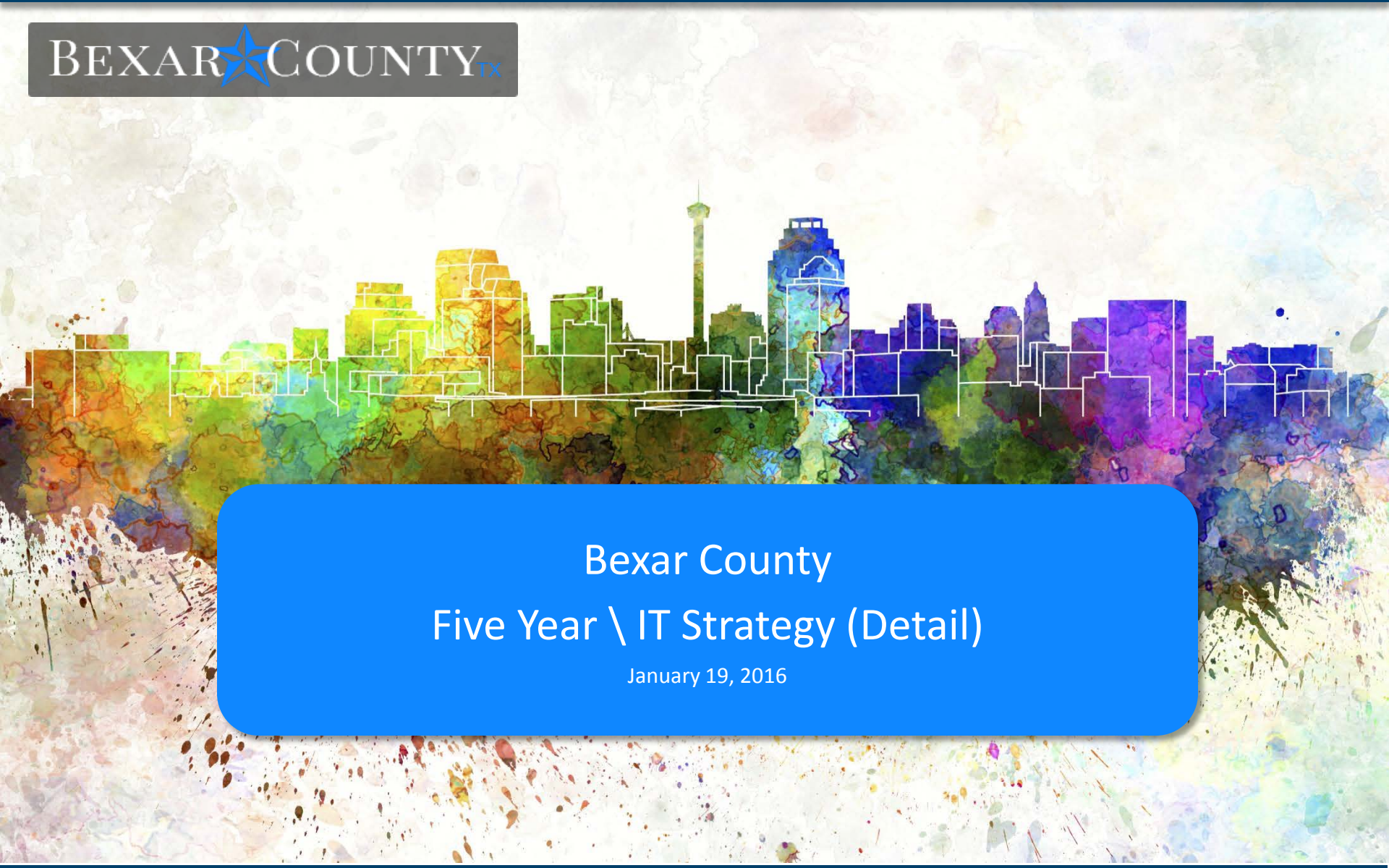

Bexar County

Five Year \ IT Strategy (Detail)

January 19, 2016

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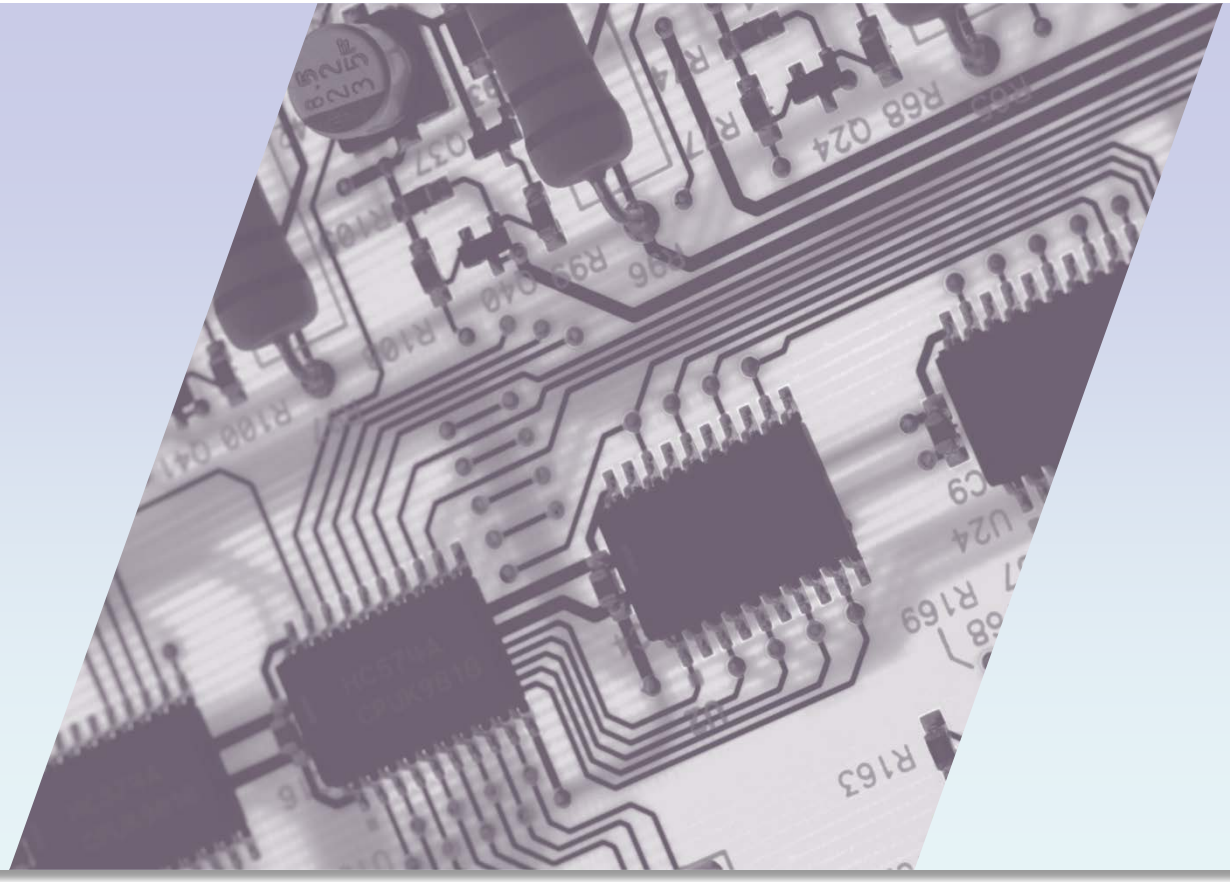
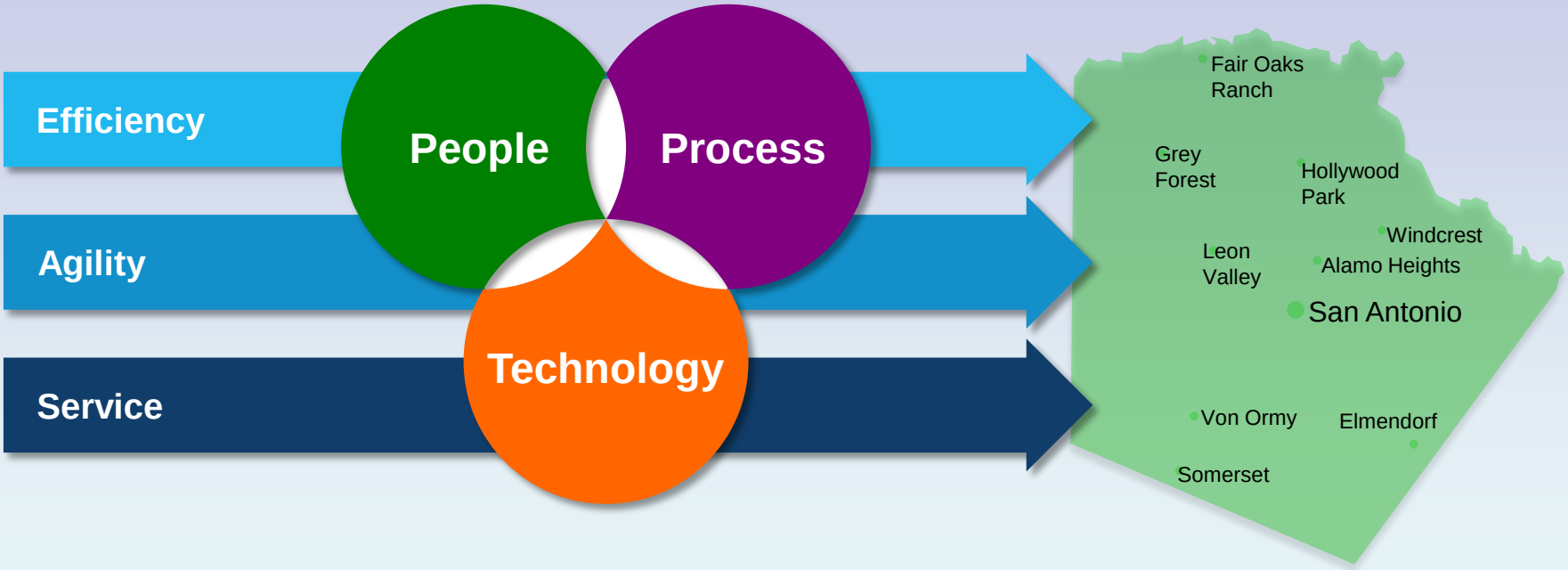


CURRENT STATE INSIGHTS



IBM used three Lenses to focus on gaps and shortfalls that are affecting Bexar County IT

People

- Domains: *Organization, Skills, Compensation, Architecture, Services Sourcing*
- Focuses on who plans, builds, runs and manages IT

Process

- Domains: *IT Service Management (ITSM), Governance, Project Management Office (PMO), Risk(*), Finance*
- Focuses on manual tasks and systems automation to run IT

Technology

- Domains: *Applications & Integration, Disaster Recovery & Business Continuity, Data Centers & Facilities, Infrastructure (Server, Storage, Network), Workload Hosting*
- Focuses on what physical and virtual resources are needed to support people and process

(*) Security, Detailed design and plans, App discovery and mapping, and Disaster recovery are out of scope

IBM identified three Key Performance Indicators (KPIs) that have tactical and strategic importance

Efficiency

- Efficiency is the characteristic of a system or machine achieving maximum productivity with minimum wasted effort or expense

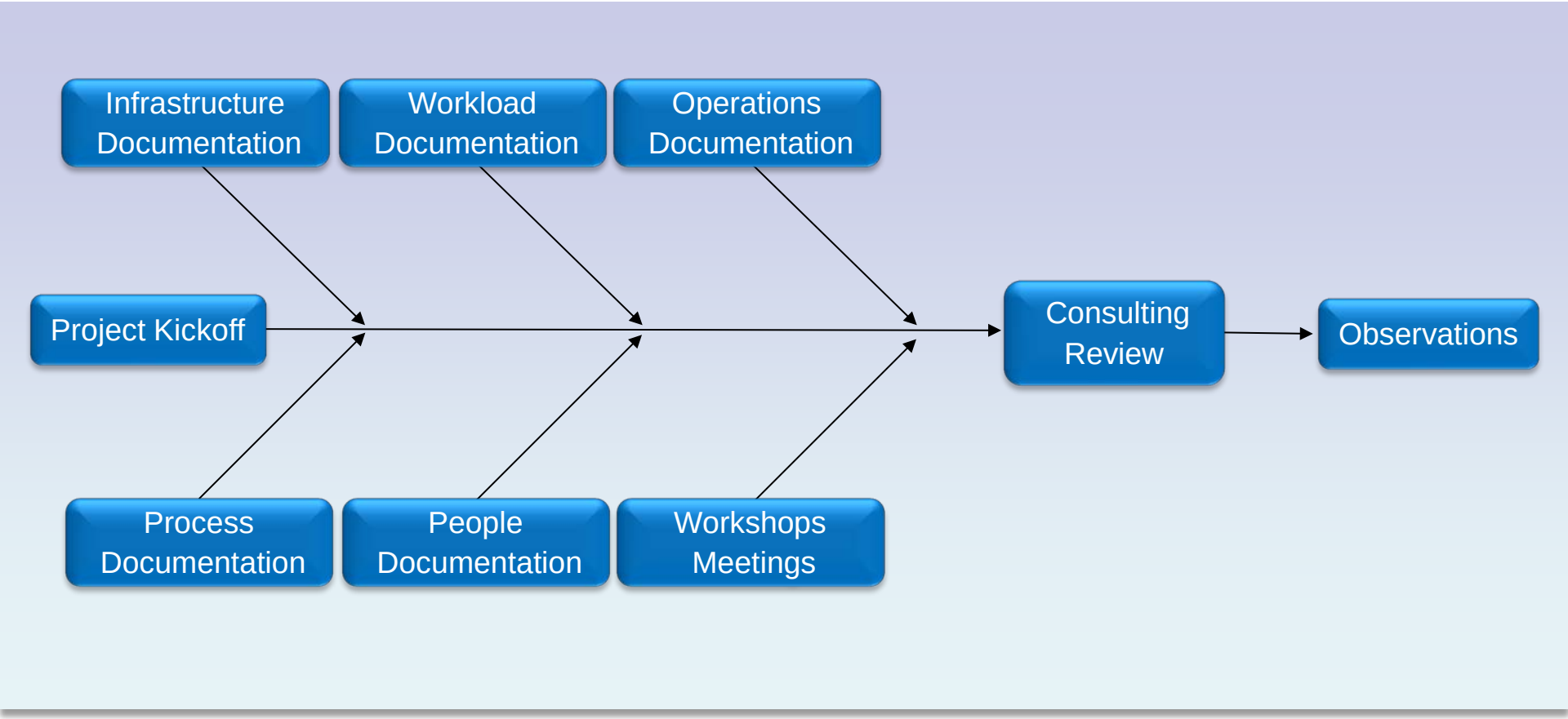
Agility

- Agility is how IT rapidly anticipates and responds to business and technology dynamics in order to deliver effective services to the enterprise. High agility is a reflection of a strong alignment between business and IT.

Service Delivery

- Service Delivery is the set of principles, standards, policies and constraints used to guide the design, development, deployment, operation and retirement of services delivered by IT with a view to offering a consistent service experience to a specific user community in a specific business context

Observations are developed from many sources and reflect internal and external points of view



IBM incorporated a BCIJS Assessment into the 5 Year IT Strategy
Scope

- Objectives
- Is the Current BCIJS Plan viable?
- Should the County award the BCIJS Integrator RFP?

- Approach
- Interview BCIJS Steering Committee
- Review BCIJS documentation, Integrator RFP and Bid
- Identify Risks
- Recommend BCIJS Strategy and Roadmap

IBM found these observations, as seen through the People Lens, to have the most impact on IT execution

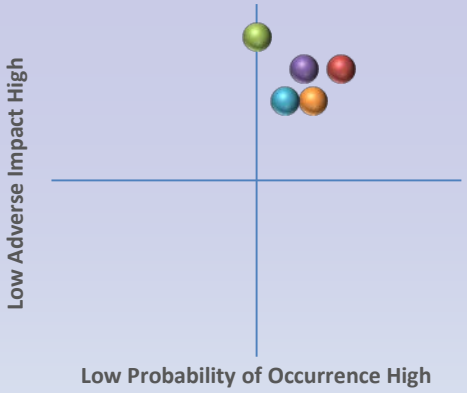
OP-06 Bexar County Offices and Departments have funded requests for embedded BCIT Deskside Support that are not being satisfied

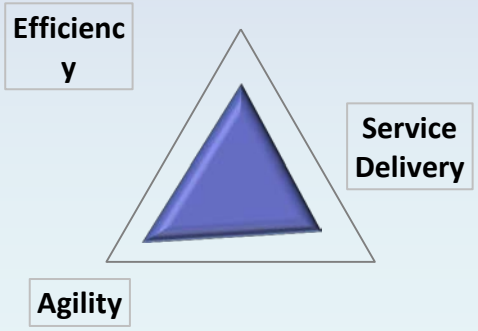
OP-01 BCIT senior leadership not meeting responsibilities for planning, strategy, and policy.

OP-04 Architecture as a function does not exist

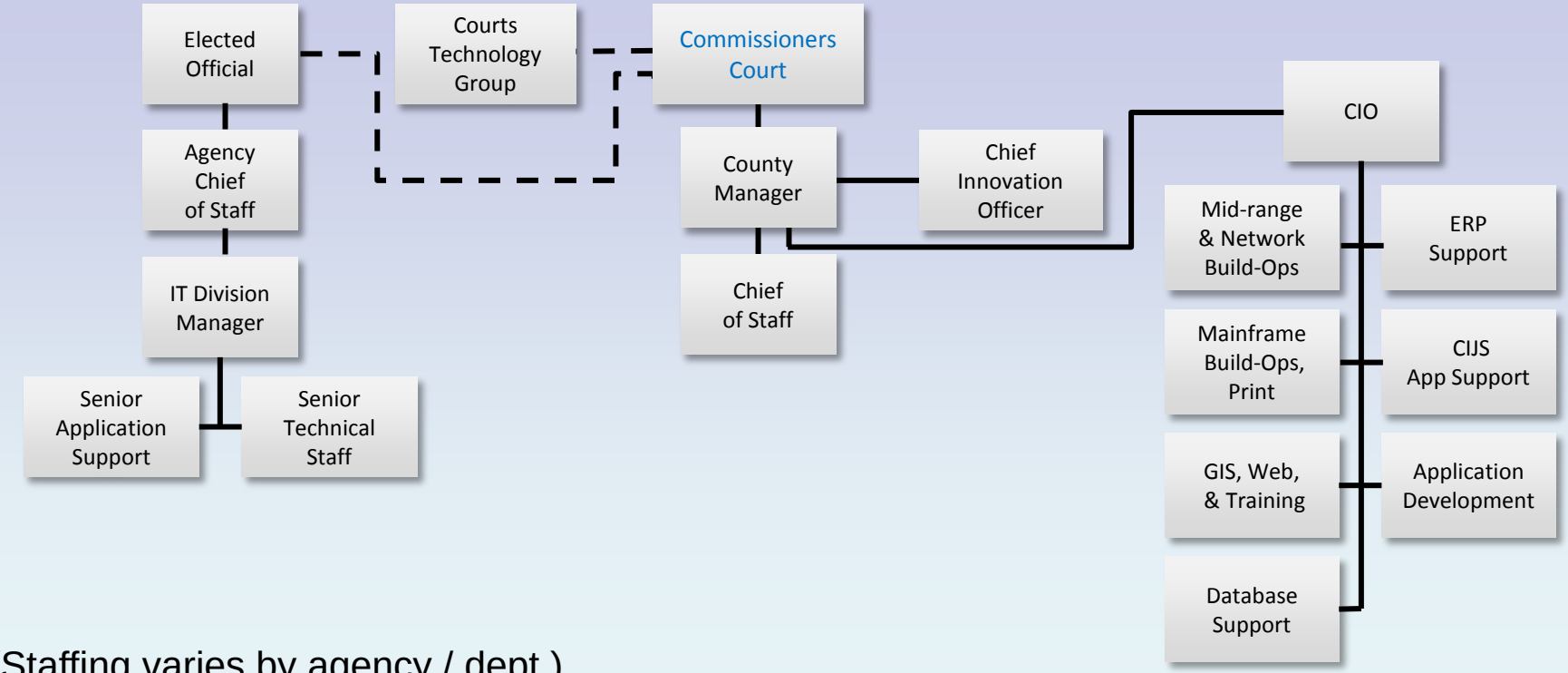
OP-03 BCIT Operations teams are understaffed (infrastructure, operations, database, middleware, security)

OP-11 BCIT senior leadership does not develop and implement Key Performance Indicators (KPIs)





County IT is organized using two models: a line of business model for agencies and a traditional, functional model for BCIT



(Staffing varies by agency / dept.)

Agency and BCIT teams operate independently not realizing potential shared productivity improvements

IBM found these observations, as seen through the Process Lens, to have the most impact on IT performance

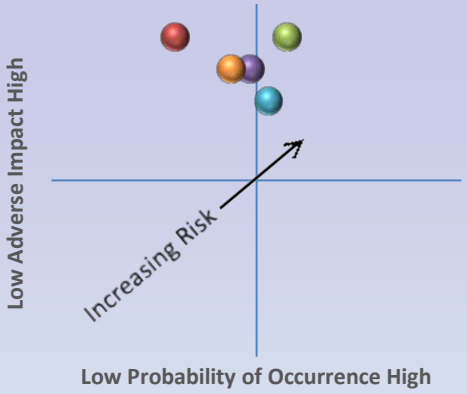
OW-44 Monitoring based on Service Level Agreement (SLA) driven KPIs does not exist within the BCIT ecosystem

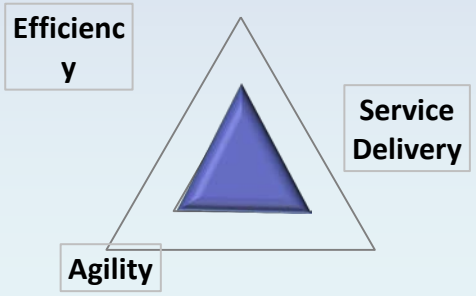
OW-23 A workload refresh plan does not exist that includes affinities, inventory, end of life date and justification for replacement

OW-21 The weekly BCIT leadership meetings are ineffective due to poor information, lack of planning, and weak agenda

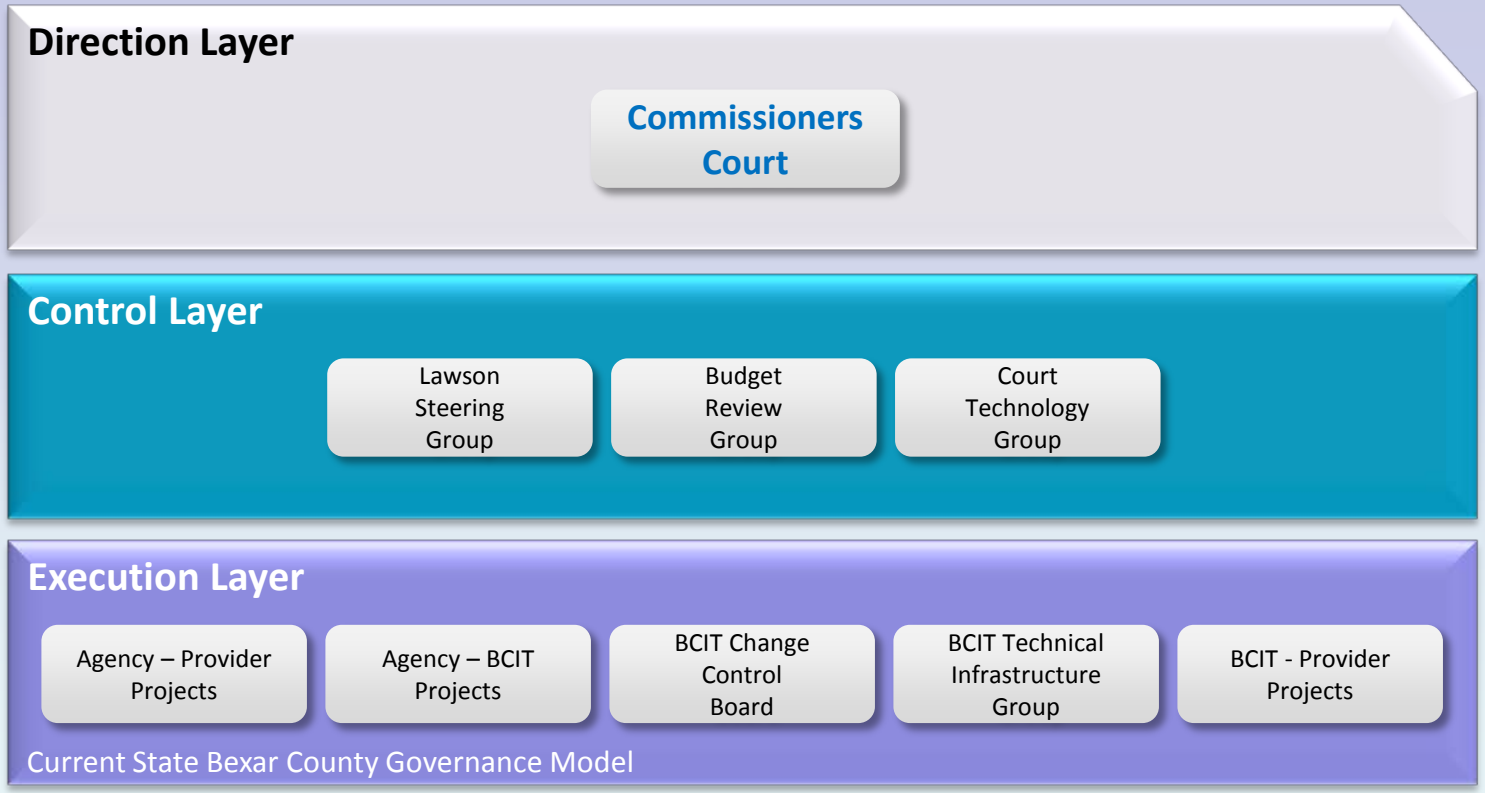
OW-47 Application architecture requirements are not reviewed on a cyclic basis

OW-10 IT executive management no longer meets frequently with County management for innovation and process improvement





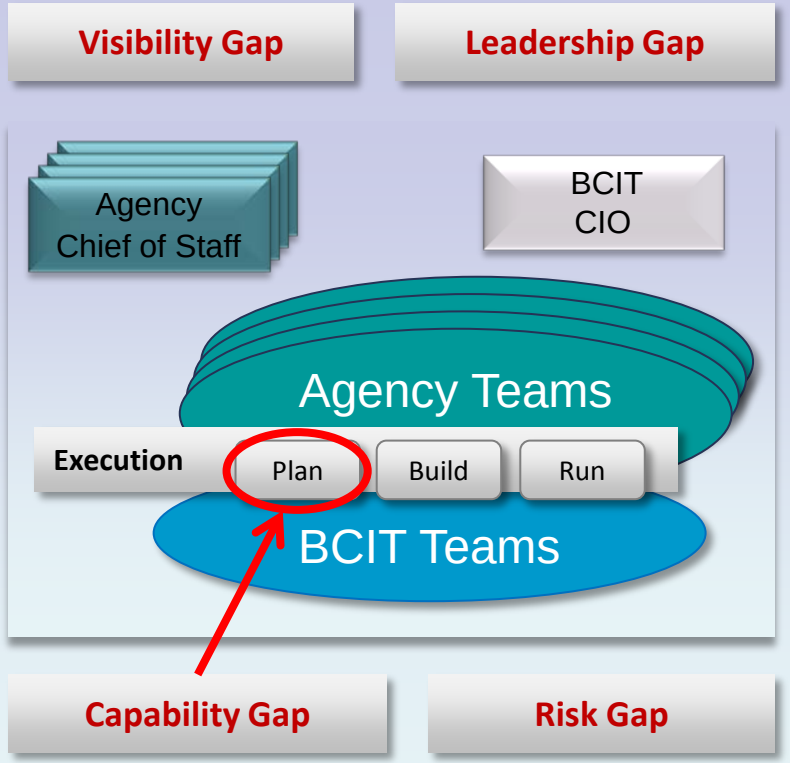
Governance is fragmented and limited in scope leaving gaps in authority and decision rights that leads to sub-optimal solutions



Key gaps in current governance capability are the lack of Architecture Review and a PMO

Agencies and BCIT develop and operate IT services using different models depending on tactical needs not strategic intent

- **Executive leadership operates independently with separate budgets and strategies.**
- **IT is organized by technical function which creates gaps in service delivery capability.**
- **Agencies contain senior IT staff taken from BCIT draining shared service delivery abilities.**



Processes are now performed at level 1 and need to be level 4 or higher, in general, to satisfy customers expectations and handle the workload

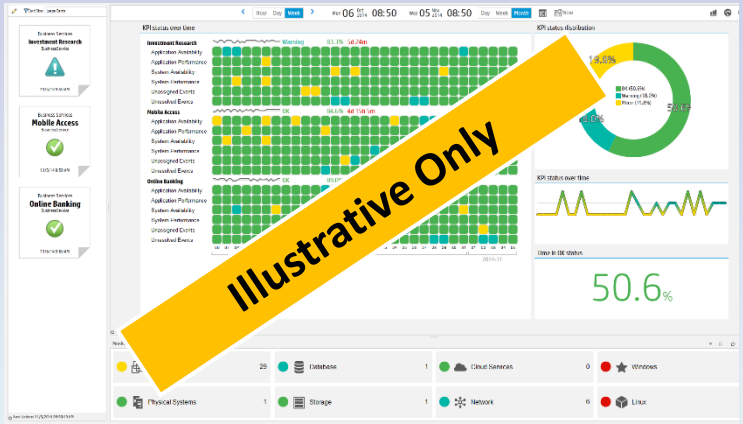
IT Service Management (ITSM) Assessment Summary		Low # is worse condition	High # is more important	High # is more capable	Low # is higher priority
Process Domain	**Number of Processes**	**Current State**	**Importance**	**Target**	**Improvement Priority Ranking**
Customer Relationship Domain	**6**	**1.4**	**3.8**	**4.2**	**3**
Direction Domain	**7**	**1.3**	**4.3**	**4.1**	**1**
Develop and Integrate Domain	**7**	**1.6**	**3.7**	**3.7**	**4**
Operate Domain	**7**	**1.4**	**4.1**	**4.1**	**5**
Resilience Domain	**6**	**1.1**	**4.3**	**4.3**	**2**
Administration Domain	**5**	**1.3**	**2.6**	**2.6**	**6**
Process Domain Average		**1.4**	**3.8**	**3.9**	
Conclusion		**Lacking needed capabilities**	**Correct focus**	**Automate to help staff**	**Helps sequence initiatives**

Cell Rating	Description
1.50	Critical issue, Take I immediate action
2.90	Poor Performance, Create improvement plan
3.50	Acceptable performance

Refer to ITSM Assessment Report file for additional detail

Data center operations improve quickly with systems management tools that identify issues hidden to staff and automatically take action

- Missing automation tools means staff cannot keep up with the workload to preemptively manage issues before they happen
- Users know about outages before IT staff and managers, but they don't know why IT is blind to their outage.
- Application and systems alarms sent to staff can't be "acted on" fast enough to prevent outages.
- Lack of "Cloud like" automation means implementations take weeks instead of a day and service restoral takes hours or days instead of minutes



Cloud like automation payback is driven by labor saving in service management tasks (IBM Research)

IBM found these observations, as seen through the Technology Lens, to have the most impact on IT delivery

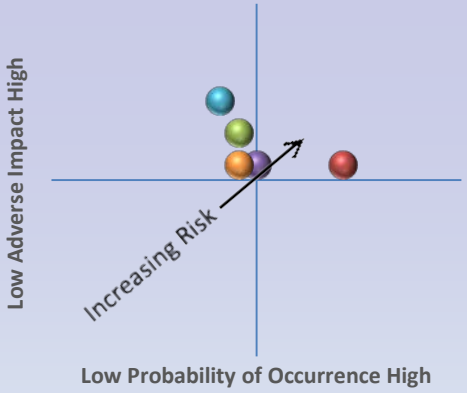
OT-08 Application architecture documentation is incomplete and does not reflect the complete state of the workload stack (platform, network, storage, affinity)

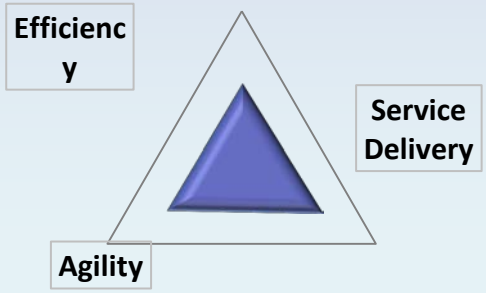
OT-01 Fragile, over 4 year old IT infrastructure is subject to a much greater risk of hardware failure in the event of power down recovery

OT-04 Network is currently not a converged network; voice and data are separate

OT-17 A single standby generator supports the data center… tested regularly, but not under load, increases risk of extended outage if utility fails

OT-05 Single network core (hardware for all users of data center systems) is a single point of failure

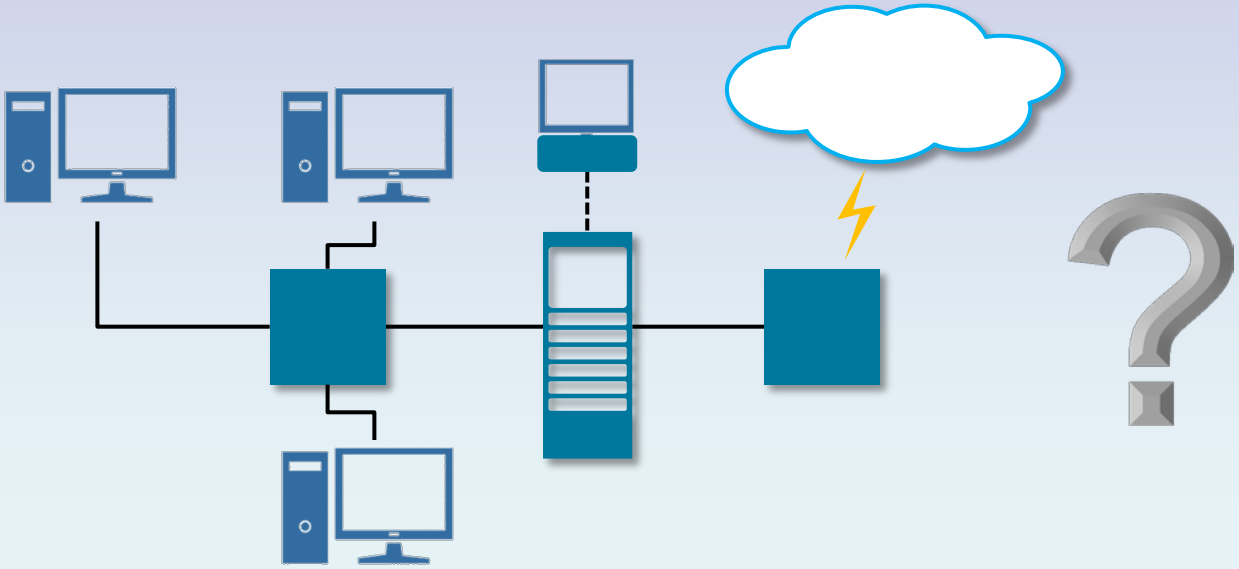




Technology has not been kept current and there is significant risk in continuing to use the current physical facilities

There is a lack of data available that describes the architecture and design of the current network

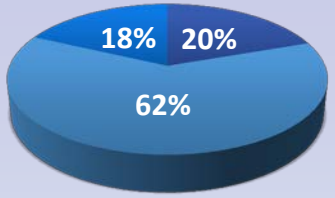
- **The current LAN environment is a single core / edge switch network (this is a single point of failure), with VLANs used to isolate traffic impact**
- **The current WAN network is a mix of daisy chained fibre and copper direct connections**



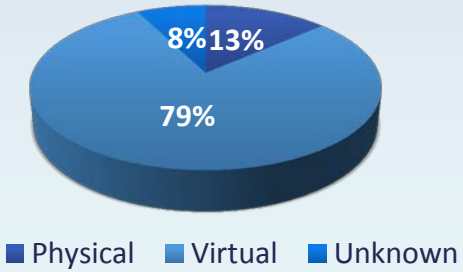
The information provided shows the Windows and Linux (x86) ecosystem is highly virtualized

- There are 169 physical Windows/Linix (x86) servers supporting production workloads
- There are 534 virtual x86 instances supporting production workloads
- There are 155 unknown x86 instances supporting production workloads
- Including the unknowns as Virtual Machines (VMs) gives a Virtual to Physical ratio of approximately 4:1
- The high percentage of unknowns is a result of not maintaining a Configuration Management Data Base

Production Servers



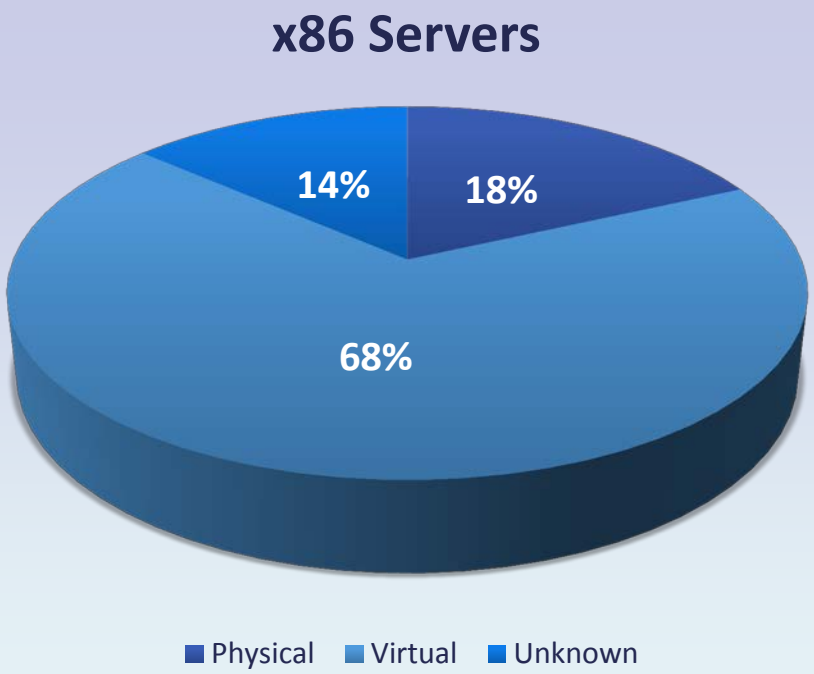
Non-Production Servers



- There are 77 physical x86 servers supporting production workloads
- There are 449 virtual x86 instances supporting production workloads
- There are 43 unknown x86 instances supporting production workloads
- Including the unknowns as VMs gives a Virtual to Physical ratio of approximately 6:1
- The high percentage of unknowns is a result of not maintaining a Configuration Management Data Base (CMDB)

The lack of documentation maintained on the infrastructure limits understanding of the current server infrastructure

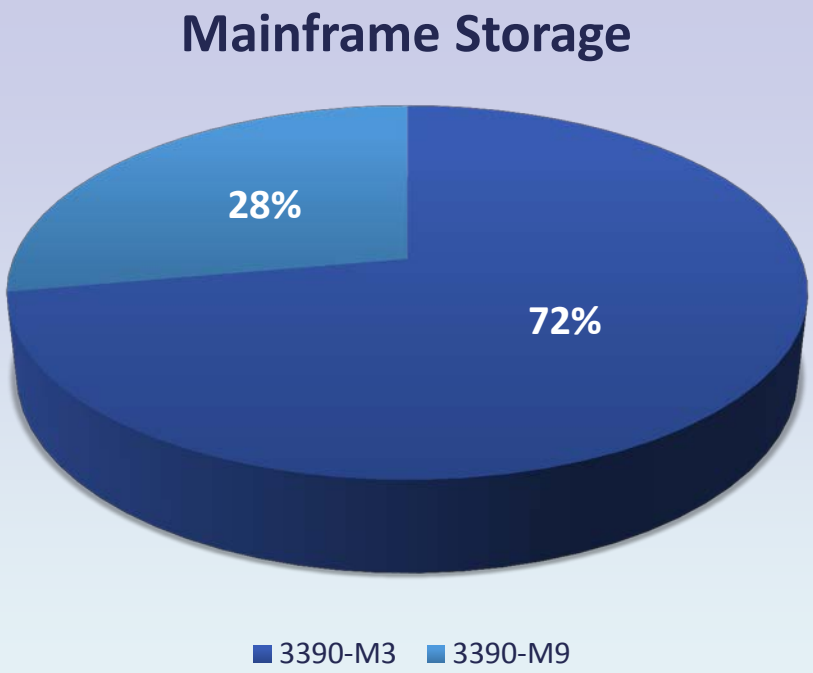
- There are 264 physical x86 servers
- There are 994 virtual x86 instances
- There are 197 unknown x86 instances
- Including the unknowns as VMs gives a Virtual to Physical ratio of approximately 5:1
- The high percentage of unknowns is a result of not maintaining a CMDB (*)



(*) A CMDB is a database that contains all relevant information about the components of the information systems used in an organization's IT services and the relationships between those components

