

AGENDA

Joint Administrative Services Board
December 16, 2013 1:00 p.m.
Joint Government Center

1. **Call to Order.**
2. **Approval of Minutes.**
3. **ERP System Procurement.**
 - a. *Tyler Presentation. See agenda attached.*
 - b. *Trip to Staunton: who should go, dates available early in January.*
 - c. *Answers to queries (see attached).*
 - d. *Reference checks.*
4. **ERP Evaluation Consultant.** The cost of the Scope of Work and contractual negotiations consultations is a flat fee \$18K. However, Tyler is accustomed to devising the draft scope of work using its management software and best practice, and as a large corporation, resists changes to its standard terms and conditions. Nevertheless Plante and Moran believes that there is value to their services even with Tyler, considering the likely duration and complexity of the contract. However, Plante and Moran suggests that they are willing to perform the services on a time and materials basis, which would leave Clarke in the position to manage the process to a smaller consultation cost. The goal is to get a draft contract to Plante and Moran by January 1. Should it be lump sum, or T&M?
5. **Technology Governance.** Update technology plan. Fiber Optic. Training.
6. **Hybrid Plan.** Reminder to consider revision of leave policies for members of this retirement group (employees brought into the system after 1/1/14).
7. **Pay and Classification Studies.** A clerical error prevented Springsted from proposing to the School Division. As neither the Government nor the Schools have contracted at this point, but time is very short to dovetail with the FY 15 budget process, the Board should consider whether there is still a way to achieve the goal of establishing a common basis for the calculation of compensation.
8. **January Meeting Date.**
9. **Performance Evaluation.**

Joint Administrative Services Board
November 14, 2013 Called Meeting 3:00 pm

At a called meeting of the Joint Administrative Services Board held on Thursday, November 14, 2013 at 3:00 pm in Berryville Clarke County Government Center Meeting Room AB, Berryville Clarke County Government Center, 101 Chalmers Court, 2nd Floor; Berryville, Virginia.

Members Present

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

Members Absent

None

Staff Present

Tom Judge; Gordon Russell

Others Present

None

1. Call to Order - Determination of Quorum

At 3:00 pm, Chairman Schutte called the meeting to order.

2. Approval of Minutes

David Ash, seconded by Sharon Keeler, moved to approve the October 28, 2013 meeting minutes as presented. The motion carried as follows:

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

3. ERP Proposal Evaluation Process.

Attached is the section of the RFP pertaining to proposal evaluation. The Board should determine the process for deciding upon the best proposal.

Highlights include:

- Received three ERP proposals from: Tyler Munis, Keystone and Open RDA.
- Evaluation is a three-phase process:
 - 1) Verify that each vendor has provided the minimum criteria;
 - 2) Review proposals of those vendors meeting the minimum criteria and look at from these perspectives: functional requirements, implementation requirements, cost, technical requirements, general vendor background;
 - 3) Vendors meeting requirements would be asked for further information and/or software demonstration, site visits, deviation review, and reference checks would be performed.
- A consultant, if deemed necessary, would enter the process during the second phase.
 - o Received two proposals from consultants: GFOA and Plante Moran.
 - o GFOA presented a cost of \$84,000 to perform the needs assessment, RFP compilation, evaluation and contract negotiation. Tom Judge noted that GFOA had already conducted and was paid for the needs assessment.
 - o Plant Moran presented a cost of \$39,600 for evaluation [\$19,800] and statement of work and contract negotiation [\$18,000] having taken into account where the County is in the process.
 - o Cost is inclusive of travel and incidentals, as requested by Tom Judge in the RFP.
 - o No timeline was specified in the RFP however the timeline will be contingent on the County's pace.
 - o The Board discussed handling evaluation and vendor selection in-house given the limited number of ERP proposals.
 - o Both Chairman Schutte and Vice Chairman Hobert expressed their preference for hiring a consultant.
 - o Mike Murphy suggested hiring, for a limited period, a "clerk of the works" for project management that would review and provide recommendation.
 - o Gordon Russell suggested using consultant services to establish an implementation plan.
- Tom Judge proposed:

- A staff technical committee, Gordon Russell, Sharon Keeler, Annette Gilley, Mike Legge and Tom Judge, will conduct an initial review, evaluate and report back to the Board.
- The Joint Administrative Services Board will review and rank the proposals.
- If deemed necessary, a consultant would be hired to help write the statement of work and contract negotiations – a cost of approximately \$18,000.

4. Response from Springsted Concerning the Selection of Benchmark Communities

The County is updating its Pay and Classification study, and the School Board has released an RFP for a similar study, which is due back December 3. At its last meeting the board discussed the considerations for achieving a common set of benchmark communities for these studies. Questions raised were answered by the Government's current consultant, and are attached.

Tom Judge reminded that at its last meeting the Board had discussed various concerns and instructed him to seek direction from the consultant, John Anzivino – Springsted. Below is the email with questions and responses.

From: Tom Judge [mailto:tjudge@clarkecounty.gov]
Sent: Tuesday, October 29, 2013 10:51 AM
To: John Anzivino
Cc: David Ash; Murphy, Michael
Subject: Clarke County Benchmark Communities

John,

The Joint Administrative Services Board met yesterday. We discussed the impending Pay and Classification update for the Government, and the School Division's impending Pay and Classification Study. We agreed that establishing a common set of benchmark communities was a worthy goal, but many questions arose about how to accomplish this:

1. What should the size of the set be? Are there statistical benefits to a larger set?

We prefer to use, at minimum, about 10 to 12 localities/entities. The benefit to a larger set of benchmarks is ensuring we have an adequate number of base responses. It also serves as a better illustration of market competitiveness, particularly when the data is compared on a side by side as well as consolidated basis.

2. Is it best practice to allow the consultant to select the benchmark communities? If so, what basis would be used to make the selection?

We would select the benchmarks. This is a good idea because the choices come from an independent source and any perceived bias resulting in what may be considered a higher or lower pool of survey results can be avoided. The consultant would typically chose communities/organizations based upon a number of criteria including: exit interview data from the local government indicating where employees may be going to work in other jurisdictions for additional pay, geographic location (typically abutting the community

conducting the study, comparably sized jurisdictions with comparable services and other localities whom the community consistently benchmarks against. Some may be close by, or not. In the case of Hagerstown, Maryland we had to use Annapolis, Maryland and the City of Manassas because we needed comparable communities who operated electrical utilities. We always, however, gain a level of approval of the jurisdictions from the community.

3. If the Boards each wish to have a role in creation of a common set of benchmark communities, can the consultant assist in the negotiation that may be required to achieve this?

Yes.

There was much discussion here: include communities that take our employees? communities from which we draw employees? Similarly sized and located communities? Communities with similar tax bases?

As noted above these are all factors which may be used in the determination of benchmarks.

4. Can the consultant assist in a sensitivity analysis of the benchmark communities? For example, analyzing the affect of including or excluding certain communities?

Yes. We have done this before. This may add some cost to the project as additional sensitivity analyses take time to complete.

Please let me know your thoughts on these matters. The five JAS members (SB member, BOS member, County Administrator, School Superintendent, Treasurer) were in agreement that seeking this common basis of comparison should not risk slowing down the completion of these studies. I am to report back to this group at their meeting November 14.

