*David Ash – Chip Schutte – Michael Hobert - Sharon Keeler – Dr. Michael Murphy*

**AGENDA**
Joint Administrative Services Board
September 24, 2012 1⋮:00 p.m.
Joint Government Center

1.    **Call to Order.**

2.    **Approval of Minutes. (May 21 Minutes Attached).**

3.    **Update.** *Director evaluation* is in process and will be discussed at the October meeting. *Dependent verification* resulted in two plans dropping dependents that were either ineligible, or which the policy holder didn't intend to cover. The auditor presented *internal control recommendations*, the efficacy of which has been challenged by staff, and which will be discussed with the auditor in October (see attached). Emily Johnson of Boyce will replace Cathy Pope at the *Accounts Payable* position starting October 1. Redefinition of *retiree health insurance* group to conform with Local Choice policy resulted in one coverage being dropped.

4.    **Joint Technology Plan.**   The broad view plan developed by the JAS Director and Technology Directors was approved by the School Board and Board of Supervisors in June. Attached is an interim draft of a more detailed "Joint Technology Plan". The goal is to complete this plan by November, for presentation to the boards in December. Although the plan includes primarily capital expenditures, it is intended to include shared projects which may be funded from the operating budgets: (ex. ongoing training, joint software subscriptions, etc.). The JAS Board should evaluate this draft for further refinement, and make recommendations where needed, especially with regards to timing and priority, because the strongest plan that can be presented to the Boards will be one that will be both technically and financially feasible.

5.    **Fraud Prevention Program.** A request by the County Administrator and Superintendent for additional attention to fraud led to the following chain of events:

    a.   Discussion with our auditor who stated that their work is focused entirely on whether financial transactions reflect financial statements, and although they could spot check for financial fraud for a cost, this may be too narrow a mechanism.

    b.   Auditor provides refinements to internal controls in response to fraud inquiry.

    c.   JAS joins Association of Certified Fraud Examiners to research best practices.

    d.   "Report to the Nations on Occupational Fraud and Abuse" shared with JAS Board detailing prevalence of fraud by type and technique, and lists the most effective fraud prevention and detection techniques. Anonymous fraud tipline, and efforts to raise employee awareness regarding fraud, emerge as the most practical course of action.

    e.   Information Technology Directors opine that both voice and web tiplines

would be feasible, but the web would probably better guarantee anonymity.

The following course of action is therefore recommended: *"Be it resolved that internet-based fraud tipline(s) be devised on the websites of Clarke County Government and Schools to permit citizens and employees to anonymously report suspected instances of fraud, waste, and abuse, and be it further resolved that short, intermittent communications be distributed to assist citizens and employees in recognizing fraud, waste, and abuse should it occur, and be it further resolved that the Director of Joint Administrative Services, or designee, monitor the tipline(s) and work with the respective executives of affected organizations to investigate and resolve alleged or suspected instances of fraud, waste, and abuse."*

6.      **Software Application Sharing.**   The following software applications have been recently purchased, and can be considered for sharing:  Code Red (Sheriff).  AESOP (Schools).  Veritime (Schools).

7.      **Economic Development Fiscal Agency.**   The Board of Supervisors recently approved an agreement among the Commonwealth, IDA, Government, Town, and Berryville Graphics to provide government funding for improvements and expansion at Berryville Graphics contingent upon that company achieving specific improvement thresholds including targets for the acquisition of machinery and tools as well as new employment.  Responsibility for monitoring Berryville Graphics achievement of these thresholds was assigned to Joint Administrative Services.  Though earlier consideration by the JAS Board might have been preferred, the duration of the responsibility will be limited to three years; and though the time burden of fulfilling the responsibility is unknown at this time, it is believed to be modest and capable of fulfillment by staff given that the primary burden for supplying documentation rests with Berryville Graphics.

8.      **Next Meeting will be October 29 (Technology Plan, Budget Calendar, Director Evaluation).**

<div align="center">

Joint Administrative Services Board

May 21, 2012            Regular Meeting            12:00 pm

</div>

At a regular meeting of the Joint Administrative Services Board held on Monday, May 21, 2012 at 12:00 pm in Meeting Room AB, Berryville Clarke County Joint Government Center, 101 Chalmers Court, 2nd Floor, Berryville, Virginia.

### Members Present

Sharon Keeler; Chip Schutte; Michael Murphy; David Ash; J. Michael Hobert

### Members Absent

None

### Staff Present

Tom Judge, Lora B. Walburn

### Others Present

Ed Leonard

### 1. Call To Order - Determination of Quorum

At 12:05 pm Michael Hobert called the meeting to order after determination that a quorum was present.

David Ash requested that reconsideration of meeting time be added to the agenda.

By consensus, the Board adopted the agenda as modified.

### 2. Approval of Minutes

Change: Page 4 Next Steps 4th Bullet, add to end of sentence "technology plan development."

---

**Chip Schutte, seconded by Mike Murphy, moved to approve the April 23, 2012 meeting minutes as amended. The motion carried as follows:**

| | | |
|---|---|---|
| David Ash | - | Aye |
| J. Michael Hobert | - | Aye |
| Sharon Keeler | - | Aye |
| Michael Murphy | - | Absent |
| Charles "Chip" Schutte | - | Aye |

## 3. FY13 Audit

*Dave Ash and Dr. Murphy approved an award for the FY 12 Audit to Robinson, Farmer, Cox. Mr. Ash and Dr. Murphy also recommend that Joint Administrative Services explore options for fraud detection and prevention.*

Tom Judge provided the following update:

— Two proposals received.

— One vendor did not meet the requirements leaving Robinson, Farmer, Cox as the sole consideration.

— Fraud detection and prevention recommendations were requested in the RFP.

— While no specific fraudulent activities are currently suspected, the County must be open to the possibility of fraud and be vigilant in monitoring.

— Some focal areas suggested by staff include: fraudulent leave, time accounting, inventory control, financial transactions, pilfering.

— RFC noted that not all fraud runs through the financial books and fraud detection might be best conducted separately.

— RFC suggested researching the Association of Fraud Examiners.

— Upon review of the Association of Fraud Examiners website, Mr. Judge determined that staffing levels were not adequate to perform the extensive monitoring.

— Best deterrent is to establish policies and educate employees on those policies.

— A reporting hot line could be established.

