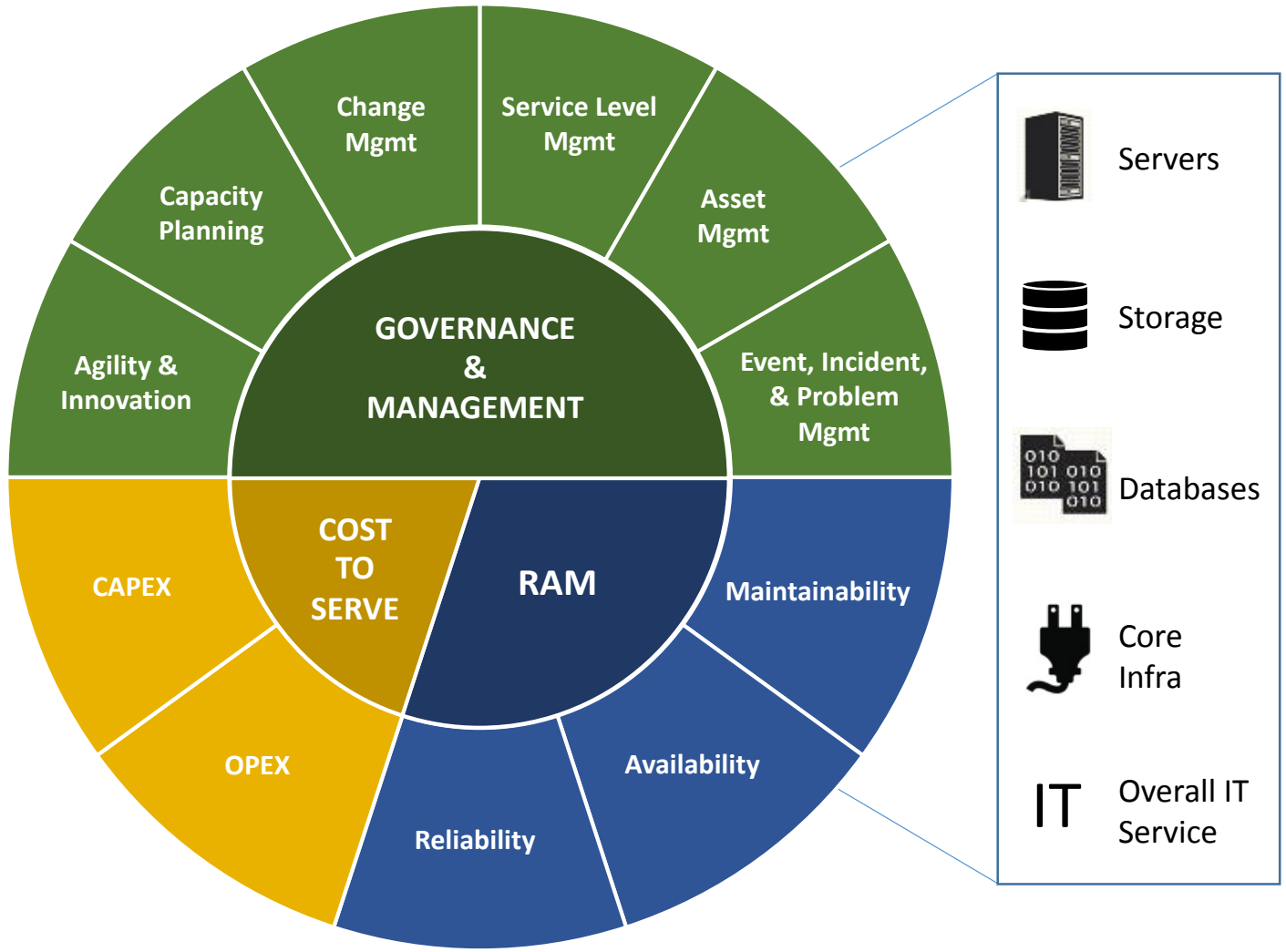
Data Center Infrastructure Scorecard — Governance, RAM, and Cost-to-Serve Assessment

Service Delivery Model:
ON PREMISE



Prepared for:
John Smith
Infrastructure Manager
Computer Megacorp, Inc.

April, 27th, 2015

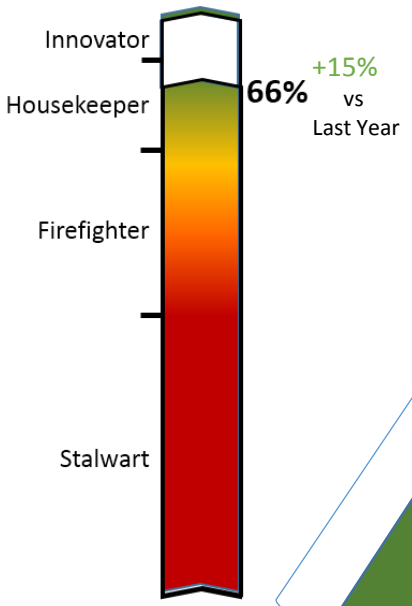
Data is comprised of 1 response from John Smith

Infrastructure Scorecard – Summary Dashboard

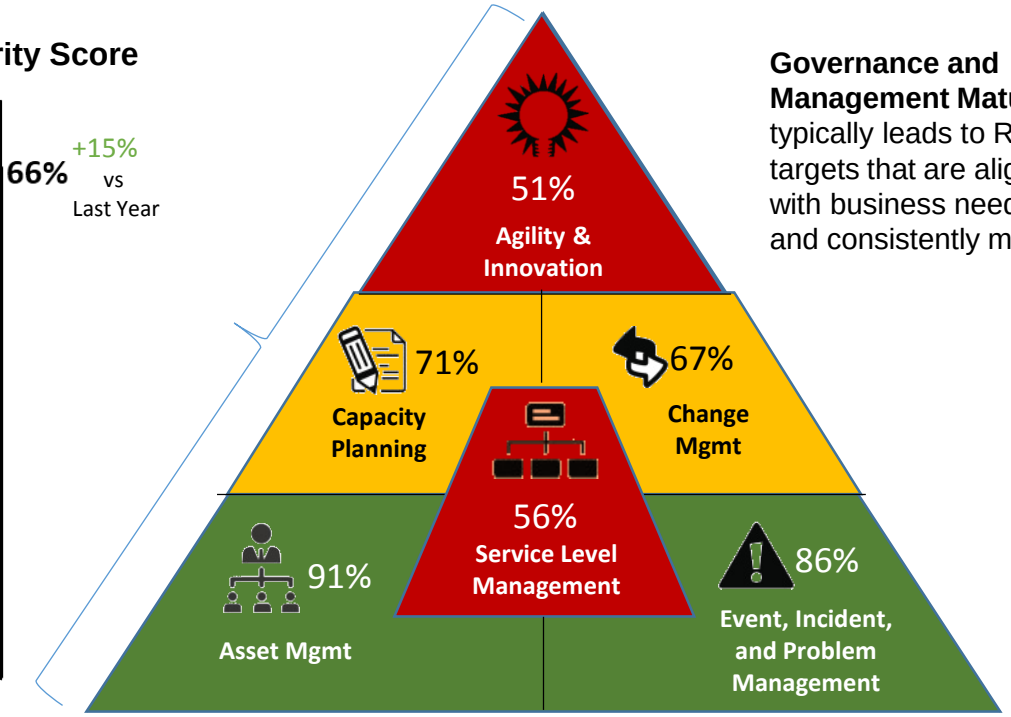
Compare scores for governance and management maturity, “RAM” (Reliability, Availability, and Maintainability), and Cost-to-Serve to identify and prioritize opportunities for improvement.

