



Oak Park Elementary School District 97

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TO: Dr. Carol Kelley, Superintendent

FROM: Michael Arensdorff, Senior Director of Technology

SUBJECT: Unified Communication (VoIP) Renewal

DATE: April 7, 2020

In April 2015, District 97 transitioned from our old antiquated system of Centrex lines to a more modern Unified Communications/Voice Over IP system with Cisco hardware and Comcast service. At that time we signed a five year agreement and would need to renew and update some of the technology hardware and software this summer (2020). For background I have included the previous board memo from April 2015, that covers the process that our team completed for our recommendation to move forward with the Cisco and Comcast solution. For our renewal, we are not replacing the entire system and only refreshing our server hardware, software upgrades (which require service support from CDWG) and transitioning our licensing structure to a more cost effective and dual purpose solution. In addition, the Informacast licensing tied to this renewal will drive the Middle School PA System project that was approved on March 17, 2020. Staff familiarity with the engineering aspects of the Informacast platform will provide an almost seamless transition to an enhanced emergency notification system.

It is our recommendation to move forward with a renewal of our current Cisco Voice Over IP/Unified Communications systems for the next five years. This renewal includes the following: software upgrade (includes services by CDWG to assist in the upgrade), renewal and upgrade of licensing (transitioning licensing to new model to support PA project and is more cost effective than renewing current licenses with the PA project), refresh three servers and purchase one server for the PA project and smartnet warranty licenses (this is needed for any issues that come up and highly recommended due to the safety/security and importance of having our phone system and PA system up and running with little/no downtime - smartnet provides enhanced and 24/7 support and replacements). In addition, we are recommending to spread out this renewal over the next 5 years with a lease with CDWG/Cisco. The total cost each year will be \$42,139.57. Since part of the project is to support the PA project, part of this cost will be paid through the Safety and Security budget and has been accounted for in Jim Hackett's annual operating budget forecasts. Each year the technology departments operating budget lease payment will be \$30,482.99 and the safety and security operating budget lease payment will be \$11,656.57, for a total of \$42,139.57 each year for our phone system, PA system at the middle schools and bell scheduling system for all 10 buildings. This has been budgeted for in our projected budget over the next 5 years. The total cost over five years with financing will be \$210,697.85. [Here is a link](#) to the contract and [five year lease document](#). Also, as you will see at the bottom of this memo, five years ago our payments annually were over \$110,000 to operate our phone system. We have been able to dramatically decrease those payments in the last three years and expect them to continue to be over \$40,000 savings annually during the next 5 years from the onset of this new phone system. In addition, as mentioned this solution will also support the PA project at the middle schools, bell scheduling in all 10 buildings and further enhance our safety and security through District 97. These additional functions provide even greater value beyond just the savings we will realize.

In addition to the phone system the Informacast system will be upgraded to continue to support all of our buildings bell schedules, the middle school PA project, and ongoing safety and security planning for all of District 97. The Informacast system will provide the following enhancements for safety and security:

- Ability for all staff members to login and receive district and building specific safety and security messages directly to cell phone via Informacast app
- Allows building principals to manage critical events through a simple interface that streamlines the message distribution function so staff and families receive timely, actionable information.

Our goals for this project will be the following:

- Continue to maintain uptime during normal working hours with 99.99% uptime
 - Successfully upgrade system by August 1, 2020
 - Successfully install, test and implement system with the PA project at both middle schools by August 10, 2020
 - Successfully train each schools office staff to leverage the new licenses for the Informacast system
 - Successfully deploy and test Informacast app to all staff by September 15, 2020
 - Successfully train building principals to deliver announcements from any district phone or via app to the entire building by September 30, 2020
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Past April 2015 Report for Background

For the past several years, District 97's phone/voicemail service has been operated by AT&T's Centrex Voice system. While the system met the district's needs at the outset, it has become increasingly antiquated, costly, and is negatively impacting our internal and external communications. That is why I believe it is time for the district to move from Centrex to a Unified Communication (UC) solution that features Voice Over IP (VoIP).

The process that led to this recommendation began approximately 18 months ago. At that time, we performed a comprehensive assessment of our existing phone/voicemail system, which included reviewing its features, functionality, costs and limitations. I solicited feedback from various stakeholder groups (UC team, FAC, the district's technology department, the members of Cabinet and other technology directors/CIOs from the area). I also spoke with vendors about the other systems/solutions that are available, which helped us evaluate both the immediate and long-term needs of the district. After completing this process, I believe switching to a UC system will benefit the district by:

- Addressing a variety of communication needs beyond voicemail
- Unifying practices, procedures and protocols (i.e., we can send/receive notifications about systems such as alarms, door security, paging/pa systems, etc.)
- Improving safety
- Maximizing instructional time
- Saving money

I have also identified ways a UC system can enhance our day-to-day operations.