— Policy clarification is the first step.

— Tom Judge put forth that establishment of personnel policies was the responsibility of the individual entities.

— Tom Judge offered to research areas of risk and make recommendations.

## 4. Director Evaluation

*The Job Description for this position is currently under review.*

Mike Murphy and David Ash provided the following update:

— Have conducted several meetings.

— Review and revision of the job description to meet current responsibilities is planned for the next scheduled meeting.

— Following review and revision of the job description, evaluation will be conducted.

— To maintain consistency, will provide comment on goals established during last year's evaluation.

5. Technology Governance

*A broad view plan, developed by the JAS Director and Technology Directors is attached. If approved it will be submitted to the respective governing bodies for review and support.*

Tom Judge lead the review. Highlights of the discussion include:

— Broad view plan developed by Tom Judge, David Baggett and Gordon Russell.

MEMORANDUM

TO: Clarke County Board of Supervisors and Clarke County School Board

FR: Joint Administrative Services Board

DT: May 21, 2012

RE: *Conceptual Overview for Development of a Coordinated 10-Year County/School Technology Plan*

The School Board and Board of Supervisors recently tasked the Joint Administrative Services Board with Technology Governance. The JAS Board has taken a first step toward fulfilling this obligation by requesting that its Director, and the two technology directors, work to develop an outline of a ten-year technology plan.

This plan is to be limited to areas of mutual benefit to the two organizations. Ten years was chosen for the term to encourage a long-term view, to encourage timely near-term actions to provide for future needs and, in particular, to include a replacement for the Comcast fiber lines connecting the Berryville buildings which will be needed by 2020.

Areas of mutual benefit that have thus far been identified include:

1. The need to provide greater bandwidth across the wide area network, including the need to replace fiber optic cabling between buildings not currently owned.

2. The need to extend telephone, energy management, and building security systems across the wide area network.

3. The need to provide for video conferencing and document management systems across the wide area network.

4. The need to plan for upgrading network switching devices.

5. The implementation of the Enterprise Resource Planning (ERP) system that would integrate administrative software.

6. The need to provide for information security including threats from outside the network, within the network, and data backup on multiple sites.

7. Development of shared data storage facilities.

8. Development of software operating system "virtualization", a technique for running many software applications on a single computer.

9. Shared training opportunities, and a regular schedule of training.

These various components are interdependent so it is important to identify the timing and financing of projects so that all systems are fully functional when implemented. The table on the following page presents an initial overview of the plan. Much work remains on the cost and timing of the projects, as well as the best technology direction for Government and Schools over the period. Approval of the Joint Board's work at this conceptual stage is requested.

Conceptual Overview of Joint Government/School Technology Plan 05/16/12

| EVENT | 2014 | '15 | '16 | '17 | '18 | '19 | '20 | '21 | '22 | '23 | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Purchase Franchise fiber Infrastructure | | | | | X | | X | | | | changed item name. Not sure it should span all years. Probably a single |
| Energy Management System | X | X | X | X | X | X | X | X | X | X | buildout. No plan on County side for building automation. Need Bobbies |
| Extensions | X | | X | | X | | X | | | | Input. |
| Telephone System Extensions | | X | | | X | X | | | | X | Boyce. Remodel old HS/cooley unknown. JWMS. |
| Building Security System Extensions | X | | | X | | | X | | | X | No plan on County side for security cameras. |
| Document Management System | | X | X | | | | | | | | |
| Video Conferencing | | | | X | | X | | X | | | |
| Network Switch Upgrades | | X | X | | | X | X | | X | X | Operating expense. |
| Enterprise Resource Planning System | | X | X | | | | | | | | |
| (ERP) | X | X | | | | | | | | | DR plan. |
| Information Security | | | | | | | | | | | |
| Shared Data Storage | X | X | | | | | | | | | |
| SystemWide Training | X | X | X | X | X | X | X | X | X | X | End users..? |

— Highlights of Board review of the planned technology events list include:

o Purchase Franchise fiber infrastructure: change to read Fiber "Data" Infrastructure.

o Energy Management Systems monitoring and controls are waiting on repairs to the BCCGC HVAC, as well as transfer to the new high school.

o Telephone System:

• Major system upsize and upgrade since original installation.

• System sized large enough for all the instruments needed for the foreseeable future.

- Dr. Murphy noted that he would like to plan accordingly so that every handset registers the individual number in the Communications Center.

o Building Security Systems:

- BCCGC security system has been designed but not yet implemented.

- Systems in place in the old and new high schools and Johnson Williams Middle School.

- E911 building was designed for a security system. Limited grant funds were used to procure monitors. Head-end equipment is still needed to process incoming video and sensor information. Chairman Hobert requested follow up.

- Legal counsel is working with School Administration on the legal issue of who owns student data.

- Consideration of system integration of fire alarms, burglar alarms, etc. is necessary at the front end of facility design projects.

o Document Management System:

- Identified in the GFOA report as a priority.

- A long-term plan is needed for both the Schools and General Government.

- Include email archiving system.

o Video conferencing is not considered a priority; however, this item was added to ensure availability of the necessary bandwidth.

o Information security is not a specific device or piece of software; however, this item was noted to ensure security consideration.

o ERP

- May be more "doable" if phased in; however, GFOA warned against a piece-meal approach.

- If parceled out over time, the broad view may be lost.

- Any time purchase of enterprise software is considered it should be looked at collaboratively.

o System training allows users to maximize productivity and is critical for long-term success.

o Next steps:

- Share Conceptual Overview with respective governing bodies during the monthly Joint Administrative Services update; and,

- Request approval of the Joint Board's work at this conceptual stage.

- After receiving general consensus approval, the Joint Administrative Services Board will:

  - Prioritize the technology events list.

- Review the events individually and identify those things that need to be addressed or considered to move the item along.

By consensus the Board agreed to move the plan forward to their respective bodies for consideration, approval and feedback.

6. Purchase of New Software

*Procurement of new transportation management and timesheet tracking software are planned by the School System. These should be discussed by the Board in terms of possible joint use, as well as the long-term plan to implement an ERP system.*

Mike Murphy led the review. Highlights include:

— Transportation Management Software:

o Current transportation software does not work.

o Believe there are a lot of efficiencies from use of adequate transportation software.

o This system has been extensively researched by school staff.

o This software is used by small up to large schools divisions,

o Have not begun to look at the procurement process.