Governance and Management Maturity Scores

Overall Maturity Score



+15% vs Last Year



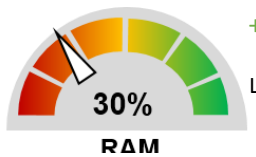
Governance and Management Maturity typically leads to RAM targets that are aligned with business needs and consistently met.

Maturity Scores by Silo

	Servers	Storage	Databases	Core Infra	Overall IT Service
Average Maturity Score	58%	64%	84%	64%	62%
Priority Area	Capacity Planning	Service Level Mgmt	Change Mgmt	Service Level Mgmt	Capacity Planning

Scores are based on indicators such as “are processes documented and enforced”, “are target service levels/process goals defined, validated and reported”, and “are processes effective at achieving target service levels/process goals”?

Overall RAM Score



+15% vs Last year

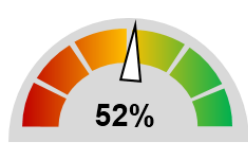
RAM Scores by Silo

RAM Scores are derived from how consistently targets are met for Reliability (MTBF), Availability (Uptime), and maintainability (MTRS) for each silo.

A score of 6/6 means targets are always met.

	Servers	Storage	Databases	Core Infra	Overall IT Service
Average RAM Score	2/6	5/6	5/6	4/6	3/6
Problem Area	Reliability	Availability	Reliability	Maintainability	Reliability

Overall Cost-To-Serve Score



+6% vs Last year

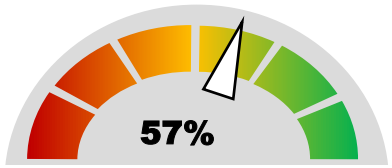
Cost-To-Serve Scores by Silo

Budget adherence is used to derive a cost-to-serve score, and is based on an average of how far capex and opex are under or over budget across all silos. (Budget adherence = 100% - % under/over budget)

	Servers	Storage	Databases	Core Infra	Overall IT Service
Capex	↑ 30% over budget	↑ 20% over budget	↑ 10% over budget	↑ 5% over budget	↓ 10% under budget
Opex	↓ 5% under budget	↓ 15% under budget	↑ 15% over budget	↓ 5% under budget	↑ 15% over budget

RAM Score Details

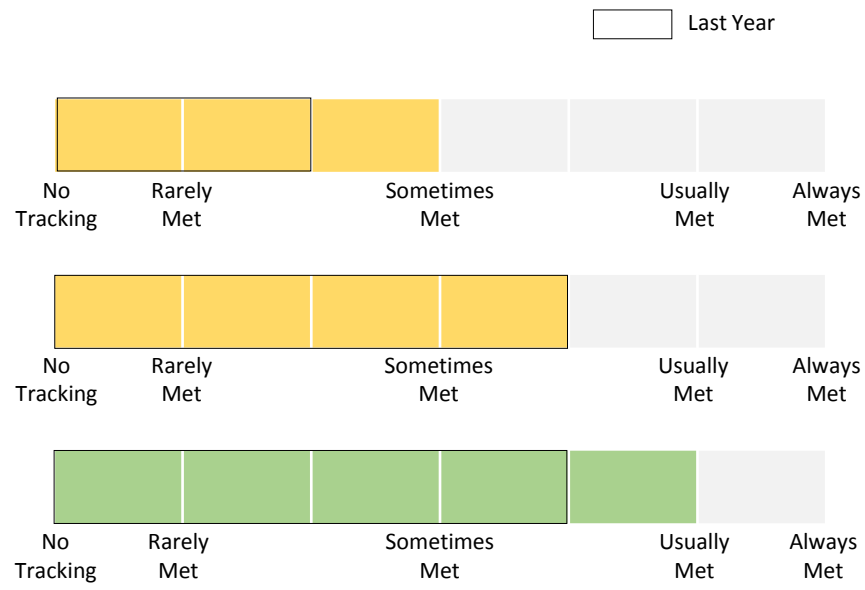
Overall RAM Score



Identify where target service levels are being met and where improvements are required to meet targets. Recommendations for common challenges are also provided below.

Reliability, Availability, and Maintainability

How Consistently Are Targets Met?



Reliability (MTBF)

"Over the last 12 months, how consistently have you met your Mean Time Between Failure (MTBF) targets?"

Availability (Uptime)

"Over the last 12 months, how consistently have you met your uptime/availability targets?"

Maintainability (MTRS)