- Staff would be able to make or receive secure calls from their classrooms (no more "party lines" or the need to find another room to make calls)
- District/buildings can reduce interruptions to instruction by using handsets and computers instead of the PA systems to reach individual classrooms
- District/buildings can set up and manage bell schedules from one system

- District/buildings can streamline communication/notifications through the integration of the UC system with SchoolMessenger
- District/buildings can reduce some of the front office call traffic through the use of a call manager function
- Staff can receive phone calls from outside the district routed from an office phone to mobile if desired
- District can eliminate the need for a separate server to manage the voicemail system
- Teachers can audio or video conference with parents/guardians
- District/buildings can improve/increase collaboration across buildings by leveraging audio/video via phones and projector displays
- District can use walkie talkies to leverage the functionality of the handsets

After identifying the benefits our district could derive from switching/upgrading our system, I researched a variety of VoIP options that we believed would best meet our needs. Nick Jefferson and I assessed each option based on the following factors/criteria:

- Ability to enhance district-wide communication with all stakeholders
- Efficiency and effectiveness of the features and functions
- Ability to integrate with other systems to create a more streamlined, unified approach to our communication efforts
- Cost of ownership over a 5-year, 10-year and 15-year period

From there, Nick and I narrowed the options to the three that were the most closely aligned with our goals and requirements, and had each vendor submit a proposal for services. After noticing some significant differences in the format, structure and content of the proposals we received, we asked the vendors to revise them in accordance with the following criteria so we could perform a more accurate and equitable comparison.

- Features/functions, with an emphasis on the ability to meet current and future needs
- Price, including the potential to generate savings now and in the future
- Technical experience
- Service quality/recommendations
- Scalability, including the ability to unify existing systems and scale future communication functions within the current infrastructure
- Equipment and system reliability
- Ease of implementation/management
- Vendor vision/leadership for the future

Nick and I gave each vendor a rating based on the above criteria, and developed a list of pros/cons for all three solutions. We also rated each vendor/solution using both the CapEx system and the system we utilize for eRate. These ratings are featured in the final page of this document.

Based on the data we analyzed, feedback we collected and ratings we generated, I recommend that our district go with the CDW/Cisco VoIP/UC solution. I also recommend that we develop and implement a three-year plan for rolling the solution out district wide, which will aid our transition to a new system. I believe that CDW/Cisco unified communication solution *meets and exceeds* each aspect of the three-year plan.

This recommendation will be presented to the board for review during its meeting on April 14, 2015. It will then be reviewed by FAC during its meeting on April 17, 2015. From there, it will be brought back to the board for approval during its meeting on April 28, 2015.

If the board approves the proposal on April 28, the implementation of the new system would take place between April 2015 and July/August 2015. This implementation would include:

- Collection of information from key stakeholders that will aid in the set up of the system
- Ordering and configuring equipment
- Setting up and testing the architecture and software
- Training/professional development for staff
- Dissemination of information about the new system to parents/guardians and community members, including updates on the implementation process

Although the district originally budgeted for the move to VoIP during the 2012-13 school year, I believe the extra time, effort and energy invested into our study of this issue will contribute to the overall success of the initiative. Our district is now better equipped and prepared to seamlessly integrate the VoIP/UC solution into our systems, and has the infrastructure in place to potentially add the resources that are featured in years two and three of our plan (e.g., digital signage inside the schools, enhanced audio and video capabilities for board meetings, etc.).

The proposed cost for this expenditure is \$450,907.10. This includes the phones, servers, licensing, software, notification system and implementation services. I requested multi-year licensing/pricing for five years, which resulted in discounted rates and significant savings. For example, our current operating budget for our phone system is \$110,000 per year. Below is a chart showing the annual cost and savings for the next five years and anticipated savings for years six through ten in comparison to the current Centrex solution.

	2015-2016 Costs/Budget Reduction	2016-2017 Costs/Budget Reduction	2017-2018 Costs/Budget Reduction	2018-2019 Costs/Budget Reduction	2019-2020 Costs/Budget Reduction	2020-2021 – 2024-2025 (anticipated) Costs/Budget Reduction Annually
New Cisco/CDW UC Solution	VoIP Tech Plan - \$220,350 Voice Budget - \$110,000	Voice Cost - \$96,400	Voice Cost - \$96,400	Voice Cost - \$26,400 (SIP Trunks, POTS lines, Local/Long distance)	Voice Cost - \$26,400 (SIP Trunks, POTS lines, Local/Long distance)	Voice Cost & Licensing - \$68,539.57
Current Centrex (AT&T) Phone Solution (If we continued with this solution)	Voice Cost - \$110,000 + maintenance costs	Voice Cost - \$110,000 + maintenance costs	Voice Cost - \$110,000 + maintenance costs	Voice Cost - \$110,000 + maintenance costs	Voice Cost - \$110,000 + maintenance costs	Voice Cost - \$110,000 + maintenance costs (annually)
	Budget Reduction - \$0	Budget Reduction - \$13,600	Budget Reduction - \$13,600	Budget Reduction - \$83,600	Budget Reduction - \$83,600	Budget Reduction - \$41,460.43 (Annually)

After implementing the VoIP/UC solution, the savings in the operating budget over the next five years will be \$194,400. The anticipated savings in years six through ten will be \$310,175.50. Over the ten years of transitioning to this solution the district will see an anticipated operating budget reduction of \$504,575.50.

