

# Staff Report

for the Regular Meeting of the Board of Directors, March 8, 2017

**TO:** Board of Directors  
**FROM:** JR Lewis, IT Analyst  
**DATE:** 3/1/2017  
**SUBJECT:** Live Streaming District Board Meetings

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## ***INFORMATION SYSTEMS***

**RECOMMENDATION ACTION:** Review and provide direction regarding live streaming of District Board meetings

**BACKGROUND:** At the request of the Board the IT assessment provided to the APC in November and the proposed survey were to be brought to the board in an effort to further the discussion regarding live streaming.

**BUDGETARY IMPACT:** TBD

attachments ( 2 ):

- APC presentation from 11\2016
- Survey
- Matrix of options for discussion

## Board Meeting, Mar 8, 2017 – NID Board Meeting Recording

IT was asked to look into options for the recording of NID public meetings and to present to the APC. IT investigated information already provided to the district and contacted other vendors / agencies to compare solutions. This information is being presented to the full board and the information is included below for discussion.

1. What we use currently
2. Room Layout
3. Audio Vs. Video
4. Equipment Needs
5. Recording Vs. Streaming
6. Other Local Agencies
7. Granicus Service
8. NCTV – Local Television Access
9. Possible Alternatives
10. Conclusion / Thoughts

### **1. What we use currently**

In February 2014 IT Designed and built the current Audio Streaming device in use in the boardroom. Sometime after that the board secretary chose to solely use the same device for recording of the meetings. This all digital solution has allowed anyone in the district with access to a district computer to listen live to any of the board meetings, and has allowed for easy playback for Admin staff. It records from all of the mics in the room, and places the recording on a district server. It's not perfect, but there haven't been any issues in almost two years. Total cost of the solution was under \$200, and less than a couple days' time of the IT Analyst. The system has always had the capability to stream live outside of NID, and we have always had the option of uploading recordings to our website, or other service. For an idea of cost, every customer in the district could listen to a meeting live, and it would cost the district \$200 / yr.

### **2. Room Layout**

Currently the layout of the board room will complicate any video solutions that we wish to implement. Our board is along one wall, staff and council along another, presentation screen at the other end, and the public podium in the middle of the room. For a video solution, this will likely require four cameras to cover all of the speakers and presentation space. It might be possible to better layout the room to where all parties that might be speaking could be covered by one or two cameras, and presentations, and guest speakers by another. In addition, a location in would need to be identified (preferably in the room) that would be used for the equipment, and staff required to facilitate the recording.

### **3. Audio Vs. Video**

As discussed above, Audio recordings and live streaming is something we are doing now, and could be extended to the public easily and cheaply. There would be no need to mix feeds as with multiple cameras, and no need for a live operator. If live streaming isn't desirable, recordings would be easy to post to a website, after the fact. In both Audio and Video cases, the district might want to invest in a different type of Microphone, and amplifier that allow for muting of individual mics when not in use, or when privacy is needed. The existing audio equipment is adequate for recording or streaming, and a Content Delivery Network could be used for distribution to the public at a low yearly cost (\$200/yr). Video will require purchase of all new equipment at a quoted cost of \$16,000, and require someone to operate the equipment during meetings. If district staff was not able to do this, it would require additional costs. That cost has been quoted at \$240 for half day, to \$450 for a full day. Up to four cameras would be used for the video recording, and the operator would be required to mix the video feeds into the final stream or recording, or do so after the fact. Video is a higher cost to store, transmit and provide to the viewer. To ensure smooth non-interrupted streaming, there may be a need to acquire an additional internet connection at an additional monthly cost. Costs for Distribution of the video will vary, and range from free (Youtube) to thousands of dollars a year (Granicus).

### **4. Equipment Needs**

As touched on above, equipment needs for an audio only solution will be minimal, with most of the expense being the optional acquiring of replacement microphones. This may or may not be done for any solution implemented. For a video solution I will reference the quote provided to us by NCTV (see attached), and use it to give us a general idea of approximate cost. The components of the system include Cameras, mounting equipment, mixers, recording and encoding equipment, monitors etc. Approximate cost is \$16,000. The equipment quoted was to maintain consistency among the other agencies in the area, and to make it easy for possible outside producers to operate the equipment easily. It is likely that the quoted build is more than will be needed, or that there would be savings that could be realized by choosing other vendors, or building our own solution. IT would look for guidance on whether additional research would be warranted.

### **5. Recording Vs. Streaming**

In the cases of both Audio and Video, recording would be performed as the basic solution. Streaming can be implemented as needed. In the case of audio, there isn't much difference from a capital expenditure point of view. For video, there could be a large difference, and the decision to record vs. stream could be a primary factor in what equipment to purchase up front. It will be important to decide what our goal is related to recording vs. streaming before looking at equipment. If there is no preference between the two, and the primary factor is cost, then additional information will need to be gathered in order to determine the price difference related to Video recording vs streaming.