— Time Sheet tracking software:

o Making a significant change in hourly accounting for enterprise fund employees [food service.] [Enterprise fund means that revenue and expenditure must be balanced.]

o Paper time sheets are a challenge division wide.

o Approximately 100 plus employees have paper time sheets. [Bus drivers, food service, maintenance personnel are paper time sheet driven.]

o Time sheets are not used by exempt employees. [Teachers and Administrators]

o Veri-time was selected from the programs reviewed.

o Implementation would eliminate paper time sheets, manual data entry errors and should provide greater control of over time.

o Use of comp time instead of over time is regulated by law and is different from flex time.

- Schools use AESOP for leave accounting; but Joint Administrative Services does not have the ability to import the data, so a paper report is sent generated.

- Full-time, year-round School employees use AESOP for leave: annual, personal, sick, to assist schools, bereavement, etc.

- AESOP is a web-based tracking program.

o Time sheet tracking will start with food service workers.

- o System will eventually be used by all non-exempt employees.
- o Goal is to have in place by the beginning of the next school year.
- o The Veri-time system could be used by Schools and General Government non-exempt employees.
- o Tom Judge noted that this system would become redundant following ERP implementation; but, it could be years before an ERP is implemented and the software cost $3,000.

## Reconsideration of Meeting Time

Due to repeated schedule conflicts, David Ash suggested changing the start time for the Joint Administrative Services Board meetings from 12:00 noon to 1:00 p.m.

By consensus, the Board agreed to change the regular meeting start time from 12:00 noon to 1:00 p.m.

## 7. Next Meeting

The next regularly scheduled meeting is set for Monday, June 25, 2012 at 1:00 p.m. in Meeting Room AB at the Berryville Clarke County Government Center.

Note: Tom Judge indicated that the June meeting may not be necessary.

## Adjournment

At 2:00 pm, Chairman Hobert adjourned the meeting.

Minutes Recorded and Prepared by: Lora B. Walburn

County of Clarke, Virginia
Internal Control Recommendations
FYE June 30, 2012

Payroll Processing
Presently the payroll coordinator position (Sally Sheckels) performs typical human resource functions in addition to payroll processing. Furthermore, the payroll coordinator submits the direct deposit file to the bank after approval and monitoring. Human resource functions include maintaining personnel files with salary information, tax withholding information and bank account numbers for direct deposit. Access to employee data and payroll processing creates the opportunity for the creation of "ghost employees" or unauthorized changes to salary information, etc.. If segregation of the human resource and payroll processing functions is not possible, we recommend that someone independent of payroll processing review payroll interface changes to the accounting system for changes in salary information, employee withholdings, bank account numbers, etc. Lastly we recommend the Treasurer submit the direct deposit file to the bank. The direct deposit file should be submitted the same person preparing payroll.

ACH Payments
Presently the AP clerk enters vendor information and invoice information into the accounting system to be paid by ACH electronic payment. The ACH file is submitted to the bank by the AP clerk subsequent to oversight and review of the ACH check or payment register creating potential opportunities to pay unauthorized vendors or alter the amounts of the payments. To segregate the actual payment duties from the processing of invoices, we recommend the Treasurer submit the ACH file to the bank. Submission to the ACH file is similar to signing a check. The confirmation received back from the bank should be provided to the AP clerk to confirm that the submission by the Treasurer was as originally prepared.

Treasurer's Office
We recommend the Treasurer implement procedures to eliminate the use comingled use of the cashier drawers. Each drawer should be assigned to a specific cashier and should not be used during the same closing period by another cashier.

We recommend the Treasurer consider segregating the duties of electronic check deposit with those employees that review or approve the daily close.

The Treasurer should implement procedures to minimize or completely disengage from the actual daily collections and should not operate a cashier drawer.

Clarke Sanitary Authority
Based upon our initial inquiries it appears that the same personnel responsible for preparation of the customer bills has the ability to void and/or adjustment bills in the accounting system. Further, on

occasion the same person preparing bills also receives payments from walk-in customers. The ability to adjust customer accounts and receipt of customer payments creates an opportunity for misappropriation of funds. We recommend the Authority consider implementing procedures to either segregate the duties of billing and performing customer account adjustments or implement procedures to review account adjustment reports.

| EVENT | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Purchase Franchise fiber infrastructure | | | x | | | | | | | | Gordon seeking quote |
| Energy Management System Extensions | | | | | | | | | | | Needs engineering to obtain budget estimate |
| Telephone System Extensions | 50,000 | | | | | | | x | | | Gordon seeking quote on 2021 PBX switch replacement |
| Building Security System Extensions | | 70,000 | | | | | | | | | No plan on County side for security cameras. |
| Video Conferencing | | | | | | | | | | | Need and cost not defined |
| Network Switch Upgrades | | | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | | | | |
| Enterprise Resource Planning System (ERP) | 600,000 | | | | | | | | | | Includes Document Management System |
| Information Security | | | | | | | | | | | Ongoing operating cost |
| Shared Data Storage | | | | | 35,000 | | | | 35,000 | | |
| System-Wide Training | | | | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 | ERP training included above in initial three years |
| TOTAL | 650,000 | 70,000 | 100,000 | 110,000 | 145,000 | 110,000 | 110,000 | 10,000 | 45,000 | 10,000 | |

12

<u>DRAFT</u>

<u>JOINT TECHNOLOGY PLAN</u>

<u>(with selected backup documents)</u>

## <u>Fiber Optic Network</u>

The Schools and Government utilizes a network of fiber optic lines to connect all buildings, with the exception of Boyce Elementary School. This network carries voice, video, and data packets for a variety of computer applications. Some of these lines are owned, and some are leased through the Cable Television Franchise agreement with Comcast (previously Adelphia). This lease agreement expires December 19, 2015. The attached schematic shows the network of fiber optic lines and distinguishes the leased lines.