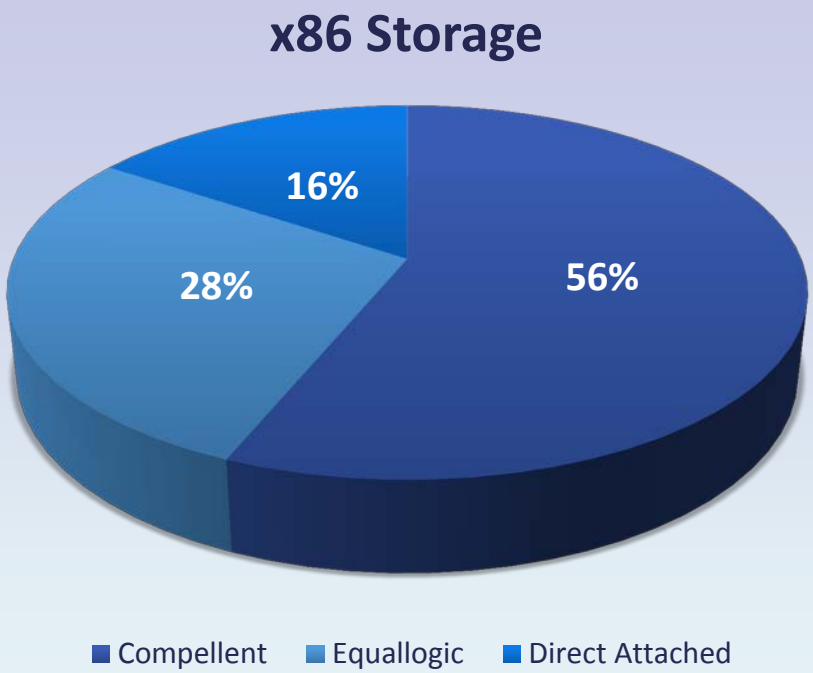
Mainframe storage documentation lacks detail and limits understanding of utilization detail

- There is 574.5 GB of 3390-M3 storage emulated
- There is 221 GB of 3390-M9 storage emulated
- The distribution of mainframe storage is not well understood



x86 storage is spread across multiple vendors and solutions, documentation does not reflect specific utilization detail

- **Compellent ~ 900TB raw**
- **EqualLogic ~ 450TB raw**
- **Storage Attached Network (SAN) – Compellent and EqualLogic**
- **Direct Attached Storage Device (DASD) – Shark 250TB**
- **Non production is estimated at 10% of total space**



IBM found these financial observations to have the most impact on IT investment

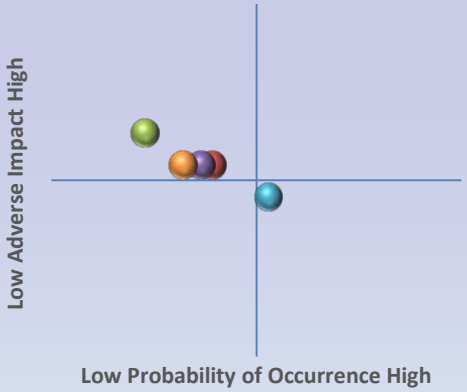
OW-91 BCIT does not regularly provide transparent view of the financial status of approved capital projects and vendor maintenance contracts

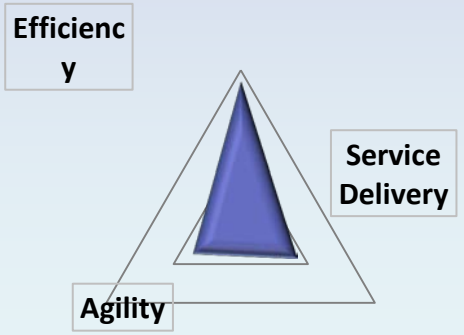
OW-88 BCIT does not regularly provide financial view of costs by IT domains (Servers, Networks, Storage, Software)

OW-90 BCIT does not regularly provide prioritized capital project submissions with proposed multi-year spend plan

OW-89 BCIT does not regularly provide financial view of actual capital and operating costs

OW-93 BCIT and Agency IT's current annual operating cost of $21M is not broken out by IT domains





IBM observed these key issues during the BCIJS Assessment
Current BCIJS Environment

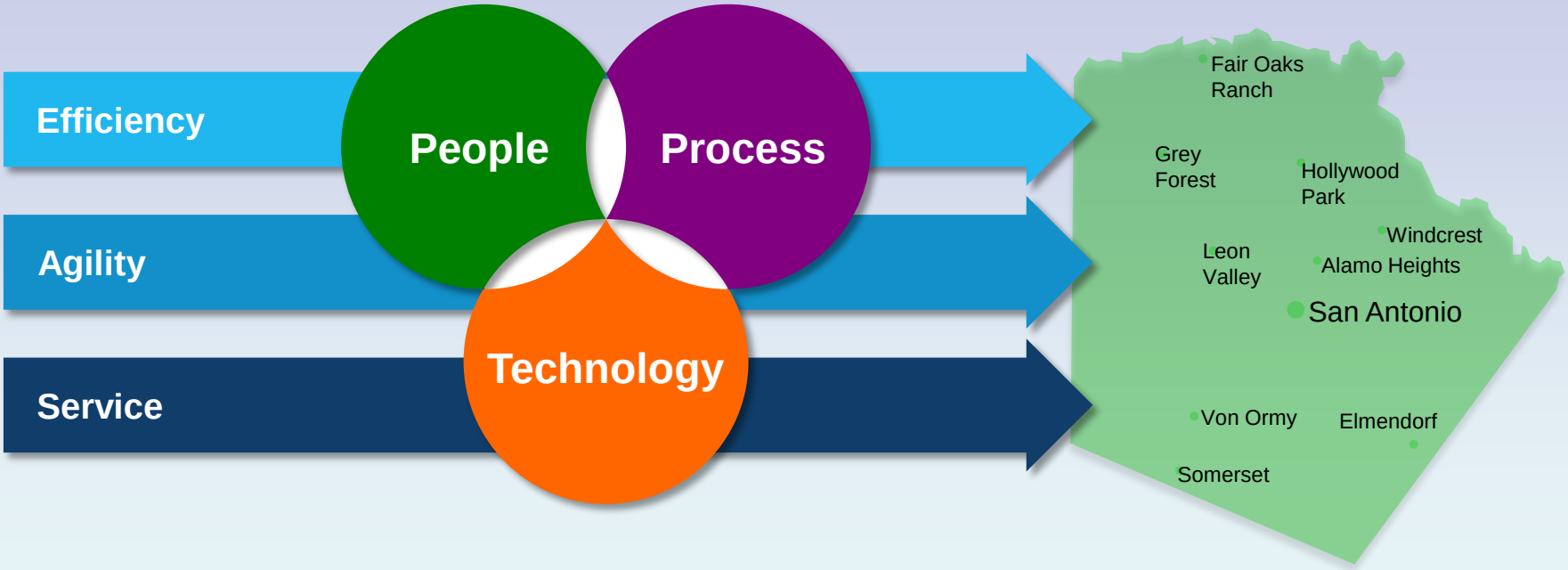
- Governance was working until 5 years ago.
  - Currently, BCIJS Steering Committee (elected officials) are focused on business, not policy matters and are not meeting regularly.
  - No one is leading the vision.
- Business architecture is largely unchanged in 10 years.
- Technical architecture is dated, based on legacy technology, and missing key integrations.
  - Obsolete security and incomplete documentation resulted in a recently failed BCIJS security audit.
- Most BCIJS projects are on hold or have not made progress in years. Project management appears undisciplined.
- Risks including management costs, fragility, lack of adaptability, gaps in completeness, accuracy and timeliness of information.

IBM developed these conclusions during BCIJS Assessment

Issues affecting Future BCIJS Environment

- There is no documented, common vision and objectives for the future BCIJS environment.
- There is no target architecture or plan for new technologies and compliance requirements (e.g. CJIS Security).
- Many planned BCIJS projects depend on infrastructure and missing project management resources.
- The Integrator RFP received 1 bid and only for Phase 1 due to risks and procurement issues.
- Risks to progress include frustration/disillusionment, decreasing case volumes, changes of agency administration and lack of leadership.

TARGET STATE INSIGHTS



Be the trusted IT partner in delivering services to the citizens of Bexar County

Bexar County IT Vision - *new*

STRATEGY

A plan that creates competitive advantage

IT Strategy Guiding Principles are used to direct development of capabilities and future solution design

Principle	Guidance
Availability	"IT will deliver services to the end user based on specific uptime agreements"
Compliance	"Optimize and enforce IT policies and procedures to ensure that regulation observance is efficient and effective"
Manageability	"The technology and process will have the capability to support zero end-user impact during maintenance activities"
Operability	"IT activities will follow approved and published methods"
Performance	"Match the capacity of IT services and infrastructure to the needs of the business"
Recoverability	"The technology and process will have the capability to support return to normal operation based upon agreed to requirements"
Security	"Establish and maintain technology and policies to assure that information security strategies are aligned with and support business objectives"
Financial	"Capital and operating budgets will align with the priorities of the Bexar County Commissioners Court"
Usability	"IT systems will be designed with current and common interfaces for a variety of devices, as required"

Vision and Guiding Principles Workshop October 28, 2015

The strategy is also informed by External Insights in County Government

Insight	Description
Cloud Computing	Industry Clouds replace original Clouds **Strategy Implication**: Functionality and contracts must allow flexibility for movement as new, better options appear
Big Data	Storage more than triples and could be as much as 10 times as large **Strategy Implication:** Ability to rapidly expand storage with low incremental cost is key to meeting business demands
Integrated Processes	Cross organization, Cloud collaboration replaces traditional processes **Strategy Implication:** Staff developed Cloud applications and workflow rapidly morph business processes
Continuous Computing	Hyper connected and hyper active users (3 – 5 devices per user) affect design **Strategy Implication:** Mobility solutions and business processes become interrelated and mutually dependent
Business Insight	New business intelligence technologies and data types expand rapidly **Strategy Implication:** IT staff and strategies must evolve quickly to keep up with user demands for more analysis
Sensors Everywhere	Wide spread Internet of Things (IoT) data collection and use of “Big Data” analysis **Strategy Implication:** IoT monitors will greatly outnumber traditional IT monitors and drive use of IoT potential
BYOA	Bring Your Own Application becomes widespread as County employees are empowered by external Cloud tools **Strategy Implication:** Security risks multiply quickly as many functional improvements come from business staff
BYOD	Bring You Own Device becomes widespread, including wearables (glasses, watches, proximity tags) **Strategy Implication:** IT cannot control growth of end user devices and wearables change how processes are executed

Forester, Gartner, IBM, IDC, Research Reports

The BCIJS Strategy is viable, but is delayed due to systemic issues
Executive Summary

Q: Is the Current BCIJS Plan viable?

A: Yes, a "best of breed" approach has been successfully implemented in similar sized counties (King, WA; Sacramento, CA). Alternatively, a "suite" approach has been more common in medium and small size counties and would reduce cost, risk, and time to implement as a trade off to less customization. Either approaches requires:

- BCIJS policy, business and technical governance (common vision)
- IT project management
- Enterprise architecture

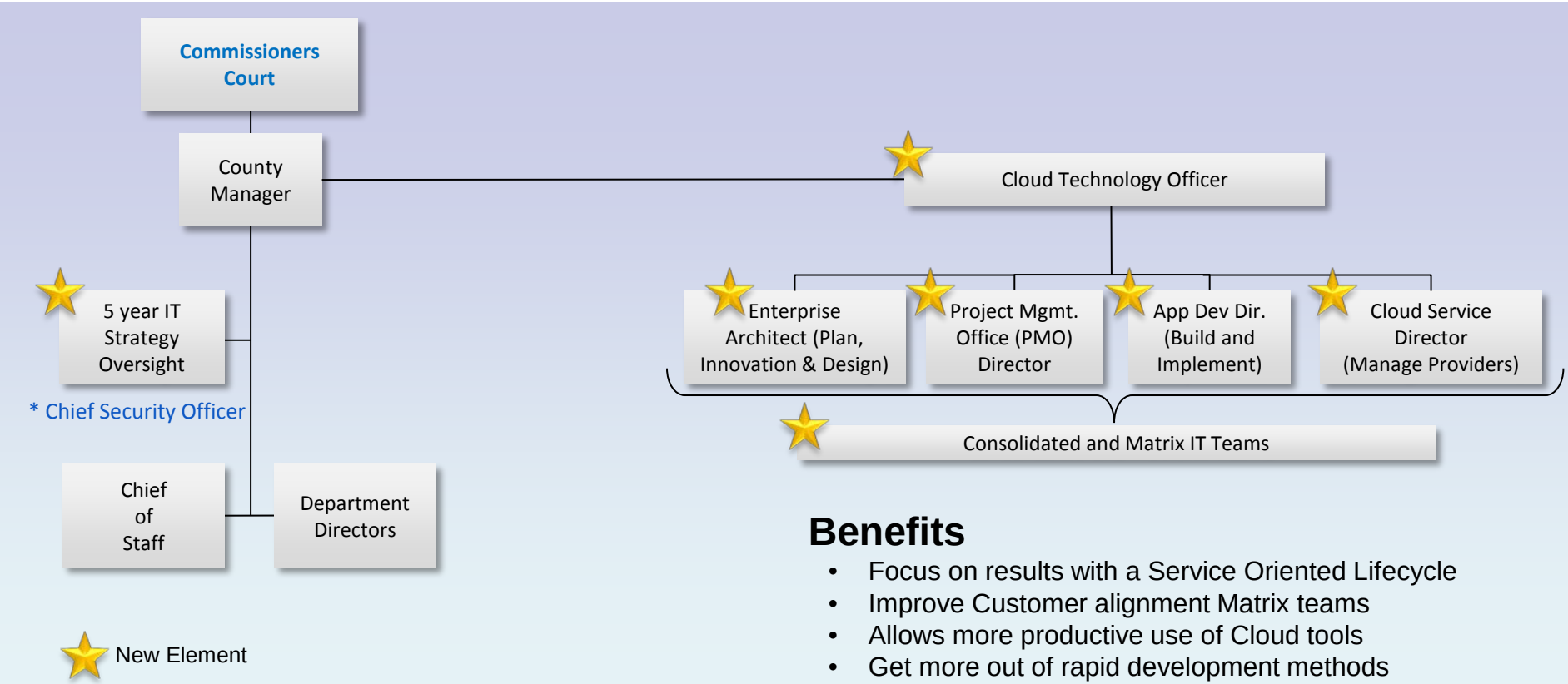
Q: Should the County award the BCIJS Integrator RFP?

A: No, the immediate focus should be resolving infrastructure issues and reconstituting BCIJS governance and IT management.

PEOPLE

Focuses on who plans, builds, runs and manages IT

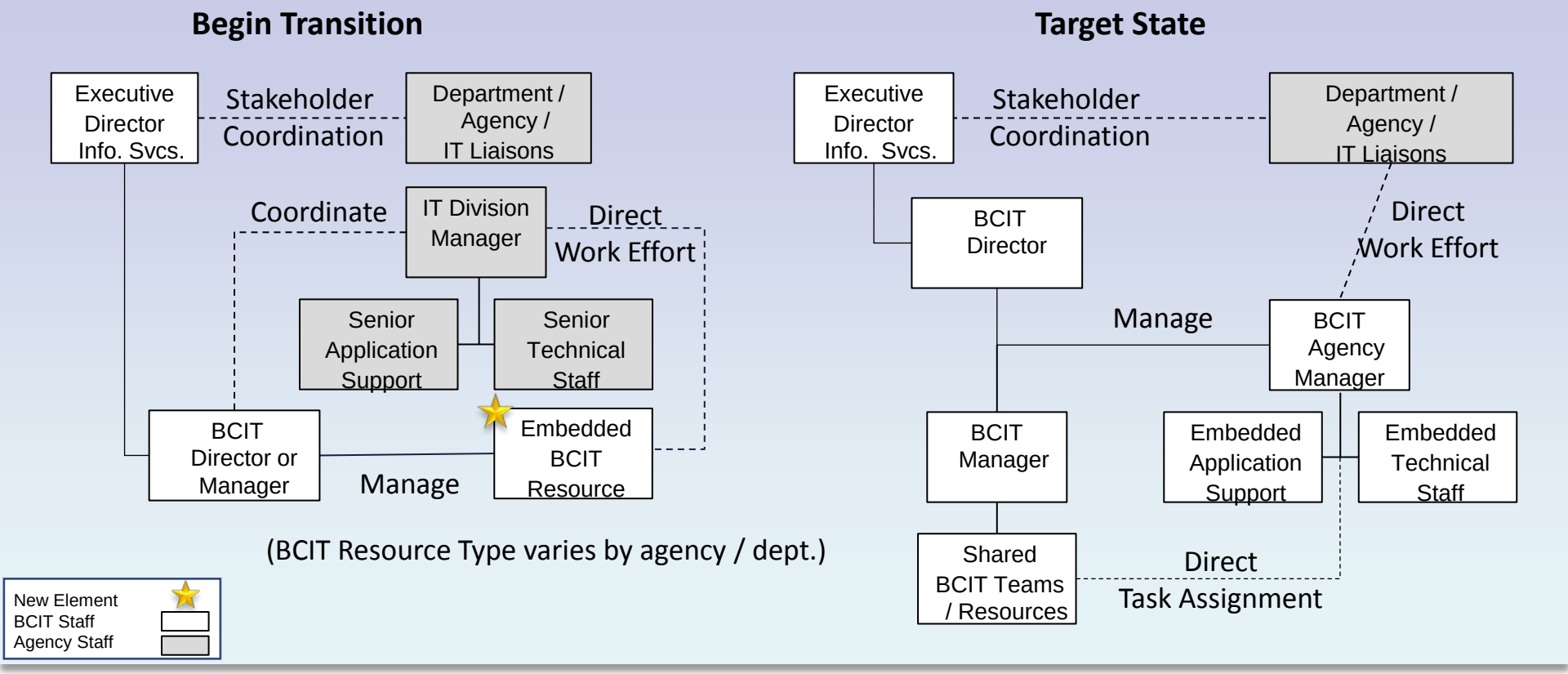
IBM recommends a Service Lifecycle Organization Structure that streamlines target state delivery



Benefits

- Focus on results with a Service Oriented Lifecycle
- Improve Customer alignment Matrix teams
- Allows more productive use of Cloud tools
- Get more out of rapid development methods

IBM also recommends an integrated County wide, IT organization model that improves collaboration, communications and service results



A matrix organization model allows the agency to direct work effort, have rapid response and control the budget while BCIT owns recruitment, technical skills and labor costs

The people strategy is based on transforming BCIT into a service delivery organization

Legend Item deleted Item Added	Business As Usual (BAU)	Step #1 Exit EDC	Step #2 Complete move of Production to Cloud	Step #3 Finish move selected Production to SaaS	Step #4 Begin Steady State	Step #5 Decision Time, What's Next?
Governance	Lawson Steering Group Court Tech. Group BCIT Change Control BCIT Tech. Infra. Group	IT Advisory Group Architecture Advisory Group IT Budget Advisory Group Readiness Advisory Group Agency Tech. Groups BCIT Advisory Groups	N/A	N/A	N/A	N/A
Organization	CIO Chief Innovation Officer 8 BCIT Managers 3 Agency IT Div. Dir. Functional Teams	Stability IT Teams Agility IT Teams Agency IT Teams Service Lifecycle Model Matrix Teams with Agencies	N/A	N/A	Consolidated IT Org. Chief Technology Officer	N/A
Roles	App Dev Engineering Support Mainframe Operations Service Desk Mail Print	Cloud Service Director Rapid Dev. Team Dev / Ops Team Embedded Tech. Support Shared Tech. Support Service Desk	Rapid Dev. Teams Dev / Ops Teams Embedded Tech. Support(s) Mainframe Operations- Mail Print	Programmer Network Architect Data/Prod. Control Communications Business Analyst Supervisor	N/A	N/A
Enterprise Architecture	N/A	EA Director Enterprise Architect Solution Architect	Solution Architect	N/A	N/A	N/A
PMO / PM	N/A	PMO Director PM	PM	N/A	N/A	N/A
Services Sourcing / Finance	N/A	Vendor Sourcing Manager	N/A	IT Financial Analyst	N/A	N/A
Timeline	< Go Decision	Decision + 12 Months	Decision + 24 Months	Decision + 36 Months	Decision + 48 Months	Decision > 60 Months

Improved results are due to added roles and reassignment of staff from obsolete roles and functions

Roles added beginning Transition in 2016	Roles requiring reassignment starting in 2017 during Transition
Enterprise Architect (Director)	Mail and Mail Supervisor
PMO Director	Data Control Clerk and Supervisor
Service Manager	Asset Control Analyst
Product Manager	Operator and Operator Lead
Provider Account Administrator	Comm. Tech and Network Architect
Architect	Comm. Coordinator & System Programmer
Project Manager	Supervisor and Analyst Programmer.
Transition Leader	Transition Leader and Software Engineer.
	Production Control Analyst
IT Total: 146 (incl. 27 non-BCIT)	**IT Total begins at 146 and becomes 98**

Reassignment Objectives

1. IT Staff reassigned to Agency role
2. IT Staff reassigned to non-IT role
3. Mail and Print roles stay the same but report to another County Department
4. Training provided to staff prior to assuming new roles
5. Normal attrition reduces need to reassign staff

Improved results requires IT and Agency staff to have new skills to support Cloud sourced applications (BCIJS), infrastructure and tools

Skills missing in Current State	Skill building methods	Skills being retired
Cloud System Management Tools	Cloud administrator training (infrastructure)	Mainframe AdaBase and Natural
Cloud Development Tools	Cloud developer training (Web services)	Mainframe operations and monitor
ERP Development Tools	Cloud PaaS tool and RDM training	Microsoft Visual Builder
New CIJS Development Tools	Cloud PaaS tool and RDM training	Traditional Data Communications
Rapid Development Method (RDM)	Agile, Design Method, and Web Services, training	Traditional Voice Communications
ITIL Method	ITIL Foundations & a few Intermediate courses	
Cloud ITSM Suite	Cloud ITSM Administrator training	
Monitoring Tools and Dashboard	Infrastructure management tools training	
Mobile Development Tools	Mobile First Design Method and tools training	
Cloud Experience	Cloud provider mentoring	
Converged Networking	VoIP and software defined network training	

Improved results requires competitive compensation to retain needed IT knowledge workers during transition and in the target state

BCIT Role Domain Avg. Pay	Avg. Pay and Quartile	City of San Antonio Avg. Pay	To match City of SA Adjustment	Industry Average	Comments
Management Positions (8)	$109,700, 2.6, good	$115,100	$5,300 or BCIT is 4.9% lower	$141,600 or BCIT is 23% lower	Small adjustment to be competitive with City of SA
IT Knowledge Workers (59)	$ 64,200, 1.9, poor	$ 72,400	BCIT pay scales are 18% lower	$88,100 or BCIT is 37% lower	Large increase to be competitive with City of SA
Other IT Staff (51)	$ 44,100, 2.8, good	$ 44,500	$400 per staff or about 1% lower	Not Available	Minimal adjustment, pay scales are 12 to 17% low
Conclusion	Needed Knowledge Workers are underpaid		Knowledge Worker pays scales are too low	Knowledge Workers will leave to join business	Bexar County can be competitive with the City of SA for IT Staff and Managers

Note: Industry Salary Averages developed from
2015 Global Knowledge IT Skills and Salary Report
2016 Robert Half Technology Staff Salary Guide

Recruitment of millennial IT professionals requires a narrowing the pay scale gap with private businesses

Enterprise Architect role evolves as business and technology disruptions drive the need for more leadership and vision (e.g. for BCIJS)

Key Findings

Business Disruption	**EA must provide leadership and vision to overcome disruptions to business processes caused by technology**
Outcome Realization	**EA value will be measured by the ability to realize better business outcomes and not by creating document artifacts**
Mixed Teams	**Successful organizations will create architect teams with heterogeneous skills and experience to maximize value**

Key Recommendations

Actionable Deliverables	**Focus EA skills and experience on action plans / designs that address technology / business disruptions**
Acquire Innovation Knowledge	**Hire or augment architects with knowledge of business and technology disruptions and how to address those issues**
Fund Architects	**Budget for Enterprise, solution and technology architects and training to improve IT and business results**

Note: Gartner Predicts 2014: Enterprise Architect Role Headed for Dramatic Change

EA Organizations are split between driving innovation and maintaining the current state
Driving innovation is the growing segment because of the much greater impact on business results

Sourcing becomes a key competency as IT becomes more of a broker for third party provided services (Cloud, Network, Help Desk, Print Ops, App Dev, etc.)

Key Findings

Sourcing has failures	**35% of vendor sourcing relationships will fail in 2017**
Vendors help	**Vendors help move to and gain value from digital transformation using Cloud**
Use service integration	**80% of IT budget will be based on service integration with internal and external services**

Key Recommendations

Leverage ITSM	**ITSM framework helps to align Cloud based, IT service value with business needs.**
Establish VSM Practices	**Establish strong vendor sourcing and management practices as core capability**
Implement VSM controls	**VSM helps establish enterprise ownership and control data to minimize security risks**

Note: IDC Vendor Sourcing and Management: Relationship Management in the 3rd Platform Era, October 2015

The Vendor Sourcing Manager (VSM) function grows in importance as more services are sourced
Sourcing is called Supplier Management by ITIL V3 and IBM PRM-IT frameworks

The most advantage from sourcing comes when non-Core functions can be clearly identified and controlled

Principles

1. Source **non-Core** capabilities: Project, Operations and Service functions are available from multiple sources to reduce costs, ease management, and improve quality
2. Retain **Core** capabilities in the following two areas to improve results

Innovation & Guidance	**Vendor Controls**
Planning	*Business Case*
Architecture	*Reporting (metrics)*
Sourcing	*Contracting*
Finance	*Invoicing*
Risk/Compliance	*Resourcing*

3. Align people, process and technology (lenses) sourcing execution and vendors
4. Leverage a multiple vendors to reduce risk and create competition
5. Assign a Vendor Sourcing Manager to establish and improve sourcing practices
6. Establish sourcing policy and practices prior to implementing sourcing

Examples of non-Core: App Dev, Network, Print, System Ops, Security Ops, and Deskside Support
Examples of Core: CIO, CTO, Enterprise and Solution Architect, and Security/Risk Manager

PROCESS

Focuses on manual tasks and systems automation to run IT

Governance improves results by improving collaboration between peers in an open, regularly scheduled forum (e.g. for BCIJS)

Advisory Group	Purpose	Meeting Cadence
IT Innovations	Create an open discussion and free exchange of ideas to improve sharing of innovations across agencies and departments	Quarterly
Agency Technology	Create a mechanism to define and describe requirements and needs for new or upgraded IT services that support business processes within a single agency	Monthly
Architecture	Create a mechanism to prioritize which IT technology solutions or services will be part of the standard IT portfolio	Monthly
Funding Proposal	Create a forum for Agencies and Departments to present, discuss and then draft more complete annual and ad hoc budget requests	Monthly
Production Readiness	Evaluate whether the solution and implementation can perform or did perform per agency and department requirements for uptime and return to business service if there is an outage. Use ITIL based criteria to evaluate plans and results	Monthly
BCIT Technology	Review whether the solution and implementation complies with existing BCIT technical standards whether Cloud or internal solutions are services	Weekly
BCIT Budget	Evaluate quality of BCIT budget requests and create transparency in BCIT budget recommendation process	Seasonally – Weekly
BCIT Change Control	Achieve the successful introduction of changes to an IT system or environment as a balance of completeness, cost and timely delivery	Weekly
BCIT Operations	Evaluate methods and results to satisfy delivery and support commitments using existing computer resources and staff	Weekly

Project Manager role evolving as the need better business and technology project results drive more leadership (e.g. for BCIJS)

Key Findings

Shift Funds Away	**53% of spend is on projects that "run the business" or business as usual maintenance**
Good Use of Funds	**27% of spend is on projects that "grow the business." New products or facility expansions, fit this bill.**
Best Use of Funds	**20% of spend is for "transform the business." All business excitement resides here.**

Key Recommendations

Partner with Executives	**Engage in project approval decision process to shift funding to grow or transform**
Improve Image	**Communicate business value generated to the customers and their staff to change image,**
Implement Activist PMO	**80% of all firms have a PMO reporting at VP or higher level, age of PMO predicts its value**

Note: PMSolutions State of the PMO 2014

PM role is matured using consistent practices as developed by the PMO
Business results improve because PM oversight focuses on maximizing value

Target State is designed to be level 4 or be sufficiently efficient to satisfy customers expectations and handle the workload

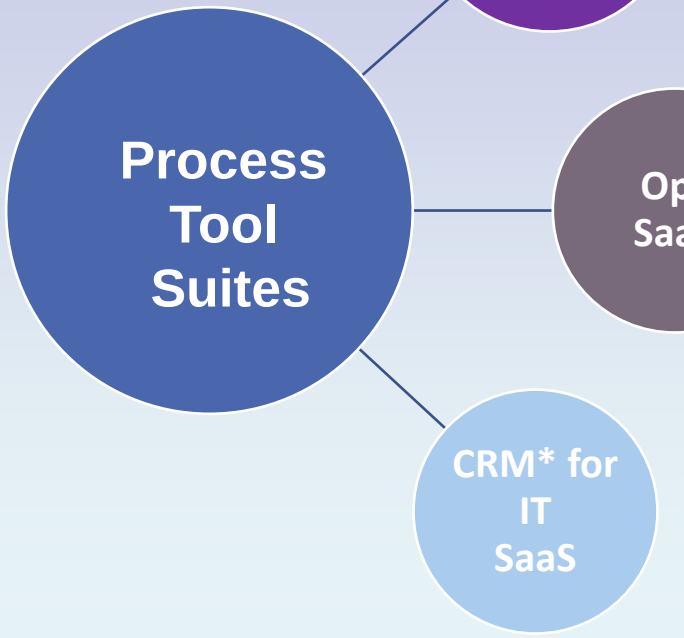
IT Service Management (ITSM) Assessment Summary		Low # is worse condition	High # is more important	High # is more capable	Low # is higher priority
Process Domain	**Number of Processes**	**Current State**	**Importance**	**Target**	**Improvement Priority Ranking**
Customer Relationship Domain	**6**	**1.4**	**3.8**	**4.2**	**3**
Direction Domain	**7**	**1.3**	**4.3**	**4.1**	**1**
Develop and Integrate Domain	**7**	**1.6**	**3.7**	**3.7**	**4**
Operate Domain	**7**	**1.4**	**4.1**	**4.1**	**5**
Resilience Domain	**6**	**1.1**	**4.3**	**4.3**	**2**
Administration Domain	**5**	**1.3**	**2.6**	**2.6**	**6**
Process Domain Average		**1.4**	**3.8**	**3.9**	
Conclusion		**Lacking needed capabilities**	**Correct focus**	**Automate to help staff**	**Helps sequence initiatives**

Cell Rating	Description
1.50	Critical issue, Take I immediate action
2.90	Poor Performance, Create improvement plan
3.50	Acceptable performance

The process strategy is based on transforming BCIT into a service delivery organization

Legend Item deleted Item Added	Business As Usual (BAU)	Step #1 Exit EDC	Step #2 Complete move of Production to Cloud	Step #3 Finish move selected Production to SaaS	Step #4 Begin Steady State	Step #5 Decision Time, What's Next?
Service Management	Incident Change Limited MS SCM tooling	Tool based Processes Process Managers SaaS based ITSM & email SaaS based Ops Tooling SaaS based CRM for IT Limited MS SCM tooling	Tool based Processes Process Managers	Tool based Processes Process Managers		
Operational and Compliance Risk	EDC Age and Fragility CIJS Audit Findings Single network core Few successors identified	Cloud resilience SaaS for Infor SaaS for CIJS module(s) New BCIT Org and roles Resilient core network	CIJS Updates	CIJS Updates	CIJS Updates Mainframe CIJS	
Development and Integration	Adabase and Natural MS Visual Builder Waterfall SDLC Method Proprietary APIs	PaaS tools for Infor, et al Infrastructure provisioning Rapid Development Method Open Web Services API	Application deployment automation Dev/Ops Open Web Services API	Adabase and Natural MS Visual Builder Waterfall SDLC Method Proprietary APIs		
DR and Business Continuity	Data back up Agency Service Cont. Plan			New Content Needed		
Finance	Annual Budget Plan IT Budget Requests GL account costing			Multi-year Spending Plan Domain Based costing		
Timeline	< Go Decision	Decision + 12 Months	Decision + 24 Months	Decision + 36 Months	Decision + 48 Months	Decision > 60 Months

Tool based implementation of processes are used to minimize transition work effort and accelerate improvement results (e.g. for BCIJS)



- Incident / Problem
- Release / Deploy
- Catalog / Request
- Change
- Knowledge

- Event / Capacity
- Availability
- Asset / Configuration
- Risk
- Service Execution
- Data
- Identity and Access
- Security

- Stakeholder / Sales
- Customer Satisfaction
- Demand
- Transformation
- IT Strategy
- Research / Innovation
- Supplier / Contract

Personal Productivity Tools

Architecture
Solution Requirements
Solution Analysis, Design and Dev
Solution
Facilities
Service Continuity

Project Management SaaS

Portfolio
Program / Project
Product

Automated Build and Test PaaS

Solution Analysis, Design and Dev
Solution Test and Acceptance
Compliance

* Customer Relationship Management

Operational and compliance risk is identified, analyzed and mitigated through a standardized process

Operational Risk

- Single points of failure
- External threats
- Incompatibility disruption
- Aged component disruption
- Loss of power
- Corrupted data
- Provider bankruptcy
- Lack of degradation notice
- Inability to recover data
- Increased demand slow down
- Single SME (no successor)

Compliance Risk

- Penalty or fine
- Loss of access
- Rework – fixes
- Loss of job position
- Public scrutiny
- Added controls / costs
- Data privacy violation
- Shared passwords
- Limited data segregation
- Limited encryption
- Limited access controls

Target State Risk Mitigation Approach

- Relocate EDC to multiple Cloud IaaS services
- Convert network links to resilient Software Defined Network
- Convert to automated build and test Cloud PaaS
- Convert owned applications to multiple SaaS services
- Implement industry standard processes and procedures
- Implement comprehensive monitoring of Cloud services
- Implement data recovery and **test** capabilities in the Cloud
- Cloud services allow for rapid scalability to meet demand
- Use Cloud services that comply with CJIS regulations
- Implement a PMO that can give accurate project status updates to satisfy audit findings
- Use the EOC to house remnant infrastructure
- Review security practices and develop improvement plan

Risk Process Manager will track risk profile reduction progress and make periodic reports to the CIO Control Level boards and the PMO control design and implementation projects so risk objectives are met

A modern, agile Software Development Lifecycle (SDLC) method reduces scrap, rework and maintenance activities (e.g. for BCIJS)

Most projects spend 40% of their lifecycle resource and schedule on scrap/rework

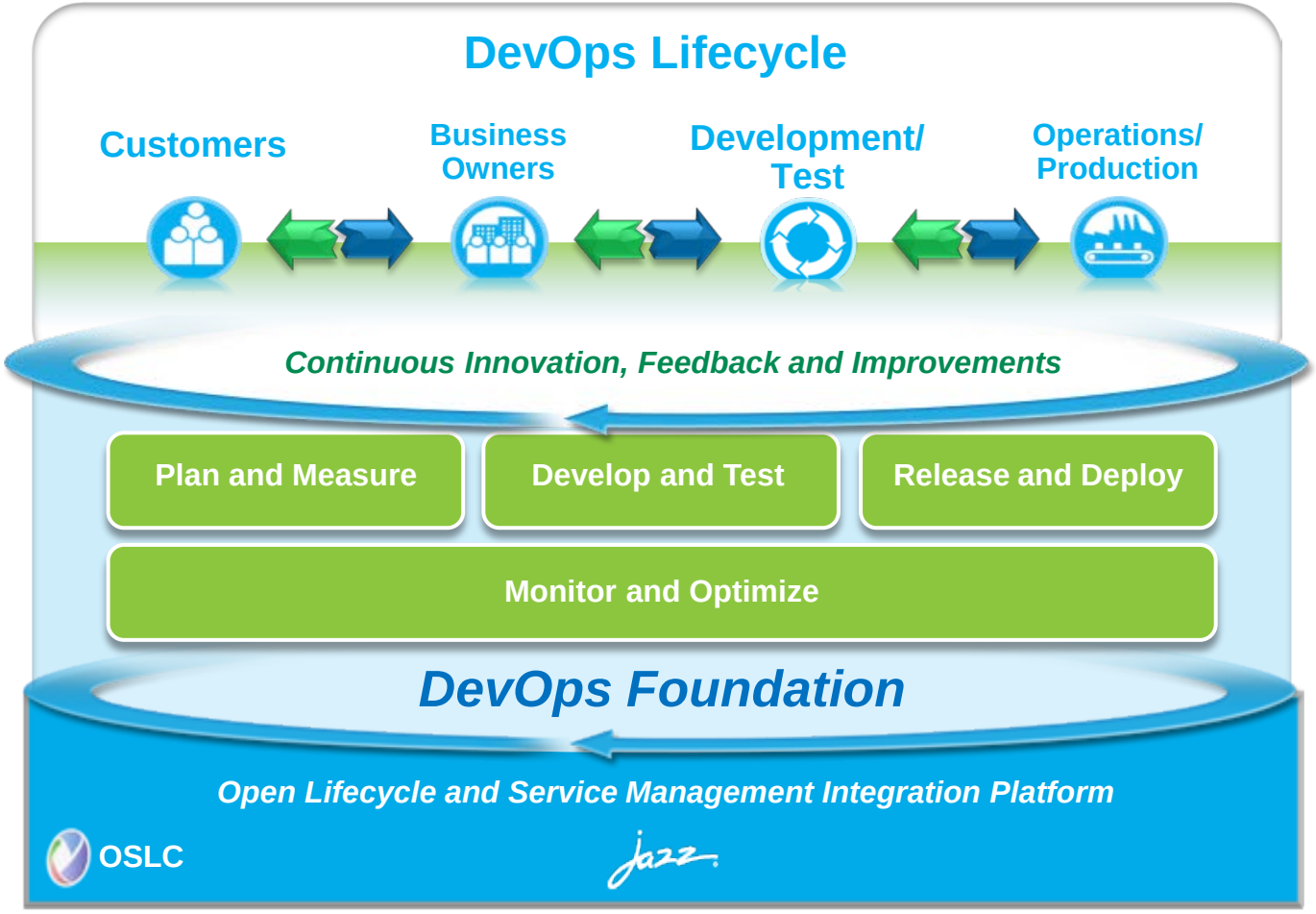
Most organizations commit between 65 to 80% of their IT resources on application maintenance and incremental enhancements

….Much of this effort is spent incrementally fixing applications that did not meet business needs when initially released.

Reduce late rework up to 25% and deliver releases on time (10% net project savings)

- **Align Business Roadmaps with Application Release Plans, focusing on business commitments and expected outcomes across the development and delivery lifecycle**
- **Improve transparency and traceability between Business Strategies, Prioritized Capabilities, and Software Requirements, facilitating roadmap adjustments and timely delivery of local variants**
- **Ensure common understanding of business needs with seamless collaboration between all parties and tools, reducing downstream misunderstandings and cost/schedule over-runs**

Establish an enterprise capability for *continual software delivery* (DevOps approach) to reduce cycle times and costs (e.g. for BCIJS)



Application Development and County Staff use Cloud PaaS, automated tools and rapid development methods to collapse delivery cycle times

Key Findings

Citizen Developers	**Citizen (Shadow IT) development efforts (PaaS) expand by 2020 to include 70% of large enterprises**
App Dev Gains	**App Dev teams benefit for Citizen Development efforts and results that improve business processes**
Development Vulnerabilities	**50% of organizations encounter data, integrity and security vulnerabilities**

Key Recommendations

Define Policy / Domain	**Define the domain for citizen development efforts which are managed under BCIT policies**
Control transition	**Have mechanisms to transition from Citizen Development to formal IT stewardship**
Secure core applications	**Identify and monitor citizen development efforts so core apps can be secured**

Note: Gartner Citizen Development is Fundamental to the Digital Workplace August 2015

Traditional App Dev complexity is simplified with PaaS so citizens can quickly and easily contribute
App Dev professionals use the same PaaS with automated tools to shorten enterprise app delivery cycles
Rapid Delivery methods like Agile and Scrum are used by App Dev teams and citizen developers effectively

TECHNOLOGY

Focuses on physical and virtual resources needed to support people and process

There are three general "landing zones" for the target state – On-Premises (On-Prem), Colocation (Co-Lo) and Cloud

On-Prem

- Where workloads are installed and run on technology infrastructure on the premises (in the building) of the Enterprise

Co-Lo

- Colocation provide space, power, cooling, and physical security for Enterprise owned server, storage, and networking equipment; connect them to a variety of telecommunications and network service providers; minimizing cost and complexity

Cloud

- Cloud refers to any of the "as a Service" hosting solutions. At a minimum physical infrastructure is provided (IaaS) to support installed workloads. The maximum level of support is Software as a Service (SaaS) where a software product is provided directly to the user, with configuration done to Bexar Count Requirements

And there are three management components of the target state – Self Managed, Co-op, and Out-sourced

Self Managed

- This management model is centered on facility, infrastructure and service delivery (technical solution) completely managed by County IT (BCIT) staff. This may be applied from direct delivery through management of pass-through services

Co-Op Managed

- The co-op model reflects shared or split management with a portion of the technology solution under the control of County IT (BCIT) staff and the remaining portion managed by an alternate entity. E.g. County Office or Department, vendor, et. al.

Out-sourced Managed

- Out-sourced management models have the entire technical solution managed by an alternate entity. E.g. County Office or Department, vendor, et. al.