## **6. Other Local Agencies**

IT reached out to the IT department at the county to discuss what the solution is for the county. It was discovered that the county, the City of Nevada City, and the City of Grass Valley, all share equipment, and share the Granicus service. The primary shared resources are the encoders, with three encoders being shared among the agencies. It wasn't immediately clear how this worked, and wasn't clear if multiple encoders are used for a single meeting. Adopting a similar service model with sister agencies might come in handy, but going a different direction may save costs, and provide a better end result. IT did not ask if meetings for the other agencies were streamed live, or just available as recordings.

## **7. Granicus Service**

The county and other city entities use a video streaming, and agenda syncing service provided by Granicus. It appears that they all share a single Granicus account, but possibly share costs. NCTV provided us with figures related to how much each entity spends yearly with the county spending \$15,000/yr. Grass Valley spending \$13,000/yr. And Nevada City spending \$3,000/yr. In looking at other publically available Granicus contracts, it appears that initial expenses can range up to \$20,000 including training and implementation, with monthly costs ranging up to \$640/month. The service itself requires an employee to add the agenda and video, and add any indexing for the video. The county contact believed that the board secretary performed these duties. The service itself operates on routinely insecure (some might say outdated) browser plug-in technology, and on more than one occasion during research videos failed to play, or there were other browser issues. In the case of the City of Grass Valley meeting video page, they recommend not one but two different browser plugins to get the best experience. The fact that the service seems dated is not unusual in services targeted to the public sector. It's my opinion these companies know what they offer is 'good enough' and that the agencies they sell to will pay what is asked for it. As an aside, Granicus has recently merged with GovDelivery, and it remains to be seen if the service will improve, or be left behind. In researching Granicus in the MISAC (Municipal Information Systems Association of California) community, there seem to be semi-frequent service issues, and outages. Granicus also pushed their Agenda Management Solution, which may or may not be of interest.

## **8. NCTV – Local Television Access**

It seems clear that NCTV would like to be involved in this process both from the outset, and also from meeting to meeting. What is not clear is whether or not their viewer reach would benefit the district in a sizeable fashion given the continued tendency towards web based video consumption and 'cord cutting'. IT feels that it would be easy to prepare and deliver video in a format that NCTV could consume regardless of whether or not we use NCTV in any initial deployment of equipment, or in producing video for meetings. These recordings could be aired at scheduled times on local access stations as appropriate.

## **9. Possible Alternatives**

In researching alternatives to the already given Granicus service and NCTV hardware, IT contacted several local vendors (as we are fortunate enough to have many in our neighborhood). There are many options related to the equipment needed for this project, and there are as many different ways to make it happen. For Content Delivery, one option that should be investigated is simply using YouTube along with posting of Agendas to our website. There are cities of all sizes (Toronto, Canada) using this approach to both stream live video at meeting time, and serve up past meetings. The current cost for YouTube services is free. It is possible that with a couple lower cost cameras, some attention to room layout, and a nice computer, we could provide our meetings to the public in either audio or video for little to no recurring costs to the district. This along with using the most current web technologies might give our constituents a better experience than they currently receive elsewhere in the county.

## **10. Conclusion / Thoughts**

There are many items for NID to consider before moving forward with a solution, and it would really help staff if there was a more defined scope related to what we would like to achieve. If our goal is to make our meetings available to the public, either live or immediately thereafter, then we have an existing Audio only solution that can be rolled out easily and at low cost. We can use that solution to gather information and public interest, and solicit feedback from the public as to what additionally they would like to have available to them if anything. If we want to provide a video solution that will give the viewer a more in-person experience to our meetings, then we should define what is important to capture in the video, and look at ways to implement a solution that is reasonable priced, and easy to operate.

The District has received a request from South Yuba Citizens League (SYCRL), Federation of Neighborhood Associations (FONA) and League of Women Voters (LWV) to televise/broadcast our public meetings. Currently, that is 6 meetings a month (2 Board Meetings and 4 Committee meetings). It will undoubtedly cost the District to install and operate this system and as a result that cost will be passed on to our rate paying customers. Depending on the system, those costs could range from marginal to something more significant. The Board is concerned about usage and cost. We greatly appreciate your input on whether you would support this proposition.

Do you have internet capacity sufficient to view online streaming?  NO  YES

Do you regularly watch City Council meetings on public access channel?  NO  YES

Would you support the cost of, and the broadcast of, NID public meetings?  NO  YES

Thank you very much for your time and support.