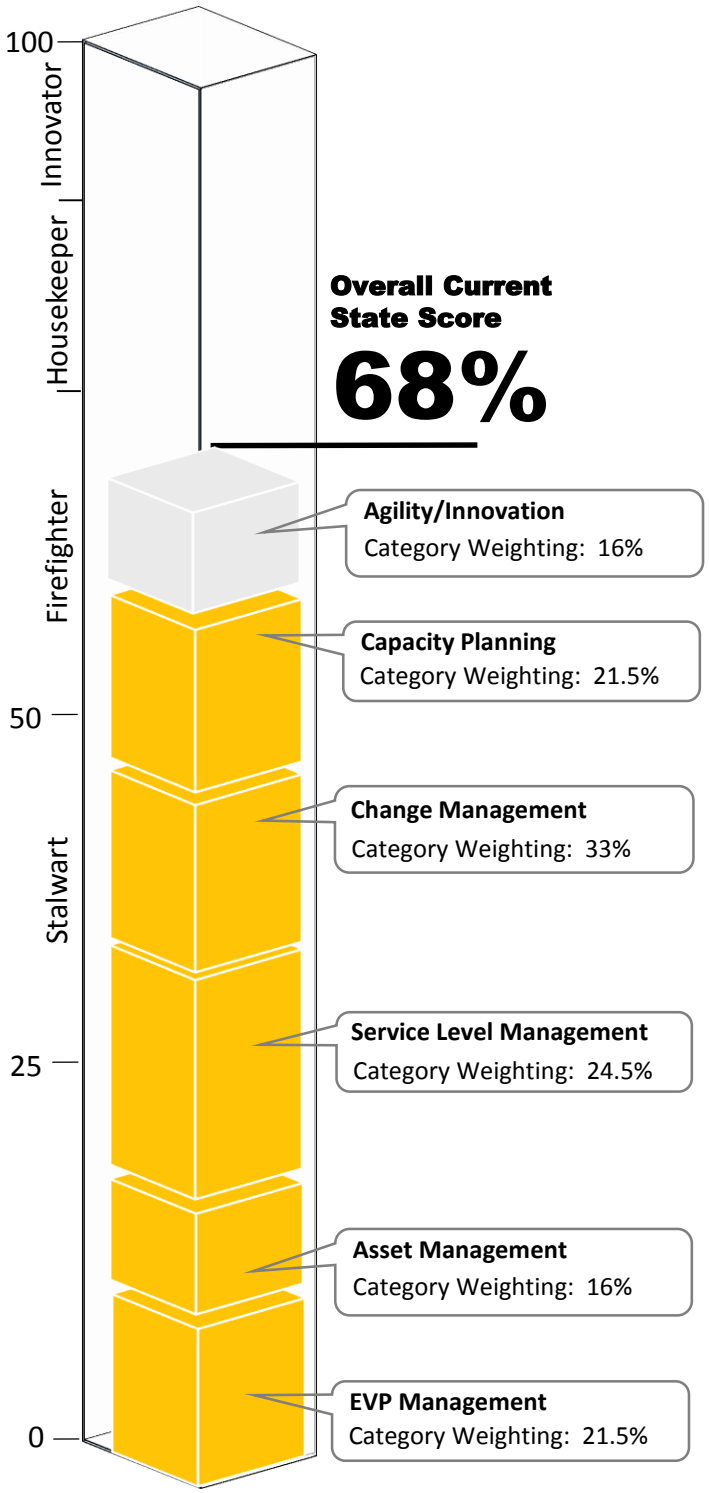
"Over the last 12 months, how consistently have you met your Mean Time to Restore Service (MTRS) targets?"

Assessment (+1 / -1 vs last year)		Common Challenges	Recommendation
Servers	R -- Untracked A -1 Target sometimes met M +2 Targets often met	Regardless of whether uptime statistics are good or bad, it's an important metric to report to the executive team as an easy-to-understand measure of infrastructure performance	Regardless of whether uptime statistics or bad, it's an important metric to report to the executive team as an easy-to-understand measure of infrastructure.
Storage	R -- Untracked A -- Targets sometimes met M +2 Targets always met	Regardless of whether uptime statistics are good or bad, it's an important metric to report to the executive team as an easy-to-understand measure of infrastructure performance	Regardless of whether uptime statistics are good or bad, it's an important metric to report to the executive team as an easy-to-understand measure of.
Databases	R +3 Targets always met A +2 Targets always met M +1 Targets frequently met	Regardless of whether uptime statistics are good or bad, it's an important metric to report to the executive team as an easy-to-understand measure of infrastructure performance	Regardless of whether uptime statistics are good or bad, it's an important metric to report to the executive team as an easy-to-understand measure of.
Core Infra.	R -1 Targets rarely met A -2 Targets rarely met M +1 Targets sometimes met	Regardless of whether uptime statistics are good or bad, it's an important metric to report to the executive team as an easy-to-understand measure of infrastructure performance	Regardless of whether uptime statistics are good or bad, it's an important metric to report to the executive team as an easy-to-understand measure of.

Infrastructure Scorecard – Maturity Breakdown

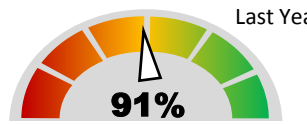
Use the information in this report to understand your Project Portfolio Management environment and identify areas for improvement.

Scores in this report are based on the knowledge and perceptions of the Portfolio Owner, and are calculated using Info-Tech's weighting scale. Weightings in each area are expressed as a factor of that area's potential score. For more information about these calculations, see the "Scoring Methodology" section of this report.



Agility/ Innovation

-1% Last Year



Area Score

Process Owner:
No one. Assign accountability.

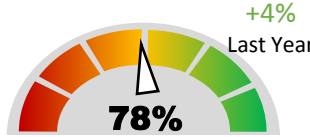
Work Value Subcategory Weighting: 8%	Score: 4/6
Administrative Overhead Subcategory Weighting: 19%	Score: 4/6
Requirements Definition Agility Subcategory Weighting: 16%	Score: 5/6

SOP Status. No Process — Optimal Process

Process Rigor Fit Capability Subcategory Weighting: 11%	Score: 2/6
Innovation Subcategory Weighting: 11%	Score: 4/6

Capacity Planning

+4% Last Year



Area Score

Process Owner:
Joe Green, DC Manager

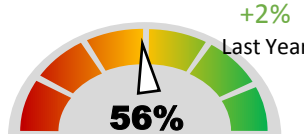
Capacity Forecasting Subcategory Weighting: 8%	Score: 4/6
Validation Frequency Subcategory Weighting: 19%	Score: 5/6
Reporting Frequency Subcategory Weighting: 16%	Score: 2/6

SOP Status. No Process — Optimal Process

Budget Influence Subcategory Weighting: 11%	Score: 4/6
Targets Accuracy Subcategory Weighting: 11%	Score: 3/6

Change Management

+2% Last Year



Area Score

Process Owner:
No one. Assign accountability.

System Change Documentation Subcategory Weighting: 8%	Score: 4/6
Risk Assessment Subcategory Weighting: 19%	Score: 5/6
Change Velocity Subcategory Weighting: 16%	Score: 5/6