The high cost of leasing fiber optic lines, and the relatively short distances between the buildings, has made County ownership of the complete fiber optic network a longstanding goal. The County will need to procure a solution to the replacement of the leased lines within 24 months to permit a period of testing prior to expiration of the lease. The following three options have been identified:

A. **Extension of Comcast Lease.** Negotiation on the extension of the lease with Comcast is underway and expected to be complete prior to the outset of the FY 14 budget process. The terms of the lease should be compared to the cost of purchase.
B. **Purchase of Comcast Fiber Optic Lines.** It is unclear whether Comcast would sell the lines that have been leased to the County of Clarke. The terms of purchase should, once again, be compared to other options, along with the cost of maintenance.
C. **Installation of new, County-owned fiber optic lines to replace Comcast lines.** Government IT is seeking a budgetary estimate on the cost of installing new, County-owned lines. The IT directors recommend that this be all done at once, not phased. The maintenance of these lines would be an ongoing cost.

The best long-term solution to serving Boyce Elementary School and the Sanitation Authority has not been determined. Microwave service was ruled out as lacking in reliability. Boyce Elementary is currently served by agreement with Comcast.

Documents:

1. Dark Fiber Lease Agreement.
2. Fiber Optic Network Schematic.

## Energy Management System Extensions

An energy management system would tie together a network of sensors and control devices installed over the County's major buildings (schools, recreation center, courthouses, Joint Government Center) to a central software application. This software application could be managed by the Joint Maintenance department to optimize the energy consumption of buildings though an additional HVAC technician position with extensive training would probably be more practical than a maintenance contract to keep it running. Such a system was installed by TAC Americas (later Schneider) for the Clarke County Public Schools in 2005. The current status of this system is described by Bobby Levi, Maintenance Director:

"Cooley is called a red wire system by TAC. That means only capable of monitoring system temperature and schedule occupied and unoccupied times.

F & M Building is a red wire system. It gives capability to monitor temperature and to schedule occupied and unoccupied times.

Old CCHS has pneumatic thermostats that our TAC system cannot control. Room temperatures are monitored through sensors. Night unoccupied settings only turn off large roof air handling units, individual room units are still controlled by room thermostats. We do have the availability to control large air handler units, fans, water valve positions, dampers etc. There are no controls or monitoring on circulating pumps, air compressor, cooling tower, etc.

At JWMS we have full capability of heating and cooling, night setbacks, temperature settings within 5 degrees, all pumps monitoring and control, control valve positioning and monitoring, etc.

Boyce old part of school has more capability than new addition. Old part we can control temperature settings within 5 degrees, night setbacks, review boiler settings. No control and no review of pumps or cooling tower, only water temperature, etc. New part of Boyce is a red wire system. It gives capability to monitor temperature and to schedule occupied and unoccupied times.

As you can see we have different levels of controls in each building. It is a mess!!"

The TAC system has never operated correctly despite good faith efforts on the part of Schneider and the Joint Maintenance department. However the system is expensive to replace wholesale if the current system of sensors and controls cannot be used. A procurement effort in May 2011 sought to engage a vendor that would tie the current system of sensors and controllers to a new software system, in hopes of finally making the system fully operable, but in the end, proprietary elements in these devices made them incompatible with AERO Integrated Solutions' software. The need remains to fully engineer a long-term solution.

*New High School.* The system installed at the new high school in 2012 is manufactured by Siemens, but includes its own software system for its management. It is not clear whether the Siemens software application can be made compatible with the original TAC equipment. However, it will be important to quickly evaluate the effectiveness of the Siemens system before major HVAC upgrades are undertaken. With the renovation of Cooley Elementary, the old High School, and possibly the primary school, there may be opportunities to build toward an integrated system, but away from the TAC equipment. Further research is needed to determine whether there is a truly open standard for sensor and controller signals, and whether the Siemens software application will accept these signals without expensive adaptation. If so, the Siemens software would be the logical candidate for a single software application to integrate the County's buildings, as these buildings are renovated, or HVAC systems refurbished.

Energy Management Systems are often justified on the cost savings from energy usage, but these savings are difficult to prove. The School system has twice signed "energy performance contracts" whereby the vendor must prove that the energy savings paid for the cost of the equipment, the financing, and the maintenance over a term of 10-15 years. In neither case was the proof considered convincing, leaving open the question of just how much expenditure can be justified by implementation of these systems, though it is recognized that reduced energy consumption satisfies environmental goals as well.

Documents:

1. AERO Integrated Solutions proposal to RFP 11-0517.


## Telephone System Extensions and Upgrades

The telephone system originally purchased from Avaya for certain government buildings has since been extended to include most school buildings and the Town of Berryville. Extension to the following buildings will complete the system:

| Building | Timeline | Cost | Notes |
|---|---|---|---|
| Boyce Elementary | Summer 2013 | Already budgeted | |
| Old High School | During renovation. | 40,000 | From construction budget |
| Johnson-Williams MS | 2014 | 50,000 | |

In addition, it will be necessary to replace the central switch (aka PBX) in 6 to 8 years. A cost for this replacement is being sought.

## Building Security Systems

The federal *Secure Our Schools* grant of $328,235 obtained in 2007, along with a local match of the same amount, led to an expenditure of $656,470 to provide security systems in the schools. The consultant, Kimball, reviewed the security needs of the schools and various configurations of door access systems, video surveillance systems, and weapon detection systems at each of the five buildings. The final decision implemented extended video surveillance systems at JWMS and (old) CCHS consisting of cameras, switches, recorders, and monitors. This was considered the most effective use of the funds. Most of the local match went toward upgrading the network infrastructure to accommodate video signals.

The long term plan remains extending security systems to other buildings, and connecting them to the Sheriff's dispatch office to permit monitoring during emergency events (the "head-end" of the system). Security designs for the Joint Government Center and the Circuit Courthouse were developed but not implemented due to budget limitations in those capital budgets. The new high school is equipped with an extended video system, leaving the old high school system available for the elementary school renovation.

The estimated cost of the "head-end" at the Sheriff's Office is $70,000. However, at this time this would connect only JWMS, new CCHS, and Old CCHS, all of which are currently monitored by the School Resource Officer. The Sheriff is seeking grant funding for this head-end. The Board should reconsider the security needs of the various buildings, and the cost/benefit of further extending the system.

## Video Conferencing

The Board should consider the costs and benefits of video conferencing among school and government employees to reduce time and cost of travel between buildings. The need is not imminent, though the technology exists in wide variety of options. Two important considerations are: 1) the quality of the video signal should be very high; 2) our local intranet should be utilized, and connection to the internet avoided, to prevent hogging the bandwidth utilized by other users.

