## ENTERPRISE RESOURCE PLANNING (ERP) REPLACEMENT

Enterprise Resource Planning (ERP) is an organization-wide software solution that allows integration among various departments and their respective functions. The result is a centralized system of communication, data storage, and operations management. Improvements to ERP solutions bring about processes that multiple departments can benefit from. Common municipal-related ERP application modules include accounting, financial reporting, payroll, human resources, planning and permitting, and work orders. The following graphic shows a typical municipal ERP environment.

Example Enterprise Applications Overview
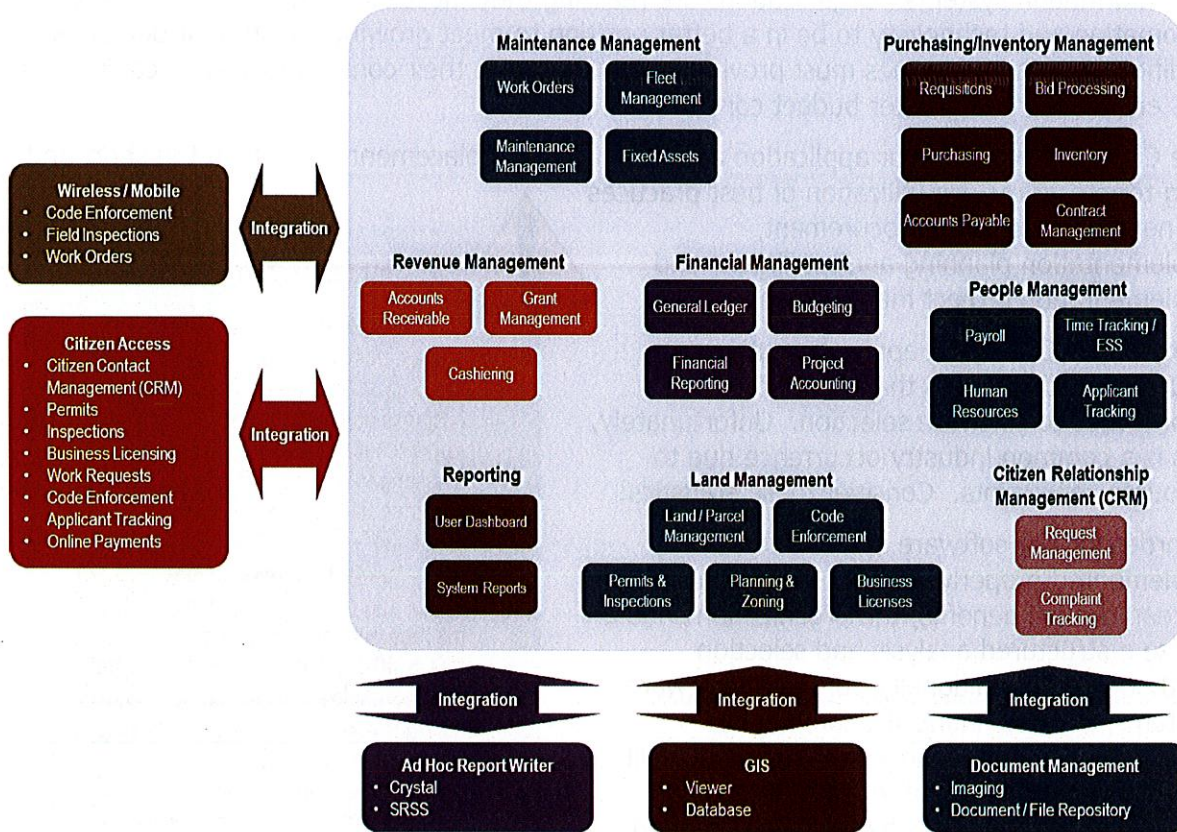
Currently, the City utilizes multiple software vendors including ADG to support its enterprise application requirements. Some of the current systems are outdated, lack adequate integration, reasonable reporting capabilities, commonly utilized functionality found in other municipalities, and require excessive manual workaround and reconciliations. All departments noted unmet reporting needs, feature/functional requirements deficiencies, and an overall need for systems improvements and additional software modules.

The City is missing opportunities for labor savings (thousands of labor hours per year), and improved customer service due to lack of integrated solutions with sufficient training and functionality to meet internal operational and customer needs.

Departments have a strong interest in newly available features and enhancements that a more modern ERP solution can provide. Gaining greater utilization in enterprise application software modules through installation of a new ERP system is key to significant increases in citywide productivity and efficiencies.

The City currently uses four different vendors to provide its ERP needs. The primary solution, ADG is aged and lacks key functionality available in more current technology. Additionally, QAlert is not a full Work Order and maintenance management system and alternatives should be considered.

The entire effort to select and implement a new ERP solution will require two to three years of effort.

SOFTWARE SELECTION BEST PRACTICES

Selecting the right system and technology is more critical today than ever before because the efficiency and effectiveness of the organization is directly dependent on its use of technology and information systems. Organizations are realizing they must take greater advantage of automation and technology to be in a better position to meet growing constituent demands. Additionally, many agencies must provide better service to their constituents while coping with less employees and greater budget constraints.

The City has several major application additions and/or replacement projects in the short and long-term that require utilization of best practices for needs assessment, procurement, implementation planning and readiness, and implementation project management.

Many of the City's past application utilization issues started with less than Best Practice approaches to software selection. Unfortunately, this is a common industry occurrence due to resource constraints. Consider these statistics:

In order for key software systems to be implemented properly, and for the organization to reap the full benefits, the organization should utilize a structured analysis and selection methodology. Additionally, for major software systems, such as financials, community development, maintenance management, utility billing, CAD/RMS, and other specialized application systems, it is highly recommended the City consider utilizing independent third-party experts to provide consulting and project management.