SOP Status. No Process — Optimal Process

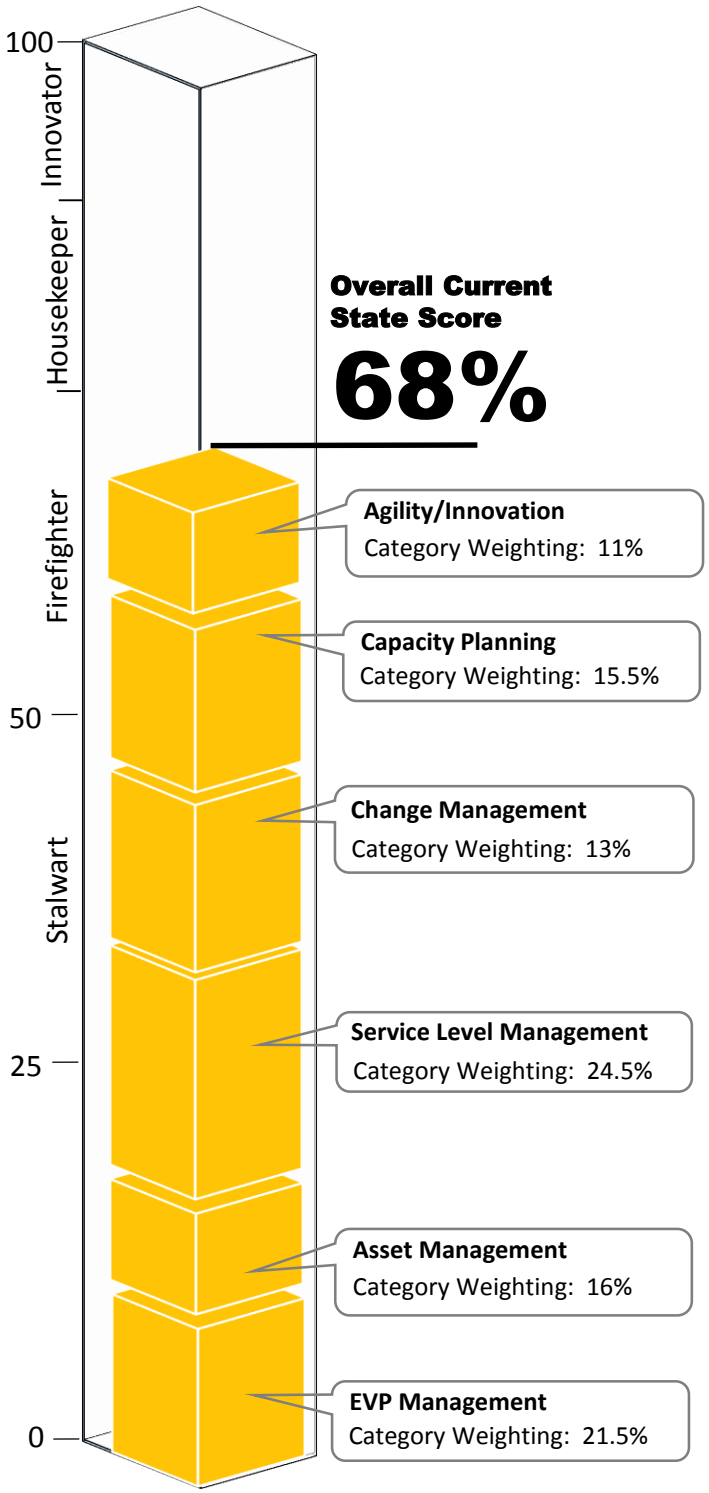
Emergency Change Process Subcategory Weighting: 11%	Score: 4/6
Implementation Success Subcategory Weighting: 11%	Score: 5/6

Infrastructure Scorecard – Maturity Breakdown

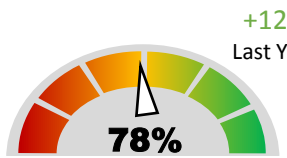
Fictional Computer Co. | Prepared for: Joe Computerguy | Info-Tech Research Group

Use the information in this report to understand your Core Infrastructure Management and Governance capability and identify areas for improvement.

Scores in this report are based on the knowledge and perceptions of the Infrastructure Owner, and are calculated using Info-Tech's weighting scale. Weightings in each area are expressed as a factor of that area's potential score.



Service Level Management



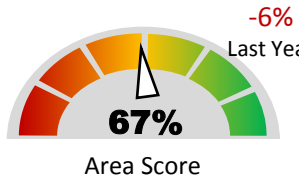
Service Level Targets Defined Subcategory Weighting: 8%	Score: 4/6
Business Service Expectations Defined Subcategory Weighting: 19%	Score: 3/6
Reporting of Performance to Business Subcategory Weighting: 16%	Score: 1/6

Process Owner:
Susan Smith, BCM Specialist

SOP Status. No Process — Optimal Process

Data Analysis and Improvements Subcategory Weighting: 11%	Score: 5/6
Average Metrics Tracking Subcategory Weighting: 11%	Score: 4/6

Asset Management



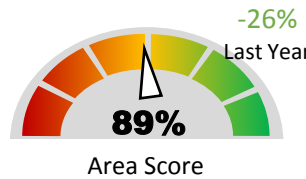
Accuracy of Asset Records Subcategory Weighting: 8%	Score: 4/6
Detailed Specifications Subcategory Weighting: 19%	Score: 6/6
Licensing Efficiency Subcategory Weighting: 16%	Score: 6/6

Process Owner:
No one. Assign accountability.

SOP Status. No Process — Optimal Process

Cost Savings Reporting Subcategory Weighting: 11%	Score: 4/6
Average Reuse of Physical Assets Subcategory Weighting: 11%	Score: 5/6

Event, Incident & Problem Management



Problem Resolution Subcategory Weighting: 8%	Score: 4/6
Event Filtering & Alerting Subcategory Weighting: 19%	Score: 6/6
Incident Resolution Time Subcategory Weighting: 16%	Score: 2/6

Process Owner:
Jane Finch, Helpdesk Manager

SOP Status. No Process — Optimal Process

Problem Tickets Subcategory Weighting: 11%	Score: 4/6
Average Targets Success Subcategory Weighting: 11%	Score: 5/6

Agility & Innovation

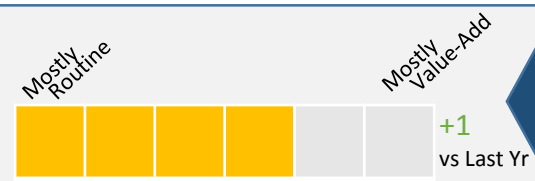
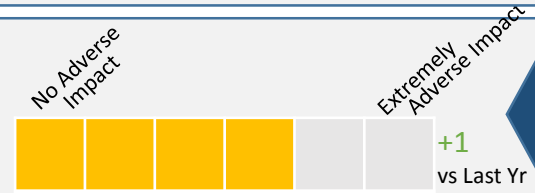
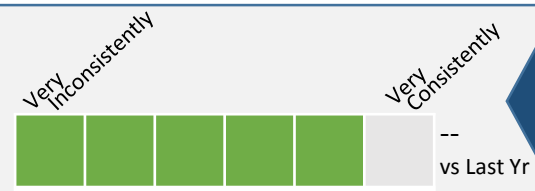
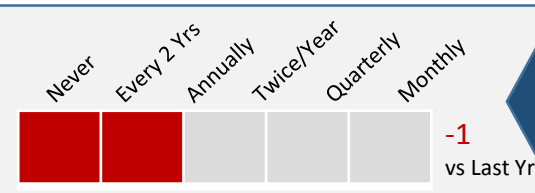
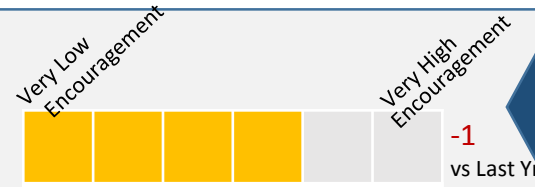
Process Owner: No one. Assign accountability.

