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MEMORANDUM

To: Kurt Triplett, City Manager

From: Smitha Krishnan, IT Director

Date: 07/22/2021

Subject: IT Stabilization Implementation Update

RECOMMENDATION

It is recommended that the City Council receive a quarterly update on the Information Technology (IT) Stabilization Project, which has been in implementation since September 2019. As a reminder, the goals of this project are:
1. Improve reliability and reduce downtime in IT operations and services
2. Continue to shift towards a mature and proactive IT culture

BACKGROUND DISCUSSION

At the last update to City Council in May 2021, the IT Department provided an overview of the key areas of focus for IT Stabilization:
1. IT Service/Operations Management
2. IT Security Work Plan
3. IT Department Work Plan

Below is an update on these same areas.

IT Service/Operations Management

As part of the implementation of the IT Service Management solution in 2020, including the customer portal, the following targets or Key Performance Indicators (KPIs) were adopted to continually measure IT Operations and Service Delivery. The actuals for these KPI's for the months since the go-live of this platform in Q1 2021 are recorded below.

Key Performance Indicator (KPI)	Target	Actuals			
		March	April	May	June
Mean Time to Incident Resolution for P0 to P2	6 hours	122 min (2 hours)	65 min (1 hour)	229 min (3.8 hours)	206 min (3.4 hours)
Mean Time to Incident Resolution Target Met	80%	97.4%	97.0%	92.99%	96.02%

Mean Time to Service Resolution for P1 & P2	32 hours (4 Business Days)	6.5 hours	16.25 hours	10.5 hours	3.3 hours
Mean Time to Service Resolution Target Met	80%	97.3%	96.6%	96.1%	94.5%
P0 (Major) plus P1 (High Priority) Incidents	≤3 per month	1	**3**	1	1
First Call Resolution	50%	81%	87%	86%	87%

The actual numbers are indicative of the high service levels offered by IT to the organization. After gathering four months of reliable data, IT staff are now adjusting some of the targets to continually improve IT service levels. These updated targets will be effective August 1st.

Key Performance Indicator (KPI)	Target
Mean Time to Incident Resolution for P0 to P2	6 hours
Mean Time to Incident Resolution Target Met	**85%**
Mean Time to Service Resolution for P1 & P2	**24 hours (3 Business Days)**
Mean Time to Service Resolution Target Met	**85%**
P0 (Major) plus P1 (High Priority) Incidents	≤3 per month
First Call Resolution	**75%**

From a stability standpoint, IT is continuing to close out single points of failure that can impact operations and service delivery. Below are updates related to this:

1. In 2020, IT recommended replacing the secondary backup of the City's Microsoft Azure environment to Texas with a local backup at the Kirkland Justice Center (KJC). The one-time expense to implement this was approved as a service package for 2021. This solution was implemented in May 2021 and tested thoroughly. By implementing a local secondary backup to the KJC, IT can restore the City's infrastructure and mission-critical applications within a few days without relying on external support. Note that the Texas backup would require weeks for a full restoration of services with significant investment in professional services. The local backup solution also delivers an annual ongoing savings of $30,000.
2. The IT Department is working with Wave, our provider for Internet Service, to increase the bandwidth for internet connectivity from 1G to 5G. This will enhance the performance of our failover VPN connection to the Microsoft Azure Cloud.
3. IT is also adding an additional Internet Service Provider (ISP) to the northeast corner of City Hall to mitigate a major Single Point of Failure in the City's physical infrastructure for improved connectivity and redundancy.
4. IT is making two major improvements to the City's technology network design as part of the Network Refresh project that will further increase redundancy, security, scalability and performance. The anticipated budget for these improvements is $350,000 including contingency. IT is developing a funding plan using salary savings and by re-prioritizing both operating and CIP funds to implement these improvements in 2021. These improvements will:
   a. Enhance the City's technology network from a 2-tiered to a 3-tiered design, which will reduce the impact of a widespread network failure on City buildings.
   b. Add a more secure network buffer between the City's trusted network and the outside. This is becoming a high priority for the City with the increasing risk of cybersecurity threats.

    c.   Increase capacity of the City's technology infrastructure to perform better and be more scalable.