## Network Switches

The network switches consist of 12 "core" switches, but 100s of switches total. These switches route internet traffic, data application communications, telephone communications,

and energy management system communications. Many of these switches were replaced or added four years ago, but should start receiving scheduled replacement in 3 years. This replacement can be phased in over 5 years at a cost of $100,000 per year. The replacement is recommended because the maintenance contracts on the older switches are likely to make that the more costly option in the long run. It will be practical to coordinate the replacement of network switches with any changes to the fiber optic network.

## Enterprise Resource Planning and Document Management Systems

A study completed in 2010 by the Government Finance Officers Association recommended implementation of an Enterprise Resource Planning System and Document Management System to replace many of the disparate and duplicative government and school software applications. The two systems are discussed as a single unit because they would be used in close conjunction: the ERP system could attach documents to database records (such as an employment application to a personnel record, or an invoice to a financial transaction) but could also have the ability to index documents not related to database records (board minutes, agendas, recordings, & photographs).

The cost estimate for this system is $550,000 for implementation of components recommended in the GFOA report, conversion, and training. An additional $50,000 would be budgeted as a contingency for hardware needs. Annual recurring costs for software maintenance are estimated to be $62,000. If approved, this budget would be expended over a three year period, with a large expenditure upfront to implement primary financial applications, and then regular recurring expenditures for additional modules. One scenario might be as follows:

| Year 1 | Year 2 | Year 3 |
|---|---|---|
| General Ledger | Fixed Assets | GIS Integration |
| Accounts Payable | Building Permits | Work Orders, Fleet, and Facilities |
| Revenue Collection | Document Management | Vendor Self Service |
| Payroll | Human Resources Management | Citizen Self Service |
| Purchasing | Employee Self Service | Project and Grant Accounting |
| Utility Billing | Student Activity Funds | |
| Personal Property Assessment | Permits and Code Enforcement | |
| Real Estate Assessment | Central Store (Inventory) | |
| Leave Management | Applicant Tracking | |

In time, the Board will need to consider a Project Manager for the implementation because it will involve nearly a full-time devotion to ensure the adoption of best practices, the optimal allocation of local resources, and continuing communication among all parties.

Documents:

1. GFOA Study.
2. FY 13 Budget Request

## Shared Data Storage

Both the School Division and the Government have each had a 6.5 terabyte data storage unit. Each unit housed the organization's data, and backed up that data to the other's unit each night in a configuration known as a Storage Area Network (SAN).   Recently, the Schools and Government jointly purchased a 15 terabyte unit housed at the Joint Government Center at a cost of $35,000, and shared this cost equally.  This new unit will free the two 6.5 T units to back up to a third unit, rather than each other.  This additional capacity should be adequate for five years, after which it will be necessary to purchase a fourth unit

## Information Security

The School Division and the Government each have separate connections to the internet, so security elements such as firewalls, spam filters, and antivirus are funded through each organization's IT budget.   Maintaining separate internet connections is a security feature in itself because it permits redundancy.   The Government utilizes an off-site backup service in California for certain data, and the School Division is considering the same.   There are no immediate needs regarding information security, but it is an ongoing concern.  There will likely be opportunities for sharing the cost of solutions in the future since we are sharing several systems over the same wide area network.

## Employee Training

The ERP system cost estimate includes training for that system.  Beyond that it is critically important that end users of the ERP system receive continuing training to take advantage of upgrades, and that new employees receive basic training.  In addition, IT and HVAC technicians will require training to keep abreast of system upgrades.   Much of this training can be

delivered across the internet to groups or individuals from the County's various organizations, adding an economy of scale, and saving on travel costs.

# DARK FIBER LEASE AGREEMENT

THIS DARK FIBER LEASE AGREEMENT ("Lease") made this 19th day of December 2005, by and between Global Acquisition Partners, L.P. l/k/a Adelphia Cable Communications ("Adelphia") and Clarke County and the Town of Berryville, Virginia governmental entities organized in accordance with the laws of the Commonwealth of Virginia ("County and Town" or "the County and Town").

## WITNESSETH:

WHEREAS, Adelphia is the franchised cable operator authorized to provide cable communications services within the Clarke County and Town of Berryville rights-of-way; and

WHEREAS, the County and Town desires to lease from Adelphia fiber optic cable for the purpose of providing data communication, telephony, telemetry and/or video transmission for governmental or educational facilities (all of the foregoing in addition to the Cable System) and Adelphia has agreed to construct and lease to the County and Town dedicated dark fiber optic cable for this purpose.

NOW, THEREFORE, in consideration of the mutual promises contained herein and intending to be legally bound hereby, the parties hereto agree as follows:

1. *Recitals.* The foregoing recitals are true and correct and form a part of this Lease.

2. *Fiber Backbone.* Upon the terms hereinafter stated, Adelphia leases to the County and Town, and the County and Town lease from Adelphia, dedicated dark fiber optic capacity (the "Fiber Backbone") in the number and to the locations specified in Exhibit A, attached hereto and incorporated by reference. Adelphia will terminate the fiber in patch panels to be provided by Adelphia for the locations specified in Exhibit A.

3. *Non-recurring Charge.* In exchange for Adelphia's construction of the Fiber Backbone, the County and the Town shall cumulatively pay Adelphia the sum of Seventy-Nine Thousand and 44 Dollars ($79,044.00). This payment shall be payable in one lump sum within 30 days of Completion of construction of the Fiber Backbone as set forth in paragraph 8. The County and the Town agree not to attempt to offset any payment due to Adelphia under this agreement with purported amounts owed by Adelphia to the County or Town. The payment specified herein does not include maintenance of the Fiber Backbone – and such maintenance shall be the sole responsibility of the County and Town as set forth in paragraph 11 herein.

4. *Additional Payments.* The County and Town agree to make additional payments to Adelphia in order to:

1

a. pay any additional fees assessed to Adelphia by the owner of the poles trenches or conduit used for the Cable System in excess of what Adelphia would be otherwise required to pay in the absence of this lease, provided that the County and Town shall have the right to contest the amount and/or validity of any such fee or assessment by any and all applicable legal proceedings;

b. recover any franchise fee or regulatory fee assessed against Adelphia by any governmental body or regulatory agency by virtue of this lease provided that the non-recurring charge specified in Section 3 above shall be exempt from franchise fees levied under the Franchise Agreement between Adelphia and County and Town, and provided further that the County and Town shall have the right to contest the amount and/or validity of any such fee or assessment by any and all applicable legal proceedings.