Thanks,

Thomas J. Judge, Director of Joint Administrative Services, Clarke County, 540-955-6172

Mike Murphy stated that the Schools have issued an RFP.

Mike Hobert opined that it would be potentially beneficial if the Joint Administrative Services Board lead this project. Chip Schutte and Mike Murphy concurred.

Mike Murphy commented that the Schools had recommended that the consultant pick the control group.

Tom Judge noted that Clarke has employees that perform many different roles or tasks, which must be taken into account.

Mike Hobert commented on inclusion of the Schools' master supplement.

Mike Murphy suggested making Gordon Russell the alternate PIO.

The Joint Administrative Services Board would be responsible for:

- Selection and approval of benchmark communities.
- Study intent, common methodology.
- Governance process, policies.

Mike Murphy put forth that beyond pay and classification the Board could make recommendations and informed business practices.

Tom Judge added that there was common experience with FMLA, the Affordable Care Act, and other issues that the Board could broker and assist the Schools and the General Government in understanding. He remarked that over time there would be the possibility that the two entities could be drawn closer in terms of personnel policies.

Mike Murphy added that the Schools were in the process of reviewing leave policies

By consensus, the Board agreed to act as the control group for the pay and classification study.

5. Need for Employee Communication on Benefits.

JAS staff recommend a communications effort with employees with regard to the following benefit changes:

a. Flex Benefits. The Group now has a two-and-a-half month run-out period at the end of each plan year where employees can continue to incur claims against that plan year. A new regulation permits groups to opt for a \$500 carryover at the end of the plan year instead. It is recommended that flex plan members be polled as to which of these two options is preferred.

Tom Judge provided an overview of the proposed federal change. He said that Board would be provided poll results for review.

By consensus, the Board agreed to proceed in this manner.

b. ACA Enrollment option. All employees should be informed that the open enrollment window for the Affordable Care Act is considered a "qualifying event" for dropping membership in Clarke County's group. That window continues open through March 31.

Tom Judge provided an overview of the proposed federal change.

Mike Murphy commented that he has a conference call set up with the Kenyan Group, an insurance broker similar to American Fidelity; and he would be sending out an invitation for November 26 at 9:30 am to Board members, as well as Annette Gilley, Rick Catlett and others. He added that this group is designing plans under the Affordable Care Act.

c. New Hybrid Retirement Plan Option. All benefits eligible employees hired after January 1 will be enrolled in the Hybrid Retirement Plan. In addition, anyone in either of the other two retirement plans can opt to enroll in the Hybrid Retirement Plan during a one-time open enrollment window from January 1 through April 30, to take effect July 1.

Tom Judge provided an overview of the proposed change to the Commonwealth's retirement plan.

The communications effort would include mass emails of a link to relevant web pages, employee meetings in January, and communications to managers during staff meetings.

David Ash recommended that items a. and b. be communicated in such a manner that a specific course of action is not suggested.

Joint Administrative Services Director Employee Evaluation

Mike Hobert added to the agenda discussion of the annual employee evaluation opining that the matter should have been raised in October. He noted that the by-laws require annual review and he expressed his desire to conduct the evaluation quickly and efficiently and by the end of December.

Mike Murphy and David Ash will coordinate.

Next Meeting

The next regular meeting is scheduled for December 16, 2013.

Adjournment

Chairman Schutte adjourned the meeting at 4:35 pm.

Minutes Recorded by David Ash and Transcribed by Lora B. Walburn

Joint Administrative Services Board
November 25, 2013 Called Meeting 1:00 pm

At a called meeting of the Joint Administrative Services Board held on Thursday, November 25, 2013 at 1:00 pm in Berryville Clarke County Government Center Meeting Room AB, Berryville Clarke County Government Center, 101 Chalmers Court, 2nd Floor; Berryville, Virginia.

Members Present

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

Members Absent

None

Staff Present

Tom Judge; Gordon Russell, Ed Shewbridge

Others Present

None

1. Call to Order - Determination of Quorum

At 1:00 pm, Chairman Schutte called the meeting to order.

2. Motion for Closed Session.

J. Michael Hobert, seconded by David Ash, moved to convene into Closed Session: "Be it resolved that the Joint Administrative Services Board go into Closed Session pursuant to Code of Virginia Section 2.2-3711(A)(30) for the purpose of discussing the award of public contracts for (1) an Enterprise Resource Management system (ERP), and (2) for an ERP Evaluation Consultant."

The motion carried as follows:

David Ash	-	Aye
J. Michael Hobert	-	Aye

Sharon Keeler - Aye
Michael Murphy - Aye
Charles "Chip" Schutte - Aye

3. Motion to Come Out of Closed Session.

Mike Murphy, seconded by Sharon Keeler, moved to reconvene in open session: "Be it resolved that the Joint Administrative Services Board come out of Closed Session."

The motion carried as follows:

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

4. Certification.

Mike Murphy, seconded by Sharon Keeler, moved to execute the following Certification of Closed Session: "Each member hereby certifies that, to the best of their knowledge, the only matters discussed during the closed session just concluded were those both lawfully exempted from the open meeting requirements, and those identified in the motion by which the closed session was convened."

The motion was approved by the following roll call vote:

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

5. Action or Direction on ERP System Procurement and/or ERP Evaluation Consultant.

Following Closed Session, Mike Murphy, seconded by David Ash, moved to direct staff to pursue additional information and contacts with Tyler Munis and Plante Moran. The motion carried by the following vote:

David Ash - Aye
J. Michael Hobert - Aye
Sharon Keeler - Aye
Michael Murphy - Aye

Charles "Chip" Schutte - Aye

6. Staff Augmentation.

Following discussion of the need for staff augmentation, the Board instructed Tom Judge to follow up with Plante Moran provide it the results of that follow up.

Next Meeting

The next regular meeting is scheduled for December 16, 2013.

Adjournment

Chairman Schutte adjourned the meeting at 3:30 pm.

Minutes Recorded and Transcribed by Lora B. Walburn

Tyler Technologies, Inc.
Munis Demonstration Agenda
Joint Government Center Conference Rooms
December 19, 2013

<u>Time</u>	<u>Application</u>
9:00 – 9:15	Introductions and Overview
9:15 – 10:30	GL/AP/Budgeting
10:30 – 11:00	Purchasing
11:00 – 12:00	HR/Payroll
12:00 – 1:00	Lunch
1:00 – 2:30	Tax Billing (RE and PP)
2:30 – 3:00	Business Licenses / Animal Licenses
3:00 – 3:30	Utility Billing
3:30 – 4:00	Permits / Code Enforcement
4:00 – 4:30	Cashiering

Queries

The proposal addresses what we asked for, but some of what we asked for was to be sure we had room to grow, so we may need to prune a few things back in the near term.