When you fit these frameworks together, this target state capability matrix is the result

Management Models	Location Models: On - Prem	Location Models: Co-Lo	Location Models: Cloud
			
Self Managed	✓ ↓ *e.g.: EDC, EOC*	⊘	⊘
Co-Op Managed	⊘	✓ *e.g.: Managed Services*	✓ ↑ *e.g.: IaaS, PaaS*
Out-Source Managed	⊘	✓ *e.g.: Managed Services*	✓ ↑ *e.g.: SaaS*

⊘ Not used in target state
✓ Available in target state
↑ Usage increasing
↓ Usage decreasing

IBM reviewed three potential target states – Remain As-Is, Business As Usual (BAU), and Best Option

Remain As-Is

- This option is untenable as the risk associated with maintaining the status quo is generally unacceptable

Business As Usual (BAU)

- IBM developed this option as only making changes that would be needed to reduce risk without optimizing the IT ecosystem and to provide a reasonable baseline for comparisons

Best Fit

- This target state reflects the result of using the guiding principles and external influencers to create the recommended solution

The Remain As Is technology target state reflects a high risk IT ecosystem resulting from making no change to current state

EDC Facilities

EOC Data Center

All IT components remain at current location

Highlights

- Current risk level is maintained
- Minimal infrastructure refresh is made only as components fail
- No architecture changes are made
- Nominal change is made to support CIJS
- Staff levels are minimally increased to support infrastructure

The Business as Usual technology target state reduces risk by relocating to new county location, adding PMO and EA

Old Federal Depository

IT Components are migrated to new facilities

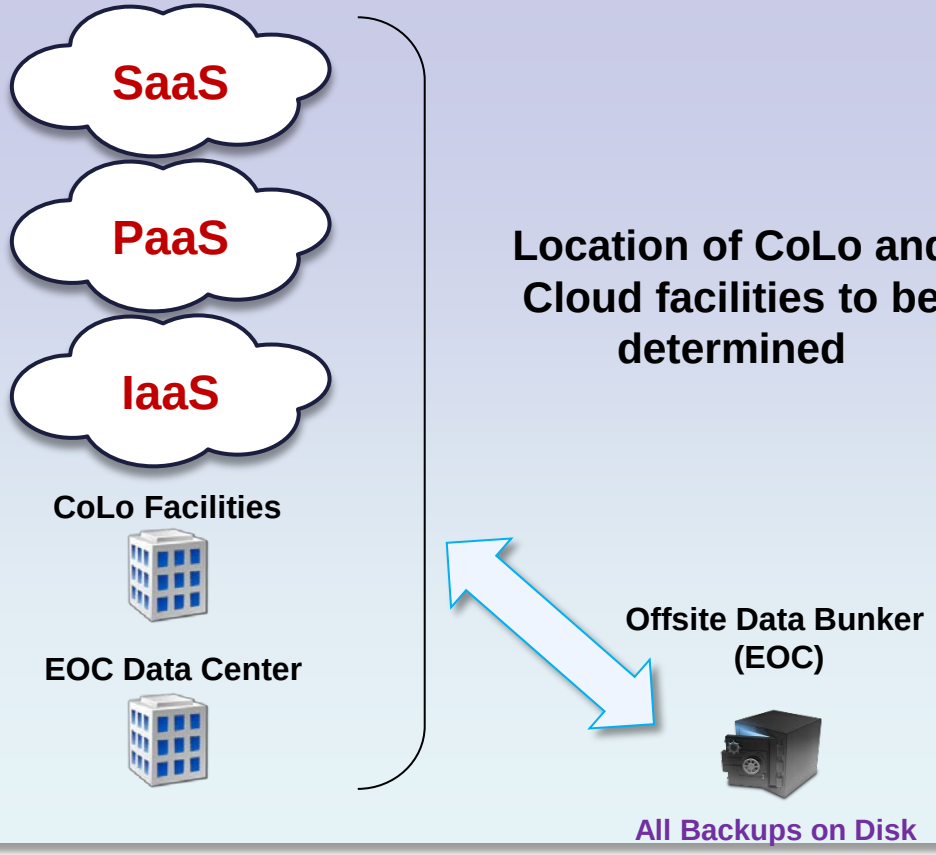
Offsite Data Storage (EOC)

All Backups on Disk

Highlights

- Facility risk doesn't change over the first year as new location is remodeled for use
- Move to converged network is completed developed
- Offsite Data Storage is in place for data corruption protection and long term data archive
- Infrastructure is refreshed during 1st year, with migration in second year
- CIJS support remains on premise
- Guiding principles are not fully respected

The technology target state, meets guiding principles using Cloud (IaaS, PaaS, SaaS) and Co-Lo services



Highlights

- Cloud (IaaS, PaaS, SaaS) is the preferred target state technology host to reduce the dependence on internal skill sets
- On-Prem supports any remaining workloads that for any reason have not or can not be moved to Cloud / CoLo hosting
- Offsite Data Bunker is in place for data corruption protection and long term data archive
- Managed CoLo is an option which may be attractive to essentially outsource all of IT to a trusted partner
- CoLo is used wherever possible to offload infrastructure management and maintenance

The decision matrix that resulted from common technology criteria reflects the IBM analysis of the three potential target states

Decision Criteria	Explanation	As-Is	Option 1 - BAU	Option 2 – Best Fit
Availability	"IT will deliver services to the end user based on specific uptime agreements"	1	4	8
Compliance	"Optimize and enforce IT policies and procedures to ensure that regulation observance is efficient and effective"	1	5	7
Manageability	"The technology and process will have the capability to support zero end-user impact during maintenance activities"	1	3	9
Operability	"IT activities will follow approved and published methods"	1	5	9
Performance	"Match the capacity of IT services and infrastructure to the needs of the business"	1	6	10
Recoverability	"The technology and process will have the capability to support return to normal operation based upon agreed to requirements"	2	4	8
Security	"Establish and maintain technology and policies to assure that information security strategies are aligned with and support business objectives"	2	6	9
Financial	"Capital and operating budgets will align with the priorities of the Bexar County Commissioners Court"	2	6	8
Usability	"IT systems will be designed with current and common interfaces for a variety of devices, as required"	1	6	9
	TOTALS	**12**	**45**	**77**

Each solution is rated on an equally weighted scale of 1 to 10 and the total reflects the ability of the solution to meet Bexar County IT needs
Generally, a rating of 5 indicates a solution is minimally meeting the specific decision criteria

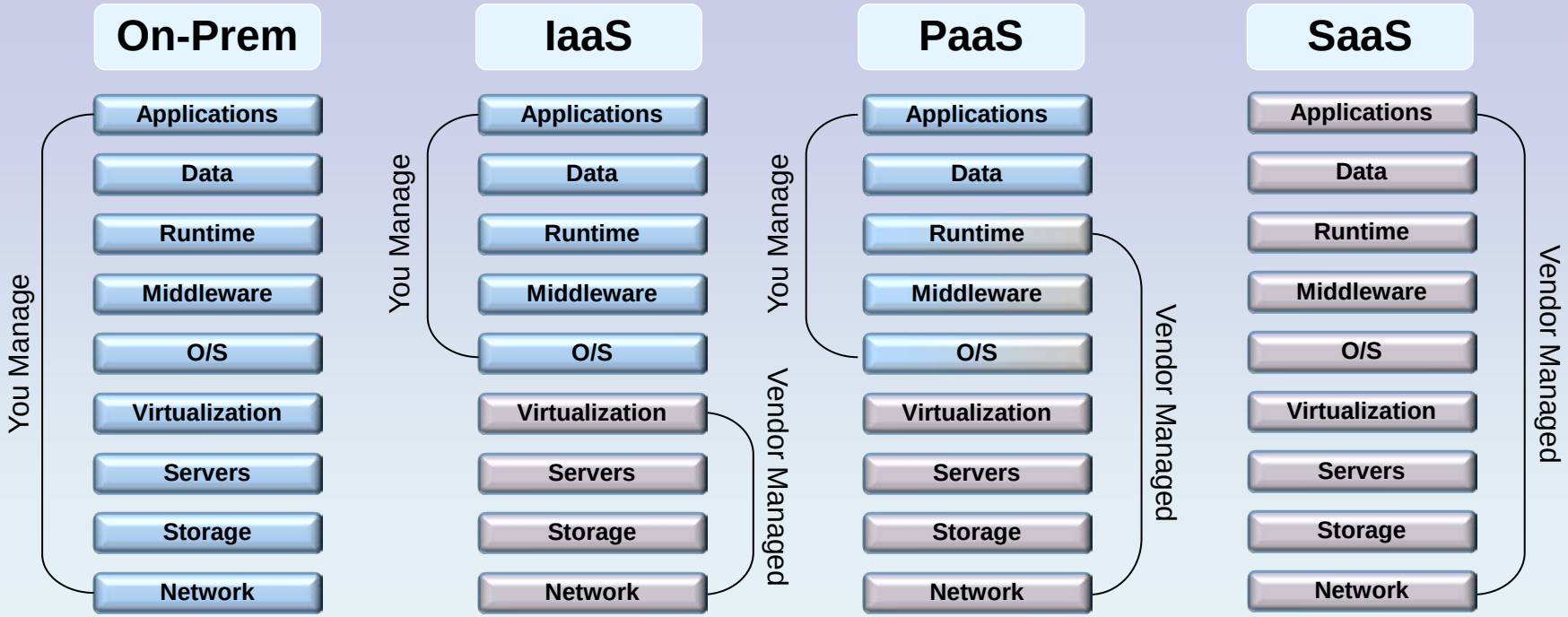
The Decision Matrix shows that Option 2 (Best Fit) best supports the Bexar County Guiding Principles

Option 2 (Best Fit) is the IBM recommended target state

This is a benefit to Bexar County not only as the result of the Decision Matrix, but because Option 2 also supports

- reducing IT staff
- simplifying management
- increasing flexibility
- reducing risk
- improving service delivery and cost management
- accelerating delivery of IT services
- outsourcing non-core functions

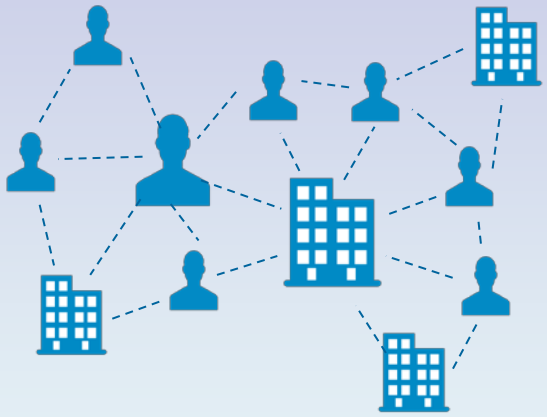
Here is a view of how Cloud Management relates to the current IT Management model



Bexar County always manages the service provider (vendor)

Integration of data and applications enhances the ability to gain deeper insights that drive innovations and reduce costs

The collaboration and connectedness of individuals and organizations is fundamental to the realization of greater business value – IBM Research 2015

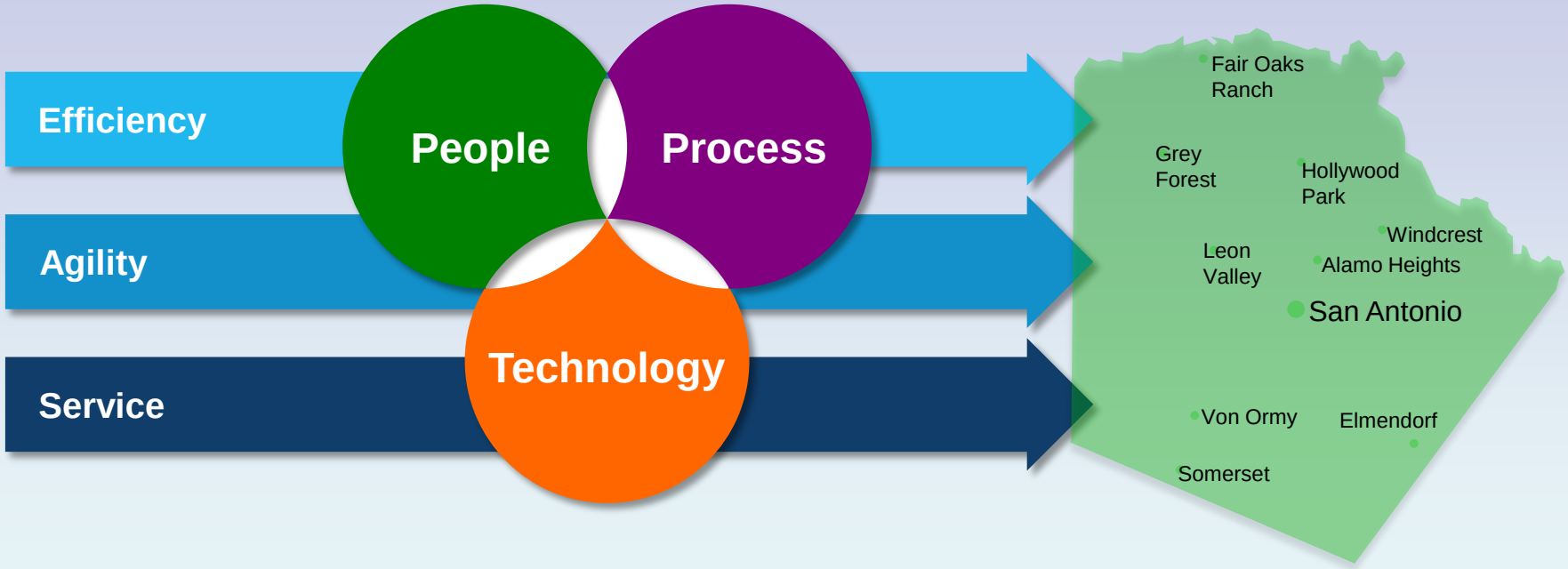


Infrastructure Changes

Enable ecosystem integration	▪ Unlock internal and external data access to create faster and easier collaboration ▪ Enable cross-platform (application) connectivity ▪ Manage defined interfaces (APIs – Web Services) as assets that create value ▪ Automate identity and access rights to avoid privacy and security violations

Integration reduces risk of duplicating functions with increased costs and work effort
Sharing data and functionality reduces risk of conflicting outcomes which required rework to resolve

TRANSITION STRATEGY



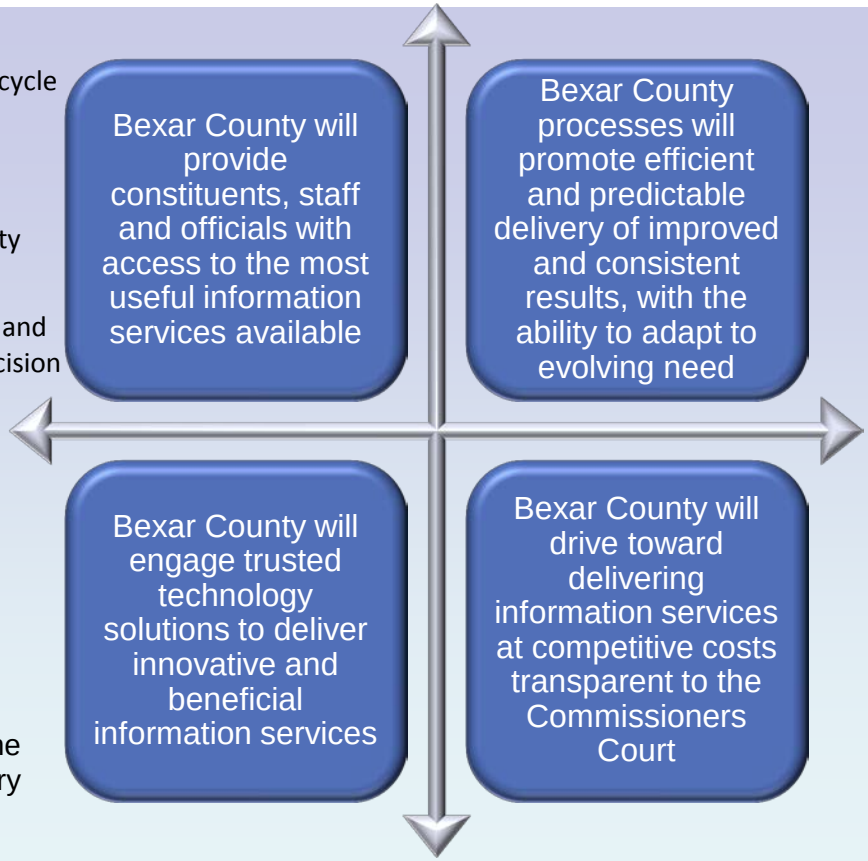
Bexar County strategy to become the trusted IT partner in delivering services to It's citizens

People

- It is critical to establish service lifecycle organization and governance structures
- The first step is to establish an IT Steering Group consisting of County Executives
- The key is improved cross domain and organization collaboration and decision making

Technology

- It is critical that Bexar County gain in-depth control of its technology environment
- The first step is to upgrade the current technology stack and determine what runs where
- Resiliency and persistence is the key to consistent service delivery



Process

- It is critical to adopt process frameworks that shorten delivery cycles and reduce work effort
- The first step is to assign process owners to oversee improvements
- The key is workflow and system automation to reduce manual efforts and human error

Finance

- Financial management is required for effective communication with agencies, forecasting funding needs and the stewardship of resources.
- The first step is to regularly provide the financial status of capital projects and vendor contracts to BCIT management
- The goal is to identify costs by services and partner with agencies to agree on value of services delivered and to enable service supply and demand management.

High Level Strategy

People plan, build and run IT so that users gain value they desired from the services consumed

People Strategy Summary

IFT - Infrastructure Tools

- Plan and implement a Plan – Build – Run organization structure
- Develop a three tier governance framework and governance bodies
- Recruit staff for the Enterprise Architect and Program Management Office leadership positions
- Issue policies with enforcement mechanisms to accelerate adoption of new practices

Benefits

Efficiency

Reduce decision making cycle times and rework due to poor planning

Increase cost efficiency when investing and when controlling operational spending

Agility

Increase ability to collaborate to more easily, find better alternatives

Identify sooner when corrective action should be taken

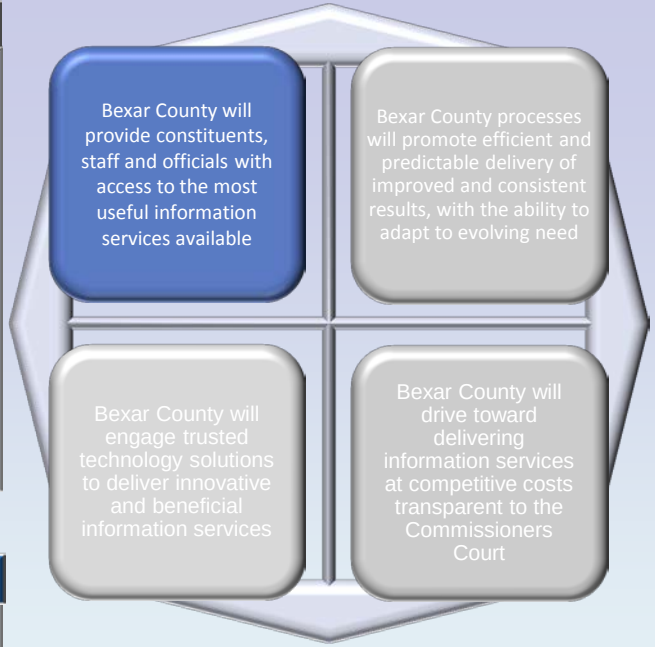
Service Delivery

Improve planning and oversight so there is less drift from original user intentions

Improve quality by aligning the most qualified provider or staff with requirements

Individual Domains

- Governance/Leadership
- Org Structure, Staffing, Skills, Comp, Recruitment, Retention, Termination
- Enterprise Architecture & Business Alignment
- PMO/Project Management
- Services Sourcing (Provider versus In-house)



Process improves efficiency, agility and delivery by optimizing how work is executed

Process Strategy Summary

SMG - Service Management Governance

- Plan and implement IT Service Management processes
- Improve Financial controls and management practices
- Reduce service recovery, security sand compliance risks
- Adopt rapid development and web service integration methods

Benefits

Efficiency

Reduce delivery cycle times
Increase productivity of IT staff

Agility

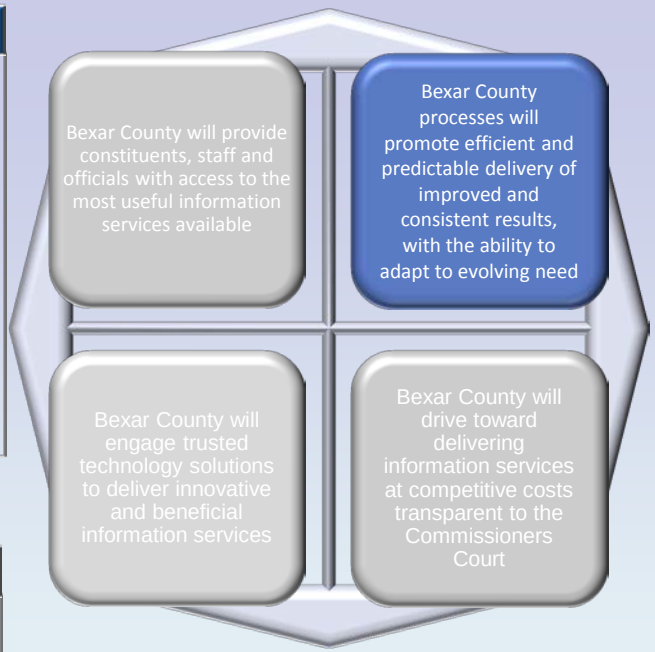
Increase flexibility through packaging of standard tasks, components and roles
Reduce review overhead with pre-approved changes and automated implementations

Service Delivery

Improved results with closer alignment to user demands
Reduced risk of outages, issues, or discrepancies

Individual Domains

- ITIL/ITSM Processes
- DR & Business Continuity
- Risk & Security
- Financial Controls/Budgeting
- Development & Integration



Technology forms the foundation for information delivery capabilities

Technology Strategy Summary

Technology Hosting Outlook

- Cloud based solution hosting is the preferred hosting location for all County data workloads
- Co-Location facilities are temporary infrastructure locations
- Software defined data center is the target IT host management model

Technology Capability Outlook

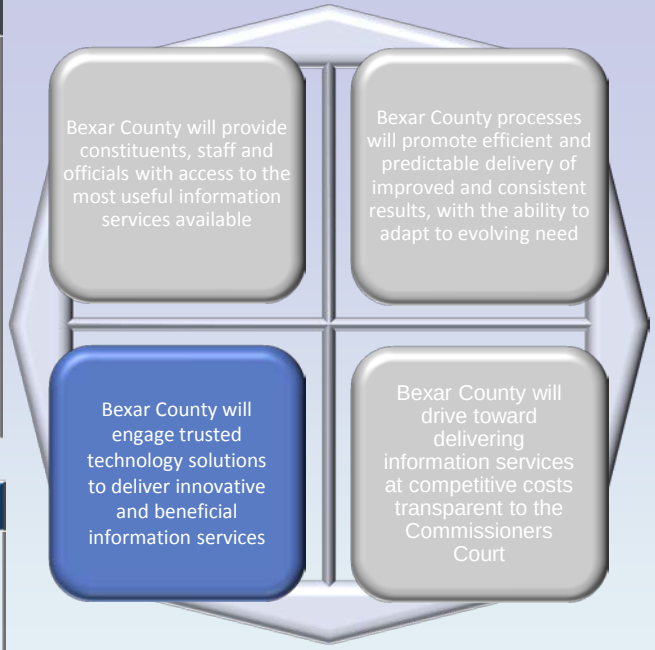
- BCIT evolves into a service broker and vendor management organization
- BCIT becomes a developer of forward looking Bexar County IT solutions
- BCIT drives common and shared solutions across Bexar County Offices and Departments

Benefits

- Bexar County exits owned IT infrastructure management
- Bexar County shifts to delivery of innovative IT solutions
- Bexar County reduces dependence on expensive internal IT knowledge workers
- Bexar County improves technology services to constituents

Individual Domains

- Data Center Model
- Workload Location
- Network Modernization
- Data Management
- Application Remediation



Finance is the language IT uses to communicate with its customers

Finance Summary

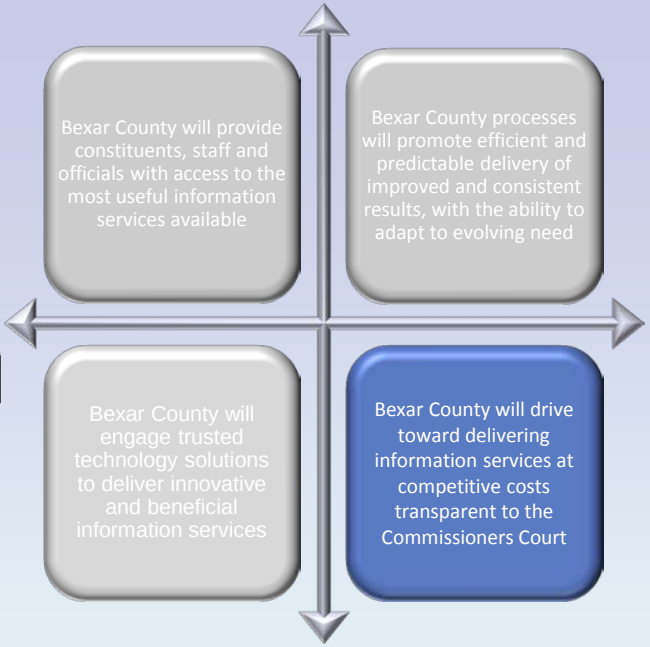
- Recognize financial management as a separate function that requires an understanding of accounting, business and technology.
- Integrate financial management with enterprise architecture to assure financial planning is based on IT standards and with the PMO to assure monitoring of capital budgets
- Develop a services based cost model driven by unit costs and resources consumed

Benefits

Efficiency
Greater operational control of costs
Agility
Improved decision-making through effective evaluation of the financial impact of new of changed strategies
Service Delivery
The level of funds secured for IT services is aligned with user priorities. Services are not committed to that IT cannot provide.

Individual Domains

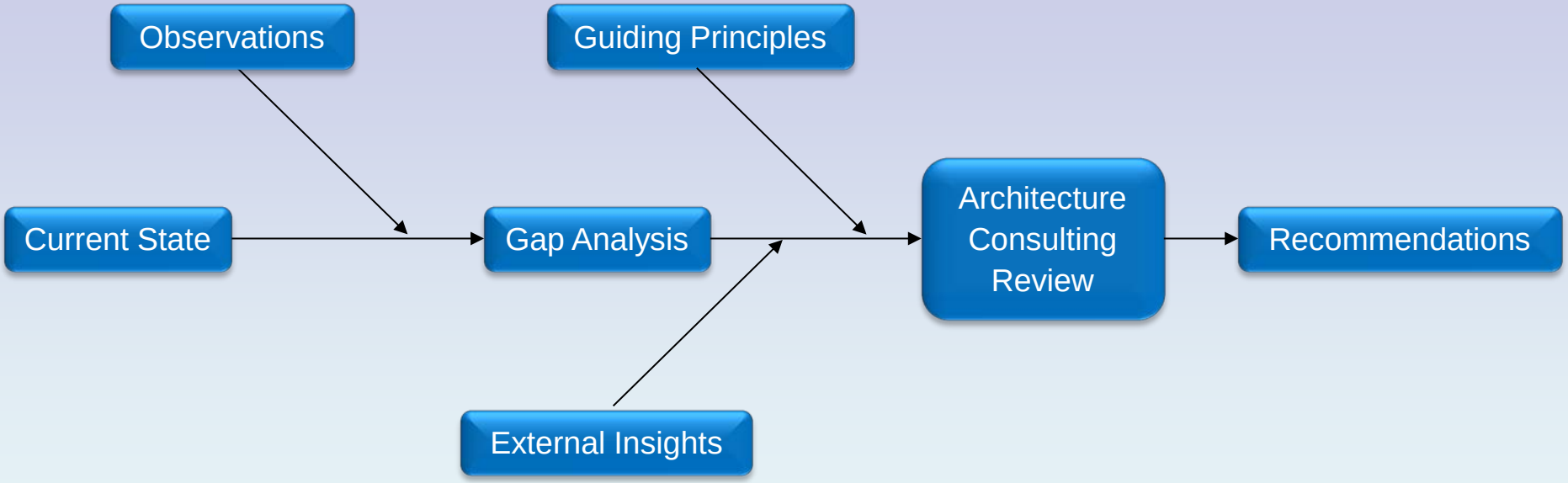
- Planning and Budgeting
- IT accounting and cost models
- Operational monitoring and management



The technology strategy supports transforming BCIT into a service delivery organization

	Business As Usual (BAU)	Step #1 Exit EDC	Step #2 Begin to move Production to Cloud	Step #3 Finish move Production to Cloud	Step #4 Begin Steady State	Step #5 Decision Time, What's Next?
Bexar County – EDC	Production Workload Production Data Non-prod Workload Non-production Data Mainframe	N/A	N/A	N/A	N/A	N/A
Bexar County - EOC	Data Repository	Data Repository	Data Repository	Data Repository	Data Repository	Data Repository
Co-Op Managed – zCloud	N/A	Mainframe	Mainframe – reduce 25%	Mainframe – reduce 25%	Mainframe – reduced 25%	Mainframe – reduced to 10%
Co-Op Managed - CoLo	N/A	Production Workload Production Data	Production Workload Production Data	Production Workload Production Data	N/A	N/A
Out Sourced Managed - CoLo	N/A	Production Workload Production Data	Production Workload Production Data	Production Workload Production Data	N/A	N/A
Co-Op Managed - Cloud	N/A	Non-prod Workload Non-production Data	N/A	N/A	N/A	N/A
Out Sourced Managed - Cloud	N/A	Email; ITSM Tools; Non-CIJS Infor, CIJS	Non-prod Workload Non-production Data Email; ITSM Tools; Non-CIJS Infor, CIJS	Non-prod Workload Non-production Data Production Workload Production Data Email; ITSM Tools; Non-CIJS Infor, CIJS	Non-prod Workload Non-production Data Production Workload Production Data Email; ITSM Tools; Non-CIJS Infor, CIJS	Non-prod Workload Non-production Data Production Workload Production Data Email; ITSM Tools; Non-CIJS Infor, CJIS
Out Sourced Managed – Private Cloud	N/A	N/A	Production Workload Production Data	Production Workload Production Data	Production Workload Production Data	Production Workload Production Data
Timeline	< Go Decision	Decision + 12 Months	Decision + 24 Months	Decision + 36 Months	Decision + 48 Months	Decision > 60 Months

Recommendations are the result of mapping the Gap Analysis against Principles and Insights



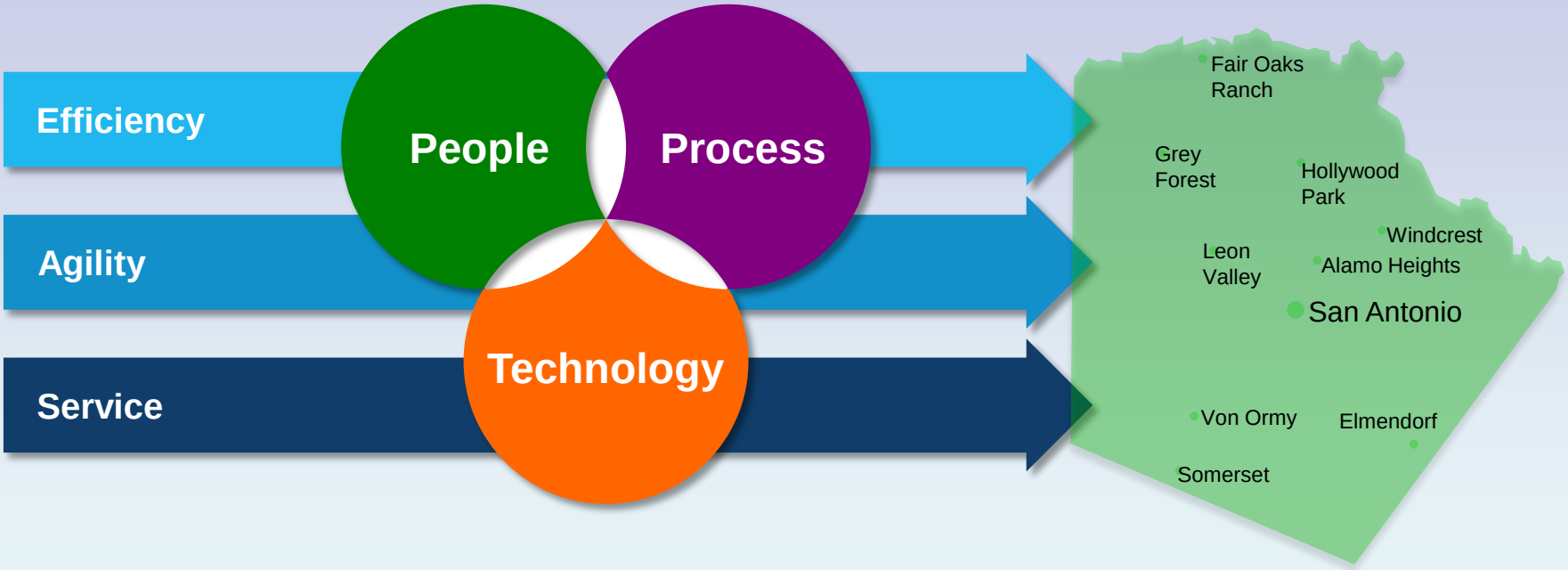
IBM found areas of concern (observations) that are affecting Bexar County IT efficiency, agility and service delivery

IBM had 68 observations across the People, Process, and Technology lenses

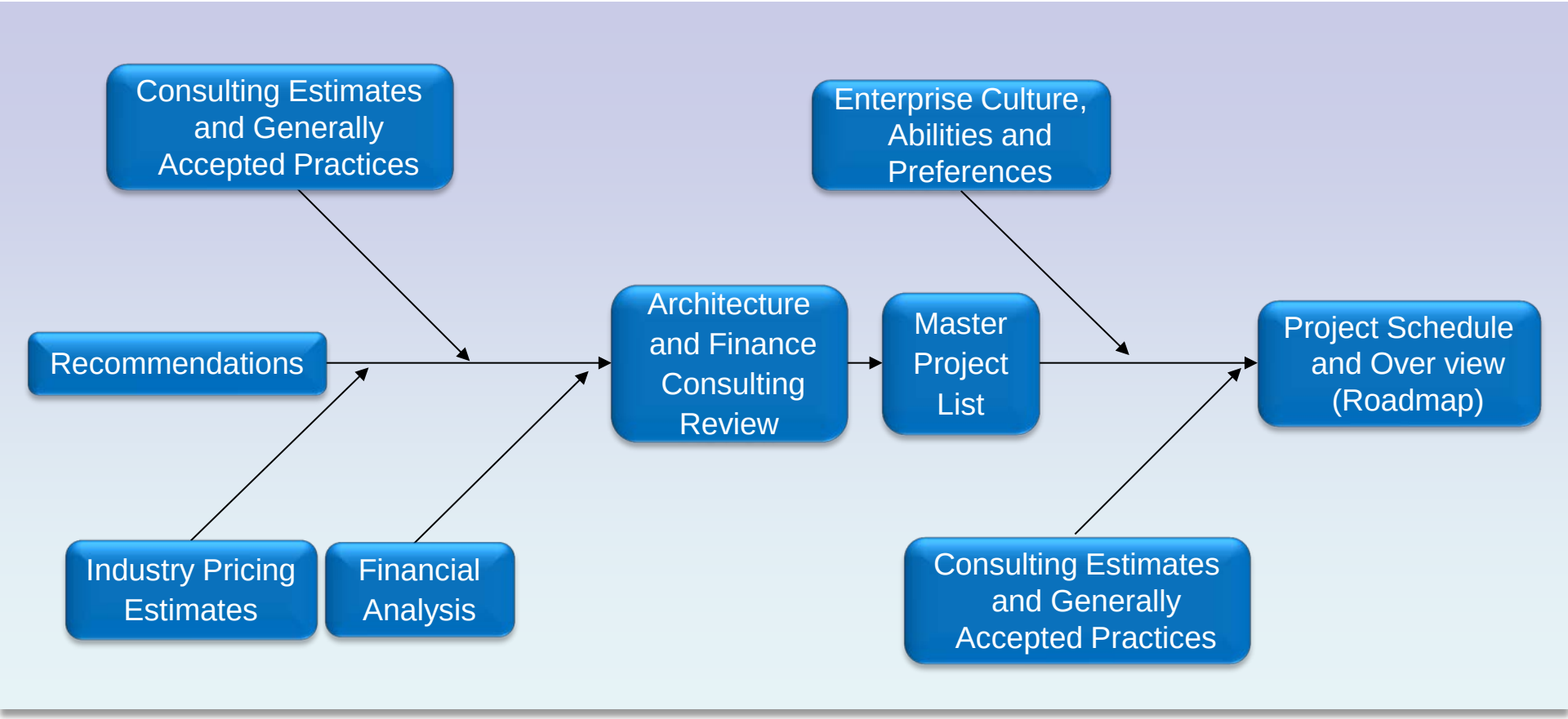
This has resulted in 30 recommendations that reflect the individual activities needed to stabilize, modernize, and move toward the target state

These will be used in the roadmap along with the steps needed to move to a more efficient, agile and service delivery based IT ecosystem

ROADMAP


Efficiency
Agility
Service
People
Process
Technology
Fair Oaks Ranch
Grey Forest
Hollywood Park
Windcrest
Leon Valley
Alamo Heights
San Antonio
Von Ormy
Elmendorf
Somerset

The roadmap draws from project, industry and County information creating best possible transformation scenario

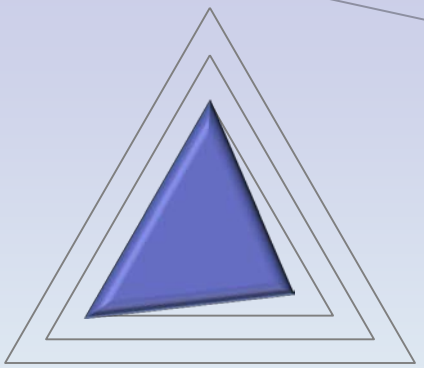


A note on the accuracy of financial estimates and estimates made in costing the projects

- Financial estimates are for indicative and comparison purposes only
- No in depth financial analysis was done for any project
- No quotations were received for hardware or software
- Estimating technique was used leveraging considerable consulting experience and IBM intellectual capital containing estimates
- The farther out on the roadmap an estimate occurs, the less accurate the estimate will be as things change over time
- Where applicable all estimates are given as ROM (Range of Magnitude)

The solution value of the Strategy Programs align to Efficiency, Agility and Service Delivery KPI metrics

Service Delivery
Service Delivery is the set of principles, standards, policies and constraints used to guide the design, development, deployment, operation and retirement of services delivered by IT with a view to offering a consistent service experience to a specific user community in a specific business context



Efficiency
Efficiency is the characteristic of a system or machine achieving maximum productivity with minimum wasted effort or expense

Agility
Agility is how IT will enable business agility, how fast IT will deliver the required effectively and efficiency. The more alignment between business and IT the more level of agility for both will be achieved..

The solution value is estimated using the alignment with Efficiency, Agility, and Service Delivery definitions. The orientation of the point and the area of the triangle represent the coverage of the KPI definitions by that program

IT People, Process, Technology projects

People

1. Establish Governance
2. Build IT Transition Structure
3. Implement Enterprise Architecture and PMO

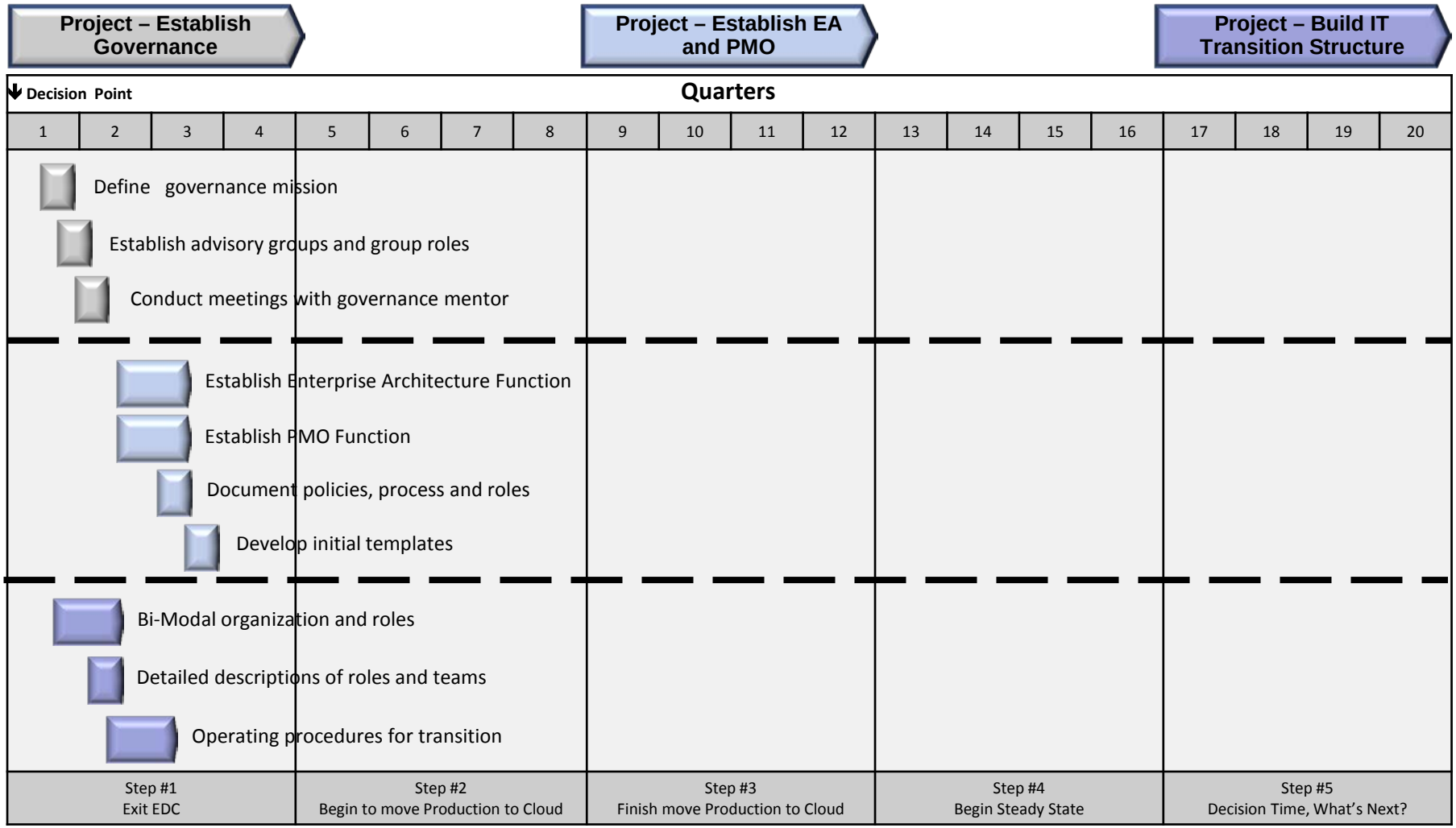
Process

1. Operationalize Processes
2. Baseline and Monitor Risk
3. Develop Rapid Delivery

Technology

1. Exit EDC
2. Technology Rationalization

People Roadmap – 5 Year Outlook



People Project 1 – Establish Governance

Objective: Relocate Current IT Workloads

Overview:

Define governance mission for improving IT and then implement advisory groups, assign staff to group roles and mentor initial meetings

The strategy implemented in this project covers the following areas –

- Define governance mission
- Establish advisory groups and group roles
- Conduct meetings with governance mentor

This will be an intense work effort. Bexar County doesn't have the staff levels needed to accomplish this work effort. Utilization of a vendor capable of managing the total effort is expected.