IT Security Work Plan

The IT Security Work Plan is focused on the deployment of the right tools, processes and procedures to significantly increase the City's security posture based on industry standards by the end of 2021. Below is a status update of key items in the IT Security Work Plan:

Item #	Item Description	Status	Planned Schedule	Actual Schedule
1	Conduct annual penetration test by third-party. Status Update: • Penetration test conducted in March. • No red flags detected (indicative of a healthy and secure network). • Corrective actions completed in June.	**Complete**	Q2, 2021	Q1 – Q2, 2021
2	Internal Vulnerability Scan Status Update: • Implemented tool for internal vulnerability scanning (funded as a 2021 Service Package) • Completed internal scan and identified corrective actions. Larger number of corrective actions identified since this is the first vulnerability scan in four years. • High risks mitigated or closed. Corrective actions for remaining items underway.	In Progress	Q2 2021	Q2 – Q3, 2021
3	Implementation of Platform for Security Incident and Event Management (SIEM) Solution and IT Operations Management (ITOM) • Contract executed with Xiologix/FortiSIEM vendor/solution. • Kick-off for Phase 1/SIEM completed in June with go-live in mid-September. • Phase 2/ITOM implementation to begin in Q4 with completion next year.	In Progress	Q2 2021 to Q1 2022	Q2 2021 to Q1 2022
3	Update IT Policies to account for the "new normal" that has risen in the wake of the pandemic. Add SOPs to align with the policies.	In Progress	Year-long activity	
5	Implement TTXs for IT staff and key stakeholders	Not Started	Q3 2021 & Q1 2022	

6	Hire an Information Security Analyst to execute the security-related work plan items	**Complete**	Q1	Q1
7	Create a cross-departmental security governance committee to keep the City's Leadership informed of IT security risks	**Complete**	Q1	Q2 (First meeting in May 2021)

IT Department Work Plan for 2021

In the previous update to Council, the IT Department's 2021 workplan and resource allocation were shared. Below is a brief status update by service area for key projects:
- Enterprise Applications (EA)
- Network and Desktop Services (NDS)
- Geographic Information Systems (GIS)
- Digital Services (DGS)
- Service Desk (SD)

Service Area	Project	Status	Comments
EA	**Munis Upgrades and Implementations (X-Large)**	In Progress	• Testing of the Munis v2019 underway • Go-Live planned for September • NeoGov, new HR system for Applicant Tracking and Recruitment, under implementation with go-live in August
EA, NDS	**Replace Skype with Microsoft Teams (Large)**	**Complete**	• Microsoft Teams rolled out to all staff with training in April/May • Skype discontinued in June
EA	**EnerGov Upgrade to HTML5 version (Large)**	Delayed to 2022	• Further investigation of the proposed version indicated a lack of product readiness. Additionally, this team is impacted by significant attrition. For these reasons, the upgrade was postponed to 2022 with plans to implement a more mature version of the software.
EA	**City Website Stabilization** (Medium)	In Progress	• Increased focus on re-training content leads in Q2-3 • Implementing a workaround to search for PDFs • Increased engagement by governance team to close out broken links and improve adoption of ADA standards for content

NDS	**City Network Refresh** (X-Large)	In Progress	• Following sites have been deployed with significant performance gains:
			   ○ Fire Stations – 21, 25, 26 & 27
			   ○ PKCC, Pool, McAuliffe Park, Maintenance Building F, Parks Maintenance Center
			• Wireless deployment at City Hall 100% complete. Outdoor wireless

			(downtown, Everest and Houghton Beach) estimated to complete in September.
NDS	**Secondary Backup to MS Azure Cloud at KJC** (Medium)	**Complete**	• Described above
NDS	**Streamlining weekly patching** (Small)	**Complete**	• Streamlined weekly patching cycles to better align systems and applications with each other and reduce downtime for customers
NDS	**Enhancements to data/system backups** (Medium)	**Complete**	• Improved backup solution to restore from Azure backups in hours/days versus weeks/months in the event of a failure.
NDS	**2021 Desktop Replacement** (Medium)	In Progress	
GIS	**CityHub GIS Platform Upgrade Phase 2** (Large)	**Complete**	• City's new web-based solution to create and share interactive maps and data launched in Q1 with customer training
GIS	**Lucity (Enterprise Asset Management) Upgrade** (Large)	**Complete**	• Lucity System's second major upgrade completed in June. Includes new functionality such as vehicle scheduling/reservation management.
GIS	**Community/Inclusion Data Dashboard** (Small to Medium)	In Progress	• Providing technical support to CMO and other Departments to develop public facing dashboards in support of R-5434
GIS	**Geo-Notification Application** (Medium)	In Progress	• New application enabling constituents to receive email notifications about development activities in a defined geographic area. Implementation currently underway.
DGS	**Hybrid Council Meetings**	In Progress	• New equipment ordered. Implementation and testing planned in August with soft launch on September 7th.
DGS	**Hybrid Boards and Commissions**	Not Started	• Will follow implementation of the Hybrid Council Meetings since it requires more training of staff in departments.
SD	**Hybrid Conference Rooms**	In Progress	• Pilot implemented in Juanita Bay conference room. Equipment ordered for conference rooms in City Hall, KJC and Maintenance Center.

Conclusion/Next Steps:

The IT Department will continue to provide quarterly updates to City Council with progress made in the following areas:

1. IT Service/Operations Management
2. IT Security Work Plan
3. IT Department Work Plan