1. I understand the difference between TCMSE and TCMEE, and I believe the Board will want the TCMEE, but what is the cost differential for both the SaaS and local server options? *\$11,000. Suggest we start with SE and upgrade to EE if we determine we need it.*
2. What is the concurrent user calculation for the SaaS option? The numbers I provided in the RFP may not accurately represent what Tyler would define "concurrent user", and before I do the whole SaaS vs. Local Server Total Cost of Ownership calculation I'd like to be sure of the SaaS number. *32 concurrent users. Next step down is 16 (too little).*
3. Is Tyler Forms a mandatory element, or only needed for custom forms? Our goal would be to use only Tyler's standard forms. *Mandatory to have it. They will need to customize certain forms like checks, invoices, etc. but we can minimize. They will only bill for what they actually do.*
4. Is Tyler Reporting Services (SSRS?) a mandatory element, or only needed for custom reports? Is it included? Our goal would be to use only Tyler's standard reports. *Mandatory to have it. We can create our own custom reports, or pay them to do it, but they have many standard reports.*
5. If we get Munis Permitting now, but want to extend the breadth of our land use applications in the future, would we get backed into EnerGov, and find our Munis Permitting license fee to be a sunk cost? *Tyler will credit any investment in their software toward investment in another type of their software sharing similar function, so no sunk cost.*
6. I see that we will only be charged for the conversions we actually make. This is good because it's hard to know at this point. Is the same true of external system interfaces? *Yes.*
7. FYI: We are trying to get an estimate of the reduced audit cost if we order your CAFR tool. *Awaiting word from auditor.*
8. We currently license Versatrans. Will the Maplink GIS Integration extend to that application as well? *Versatrans will connect with ESRI ArcInfo, but not through Maplink. Tyler will confirm this.*
9. We don't want Performance Based Budgeting right now. Please confirm that it is not included. *Not included.*
10. Can you provide an xls template for the TCO calculation between SaaS and local

Server? There are a great many issues to consider, primarily in the ongoing costs like server license upgrades, disaster recovery, off-site backup, etc. There are a few templates on the web, but thought you might have something tailored to Tyler Munis. *Tyler is looking for this.*

11. I will ask the Board about the Performance Bond requirement. *This is about \$15K. We should evaluate the risks and decide whether we want to insure the project.*

12. There are substantial costs for "Software Modification Services" in the Cost section. It is our goal not to modify the software, but we need to understand what the tradeoff is if Tyler sees that our requirements are driving the need for modifications. *The requirements that drove the modifications do not appear to be critical. Suggest moving forward without modifications. In many cases Tyler provides another way to accomplish the same purpose. If it is truly necessary, another community will pay for the modification, and it will be rolled into our updates at no charge.*

13. What's the difference between UB Interface and Utility Billing CIS? Is there an option to do one and not the other? *UB Interface merely provides for an automatic meter reader capability. Mike Legge is considering this need.*

14. *Tyler now has 20% of clients on SaaS, expect 50% in the next few years. They don't push clients either way. No matter which way customers choose (SaaS or Local Server), they will give you credit toward the other solution, if you switch. Madison and Prince George Counties (Government and Schools) are currently using SaaS.*

References

Leesburg
Prince George SaaS
Madison County SaaS
Orange County
Alexandria

Client Reference Form

Vendor Name:	Tyler Technologies
Customer Name:	Staunton, City and Schools
Customer Contact:	Mike Bowen
Customer Phone Number:	540-332-3917
E-mail Address	bowenmw@ci.staunton.va.us

Describe Nature of Project and Services Provided to This Client:

Provided a complete ERP solution including software, implementation services, conversion services, and on-going support services. We have provided these services to both the city and schools. We have also implemented Tyler Content Manager, our integrated document imaging system. Workflow has also been implemented and set up.

Financial Software
Budgeting
Purchasing
Payroll
Human Resources
Employee Self Service
Citizen Self Service
Permits
Utility Billing
Tax Billing
Collections

Configuration of Solution Implemented (Hardware, Software):

Windows Server, with SQL Server.

Client Reference Form

Vendor Name:	Tyler Technologies
Customer Name:	Isle of Wight County and Schools, VA
Customer Contact:	Gerald Gwaltney
Customer Phone Number:	(757) 365-6224
E-mail Address	ggwaltney@isleofwightus.net

Describe Nature of Project and Services Provided to This Client:

Provided a complete ERP solution including software, implementation services, conversion services, and on-going support services. We have provided these services to both the city and schools. We have also implemented Tyler Content Manager, our integrated document imaging system. Workflow has also been implemented and set up.

- Financial Software
- Budgeting
- Purchasing
- Payroll
- Human Resources
- Employee Self Service
- Citizen Self Service
- Permits
- Utility Billing
- Tax Billing
- Collections

Configuration of Solution Implemented (Hardware, Software):

Windows Server, with SQL Server.

Client Reference Form

Vendor Name:	Tyler Technologies
Customer Name:	Montgomery County and Schools, VA
Customer Contact:	Stephanie Whyte
Customer Phone Number:	540-382-5742 x 4090
E-mail Address	whytesc@montgomerycountyva.gov

Describe Nature of Project and Services Provided to This Client:

Provided a complete ERP solution including software, implementation services, conversion services, and on-going support services. We have provided these services to both the city and schools. We have also implemented Tyler Content Manager, our integrated document imaging system. Workflow has also been implemented and set up.

- Financial Software
- Budgeting
- Purchasing
- Payroll
- Human Resources
- Employee Self Service
- Citizen Self Service
- Permits
- Utility Billing
- Tax Billing
- Collections

Configuration of Solution Implemented (Hardware, Software):

Windows Server, and SQL Server

Client Reference Form

Vendor Name:	Tyler Technologies
Customer Name:	Norfolk Schools, VA
Customer Contact:	Christopher Steele
Customer Phone Number:	(757) 628-3837
E-mail Address	cpsteele@nps.k12.va.us

Describe Nature of Project and Services Provided to This Client:

Provided a complete ERP solution including software, implementation services, conversion services, and on-going support services. We have provided these services to both the city and schools. We have also implemented Tyler Content Manager, our integrated document imaging system. Workflow has also been implemented and set up.

- Financial Software
- Budgeting
- Purchasing
- Payroll
- Human Resources
- Employee Self Service
- Citizen Self Service
- Permits
- Utility Billing
- Tax Billing
- Collections

Configuration of Solution Implemented (Hardware, Software):

Windows Server, with SQL Server.

Client Reference Form

Vendor Name:	Tyler Technologies
Customer Name:	Portsmouth, VA City and Schools
Customer Contact:	Meera Phaltankar
Customer Phone Number:	(757) 393-5270
E-mail Address	Meera.Phaltankar@pps.k12.va.us

Describe Nature of Project and Services Provided to This Client:

Provided a complete ERP solution including software, implementation services, conversion services, and on-going support services. We have provided these services to both the city and schools. We have also implemented Tyler Content Manager, our integrated document imaging system. Workflow has also been implemented and set up.

- Financial Software
- Budgeting
- Purchasing
- Payroll
- Human Resources
- Employee Self Service
- Citizen Self Service
- Permits
- Utility Billing
- Tax Billing
- Collections

Configuration of Solution Implemented (Hardware, Software):

Windows Server, with SQL Server.