62% Area score

+10% vs Last Yr

Agility and Innovation scores provide insight into the kinds of day-to-day activities with which core infrastructure staff are spending their time, and aid in the redirection of time spend to higher value tasks.

SOP Score: No Process — Documented, Enforced, and Optimized

Question	Current Status	Recommendation
Work Value "In terms of overall work performed by infrastructure staff, what is the balance between value-add work versus routine daily options?"		Document common maintenance activities to facilitate delegating routine tasks to more junior staff (with supervision/monitoring as needed). Similarly, look for opportunities to automate common processes to further enable senior staff to focus on new business-building projects, innovation, and optimization.
Administrative Overhead "To what extent does administrative overhead adversely impact resourcing?"		Avoid the overhead of lengthy status reports and long multi-project status meetings in favor of 5-10 minute daily stand-up meetings with individual project teams. Use those meetings to identify project-specific roadblocks, progress towards milestones, and next steps. Rigor does not require documentation, and documentation does not ensure rigor.
Requirements Definition Agility "To what extent do you engage in ongoing collaboration with stakeholders to define infrastructure requirements?"		Continue to foster communication and collaboration with business and application team stakeholders to ensure the end results meet customer requirements, with less focus on upfront project negotiation. A culture of communication and collaboration enables IT to respond to change more effectively.
Process Rigor Fit Capability "In general, how consistently is process rigor adjusted based on system criticality and potential impact?"		For critical systems, it's important to favor rigor over velocity -- e.g., thorough risk assessment, more-extensive testing, and a tested back-out plan to minimize the risk and impact of downtime. For less critical systems where a "fast failover" in the event of downtime is tolerable, moderate rather than extensive risk assessment and testing is acceptable and will improve your velocity.
Innovation "To what extent are Infrastructure staff encouraged to lead innovation efforts?"		Implement an awards system for designing solutions to reduce costs or generate revenue (e.g., partner portal to drive sales, or web-enabling a business process to improve efficiency). Alternatively, schedule periodic innovation days where select staff set aside all but critical tasks to brainstorm, research, and design solutions.

Capacity Planning

Process Owner: Joe Green, DC Manager

62% Area score — +10% vs Last Yr

Capacity planning scores provide insight to the health of the general capacity planning practice around core infrastructure, including forecasting, validation, reporting and influence on budget.

SOP Score: No Process — Documented, Enforced, and Optimized

“In general, how **accurate** are your 12-month capacity requirements forecasts?”

Silo	Targets Success		Recommendation
Servers	⬆	Very Over Estimated	Improve accuracy by monitoring capacity metrics to identify normal peaks and valleys vs. upward or downward trends, including infrastructure requirements assessment in early application project planning, and consulting the business to identify future capacity demands from planned business initiatives (e.g., increase in data analytics).
Storage	✓	Fairly Accurate	Increase the granularity of your forecasts to further improve your capacity planning accuracy and ability to maintain optimal capacity (i.e., about 80-90% of peak requirements). For example, define requirements for gold (mission critical), silver, bronze services, taking into account increased need for redundancy for critical systems vs. “bronze” systems.
Databases	⬆	Over Estimated	Improve accuracy by monitoring capacity metrics to identify normal peaks and valleys vs. upward or downward trends, including infrastructure requirements assessment in early application project planning, and consulting the business to identify future capacity demands from planned business initiatives (e.g., increase in data analytics).
Core Infra.	⬆	Over Estimated	Improve accuracy by monitoring capacity metrics to identify normal peaks and valleys vs. upward or downward trends, including infrastructure requirements assessment in early application project planning, and consulting the business to identify future capacity demands from planned business initiatives (e.g., increase in data analytics).
IT Overall	⬇	Very Under Estimated	Improve accuracy by monitoring capacity metrics to identify normal peaks and valleys vs. upward or downward trends, including infrastructure requirements assessment in early application project planning, and consulting the business to identify future capacity demands from planned business initiatives (e.g., increase in data analytics).

Question	Current Status	Recommendation
Capacity Forecasting “To what extent are capacity requirements forecasts **defined** for the next 12 months?”	Very Poorly Defined … Very Well Defined (4 of 6) +1 vs Last Yr	Incorporate capacity planning into your normal infrastructure management activities. This includes tracking capacity metrics, reviewing trends, and collaborating with the applications team and business leaders to plan capacity requirements.
Validation Frequency “In general, to what extent are capacity forecasts validated with the business?”	Never, Very Infrequently … Very Frequently (5 of 6) -- vs Last Yr	Continue to validate requirements to stay aligned with business needs, discuss future business plans that may affect your forecasts, and get input on any existing business concerns such as speed/performance issues.
Reporting Frequency “In general, to what extent are capacity and performance levels reported to senior management?”	Never, Every 2 Yrs, Annually, Twice/Year, Quarterly, Monthly (2 of 5) +1 vs Last Yr	Establish regular checkpoints to report capacity and performance status as well as actual vs. forecast capacity requirements. This will drive accountability and provide an opportunity to prioritize and address problem areas.
Budget Influence “In general, to what extent do capacity and performance forecasts influence budget planning?”	None, Very Low … Very High (4 of 6) -- vs Last Yr	Track MTBF to measure disruption from outage frequency (i.e., reliability), and do this for all silos. Uptime statistics on their own can be misleading. For example, if a virtual server goes down 10 times in a year, but recovery only takes 4 or 5 minutes each time, you are still meeting 99.99% uptime yet the disruption to the business may be significant.

Change Management

Process Owner: Jane Finch, Helpdesk Manager

62% Area score

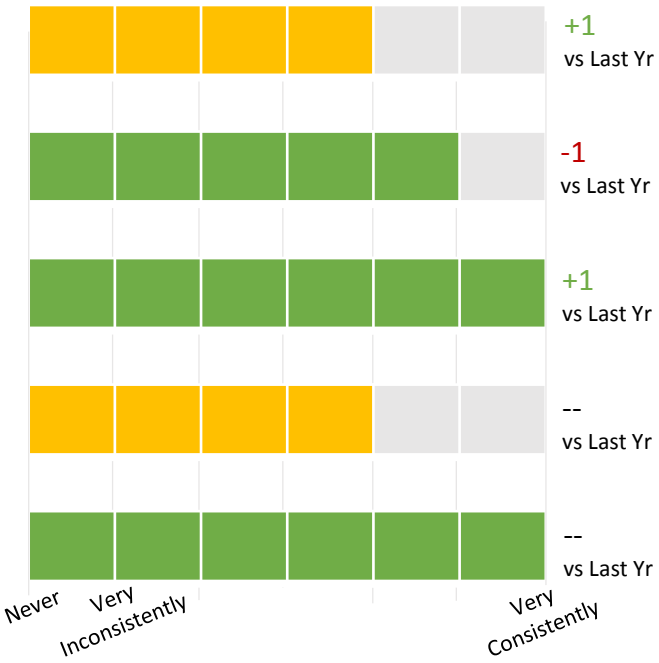
+10% vs Last Yr

Change management scores are based on the quality and appropriateness of process rigor attached to changes to core infrastructure, in general and across silos.