5. *Resale.* The County and Town will not sell, resell, lease or sublease capacity on the Fiber Backbone or communications services provided over the Fiber Backbone to any entity, except schools on the Fiber Backbone, without prior written approval from Adelphia, such approval not to be unreasonably withheld.

6. *Permitted Communications.* The Fiber Backbone can be used for lawful voice, video, data and other services. The Fiber Backbone may be interconnected to any other network that is governmental, educational, or non-profit in nature. If the County and Town seek to interconnect the Network with a commercial service or network, the County and Town shall include Adelphia on any vendor notification list. The County and Town shall be solely responsible for ensuring that all uses of the Fiber Backbone and all communications carried on the Fiber Backbone are at all times in compliance with all local, state, and federal laws and regulations. The County and Town and Adelphia acknowledge and agree that the lease of the Dark Fiber does not constitute the provision of telecommunications services by Adelphia and does not constitute a common carrier offering by Adelphia.

7. *End User Equipment.* The users of the Fiber Backbone shall purchase all necessary end user equipment for Fiber Backbone applications.

8. *Fiber Backbone Construction.* Fiber backbone construction shall be completed within six months of the execution of this Dark Fiber Lease Agreement. As the Fiber Backbone is constructed and tested by Adelphia, Adelphia shall notify the County and Town to give the County and Town the opportunity to conduct their own tests on completed portions of the Fiber Backbone. Upon the completion of tests showing that all sections of the Fiber Backbone meet manufacturer's specifications, the construction of the Fiber Backbone shall be deemed complete ("Completion"). Within thirty (30) days of Completion, Adelphia shall provide the County and Town with the results of the above tests.

2

9. *Response Time.* Under normal operating conditions (as defined below), Adelphia shall respond to technical problems on the Fiber Backbone within four (4) hours; provided, however, that Adelphia shall respond immediately to technical problems involving public safety or critical County and Town communications. Adelphia shall provide the County and Town with a "hot-line" phone number for Fiber Backbone technical use. Notwithstanding the foregoing, the County and Town shall be solely responsible for ensuring that an adequate backup system is in place to handle any public safety, emergency and other critical County and Town communications in the event and for the duration of any technical problems that may arise with respect to the Fiber Backbone and or associated laterals. For purposes of this Lease, the term "normal operating conditions" shall mean those service conditions that are within the control of the cable operator. Those conditions that are not within the control of the cable operator include, but are not limited to, natural disasters, civil disturbances, power outages, telephone network outages, and severe or unusual weather conditions.

10. *Extensions of the Fiber Backbone.* Within six months of a written request from the Town or County, Adelphia shall construct extension(s) of the Fiber Backbone to governmental and educational sites selected by the County and Town. Any such extensions shall be no longer than two thousand (2,000) feet. Adelphia will terminate the fiber in patch panels to be provided by Adelphia. At the Completion of such extensions, the County and Town agree to reimburse Adelphia, its agents or contractors for such construction work, which shall be charged at Adelphia's actual cost. Extensions shall be tested in accordance with the procedures set forth in paragraph 8 above.

11. *Maintenance and Repair.* The County and Town agree, at their sole cost and expense, to maintain the Fiber Backbone. All maintenance work and repair on the Fiber Backbone shall be performed by Adelphia, its agents or contractors approved by Adelphia at the County and Town's sole expense. Such repairs and servicing shall be performed by qualified employees, agents or contractors of Adelphia in a good and workmanlike manner. County and Town shall compensate Adelphia for all maintenance and repair of the Fiber Backbone by paying a monthly maintenance fee in the amount of Three Hundred Dollars ($300.00) plus the actual cost of any materials that may be needed to repair the Fiber Backbone. The County and Town shall be solely responsible for the maintenance, repair and replacement of all network equipment and end user equipment utilized in connection with any communications provided over the Fiber Backbone.

12. *Term.* The term of this Lease (the "Term") shall be for a period of ten (10) years, which shall automatically renew for additional one-year terms unless the County and Town notifies Adelphia of their intent not to renew this agreement at least sixty (60) days prior to the expiration of the existing term.

13. Adelphia may freely assign this Agreement to any entity which has a lawful cable television franchise to serve the County by providing the County and Town thirty (30) days advance notice. The County and Town shall not sell, transfer, or assign its rights or delegate its

3

duties under this Lease without the prior written consent of Adelphia which consent may not be unreasonably withheld. Any purported sale, transfer, or assignment of this Lease without the consent of Adelphia shall be void, and shall be grounds for Adelphia to terminate this Lease.

14. *Regulations and disclaimer.* County and Town agree that all communications carried on the Fiber Backbone will comply with all applicable laws and regulations; and that any network operated over the Fiber Backbone will conform with any applicable statutes, ordinances, regulations, guidelines, standards (voluntary or otherwise) applicable to the operation of such networks. Furthermore, the County and Town assumes sole responsibility for determining the appropriateness of any communications carried on the Fiber Backbone and of the use of the Fiber Backbone for any particular network application or communications service. ADELPHIA MAKES NO GENERAL, SPECIAL, EXPRESS OR IMPLIED WARRANTIES AS TO THE FITNESS OF THE FACILITIES AND EQUIPMENT WHICH IT IS OBLIGATED TO PROVIDE UNDER THIS LEASE FOR ANY PARTICULAR NETWORK APPLICATION OR USE. ANY AND ALL SUCH WARRANTIES ARE HEREBY DISCLAIMED.

15. *Amendment.* The parties hereto, by mutual consent, may amend this Lease in such manner as may be agreed upon by them in writing and signed by both parties.

16. *Laws.* This Lease shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia.

17. *Entirety of Agreement.* This Lease, including the Exhibit A attached hereto, constitutes the entire agreement of the parties with respect to the matters set forth herein and supersedes any prior oral or written agreements and discussions between the parties with respect thereto.

**Signatures Appear on Following Page**

4

IN WITNESS WHEREOF, the parties have executed this Lease as of the 19th day of December, 2005.