Included Recommendations

- RC-02 (Outsource),
- RC-24 (IT Adv. Council),
- RC-27 (IT accountability)

Estimated Labor Costs

This is a ROM estimate for comparison purposes only –

2016 $228,000

Included Activities

Define governance mission

Evaluate governance capabilities and results in the current state and determine requirements going forward. Define governance mission, groups, and group missions. Gain approval to proceed with establishing the advisory groups

Establish advisory groups and group roles

Establish advisory groups, roles, charter, and meeting cadence Invite participants, assign chairs and document advisory group

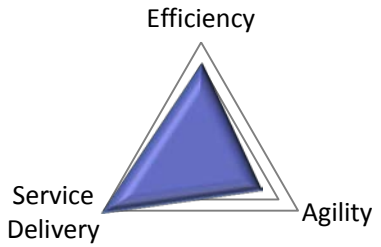
Conduct initial meetings with governance mentor

Assist advisory group participants on how to be effective and efficient when preparing for and the running meetings. This helps the advisory group improve IT practices and results

Project Benefits

- Sets clear, unambiguous objectives and roadmaps for the overall IT Governance improvements
- Promotes IT governance mechanisms that meet the design objectives provided by the Commissioners Court
- Aligns the IT governance with the overall business management system
- Establish an IT governance method and model that is workable, and practical

Strategy Value Alignment



People Project 2 – Build IT Transition Structure

Objective: Relocate Current IT Workloads

Overview:

Create and staff Target State and BAU IT organizations, recruit and assign staff, and establish service lifecycle model and matrix teams

The strategy implemented in this project covers the following areas –

- Bi-Modal organization and roles
- Detailed descriptions of roles and teams
- Operating procedures for transition

This will be an intense work effort. Bexar County doesn't have the staff levels needed to accomplish this work effort. Utilization of a vendor capable of managing the total effort is expected.

Included Recommendations

- RC-01 (Lead transition),
- RC-03 (Assess skills),
- RC-24 (New Org.),
- RC-26 (Recruit / salary)

Estimated Labor Costs

This is a ROM estimate for comparison purposes only –

2016 $456,000

Included Activities

Implement Bi-Modal Organization and Roles

Assist IT Executives and Managers split the current state IT organization into stability and agility teams so that transition to the Target State is accelerate and operation of BAU services is acceptable

Define Cloud Roles and Matrix Teams

Create detailed descriptions of New and Cloud roles, new teams responsibilities and matrix team operating procedures

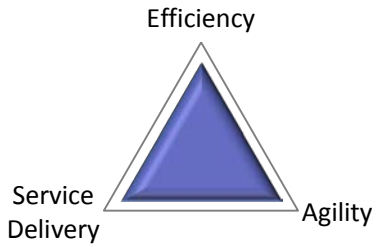
Define Operational Procedures for Transition

From the transition plan, develop operational procedures to support effective migration, stable BAU operations, effective Cloud operations, new services, new provider management and integration of Cloud provider responsibilities with BCIT staff responsibilities

Project Benefits

- BAU operations do not interfere with transformational activities nor do they slow down progress
- Improvement opportunities, both incremental and more foundational, are identified and prioritized
- Managers and staff are encouraged to adopt transformational capabilities
- The Agile IT team contributes to the exploitation of transformational capabilities by guiding and overseeing their introduction
- The benefits achieved by transformation are defined, measured, analyzed, improved and controlled
- Reports indicates both benefits missed as well as further, unanticipated benefit realized
- BAU services are efficiently and effective delivered

Strategy Value Alignment



People Project 3 – Establish Enterprise Architecture and PMO

Objective: Relocate Current IT Workloads

Overview:

Develop and establish Enterprise Architect and PMO functions, recruit and assign staff and develop standard practices

The strategy implemented in this project covers the following areas –

- Establish Enterprise Architecture Function
- Establish PMO Function
- Document policies, process and roles
- Develop initial templates

This will be an intense work effort. Bexar County doesn't have the staff levels needed to accomplish this work effort. Utilization of a vendor capable of managing the total effort is expected.

Included Recommendations

- RC-09 (PMO),
- RC-28 (Solution Architect)

Estimated Labor Costs

This is a ROM estimate for comparison purposes only –

2016 Establish Enterprise Architecture $228,000
2016 Establish PMO $228,000

Included Activities

Establish Enterprise Architecture Function

Develop Enterprise Architecture roles, practices and capabilities Define mission and charter

Establish PMO Function

Develop PMO Director, PMO Office and PM roles, practices and capabilities Define mission and charter

Document policies, process and roles

Describe detailed responsibilities, policies and procedures used by the EA and PMO Function

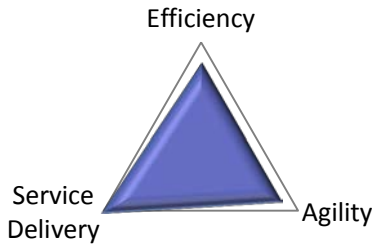
Develop Initial Templates

Develop initial blank template forms for use by the EA and PMO functions such as standards, patterns, decisions, and diagrams.

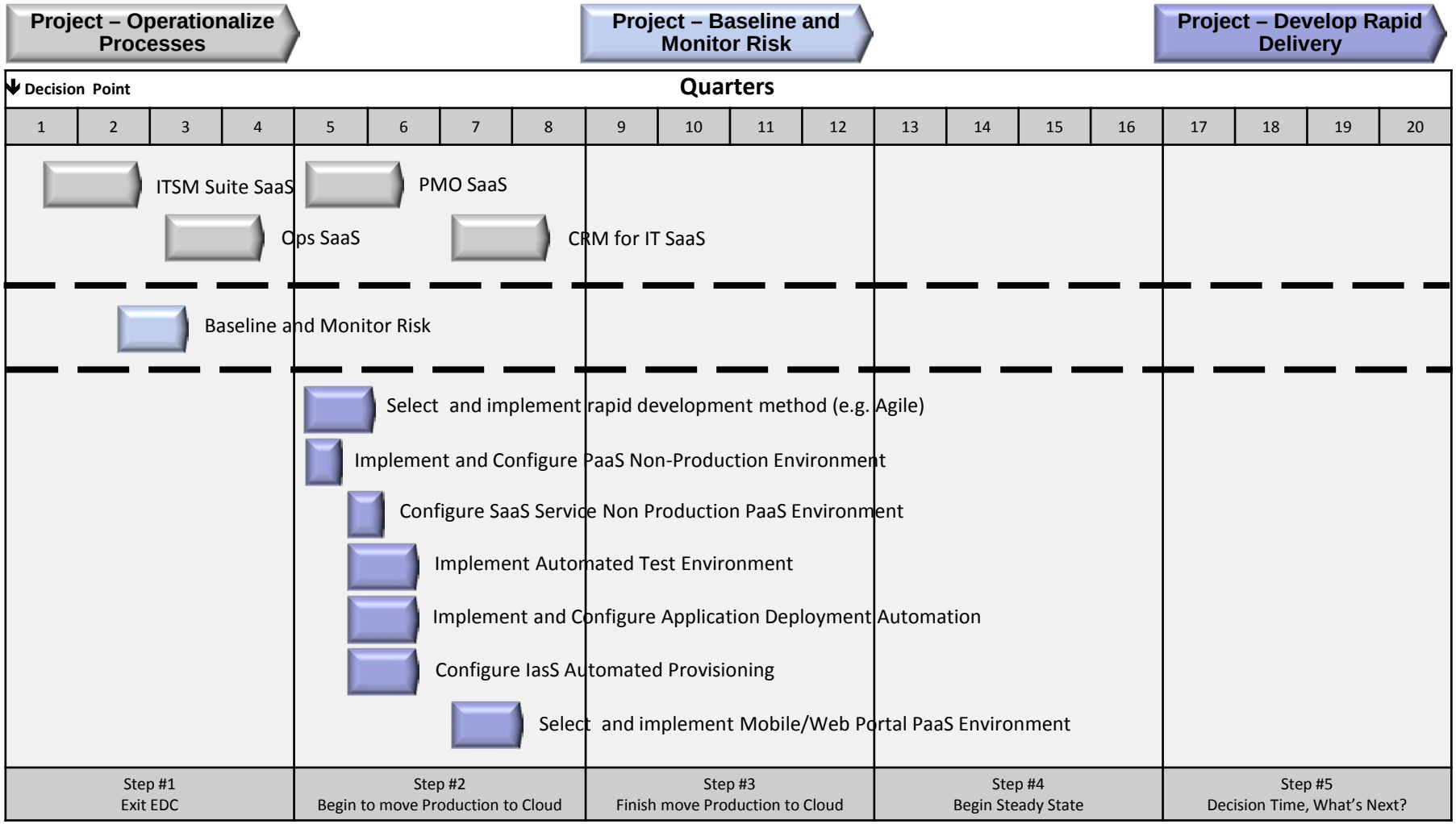
Project Benefits

- Stakeholder agreement on high-level requirements is achieved before the solution is designed, and developed
- Detailed requirements are evolved iteratively with solution design, development and testing
- An accurate understanding of requirements, increases the probability that the correct solution will be created
- Rework due to incorrect or misunderstood requirements in minimized
- Projects completed by the committed target date and within the allocated budget
- Stakeholder value is maximized through continuous evolution with stakeholders of project parameters
- The risk within the customer's business environment is reduced through precisely defined projects activities
- Productivity is increased by a clear definition of roles, responsibilities, and deliverables,
- Customer satisfaction increases through visibility of the project plans, schedule, and actual performance

Strategy Value Alignment



Process Roadmap – 5 Year Outlook



Process Project 1 – Operationalize Processes

Objective: Relocate Current IT Workloads

Overview:

Implement and configure process tooling services (e.g. ITSM suite, CRM, OPs, email), configure out of the box processes, create process guides and train staff

The strategy implemented in this project covers the following areas –

- SaaS Process Rollouts (33)
- SaaS Service Activities (4) using a common set of tasks

The implementation will be completed in phases to support migration efforts and staff ability to absorb new roles and responsibilities.

This will be an intense work effort. Bexar County doesn't have the staff levels needed to accomplish this work effort. Utilization of a vendor capable of managing the total effort is expected.

Included Recommendations

- RC-04 (Change),
- RC-08 (IT marketing),
- RC-19, 30 (Event),
- RC-18, 20 (Self-service),
- RC-25 (Source),
- RC-29 (Audit CMDB)

Estimated Labor Costs

This is a ROM estimate for comparison purposes only –
2016 $384,000 for ITSM Suite SaaS
2016 $384,000 for Ops SaaS
2017 $384,000 for PMO SaaS
2017 $384, 000 for CRM for IT SaaS
Total = $1,536,000

Included Activities

Implement ITSM Suite SaaS Service
Service Desk, Service Request, Incident, Problem, Change, Release, Deploy, Availability, Capacity, Event, Service Cat., Knowledge

Implement OPs SaaS Service
Asset, Configuration, IT Security, ID/Access, Event, Solution Test, Data

Implement PMO SaaS Service
Program/PMO/PM, Portfolio, Risk, Compliance, Product, Transformation

Implement CRM for IT Suite SaaS Service
Marketing, Stakeholder, IT Strategy, Customer Sat., Service Level, Sol Reqs., Supplier/Sourcing, Research

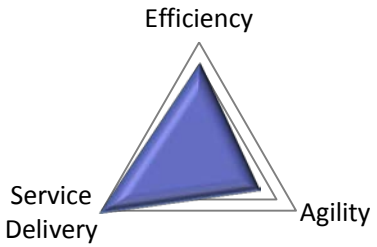
Implement a SaaS Service activity by executing following tasks:
Pre-activity data collection
Kick-off meeting
Plan rollout and operationalization of SaaS service
Install network connection to SaaS service
Configure SaaS role functions and access for users
Configure SaaS out of the box functions (i.e. incident process)
Basic Data Integration
Configure reports and dashboard
Develop user guides, IT documentation and training materials
Test SaaS configuration and gain user acceptance
Train users and IT staff

Schedule:
Rollout SaaS Service for up to 4 Processes at one time
One Rollout per quarter

Project Benefits

- Set clear, unambiguous objectives and roadmaps for the overall improvement IT practices and results
- Ensure that IT processes meet their design objectives and satisfy user commitments
- Align the IT delivery and support with the overall business objectives
- Promote the use of IT systems and service that can be transformed into a functional solutions
- Increase the productivity of IT staff as automation handles an increasing volume of routine tasks

Strategy Value Alignment



Process Project 2 – Baseline and Monitor Risk

Objective: Relocate Current IT Workloads

Overview:

Create operational and compliance risk profile, develop mitigation plan and monitor risk reductions

The strategy implemented in this project covers the following areas –

- Assign Risk Manager
- Identify current risks
- Develop baseline risk profile
- Identify mitigation plans in strategy projects
- Develop risk monitoring regimen and reporting
- Create and publish risk management plan

This will be an intense work effort. Bexar County doesn't have the staff levels needed to accomplish this work effort. Utilization of a vendor capable of managing the total effort is expected.

Included Recommendations

- RC-06 (BIA),
- RC-29 (Audit posture)

Estimated Labor Costs

This is a ROM estimate for comparison purposes only –

2016 $228,000

Included Activities

Assign Risk Manager and Coordinate with Internal Audit

Plan for general risk and compliance practice development in alignment with County policies and procedures

Identify Current Operational and Compliance Risks

Investigate risks by reviewing current IT operational state, and documentation, and interviewing IT staff , providers, agency IT staff and internal audit

Develop Operational and Compliance Risk Baseline Profiles

Develop an initial risk rating and conduct initial business impact analysis for core systems and services

Identify mitigation plans in approved strategy projects

Review the 5 year IT Strategy Report and funded projects to identify mitigation actions planned

Develop risk monitoring regimen and reporting method

Collaborate with other process managers and internal audit to have risk monitoring become an integral part of projects, operations, and budget requests

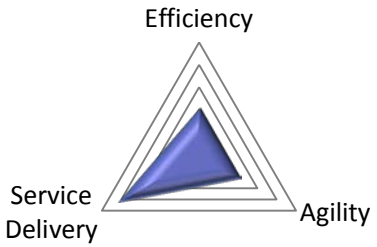
Create and publish Risk and Compliance Management Plan

Codify policies and procedures into a plan for submission to the CIO for approval and use by IT staff, managers and internal audit

Project Benefits

- All of the activities carried out within IT support the desired risk profile while providing the maximal benefit
- The business and IT are able to appropriately respond to threats and opportunities
- Minimal risk is promoted in the fulfillment of fiduciary responsibilities to stakeholders of the business
- Risk of compliance penalties is optimized when considering the costs of practical mitigation options

Strategy Value Alignment



Process Project 3 – Develop Rapid Delivery

Objective: Relocate Current IT Workloads

Overview:

Implement PaaS and IaaS tooling, establish rapid development method and train staff

The strategy implemented in this project improves the following strategy concerns –

- systems/applications design/development
- systems/applications maintenance
- systems/applications support

This will be an intense work effort. Bexar County doesn't have the staff levels needed to accomplish this work effort. Utilization of a vendor capable of managing the total effort is expected.

Included Recommendations

- RC-17 (SDLC package),
- RC-23 (Reqs., SLAs)

Estimated Labor Costs

This is a ROM estimate for comparison purposes only –

PaaS Non-Production Environment $12k per team

Included Activities

Implement and Configure PaaS Non-Production Environment

Activate and configure Cloud PaaS service for App Dev teams to begin development of new functionality and to integrate data between Cloud services and between legacy systems and Cloud services

Configure SaaS Service Non Production PaaS Environment

Activate and configure SaaS Application PaaS service for App Dev teams to begin development and to integrate the SaaS service with other systems or services

Implement Automated Test Environment

Implement and configure automated test and test management tools in an IaaS service to accelerate build completion and decrease the number of bugs in production

Implement and Configure Application Deployment Automation

Implement and configure automated deployment tools in an IaaS service to accelerate delivery of new functionality

Configure IasS Automated Provisioning

Activate and configure automated provisioning system in Cloud services to accelerate delivery of infrastructure required to support rapid delivery

Select and implement rapid development method (e.g. Agile)

Use third party consulting organization to train and mentor App Dev teams on use of a rapid development method. Ops teams will participate in the DevOps sessions.

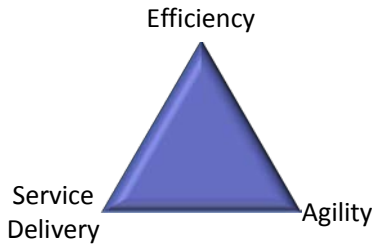
Select and implement Mobile/Web Portal PaaS Environment

Expand PaaS capabilities to include Mobile and Web Portal development capabilities as an integrated UI

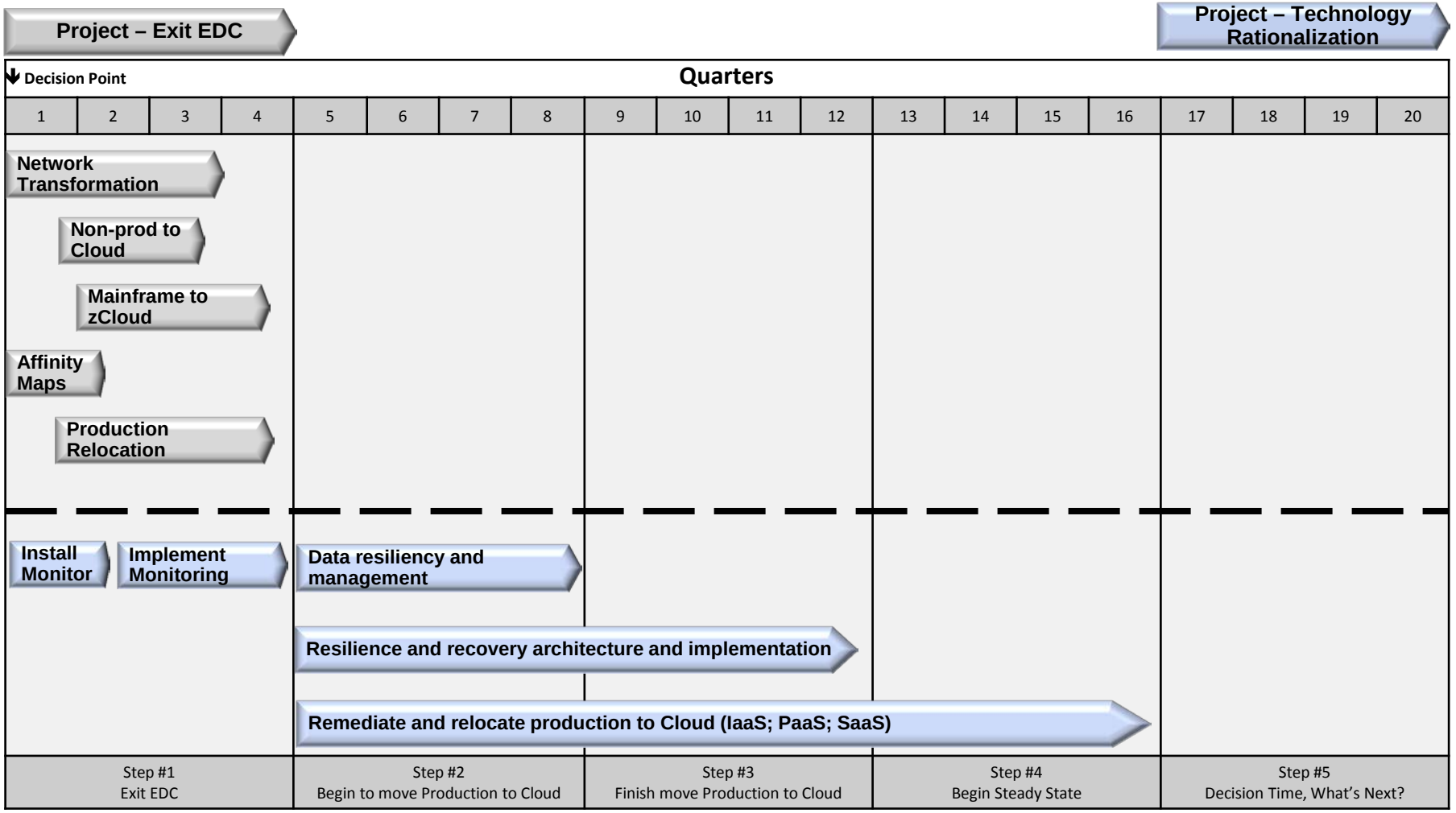
Project Benefits

- Develop minimal viable product delivery design
- Establish dedicated teams (DEVOPS)
- Create a loosely coupled architecture using open APIs
- Minimize human handoffs and maximize automated flows
- Deliver in incremental batches to shorten cycles
- Create transparency in the delivery cycle
- Eliminate overhead with more collaboration
- Automate testing to reduce human error and close testing gaps missed complex systems
- Connect systems of record to systems of interactions through open APIs and web based or mobile UIs

Strategy Value Alignment



Technology Roadmap – 5 Year Outlook



Technology Project 1: Exit Enterprise Data Center (EDC)

Objective: Relocate Current IT Workloads

Overview:

Execute a rapid project that will relocate all current and in development workloads to locations outside of the current data center facilities. Little if any workload optimization will occur as part of the project. The only workload changes will be those needed to move to a fully virtualized eco-system or where needed to remove any hardcoded application dependencies.

The strategy implemented in this project covers the following areas –

- Implement a Software Defined Network (SDN)
- Relocate development activities to multi-tenant cloud (IaaS)
- Replace both physical mainframes with zOS cloud provisioning (zCloud)
- Develop a full view of how applications relate to each other (Application Affinities)
- Relocation of email to Cloud (SaaS)
- Relocation of non-CIJS Infor workload to Cloud (SaaS)

This will be an intense work effort. Bexar County doesn't have the staff levels needed to accomplish this work effort. Utilization of a vendor capable of managing the total effort is expected.

Included Recommendations

- RC-13
- RC-16b
- RC-18
- RC-19

Estimated Costs

This is a ROM estimate for comparison purposes only –

$7,000,000

Included Activities

Implement a Software Defined Network

The current static network does not provide the flexibility needed to support the recommended strategy. In order to establish the needed network resilience and elasticity a SDN network that provides data, voice, video, audio, and internet access is needed.

Document Application Affinities

To successfully relocate the existing workloads, the dependence between applications must be understood. This does not appear to be available in the current ecosystem. This activity reflects the time and effort needed for the workshops, interviews, and workload data gathering needed to develop the set of affinities.

Migrate Dev / Test to Multi-Tenet Cloud (IaaS)

The first workload targeted for relocation to Cloud services is the development and test environment. Once the initial self-service frameworks are established with the provider the development team will be trained and be responsible for the actual relocation effort.

Migrate Mainframe Workload to Cloud (PaaS)

A primary objective of the Strategy is to reduce dependency on mainframe based solutions. The first step in this process is to move all mainframe workloads to the Cloud (zCloud). This is a Platform as a Service solution that will remove the need for Bexar County to staff for mainframe support.

Migrate Production to Co-Lo / Cloud (IaaS, PaaS, SaaS)

There are two objectives that are reached in this activity. The first is completing the relocation of all workloads and related assets, the second is removing the need for Bexar County to continue to directly support IT infrastructure hardware (server, storage, local network, etc.).

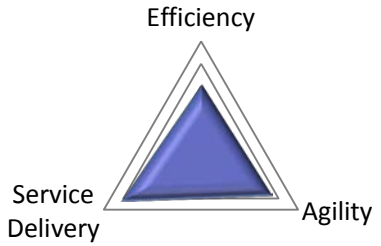
Where readily available, the preferred target will be SaaS. Early selections include, email, non-CIJS Infor, ITSM tooling, etc. Next will be IaaS / PaaS solutions, with CIJS moving to CoLo only if a CIJS certified cloud solution is not available.

It is expected that the print / mail function currently located in the data center will be physically relocated to the appropriate Bexar County General Service entity as early as possible once the decision to execute the project is made.

Project Benefits

- Maximizes flexibility in service delivery
- Removes dependency on self hosted infrastructure
- Provides development with self service development ecosystem
- Moves infrastructure support to service provider where possible
- Provides foundation for BCIT to move to a service management model
- Establishes a adaptable ecosystem with the capability to support / migrate to new technologies as they be come available

Strategy Value Alignment



Technology Project 2: Technology Rationalization

Objective: Modernize Bexar County Technology

Overview:

Execute a set of strategic activities that will move Bexar County IT into a capability based delivery model. In particular where service delivery is centered on user requirements rather than perceived technology limitations. This includes developing the ability to "see" what is happening within the technology, developing a data federation / resilience model that supports flexible technology capabilities, insuring that the future state has adequate return to service as part of the implementation base, and remediation and migration of workload to Cloud where support is available.

The strategy implemented in this project covers the following areas –

- Install and implement technology wide monitoring capabilities
- Develop, document and implement data federation, retention, recovery, and protection abilities
- Implement a data repository (EOC)
- Replace the use of zOS based workloads with solution supported Common off the Shelf (COTS) technologies in the Cloud
- Remediate any workloads not in Cloud with a target of migration to Cloud (SaaS, PaaS)
- Remediate and evacuate any workloads remaining in the EOC

c

This is Strategic work effort that must involve BCIT staff. Where leadership and skills need to be supplemented utilization of a vendor capable of supporting the effort is expected.

Included Recommendations

- RC-11, RC-12
- RC-17, RC-22
- RC-23,, RC-26

Estimated Labor Costs over 4 years

This is a ROM estimate for comparison purposes only –

$9,750,000

Included Activities

Install Monitoring Tooling

Implement new, unified monitoring capability tools needed to develop a cross technology view of what is occurring, drill down to assist in problem determination and .root cause analysis (RCA), and begin the support of proactive workload management

Implement Monitoring Tools

Installing monitoring tools is only the first step, the use of the tools must be implemented as part of the routine workload management function, includes monitoring configuration, framework development, KPI development, SLA dependent views, and the flexibility for changes based on user requested changes..

Develop Data Resiliency and Management

Create the date management models needed to properly federate the disparate data sources and retention locations, as needed to support the target state capabilities. Develop a data recovery model to support the rapid return to service needed to support current and future user expectations.

Develop Business Continuance (Resilience) and Disaster Plans

Although the target state is targeted at multiple locations, the County will need to develop mechanisms to continue to provide services in the event of service, technology, or other failure affecting service delivery. While an important effort it is generally time consuming, requires testing and specialized skills..

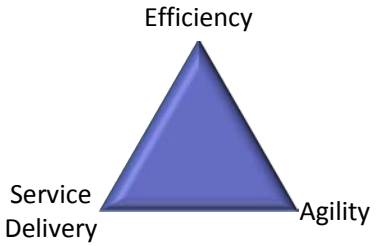
Migrate Workloads to Co-Lo / Cloud (IaaS, PaaS, SaaS)

While the primary workloads were migrated to Cloud or CoLo facilities as part of the Exit EDC Project, limited remediation and rework was done as this effort needed expediency. It is expected that at least three (3) years will be needed to fully understand the specific needs of each workload; select the appropriate target capability solutions; remediate the workload to optimize usage of the selected target zone, and migrate / relocate to the selected target capability zone.

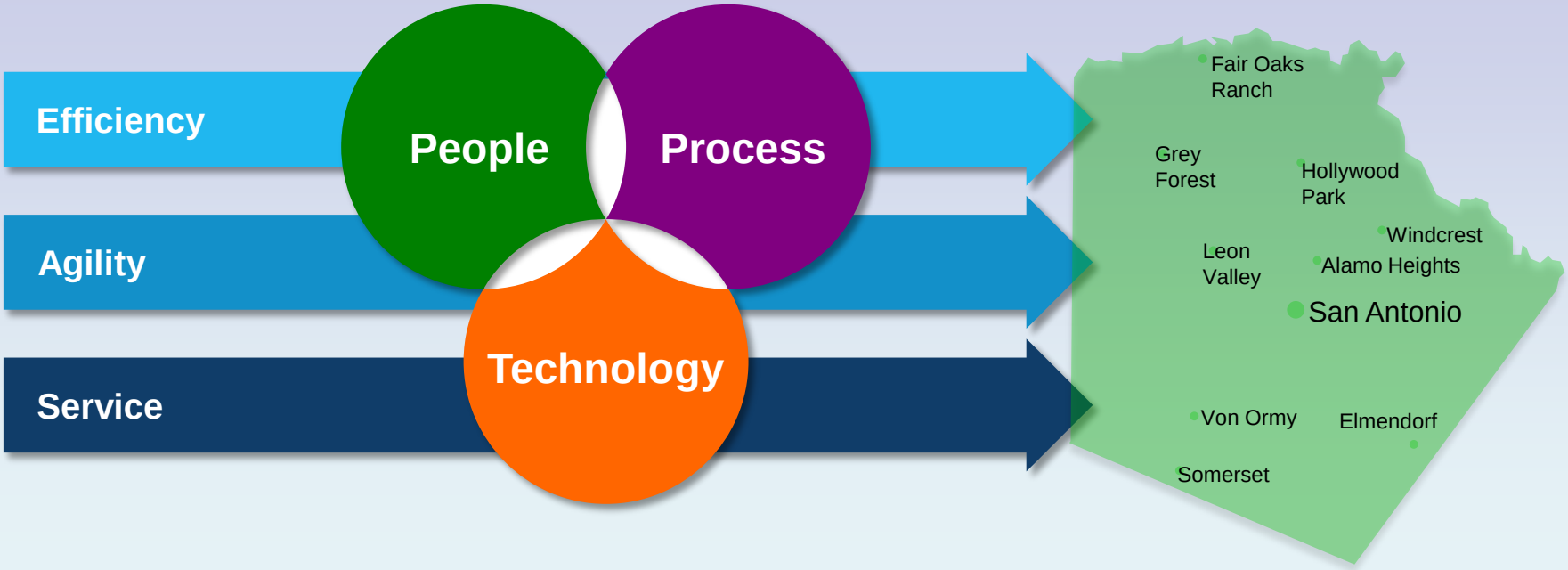
Project Benefits

- Maximizes flexibility in service delivery
- Removes dependency on self hosted infrastructure
- Provides development with self service development ecosystem
- Moves infrastructure support to service provider where possible
- Provides foundation for BCIT to move to a service management model
- Establishes a adaptable ecosystem with the capability to support / migrate to new technologies as they be come available
- Develops mature return to service capability
- Develops mature data federation implementation
- Finalizes staging to achieve the target state

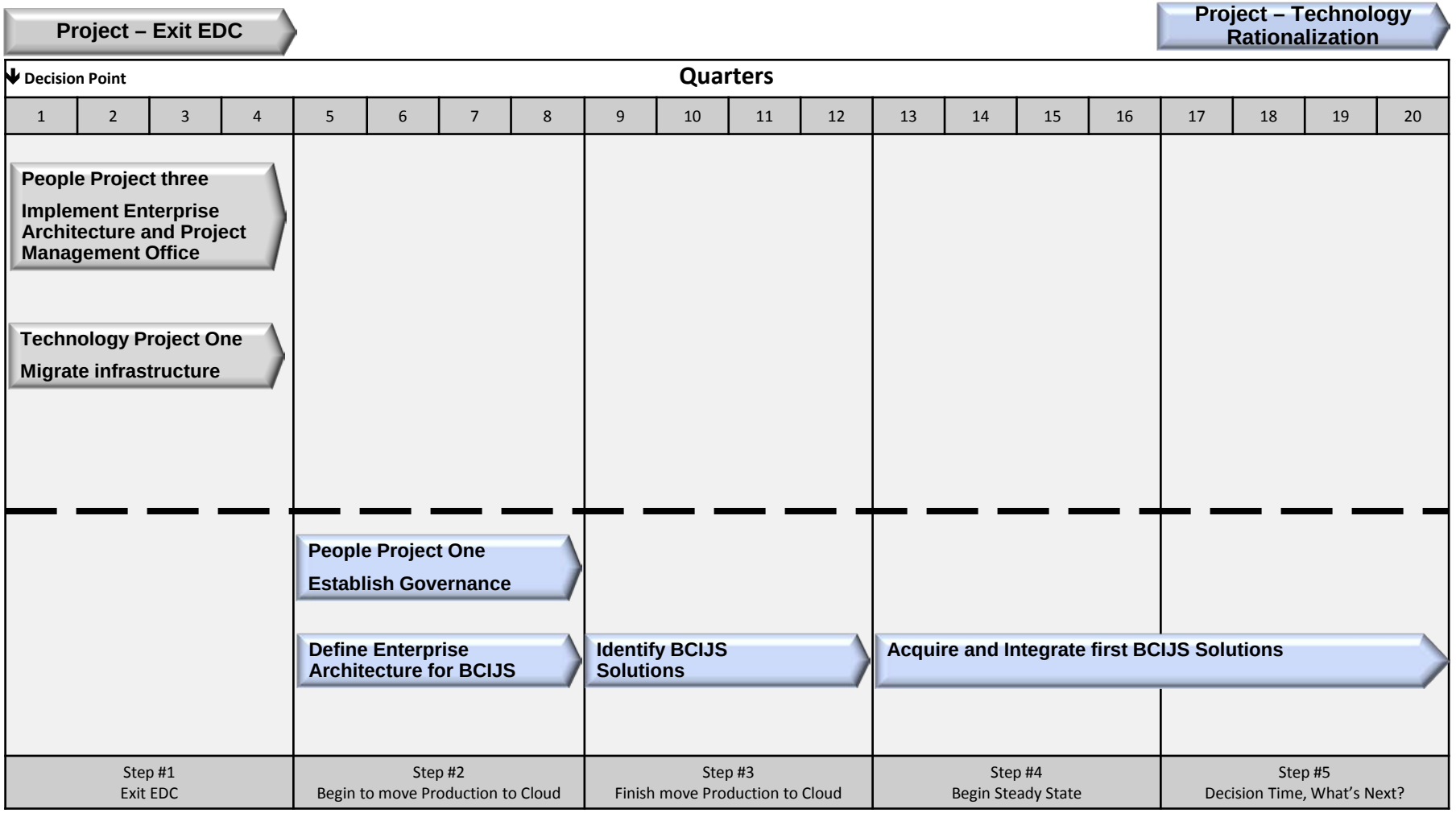
Strategy Value Alignment



BEXAR COUNTY INTEGRATED JUSTICE SYSTEM



BCIJS Roadmap – 5 Year Outlook



BCIJS Roadmap
Stabilization Phase 2016

- Scope:
  - Implement IT project management and Enterprise Architect
  - Migrate infrastructure
- Cost: See IBM IT Roadmap for project costs
- Stakeholders: BCIT

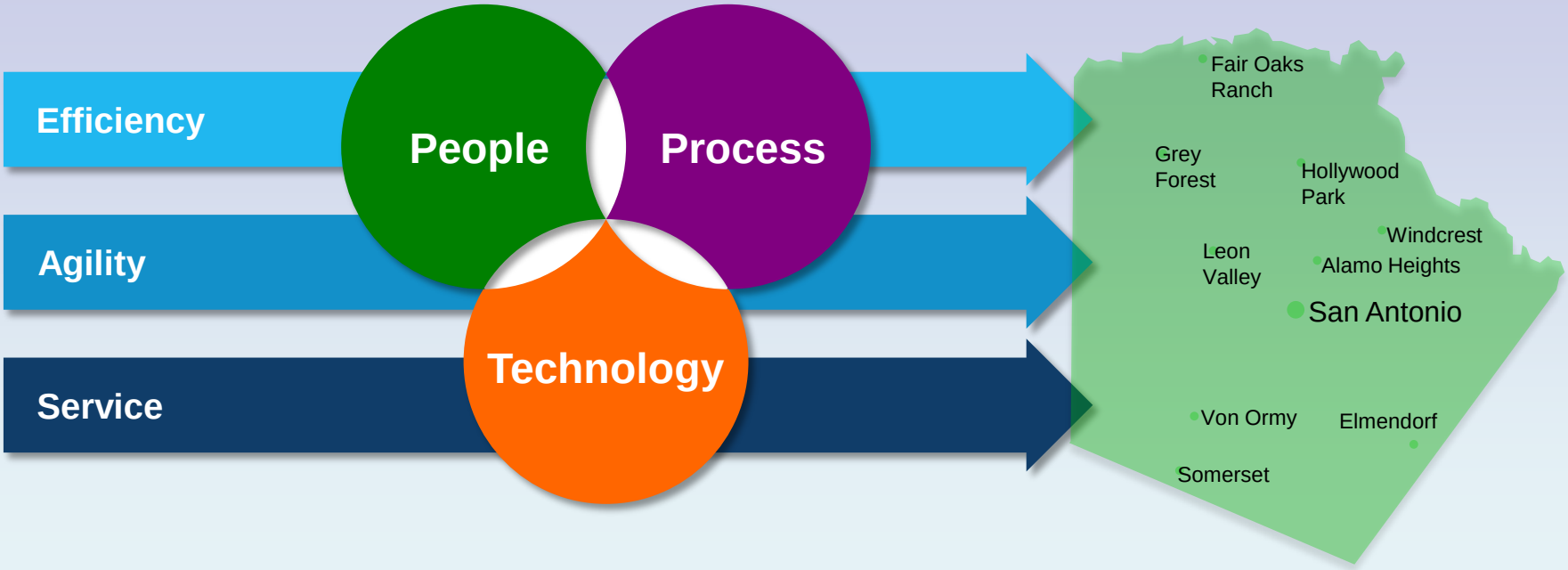
BCIJS Roadmap
Design and Planning Phase 2017

- Scope:
- Reconstitute BCIJS governance
- Define Enterprise Architecture for BCIJS
  - Use 2009 BCIJS System Architecture as the baseline
- Cost: $200,000 to $500,000
- Stakeholders: Entire BCIJS community and BCIT

BCIJS Roadmap
Implementation 2018-2020

- Scope:
- Identify BCIJS solutions
- Acquire and integrate first 2 major BCIJS solutions
- Cost: $4.0 to $8.5 Million
  - Assumes integration environment, 2 major modules (software or Cloud solutions) and hiring an integrator to implement)
- Total Cost to implement complete BCIJS “best of breed” solution: ~ $30M (based on 2009 Integration Plan)
- Stakeholders: Entire BCIJS community and BCIT

FINANCIALS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San Antonio
Von Ormy
Elmendorf
Somerset

