, including firms
- Organisation wide understanding of risk tolerances and treatment

Pre-2012   2012   2013   2014   Timeline

LEVEL 1 — **UNAWARE**
- Spreadsheet & information anarchy
- One-off report requests
- Appoint governance sponsor

LEVEL 2 — **OPPORTUNISTIC**
- No business sponsor; IT executive in charge
- Data inconsistency & "stove-piped" systems
- **ORGANIZATIONS TYPICALLY STARTS HERE**
- Limited users
- Document hidden cost of silos

LEVEL 3 — **STANDARDS**
- Technology standards start to emerge
- Business executive becomes BI champion
- Projects cross business processes
- BICC started

LEVEL 4 — **ENTERPRISE**
- Deploy an enterprise metrics framework
- Sophisticated program management
- Proactively research new methods, technologies
- CFO or COO becomes sponsor

LEVEL 5 — **TRANSFORMATIV**
- Business strategy driven
- Enterprise performance culture
- Outside in perspective
- Driving enterprise and industry transformation

BI = Business Intelligence | BICC - BI Competency Center

Source ~ Gartner 20

Strategy

Extend the statewide cyber security strategy to protect the State's IT infrastructure and constituent data through adoption of cyber security industry best practices across the State's IT systems

Extend Statewide Cyber-Security Strategy

Desired Outcomes

- *Safeguard state and constituent information*
- *Reduce vulnerability to external threats*
- *Immediate System-wide threat response*
- *Security efficiency through use of AI/ML*
- *Minimize storage of sensitive data*

Key Strategic Stakeholders

- *Cyber security specialists*
- *State IT Directors, leaders/management*
- *Employees (buy-in, good security hygiene)*
- *Legislature (funding & resource commitment)*
- *IT product and service providers and industry associations*
- *Federal government*

Expected Benefits

- *Increased public trust in systems, state government*
- *Reduced/eliminated breaches*
- *Cost savings*
- *Safer data, applications, systems*
- *Increased system up-time (True 24/7 availability)*

METRICS

- # of verified cyber security incidents/year
- Training participation
- CIS Reference Model Scorings
- CMM level score

Expected Challenges

- *Change Management – new systems, role, processes, relationships, behavior expectations*
- *Adequate, skilled staffing*
- *Adequate funding (CISO, staffing, Data Officer, training, technology)*
- *Legacy infrastructure & applications*
- *Evolving nature of threats*

Near-Term Objectives (12 months)

- *Establish a strategy governance process, executive sponsor, charter, program lead, staff, working group and user groups*
- *Develop a high-level prioritized reference model for best practices in tactics, techniques and procedures and begin measurement*
- *Establish a high-level Capability Maturity Model measurement framework and begin measurement*
- *Plan & begin implementing change management efforts – early communications: Threats, benefits, timing, current action*

Longer-Term Objectives (2-4 years)

- *Capability Maturity Model: Increase level attained and granularity in for state, departments and agencies*
- *Reference Model: Increase progress in prioritized reference model and adjust as necessary*
- *Identify & drive next-tier legislative changes/additions*

Implement Evergreen IT Operations

Strategy
Implement evergreen IT operations to ensure business systems are ready to support the current and future needs of business users and citizens at all times

Desired Outcomes
- *IT Systems can be quickly configured to meet business needs*
- *Systems are healthy, stable and upgradeable*
- *IT systems are well-engineered and appropriately designed for their intended use*
- *State quickly benefits from new technology*
- *Legacy systems decommissioned*

Key Strategic Stakeholders
- *Business users & leaders*
- *Tech implementors & operators*
- *Citizens, Customers*
- *Legislators, Cabinet & Governor*
- *Procurement*

Expected Benefits
- *Faster response to changing business needs*
- *New features available to businesses as soon as added*
- *System health maximized and down-time reduced*
- *Reduced risk in cyber security*
- *Reduced cost of hardware/software development, operation & maintenance*

METRICS
- # of systems on legacy /IAAS/PAAS/ SAAS
- Version and patch currency at n-1
- Reference Model & CMM Scores

Expected Challenges
- *Skills gaps in risk management & Agile methodology*
- *Procurement feature/process adds/changes needed*
- *Requires a long-term funding plan*
- *Differing agency priorities*
- *ITSM & GRC tools (skills & processes)*

Near-Term Objectives (12 months)
- *Establish a strategy governance process, executive sponsor, charter, program lead, staff, working group and user groups*
- *Develop a high-level prioritized reference model for best practices in tactics, techniques and procedures and begin measurement*
- *Establish a high-level Capability Maturity Model measurement framework and begin measurement*
- *Plan & begin implementing change management efforts – early communications: Threats, benefits, timing, current action*
- *Define and agree on characteristics for inventories*

Longer-Term Objectives (2-4 years)
- *Capability Maturity Model: Increase level attained and granularity in for state, departments and agencies*
- *Reference Model: Increase progress in prioritized reference model and adjust as necessary*
- *Identify & drive next-tier legislative changes/additions*
- *Implemented lifecycle model showing confidentiality, integrity, availability, and continuous improvement*
- *Establish our best practices around lifecycle*

Strategy

Modernize our personnel system to enable the state to develop and sustain the digital workforce needed in a constantly evolving IT world.