Global Acquisition Partners, L.P.
l/k/a Adelphia Cable Communications

By: _____

Name: Paula Trustdorf

Title: Senior Vice President of Operations for Adelphia Communications Corporation, on behalf of Global Acquisition Partners, L.P.

Date: 12-19-05

Clarke County, Virginia

By: _____

Name: _____

Title: _____

Date: _____

Town Of Berryville, Virginia

By: _____

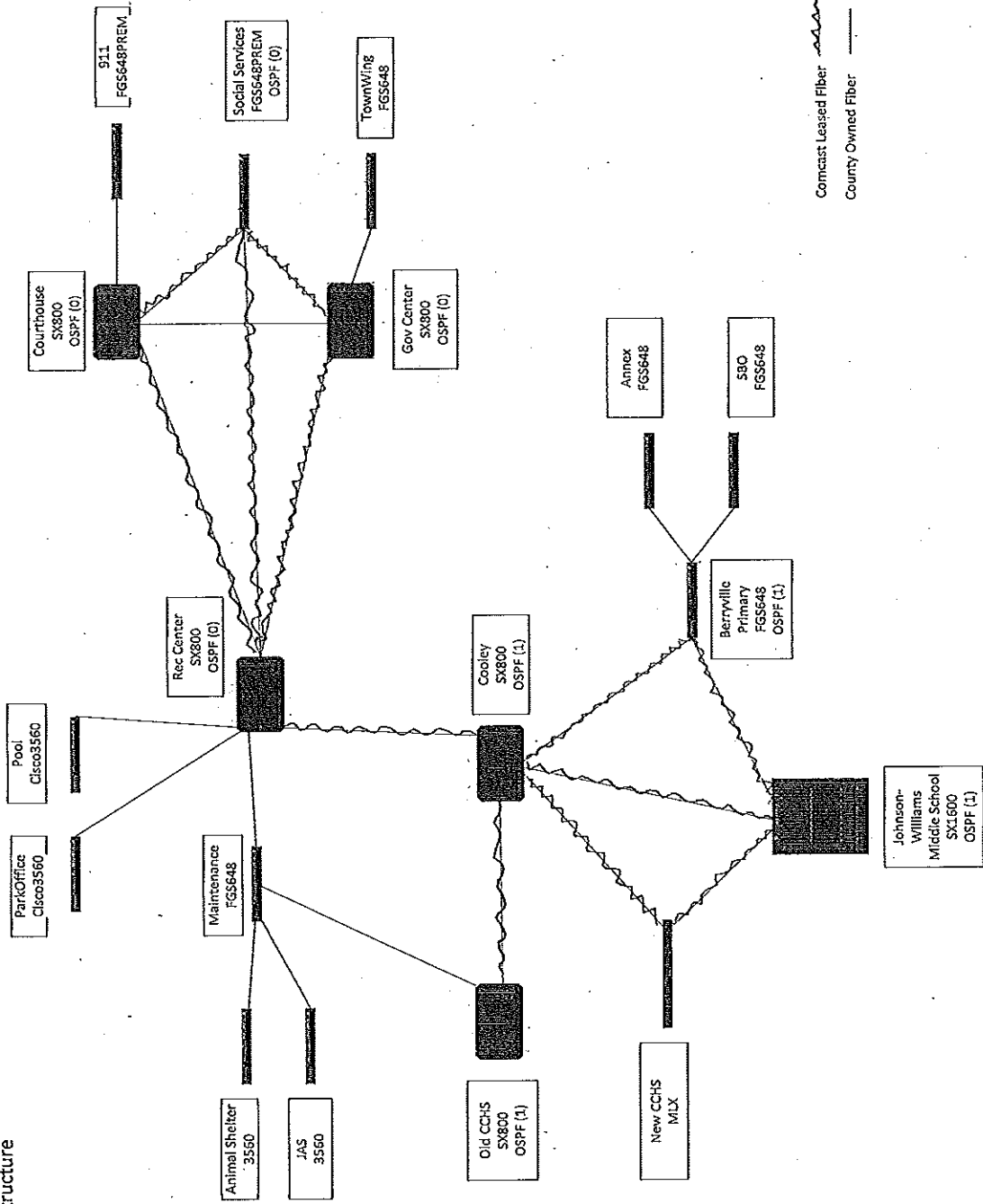Name: _____

Title: _____

Date: _____

5

# EXHIBIT A

Berryville i-net project to include laterals for schools at request. Project will be comprised of a twenty four (24) count fiber pulled end to end. Termination point at the joint county admin building, by using existing fibers already in place to tie in.using existing fibers to tie-in 4 separate locations. 2 laterals to tie-in 2 schools

Addresses are as follows; 4 locations- Clarke County Joint Administration Building, Berryville Maintenance Yard, Clarke County Courthouse, Clarke County Social Services

Addresses for tie-ins; DG Cooley Elementary School, Clarke County High School Clarke County Parks & Recreation, Clark County Maintenance, Berryville Primary School.

Addresses for laterals, Johnston Williams Middle School, Alternative Education Center

6

Clarke County Core Network Topology
And Fiber Infrastructure

911
FGS648PREM

Social Services
FGS648PREM
OSPF (0)

TownWing
FGS648

Courthouse
SX800
OSPF (0)

Gov Center
SX800
OSPF (0)

Annex
FGS648

SBO
FGS648

Rec Center
SX800
OSPF (0)

Pool
Cisco3560

ParkOffice
Cisco3560

Maintenance
FGS648

Cooley
SX800
OSPF (1)

Berryville
Primary
FGS648
OSPF (1)

Johnson-
Williams
Middle School
SX1600
OSPF (1)

Animal Shelter
3560

JAS
3560

Old CCHS
SX800
OSPF (1)

New CCHS
MLX

Comcast Leased Fiber
County Owned Fiber

<center>MEMORANDUM</center>

TO: Clarke County Board of Supervisors

FR: Thomas Judge, Director of Joint Administrative Services

DT: February 2, 2012

RE: *ERP System Budget Request*

Over the past eighteen months the Joint Administrative Services Board has researched a long term plan for the replacement of aging computer applications. Many of these systems were originally implemented, some as far back as the 1980's, as the automation of paper processes for specific functions of the Government and School. These systems are inadequate because: 1. their electronic data is available only to persons associated with that function; 2. these applications have not kept pace with widely available technology advances; and 3. Maintenance of the variety of applications, associated operating systems, and associated hardware is not the best use of the time of Information Technology personnel. The Joint Administrative Services Board has concluded that an Enterprise Resource Planning (ERP) System should be procured, and a governance structure established to make decisions regarding the implementation of this system. Further, the board proposes that the cost of this system should be equally shared between the Board of Supervisors and the School Board.