IBM's roadmap financial model is based on a differential cost analysis

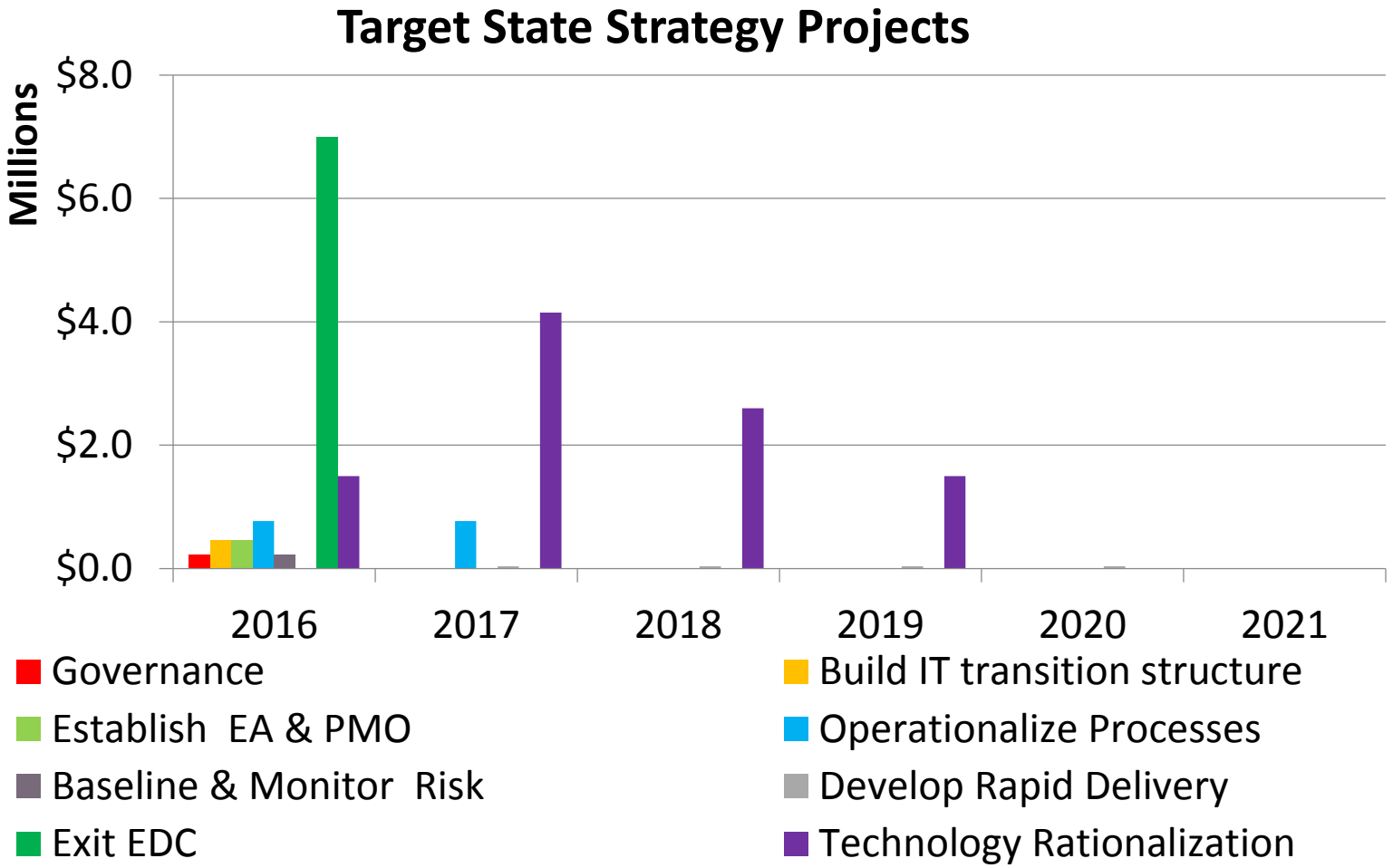
- **The differential cost analysis compares the estimated costs (cash flow) 2016 through 2021 of the target state to a Business As Usual (BAU) baseline**
- **This is a cost model. The difference in level of service between the target state and BAU is not included.**
- **It includes those IT infrastructure cost categories where there are significant differences between the target state and the BAU**
  - Facilities, hardware for server storage and network, managed services, labor, migration, IBM mainframe software and hardware maintenance
  - 2016 includes only one-time costs; 2017– 2021 include one-time and recurring costs
  - This excludes software costs, SaaS charges, and other maintenance costs
- **Estimates are rough order of magnitude (ROM) and based on non-negotiated prices**

The Target State financials are based on key assumptions regarding workload and labor *

- Workload shifts from on premise self managed to cloud - IaaS and SaaS
  - 90% of x86 workload migration to cloud completed by end of 2016, 10% to EOC
  - Mainframe migration to cloud completed by end of 2016
- x86 annual growth rate – 5%
  - Target Production: 60% SaaS, 40% IaaS
  - Target Non Production: 100% IaaS
- Mainframe workload decreases to 10% of current by 2021
- No change in managed services unit prices 2017 – 2021
- Mail & Print Roles are transferred to another County Department
- New roles added in 2017
- 20% salary increase for knowledge workers in 2017
- 3% annual salary increase
- All Projects are assumed to start in or before 1st quarter 2016

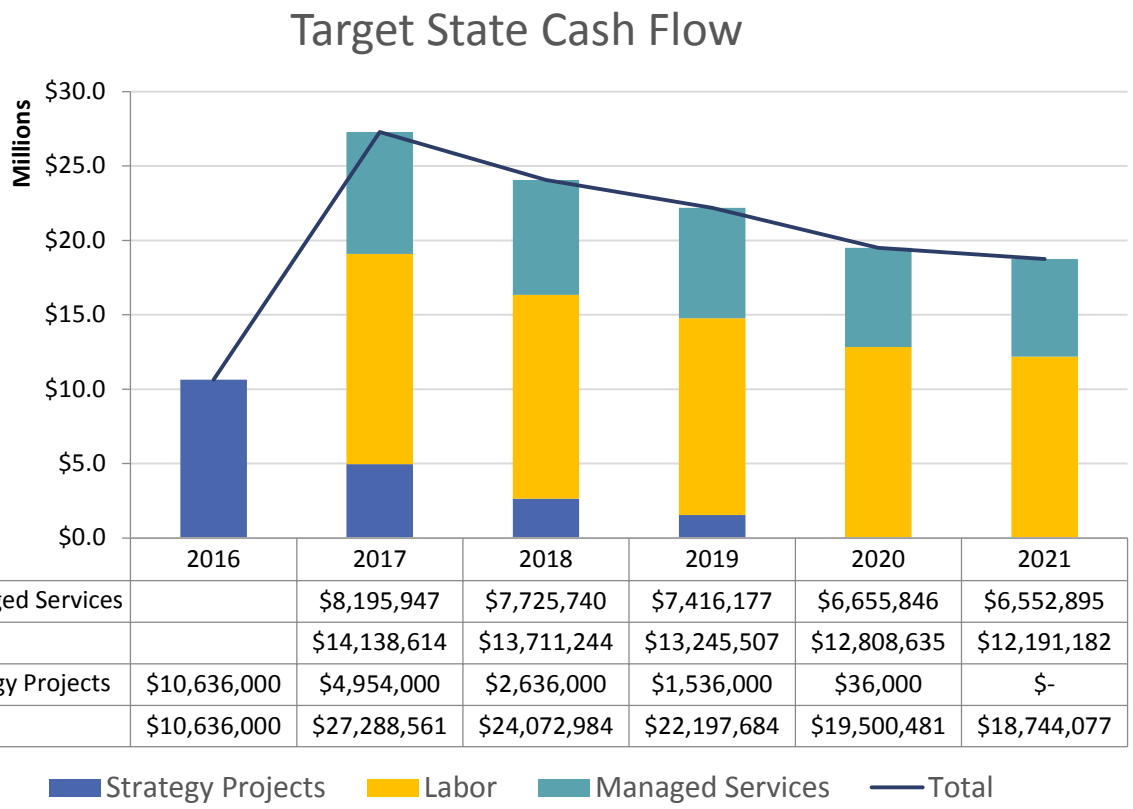
Note: These assumptions and values need to be validated during detail design

Exit EDC and Technology Rationalization are the major components of the Target State Strategy Projects



The costs are for only external services and do not include internal resources.
All Projects are assumed to start in or before 1st quarter 2016 for financial modeling

Target State costs gradually decline as Strategy Projects complete and labor costs decrease



	2016	2017	2018	2019	2020	2021
Managed Services		$8,195,947	$7,725,740	$7,416,177	$6,655,846	$6,552,895
Labor		$14,138,614	$13,711,244	$13,245,507	$12,808,635	$12,191,182
Strategy Projects	$10,636,000	$4,954,000	$2,636,000	$1,536,000	$36,000	$-
Total	$10,636,000	$27,288,561	$24,072,984	$22,197,684	$19,500,481	$18,744,077

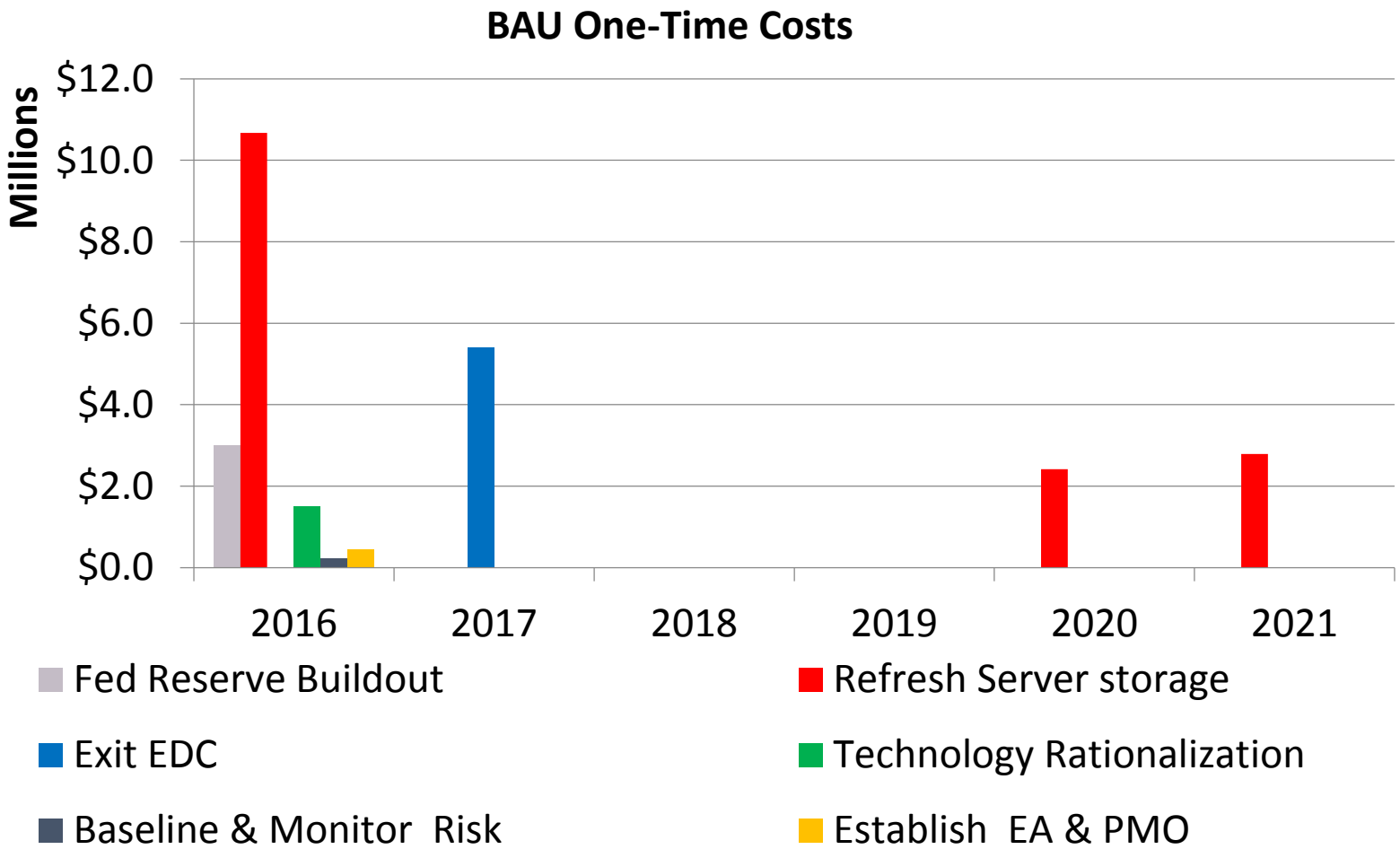
The costs are for only external services and do not include internal resources.
All Projects are assumed to start in or before 1st quarter 2016 for financial modeling
This excludes software costs, SaaS charges, and other maintenance costs

The future BAU financial model is based on key assumptions on facilities, refresh and labor

- Workload remains on premise and self managed with the exception of network
- Mainframe workload decreases to 10% of current by 2021
- Federal Reserve built out as data center in 2016
- 2016 Refresh in EDC and migration to Federal Reserve building in 2017
- Refresh again in 2020 and 2021
- Mail & Print Roles remain in BCIT
- Some new roles added in 2017
- 3 additional FTEs per year at $75,000 salary
- 3% annual salary increase
- A 20% increase for knowledge workers is not included as it is in the Target State
- The uplift to a fully loaded to salary is 32%

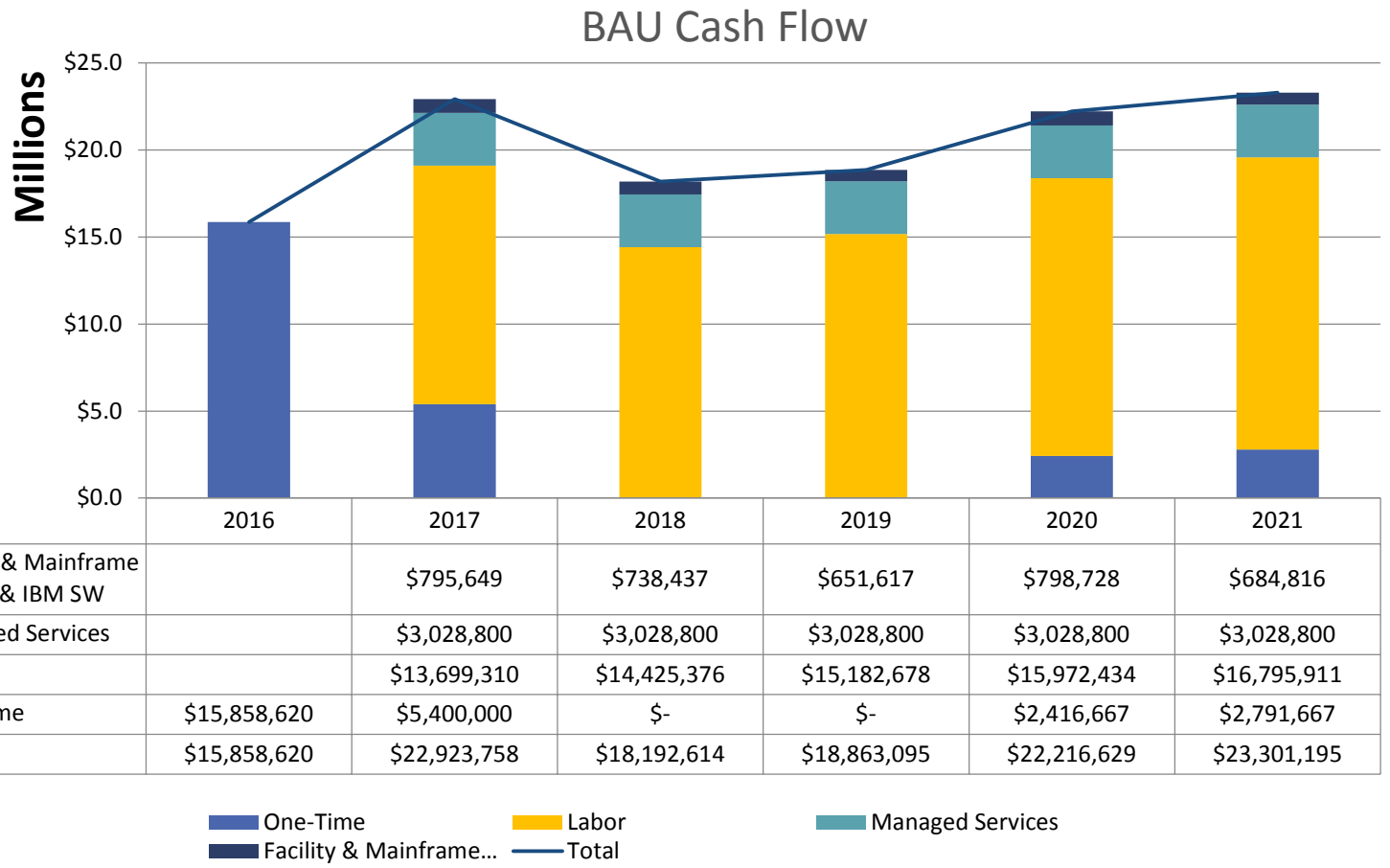
The costs are for only external services and do not include internal resources.
All Projects are assumed to start in or before 1st quarter 2016 for financial modeling

Refresh, Exit EDC and Fed Reserve buildout are the primary components of the BAU One-Time Costs



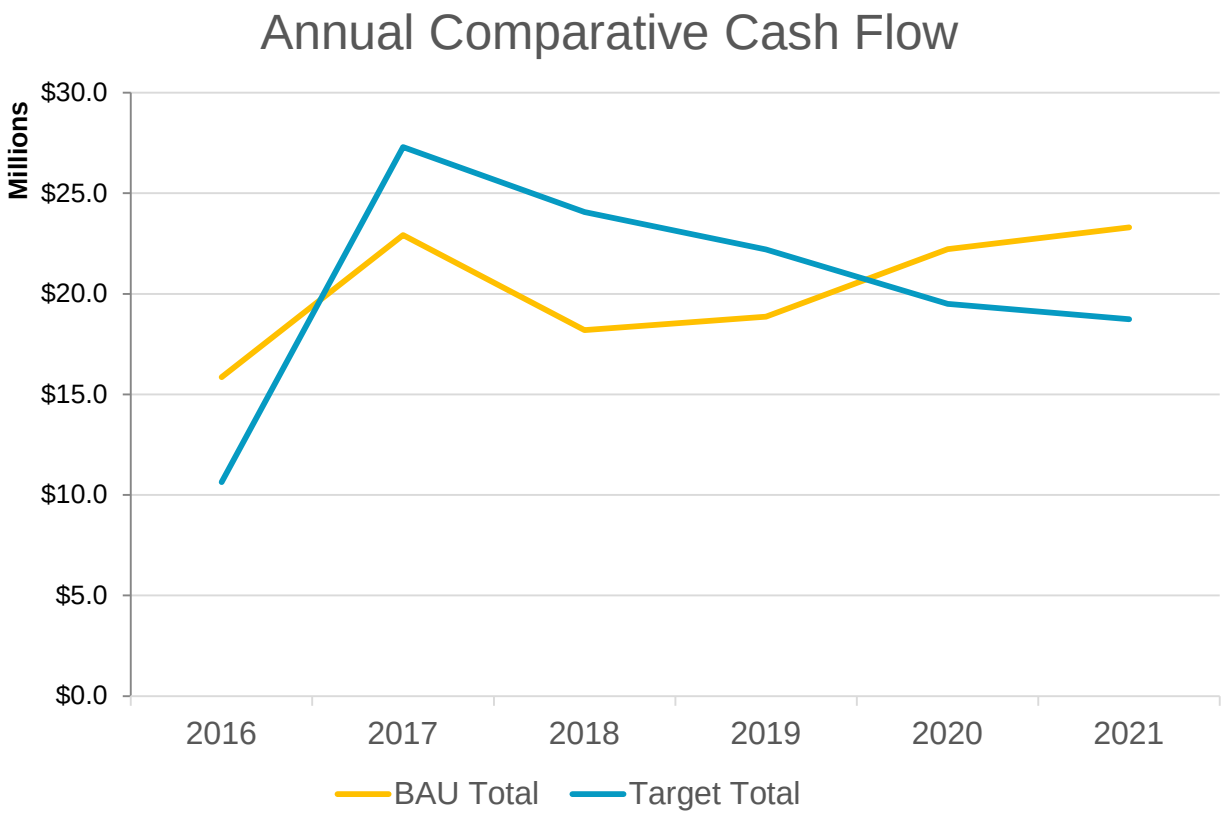
These costs are for external assets and resources and do not include internal resources..

Future BAU financial model reflects cost increases over time due to technology refresh



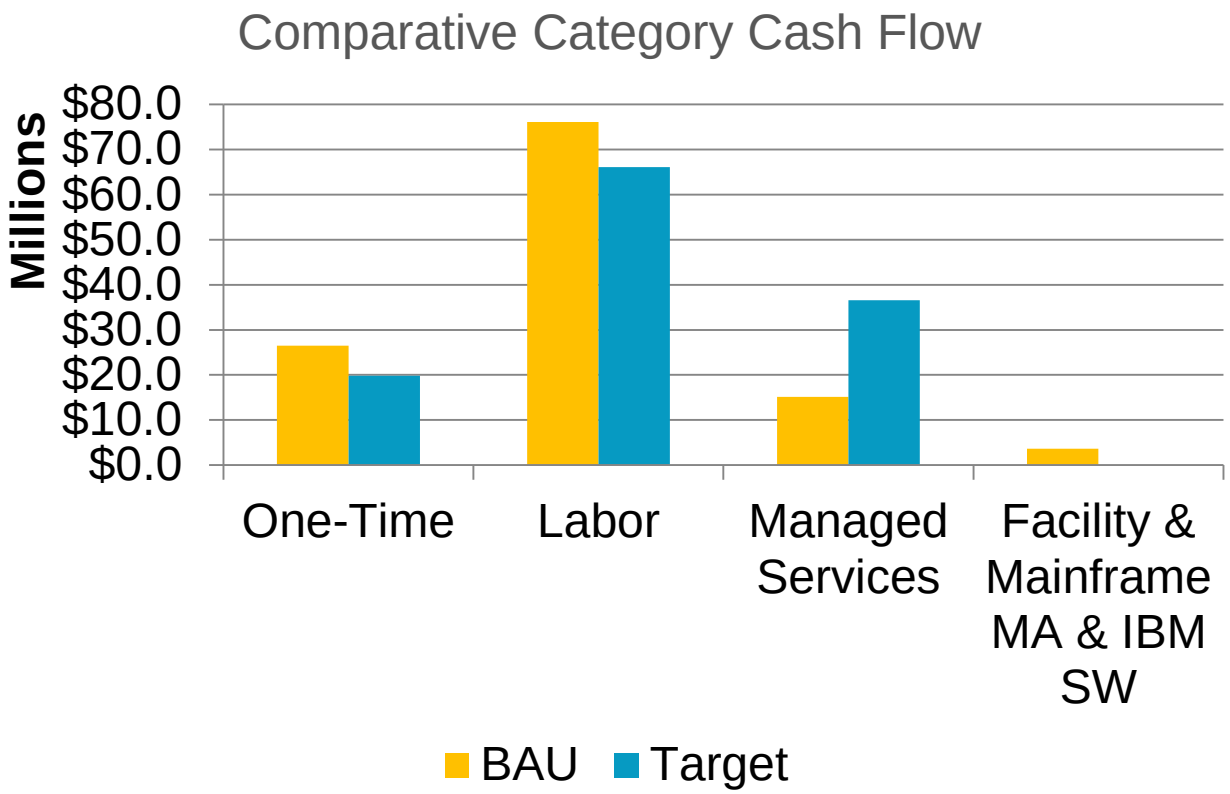
	2016	2017	2018	2019	2020	2021
Facility & Mainframe MA & IBM SW		$795,649	$738,437	$651,617	$798,728	$684,816
Managed Services		$3,028,800	$3,028,800	$3,028,800	$3,028,800	$3,028,800
Labor		$13,699,310	$14,425,376	$15,182,678	$15,972,434	$16,795,911
One-Time	$15,858,620	$5,400,000	$-	$-	$2,416,667	$2,791,667
Total	$15,858,620	$22,923,758	$18,192,614	$18,863,095	$22,216,629	$23,301,195

As compared to the future BAU financial model, the Target State has insignificantly higher costs that decrease over time



		2016 - 2021
Target	$	122,439,787
BAU	$	121,355,911

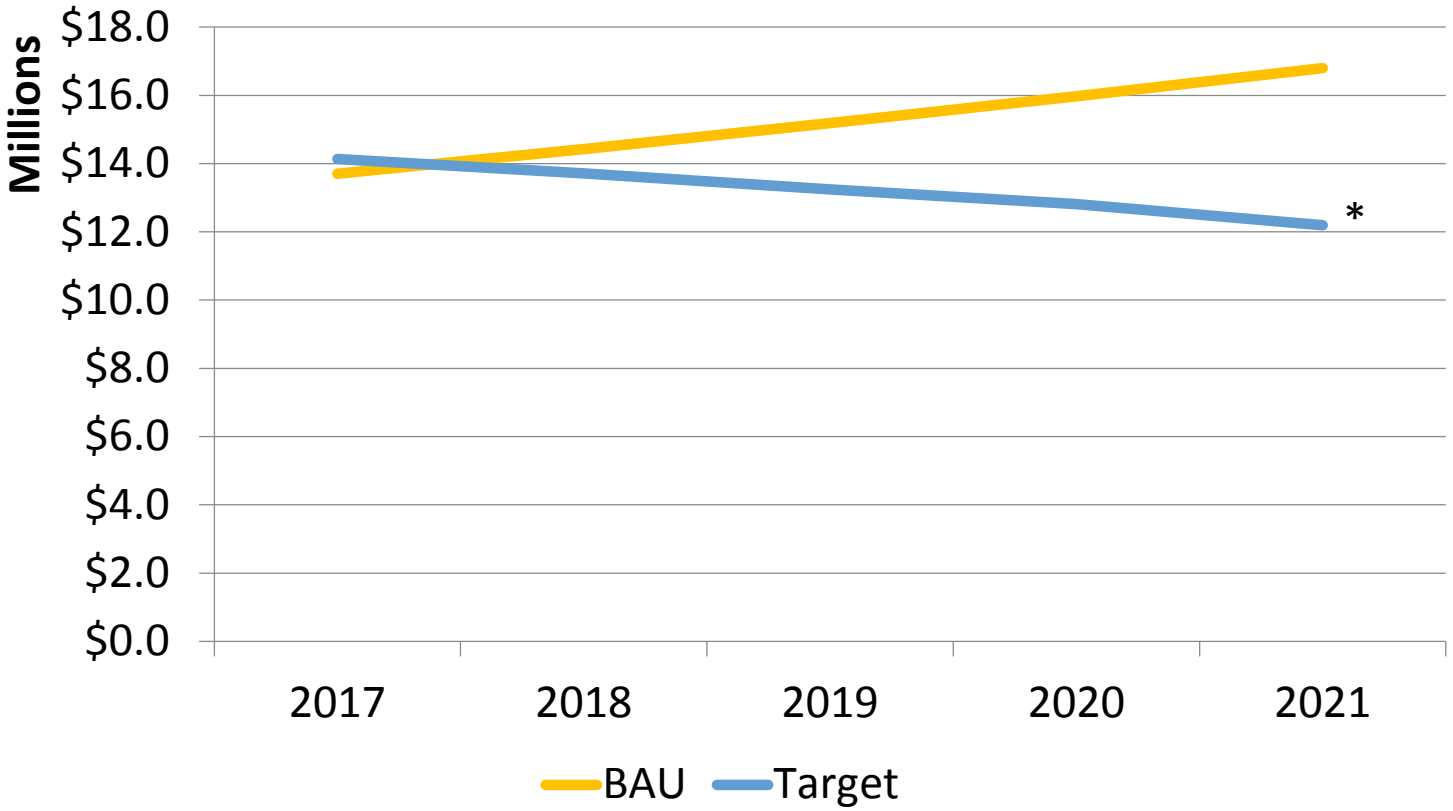
The Target has higher costs of managed services as a result of implementing IT strategy, leveraging sourcing and external hosting



	2016 - 2021
Target	$ 122,439,787
BAU	$ 121,355,911

Note the Target labor includes a 20% salary increase in 2017 for knowledge workers and a 3% annual increase. The BAU labor includes only a 3% annual increase and continues to include the mail and print roles.

The gap between Target and BAU labor costs increases as the Target workload shifts to cloud



**Note the target costs include a 20% salary increase in 2017 for knowledge workers and a 3% annual increase. The BAU costs include only a 3% annual increase and continue to include the mail and print roles*

The selected target state has the best value for Bexar County Offices and Departments, and BCIT

The target state

- reduces IT staff and uses a service life cycle organization structure
- simplifies management by shifting responsibility to cloud vendors
- significantly reduces physical asset costs based on migration to cloud based infrastructure
- increases flexibility through use of standard offerings and increasing automation
- reduces risk using multiple cloud providers to increase resilience
- drives coordination of solutions, and sharing of data and resources using enterprise architecture
- Improve service delivery, manage costs / schedule, through use of structured program and project management practices
- Accelerates delivery of IT services using cloud based automation and agile methods

APPENDIX

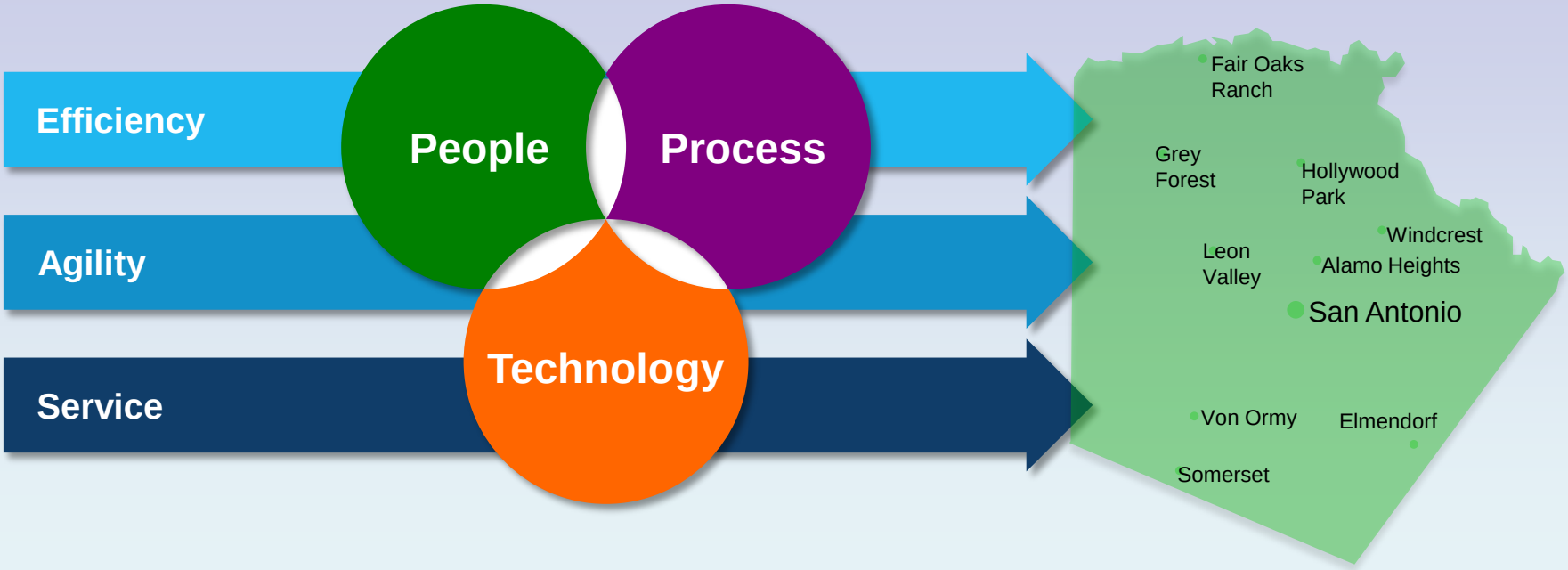
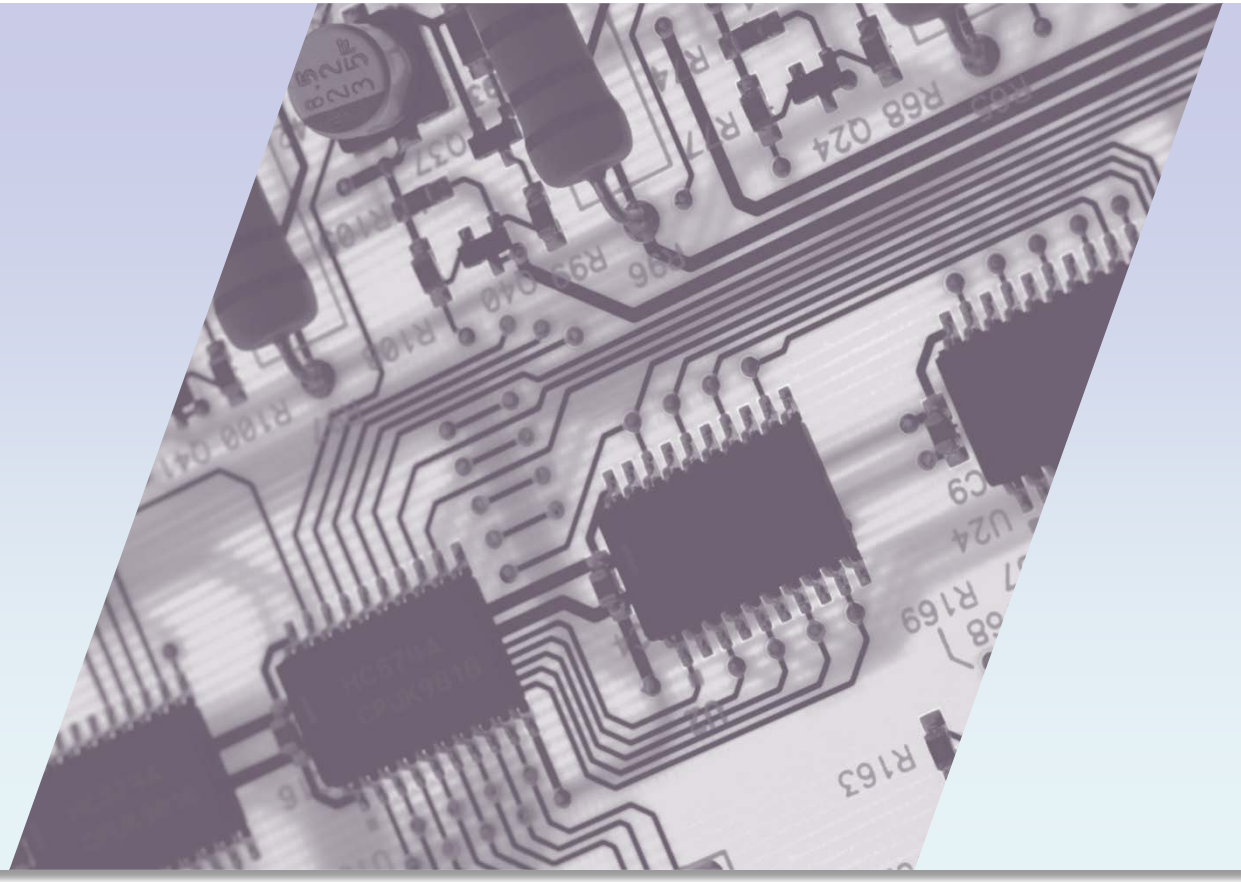

Efficiency
Agility
Service
People
Process
Technology
Fair Oaks Ranch
Grey Forest
Hollywood Park
Windcrest
Leon Valley
Alamo Heights
San Antonio
Von Ormy
Elmendorf
Somerset

Table of Contents

- ❑ Baseline Materials
- ❑ People
- ❑ Process
- ❑ Technology
- ❑ Finance
- ❑ Other



BASELINE MATERIALS

Material discovered, referenced or developed as part of documenting the IT baseline

Bexar County and BCIT Staff contributing to the 5 Year IT Strategy

Name	Title
Alan Smith	BCIT, CIJS Manager
Albert Urseti	Tax Assessor
Carmella Guerrero	BCIT
Cathy Maras	CIO
Cheryl Vargas	Sheriff, Technical Services Manager
Courney Lieberman	BCIT, ERP Manager
David Smith	County Manager
Diane Garcia	District Court, Court Clerk
Dori Weaver	Internal Audit
Gary Hutton	Judge Canales, Chief of Staff
Jay Garza	BCIT
John Hurst	Public Works, Project Manager
Joseph Yebra	Internal Audit
Juan Montero	Sheriff, Network Architect
Juanita Vasquez Gartner	District Attorney Office
Judge Canales	District Court
Ken Vellano	Chief Innovation Officer
Kevin Wolff	Commissioner
Lee Roy Dominguez	BCIT
Lisa Anderson	Assessor Office, Assessor Collector
Maris Nunez	BCIT
Mary Ann Romica	Internal Audit
Michael Lopez	BCIT, Application Development Manager
Michael Maul	District Attorney Office, Senior Project Manager
Nicholas Bennett	Commissioner's Office. Senior Policy Analyst
Pat Hatzel	Assessor Office, Assessor Collector
Peter Petroff	Internal Audit
Phillip Rico	BCIT
Robert Adelman	Sheriff, Radio System Manager

Name	Title
Roger Henderson	BCIT
Russell Bednarz	BCIT, EDC Manager
Sam Benavides	BCIT, Database Manager
Scott Adams	BCIT, Technical Support Manager
Seth McCabe	County Managers Office, Director of Budget and Finance
Sherrie Ascolero	BCIT
Stephen Palacios	Assessor Office, Chief Deputy of Operations
Susan Harris	Commissioner, Chief of Staff
Thomas Guerara	County Manager, Chief of Staff
Tina Smith	Assistant County Manager
Todd Alvis	BCIT, GIS Manager
Tony Canez	County Managers Office, Project Coordinator
Tony Vasquez	Public Works, Chief of Staff
Wendy McClellan	District Attorney Office, Business Process Analyst

Research reports contributing to External Insights

Gartner	Gartner continued	ATT, Forrester, IBM and IDC
IT Market Clock Reports:	North American Local Gov't IT Solutions	ATT, Government Technology, IP Network
Planning Your Strategic Portfolios for Digital Business	Block and File Storage Market	CEB, Risk Management Report
Enterprise Mobility	Smart City Aligns Technology Innovation	Forrester, Vendor Landscape for Private Cloud SW
Programming Languages	Top Strategic Predictions 2016 and Beyond	Forrester Wave, Release Automation
Service Virtualization and Operating Environments	Market Insight, State and Local Government, IT Primer	Forrester, Top 10 Technology Trends to Watch
Database	Market Trends for Digital Government Offerings	IBM, Critical CFO Information Needed
Enterprise Networking		IBM, Market Trends in Digital Government
ERP Platform		IBM, Citizen Development is Fundamental
IT Automation		IBM, Choose 1 of 3 models for Mobile Arch.
IT Availability and Performance Management		IBM, New Technology, New Mindset
IT Service Management		IDC, Internet of Things impact on government
Server		IDC, State of Cloud Maturity
Predicts Reports		
Information Infrastructure Technology		
Information Strategy		
Mobile and Wireless		
Governments must address risks in social media		
Market Guide for Integration Brokerage		

Analysis Spreadsheets

Salary analysis comparing BCIT to other entities

Salary Comparison Analysis.pdf

Labor analysis used to Financial Model

Org and Salary Model.pdf

Workshop Analysis used to Process Improvements

ITSM Assessment Report.pdf

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
0-Facility Related Insights	1-Facility MEP Specs	2014SimplexInspection.pdf BCIT - Site Visit Notes for DC Review.pdf EDC Peripherals.xlsx temp planning to reduce dust and isolate vendor cabinets with improved security -Visio Design of the Computer Room.pdf temp planning to reduce dust and isolate vendor cabinets with improved security -Visio Design of the Computer Room.vsd BEXAR CO. INFO TECH ELECTICAL UPGRADE 10-21-11 Bexar County Info. Upgrade Spec..pdf Purchasing Doc..pdf. PLANS E-00.pdf E-01.pdf E-02.pdf E-03.pdf T-00.pdf
0-Facility Related Insights	10-Operator Procedure Guidebooks	Cics and DEVL TEST Manual Shutdown or Cycle.pdf Cycling TCPIP on Production.pdf Days ACT server procedure.pdf Days Post Office Bulk Mailing Procedures(Taxes JP Sherriffs etc).pdf DPS Procedures.pdf DPS.pdf How to unlock a dataset.pdf Operator Training Manual.pdf Production PFK Keysmessages.pdf velcity procedures.pdf VINE Appriss issues.pdf

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
0-Facility Related Insights	11-Incidents, Alerts, Change, Config	Computer Room Contacts.xlsx Copy of Copy of BCIT_Technical_Services_Contacts (3).xlsx EDC contact information.xlsx Alarms Alarm examples.docx ProductionAlarmProcedure2015 v3.pdf RE IR48870 Alarm - Severity 1 - BCIS-AV-SV01 is down - Open - Monitoring.msg RE IR48870 Alarm - Severity 3 - BCIS-AV-SV01 is down - Open - Monitoring.msg RE IR49389 Alarm- Severity 4- Bexarclaw.bexar.org 'Mug shot' photos not displaying-Open-Monitoring .msg RE IR49925 Alarm Severity 2- Texas Attorney General Austin-Router not connecting-Open-Monitoring .msg Change Management Change Management Process.pdf Change Managements Projects April 2015.xlsx Change Managements Projects August 2015.xlsx Change Managements Projects July 2015.xlsx Change Managements Projects June 2015.xlsx Change Managements Projects March 2015.xlsx Change Managements Projects May 2015.xlsx Change Managements Projects September 2015 - after CM Meeting.msg Change Managements Projects September 2015 - email1.msg Change Managements Projects September 2015 - email2.msg Change Managements Projects September 2015 - email3.msg Change Managements Projects September 2015.msg Change Managements Projects September 2015.xlsx

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
0-Facility Related Insights	12-Reporting (Ad hoc & Standard Reports)	2014-2015 2nd Quarter.xlsx 2014-2015paperOnHand.xls Adabas and MSU tracking..docx Annual Meter Readings.xlsx Bexar County - System Center Service Manager deployment 2015 rebuild.msg Daily XEROX Impression Readings.xlsx FY 2014-2015 2nd Quarter.xlsx FY 2014-2015 3rd Quarter.xlsx FY2014-2015 1st Quarter.xlsx IBM_Software Charge 2014 Ver2.xls IBM_Software Charge 2014.xls Inventory - Envelopes and Plotter Supplies.xlsx Mailing Wkly Vol Report Aug24-31, 2015.xlsx Monthly Production Reporting.xlsx Monthly Supply Inventory.xls MSU Tracking.docx Print Job volumes and departments FY 2014-2015 3rd Quarter.xlsx Print Shop 2014 Volumes Analysis.xlsx RE CPU Utilization 090815.msg RSA spreadsheet.xlsx SBSE____.NQH SBSE____.QAP September 2015 WebCRD Reports.xlsx Weekly Supply Inventory.xlsx Wkly Mainframe Reports 082215-082815.xlsx

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
0-Facility Related Insights	13-Standards (Networking, Racking, Monitoring, Altering, Testing	BCIT_TechnicalStandards_v5-3_2015-07-31.docx County System Technical Requirements V4 0 - 02-17-2010.doc
0-Facility Related Insights	2-Facility Readiness	None
0-Facility Related Insights	3-Facility Floor Space	Application Server List current as of 082515.xlsx Data Center Server Visio 3rd party vendor1.jpg Data Center Server Visio 3rd party vendor2.jpg Data Center Server Visio Row 1.jpg Data Center Server Visio Row 2.jpg Data Center Server Visio Row 3.jpg Data Center Server Visio Row 4.jpg EDC Server Spreadsheet(Computer room Grid).xlsx
0-Facility Related Insights	4-DC Operational Staff	Data Center Operational Staff.pdf