SOP Score: No Process — Documented, Enforced, and Optimized

Implementation Success

"How consistently are changes implemented successfully the first time for the following silos?"



Recommendation

Leverage lessons learned from success (not just from failure). When change management is successful, identify the key factors and how those can be part of your standard process.

Identify the steps that have been the best predictors of success, and ensure those are part of your standard process. Also identify common factors for unsuccessful changes, and review your process for steps that can be modified to prevent those negative factors.

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Identify the steps that have been the best predictors of success, and ensure those are part of your standard process. Also identify common factors for unsuccessful changes, and review your process for steps that can be modified to prevent those negative factors.

Question	Current Status	Recommendation
System Change Documentation "How consistently are system changes documented for the above silos?"	Never / Very Inconsistently / Very Consistently +1 vs Last Yr	Track changes (e.g., in a configuration management system) as part of the change approval process. This enables change history to be consulted to assist with troubleshooting or risk assessment. If this task is deferred, there is a good chance it won't happen or it will be an onerous (and probably inaccurate) catch-up task.
Risk Assessment "How consistently does your change management process include risk assessment for the above silos?"	Never / Very Inconsistently / Very Consistently +1 vs Last Yr	Ensure risk assessment is not onerous by aligning the level of depth with potential impact on critical systems. Less rigor is required for systems where the impact of a failed change is minimal.
Change Velocity "In your opinion, how satisfied is the business with the velocity of change to infrastructure?"	Very Dissatisfied / Very Satisfied -- vs Last Yr	Further improve velocity by reviewing your change management processes for inefficiencies. Strip out all but the most critical process components that ensure reliability and availability, and streamline the bureaucracy and paperwork.
Emergency Change Process "How formal is your fast-track process for emergency changes?"	Very Formal / Very informal -1 vs Last Yr	Establish a fast-track process for hot fixes that retain the critical steps (e.g., risk assessment, testing, approval) but expedites the process. For example, conduct emergency scrum meetings with all relevant system owners to assess the issue and assign tasks in real time, and then later to review and approve the change, and do the paperwork later.

Service Level Management

Process Owner: Susan Smith, BCM Specialist

62% Area score

+10% vs Last Yr

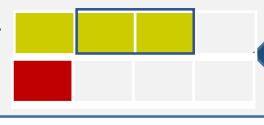
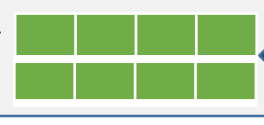
Service level management scores are based on the extent that you are defining, validating, and reporting key metrics. Recommendations for red or yellow scores are on the next page.

SOP Score: No Process — Documented, Enforced, and Optimized

"Among your server, storage, database, and core infrastructure silos, how formally (if at all) do you currently _____, for the metrics that you track? "

Service Management Area	Score		Recommendation
"Define Target Service Levels"		+1 vs Last Yr	Defining targets is a three-step process: Determine current service levels, set targets based on estimated business requirements, and identify requirements in people (e.g., training, staffing levels), process (e.g., standardizing and optimizing), and technology (e.g., redundancy, recoverability) to close up the gap between current and target values.
"Formally Define Business' Service Level Expectations"		-- vs Last Yr	The validation stage is also a negotiation that balances desired service levels with cost. Streamline this process by providing draft target service levels so the business can "edit rather than create," and present the requirements to achieve those targets (e.g., people, process, technology changes and associated costs).
"Report Performance to the Business"		+1 vs Last Yr	Establish regular checkpoints to report and review actual vs. target service levels. This enables IT to present their progress towards meeting target service levels (if you have defined stretch goals), drive accountability, and provide an opportunity to prioritize and address deficiencies
"Analyze Data and Implement Improvements"		-- vs Last Yr	Establish regular checkpoints to report and review actual vs. target service levels. This enables IT to present their progress towards meeting target service levels (if you have defined stretch goals), drive accountability, and provide an opportunity to prioritize and address deficiencies.

"How formally (if at all) do you current track and record against each of the following metrics?"

Metric	Scores	Recommendation
Mean Time Between Failures (MTBF)		Track MTBF to measure disruption from outage frequency (i.e., reliability), and do this for all silos. Uptime statistics on their own can be misleading. For example, if a virtual server goes down 10 times in a year, but recovery only takes 4 or 5 minutes each time, you are still meeting 99.99% uptime yet the disruption to the business may be significant.
Uptime		Regardless of whether uptime statistics are good or bad, it's an important metric to report to the executive team as an easy-to-understand measure of infrastructure performance. Include planned and unplanned downtime – the goal is to present actual availability so any deficiencies can be addressed.
Mean Time to Restore Service (MTRS)		Ensure MTRS metrics are tracked for critical, major, and minor incidents for a more granular breakdown. Understanding the time to restore for critical incidents is more important than the overall average.
Incident Response Time		Defining and meeting target incident response times communicates to the business that incidents are being actively addressed. Validate and report this metric to ensure those targets meet business needs.
Incident Resolution Time		Also measure average incident response time as a means to determine whether the target response time is reasonable, too aggressive, or not aggressive enough.
Problem Resolution Time		Problem management is focused on resolving the root causes behind related incidents, after the immediate incident issue is resolved (e.g., via a workaround). Track problem resolution time to ensure workarounds are not indefinite. A healthy problem management process will reduce recurrence of incidents as root causes are resolved in a timely manner.

Asset Management

Process Owner: Joe Green, DC Manager

62% Area score

+10% vs Last Yr

Asset management scores are based on the accuracy, detail, efficiency and cost savings associated with your practise in managing infrastructure assets.