JOINT TECHNOLOGY PLAN

Adopted by the Joint Administrative Services Board 12/17/2012

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 and human resource applications, and then regular recurring expenditures for additional modules. One scenario might be:

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	

Consideration of a Project Manager for the implementation of this system would be required because it will involve nearly a full-time devotion to ensure the adoption of best practices, the

optimal allocation of staff and financial resources, and continuing communication among all parties. With budget approval, Joint Administrative Services would work with School and Government IT departments to develop a Request for Proposals based on a template provided by the Government Finance Officers Association. This planning stage could be coordinated with professional assistance provided through Commonwealth of Virginia support for the project.

Documents:

1. GFOA Study (available at www.clarkecounty.gov).
2. FY 13 Budget Request (attached)

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	<i>me</i>
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.

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.

The budget includes funding for a disaster recovery system. This would provide a mechanism for putting government and school computer systems back into operation within a short period of time after a disaster such as theft, fire, weather events, etc.

The Government and School IT departments will develop a plan to provide this additional level of information security, and determine the degree of urgency for the recovery of various IT

assets. IT departments will then work with Joint Administrative Services to develop procurement specifications. *Disaster recovery could be element of ERP.*

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. 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 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.

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.

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.

The need remains to fully engineer a long-term solution. In the meantime, advice is being sought from RRMM (School Division architect), Schneider (current system vendor), the State Department of General Services, and Riddleburger (current HVAC system contractor). In addition, the School Division is monitoring the success of the new high school system, and a cost/benefit analysis of a position devoted to HVAC systems is being performed.

The School Superintendent, School Technology Director, and Maintenance Director are pursuing a final decision on what, if any, centralized energy management system will serve the needs of the School Division, while maintaining consideration of extension of this system to the Government buildings in the future.

School Division purchasing head end as part of elementary renovation.

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 original plan called for 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). A security design 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, this would connect only the new CCHS because of changes in the technical standards. The old CCHS and JWMS would remain separately monitored by the School Resource Officer. The Sheriff is seeking grant funding for this head-end. Data ownership and data privacy issues between the School Division and the Sheriff's office are being investigated. Monitoring ~~by~~ of the high school by the Sheriff's Office would only occur in connection with the \$70,000 grant-funded expenditure for the head-end.

Although the Joint Administrative Services Board believes building security itself to be important, completion of this system to additional buildings is not a high priority unless grant funding can be obtained. Opportunities to improve security will be assessed on a case by case basis as needs arise.

Fiber Optic Network

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 in spring 2013. The terms of the lease should be compared to the cost of purchase (item C, below). The County Administrator and Government IT Director are leading this effort.
- B. **Purchase of Comcast Fiber Optic Lines.** Although this option has not been ruled out, it is considered unlikely that Comcast would sell Clarke County the fiber strand(s) it uses, which is bundled to their other strands.
- C. **Installation of new, County-owned fiber optic lines to replace Comcast lines.** Discussions with Rappahannock Electric are underway, and there is reason to be optimistic that space on their poles can be made available. If so, a contractor would be hired to install the replacement lines. Maintenance of the lines in ensuing years would be performed on a time and materials basis with costs ranging from \$2000 to \$10,000 depending on the number of fiber strands that have been severed. Otherwise the lines require no maintenance, and have a long useful life. The Government IT Director is taking the lead in planning for installation of County-

owned lines, and is coordinating this effort with the School Superintendent and School IT Director.

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, and installation of fiber optic to Boyce is being considered, but is likely to be cost prohibitive. Boyce Elementary is currently served by agreement with Comcast.

↳ partial pay
by e-rate.

Documents:

1. Fiber Optic Network Schematic (attached).

Network Switches

Network switches route internet traffic, data application communications, telephone communications, and energy management system communications. As such, these devices are critically important to the functioning of all other software and hardware in the County. The network switches consist of 12 "core" switches, but 100s of switches total. 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 contract cost on the older switches is likely to make that the more expensive option in the long run. However, in certain cases the maintenance contract can be allowed to expire and spares maintained, permitting an extended replacement schedule. It will be practical to coordinate the replacement of network switches with any changes to the fiber optic network.

Employee Training

The ERP system cost estimate, above, includes initial 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.

In addition, it is important that employees receive training in office applications, web page maintenance, and email/address/calendar applications. There is general agreement that the full capabilities of these systems are underutilized. Joint Administrative Services, along with

the Government and School IT Directors, will plan a joint training schedule for these applications in the first three years of the plan, and add training in the ERP system to this training program in the out years of the plan.

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 several years, after which it will be necessary to purchase a fourth unit, a project to be carried out jointly by the Government and School IT Directors.

Video Conferencing

Consideration should be given to the costs and benefits of video conferencing among school and government employees to reduce time and the cost of travel between buildings. The need is not imminent, though the technology exists in a 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 communication to the internet.

Software Adoption and Replacement

There are currently only a few shared software applications (Xpert, schooldude) However, there may be advantages to sharing software systems such as:

1. Email, calendaring, address book.
2. Facility scheduling.
3. Citizen alert.
4. Web development tools.
5. Productivity software licensing (word processing, spreadsheets, etc.)
6. Project Management.

No budget estimates are provided for this category, other than the ERP system, as software system charges do not currently span organization budgets. However, the Joint Administrative Services Board will continue to seek opportunities for sharing software and seeking volume pricing where practical.

<u>EVENT</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>Notes</u>
Enterprise Resource Planning System (ERP)	600,000										Includes Document Management System
Telephone System	50,000							60,000			
Information Security	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	Disaster Recovery System
Energy Management System		100,000	100,000	100,000	100,000	100,000					Requires reengineering to obtain budget estimate
Building Security System		<i>70,000</i>									100% Grant Funding
Fiber optic infrastructure			165,000								Quote from Vendor
Network Switch Upgrades			100,000	100,000	100,000	100,000	100,000				
System-Wide Training	5,000	5,000	5,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	ERP training included above in initial three years
Shared Data Storage					35,000				35,000		
Video Conferencing							25,000				Need and cost not defined
TOTAL	680,000	200,000	395,000	235,000	270,000	235,000	160,000	95,000	70,000	35,000	

KEY:
Bold = School 100%
Italic = Government 100%
 Normal = Split 50/50

THE PROS AND CONS OF SAAS ERP



The hype cycle surrounding Software as a Service (SaaS) has been escalating over the past several years, building to a crescendo entering 2012. Enterprise Resource Planning (ERP) holds a special place in the grand scheme of SaaS. While companies seemed willing enough to let the applications that surround and extend ERP reside in a SaaS environment, they were less willing to place their systems of record in a cloud they did not specifically own or control. Today that is changing and as many weigh the pros and cons of SaaS ERP, the advantages appear to be winning.

IS IT "SAAS" OR IS IT "CLOUD"?

In spite of, or perhaps because of the huge volume of discussion around SaaS and cloud computing, there remains much confusion over the terminology. Many use the terms "cloud" and "SaaS" interchangeably, but there are some important differences. So let's distinguish between the two up front:

- Cloud refers to access to computing, software, storage of data over a network (generally the Internet.) You may have purchased a license for the software and installed it on your own computers or those owned and managed by another company, but your access is through the Internet and therefore through the "cloud," whether private or public.
- SaaS is exactly what is implied by the acronym. Software is delivered only as a service. It is not delivered on a CD or other media to be loaded on your own (or another's) computer. It generally is paid for on a subscription basis and does not reside on your computers at all.