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
0-Facility Related Insights	5-NOC, CC, HD Insights	BCIT External IT Departments.xlsx BCIT_Technical_Services_Contacts.xlsx Technical Support Phone Numbers.pdf Vendor,BCIT Contact List.xls ASG Software BCITNotes Template & Reporting samples BCITNotes090115.doc BCITNotes090215.doc BCITNotes090315.doc BCITNotes090415.doc BCITNotes090515.doc BCITNotes090615.doc BCITNotes090715.doc BCITNotes090815.doc BCITNotes090915.doc BCITNotesBlank.doc BCITNotesTemplate.doc

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
0-Facility Related Insights	5-NOC, CC, HD Insights	EDC Super Notes & Reporting BCSNotes090115.doc BCSNotes090215.doc BCSNotes090315.doc BCSNotes090415.doc BCSNotes090515.doc BCSNotes090615.doc BCSNotes090715.doc BCSNotes090815.doc BCSNotes090915.doc BCSnotesAug-15 BCSNotes080115.doc BCSNotes080215.doc BCSNotes080315.doc BCSNotes080415.doc BCSNotes080515.doc BCSNotes080615.doc BCSNotes080715.xml BCSNotes080815.doc BCSNotes080915.doc BCSNotes081015.doc BCSNotes081115.doc

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
0-Facility Related Insights	5-NOC, CC, HD Insights	EDC Super Notes & Reporting BCSNotes081215.doc BCSNotes081315.doc BCSNotes081415.doc BCSNotes081515.doc BCSNotes081615.doc BCSNotes081715.doc BCSNotes081815.doc BCSNotes081915.doc BCSNotes082015.doc BCSNotes082115.doc BCSNotes082215.doc BCSNotes082315.doc BCSNotes082415.doc BCSNotes082515.doc BCSNotes082615.doc BCSNotes082715.doc BCSNotes082815.doc BCSNotes082915.doc BCSNotes083015.doc BCSNotes083115.doc SBSE____.CI9

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
0-Facility Related Insights	6-Backups, Recovery, Rotation, Security	Bexar County IPL-Shutdown Procedures for EOC PRD1.docm EDC PRD1 IPL FLOW.docx EOC Hardware Inventory.xlsx EOC IPL FLOW.docx EOC SHARK array.xls EOC SHARK Configuration (2).doc EOC SHARK worksheet.xls
0-Facility Related Insights	7-Cameras, Access Control, Logs, Sensors	CRU #1(AC).pdf CRU #2(AC).pdf CRU #3(AC).pdf CRU #4(AC).pdf CRU #5(AC).pdf IP cameras with Serial Numbers and Passwords.xlsx KEYLOG.LIST.xls Keysheet32-56.docx XEROX Monthly Impression Readings submitted to Xerox.xlsx Xerox 1000 Maintenance.pdf Xerox 700 log.pdf
0-Facility Related Insights	9-Policies for Deploym, Isolation by Environm., Asset Tags	Asset Control Process_Tagging.pdf asset management - RTG 82015.msg asset management - RTG 82715.msg asset management - RTG.msg Digital Signage Inventory List.xlsx Inventory Policy.pdf Mainframe Visio.pdf Mainframe Visio.vsdx

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
14-Server Related Insights	16-Implementation Patterns	None
14-Server Related Insights	17-Provisioning	None
14-Server Related Insights	18-Patching	None
14-Server Related Insights	19-Backups, Recovery, Retention	None
14-Server Related Insights	20-Database	All_DB_Diagram.vsd DatabasesInventory_Full.xlsx DB_Diagram.pdf
14-Server Related Insights	21-Softw Versions	None
14-Server Related Insights	22-Virtualization Policies	None
14-Server Related Insights	23-Workload Balancing & Prioritization	None

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
30-StorageSAN Related Insights	31-Inventory of Physical Storage (NAS, SAN, VTS, DASD, Direct)	Compellent SAN Survey 9-2-2015.xls
30-StorageSAN Related Insights	32-Inventory of SAN Devices	None
30-StorageSAN Related Insights	33-Implementation Patterns (currently deployed and standards)	None
30-StorageSAN Related Insights	34-Provisioning	None
30-StorageSAN Related Insights	35-Tiering	None
30-StorageSAN Related Insights	36-RAID Policies	None
30-StorageSAN Related Insights	37-Zones, LUN Masking	None
30-StorageSAN Related Insights	38-Hotspot balancing mechanisms	None

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
30-StorageSAN Related Insights	39-Monitoring of faults, performance, etc	None
30-StorageSAN Related Insights	40-Policies on PROD, non-PROD	None
30-StorageSAN Related Insights	41-Policies for SOX, HIPAA, PCI, etc	None
30-StorageSAN Related Insights	42-Reporting	None
43-Network Related Insights	44-Inventory of data center network equipment	None
43-Network Related Insights	45-(Routers, Switches, IDSIPS, Firewalls, Load Balancers, etc)	None
43-Network Related Insights	46-Inventory of External WAN end points and circuits, P2P links	None
43-Network Related Insights	47-BandwidthUtilization reports	None

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
43-Network Related Insights	48-External circuit routing (right of way, across bridges, to city DC, etc)	None
43-Network Related Insights	49-VLAN and Segmentation Maps	None
43-Network Related Insights	50-QoS mechanisms	None
43-Network Related Insights	51-Diagrams of topologydesign of DC LAN and external connections	None
43-Network Related Insights	52-Monitoring of faults, performance, etc	None
43-Network Related Insights	53-Policies on PROD, non-PROD	None
43-Network Related Insights	54-Policies for SOX, HIPAA, PCI, etc	None
43-Network Related Insights	55-Reporting	None

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
56-Organizational Insights	57-Org charts (BCIT and IT related staff for the 5 selected Agencies)	BCIT Org Chart.pdf BCIT Org Chart Department Position .pdf
56-Organizational Insights	58-Role descriptions	Chief Information Officer - EX05.doc ABAP Programmer - Unclassified ?.doc ABAP Programmer - Unclassified ?.pdf Analyst Programmer I - E-07.pdf Analyst Programmer I - E07 ?.doc Analyst Programmer II - E-09.pdf Analyst Programmer II - E09.doc Applications Development Coordinator - E-10.pdf Applications Development Coordinator - E10.doc Applications Development Manager - E11.pdf Applications Development Manager - X - E11.doc Basis Administrator - Unclassified - Shortcut.doc.lnk Basis Administrator - Unclassified.pdf Chief Information Officer - EX05.doc CHRIS Support Specialist - E07.doc CHRIS Support Specialist - E07.pdf Communications Coordinator - E08.doc Communications Coordinator - E08.pdf County Integrated Justice Public Safety Systems Manager -X-E12 ?.pdf County Integrated Justice & Public Safety Systems Manager -X-E12 ?.doc CW Software Engineer - E08.doc Data Security Analyst - E-08.pdf Data Security Analyst - E07.doc

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
56-Organizational Insights	58-Role descriptions	Database Administrator - E10.pdf Database Analyst - E07.pdf Database Analyst - E08.doc Database Coordinator - E09.pdf Deputy Chief Information Officer - 14.doc e-Government Developer - E07 ?.doc e-Government Developer - E07.pdf Enterprise Data Center Manager - X - E11.doc Enterprise Data Center Manager - X - E11.pdf Executive Assistant - E04 2.doc Executive Assistant - E04.pdf Geographic Information System (GIS) Manager - E11.DOC Geographic Information System (GIS) Manager - E11.pdf Geographic Information System (GIS) Senior Analyst - E07.doc Geographic Information System (GIS) Senior Analyst - E07.pdf GIS Database Systems Coordinator - E09.doc GIS Database Systems Coordinator - E09.pdf IT Financial Systems Manager - Unclassified.doc IT Financial Systems Manager - Unclassified.pdf Network Architect I - E07.doc Network Architect I - E07.pdf Network Architect II - E08.doc Network Architect II - E08.pdf Network Architect III - E09.doc Network Architect III - E09.pdf Network Security Administrator - E-10 confirmed.pdf Network Security Administrator - E10.doc

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
56-Organizational Insights	58-Role descriptions	Production Control Analyst - E07.doc Production Control Analyst - E07.pdf Senior Software Engineer - E09.pdf Senior Technical Training and Support Specialist - E06.doc Senior Technical Training and Support Specialist - E06.pdf Senior Technology Business Analyst - E07.doc Senior Technology Business Analyst - E07.pdf Software Engineer - E07.pdf Systems Programmer - E08.doc Systems Programmer - E08.pdf Systems Programming Administrator - E09.doc Systems Programming Administrator - E09.pdf Technical Support Coordinator - E09.doc Technical Support Coordinator - E09.pdf Technical Support Manager (E-12).pdf Technical Support Manager-IT-X-E12.doc Technology Business Analyst - E05.doc Technology Business Analyst - E05.pdf Video Conferencing Systems Manager - E09.doc Video Conferencing Systems Manager - E09.pdf Web Print Graphic Designer - E06.doc Web Print Graphic Designer - E06.pdf Webmaster - X - E08.pdf

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
56-Organizational Insights	58-Role descriptions	Applications Development Programming Aide - NE04.pdf Asset Control Analyst - NE07.pdf Communication Supervisor ? - NE11.doc Communication Supervisor ? - NE11.pdf Communications Technician - NE08 ?.doc Communications Technician - NE08.pdf Computer Operator - NE07.doc Computer Operator - NE07.pdf Court Technology Support Specialist - NE10.doc Court Technology Support Specialist - NE10.pdf Data Control Clerk - NE04.doc Data Control Clerk - NE04.pdf Data Control Supervisor - NE11.doc Data Control Supervisor - NE11.pdf GIS Technician - NE06.doc Lead Communication Specialist - NE09.doc Lead Communication Specialist - NE09.pdf Lead Communications Technician - NE09.doc Lead Communications Technician - NE09.pdf Lead Computer Operator - NE09.doc Lead Computer Operator - NE09.pdf

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
56-Organizational Insights	58-Role descriptions	Mail Courier - NE01.pdf Mail Courier II - NE02.doc Mail Courier II - NE02.pdf Mail Courier ? - NE01.doc Mailroom Supervisor - NE08.doc Mailroom Supervisor - NE08.pdf Media Librarian - NE05.doc Media Librarian - NE05.pdf Office-Contracts Supervisor - NE09.doc Office-Contracts Supervisor - NE09.pdf Operations Shift Supervisor - NE11 ?.doc Operations Shift Supervisor - NE11.pdf Technical Support Specialist II - NE08.doc Technical Support Specialist II - NE08.pdf Technical Support Specialist III - NE10.doc Technical Support Specialist III - NE10.pdf Technical Support Specialist IV - NE12.doc Technical Support Specialist IV - NE12.pdf Technology Training and Support Specialist - NE09.doc Technology Training and Support Specialist - NE09.pdf

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
56-Organizational Insights	59-Salaries (per SoW)	BCIT Employee Salary.xlsx RHT_2015_salary-guide.pdf
56-Organizational Insights	60-Skill assessments for recent performance reviews for each	None
56-Organizational Insights	78-Governance Insights	None
56-Organizational Insights	79-Details about the role, duties, rules of engagement for the Tech Review Board	None
56-Organizational Insights	80-Details about the role, duties, rules of engagement for the Executive Steering Committee	None
61-ITSM Process Insights	62-Process flow details for Incident, Problem, Change, Confi	None
61-ITSM Process Insights	63-Process flow for Service Level Mgmt (establishing SLAs with consumers)	None

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
64-DR and Business Continuity Insights		Bexar County Liason Contact List 24hour.xlsx
64-DR and Business Continuity Insights	65-DR Plans	Adult Probation.pdf Affected users.pdf BCIT_Technical_Services_Contacts.pdf BCIT_Technical_Services_Contacts.xlsx BCSO DR Outline.docx Bexar County Backup Configuration.vsd Copy of 9 Bexar County Department Liaison Contact List.xlsx Copy of Applications Development On-Call Contact List.xlsx County Clerk DR Plan.docx CountyWide Contact List New.xlsx Courthouse Directory effective Jan 2015 (010807).xls DPS Procedures.pdf EOC- Rack.jpg EOC- Rack3.jpg EOC- Rack4-1.jpg EOC- Rack4.jpg EOC.msg

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
64-DR and Business Continuity Insights		Bexar County Liason Contact List 24hour.xlsx
64-DR and Business Continuity Insights	65-DR Plans	II. Systems Maintained by the Applications Development Group.xls III a. ON CALL Communication Contact list 3-2-15 Thru 6-1-15.doc III d. DBA Contact List.pdf III f. Finance Special Projects Group 4-1-2010 thru 6-30-2010.docx III g. Systems Contact List 01-06-2014 thru 12-30-2014.doc III i. Applications Development Web Design Contact List 01-01-2012 - 03-31-2012 (3).doc III k. Adult Probation.pdf III. e. Network Support Contact List 5-15-15 thru 7-12-15.docx IIIb. GIS Contact List 04-01-10 thru 06-30-10 (3).doc IV. Bexar County Information Services Database Backup, Restore, and Recovery Procedures v1.docx Row 2 Inventory.vsd Server contact list.pdf Table of Contents.doc VELOCITY SECURITY INFORMATION.rtf VI. Mainframe Recovery Procedures.doc VII. Backup and Disaster Recovery Plan September 2011.doc VIII. Hardware and Software Point of Contact List.doc X. Bexar County Information services Remote Circuit ID's.doc XI a. Case Management - DA DR.xlsx XI b. Cashiering - County Clerk DR.xls XI d. Elections DR Plan for BCIS.doc XI e. Tax System- Tax Office DR.doc CHRIS System Backup and Disaster Recovery Plan_V3.doc

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
66-Recent DR test results		None
67-BIA		None
68-App Insights	69-App Portfolio hosted by BCIT as well as the 5 selected Agencies	011509_Business_Architecture.pdf AD SDE Process for Cathy.pptx App Dev SDE process-final (4).pdf AppDev WeeklyActivities.xlsm Application Development Service Manager Task Groups.docx BCIT_TechnicalStandards_v5-3_2015-07-31.docx BCIT_TechnicalStandards_v5-3_2015-07-31.pdf CIJS-ApplicationInventory_2013-07-23.xlsx CIJS_Implementation_Schedule Model.pdf CIJS_Integration_Plan.pdf Appendix B - CIJS Component Requirements.pdf Appendix_A_-_Project_Portfolio.doc CIJS Integration Plan.pdf CIJS System Architecture v1.3.pdf CIJS_Implementation_Schedule.mpp CIJS_Integration_Plan.doc CIJS_Requirements.zip CIJS_System_Architecture_v1.3.doc Executive_Summary.ppt SBSE____.Q54

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
68-App Insights	69-App Portfolio hosted by BCIT as well as the 5 selected Agencies	011509 Business Architecture.pdf 011509_Business_Architecture.doc 123108 DRAFT Business Architecture.pdf Court_Integration_Plan_Outline.doc System_Architecture_Outline.doc Draft BCIJS System Architecture.pdf Draft BCIJS System Architecture.pdf Draft_BCIJS_System_Architecture.doc CIJS-ProjectMethodology-Revised_v2.pptx CIJS-ProjectMethodology_v7.pptx GenericMethodology_v3.vsd Brazos-Architecture.vsd CIJS SP SERVERS.vsd CIJS-ApplicationInventory_2013-07-23.xlsx DevInCarVideoV1.0.pdf eDiscoveryCobanVideosToVeripicMigrationArchitecture_Draft3.pdf eDiscoveryOverview_Draft3.vsd eFilingTechnicalArchitecture_v6.pdf eInvoiceArchitectureDraft5.pdf FAS-Architecture.vsd ServerInventory_v2.xlsx VeriPicOverview_v1.vsd

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
68-App Insights	69-App Portfolio hosted by BCIT as well as the 5 selected Agencies	AD SDE Process for Cathy.pptx App Dev SDE process-final (4).pdf AppDev WeeklyActivities.xlsm Application Development Service Manager Task Groups.docx All_DB_Diagram.vsd DBA Systems Start-Stop Notes.doc DB_Diagram.pdf ADABAS Storage.xlsm ADABAS SYN60 STATS.xlsx ADABAS Transactions.xlsm ADABAS TRIM STATS Job.XLS Database Backup Procedures.docx Database DASD Layout.pdf Database DASD Layout.xlsx Database Operation Procedures.doc DB 002 SNAPSHOT DEVL VS TEST PROCESSING.PDF DB 110 SNAPSHOT DEVL VS TEST PROCESSING.PDF DB 120 SNAPSHOT DEVL VS TEST PROCESSING.PDF DB 140 SNAPSHOT DEVL VS TEST PROCESSING.PDF DB 170 SNAPSHOT DEVL VS TEST PROCESSING.PDF DB 200 SNAPSHOT DEVL VS TEST PROCESSING.PDF DBJBPDFD.PDF DBJBPDFW.PDF DeltaSaveProces_WordVersion.doc Snapshot_Job_Stream.pdf Pitney Bowes Software Products Maintained by DBA Staff.docx Broker Operations.docx BrokerStats-PROD.xls

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
68-App Insights	69-App Portfolio hosted by BCIT as well as the 5 selected Agencies	File360 Free Space.msg File360 License Usage for last 30 days.msg File360_DBEngine_Setup.pdf File360_DC_Application_Definitions.pdf File360_DC_Template_Definitions.pdf File360_Landscape.pdf N2JBKPDD.PDF N2JBKPPD.PDF NATDIAG.pdf NATLIB.pdf Natural Buffer Pool Operations.doc Noble_JVPD_Landscape_20150817.pdf Noble_JVPD_Landscape_20150818.pdf CHRIS to RACF Interface.vsd RACF_BCIS_Groups.pdf RFJALTUD.PDF RFJPWDRD-Report.PDF USJCMPRD.PDF USJSAPUD.PDF USJTERMD.PDF Broker RPTRBRKR alert!(1).msg Broker RPTRBRKR alert!(2).msg Database RPTRADAB alert!(1).msg Database RPTRADAB alert!(2).msg JJIS Daily Replication Report.msg Replication Checksum alert on JJIS_RDB .msg Replication Heartbeat alert on IMIS_RDB .msg

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
68-App Insights	69-App Portfolio hosted by BCIT as well as the 5 selected Agencies	Databases Space Summary Report.xlsx Databases Summary.xlsx Instances Inventory.xlsx Last Full or Differential Backup Inventory Report.xlsx readme.txt CHRIS Server Racks Content.xls Gonzalo's Application List.xlsx Lawson Virtual Server Specs and Software Catalogue as of 09-2015 - PROD QA DEV.xlsx AppPortfolio_eServices.xlsx eServices Architecture.xlsx Bexar County Webservice Catalog.pdf
70-SLAs for each		None
71-Security sensitivities for each (SOX, HIPAA, PCI, etc)		None
72-App Owner for each		None
73-Project Mgmt and Initiative Insights		011509_Business_Architecture.pdf bcit achievements combined v5 12 03 26 1.xlsx
73-Project Mgmt and Initiative Insights	74-List of the 80 (or so) active projects (with project charter and plans)	BCIT Projects with Capital Allocations.xlsx BCIT Capital Projects Requested_Approved for FY2015 -16.xlsx BCIT New Capital- FY2015-16.pdf

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
73-Project Mgmt and Initiative Insights	75-Current status for each project	ERP Major Projects.xlsx ESRV.xlsx
76-Project mgmt methodology		bcit project methodology.xlsx ProjectMethodologyIdeas_Draft_v1.xlsx
71-Security sensitivities for each (SOX, HIPAA, PCI, etc)		None
72-App Owner for each		None
73-Project Mgmt and Initiative Insights		011509_Business_Architecture.pdf bcit achievements combined v5 12 03 26 1.xlsx
73-Project Mgmt and Initiative Insights	74-List of the 80 (or so) active projects (with project charter and plans)	BCIT Projects with Capital Allocations.xlsx BCIT Capital Projects Requested_Approved for FY2015 -16.xlsx BCIT New Capital- FY2015-16.pdf
73-Project Mgmt and Initiative Insights	77-Project prioritization and timeline	None
78-Governance Insights	79-Details about the role, duties, rules of engagement for the Tech Review Board	None

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
78-Governance Insights	75-Current status for each project	None
76-Project mgmt methodology	80-Details about the role, duties, rules of engagement for the Executive Steering Committee	None
81-Financial Related)	82-Labor costs	BCIT - Proposed Budget 2015-16.pdf BCIT Capital Project Requested _Approved for FY2015 -16.xlsx BCIT Capital Roll-up and Projects.xlsx BCIT External IT Departments.xlsx BCIT Proposed Budget Aug 2015.xlsx Information Technology_Schedule B_FY2015-16 _(May 08_2015).xlsx
81-Financial Related)	83-SW licensing costs	None
81-Financial Related)	84-HW maintenance costs	Maintenance- Hardware_Software_Licenses.xlsx
81-Financial Related)	85-SW maintenance costs	None
81-Financial Related)	86-Capital depreciation	None

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
81-Financial Related)	87-Data center power costs	None
81-Financial Related)	88-Refresh cycles and associated costs	None
81-Financial Related)	89-Policies related to capital -vs- expense	Debt Management Policy.pdf
81-Financial Related)	90-lease costs	None
81-Financial Related)	91-contractor, consultant costs	None
81-Financial Related)	92-networking costs	None
81-Financial Related)	93-external service provider costs (web hosting, etc)	None
81-Financial Related)	94-other	BCIT Capital Project Requested _Approved for FY2015 -16.xlsx

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
95-Application Data Request	96-List all supporting applications (dhcp, ldap, dns, security scanners, etc.)	None
95-Application Data Request	97-List of all middleware applications (ESB, ETL, WebSphere, JBoss, Business Objects, Data Base Managers, etc.)	None
95-Application Data Request	98 - For COTS applications (including support services) installed release current release For each application the current RTO RPO Mobile Edge requirements Platform requirements (operating system, any release requirements, etc.) Support applications required to meet SLAs	None

Documentation was requested to define the current state, however, much documentation was unavailable or dated

Request ID	Sub-component	Documents Provided
95-Application Data Request	98 -All linkages to other applications identified with criticality in meeting SLAs	None

PEOPLE

Material discovered, referenced or developed as part of establishing the Strategy

Cloud Technology Officer (CTO) defines a better future vision and then transforms IT plan, build and run model using Cloud to deliver results

Project Manager Role	Description
Overview	Accountable for satisfying client needs when requirements are rapidly changing, creates IT services as the desired result, creates a service lifecycle driven organization, develops a rapid delivery model that requires integration of development and operations teams, automates provisioning of infrastructure and application delivery, builds production and pre-delivery environments that are software defined, systems/data centers are cost and performance optimized as hybrid combinations of internal and provider environments, delivery cycles are measured in hours or days, changes in IT methods are measured in a few months not years, leading practices are the foundation for IT methods, users control requests and systems using self-service and the rapid evolution of IT systems, applications and tools is considered to be the normal state of operation
Work Products	• IT Strategy • Enterprise Architecture • Technical Standards • IT Multi-year Technology Plan (minimum 3 year planning horizon) • Research and Development / Innovation Strategy and Plan • Architectural Decisions • Sourcing Decisions • IT Transformation Implementation Plan • Supplier Management Plan, Policy and act as the Process Owner (Sourcing) • Service Terms and Technical Standards for Cloud Provider Contracts

Cloud Technology Officer (CTO) defines a better future vision and then transforms IT plan, build and run model using Cloud to deliver results

Project Manager Role	Description
Skills	Expert level knowledge of and experience with • Leading practice Project Management methods (e.g. PMP) • Cloud architecture, technologies and service delivery models (i.e. Rackspace) • Open Standard Cloud development environments (i.e. node, CouchDB) • Rapid Delivery Methods (i.e. DevOps, Agile, SCRUM) • Leading Practice service management methods (e.g. ITIL Service Expert) • Leading Practice IT governance (e.g. ISACA CGEIT) • Actionable service catalog and self-service request tools • Automated infrastructure provisioning tools (i.e. Openstack) • Automated application deployment tools (i.e. Cloud Foundry, Docker) • Web Service, Program Interface Development and tools (• Multi-Cloud provider integration and brokering (i.e. Gravitant) • Data center workload optimization and migration to Cloud • Effective recruitment of architects, directors and then delegation of authority • Development of executive decision documents and presentations to Executive Decision making bodies
Example Responsibilities	• Applies Contract Bid & Negotiation, Portfolio, QA, SEI/CMM and SLA Mgmt. • Leads programs in delivering services for multiple businesses • Develops and uses business measurements and terms and conditions • Responsible for managing all Cloud resources and services including providers • Develops internal methods to satisfy stakeholder needs • Communicates regular project status to the stakeholders and users

Observations were developed based on stakeholder interviews, document review, workshops, and other interactions (PEOPLE)

ID	Observation	Impact	Impact	Priority
OP-01	BCIT senior leadership not meeting responsiblities for planning, strategy, and policy.	Poor service delivery, low morale, lack of component life cycle, uncontrolled risk	7.8	7.0
OP-02	BCIT senior leadership is frequently unaware of outages / service disruptions.	Lack of communications, indecisive actions, mis-information, lack of user trust	6.8	4.7
OP-03a	BCIT Operations teams are understaffed (infrastructure, operations, database, middleware, security)	Inability to deliver to promised target dates, dependance on "white knight" solutions	7.0	5.6
OP-03b	BCIT is unable to complete the tasks assigned to them by the County Offices and Departments	Agencies create a "shadow IT" functions, create their IT solutions	6.3	4.4
OP-04	Architecture as a function does not exist	Lack of standard solutions, disparate business alignments and duplication of function	6.8	6.1
OP-06	Office and Department funded requests for embedded BCIT Deskside Support SMEs are not being satisfied	Inability to deliver appropriate solutions	5.5	5.5

Observations were developed based on stakeholder interviews, document review, workshops, and other interactions (PEOPLE)

ID	Observation	Impact	Impact	Priority
OP-07	SME retention challanged by city salary more than 18% higher than the County.	Unable to hire and retain skill knowledge workers	7.5	5.3
OP-08	Time needed to hire is excessive, compared to industry norms.	Unable to hire skill knowledge workers	6.0	4.2
OP-11	BCIT senior leadership does not develop and implement KPIs	State of current solutions not known	6.5	5.2
OP-12	BCIT senior leadership does not ensure BCIT compliance with County's overall long-range planning goals and objectives;	IT solutions not in line with County Strategies	6.5	5.2
OP-15	BCIT senior leadership does not communicate fiscal, management and strategic planning information to facilitate policy discussion and decision-making	IT solutions not in line with County Strategies	6.0	4.8
OP-17	Names and titles of IT staff do not reflect actual responsibilities	Job titles are used to circumvent HR defined job compensation limitations	3.5	2.8
OP-18	Bexar County leadership has indicated that a managed service solution is attractive	IT solutions not in line with County Strategies+F2	8.8	1.8

The Vendor Sourcing Manager (VSM) will develop and maintain provider relationships so that IT can better deliver on commitments

VSM Role	Description
Overview	The Vendor Sourcing Manager develops efficient and effective relationships with suppliers, outsourcers and partners.
Work Products	• Supplier Statement of Work • Supplier Service Requirements Document • Supplier Agreements (SLAs, UCs) • Supplier Procedures Document
Skills	• Good understanding of corporate IT policies, procedures and standards • General knowledge of Information Technology solutions, org. and services • General knowledge of business systems environment and SLAs • Knowledge of the sourcing process, internal customers and suppliers • Outstanding communications, conflict management and negotiation skills • Able to monitor, manage progress of tasks and identify problems
Example Responsibilities	• Manages all suppliers to ensure that they continue to meet or exceed their contractual targets • Act as a single point of contact and manage contract lifecycle including contractual risk • Maintains a catalogue of suppliers, services, products and contracts • Measures the perception sourcing from IT, Customer and User perspectives • Promotes use of correct sources processes to achieve its objectives • Ensures that IS are working in partnership with suppliers developing long term relationships

The Enterprise Architect (EA) director creates strategic plans, guides the architecture team and develops strong architectural practices

EA Director Role	Description
Overview	The EA director creates strategic plans, guides the architecture team and develops strong architecture practices
Work Products	• Architect Management Framework and Architectural Overview • Architectural templates, structures and standards • Strategic and Technology Plans approval • Architecture Models and Systems Engineering Management Plan approval • To be state Plans, Designs and Models approval
Skills	Experience with enterprise architecture methodologies, frameworks and tools Experience managing planning, design and implementation teams Executive management experience High ability to communicate (verbal and written) to all levels within the organization. Analytical, mentoring and negotiating skills
Example Responsibilities	• Owns the IT Strategy and Architecture process, content and results • Reviews cost, investment s and expected results • Serves as the representative for architects to all external groups • Defines team roles, responsibilities, and accountabilities • Owns customer satisfaction, training and improvements • Develops key performance indicators (KPIs) for effectiveness and efficiency

The EA role aligns innovation and IT with business so that greater business value and benefits are generated page 1 of 2

Enterprise Architect Role	Description
Overview	Defines a high–level, enterprise-wide IT Architecture that maps IT capabilities to business needs and the transitional process necessary for implementing technology in response to changing business needs.
Work Products	Architect Management Framework and Architectural Overview System Requirements Specification template and Client Needs Organization Strategic and Technology Plans As-Is Architecture Model and Transition Plans (To-Be) Functional Requirements and Application Documentation Systems Engineering Management Plan Service Design and Information Architecture Model Business and Technology Architecture Models
Skills	Experience with enterprise architecture methodologies, frameworks and tools Requirements definition experience Experience in the design and implementation of transition plans Project management experience Ability to communicate (verbal and written) to all levels within the organization. Analytical, mentoring and negotiating skills

The EA role aligns innovation and IT with business so that greater business value and benefits are generated page 2 of 2

Enterprise Architect Role	Description
Example Responsibilities	• Documents business capabilities, service value chains and business scenarios • Verifies target enterprise conceptual architecture against representative business scenarios • Designs decision models that align business and I/T stakeholders • Advises on risk mitigation strategies • Determine business architecture requirements and applies the EA methodology to satisfy these requirements • Leads architects from other disciplines, business consultants, and business function personnel in identifying, documenting, classifying and assessing the current and future Information Systems Architecture and its links with the enterprise's Business Architecture and Technology Architecture • Recommends strategic direction for project and program portfolio management, such as initiatives for application legacy transformation (LT), new business initiatives and business transformation outsourcing • Documents current and future technology services and related industry, de facto and emerging standards • Aligns current and emerging products deployed or recommended within the enterprise. • Develops an Architect Management framework that includes regular industry technology scans • Establishes high-level models that guide sub-architecture (especially pertaining to operational, security, systems management and network architecture) or solution architecture design and deployment.

The Solution Architect role defines what the solution will be and how it is implemented to optimize benefits generated and costs page 1 of 2

Solution Architect Role	Description
Overview	Designs solutions which may run on multiple platforms or at multiple providers and may be composed of multiple components
Work Products	• System Context Diagram and Solution Architectural Overview Document • System Requirements Specification template • Client Needs, Functional Requirements and Use Case Model • Current Operational Model and Service Design • Systems Engineering Management Plan , Solution Design and Tools Matrix • Development and Implementation standards , documentation and guidelines
Skills	Experience in solution design and delivery Experience with application development methodology & tools Component Administration, Configuration and Packaging Experience in rapid application development methods to build distributed applications. Experience In resolving management issues pertaining to cross platform solutions Ability to communicate at all levels within the organization. Analytical, troubleshooting and project management skills

The Solution Architect role defines what the solution will be and how it is implemented to optimize benefits generated and costs page 2 of 2

Solution Architect Role	Description
Responsibilities	• Performs critical evaluation and selection of the software and hardware components of the solution • Prepares for the development of the solution by evaluation and selection of development methods and tools • Oversees performance, availability and scalability of the solution • Maintains the functional interface to the solution • Advises on rapid development method and tools • Advises on packaged solution implementation • Advises on functional or technical modules/features for packaged solution

New IT Management roles support the Target State, Cloud Services and a Service Lifecycle Organization Structure

IT Management Role	Description
Information Services Technology Officer	Hire a Cloud Technology Officer and expand responsibilities to include identifying Cloud computing solutions as well as end user computing solutions
Cloud Service Director (Manage Providers and Operate Remnant Infrastructure	Direct staff and manage provider relationships required to provide Cloud services, and guide work effort so that all services meet their service levels and are appropriately documented so they can be effectively and efficiently managed.
Enterprise Architect (Director) (Plan and Design)	The EA director creates strategic plans, guides the architecture team and develops strong architecture practices
PMO Director (Build and Implement)	Leads the Project Management Office. Provides project management practice mentoring and controls use of practices. Provides oversight to project delivery
Product Manager (Plan, and Administer)	Define and update the product characteristics for a selected service component or higher-level cloud service, which comprises price, cost, royalties, technical artifacts, name, descriptions, etc. Not every service will become a service
Service Manager (Operate)	Responsible for a specific service, design, implementation and delivery. Most of the effort is operational in nature. Availability and performance is watched closely

PROCESS

Material discovered, referenced or developed as part of establishing the Strategy

Observations were developed based on stakeholder interviews, document review, workshops, and other interactions (PROCESS)

ID	Observation	Impact	Impact	Priority
OW-01	BCIT lacks SLAs / OLAs and operates in a tactical and reactionary manner	BCIT under delivers on workload performance	7.8	5.4
OW-03	All projects are priority 1	Few projects are delivered on time, on budget	7.0	4.9
OW-04	There is a mismatch between BCIT capabilites and customer demands.	User productivity falls due to lack of service capability	5.5	4.4
OW-06	BCIT uptime reporting is system hardware based, not end-user service based or sub-component outage based	There may be service outages not known to BCIT and service restoration takes additional time	5.0	3.0
OW-09	There are difficulties with the relationship with the City IT team.	Unable to leverage synergies and economies of scale	6.0	3.6
OW-10	IT executive management no longer meets frequently with County management	IT solutions not in line with County Strategies	5.8	4.6
OW-11	There is no mechanism to translate legitimate IT requests into actionable projects	IT solutions not in line with County Strategies	6.0	3.0
OW-12	Manual methods are in use where automation would provide more effective and less expensive results	Error prone and inefficient manual methods increase service delivery time	6.0	3.6

Observations were developed based on stakeholder interviews, document review, workshops, and other interactions (PROCESS)

ID	Observation	Impact	Impact	Priority
OW-13a	DR plan is dated circa 2006	Inability to recover service and data	4.5	2.3
OW-13b	DR testing is not executed	Inability to recover service and data	4.5	2.3
OW-14	Bexar County organizations have unreasonable uptime expectations	BCIT under delivers on workload performance	5.5	2.8
OW-15	Agency improvement plans often lack the required infrastructure upgrades required	BCIT under delivers on workload performance	5.0	4.0
OW-17	Agencies lack understanding of the value of business process reengineering to improve productivity	IT solutions not in line with County Strategies	5.3	2.6
OW-18	The current IT ecosystem does not exhibit the maturity needed to support user driven infrastructure requests (system images, job scheduling, etc.)	Few projects are delivered on time, on budget	5.3	3.2
OW-19	Project Develoment Methodology Documentation was developed and published in 2005/2006, but is not generally followed	Few projects are delivered on time, on budget	5.3	2.6
OW-20	Microsoft Service Center Suite was installed mid-2014 and is not generally used due to poor performance and lack of standard ITSM features	Inability to recover service and data in a timely manner	6.5	2.6

Observations were developed based on stakeholder interviews, document review, workshops, and other interactions (PROCESS)

ID	Observation	Impact	Impact	Priority
OW-21	The weekly BCIT leadership meetings are ineffective due to poor information, lack of planning, and weak agenda	Few projects are delivered on time, on budget	5.3	4.7
OW-23	A workload refresh plan does not exist that includes affinities, inventory, end of life date and justification for replacement	Unable to leverage synergies and economies of scale	3.3	3.3
OW-25	Change Control became a formal procedure in July, however it is imature and has limited tool support	Few projects are delivered on time, on budget	4.0	1.6
OW-28	The CIJS steering committee does not establish the metrics for evaluating the performance of the CIJS program The selected metrics should be readily measurable and indicative of the value of the CIJS to the business.	Few projects are delivered on time, on budget	4.8	2.4
OW-29	Third party servers are in an area that allows vendor agents unrestricted access to BCIT infrastructure	Enables unacceptable operations risk	2.0	0.8
OW-31	BIA documentation does not exist	Unable to determine cost and business impact of a service loss	3.3	1.3
OW-33	CIJS Program does not have a workload performance measurement process as defined by ITIL Version 3	BCIT under delivers on workload performance	3.0	1.5
OW-38	Return to service prioritization is not based on impact of service loss on Line of Business	Improper return to service priorities	4.8	2.4

Observations were developed based on stakeholder interviews, document review, workshops, and other interactions (PROCESS)

ID	Observation	Impact	Impact	Priority
OW-41	App/dev is currently controlling production workload operation activities	Conflict of interest, potential for unauthorized actions	4.3	2.6
OW-42	Requirements are not structured as supportable frameworks within the capabilities of the BCIT ecosystem	Unable to leverage synergies and economies of scale	3.5	2.1
OW-44	Monitoring based on SLA driven KPIs does not exist within the BCIT ecosystem	Inability to automate manual tasks	6.3	6.3
OW-47	Application architecture requirements are not reviewed on a cyclic basis	Solutions do not reflect evolving business needs	4.8	4.3
OW-57	Systems Management Tooling does not exist for the production ecosystem	BCIT under delivers on workload performance and is more error prone	4.5	3.2
OW-62	Operational and business procedures and policies are utilized instead of governance charters, direction and authorizations	Conflict of interest, potential for unauthorized actions	4.3	2.1
OW-69	BCIT return to service objectives do not appear to exceed best effort	Improper return to service priorities	6.0	4.2
OW-75	BCIT has multiple code / software repository tools	Unable to leverage synergies and economies of scale	6.8	4.1
OW-76	Project summary doesn't show interim status of activities and tasks	State of current projects not well understood, missed delivery dates	3.3	2.0

Observations were developed based on stakeholder interviews, document review, workshops, and other interactions (PROCESS)

ID	Observation	Impact	Impact	Priority
OW-78	BCIT does not have a workload status report	State of current workload not well understood	2.8	1.7
OW-79	BCIT is not using the published high level lifecycle definition for IT projects	State of current projects not well understood, missed delivery dates	3.0	1.8
OW-83	Operational reports inconsisent in quality, detail and lack trending	Inability to direct service improvement efforts	4.3	3.0
OW-92	The current IT ecosystem does not exhibit the maturity needed to support self service, operations, and management	Few projects are delivered on time, on budget	7.3	5.1

The Project Management Office (PMO) to establish PM practices and oversee programs and projects in support of their objectives

PMO Director Role	Description
Overview	Accountable for the proper design, execution, and improvement of the PMO. Promote practices being carried out as specified, but does not run day-to-day operations.
Work Products	• Strategic and Business Plans for the PMO • Performance and profit goals • Tool requirements and Business Process Models • Data and User Requirements • Customer Satisfaction surveys
Skills	• Experience with project management methodologies, frameworks and tools • Experience managing planning, design and implementation teams • Executive management experience • High ability to communicate (verbal and written) to all levels within the organization. • Analytical, mentoring and negotiating skills
Example Responsibilities	• Owns the program and project management process, content and results • Reviews cost, investment s and expected results • Serves as the representative for project managers to all external groups • Defines team roles, responsibilities, and accountabilities • Owns customer satisfaction, training and improvements • Develops key performance indicators (KPIs) for effectiveness and efficiency

The Project Manager (PM) controls and manages programs and projects through implementation in support of their objectives

Project Manager Role	Description
Overview	Accountable for satisfying client needs through the formulation, development, implementation and delivery of solutions in response to client requirements expressed in approved service requests.
Work Products	• Approved Requests for Change • Forward Schedule of Change • Project and Communication plan • Rollout and Support plan • Corporate Instructions for Inter-Enterprise Services (IES) Connection
Skills	• Expert level knowledge of and experience with the Project Management method • Ability to translate business requirements into technical requirements • Enterprise knowledge necessary to invoke the appropriate facilities and resources • Ability to communicate at all levels within the organization. • Conflict management and effective negotiation skills
Example Responsibilities	• Applies Contract Bid & Negotiation, Portfolio, QA, SEI/CMM and SLA Mgmt. • Leads a project team in delivering a solution to the organization • Uses the appropriate business measurements and terms and conditions • Responsible for managing all project resources, including subcontractors • Communicates regular project status to the customer.