		<b>Record and Post</b>		
		Audio Only	Low Resolution Video	High Resolution Video
<b>Local In-house</b>	Cost	Low/None: Equipment is already in use, and our website will handle the distribution	Upfront - Medium, Ongoing - Low: Equipment is one or two fixed low resolution cameras, and dedicated computer equipment, website and Youtube for distribution	Upfront - High, Ongoing - Low: Equipment is up to four high resolution cameras, and dedicated high end computer equipment / video processing software. Distribution would need to be through Youtube or other CDN
	Complexity	Low: Staff is already trained in system use, editing, etc.	Medium: Staff can be trained fairly easily, time to upload videos will depend on meeting length	High: Staff training should be minimal except for when issues arise due to longer than usual meetings. File sizes will be very large with upload times being overnight for all views.
	Flexibility	High: Along with posting of presentations, this option would provide the full meeting material in a format most everyone can access	Medium: Video files will be large but managable. Turnaround times could be in single days. Along with posting of presentations, this option would provide the full meeting material, and a visual presence in the board room	Low: Video files will be very large, and processing or editing / mixing will be manual and will need to be in real time with dedicated staff, or post meeting, or not at all
		*Costs Approx: Low: \$0-\$1,000 Medium: \$1,000 - \$20,000 High: > \$20,000		

		<b>Record and Post</b>		
		Audio Only	Low Resolution Video	High Resolution Video
<b>3rd Party</b>	Cost	N/A: It's not clear if there are any benefits or needs that can't be handled in-house	Upfront - Medium, Ongoing - Medium: Equipment is one or two fixed low resolution cameras, and dedicated computer equipment, 3rd party service for content distribution	Upfront - High, Ongoing - High: Equipment is up to four high resolution cameras, and dedicated high end computer equipment / video processing software. Distribution would need to be through 3rd party service and linked from website
	Complexity		Medium to High: Staff would need to be trained in the 3rd party software and use tools provided to upload, process, and post content	Medium to High: Staff would need to be trained in the 3rd party software and use tools provided to upload, process, and post content
	Flexibility		Low: NID will be limited to the options provided by the 3rd party, and locked into their services	Low: NID will be limited to the options provided by the 3rd party, and locked into their services
		*Costs Approx: Low: \$0-\$1,000 Medium: \$1,000 - \$20,000 High: > \$20,000		

		<b>Stream / Record</b>		
		Audio Only	Low Resolution Video	High Resolution Video
<b>Local In-house</b>	Cost	Upfront - Low/None, Ongoing - Low: Equipment is already in use, streaming would be through CDN at costs under \$500 / yr. Recordings would be on the website	Upfront - Medium, Ongoing - Low: Equipment is one or two fixed low resolution cameras, and dedicated computer equipment, streaming would be through Youtube Live, and recordings are immediately available	Upfront - High, Ongoing - Medium: Equipment is up to four high resolution cameras, and dedicated high end computer equipment / video processing software. Streaming would be through Youtube Live, and would likely require an additional dedicated internet connection
	Complexity	Low: Staff is already trained in system use, editing, etc. CDN should be automatic or semi-automatic	Medium: Staff can be trained fairly easily, streaming will be realtime. Assumes no mixing	Medium: Staff can be trained fairly easily, streaming will be realtime. Assumes no mixing
	Flexibility	High: Along with posting of presentations, this option would provide the full meeting material in a format most everyone can access. Streaming would be realtime, and recordings would follow same day or next day	Medium: Video files will be playable on most devices. Youtube channel would have archived meetings. Website can be linked	Medium: Video files will be playable on most devices. Youtube channel would have archived meetings. Website can be linked
		*Costs Approx: Low: \$0-\$1,000 Medium: \$1,000 - \$20,000 High: > \$20,000		

		<b>Stream / Record</b>		
		Audio Only	Low Resolution Video	High Resolution Video
<b>3rd Party</b>	Cost	N/A: It's not clear if there are any benefits or needs that can't be handled in-house	Upfront - Medium, Ongoing - Medium: Equipment is one or two fixed low resolution cameras, and dedicated encoding equipment, 3rd party service for content distribution	Upfront - High, Ongoing - High: Equipment is up to four high resolution cameras, and dedicated computer equipment video encoding equipment. Streaming would be through 3rd party site, and would likely require an additional dedicated internet connection
	Complexity		Medium to High: Staff would need to be trained in the 3rd party software and use tools provided to stream and post recordings, minutes, and other content	Medium to High: Staff would need to be trained in the 3rd party software and use tools provided to stream and post recordings, minutes, and other content
	Flexibility		Low: NID will be limited to the options provided by the 3rd party, and locked into their services	Low: NID will be limited to the options provided by the 3rd party, and locked into their services
		*Costs Approx: Low: \$0-\$1,000 Medium: \$1,000 - \$20,000 High: > \$20,000		