All SaaS is cloud computing, but not all cloud computing is SaaS.

The confusion over terminology is only exacerbated by industry observers insisting their definition of SaaS is the only "true" definition. Most that insist on "true" SaaS also insist on a SaaS environment which is multi-tenant. The truth is, most consumers of SaaS enterprise applications don't necessarily understand the difference between multi-tenant and single-tenant (or multi-instance) and may prefer the latter over the former for a variety of reasons.

Adoption of SaaS deployments of ERP has lagged behind that of other applications. Entrusting a SaaS solution provider with the transactional system of record of your business requires a higher level of trust than it might to hand over other applications, including those which are often today referred to as "systems of engagement." This helps explain the relative acceptance of SaaS deployments of sales force automation (SFA) and customer relationship management (CRM) made popular by Salesforce.com as well as the historical resistance to SaaS ERP.

Multi-tenant versus Single-tenant SaaS

Multi-tenant SaaS:
Multiple companies use the same instance of hosted software; configuration settings, company and role-based access personalize business processes and protect data security.

Single-tenant (or Multi-instance) SaaS:
Each company is given its own instance of the (hosted) software, but may share common services, such as an integration platform, and security.

Data Source

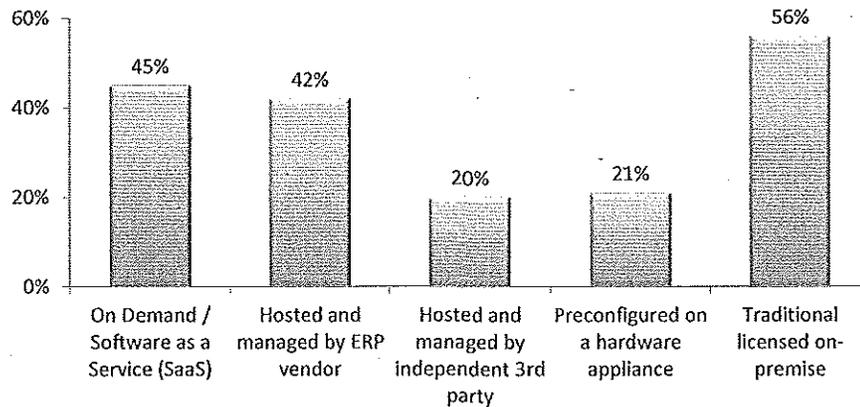
From mid-July through the end of September 2011 Mint Jutras collected more than 1250 responses to an electronic survey for its ERP Solution Study. More than 900 responses were qualified by the participant's knowledge of and involvement in ERP implementations. These responses were used to investigate ERP goals, challenges and status and also to benchmark performance of ERP implementations.

Survey responses represented companies from all sizes, based on annual revenue:

- ✓ 41% Small (under \$25 million)
- ✓ 40% Lower Midsize (\$25m - \$250m)
- ✓ 13% Upper Midsize (\$250m - \$1 billion)
- ✓ 6% large (Over \$1b)

That sentiment however is changing and the barriers to acceptance appear to be breaking down. SaaS deployment is now more likely to be considered than traditional hosting options. Yet even more stunning is the decline in the willingness to consider traditional on-premise deployments. A few years back the percentage willing to consider traditional deployments would have been in the 90's while recent research pegs it at 56%.

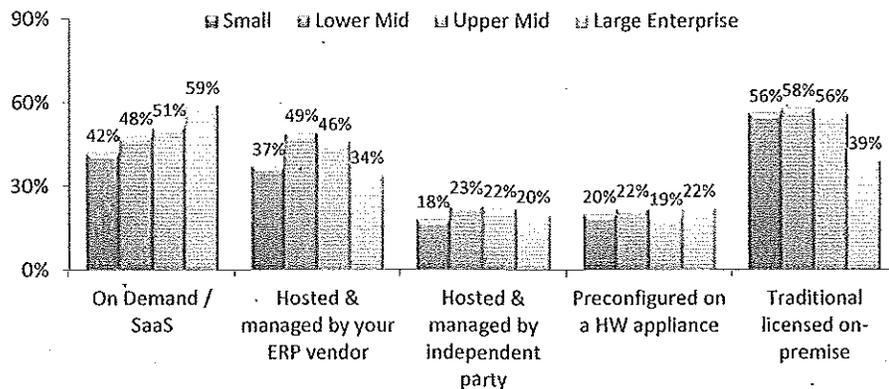
Figure 1: ERP Deployment Options that would be Considered Today



Source: Mint Jutras 2011 ERP Solution Study

And before you assume SaaS deployment is just for small companies, consider Figure 2. The willingness to consider SaaS ERP actually increases as companies grow, with the highest level of interest from large enterprises, which are also the least likely to consider traditional on-premise deployment. More on this as we actually weigh the pros and cons.

Figure 2: Deployment Options Considered by Company Size



Source: Mint Jutras 2011 ERP Solution Study



World Class Prefer SaaS

Survey respondents with World Class ERP implementations are 35% more likely to be willing to consider SaaS ERP:



World Class



All Others:

This preference is even more pronounced if we limit the sample to manufacturing companies only:



World Class Manufacturing



All Others

Mint Jutras defines a World Class ERP implementation to be the top 15% based on results measured since implementing ERP, progress made in achieving company-specific goals and current performance.

Note that an expanded set of metrics were used to define World Class Manufacturing, taking full advantage of manufacturing-specific measurements such as production volume, inventory and cycle times.

One final note on acceptance of SaaS as an option: Those with the most successful ERP implementations are most likely to consider SaaS deployments. Mint Jutras defines a World Class ERP implementation to be the top 15% based on results measured since implementing ERP, progress made in achieving company-specific goals and current performance in universal metrics such as percentage complete and on-time delivery and customer retention. Those with World Class implementations are 35% more likely to be willing to consider SaaS ERP and this preference is even more pronounced in the manufacturing sector where these top performers are almost twice as likely to add SaaS as a possible deployment option.

In spite of the past reluctance to consider SaaS ERP, the plus side of the SaaS equation extends beyond the obvious advantages of outsourcing the care and feeding of the hardware and software involved. And yet there are some lingering concerns, some more valid than others.

COST CONSIDERATIONS

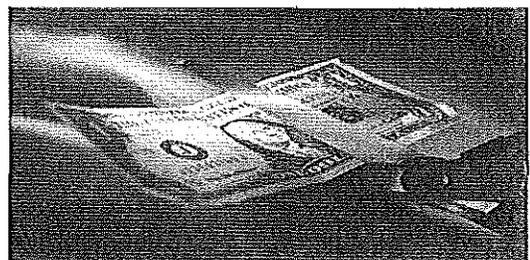
When our survey respondents were asked what they found appealing about SaaS ERP, cost factors rose to the top of the list. While more than half (52%) cited lower total cost of ownership (TCO), 46% also noted lower startup costs.

A Chief Financial Officer of one small company that decided on the SaaS route two years ago noted the estimated up-front investment in an on-premise solution for eight users was \$150,000. This was primarily for implementation services, but also included hardware and software. The actual up-front cost for the SaaS solution chosen was less than \$100,000 and allowed up to 25 users. While software and service costs and even pricing models will vary from one solution to the next, this differential is not atypical.