Process Manager will establish and run the process to promote efficiency and agility through out of the box functions page 1 of 2

Process Manager Role	Description
Overview	Establishes and is responsible for the quality and integrity of the process. Acts as the interface to the other process managers, Service Desk and Executives
Work Products	• Process Management Plan, Framework and Process Performance Evaluation • Record management in supporting tool(s) • Improvement Plan
Skills	Good understanding of corporate IT policies, procedures and standards General knowledge of business systems environment Knowledge of the ITIL processes, IT organization and user community Knowledge of Service Level Commitments Customer relationship and management skills Knowledge of the business processes of clients Good verbal, analysis and written communications skills Conflict management and negotiation skills Able to monitor and manage progress of tasks Ability to identify problems and note trends

Process Manager will establish and run the process to promote efficiency and agility through out of the box functions page 2 of 2

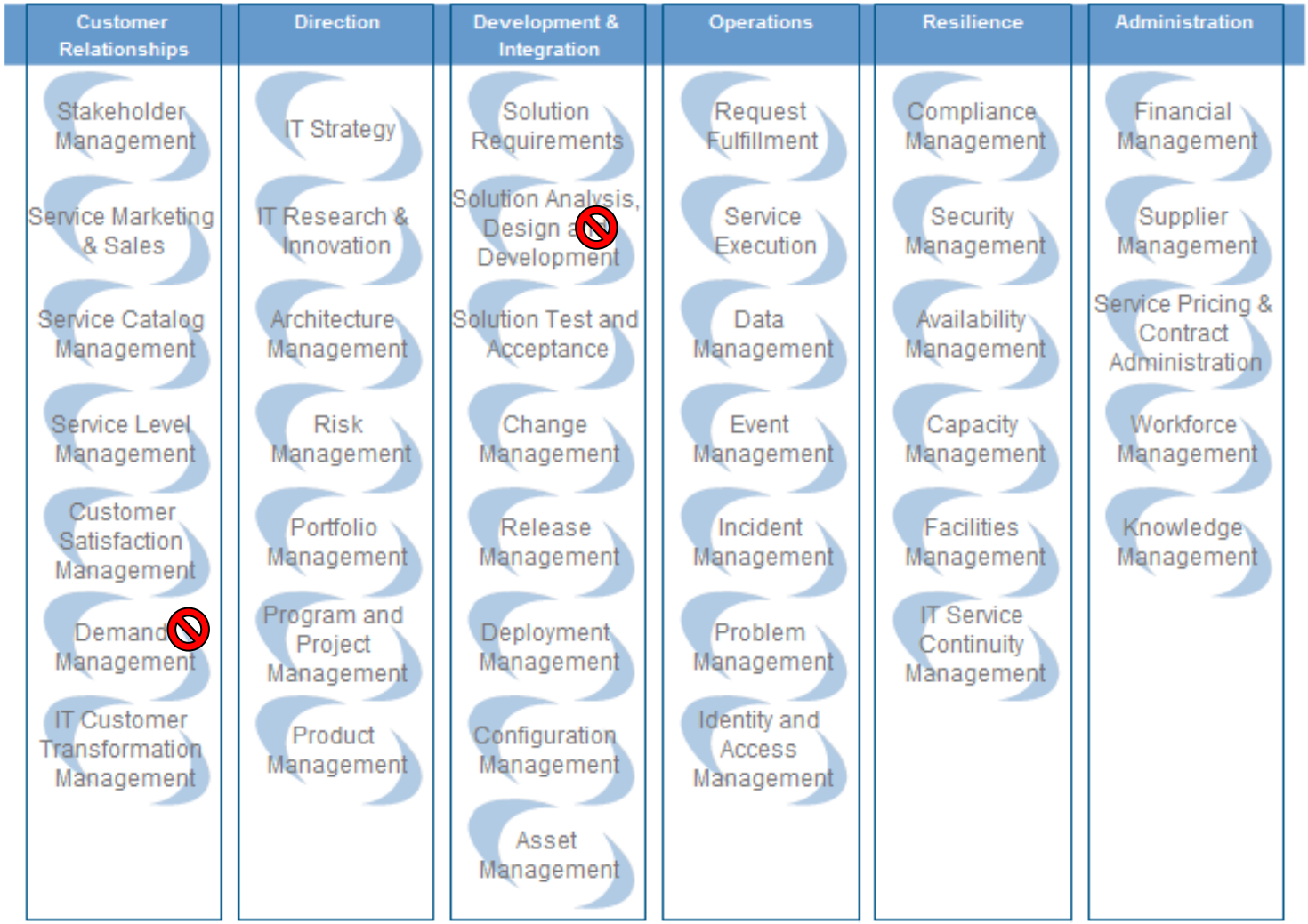
Process Manager Role	Description
Example Responsibilities	• Act under authority and scope delegated by the Readiness and Recovery Group • Defines an escalation path and policy to handle exceptions • Reroutes misdirected tasks that have not been handled in a timely manner • Coordinates day-to-day execution and administration of the process • Identifies and implementing modifications to the process • Communicates new and changed policies • Ensures the standards and procedures are being followed • Facilitates resource commitment and allocation • Identifies and implementing process improvements • Creates, analyzes and distributes process reports • Acts as focal point for process, communicate with clients, service providers, and management • Facilitates resolution of issues with items not complying with the process • Ensures post-review of priority 1 incidents • Chairs process meetings

Bexar County IT Strategy Project

IT Service Management Assessment

19 January 2016

The IBM IT Service Management Assessment evaluated 38 of 40 management domains to identify current gaps and target state needs



Processes are only performed at level 1 and need to be level 4 or efficient to satisfy customers expectations and handle the workload

ITSM Assessment Summary		Low # is worse Scale 1 - 5	High # is more important	High # is more capable	Low # is higher priority
Domain	**Number of Process**	**Current State**	**Importance**	**Target**	**Improvement Priority Ranking**
Customer Relationship	6	1.4	3.8	4.2	3
Direct	7	1.3	4.3	4.1	**1**
Develop and Integrate	7	1.6	3.7	3.7	4
Operate	7	1.4	4.1	4.1	5
Resilience	6	**1.1**	4.3	4.3	2
Administration	5	1.3	2.6	2.6	6
Domain Average	-	**1.4**	**3.8**	**3.9**	-
Conclusion		**Lack needed capabilities**	**Correct focus**	**Automate to help staff**	**Helps sequence initiatives**

Cell Rating Description

1.50	Critical issue, Take I immediate action
2.90	Poor Performance, Create improvement plan
3.50	Acceptable performance

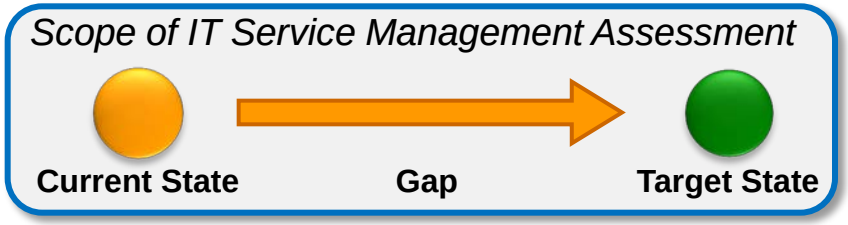
Targets set at a minimum level to support more critical domain improvements

IT Service Management Assessment Explanation

Summary statements about the current state condition and one or two areas for improvement will be shown

Each slide following this will be for one assessment topic (e.g. Availability, Project Management, Strategy)

- Topic Purpose
- Improvement Goal
- Challenges
- Value



The ratings were developed collaboratively between Bexar County and IBM

Summary	1.3 → 5				
Rating	**Initial - 1**	**Basic - 2**	**Effective - 3**	**Efficient - 4**	**Optimized - 5**
Capability	Collaborative working session rating with justification summary				
Automation					
Governance					
Importance					
Priority					
Target					

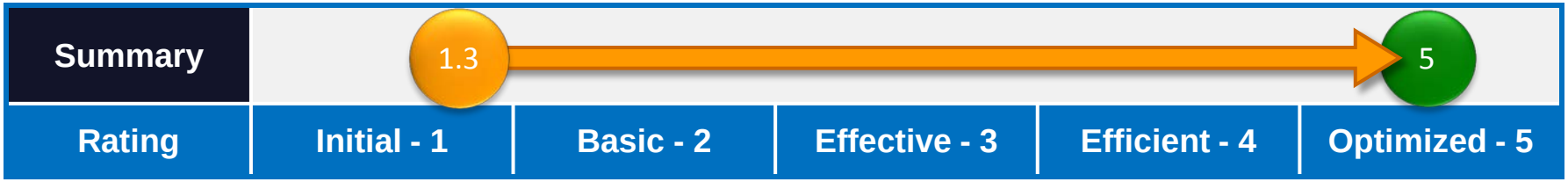
Stakeholder Management Assessment Results

Process Purpose: To capture, analyze, and promote requirements that improve service delivery results

Improvement Goal: Make assigned roles more effective through a standard method guided by workflow

Challenge: Lack of architects, single standard method and supporting automation to make stakeholder management and requirements gathering more effective, efficient and aligned with business objectives

Value: More cooperative stakeholders will increase understanding of requirements leading to better solution designs that deliver improved service results in a more timely manner



Capability	2, lack of solution development skills, projects often experience scope creep
Automation	1, only individual productivity tools are used, lack of CRM and requirements tools
Governance	1, Missing policy, governing body, delegated authority and decision making criteria
Importance	5, key to gaining funding approval and stakeholders are dissatisfied with current results / methods
Priority	2, foundation (e.g. architecture and portfolio) is needed before this improvement effort starts
Target	5, integrate with business practices, stakeholder management should add business value

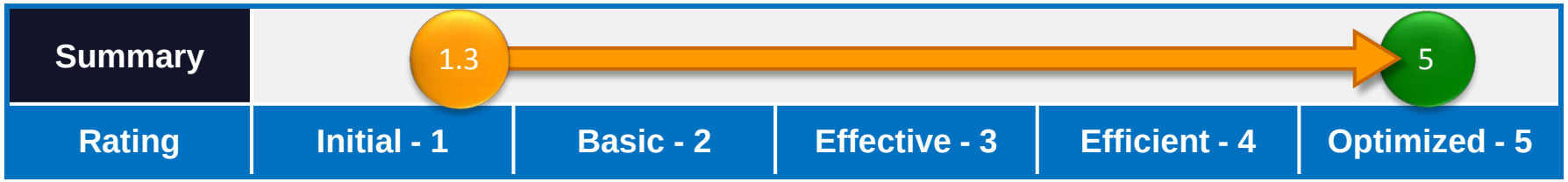
Service Marketing and Sales Assessment Results

Process Purpose: To understand your market, develop marketing plans, match wants / needs with services capabilities and sell customers on using appropriate IT services to fulfill wants and needs

Improvement Goal: Make assigned roles more effective through a standard method guided by workflow

Challenge: Lack of architects, sales method and supporting CRM to make marketing and sales more effective and IT staff have more influence on stakeholder decisions

Value: Increased sales of existing IT service capabilities improves delivery results, decreases costs and makes staff more productive because of better economies of scale and reduction of human error



Capability	1, lack of sales skills, and marketing plans so customers select services beyond IT capabilities
Automation	1, only individual productivity tools are used, lack of CRM and SLA tools
Governance	2,agenda item for weekly Managers Meeting, work with agency IT managers to use shared services
Importance	5, key to improving influence and expanding use of standard shared services to reduce costs
Priority	2, foundation (e.g. architecture and portfolio) is needed before this improvement effort starts
Target	5, key to being more proactive in stakeholder management and driving more desirable outcomes

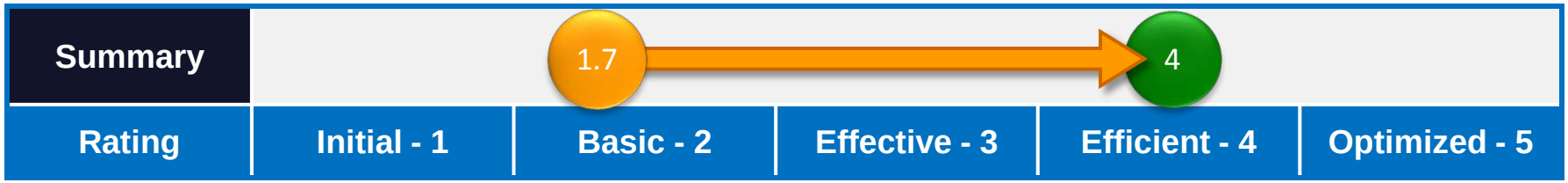
Service Catalog Management Assessment Results

Process Purpose: To publish a consistent and authoritative source of information for all service and products in an easily and widely accessible format those authorized to view this information

Improvement Goal: Consolidate three tools into an eCommerce portal that supports fulfillment automation

Challenge: Lack of service definition, integration of existing systems, workflow automation, system automation (provisioning and orchestration), and automated system status – event monitoring

Value: Dramatically shorter delivery cycle, greatly improved service quality, much easier ordering mechanism, much higher use of standard IT services and improved productivity of IT staff



Capability	1, lack of vision to develop an eCommerce strategy to simplify user experience and improve service
Automation	1, three individual tools are used with significant overlap in capability and not consolidation
Governance	3, web services, service desk and financial requests are controlled as separate functions
Importance	3, key mechanism to support movement away from manual tasks and slow delivery cycles
Priority	3, foundation and services must be defined first before designing and implementing the catalog
Target	4, centralize automation to grow more self-service usage and more automation of fulfillment tasks

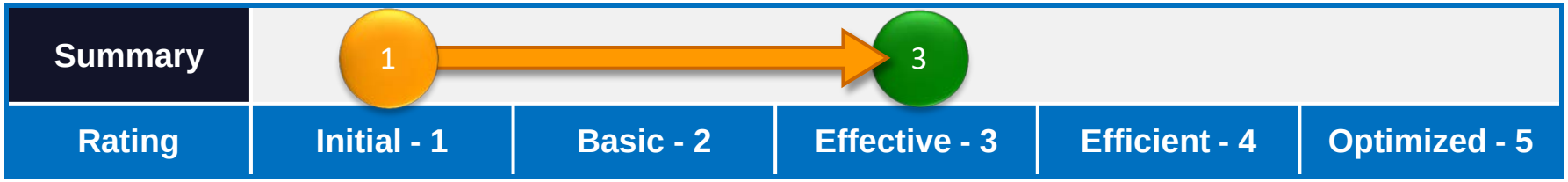
Service Level Management Assessment Results

Process Purpose: To promote service delivery that matches or exceeds the agreed to service quality characteristics (service definition, service levels, service periods, service cost, service response, etc)

Improvement Goal: Gain agreements on service levels for core agency and enterprise level shared services

Challenge: Lack of service definitions, lack of process to negotiate agreements, lack of authority to establish and promote use of standard service offerings, lack of pricing mechanism for operational services

Value: Improved customer satisfaction, reduced costs, higher resource utilization, improved staff productivity, better collaboration and communications between agencies, county manager and BCIT



Capability	1, only CIJS has an SLA and that is limited to Availability and User Screen Response Time objective
Automation	1, CIJS SLA is documented in an MSWord file, guided workflow would help with future SLA efforts
Governance	1, only individual discussions are held when issues arise related to an agency or within a project
Importance	4, lack of SLAs leads to creeping expectations that are unfunded and can't be adequately supported
Priority	2, improvement efforts need to be controlled by explicit agreements between customers and BCIT
Target	3, central repository contains all SLAs and workflow is used to develop SLAs and guide negotiations

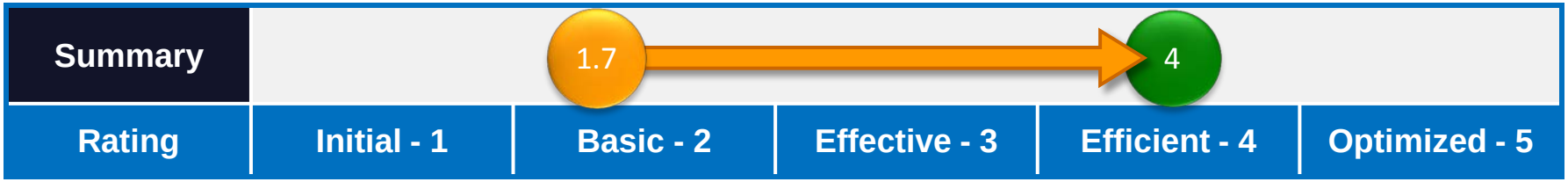
IT Customer Satisfaction Management Assessment Results

Process Purpose: To identify and analyze the level of customer satisfaction with services, solutions and offerings from IT providers whether internal or external. To proactively predict improvement actions needed

Improvement Goal: Develop automated mechanisms (social media) to understand satisfaction levels

Challenge: Lack of social media policy, tools, staff skills, limited management commitment to use of existing survey tools to identify satisfaction levels.

Value: Faster response to improve poor service, better collaboration and communications between agencies, county manager and BCIT, improved productivity because of better focus on service results



Capability	1, only CIJS has an SLA and that is limited to Availability and User Screen Response Time objective
Automation	3, CIJS SLA is documented in an MSWord file, guided workflow would help with future SLA efforts
Governance	1, only individual discussions are held when issues arise related to an agency or within a project
Importance	3, lack of SLAs leads to creeping expectations that are unfunded and can't be adequately supported
Priority	4, improvement efforts focus on delivery capabilities before measuring improvement in customer sat
Target	4, central repository contains SLAs and workflow automation guides SLAs work and negotiations

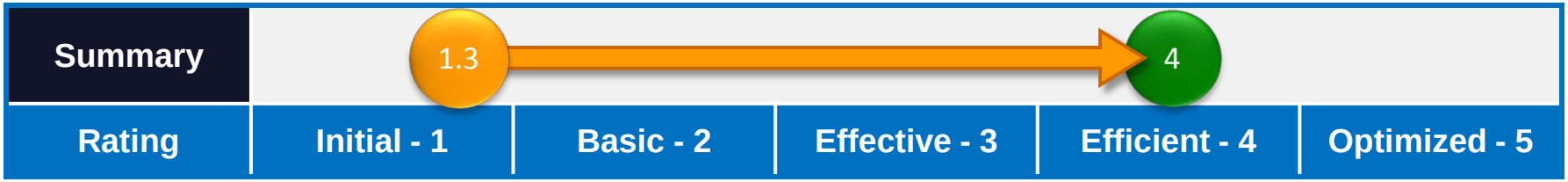
IT Customer Transformation Management Assessment Results

Process Purpose: To assist customers in the transformation of their business throughout the lifecycle from idea generation through value capture including operationalization of the transformation

Improvement Goal: Standardize existing methods into an optimized BCIT wide process

Challenge: Lack of policy, process, methods, workflow automaton, and project management practices

Value: Faster and easier means to transform slow and costly legacy business methods in modern, flexible, more scalable business processes that deliver more in a much shorter period of time



Capability	2, delivering transformation projects (e.g. GIS), method is not standardized as a PM method
Automation	1, using MP Project and individual productivity tools
Governance	1, Project level governance and management controls
Importance	3, BCIT is being asked to deliver more business transformation programs in parallel
Priority	5, Project Management and Service Execution can handle this task temporarily
Target	4, central repository, e.g. MS Project Server supports reuse of best practices and knowledge sharing

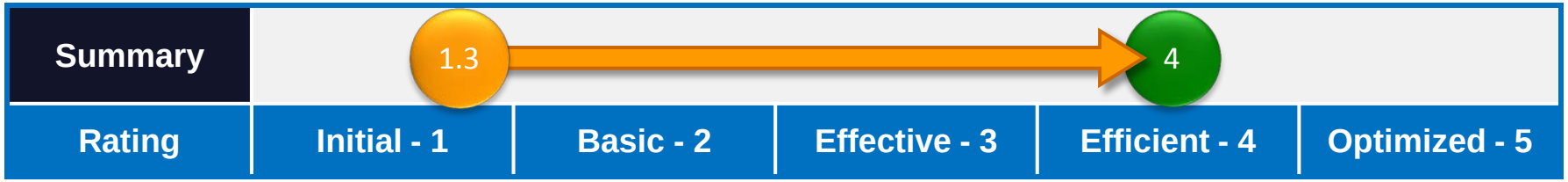
IT Strategy Assessment Results

Process Purpose: To plan how to define, establish, operates and improve upon the IT management framework conducting IT activities. Implementing the strategy results in advantages gained.

Improvement Goal: Target state and 5 year roadmap resulting in implementation of the target state

Challenge: Lack of future vision, ability to sustain foundational shared infrastructure, competing agendas

Value: Faster, easier and lower cost transformation of legacy capabilities into more agile, lower cost and more capable computing environments that can handle higher volume of work and new service demands



Capability	2, IT Staff have planning expertise and develop annual technology plans and budget requests
Automation	1, developed using IBM as a consulting provider during 2015
Governance	1, IT Strategy was missing, but annual plans are being developed
Importance	5, IT Strategy is a business priority used to evaluate funding and use of shared services
Priority	4, update 2015 IT Strategy developed by IBM. This allows for other improvements to be done first
Target	5, central repository (e.g. CRM) contains the IT strategy and workflow automation guides its update

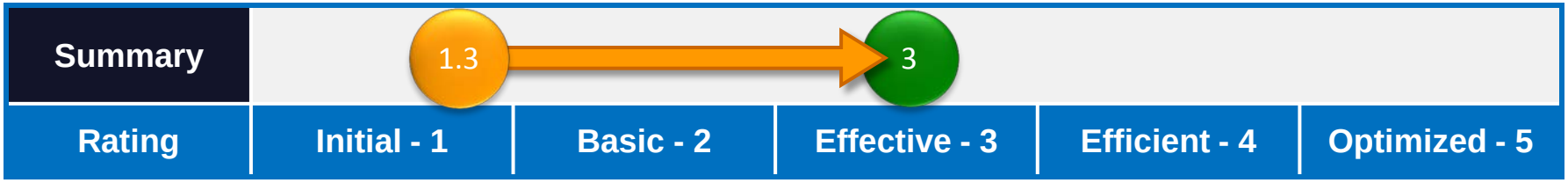
Research and Innovation Assessment Results

Process Purpose: To identify new developments in technology, methods, and solutions, which have potential to create business value, conduct research into their applicability and benefit and promote their use

Improvement Goal: Establish true research and innovation function beyond implementation of projects

Challenge: Lack of future vision, funding, executive management support in the agencies and a short horizon for return on investment

Value: Larger return on technology investments because more time is available to prepare for transformation of business practices. More options can be tested in parallel increasing the chance of operational success.



Capability	2, Innovation is being researched and implemented on a project basis as sponsored by executives
Automation	1, MSProject is used to track progress
Governance	1, project management controls are used
Importance	2, Customers are pleased with implementations of sponsored innovation projects
Priority	5, continue to use existing approach while new project management and governance is added
Target	3, central repository contains ideas and concept test results, use MSProject Server to help

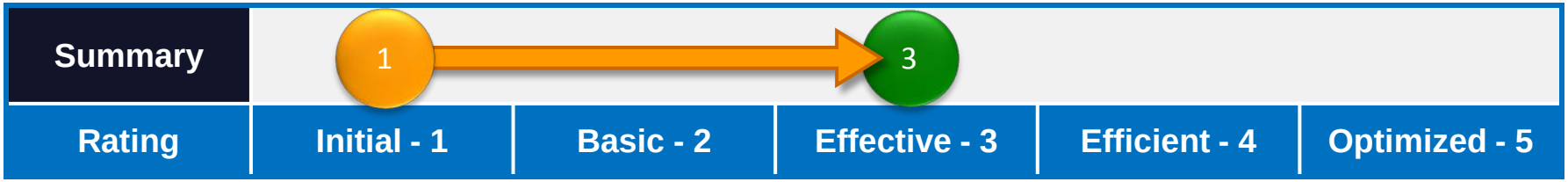
Architecture Management Assessment Results

Process Purpose: To identify new developments in technology, methods, and solutions, which have potential to create business value, conduct research into their applicability and benefit and promote their use

Improvement Goal: Establish true research and innovation function beyond implementation of projects

Challenge: Lack of future vision, funding, executive management support in the agencies and a short horizon for return on investment

Value: Larger return on technology investments because more time is available to prepare for transformation of business practices. More options can be tested in parallel increasing the chance of operational success.



Capability	1, Missing enterprise and solution architects and architectural practices, sometimes use consultants
Automation	1, personal productivity tools used to visualize architecture and systems
Governance	1, Missing Architectural Review Board have some design principles and technical standards
Importance	4, key to developing practical alignment of requirements with IT service capabilities
Priority	1, architects provide foundational guidance needed to implement and sustain IT strategy
Target	3, Adding architects, requirements tool, central repository and guided workflow will improve results

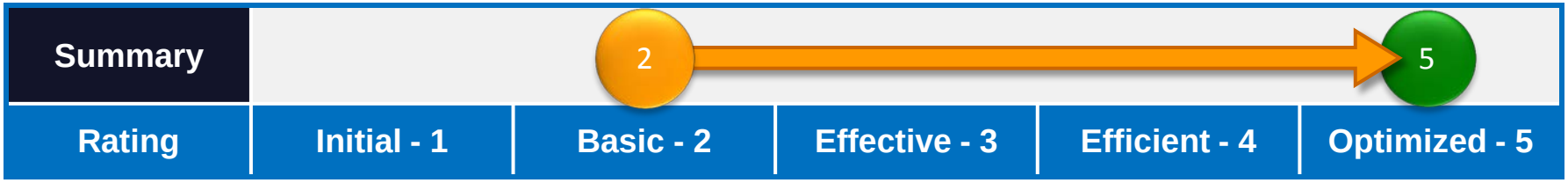
Risk Management Assessment Results

Process Purpose: To identify risks associated with IT activities and to make measured, appropriate responses to mitigate, ignore, avoid or transfer those risks in line with the desired level of risk tolerance.

Improvement Goal: Establish risk management function with assigned roles and responsibilities

Challenge: Lack of leadership, funding, method, and training

Value: Less effort to comply with regulations, reduced number of audit findings, reduced number of outages, less rework due to missed requirements,



Capability	1, technology risk is evaluated as issues arise or threats are detected
Automation	3, technology provides alarms and alerts used in risk identification and analysis
Governance	2, Domain managers do review outage, operational status and threat data to identify risk levels
Importance	5, business is concerned that availability is maximized by reducing risk levels
Priority	3, risk will be reduced by following improvement priority sequence suggested
Target	5, collaborate with business on setting risk tolerance levels, impact of risk and for funding approval

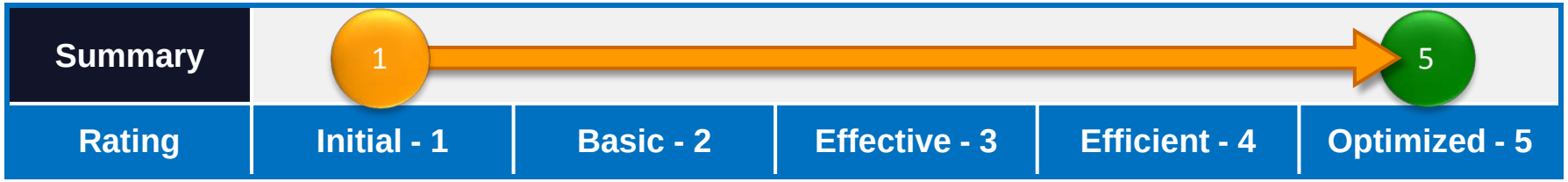
Portfolio Management Assessment Results

Process Purpose: To decide the set of IT investments, including long-term or large-scale and short-term or limited-scope opportunities, based on the strategic intent and priorities of the business.

Improvement Goal: Establish Portfolio Management process with governance body, owner and controls

Challenge: Lack of service definitions, strategic intent for BCIT and agencies, executive sponsorship

Value: Reduced capital investments and lower operating costs, increased focus on strategic functionality, improved service quality and improved cooperation between BCIT and agencies



Capability	1, missing service definitions so portfolio is not defined, services are morphed as needed
Automation	1, no repository, use personal productivity tools
Governance	1, Individuals make decisions based on various customer demands with little standardization
Importance	5, business demands faster cycle times, lower cost and better service
Priority	1, Portfolio constrains how improvements will be implemented in support of IT strategy
Target	5, business has to agree to service definitions, SLAs and pricing or what the portfolio should contain

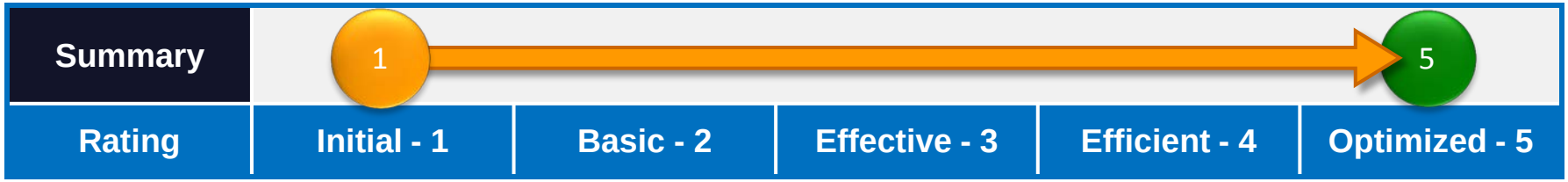
Program and Project Management Assessment Results

Process Purpose: To plan and oversee programs and projects in support of their objectives. This is development of practices used to control execution of tasks with programs and projects

Improvement Goal: Establish Project Management Office to improve results and practices not to approve budgets nor to approve project progress (gates approvals)

Challenge: Lack of project managers, program manager, policy to control staff actions, funding

Value: Deliver on time, meet budget, reduce bugs, increase staff productivity, improve communications with customers, stakeholders and users.



Capability	1, missing project managers and missing good management practices
Automation	1, no repository, use personal productivity tools and MSProject
Governance	1, technical managers or team leads act as project managers with little to no training
Importance	5, business demands faster cycle times, lower cost and better service
Priority	1, lack of ability to meet promised delivery dates, and poor communications (e.g. no status given)
Target	5, add PMs and MS Project Server to focus on better results and practices in and across projects

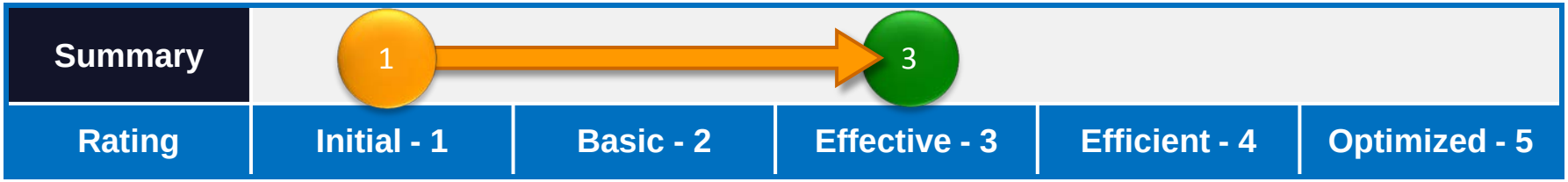
Product Management Assessment Results

Process Purpose: To guide any IT product (such as an application, an infrastructure component, an IT service, documentation, or combination thereof) throughout its lifecycle from inception to retirement

Improvement Goal: Establish Product Managers for core agency and enterprise shared BCIT services to improve coordination evolution of capabilities within and across environments (e.g. dev, test, prod).

Challenge: Lack of product and service definitions, no defined roles and responsibilities, no process

Value: Continued resilient operation of solutions in all environments, reduced incidents, lower support costs, increased staff productivity, better software developer productivity, faster deployments of software updates.



Capability	1, some roadmaps are developed as issues arise, app dev is not synchronized with infrastructure
Automation	1, no repository, use personal productivity tools, Change tool has no CI data
Governance	1, technical managers work independently with some ad hoc coordination
Importance	4, Incidents and rework are disrupting operations and projects resulting in high manager attention
Priority	3, have to develop services and portfolio first before establishing product roadmaps
Target	3, This will support the BCIT target state implementation and maintenance of its capabilities

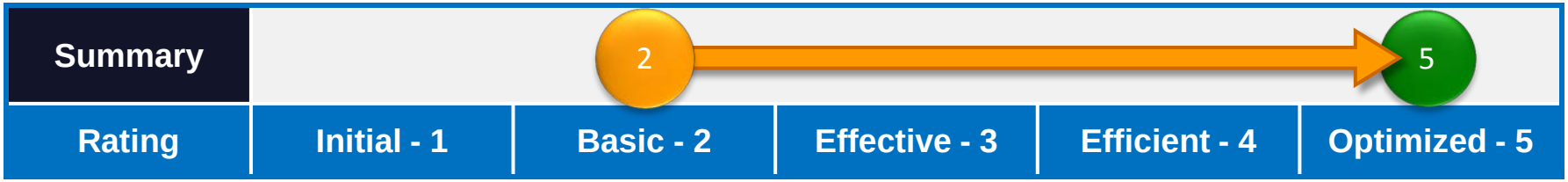
Solution Requirements Management Assessment Results

Process Purpose: To create solutions that will satisfy the requirements of IT customers and stakeholders, including both the development of new solutions and the enhancements or maintenance of existing ones.

Improvement Goal: Establish architects and architectural practices to guide solution development

Challenge: Lack of architects, architectural practices and planning, funding, executive sponsorship

Value: Higher quality solutions, better stakeholder cooperation, predictable results, solutions that generate more value, less rework, reduced scope creep, on time delivery of projects



Capability	2, business and technical analysts gather requirements using domain specific methods
Automation	1, no repository, use personal productivity tools, request tool does not help define requirements
Governance	3, solution requirements are discussed as an agenda item in the Managers meeting
Importance	5, key to defining the solution, setting SLAs and allowing for use of shared service components
Priority	3, foundation and service improvements proceed solution requirements improvements
Target	5, collaborate with business and influence definition of requirements, use a requirements tool

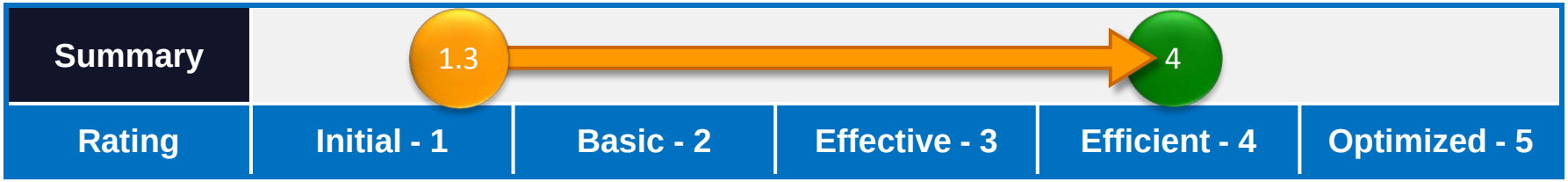
Solution Test and Acceptance Management Assessment Results

Process Purpose: To create solutions that will satisfy the requirements of IT customers and stakeholders, including both the development of new solutions and the enhancements or maintenance of existing ones.

Improvement Goal: Establish architects and architectural practices to guide solution development

Challenge: Lack of architects, architectural practices and planning, funding, executive sponsorship

Value: Higher quality solutions, better stakeholder cooperation, predictable results, solutions that generate more value, less rework, reduced scope creep, on time delivery of projects



Capability	2, domains are testing to the limits of the current toolsets and delivery cycle time
Automation	1, functional test tools and manual testing is being done
Governance	1, testing is not a separate discipline within BCIT
Importance	3, test capability shortfalls are not seen a major cause of quality issues
Priority	4, operational and project improvements are prerequisites to improving testing
Target	4, automated testing tools are needed to find performance issues or to do enough test cycles

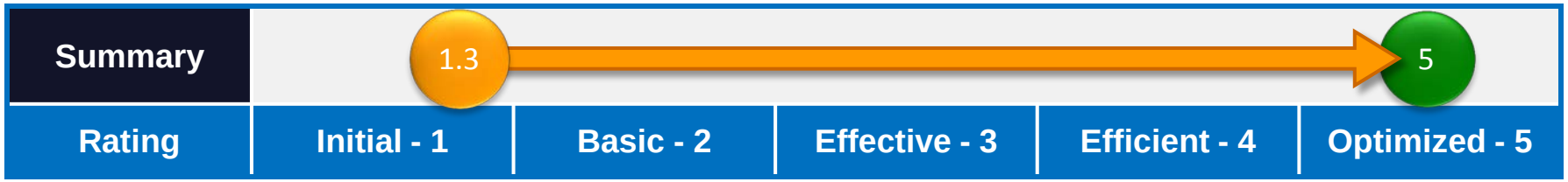
Change Management Assessment Results

Process Purpose: To achieve the successful introduction of changes to an IT system or environment as a balance of the timeliness and completeness of change implementation, the cost of implementation and the minimization of disruption caused in the target system or environment.

Improvement Goal: Establish more rigorous change review cycle per ITSM leading practices and tools

Challenge: Lack of a fully featured change tool with CI and requester data, limited use of standard changes

Value: Reduced incidents due to change, less rework, reduced performance slowdowns, ability to use more infrastructure provisioning and software deployment automation, more predictable results



Capability	2, Change Review Board is operational and more change issues are being discovered now
Automation	1, Change tool lacks CI and user data making workflow cumbersome
Governance	1, 2015 process introduction is highly manual and lack needed CI data
Importance	5, business wants new functions to work without disruption and watch closely rollout quality
Priority	2, foundation priorities are predecessors guiding standards to evaluate change requests
Target	5, workflow guides change evaluations and approvals, CMDB will add needed CI data

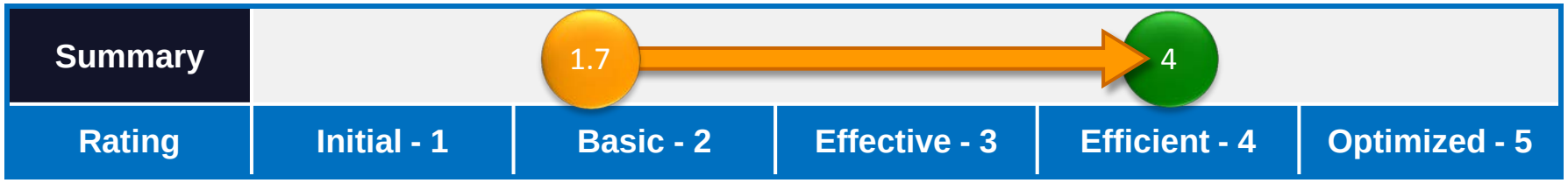
Release Management Assessment Results

Process Purpose: To prepare and finalize release packages that are fit for deployment so that optimal business value will be attained when deployment occurs

Improvement Goal: Develop automated release method to shorten delivery cycles and increase the number of releases

Challenge: Lack of package standards, DevOps, agile programming, and software release/deploy tools

Value: Faster delivery, increased volume of releases, reduced manual workload, better ability to test changes, low risk of outages, better collaboration with business



Capability	2, release packages are in use, build tools are being used, domain managers control builds
Automation	1, build tools are manually operated
Governance	2, project governance controls the use of release packages and assigns staff
Importance	3, this is an IT function proceeding deployment which is a rollout activity monitored by the business
Priority	4, foundation, service and process implementations are needed to make this successful
Target	4, automating builds improves reliability of the packages and shortens delivery cycles

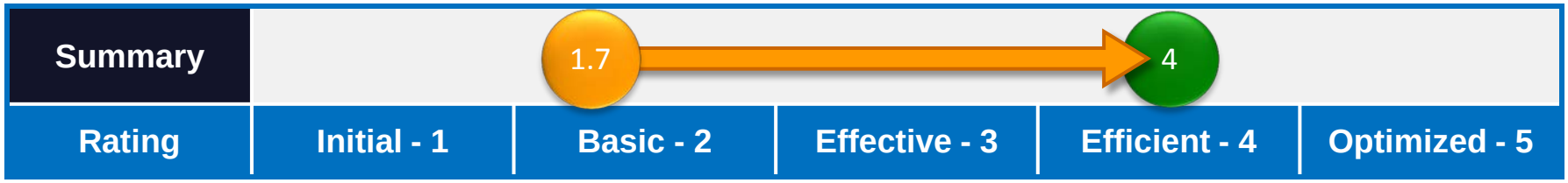
Deployment Management Assessment Results

Process Purpose: To place releases and other desired changes into their target environments and to activate them in order that the functionality and operational improvements they contain can create their intended value.

Improvement Goal: Develop automated deployment method to shorten delivery cycles and accelerate the availability of infrastructure for application development teams or to improve performance slowdowns

Challenge: Lack **of s**tandard offerings, DevOps practice, standard configurations, and provisioning tools

Value: Faster delivery, increased volume of deployments, reduced manual workload, better ability to test changes, low risk of outages, higher user satisfaction



Capability	2, deployment packages used, deployment tools are being used, domain managers control installs
Automation	1, deployment tools are manually operated with some scripting
Governance	2, project governance controls the deployment package and assigns operational staff to deploy
Importance	3, this is an IT function activity monitored by the business
Priority	3, foundation and service implementations are needed to make this successful
Target	4, automated provisioning improves reliability of the packages and shortens delivery cycles

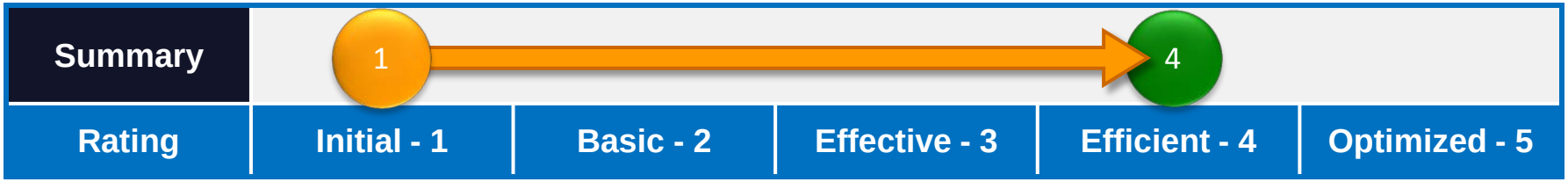
Configuration Management Assessment Results

Process Purpose: To maintain the integrity of the configuration items (CIs) in either development, test or production environments and to publish accurate technical information about CIs and their relationships..