Digital Workforce Development

Desired Outcomes

- State government consistently attracts high quality candidates for all IT job openings
- Culture and work environment that promotes/encourages remote work and flexibility
- Re-branding of gov't workforce as an Innovation Center with a culture that embraces digital tools/tech, flexible/remote work environment

Key Strategic Stakeholders

- Current & potential employees
- Unions (legislative change support)
- CIO & IT leadership
- Legislature

Expected Benefits

- Build recruitment, hiring, training, assignment and staffing models
- Qualified talent at all levels (apprenticeship, entry, senior, enterprise-level)
- Expanded learning and cross-training to have some level of "generalists" depending on job class/type
- In-house development of IT talent

METRICS

- Vacancy aging
- Reference Model & CMM Scores
- Training completed
- Internal Promotions

Expected Challenges

- Retention/turnover – pay, upward mobility issues
- Skillsets – need to be able to deal with legacy & new tech
- Competition with private sector
- Antiquated banding/hiring processes & rules
- Current climate, lack of learning/growing opportunity

Near-Term Objectives (12 months)

- Establish a strategy governance process, executive sponsor, charter, program lead, staff, working group and user groups
- Develop a high-level prioritized reference model for best practices in tactics, techniques and procedures and begin measurement
- Establish a high-level Capability Maturity Model measurement framework and begin measurement
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Longer-Term Objectives (2-4 years)

- Capability Maturity Model: Increase level attained and granularity in for state, departments and agencies
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- Identify & drive next-tier legislative changes/additions

Expand Portfolio Planning & Management

Strategy
Extend the State IT Governance Model to cover system life cycle to ensure the State follows industry best practices and garners the full benefits of its investments.

Desired Outcomes

- *Proactive and transparent portfolio planning and management though system life cyle*
- *Transparency into cost, schedule and performance and re-baselining of projects*
- *Sharing and reuse of existing hardware and software*
- *IT systems are well-engineered and appropriately designed for their intended use*

Key Strategic Stakeholders

- *State departments, agencies – IT and business partners*
- *ITSC*
- *Legislature*
- *Public/constituents/interest groups*
- *Vendors*

Expected Benefits

- *Transparency into system investment, performance and lifecycle including planning, investments, system health, modernization, end of service and system replacement*
- *Better planning by ETS and departments Resource leveling to avoid spikes in budget and staff levels*
- *A more effective accountability framework*

METRICS

- # of systems monitored
- % systems with complete information
- # of re-baselines
- Reference Model & CMM Scores

Expected Challenges

- *Gathering, organizing and analyzing portfolio data from across the enterprise*
- *Resource constraints – funding, limited skillsets*
- *Buy-in to adopt required standards, shared services, common platforms vs. customized habits, systems*
- *Organizational commitment to share data*
- *Selecting appropriate performance indicators & best practices*

Near-Term Objectives (12 months)

- *Establish a strategy governance process, executive sponsor, charter, program lead, staff, working group and user groups*
- *Develop a high-level prioritized reference model for best practices in tactics, techniques and procedures and begin measurement*
- *Establish a high-level Capability Maturity Model measurement framework and begin measurement*
- *Plan & begin implementing change management efforts – early communications: Threats, benefits, timing, current action*

Longer-Term Objectives (2-4 years)

- *Capability Maturity Model: Increase level attained and granularity in for state, departments and agencies*
- *Reference Model: Increase progress in prioritized reference model and adjust as necessary*
- *Complete inventory that informs plan & funding for modernizing/replacing legacy systems across the enterprise*

Strategy

ETS enterprise systems will be aligned and optimized to leverage the state's investment in centralized IT services.