This CFO explained, "While the up-front costs were lower we also compared the ongoing costs per year. For [the on-premise] solution, we anticipated annual maintenance costs of \$10,000 per year, but we also knew we would have to invest in a data base administrator / programmer. We conservatively projected that cost to be \$75,000 per year. We compared that to the \$45,000 per year subscription cost for the SaaS solution, with no IT staff required. So, on an ongoing basis we would save on the order of \$35,000 to \$45,000 a year. But the advantage of not having consultants living in our offices or an IT department...priceless."

In fact 42% of our survey respondents mentioned the lower (or nonexistent) cost of Information Technology (IT) staff as an advantage of a SaaS solution. Many simply don't have the internal staff they feel are required to adequately support hardware, infrastructure

52% see SaaS as having lower TCO



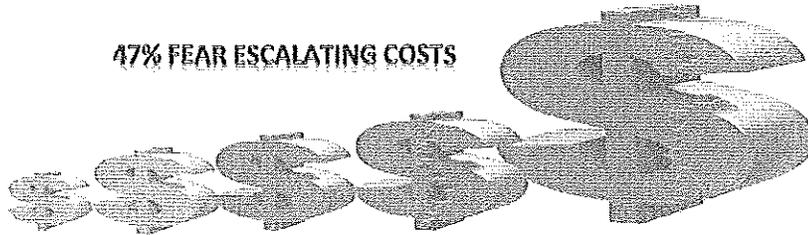
46% anticipate lower startup costs

While the perception of lower costs was quite dominant, 18% did express the sentiment that they did not feel SaaS was any less expensive.

and software, and are not interested in investing in these resources. And yet, in noting concerns over SaaS, 15% did indicate they had already invested in IT and were unwilling to reduce staff. Yet it is not unusual for these IT staffs to be kept on board even after a switch is made from on-premise to SaaS. This is far less likely to occur if existing IT staff have outdated technical skills or if the IT department cannot transform itself from having a tactical focus to one which is more strategic.

While the perception of lower costs was quite dominant, 18% did express the sentiment that they did not feel SaaS was any less expensive. In fact some industry observers will confirm this belief citing the obvious "rent versus buy" mentality and will point to break even points in the five to seven year range. However, these calculations only take into account the cost of the software and maintenance and usually ignore the cost of the hardware and often the middleware (i.e. database and infrastructure) that supports the application, not to mention the IT staff needed to maintain it. Certainly if ERP is the only application that moves to the cloud and other applications remain on-premise, hardware (and IT staff) will still be required. However, the power and storage capacity needed will necessarily be reduced. Often today, as older hardware and middleware is replaced, the ongoing costs are significantly reduced with the added price performance of newer technology.

47% FEAR ESCALATING COSTS



One final cost concern that needs to be considered is that of escalating costs over time. Using the same "rent versus buy" analogy, long gone are the days of "rent-controlled apartments." You sign a lease and take your chances that the landlord will not raise the rent through the roof at the end of the term of the lease. But once you make a purchase of a condominium or a house, there are no guarantees that your taxes won't escalate out of control either.

The software equivalent to property taxes is maintenance. However, there are some notable differences between real estate and software. Both maintenance fees and the software that is delivered as a service are governed by contracts. It is important in selecting a solution provider to look at the historical escalation of cost and you may even want to negotiate a limit to allowable price increases.

PRESERVING YOUR INVESTMENT

Second only to TCO, 48% of respondents included the reduced cost and effort of upgrades as an advantage to SaaS. The availability of more leading edge technology through more frequent updates also factored heavily for 39%. This

too will vary from one vendor to the next, and in fact those that provide the same solution in both SaaS as well as traditional on-premise deployment options may continue to deliver innovation in a traditional way. However even in this case, at least some of the burden of the upgrade process is assumed by the SaaS solution provider. And at least some of the SaaS-only solution providers provide far more frequent and apparently seamless upgrades.

- ✓ 48% see reduced cost and effort;
- ✓ 39% value more leading edge technology through more frequent updates

Pro



Con

26% fear loss of control

While the upgrade process is viewed by many on the plus side of the SaaS equation, some actually view it negatively. Twenty-six percent (26%) of respondents expressed the concern that they were losing control. Indeed in a multi-tenant environment, the customer typically has little control over the timing of the upgrades. However what is the real impact? If innovation is delivered in such a way that the customer may optionally choose to take advantage of an enhancement – or not – then there is no down-side and a lot of up-side.

In many cases “We want to control our own upgrade process” actually translates to “We don’t have time” or “We don’t want the disruption of an upgrade.” And yet by not keeping current on the latest release of the software you are essentially letting your maintenance dollars go to waste.

Of course in a SaaS environment, those would be your subscription dollars. Even though upgrades at first might feel like a forced march, that forced march is actually good for you. All bug fixes and regulatory requirements are in place. When you are ready to turn on the new functionality, it will be there. So the combination of frequent updates and this “opt in” capability is an important characteristic by which you should evaluate potential solutions.

CUSTOMIZATION

Heavily customized solutions also may prevent companies from keeping current on the latest release of ERP. At the same time, the *perception* of the need for customization may present a barrier to considering a SaaS solution. In fact 25% of our survey respondents indicated the requirement for heavy customization would prevent them from considering SaaS. Yet there are some very valid arguments that can be made against this as a barrier to SaaS entry.

The combination of frequent updates and this “opt in” capability is an important characteristic by which you should evaluate potential solutions

First of all, don't necessarily assume you can't customize a SaaS ERP solution. Most modern ERP solutions today offer so many options to configure and tailor the solution that users think they are performing customizations, even though they are not touching the code or building barriers to future upgrades. And if the requirement does truly require code modification, some (but not all) SaaS vendors, even some which provide multi-tenant solutions, do indeed support customization. These vendors either

- incorporate the customization into the standard product, possibly with switches and settings that effectively "hide" the changes from other customers or make them optional, or
- they offer the customized solution in a single-tenant (multi-instance) environment

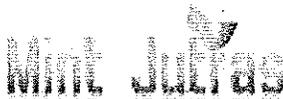
Yet while many individuals may think their business is unique (thus making customization necessary), much of what they do can and should be quite similar to any other business or at least similar to other businesses in the same industry. Perceived differences often spring from the "we've always done it this way" mentality. And those supposedly unique business processes may pre-date the availability of tools and technology that can improve the process.

But if you truly require heavy customization, then it may be time to reevaluate whether you have the right solution for the job at hand. In selecting ERP, fit and functionality has always been the top priority, as it should be. Our survey respondents ranked this criterion at the top of the list at 3.49 on a scale of 0 to 4, where 4 is "extremely important." But sharing that top spot, tied at 3.49, was ease of use. These two criteria actually can and should go hand-in-hand. Even with the best fit, if the solution is not easily navigated, if it doesn't allow you to work naturally, if it doesn't save you time and effort, then it simply won't get used and it won't produce value for your business.