Improvement Goal: Develop automated method to identify technical CI status changes, publish CI data from a federated DB covering all CIs and automate discovery of relationships to minimize manual efforts

Challenge: Lack federated DB, automated discovery tools and broad assess to CI and relationship data

Value: Better decision making for change, incident, problem, release, asset, finance, availability, capacity and disaster recovery, project management and service continuity due to fast access to needed data



Capability	1, staff collect configuration item data from systems or components within their domain
Automation	1, configuration item data is held in element management systems or components
Governance	1, staff use their own individual practices to satisfy data requests and needs
Importance	4, dynamic nature of virtual images, LUNs, networks and middleware requires more automation
Priority	2, change, incident, release and deployment need automatic access to configuration information
Target	4, collection and access to data is automatic with wide spread use of APIs for data exchange

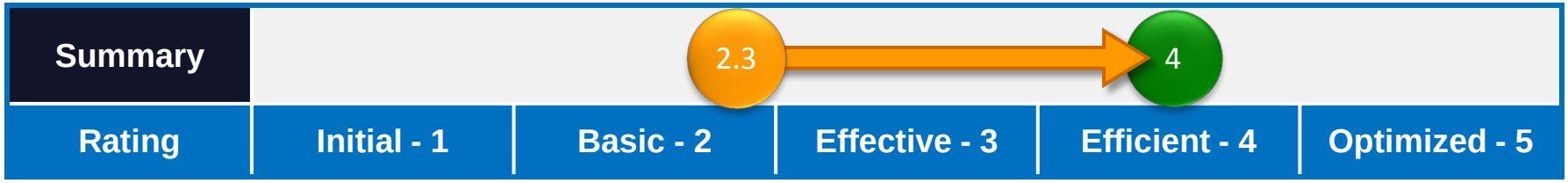
Asset Management Assessment Results

Process Purpose: To maintain the integrity of the IT Assets in either development, test or production environments and to publish accurate financial, location and ownership information about CIs

Improvement Goal: Develop automated method to identify CI asset status changes, publish CI data from as asset repository and automate discovery of financial, ownership and location data

Challenge: Lack IT Finance application, license controls, integration with active directory and facilities system

Value: Better financial impact analysis during acquisition, contract renewals, upgrade evaluations, etc.



Capability	2, staff validate asset data annually during physical inventory
Automation	2, API with Lawson financials and scanners for physical audit
Governance	3, County auditor and BCIT cooperate to set policy and evaluate results of physical audit
Importance	3, dynamic nature of virtual images, LUNs, networks and middleware requires more automation
Priority	5, small size of CI estate does not demand rapid modification of existing methods
Target	4, collection and access to data is automatic with wide spread use of APIs for data exchange

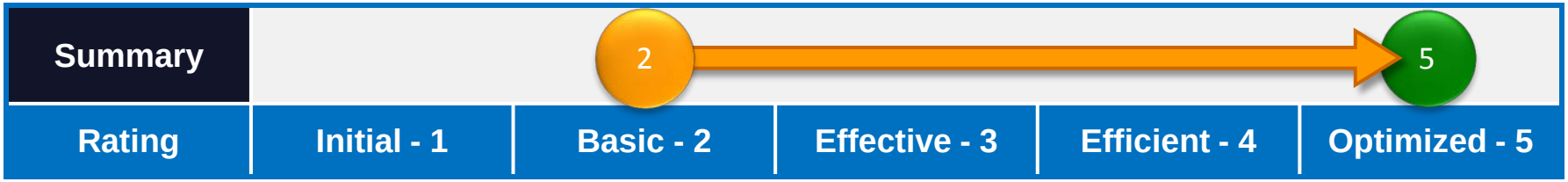
Request Fulfillment Management Assessment Results

Process Purpose: To receive service requests from users and route each request to the appropriate process or system for handling

Improvement Goal: Develop a single, self-service portal for standard service offerings including an option to order services using free form description. Integrate with back-end automation or workflow to speed delivery

Challenge: Lack request processing integration, integration with back ends, service pricing, and automated status updates. Customer, BCIT governance body is missing so requirements are not well defined

Value: Faster delivery, better tracking of status, higher customer satisfaction, reduced manual work effort.



Capability	3, requests are taken, work orders issued and services delivered using approved practices
Automation	2, three separate SR systems that are not integrated with back end delivery mechanisms
Governance	1, no integrated controls or review of methods, no policies or standards
Importance	5, key to shorter delivery cycle, promoting standard offerings and reducing manual order work effort
Priority	3, foundation and services are predecessors required for successful implementation
Target	5, integrate with business process using a single self-service portal and automate fulfillment methods

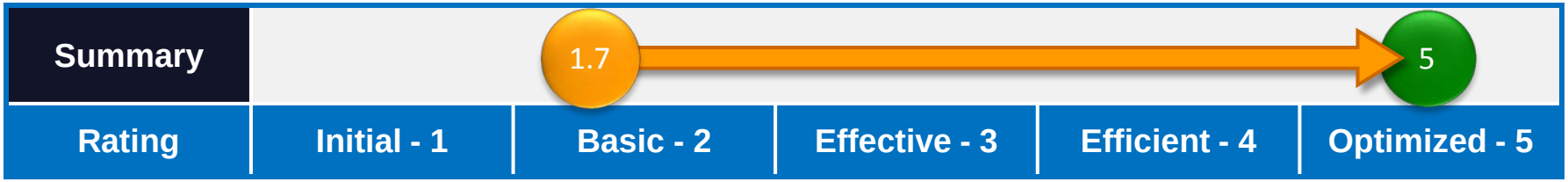
Service Execution Management Assessment Results

Process Purpose: To deliver operational services (pre-defined Activity or Transaction) to IT customers, by matching resources to commitments. Employ IT infrastructure to conduct IT operations.

Improvement Goal: Develop a federated set of system automation, job scheduling and workflows to speed delivery

Challenge: Lack orchestration, provisioning, software delivery, central job scheduling and integration with manual project task delivery

Value: Faster delivery, better tracking of status, higher customer satisfaction, reduced manual work effort.



Capability	3, requests are taken, work orders issued and services delivered using approved practices
Automation	1, separate job schedulers, manual provisioning and software deployment, manual builds
Governance	1, no integrated controls or review of methods, no policies or standards
Importance	5, key to shorter delivery cycle, promoting standard offerings and reducing manual order work effort
Priority	4, improving release, deployment, and project management as predecessors helps improve success
Target	5, integrate with business process using a single self-service portal and automate fulfillment methods

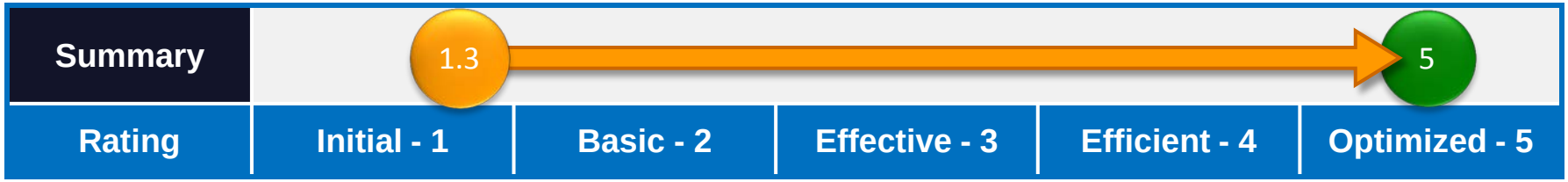
Data Management Assessment Results

Process Purpose: To ensure that all data necessary in providing and supporting business and operational services is available for use and is actively managed from creation/introduction until final disposal

Improvement Goal: Develop data management strategy using deduplication and monitoring tools for all enterprise class databases

Challenge: Lack of a plan to improve data integrity, availability and privacy using tools to augment staff capabilities

Value: Better service, reduced outages and performance slowdowns, reduced storage investments



Capability	2, data and storage are managed using manual methods and manually built legacy APIs
Automation	1, monitoring and tools have significant holes and newer technology is not deployed
Governance	1, domain management oversight and project governance
Importance	5, data is central to all business processing and is subject to external threats
Priority	2, key part of service improvement as data is the number one growth area for infrastructure
Target	5, use tools to monitor and control growth and improve how data integration methods

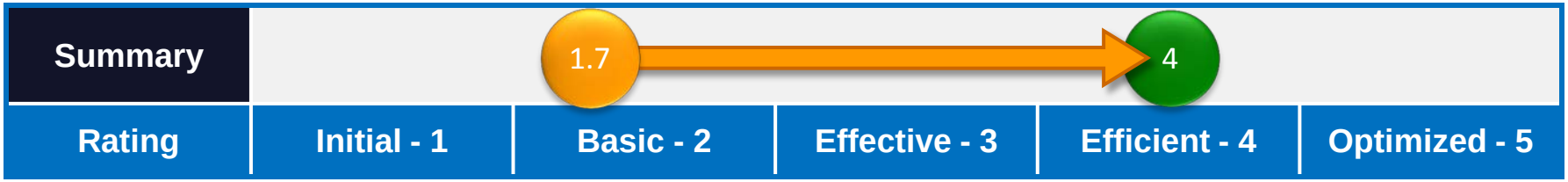
Event Management Assessment Results

Process Purpose: To identify and prioritize infrastructure, service, business process and security events, and to establish the appropriate response to those events, especially for potential faults or incidents.

Improvement Goal: Develop comprehensive infrastructure and core application monitoring, event collection and restoral or provisioning action to accelerate recovery or to maintain acceptable performance levels

Challenge: Lack of services to define monitoring needs, lack of funding, lack of systems management architecture, lack of service improvement strategy

Value: Faster service restoral, lower volume of performance slowdowns, more intelligent support actions



Capability	1, incomplete monitoring and notification is to staff to take action, not for systems to act
Automation	2, monitoring and tools have significant holes and newer autonomic technology is not deployed
Governance	2, domain management oversight for systems not services and project governance
Importance	3, better event data is needed for change, incident, release, deployment, availability and capacity
Priority	2, after foundation priorities set direction, event data is used to support service management
Target	4, Tools create IT automation for discovery, collection, notification and restoral actions

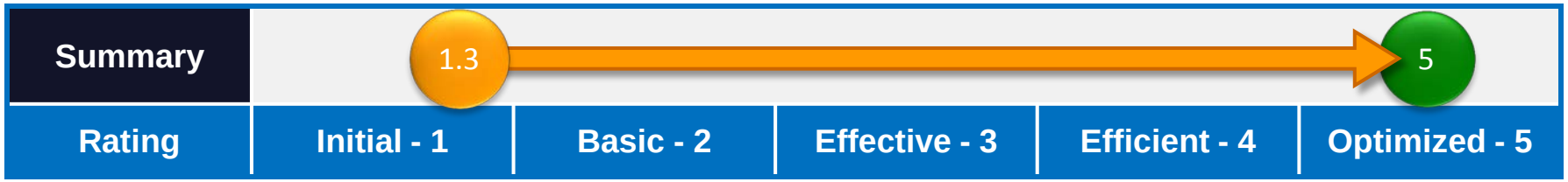
Incident Management Assessment Results

Process Purpose: To restore of a service as quickly as possible when service is affected by a real or potential interruption (negative impact on the quality of that service up to and including an outage).

Improvement Goal: Develop new workflow capabilities that include component and user data and new service restoral automation. These improvements shorten outage duration.

Challenge: Lack of funding, use of leading practices, executive sponsorship, coordination with customer on requirements, SLAs and interfaces

Value: Faster service restoral, reduced manual work effort, data that leads to intelligent support actions



Capability	1, primarily manual service restoral with help desk analyst doing some level restoral
Automation	1, MS Systems Center software does not have user or component data needed
Governance	2, domain management oversight of incidents and use a war room to handle Sev1 and Sev2 tickets
Importance	5, business demands faster service restoral and better coordination when an outage occurs
Priority	2, after foundation guidance is set, incident improvements can be successfully implemented
Target	5, base incident handling on business priorities using event data, workflow and restoral automation

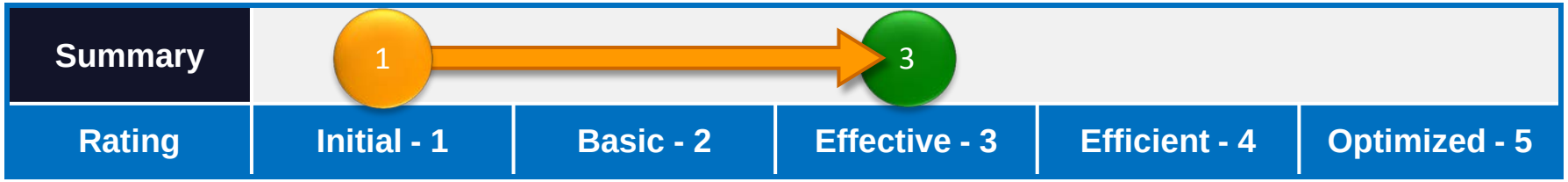
Problem Management Assessment Results

Process Purpose: To identify recurring incidents or SEV1/SEV2 incidents which are opened as problems complete the root causes analysis of problems, and initiate change requests (RFCs) to resolve them

Improvement Goal: Develop new workflow capabilities using a new Service Desk module and leading practices for root cause analysis and problem management

Challenge: Lack of funding, use of leading practices, executive sponsorship, and analysis skills

Value: Reduced volume of outages, reduced work effort to execute root cause analysis



Capability	1, primarily manual root cause analysis with little training or practice guidance
Automation	1, individual productivity tools
Governance	1, domain management oversight for Sev1 and Sev2 cause reviews
Importance	2, relative to incident and change, problem has a lower priority for improvement
Priority	4, establish use of leading practices for incident, change, release and deployment first
Target	3, use new Service Desk tool problem module for workflow guidance and leading practices

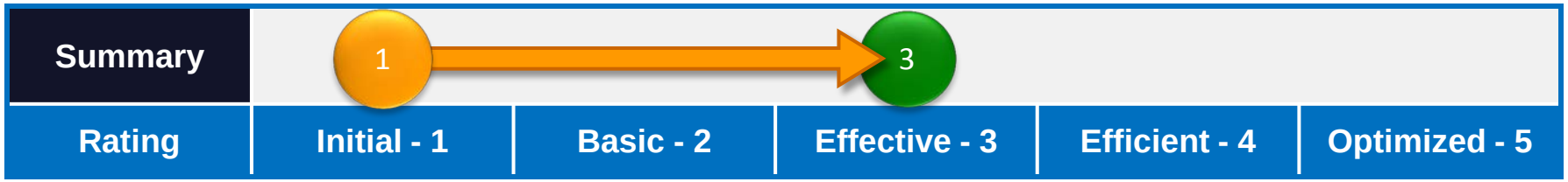
Identity and Access Management Assessment Results

Process Purpose: To establish and maintain a registry of IT user identities and their associated access rights for each service so access is limited to authorized users and only for their assigned usage,

Improvement Goal: Develop single sign on capabilities with role, group and policy driven controls to reduce manual control work effort and to improve security

Challenge: Lack of funding, use of leading practices, executive sponsorship, and security rights skills

Value: Reduced risk of security breach, increased service performance because of correct usage



Capability	1, primarily manual IAM controls at the system level
Automation	1, system controls
Governance	1, domain management oversight in cooperation with application development leads
Importance	2, current method is limiting breaches
Priority	4, operational and project improvements have priority
Target	3, Single sign solution integrated with active directory and RACF

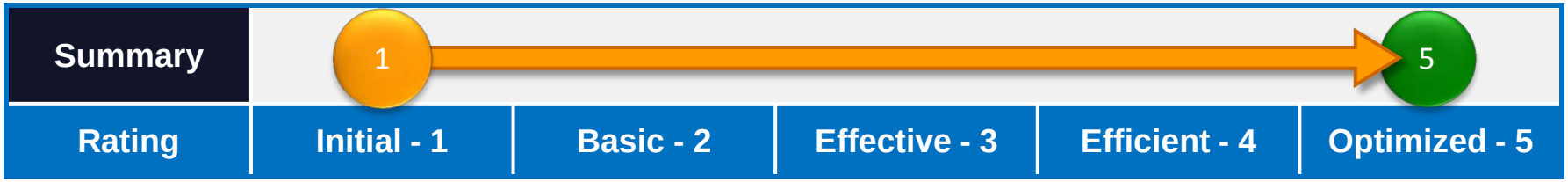
Compliance Management Assessment Results

Process Purpose: To ensure adherence to laws and regulations, internal policies, procedures, and stakeholder commitments,

Improvement Goal: Develop compliance testing for middleware and applications and internal auditing for IT compliance

Challenge: Lack of funding, use of leading practices, executive sponsorship, and IT compliance skills

Value: Reduced risk of penalty, less rework



Capability	1, compliance is executed at an application level without integrating supporting capabilities
Automation	1, manual controls are used
Governance	1, updates are several years old and not tested
Importance	5, compliance functionality has the highest priority for project completion and operational execution
Priority	1, this is foundational as it sets direction for other processes to follow as they are improved
Target	5, Business sets requirements which compliance management must meet

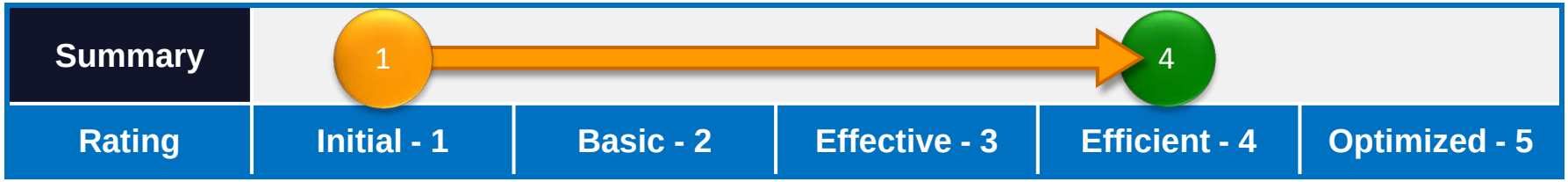
Security Management Assessment Results

Process Purpose: To align IT security with business security and ensure that the confidentiality, integrity and availability of the organization's assets, information, data and IT services always matches the agreed needs of the business.

Improvement Goal: Automate security threat identification, prevention and recovery wherever practical

Challenge: Traditional perimeter approach when IT operates in a perimeter-less environment and disgruntled staff are the number one threat risk of a security breach

Value: Reduced risk of breach, improved privacy protection, improved ability to share data and services



Capability	1, notification of threats and breaches to staff who undertake action based on domain procedures
Automation	1, anti-virus, malware, no intrusion protection, limited encryption in motion or at rest
Governance	1, BCIT works separately from agencies with no global county policies or governing body
Importance	4, BCIT is improving architecture and operations to tighten the perimeter and access
Priority	3, foundation and services have to be in place to successful implement security improvements
Target	4, automate security threat identification and prevention actions using state of the art architecture

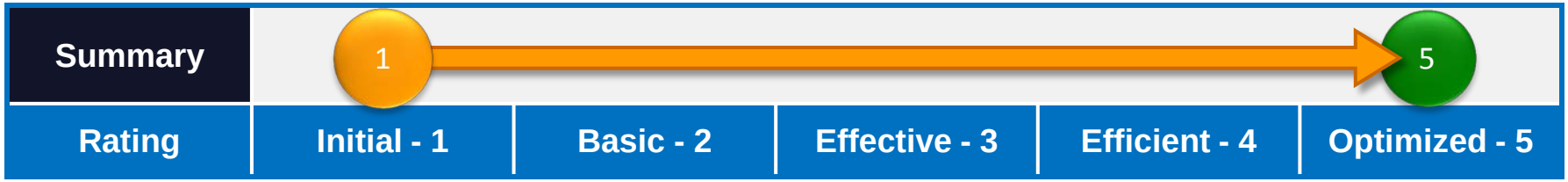
Availability Management Assessment Results

Process Purpose: To ensure that the level of availability (uptime) delivered in all IT services meets the agreed availability needs and/or service level targets in a cost-effective and timely manner.

Improvement Goal: integrate service and system availability design with business process requirements

Challenge: Lack of architects, architectural practice, and non-functional requirements for business services

Value: Reduced risk of downtime, accelerated service restoral, decreased work effort during outages, improved user population productivity, shared resource resiliency reduces IT investments



Capability	1, resiliency is designed project by project based on technology capabilities
Automation	1, limited to recovery, fail over and high availability designs, single points of failures are wide spread
Governance	1, domains control design and operations, projects govern implementation, some standards exist
Importance	5, business demands 7 x 24 x 365 operation with rapid service restoral
Priority	1, availability is job one and it is part of foundation priorities
Target	5, while design is highly manual, it is integrated with business requirements and processes

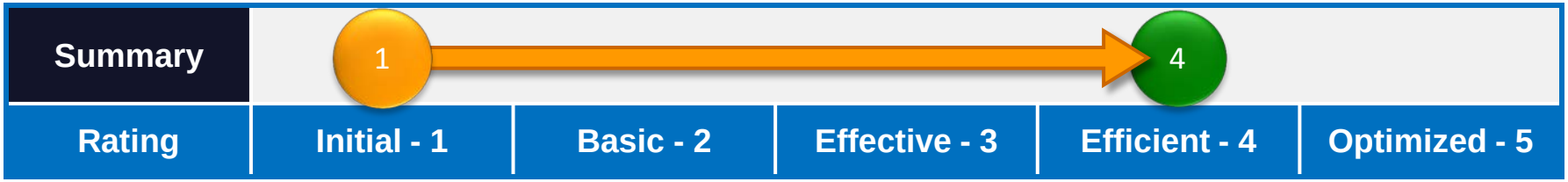
Capacity Management Assessment Results

Process Purpose: To ensure that the capacity of IT services and the IT infrastructure meets the agreed to capacity- and performance-related business requirements in a cost-effective and timely manner.

Improvement Goal: Automate service and system capacity and performance data collection, event notification and repetitive analysis so design decision happen much faster and easier

Challenge: Lack of performance and capacity monitoring, analysis tools and automation to take action

Value: Reduced risk of performance slowdown, reduced manual efforts, improved decision making when requesting funds for performance improvements, higher levels of customer satisfaction with results



Capability	1, difficult to maintain sufficient capacity to satisfy growing workloads and performance suffers
Automation	1, limited to manual analysis of logs, events and basic utilization reports
Governance	1, domains control design and operations, projects govern implementation, some standards exist
Importance	3, business demands 7 x 24 x 365 operation at normal performance levels
Priority	2, once availability is stable, then capacity is the next priority to maintain expected performance
Target	4, while design is highly manual, it is integrated with business requirements and processes

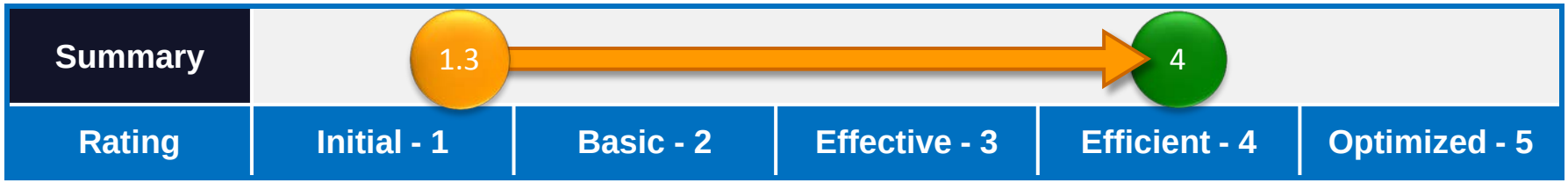
Facilities Management Assessment Results

Process Purpose: To ensure that the data center floor space, power, HVAC, physical security and logistical support is sufficient to satisfy business demands as IT infrastructure grows and evolves

Improvement Goal: Implement a resilient facility design for data center operations and which allows for testing of capabilities, separates computer room, print shop, operations center and other spaces

Challenge: Lack of architects, standards, risk mitigation, security standards, and executive sponsorship

Value: Reduced risk of outage, rapid restoral of data center operations in the event of a power outage, elimination of current single points of failure that could create a data center outage, allow for testing



Capability	2, plans in place, operational procedures control all facilities aspects, risk is accepted
Automation	1, limited to individual productivity tools, request for facilities management system
Governance	1, EDC domain runs operations, projects govern implementation, some standards exist
Importance	3, business accepted risk of single points of failure and print shop modifications
Priority	5, relocate the data center prior to IT strategy being implemented, this becomes an update priority
Target	4, while design is highly manual, it is integrated with business requirements and processes

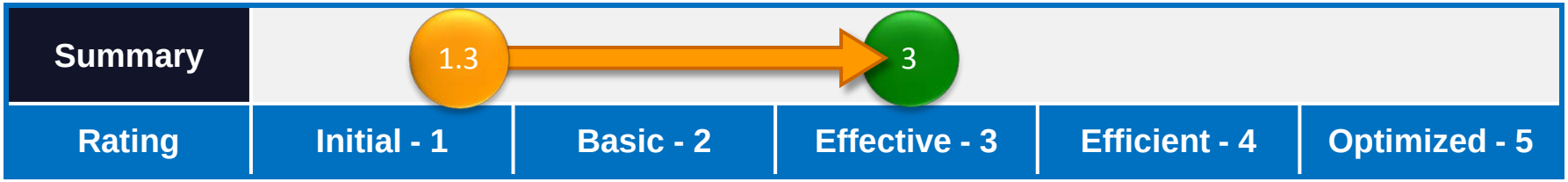
IT Service Continuity Management Assessment Results

Process Purpose: To ensure that agreed IT services will support business requirements in the event of a disruption to the business or central IT processing, based on the committed recovery schedule.

Improvement Goal: Implement the plan including the capability to test the plan for DR, and service continuity exercises that can take advantage of new resiliency options in BCIT

Challenge: Lack of architects, certified service continuity experts, risk mitigation, and executive sponsorship

Value: Reduced risk of extended business disruption due to data center disaster or loss of county facility



Capability	1, plans in place, testing is NOT operational, unknown if DR plan will be successful
Automation	1, limited to facilities and some resilience in the data center, no servers in DR facility
Governance	1, domains manage their own DR plans, single points of failure risk is accepted
Importance	4, business is demanding better resilience and more recovery strength in preparation for a disaster
Priority	4, relocate the data center prior to IT strategy being implemented, this becomes an update priority
Target	3, the DR and service continuity plans are highly manual in nature, but need more automation

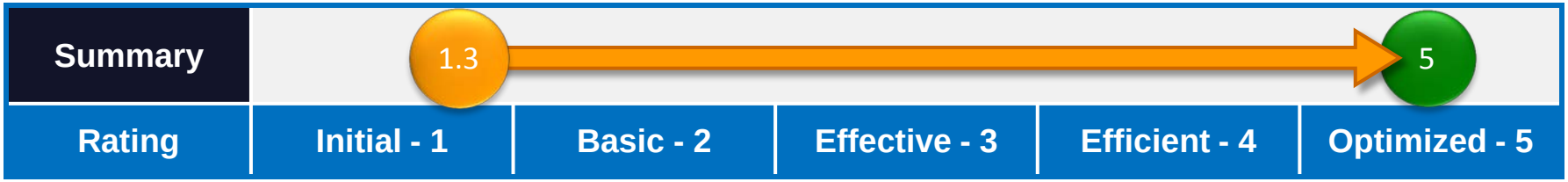
Finance Management Assessment Results

Process Purpose: To ensure that financial controls and procedures are in place to effectively predict and control IT budgets, enable business decisions, and ensure that compliance is maintained.

Improvement Goal: Expand accounting capabilities to include software license management, usage monitoring, activity based costing, support for dynamic virtual environments, and scanners in operations

Challenge: Lack of tools, cost avoidance plan, advanced IT financial skills, and executive sponsorship

Value: Reduced true up costs, better allocation of resources, true cost of ownership, and less human error



Capability	1, budget allocated and costs captured in Lawson GL per County procedures
Automation	2, limited financial analysis because IT details are not captured in Lawson GL
Governance	1, County policy guides managers in budget planning and spending controls by project
Importance	5, business is demanding better results for project investments and for operational expenses
Priority	3, foundation and service improvements are needed to successfully implement finance improvements
Target	5, integrate service oriented IT business model with detailed finance data with business objectives

Supplier Management Assessment Results

Process Purpose: To manage interactions with suppliers / partners formally by selecting them based on their ability to meet identified requirements, and managing performance against the agreed upon commitments.

Improvement Goal: Expand domain success into a BCIT wide process supported by a repository and guided workflow to reduce manual efforts and speed access to supplier profile data

Challenge: Lack of tools, process, and a supplier management expert

Value: Increased staff productivity, better service results because higher quality suppliers are selected

Capability	Collaborative working session rating with justification summary
Automation	2, individual productivity tools and procurement contracting tool
Governance	1, domain managers and agencies control their own relationships with suppliers/partners
Importance	3, core BCIT capability that will expand in the future
Priority	5, due to current success, other ITSM improvements will be undertaken before supplier management
Target	3, develop a BCIT wide process supported by a repository and guided workflow to reduce work effort

Service Pricing and Contract Admin. Management Assessment Results

Process Purpose: To establish a pricing mechanism for the IT entity to sell its services to internal or external customers and to administer the contracts associated with the selling of those services.

Improvement Goal: Develop a pricing approach to cover ad hoc demand using existing Lawson cost allocation tool and a repository (potentially SLAs and service catalog) to contain agreed to pricing.

Challenge: Lack of tools, policy, process, agreement with County Agencies and executive sponsorship

Value: Ability to fund staff and tools needed to meet business demands whether strategic or ad hoc

Capability	1, projects are funded and operational costs are part of the annual budget, no bill-back for ad hoc.
Automation	1, individual productivity tools and Lawson cost accounting, limited tracking of actual spend rate
Governance	1, domain and project managers allocate cost
Importance	2, this is a future need not being asked for today, but lack of bill-back causes demand overruns
Priority	4, foundation and services drive what could be priced and billed back after critical issues are fixed
Target	3, develop a pricing approach to cover ad hoc demand using existing Lawson cost allocation tool

Workforce Management Assessment Results

Process Purpose: To optimize the mix of staffing (resources and skills) needed to deliver the agreed IT services per published service levels and to satisfy commitments made.

Improvement Goal: Develop process to update workforce capabilities based on changes in workload, evolution of skill requirements, and modifications in sourcing decisions (internal versus provider)

Challenge: Lack of skills inventory, career path, skill demand, policy, process, and executive sponsorship

Value: Ability to deliver service that satisfies the business because staff has the necessary skills

Capability	1, staff skills are not evolving and positions are left open, workload backlog is increasing.
Automation	1, HR system, MSWord describes job skills
Governance	1, domain and project managers coordinate with HR on skill needs
Importance	1, current strategy is to use much more sourcing of capability due to low pay scales for IT staff
Priority	4, neither business nor IT has this a priority,
Target	3, develop a skills inventory and skills demand forecast in a repository that integrates with HR

Knowledge Management Assessment Results

Process Purpose: To capture, develop, share, and effectively use organizational knowledge (how and why)

Improvement Goal: Develop process, training and tools (repositories that allow users to publish knowledge articles) so that staff can be more efficient when executing their tasks

Challenge: Lack of tools that support easy publishing of articles, process, training on the process, understanding about the need to create knowledge, and executive sponsorship

Value: Ability to deliver service that satisfies the business because staff can quickly expand their capability without having to learn that task from scratch when that knowledge is already available

Capability	2, domain managers are documenting procedures, configurations and architecture.
Automation	1, individual productivity tools and MS System Center
Governance	1, domain and project managers direct knowledge capture
Importance	2, current strategy is to begin knowledge management about infrastructure and applications
Priority	3, this is an IT priority to improve staff productivity and service results
Target	3, develop understanding to create knowledge, process to it, and tools to make it easy

TECHNOLOGY

Material discovered, referenced or developed as part of establishing the Strategy

Observations were developed based on stakeholder interviews, document review, workshops, and other interactions (TECHNOLOGY)

ID	Observation	Impact	Impact	Priority
OT-01	Fragile 4 year old plus IT components are subject to a much greater risk of hardware failure in the event of power disruption during normal operations	Inability to recover service and data in a timely manner	7.8	5.4
OT-02	There are direct connections to 45 remote locations that range upwards from T1 using TCP/IP as the primary protocol	Lack of network flexibility inhibits forward looking techology solutions	7.3	5.1
OT-04	Network is currently not a converged network; voice and data are separate	Increased costs, lack of network flexibility	6.5	5.2
OT-05	Single network core (hardware for all users of data center systems) is a single point of failure	Inability to recover service and data in a timely manner	6.5	5.2
OT-06	1 Gbps Ethernet fiber optic backbone connects the County Annex, the Justice Center, and the County Courthouse is a single point of failure	Lack of network flexibility inhibits forward looking techology solutions	5.0	3.5
OT-07	Print shop is located in the data center increasing physical damage risk to DC	Increased risk of damage from paper dust, associated grime to IT systems in data center	6.5	4.6
OT-08	Application architecture documentation is incomplete and does not reflect the complete state of the workload stack (platform, network, storage, external connectiitiy)	Inability to recover service and data in a timely manner	5.5	3.9

Observations were developed based on stakeholder interviews, document review, workshops, and other interactions (TECHNOLOGY)

ID	Observation	Impact	Impact	Priority
OT-09	Use of one or two small rack based UPS as installed can cause return to service problems with the main UPS and is not a commonly recommended configuration.	Inability to recover service and data	5.0	2.5
OT-10	A single central UPS sytem providing a reliability of only N to the critical loads. … The main UPS can't be maintained without placing the system in bypass leaving the loads unprotected	Inability to recover service and data	5.0	2.5
OT-17	A single standby generator supporting the data center… tested regularly, but not under load. This increases the risk of extended outage due to utility power failure	Inability to recover service and data	5.5	3.9
OT-22	The UPS batteries are in open racks within the UPS room. This increases risk to UPS from battery outgassing	Inability to recover service and data	4.5	1.8
OT-47	The current Return to Service plans are incomplete and have not been adequately tested	Inability to recover service and data	6.3	4.4
OT-50	The current network design includes single path networking (circuit and fibre), physical interuption due to construction or accident can cause loss of service to 3500 county staff	Inability to recover service and data	5.0	3.0

FINANCE

Material discovered, referenced or developed as part of establishing the Strategy

Observations were developed based on stakeholder interviews, document review, workshops, and other interactions (FINANCE)

ID	Observation	Impact	Impact	Priority
OW-88	BCIT does not regularly provide financial view of costs by IT domains (Servers, Networks, Storage, Software)	Unable to effectively manage IT budget	4.3	2.6
OW-89	BCIT does not regularly provide financial view of actual capital and operating costs	Unable to effectively manage IT budget	3.5	2.1
OW-90	BCIT does not regularly provide prioritized capital project submissions with proposed multi-year spend plan	Unable to effectively manage capital budget	4.0	2.4
OW-91	BCIT does not regularly provide transparent view of the financial status of approved capital projects and vendor maintenance contracts	Unable to effectively manage IT budget	2.5	1.8
OW-93	BCIT and Agency IT's current annual operating cost of $21M is not broken out by IT domains	Unable to effectively communicate spend to stakeholders	5.8	4.6

OTHER

Material discovered, referenced or developed as part of establishing the Strategy

Recommendations are provided that address key observations

ID	Recommendation	Findings	Priority	Project
RC-01	Establish a BCIT senior leadership team with the experience to drive the adoption of modern technology, agile practices, efficient function and flexible service delivery	OP-12 OW-09 OW-10 OW-62	10	
RC-03	Perform a staffing needs and skills assessment and pursue a recruiting campaign and training program to develop core skills and a strong team	OP-03a	6	
RC-25	Develop a staff aug capability and process to vet and oversee the deployment of full or part time IT resources under a DOU to departments.	OP-06	6	
RC-26	Retool the process of quickly identifying and processing IT candidates, and providing market competitive salary offers that result in securing the talent.	OP-07 OP-08 OP-17	6	
RC-28	Develop a Solution Architecture function within BCIT, as well as an Enterprise Architecture function outside of BCIT	OP-04	6	
RC-06	Develop and implement a BIA and resiliency design process that matches the needs of the business to the design and recovery implementation that ensures service delivery and minimizes risk of disruption and loss.	OT-47 OW-31 OW-42 OW-69	5	TP-2
RC-08	Develop a process to institutionalize a regular open status meeting in which IT solicits items for and publishes an agenda, to discuss the state of IT and its plans, project status, service incidents, focus areas, priorities, and finances.	OW-21 OW-11 OW-04 OW-17	5	
RC-27	Implement an organization structure that holds IT accountable for transparency and performance, in meeting the needs of the county (both operational and project delivery), providing leadership, reducing risk, and developing symbiotic partnerships with county departments.	OP-01 OP-03b OP-15 OP-11	5	

Recommendations are provided that address key observations (Cont'd)

ID	Recommendation	Findings	Priority	Project
RC-05	Develop and implement a refresh evaluation process that optimizes the use of technology investments in light of evolving demand, requirements, standards, and new technology offerings, balanced against risk and support costs.	OT-01	4	TP-2
RC-09	Develop a formal PMO function, outside of BCIT, and publish and enforce a standard project method based on leading industry practices and transparency. The CIJS program should be managed by this as well.	OW-19 OW-28 OW-79 OW-76	4	
RC-14	Design and implement a VoIP/Converged network over a Software Defined Network, incorporating the target facilities as well as the 45 remote locations plus 7 county buildings.	OT-50 OT-04 OT-02 OT-06 OT-05 OW-42	4	TP-1
RC-19	Develop an integrated monitoring and reporting tool framework that is leveraged to accelerate work, improve quality, increase insights, and manage processes in a consistent fashion across IT.	OW-12 OW-20 OW-44 OW-75 OW-06 OW-33 OW-57 OW-78 OW-83	4	TP-2
RC-23	Develop a standard framework that captures and define the set of requirements and SLA/OLAs that are agreed upon by all stakeholders and that drive the development and acceptance of solutions delivered by IT (and partners).	OW-01 OW-42	4	
RC-24	Develop a process to meet on a regular basis with the County Manager, Commissioners (as needed), and key (potential) partners such as City IT, to share initiatives and vision, and discuss opportunities to collaborate, integrate, distribute actions and funding and/or re-prioritize focus.	OP-12 OW-09 OW-10 OW-62	4	

Recommendations are provided that address key observations (Cont'd)

ID	Recommendation	Findings	Priority	Project
RC-29	Conduct regular audits of the CMDB and solution portfolio, to assess the technology, deployment patterns, components, service level actuals, DR validations, security posture and currency of associated requirements. Update and refresh as required (client driven) and/or when desirable (IT driven) to improve cost, service, integration, security, etc.	OW-15 OW-47 OW-14	4	
RC-30	Implement a process of evaluation and escalation that is triggered by monitoring and detection of actual or projected service level issues, which are designed to ensure high priority disruptions are subject to urgent attention and prioritized remediation.	OP-02 OW-38 OW-03	4	TP-2
RC-07	Perform a deep assessment of the facility MEP plant, utility and network feeds, access security and facility operations, in order to identify all single points of failure and operational risk. Develop a get-well plan and implement remediation ASAP.	OT-09 OT-10 OT-17 OT-22 OW-42	3	TP-1
RC-10	Relocate the print shop, both physically and functionally, outside of BCIT and the data center.	OT-07	3	TP-1
RC-12	Develop an isolated/secure location for 3rd party servers and solutions that provides access for 3rd parties and from those not authorized.	OW-29	3	TP-1
RC-15	Develop a financial reporting process that tracks information according to IT services rather than by cost accounts.	OW-88	3	
RC-16	Develop and implement a refresh evaluation process that evaluates the opportunity to deliver the functional requirements for a service through new methods of delivery such as SaaS, and/or new levels of cross-department integration.	OW-23	3	TP-2

Recommendations are provided that address key observations (Cont'd)

ID	Recommendation	Findings	Priority	Project
RC-29	Conduct regular audits of the CMDB and solution portfolio, to assess the technology, deployment patterns, components, service level actuals, DR validations, security posture and currency of associated requirements. Update and refresh as required (client driven) and/or when desirable (IT driven) to improve cost, service, integration, security, etc.	OW-15 OW-47 OW-14	4	
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Recommendations are provided that address key observations (Cont'd)

ID	Recommendation	Findings	Priority	Project
RC-18	Implement policies, processes, tooling and staff training to support end-user (self-service) operations and management of the BCIT ecosystem.	OW-92	3	
RC-20	Develop private cloud like capabilities that support end-user initiated actions, such as password resets, non-prod instance provisioning, etc.	OW-18	3	TP-2
RC-04	Improve the Change Control process by introducing advanced tooling and a formal process to vet the impact and timing of changes as well as coordinating the update of all associated databases and documents.	OW-25	2	
RC-11	Develop a DR plan that is linked to the BIA (RC-12), and provides for a trusted and tested capability to meet the recovery objectives established by the business and satisfies regulatory requirements.	OW-13a OW-13b OW-69	2	TP-2
RC-17	Perform an initiative to develop an application documentation package that includes the functional spec, the service level requirements, testing procedures, interfaces and dependencies, an architectural description, security implications, use cases, user profiles, transaction flow diagrams, technology mapping, and a run book.	OT-08 OW-42	2	TP-2
RC-21	Track actual expenditures of capital projects and vendor maintenance contracts that are regularly reviewed by BCIT management..	OW-89	2	
RC-22	Require as part of the capital project budget submission a proposed multi-year spend plan.	OW-90 OW-80	2	
RC-13	Implement a policy and operations mechanism to allow operations staff and end-user (self-service) control of production workloads and environments. App Dev should be restricted from controlling production environments	OW-41		

BCIJS Assessment
Participants

Bexar County Departments

County Clerk: Eric Nelson, Lucy Rigby, Barbara Espinosa-Vera

County Courts: Diane Garcia, County Courts, Jake Groman, County Courts, Hamilton Randle, Amy Cestano

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District Courts - Criminal: Melissa Fischer, Maria Salinas

District Courts - Juvenile: Laura Angelini

District Court Clerk: Donna Kay McKinney, Jackie Ibarra, Melissa Plate, Anthony Cantu

Information Technology: Catherine Maras, Alan Smith, Joe Sheldon, Terry Griffin, Scott Adams

Jury Management: Julieta Schultz, Denise Duron

Purchasing: Mary Salas

Sheriff: Chief Henry Reyes, Chief Louis Quinones, Robert Adelman

Probation Judicial District: Jarvis Anderson, Maria Fernandez, Frances Rendon, Richard Eide, Timothy Evans, Bruce Wiggins

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