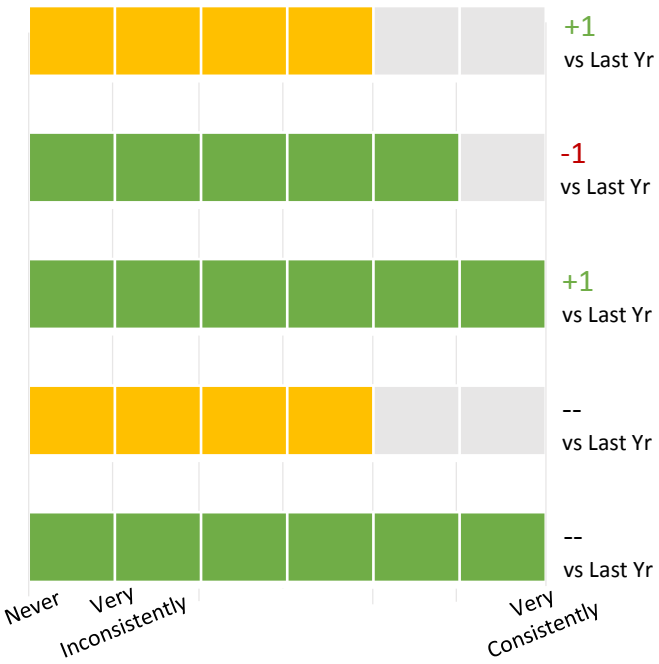
SOP Score: No Process — Documented, Enforced, and Optimized

Silo

- Servers
- Storage
- Databases
- Core Infra.
- IT Overall

Reuse of Physical Assets

"In general, how consistently are asset management records consulted for opportunities to reuse existing physical assets before buying new?"



+1 vs Last Yr

-1 vs Last Yr

+1 vs Last Yr

-- vs Last Yr

-- vs Last Yr

Recommendation

Review physical assets in your asset management records as part of capacity planning to look for opportunities to redeploy or more-fully utilize existing equipment before purchasing new equipment.

Formalize the use of asset management records as part of capacity planning to ensure you continue to maximize the use of existing assets.

Set more aggressive targets to foster a culture of continuous improvement. However, be strategic; set goals where business is most impacted, and focus on improvements through process efficiency (i.e., without requiring additional cost investment).

Review physical assets in your asset management records as part of capacity planning to look for opportunities to redeploy or more-fully utilize existing equipment before purchasing new equipment.

Set more aggressive targets to foster a culture of continuous improvement. However, be strategic; set goals where business is most impacted, and focus on improvements through process efficiency (i.e., without requiring additional cost investment).

Question	Current Status	Recommendation
Accuracy of Asset Records "In general, how accurate are your overall asset management records, from asset counts to asset allocation?"	Never / Very Inconsistently / Very Consistently +1 vs Last Yr	Improve accuracy by starting the asset management process from the purchase order stage – create a record when equipment is ordered, validate the record and attach an asset tag when it's received, and continue to track the asset throughout its lifecycle stages. Don't defer this work to periodic audits.
Detailed Specifications "In general, how consistently do asset records include detailed specifications?"	Never / Very Inconsistently / Very Consistently +1 vs Last Yr	Ensure the details you are capturing serve a purpose. For example, ensure the data supports activities such as capacity planning and license optimization, and stop tracking data that does not serve a purpose.
Licensing Efficiency "Historically, to what extent does the organization's number of paid licenses, or total purchased capacity, match against utilized assets? "	Very Dissatisfied / Very Satisfied -- vs Last Yr	Leverage your licensing data to look for cost saving opportunities (e.g., moving to an enterpriese agreement for specific software that already exceeds the cost of an EA).
Cost Savings Reporting "In general, how consistently are asset management cost savings tracked and reported?"	Very Formal / Very informal -1 vs Last Yr	Schedule regular reporting of licensing optimization (e.g., the ratio of paid vs. used licenses, and savings from redeploying licenses rather than purchasing new), asset re-use (and savings from not purchasing new), and asset summaries (e.g., a breakdown of deployed assets) to demonstrate the benefits of asset management.

Event, Incident & Problem Management

Process Owner: Jane Finch, Helpdesk Manager

62% Area score

+10% vs Last Yr

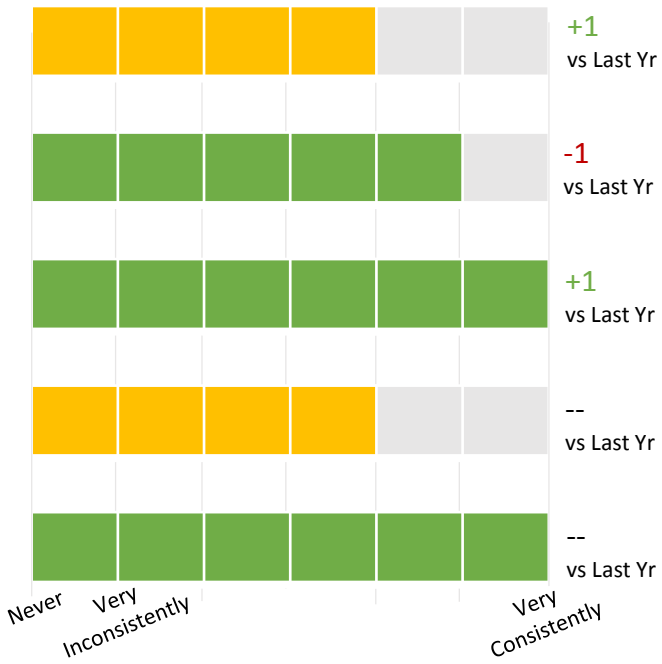
Event, incident and problem management scores provide insight into the quality of your process for dealing with unexpected issues, and finding and mitigating root cause to avoid repeated incidents.

SOP Score: No Process — Documented, Enforced, and Optimized

Silo

Targets Success

"How consistently are you meeting target service levels for incident and problem management in the following silos?"



Recommendation

Set more aggressive targets to foster a culture of continuous improvement. However, be strategic; set goals where business is most impacted, and focus on improvements through process efficiency (i.e., without requiring additional cost investment).

Identify the people, process, and technology requirements to close the gap between current and target service levels. Review with the business to determine whether to fund the required changes or adjust service levels. Note: If targets are intentionally beyond current capabilities (i.e., continuous improvement goals), measure success by whether the gap is shrinking or widening.

Set more aggressive targets to foster a culture of continuous improvement. However, be strategic; set goals where business is most impacted, and focus on improvements through process efficiency (i.e., without requiring additional cost investment).

Set more aggressive targets to foster a culture of continuous improvement. However, be strategic; set goals where business is most impacted, and focus on improvements through process efficiency (i.e., without requiring additional cost investment).

Set more aggressive targets to foster a culture of continuous improvement. However, be strategic; set goals where business is most impacted, and focus on improvements through process

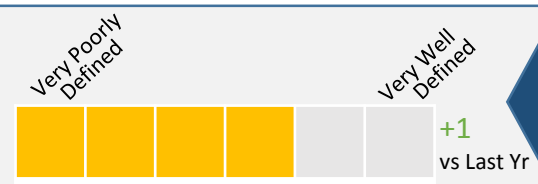
Question

Current Status

Recommendation

Problem Resolution

"How consistently are problem tickets originating from infrastructure issues resolved in a timely manner?"