I am excited about the prospect of bringing these valuable 21st century tools to our district, and look forward to providing our stakeholders with access to a unified communication system that will better meet their needs.

Additional Report during the April 23, 2015 Board Meeting to Provide Goals

During the board meeting on April 14th, I presented my what and why this conversion needed to take place which focused on safety, security, eliminating unnecessary class disruption and cost savings. During the discussion there was a request for me to highlight the specific goals to measure success following the first year of implementation. Below I have highlighted are the goals, tasks that need to be completed to meet the goal and how we will measure each goal. Please note that the second goal has four different sub goals centered on professional development/training.

1) **Our district will experience 99% uptime during the 2015-2016 school year in regards to the time available to make calls and use software programs (notification software). COMPLETED**

a) *Objective*

i) We will work with CDW to set up the servers, architect the network, place the phones, plug in the phones and test every handset prior to August 1st.

ii) IT Infrastructure manager will receive a week long training by CDW and Cisco on managing and maintaining our VoIP system and all programs/software

iii) We will closely monitor the network to identify if changes need to be made to meet the goal of 99% uptime.

b) *Evaluation*

i) We will pull reports of the system usage monthly.

ii) We will also identify the success by the number and type of help desk tickets we receive regarding VoIP.

2) **By August 1 we will have all phones (685) operating with dial tone and full available functionality. COMPLETED**

a) *Objective*

i) We will place, plug-in, activate and test all phones

ii)

b) *Evaluation*

i) We will complete testing on every phone across the district prior to the completion of the implementation

ii) We will also identify the success by the number and type of help desk tickets we receive regarding VoIP.

3) **Professional Development Goals**

a) **100% of Administrators and administrative assistants will be trained in the use and functionality of the new phone system. COMPLETED**

i) *Objective*

(1) Prior to training CDW will hold planning sessions with these district staff members among others to personalize the training offered and personalize how the system will operate for our district.

(2) CDW and our Technology department will provide training to all administrators and administrative assistants prior to the beginning of the school year

(3) We will provide documentation and training docs/videos as a reference following the training.

ii) *Evaluation*

(1) We will follow up two weeks after the training for the trained staff member to evaluate their understanding and allow them to demonstrate their understanding by putting them through a set of situational based scenarios.

b) **Two staff members at each building will be trained in the Informacast system by August 15th. One member will be the building principal and the other will be a designee determined by the Ad Leadership team to ensure consistency at all buildings. PARTIALLY**

i) *Objective*

(1) Technology staff will be fully trained on the solution and we will use the train the trainer model with the staff members at each building.

(2) The technology department will identify a date and time for these staff members to attend a webex or in-person meeting to provide training of the Informacast system focused on bell scheduling and paging. (Future trainings will take place for other features)

(3) We will provide documentation and training docs/videos as a reference following the training.

ii) *Evaluation*

(1) We will follow up two weeks after the training for the trained staff member to evaluate their understanding and allow them to demonstrate their understanding by putting them through a set of situational based scenarios.

(2) We will also identify the success by the number and type of help desk tickets we receive regarding VoIP.

c) **Our IT Infrastructure manager will be trained by CDW/Cisco to fully manage the system following implementation on August 1. COMPLETED**

i) *Objective*

(1) We will schedule the training for this person prior to the completion of implementation

(2) This person will attend the week long training prior to the beginning of the school year

(3) This person will then provide training to the entire technology department upon their return.

ii) *Evaluation*

(1) Completion of the week long training

(2) Part of the success of this training will be experienced by the uptime throughout the school year.

d) **By the first day of school 100% of staff will be able to make phone calls and set-up and access their voicemails. COMPLETED**

i) *Objective*

(1) The technology department will attend one staff meeting at every building to provide demonstration and information for features and functions on the phones. We will also demonstrate how to set up and access their voicemails.

(2) We will provide documentation for staff as a reference (digitally and paper as needed)

ii) *Evaluation*

(1) We will also identify the success by the number and type of help desk tickets we receive regarding VoIP.

4) **By August 15, the Informacast system will be set up so that all 10 buildings can manage their bell scheduling and paging. COMPLETED**

a) *Objective*

i) CDW/Cisco will identify all parts and equipment needed at each building to tie in the current paging system to Informacast solution to operate via the Internet

ii) CDW/Cisco will setup, activate, and test each building to ensure we are functioning optimally.

iii) CDW will train our technology staff to manage and operate the system so that we can train the staff members at the buildings.

iv) The technology department will provide training to two staff members in each building on how to create and manage bell schedules.

v) The technology department will also include in that training how to page to the phones and entire buildings using the Informacast system.

b) *Evaluation*

- i) When testing on August 15th all 10 buildings will be able to manage their bell schedules and send out bell tones and/or messages through the PA and phones via Informacast.
- ii) We will also identify the success by the number and type of help desk tickets we receive regarding VoIP.