Report

To: Livingston County Board of Commissioners, Livingston County Administrator - Nathan Burd, Livingston County Chief Financial Officer - Cindy Catanach

From: Kristoffer Tobbe Livingston County Chief Information Officer

Date: December 30, 2020

Re: Livingston County Information Technology Department: Cyber Security Enhancements and Replacement

Request for Approval

Cyber security is ground zero for the defense and protection of today's modern corporate network. Ensuring cyber defense and protections are updated with the latest technologies and methodologies is mission critical to make sure organization data and operations can continue to move forward.

The projects before you were not hastily put together based on the headlines over the past month. Cyber security is always on the mind of the Information Technology professionals employed by Livingston County. These cyber security projects have been priorities for the Livingston County Information Technology Department for the past four Capital Improvement Plans, CIP 2018, 2019, 2020, & CIP 2021. We have chosen to submit these projects for Board approval because we believe that now is the time to not only significantly enhance our cyber operations, but to also take advantage of specialized pricing that maximizes savings to tax payers.

With this proposal, we will also be unifying and strengthening our cyber defense operations significantly with Palo Alto Networks, a world class leader in cyber security technologies. This project will deploy a high availability pair of next generation firewalls, 1000 licenses of Palo Alto Networks' Cortex XDR endpoint protection that will cover all the County's desktop computers,

laptops, and servers, as well as the highly effective Palo Alto Networks' Data Lake defense aggregation platform.
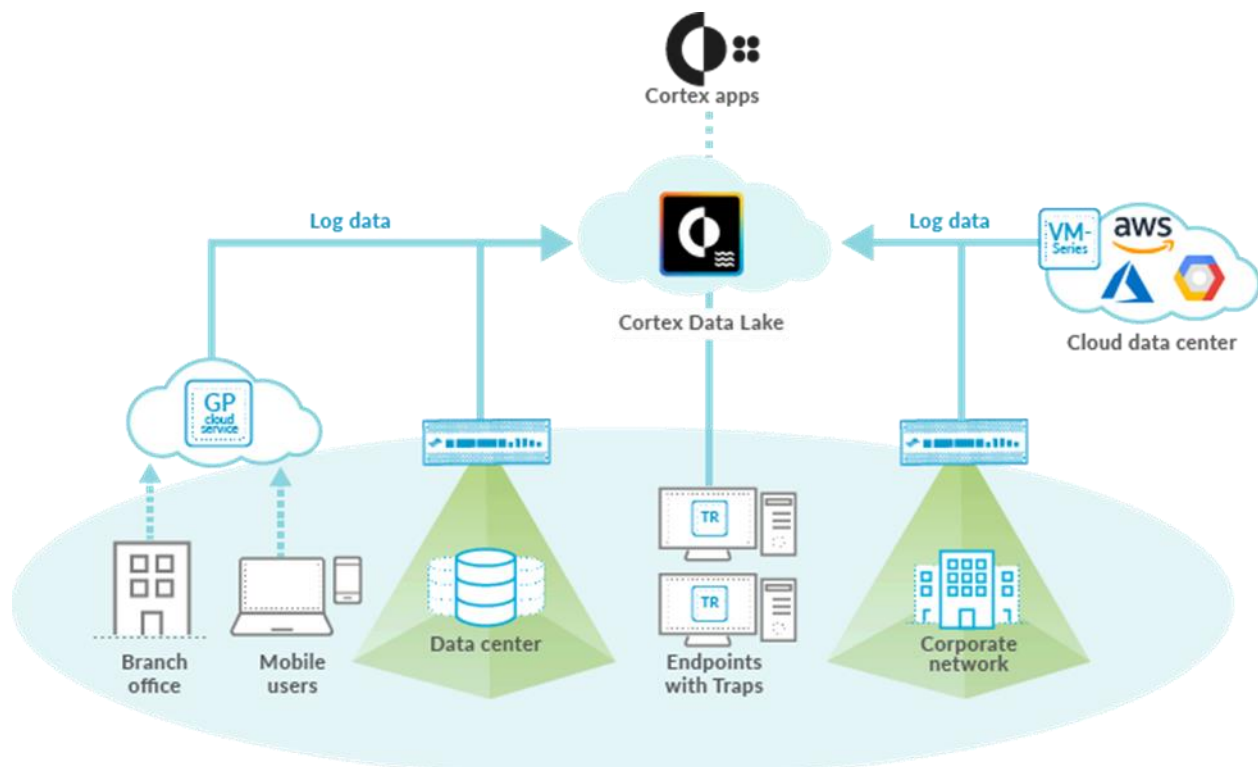
These platforms are all supported by Palo Alto Networks' Engineering, Critical Response, Crypsis and Unit 42 cyber defense and threat hunting teams, offering years of experience detecting and preventing attacks. The Unit 42 and Crypsis teams are one of the best threat intelligence teams in the world. These team follow advanced threat intelligence cycles. Then analysts determine what data is necessary to answer specific questions about threats to Palo Alto Networks and its customers. These teams collect that data from internal and external sources and runs it through a detailed threat analysis process that includes not only automated systems to correlate incoming data, but also expert human analysis to interpret the data, identify patterns, formulate hypotheses, and evaluate them against our entire data set. By doing this, the Palo Alto teams can put threats into context and help others determine how to best defend against future attacks and push those highly defined profiles directly to the Palo Alto firewalls and endpoint protection platforms through their Wildfire update technologies helping to protect against zero-day threats.