Optimize Enterprise Systems

Desired Outcomes

- *Decreased IT costs and redundancy*
- *Role clarity, increased employee retention*
- *Streamlined, more effective communication*
- *Accelerated execution: Procurement, SDLC*
- *Enterprise systems are well-engineered and appropriately designed for their intended use*

Key Strategic Stakeholders

- *Executive branch department heads (buy-in, commitment, engagement/support, use, reporting)*
- *Citizens using open data or digital government systems*
- *DHRD (staffing)*
- *Legislature (funding)*
- *Employees (continuity of leadership, engagement)*

Expected Benefits

- Seamless operation of enterprise systems
- Expanded service catalogues
- Service level agreement transparency
- Prioritization of investments

METRICS

- Reference Model & CMM Scores
- SLA measures for systems

Expected Challenges

- *Large catalogue of systems including NGN, ERP/HRMS/Payroll, FAMIS/DataMart, Office 365, identity management (Active Directory), land mobile radio, GIS, eSign, hosting platforms (Mainframe, GPC), SharpCloud, cybersecurity suite, open data platforms, and Access Hawaii digital government portal*
- *Adequate skilled staffing and funding*
- *Change Management – new systems, role, processes, relationships, expectations*

Near-Term Objectives (12 months)

- *Establish a strategy governance process, executive sponsor, charter, program lead, staff, working group and user groups*
- *Develop a high-level prioritized reference model for best practices in tactics, techniques and procedures and begin measurement*
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State IT Strategic Priorities

Partner for Successful Business Outcomes

Strategy
Shape the partnership between business and IT by creating a standard framework to ensure successful business and citizen outcomes

Strategy
Extend the statewide cyber security strategy to protect the State's IT infrastructure and constituent data through adoption of cyber security industry best practices across the State's IT systems

Expand Statewide Cyber Security Strategy

Enhance Value of State Data

Strategy
Maximize the value of State data by designing, implementing and governing State systems for data stewardship, sharing, and public use

Strategy
Optimize ETS enterprise systems to leverage the state's investment in centralized IT services

Optimize Enterprise Systems

Extend Portfolio Planning & Management

Strategy
Extend the State IT Governance Model to cover system life cycle to ensure the State follows industry best practices and garners the full benefits of its investments

Strategy
Implement evergreen IT operations to ensure business systems are ready to support the current and future needs of business users and citizens at all times

Implement Evergreen IT Operations

Digital Workforce Development
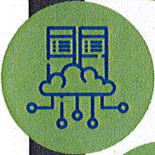
Strategy
Modernize our personnel system to enable the state to develop and sustain the digital workforce needed in a constantly evolving IT world.

State IT Vision Statement
Transformative technology-driven government that serves all the people of Hawai'i and the 'āina

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# STATE CIO TOP 10 PRIORITIES
2019 Strategies, Management & Process Solutions
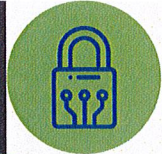
1. **Security and Risk Management**
governance; budget and resource requirements; security frameworks; data protection; training and awareness; insider threats; third party security practices as outsourcing increases

2. **Cloud Services**
cloud strategy; proper selection of service and deployment models; scalable and elastic IT-enabled capabilities provided "as a service" using internet technologies
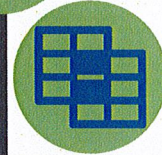
3. **Consolidation/Optimization**
centralizing, consolidating services, operations, resources, infrastructure, data centers; communications and marketing "enterprise" thinking

4. **Digital Government**
framework for digital services; portal; improving citizen experience; accessibility; identity management
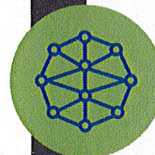
5. **Broadband/Wireless Connectivity**
strengthening statewide connectivity; implementing broadband technology opportunities

6. **Budget, Cost Control, Fiscal Management**
managing budget reduction; strategies for savings; reducing or avoiding costs; dealing with inadequate funding and budget constraints

7. **Customer Relationship Management**
building customer agency confidence, trust and collaboration; internal customer service strategies; service level agreements

8. **Data Management and Analytics**
data governance; data architecture; strategy; business intelligence; predictive analytics; big data; roles and responsibilities
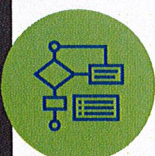
9. **Enterprise IT Governance**
enterprise IT policy and planning; improving IT governance; partnering; inter-jurisdictional collaboration; industry advisory boards; agencies participating as members of a "state enterprise"

10. **Identity and Access Management**
access control; authentication; credentialing; digital standards; single sign-on for citizen services; federated solutions

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STATE CIO TOP 10 PRIORITIES

Technologies, Applications and Tools

1. **Cloud Solutions**
software as a service

2. **Security Enhancement Tools**
CDM, advanced analytics, digital forensics

3. **Legacy Application Modernization/Renovation**

4. **Business Intelligence (BI) and Business Analytics (BA)**
applications, big data, data analytics

5. **Identity and Access Management**

6. **Collaboration Technologies**
file sharing, document management, workflow, intranet services

7. **Data Management**
Master Person Index/Master Data Management; information exchanges

8. **Enterprise Resource Planning (ERP)**

9. **Disaster Recovery / Business Continuity**

10. **Networking**
voice and data communications, unified, SDN

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