For those with existing ERP solutions that require continued support of heavy customization, it may be time for a replacement and SaaS may help pave the way. In the not too distant past, ERP was thought to be like brain surgery. Don't do it unless the patient is dying. But today, it should be viewed more like joint replacement. If your knee or hip is not functioning properly, typically you will delay replacing it until you exceed your threshold for pain, or until you are no longer able to function properly. Use this same philosophy in terms of ERP. While it still may require major surgery for your company, recovery may be speedier with a SaaS solution. Survey respondents with SaaS implementations reached their first go-live milestone 19% faster than those with on-premise solutions.

There is still the perception among some (23%) of our survey respondents that SaaS ERP solutions do not offer the same level of robust functionality that on-premise solutions provide. However, there are SaaS-only ERP

Survey respondents with SaaS implementations reached their first go-live milestone 19% faster than those with on-premise solutions.



solutions that are quite mature (look to see how long they have been around). Before SaaS became popular, these vendors often sold their solutions in spite of being SaaS, rather than because of it. Cost and the lack of need for an IT department were often factors, but just as often they won the business largely on the merit of the solution. And today more and more of the ERP vendors that have always offered on-premise solutions are now taking these solutions and offering them with some flavor of SaaS. In comparing any two or more solutions, there may be a varying size gap in fit and functionality, but don't assume a solution that is on-premise necessarily has more functionality. Carefully evaluate each for its specific fit against your needs.

ACCOUNTING FOR COSTS AND RISKS

Before making a purchase (or a replacement) decision, you will want to consider how you will account for the costs. If you choose an on-premise solution, with the purchase of a substantial up-front license, the default accounting will be to treat it as a capital expense (CapEx). You may have some alternatives through leasing and some on-premise solutions can be paid for through subscription pricing. But generally all SaaS solutions are paid for through subscriptions, giving you the alternative of treating the cost as an operating expense (OpEx). Whether this is a requirement or even a preference is a question you must answer along with your accountants.

The ability to treat the purchase as an operating expense is often associated with lowering the risk. And in fact the perception of SaaS as a lower risk was cited by 25% of all respondents and 45% of World Class. Lower risk and "pay as you go" subscription pricing however should not be confused with "Let's try it and if it doesn't work, we can just walk away." Make no mistake, the implementation of an ERP solution, SaaS or otherwise, is a major undertaking. It is the system with which you will run your business and there is a high degree of probability it will introduce change to the way you run it. After all, if you are not going to gain efficiencies and improve your business, why do it at all?

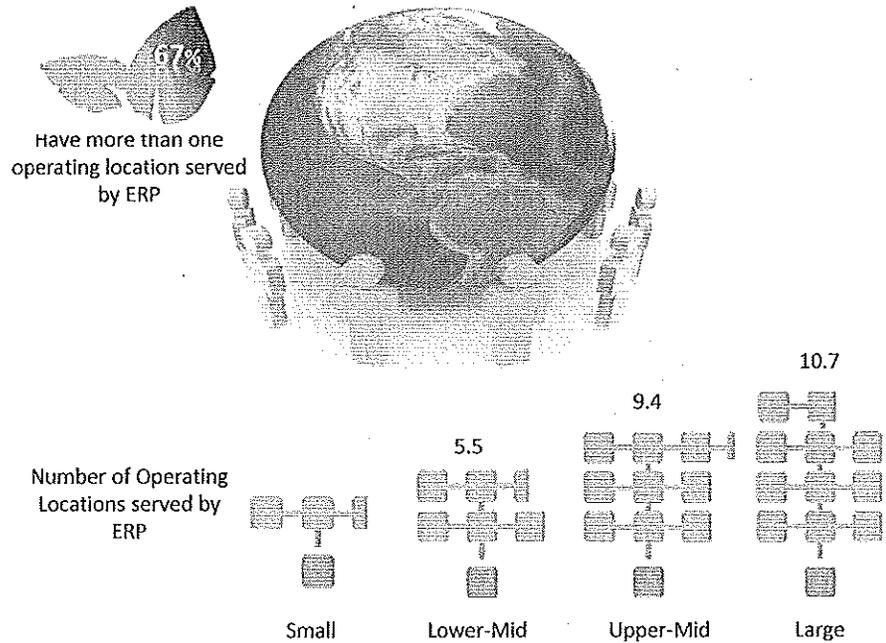
Lower risk and "pay as you go" subscription pricing however should not be confused with "Let's try it and if it doesn't work, we can just walk away."

However there is one risk that SaaS might seem to introduce – that of downtime and unpredictable performance. This concern was expressed by 46% of survey respondents. Here is another example where due diligence is required. Ask for historical performance including outages and down-time and consider asking for guarantees, albeit with the appropriate caveats for natural or even man-made disasters. However, expect a higher level of commitment than you yourself could make to your own constituents. SaaS solution providers' very livelihood depends on this and as a result they build in redundancies that you as an individual company could probably never afford.

DISTRIBUTED ENVIRONMENTS

This redundancy is often achieved through backup facilities in different parts of the country or even the world. Yet operating across a distributed environment has become a way of life for a large percentage of businesses

today, even smaller ones, and therefore may provide additional incentive to consider SaaS ERP. In fact 67% of all our survey respondents had more than one operating location served by ERP even though our survey sample included companies of all sizes from very small to very large. Even small companies (those with annual revenues under \$25 million) averaged 2.5 operating locations. This average escalated to 10.7 in companies with revenues over \$1 billion.



Source: Mint Jutras 2011 ERP Solution Study

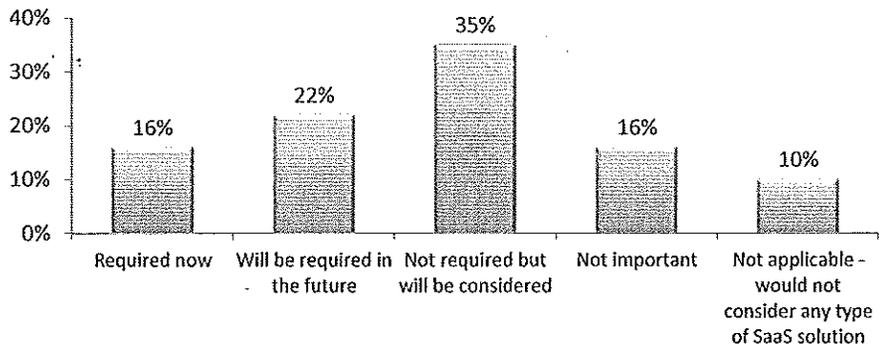
This level of distributed environment helps explain at least in part why large enterprises are so ready to consider SaaS ERP (refer back to Figure 2). What better way to control the standardization of solutions and processes than through SaaS deployment? In fact 36% of survey respondents cited the ease of remote access for a distributed workforce as a key advantage of SaaS and 27% noted the ease of bringing up remote sites. Of course these distributed environments don't necessarily rule out other deployment options. Centrally hosted environments might accomplish the same goal, but again the burden of installation and upgrades must be born either by the host or the company itself, whereas the SaaS solution provider can bear much of that burden of responsibility.