- What are next generation Firewalls?
    - https://youtu.be/a_6YbFLTt7s
    - https://www.youtube.com/watch?v=W_rOYetDQUQ
- Endpoint protection explained
    - https://youtu.be/51qpRPyvbWM
    - https://youtu.be/D_q-MzhMENw
    - https://enterprise.comodo.com/blog/what-is-endpoint-security/

Livingston County's current cyber defenses are aged, undersized, disjointed, and do not protect all the endpoints (computers) with a best in class single solution.

- Livingston County's current firewall was purchased in 2014. At that time, the firewall was undersized for the County's needs.
- Since original purchase, the County has expanded 6-fold and our current firewalls are vastly undersized.
- Replacing the County's firewall system is a necessary project as our current system is an outdated and massively undersized platform.

There is a strong need to enhance and secure the County' endpoints and unify our systems on a single platform that dovetails and integrates with our firewalling systems.

- The County currently has 2 separate endpoint systems in place, but they are not unified and the system is not an integrated security platform.
- The contract for the current endpoint system ends in 2020.
- This project aligns with best practices and is important part of upgrading, protecting, and securing the County's technology systems and data.
- This project has specific importance due to our end points (user's computers) being one of the weakest links within our County's technology environment.
- End point protection will help the Information Technology Department detect, isolate, and secure problem machines regardless of being directly or indirectly (remotely) connected to the County's system.
- Only 300 of over 1,000 computers are fully protected with advanced endpoint protection.

This project will unify firewall and endpoint protection and enhance Livingston County' cyber defenses. The comprehensive plan includes:

- 2 High availability pair Palo Alto Next generation firewalls
- 1000 seats of Palo Alto Cortex XDR Endpoint Protection to protect all of the computers in our network, including our mobile in-car terminals used for public safety
- Five Tera Bytes of Cortex Data Lake Data Aggregation storage
- Installation Services for Cortex XDR at no cost
- Quick Start Services for Next Generation Firewalls at no cost
- Palo Alto Firewall Essentials training courses for two Livingston County Information Technology Cyber Professionals at no cost
- 3 years of Support and Maintenance for all products

Useful links

- Why Palo Alto Networks?
  - General Info

- https://youtu.be/Un6MlBVr-JA
  - Ada County
    - https://www.youtube.com/watch?v=m-n2DZUfLjk
- Temple University
  - https://www.youtube.com/watch?v=8Hw-nUUtQTk

- Cortex platform
  - https://www.youtube.com/watch?v=&feature=emb_logo
  - https://www.youtube.com/watch?v=8zy3NY3S9kA
- Unit 42
  - https://unit42.paloaltonetworks.com/about-unit-42/

Current purchase pricing

The Livingston County Information Technology Department has successfully worked with our technology partners AmeriNet and Palo Alto Networks to put together this comprehensive proposal for the replacement and enhancement cyber security. The proposal utilizes the Livingston County approved NASPO contract to obtain and streamline the procurement process. This standardized governmental contract standardizes negotiated governmental pricing, however we have successfully partnered with Amerinet and Palo Alto to achieve significant discounts for the County tax payers that are much greater than standard pricing, and NASPO government pricing contract pricing (as exhibited in the data table below and attached).