The purpose of the ERP System is to replace diverse systems and business processes with a single database and standardized business processes. Implementation would require several years. The following research led the JAS to make this recommendation:

<center>*Chronology*</center>

| April 2010 | Board of Supervisors appropriate $50,000 for software integration. |
| --- | --- |
| May 2010 | JAS begins discussion on solutions to administrative data system problems. |
| August 2010 | RDA, Financial Systems vendor, presents their new system OpenRDA. It supports only modules that interface with General Ledger. RDA agrees to perform study of Clarke systems. JAS research begins into communities using ERP systems. Clarke Technology Directors state that infrastructure is currently in place to support ERP. |
| November 2010 | Report on ERP systems used by Gloucester and Isle of Wight. List of current Government and School applications developed. |
| January 2011 | RDA presents Best Practices Report calling for further implementation of RDA software. JAS Director delivers response. JAS Board selects GFOA to provide "business process analysis" and "business case development" at a cost of $24,100. |
| February 2011 | Nine Gov/School Focus Groups meet to discuss business processes and automation. |
| March 2011 | GFOA Study states business case, recommends ERP System implementation. Cost range $383K-$1,078K. Return on investment in 3.8 to 6.6 years through recapture of $250K to $350K per year in lost productivity with current systems. |
| April 2011 | Supervisors appropriate additional $50K for software integration, leaving 7/11 balance of $75,900. Finance Committee directs JAS to schedule an opportunity to |

<div align="right">1</div>

| | |
|---|---|
| | pose questions to a similarly sized community that has implemented an ERP system (Staunton). |
| May 2011 | Update on communities implementing ERP: Loudoun, Winchester, Prince George. |
| July 2011 | Phone conference with City of Staunton on their ERP experience. JAS directs that a draft proposal for ERP System be developed for the FY 13 budget process. Work begins on revising Government and School business processes related to personnel. |
| August 2011 | Commonwealth HJ130 study determined that local government business practices too dissimilar for single software specification. HJ645 study is underway to create central database of local government software implementations to assist with local government procurement. Includes input from VACO, VML, and VALGITE. |

## *Options*

**Status Quo.** The County (Government and Schools) could continue upgrading its current systems. This involves the least cash outlay in the next few years, but the highest cost over the mid and long term. Vendors will force upgrades, and certain systems will continue to fall behind on the latest technology developments. IT staff will continue to overextend in supporting disparate systems. Agencies will continue performing processes that could be automated. Example 1: the building permit system contains building value information that is printed out then rekeyed into the real estate assessment system. Example 2: the Treasury system prints out revenue information that is rekeyed into the Finance system.

**Share ERP with another community.** Communities sharing ERP computer applications is increasingly common. It saves money, provides offsite data backup, and permits communities to share best practices. Thus far attempts to find such a partnership for Clarke County have been unsuccessful. The primary reason is the complexity of trying to coordinate an ERP implementation with another community or communities.

**ERP Software as a Service.** ERP vendors will run their application on their own computer for multiple communities. They provide hardware, software updates, operating system updates, and data backup. The communities connect through a communication link. This solution has been frequently mentioned as superior by IT Directors because highly trained IT staff working for the vendors are ensuring the integrity of the data and application. In addition, the initial investment is reduced. The problems raised include concerns about the security and consistent availability of public data held on the computers of a private company.

**ERP Local Server.** Providing the ERP application on a local server would require the largest near term investment. It would also require a greater maintenance effort by IT staff. However, it would provide autonomy over the security and availability of the data. The cost estimates and return on investment periods provided in the GFOA report are premised on implementation of this option.

**Best of Breed.** Each application could be replaced with the best application available at the time the current application needs replacement. This would gradually improve the quality of computer applications, but would not resolve integration, hardware, and IT staff workload issues. Nevertheless, the GFOA study did recommend continued use of certain systems like Parks and Recreation program

2

management, and maintenance work order management because the cost savings associated with integrating these modules were not offset by savings at the current time.

## *Requested Option*

The Joint Administrative Services Board recommends that the Clarke County Board of Supervisors include $650K in its 2013 budget for implementation of an ERP system, whether shared, service, or on a local server. This is the mid-point of the cost estimate provided by GFOA, less the $75,900 already budgeted. This would be used to convert as many current applications as possible to the new ERP system. First priority would implement Treasury, Property Assessment, General Ledger, Accounts Payable, Payroll, and Purchasing, and Utilities. Second priority is for Document Management and Human Resources (including Applicant Tracking, Time and Attendance, and Leave Management). The third priority would integrate GIS, building inspections, and schools.

## *Advantages of Requested Option*

**Staff Availability.** The economic slowdown has reduced workload in many operations, providing an opportunity to devote staff time to the ERP implementation in advance of an economic recovery.

**Intercepts needed software upgrades and extensions.** The Treasury system is in need of immediate upgrade, and the vendor of the finance system has stated that they will soon require an upgrade. Other applications face similar needs. Funding the ERP now will intercept the need for these expenditures by creating a clear upgrade path for most applications.

**Advanced Technology.** Capabilities such as on-line bill paying, electronic document management, and on-line job applications will be possible in the future with implementation of the ERP system now. It is not clear whether our current systems will evolve to embrace these new technologies.

## *Risks of Requested Option*

**Partial implementation.** If an ERP implementation stops part way, due to lack of funding or staff support, or a lack of employee willingness to modify business processes, the result can be worse than if no implementation had occurred at all. This is because the costs have been incurred, but the benefits have not been realized. The GFOA report states that this is the single most important source of risk for this option.

**Weak Governance.** Local government structure is made up of many independent and quasi-independent boards and agencies. For the system to work, all will need to agree up front to utilize the ERP system, and abide by policy decisions associated with it. This may require modification of agency business processes to conform to the best practices inherent in the software design. A governance structure must be established to enforce decisions made with respect to the system in order to ensure the greater good, and agencies must subscribe to it.

3