INTEGRATION WITH OTHER APPLICATIONS

When we consider distributed environments, we also must consider multiple enterprise applications which necessarily co-exist with ERP. Although the footprint of ERP has steadily expanded over the past three decades, it is a rare

occurrence for ERP to be the one and only application running in the enterprise. And as the central focal point in running your business, it is likely there will be touch points of integration between ERP and surrounding applications such as Customer Relationship Management (CRM), Supply Chain Management (SCM), Product Lifecycle Management (PLM), Human Capital Management (HCM), to name just a few. Will integration requirements form a barrier to SaaS deployment? While 16% of respondents require integration today, another 22% expect this will be a requirement in the future. But another 35% recognize this as a consideration without really understanding what those integration requirements are today.

Figure 3: Interoperability Requirements with Other Applications

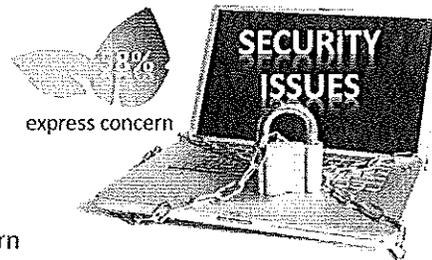


Source: Mint Jutras 2011 ERP Solution Study

While not a particular sticking point today, this is a requirement that must be given careful consideration as hybrid environments begin to develop. Of course, if SaaS continues to develop in popularity as some industry observers predict, interoperability will remain as it is today, an important consideration, but more in terms of integrating with other SaaS solutions. The openness of the platform on which the SaaS software is delivered will become important just as the openness of any operating or development architecture is for on-premise solutions today.

AND FINALLY...WHAT ABOUT SECURITY?

The final and often deciding factor in considering SaaS ERP is one of security. It's one thing to put your sales contacts in the cloud, but quite another to put your system of record someplace where you can't see it or control it yourself. And yes, the number one barrier to SaaS deployment is concern over security, with 58% of survey respondents expressing this fear. And yes, everyone *should be* concerned over security. But they should be concerned regardless of deployment option.



... everyone *should be* concerned over security. But they should be concerned regardless of deployment option. Don't make the mistake of thinking an on-premise implementation is necessarily any more secure than SaaS.

**SAS 70 Type II
certified**

**Statement on Auditing
Standards No. 70:**

Service Organizations,
commonly abbreviated
as **SAS 70**

The SAS 70 certification
was developed by the
American Institute of
Certified Public
Accountants (AICPA) to
annually audit the
effectiveness of
operations, controls
and safeguards to host
and process data.

Don't make the mistake of thinking an on-premise implementation is necessarily any more secure than SaaS. That is unless your data center is completely contained with no possibility of access from outside the four walls of your building. That means no VPN access. It means no external consultant or guest ever connects their laptop to your network. It means no laptop ever leaves the building to be potentially connected to any other network, then brought back and connected to yours. There aren't too many installations, if any, like this in the world today.

In fact, if you are a small company, without a dedicated IT security expert on board, chances are you assume *more* risk than you would in a SaaS environment, particularly one that has successfully completed an annual SAS 70 Type II audit. While 58% of respondents expressed concerns over security, another 29% admitted that part of the appeal of SaaS was the comfort of leaving security and other IT issues to the experts.

CONCLUSION AND RECOMMENDATIONS

On balance the advantages of a SaaS environment for ERP seem to outweigh the disadvantages. Cost savings, including TCO, startup costs and cost of IT staff can be substantial. Even if the subscription cost equals the cost of software and maintenance over time, there are still the savings achieved by eliminating the purchase or continued maintenance of hardware. If you have no IT staff today, there is no need to hire any. If you have good IT staff on board, let them engage in more strategic, value-add activities than routine maintenance.

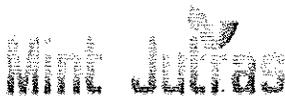
Whether you choose a solution that is multi-tenant or multi-instance, carefully evaluate the solution provider's approach and track record in terms of delivering innovation. Look for those that update frequently, but provide "opt in" enhancements. And don't build road blocks to keeping current with excessive customization. Configuring is good. Modifying code and then having to continue to maintain that code is bad. If you still think you need to customize, ask yourself if you have the right solution.

If you operate in a distributed environment, consider the advantages a SaaS environment can bring in terms of standardization across the enterprise, providing access to remote employees and in bringing remote sites up quickly.

If you have already invested or intend to invest in other applications that surround or extend ERP, consider the integration requirements and capabilities of the solutions you examine.

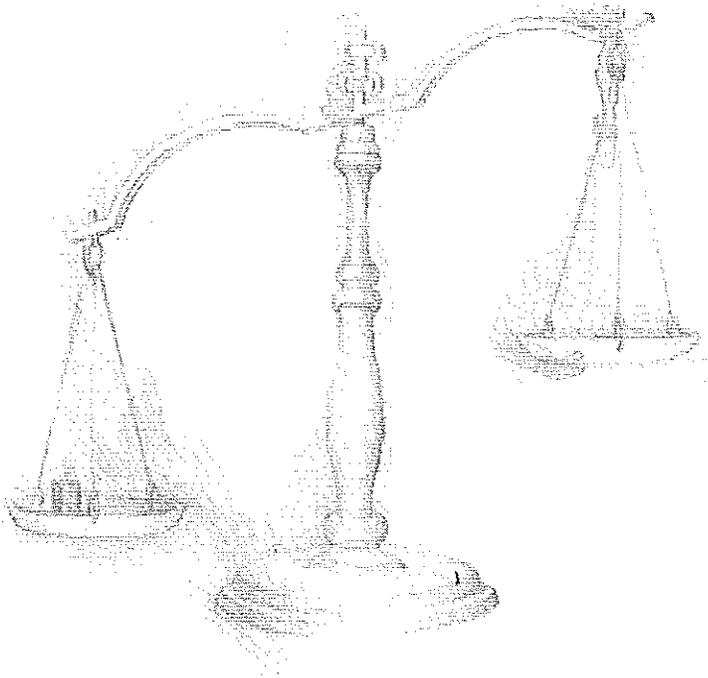
The accounting advantages of OpEx versus CapEx may or may not be appealing to the office of the CFO. But ask the question and make a conscious decision, rather than letting your choice of solution dictate your accounting.

And finally assess your risks. Do you have risks today in terms of existing software and its ability to help you manage your business? What new risks does new software add or eliminate. Assess your current level of security.



When considering SaaS solutions, look for data centers that have passed a SAS 70 Type II audit and ask yourself if you yourself could pass such an audit today?

The depth and breadth of choice between solutions and deployment options have never been greater. Look for these choices to continue to expand. But with more choice comes the requirement for better due diligence and good decisions. Don't be held back by pre-conceived notions and misperceptions about technology that is rapidly advancing. Not all SaaS ERP solutions were created equal; don't treat them as a commodity. Make a careful choice that is right for your business.



About the author: Cindy Jutras is a widely recognized expert in analyzing the impact of enterprise applications on business performance. Utilizing over 35 years of corporate experience and specific expertise in manufacturing, supply chain, customer service and business performance management, Cindy has spent the past 5 years benchmarking the performance of software solutions in the context of the business benefits of technology. In 2011 Cindy founded Mint Jutras LLC (www.mintjutras.com), specializing in analyzing and communicating the business value enterprise applications bring to the enterprise.