The discount negotiated for Livingston County is 47% off of the standard corporate rate and an 35% off of the governmental contract pricing. These discounts are in the upper echelon of discounts offered by Palo Alto as described by GARTNER.

The final pricing is $442,800. This lowered price will save our Livingston County Tax Payers $400,000 off of the standard pricing, and will achieve $236,790 in savings from the standard government pricing.

Livingston County Information Technology Firewall and End Point Protection Replacement
Cost Estimates Palo Alto Cyber Security Platforms

	Quantity		Standard Corporate MSRP	Standard Governmental Contract pricing	$$ Savings Standard Gov Contract pricing	% Savings Standard Gov Contract pricing	Final Negotiated pricing	$$ Savings off MSRP	% Savings off MSRP	$$ Savings off Government Contract	% Savings off Government Contract
					Discounts						
Palo Alto Firewalls (3 Year Premium Support)	1	Hardware	$ 384,300.00	$ 282,290.00	$ 102,010.00	27%	$ 254,436.32	$ 129,863.68	34%	$ 27,853.68	10%
Palo Alto Core XD (3 Year)	1	Software	$ 210,000.00	$ 178,500.00	$ 31,500.00	15%	$ 105,000.00	$ 105,000.00	50%	$ 73,500.00	41%
Palo Alto Data Lake (3 Year)	1	Services	$ 198,000.00	$ 168,300.00	$ 29,700.00	15%	$ 99,000.00	$ 99,000.00	50%	$ 69,300.00	41%
Palo Alto Quick Start Services	1		$ 25,500.00	$ 25,500.00	$ -	0%	$ 25,500.00	$ -	0%	$ -	0%
Value Add On Additional Partner Onsite Advanced Migration Services	1		$ 15,000.00	$ 15,000.00	$ -	0%	$ 15,000.00	$ -	0%	$ -	0%
Course for 2 Employees (The Firewall 9.0 Essentials) Configuration and Management course is five days of instructor-led training.)	2		$ 10,000.00	$ 10,000.00	$ -	0%	$ 10,000.00	$ -	0%	$ -	0%
Additional Discount Negotiated			$ -	$ -	$ -	0%	$ (66,136.32)	$ 66,136.32			
			$ 842,800.00	$ 679,590.00	$ 163,210.00	19%	$ 442,800.00	$ 400,000.00	47%	$236,790.00	35%

Recommendation

At this time, we are recommending moving forward to take advantage of the aggressive pricing negotiated by the Livingston County Information Technology team, Amerinet, and Palo Alto Networks and the purchase of the new next generation firewalls and endpoint protection platform that includes the components as well as 3 years of support and maintenance contained in the Amerinet Proposal "QUO-19878-M5R8"" Dated December 29, 2020

Funding recommendation:

We are recommending that:

Capital Improvement funds be utilized to make 3 payment be made over the next three years in the amount of $147,600

CIP Funding available	2021	2022 (Projected)	2023 (Projected)	Total CIP Funding
Network Security Upgrade	$51,000.00	$51,000.00	$51,000.00	$153,000.00
Network Firewall Upgrade	$96,600.00	$96,600.00	$96,600.00	$289,800.00
Total	$147,600.00	$147,600.00	$147,600.00	$442,800.00

Finance options

Though our conversations with Amerinet and Palo Alto Networks we inquired as to finance options, Amerinet has put forth a generous 3-year 0% financing option based on Livingston County's Aaa bond rating. See below for specifics.

$442,800 / 3 years = $147,600 each year

Year 2021 Payment: $147,600

Year 2022 Payment: $147,600

Year2023 Payment: $147,600

	Purchase options	
1	**0% 3-year option (Palo Alto Finance)**	$ 147,600.00
2	**Purchase outright**	$ 442,800.00