Schedule regular problem ticket status reviews to assist with root cause analysis and to ensure they are being addressed and not just adding to the backlog.

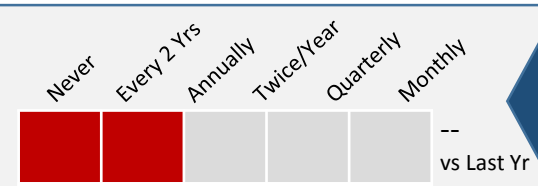
Event Filtering & Alerting

"How consistently do your event filtering and alerting practices enable IT to become aware of infrastructure-related incidents before end users?"

Continue to refine capacity and performance thresholds and overall event filtering. Also review your event notification procedure to ensure the right people are being alerted, and to clarify roles and responsibilities in response to events.

Incident Resolution Times

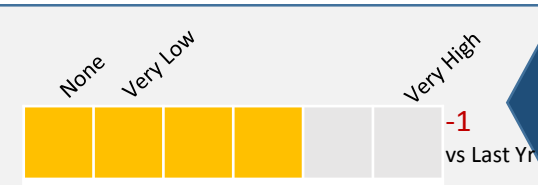
"How consistently are infrastructure-based incidents being resolved at a rate that satisfies the business?"



If you are meeting incident resolution time targets, yet the business is not satisfied, this is either a perception issue or the resolution time targets are not actually meeting business needs. Validate resolution time targets with business leaders.

Problem Tickets

"How consistently are problem tickets created when an infrastructure-related incident is closed but the root cause has not been addressed?"

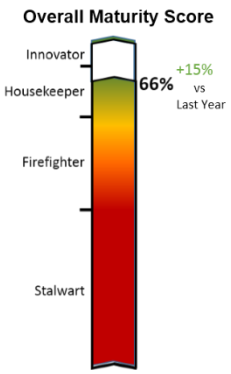


Make it a mandatory step in your "close incident" process to identify if the root cause was resolved, and to create a problem ticket if it wasn't.

Servers Scorecard

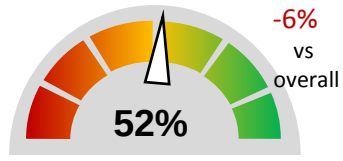
This page would appear for each silo.
There would also be pages for Storage, Databases, Core Infrastructure, and General IT

Compare scores for governance and management maturity, “RAM” (Reliability, Availability, and Maintainability), and Cost-to-Serve to identify and prioritize opportunities for improvement.



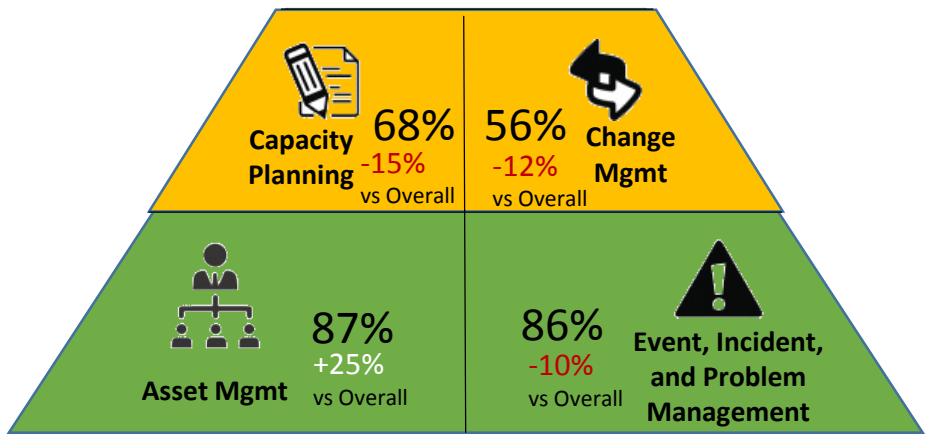
Overall Silo Scores

RAM



Cost-To-Serve

Governance and Management Maturity Scores



Primary Problem Areas

Asset Mgmt
+1
vs Overall

Server Assets Very Overprovisioned

Scores are based on indicators such as “are processes documented and enforced”, “are target service levels/process goals defined, validated and reported.

Event, Incident, and Problem Management
-1
vs Overall

Server Incident & Problem Mgmt Targets Untracked

Scores are based on indicators such as “are processes documented and enforced”, “are target service levels/process goals defined, validated and reported.

RAM Scores

Reliability (MTBF)

Targets Sometimes Met

+1
vs Overall

Availability (Uptime)

Targets Sometimes Met

-1
vs Overall

Maintainability (MTRS)

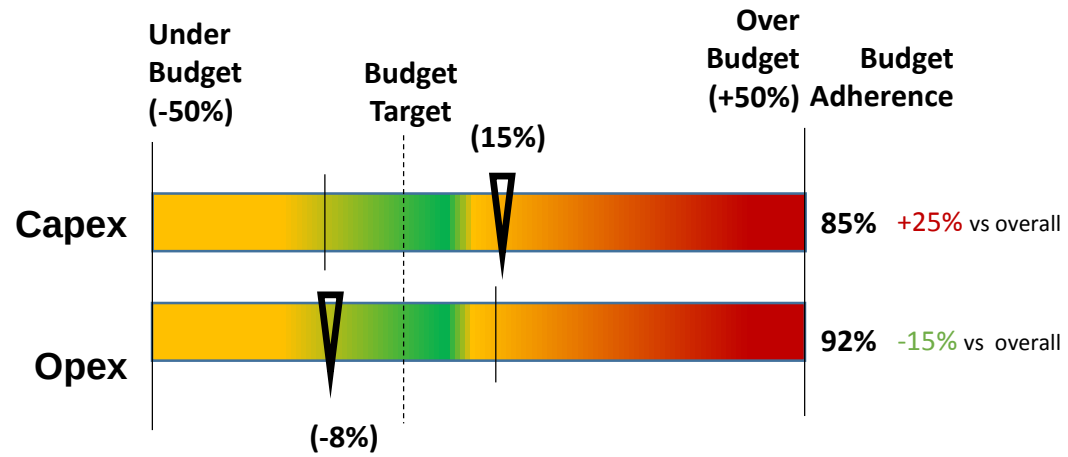
Targets Always Met

+1
vs Overall

While some inconsistency exists in achieving targets, this particular silo is performing better than average, indicating other areas should perhaps be looked at first.

Cost-to-Serve Scores

Budget adherence is used to derive a cost-to-serve score, and is based on an average of how far capex and opex are under or over budget across all silos. (Budget adherence = 100% - % under/over budget)



Average Score Across Silos

See the Score Details pages later in this report for more granularity and recommendations.