⚠ STARTLING STATISTICS:

- Only 32% of projects are on-time, on-budget, deliver all required features and functions, and achieve measurable business and stakeholder benefits[1]
- Approximately 44% of projects are "challenged" (late, over budget, and/or with less than the required features and functions)[2]
- 69% of project failures are due to a lack of and/or improper implementation of project management methodologies
- Nearly 40% of those surveyed said that a "lack of employee buy-in and executive support" was the biggest challenge facing a successful implementation[3]
- A Recent Customer Survey Shows that Enterprise Implementation Projects:
  - Have only a 7% chance of on-time implementation
  - Will likely cost more than estimated
  - Will likely deliver unsatisfying results (only 21% will realize half or more of expected benefits)[4]
- In a past study of local government enterprise implementation, published in *Government Finance Review*, it was found that the average project was 176% over budget and 243% over the planned implementation timeline

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[1] Standish Group, CHAOS Summary, 2009.

[2] Standish Group, CHAOS Summary, 2009.

[3] KPMG survey of 252 organizations.

[4] Panorama Group, Based on a 2009 survey of more than 1,300 online respondents and focus group participants who had implemented ERP within the last three years.

GIS ASSESSMENT AND MASTER PLAN

The City does not have a centralized GIS function.

- Each department maintains their own GIS servers and GIS software, and these systems are not integrated and do not talk to one another. These departments include, but are not limited to:

    - Community Development
    - Public Works
    - Utility District
    - Police
    - Fire

- GIS data layers and GIS databases are not centrally located and maintained. GIS layers and databases are supported separately across the departments noted above.
- Palm Beach County is the source for base maps, but each department repeatedly downloads this data to their GIS systems independently and maintains this data separately.
- Those responsible for GIS within their respective departments attempt to meet on a monthly basis, but it is not as consistent as it should be. However, they are working to be more effective at communicating and sharing data.
- Not all needed layers are in place. For instance, Public Works described their GIS accomplishments as follows:

    - Street signs – None
    - Street lights – None
    - Storm sewer – Approximately 50%

- The City should consider organizing a centralized GIS function. This would provide consistency across the City and make more effective use of resources. Even though the function would be centralized, the individual GIS personnel could be assigned to specific departments to provide continuity. The focus would be to:

    - Consolidate GIS Resources

        - Staff
        - Software
        - Databases
        - Hardware

    - Establish common centralized GIS layers
    - Determine the best points of integration with key departmental systems
    - Integrate GIS with City's website

- The City should consider a long-term goal of combining the new centralized GIS function with the IT division. In the short-term, during the GIS consolidation effort, it is assumed best to keep the GIS and IT organizations separate to ensure each organization can focus on their short-term goals of their respective IT Master Plan initiatives and recommendations.
- The City should consider developing a GIS Strategic Plan. Although the City has extensive GIS data, it will benefit from a plan that will help leverage its investment in GIS. Details of this recommendation are included in the IT Master Plan document under the GIS initiative.
- Consider assistance from an independent, third-party, industry expert to develop the GIS Strategic Plan.

GOVERNANCE

The City requires cooperative technology to meet its goals. The IT Master Plan implementation provides a great opportunity for City departments to collaborate on future technology use and applications. In the past, the City had a Technology Advisory Committee, but it has been inactive since 2011.

Traditionally, key IT decisions are made by IT professionals and a select few organization managers. This does not always ensure the most effective benefit to all stakeholders (all departments and constituents). IT governance can provide a collaborative groundwork for major decisions, planning, internal communication, and department/staff training regarding such matters. IT governance is committed to the stewardship of IT resources on behalf of the stakeholders who demand a benefit and/or return on the investment.

The IT Steering Committee is a group of employees from a variety of departments and disciplines that provide long-term direction and oversight for an organization's IT systems. This committee can provide a stabilizing influence and focus for development of organizational concepts and planning. Some of the responsibilities the group may carry out include:

- Identification and development of technology initiatives
- Prioritization of initiatives
- Monitoring and reviewing initiatives
- Project managing implementation of this IT Master Plan
- Providing a forum for lessons learned during implementation of technology projects
- Provide an initial review process of technology-related projects by one department
- Review and providing feedback on long-term unresolved Help Desk issues
- Developing and reviewing standards and policies
- Updating standards and policies as changes occur in the organization and technology
- Helping to achieve support across the organization
- Review Help Desk statistics, issues, and long-term, unresolved needs
- Acting as a sounding board for management and staff

Implementation of IT Governance can be an effective forum for departments to become more knowledgeable about technology and how it can be used effectively to enhance customer service and create efficiencies throughout the City's business process environments.

IT MASTER PLAN – TOP 5 INITIATIVES

The following is a list of the Top 5 initiatives the City should note and keep in the forefront as part of the future implementation of this IT Master Plan.

IT Initiative	Why in the Top 5?
ERP System Replacement	This is the core system for the entire City. The ADG system is aged and no longer meets the needs of the City. Other ancillary system and shadow systems have been acquired or developed that do not interface/integrate and would not be necessary with the implementation of a new ERP system.
Network Redesign	The City's network is the highway for communication and the infrastructure that all applications and tools ride upon. Without a solid network design for MAN/WAN/LANs the investment in application software tools will not be realized.
Sustainability Planning	A citywide technology environment is a continual support, improvement, and upgrade process. Maintaining this environment is critical and large spikes in capital expenditures can be avoided by proper planning for upgrades and replacements based on the lifecycles of various technologies. The City has let their environment lag and now is catching up, which is costly. A repeat of such a cycle can be prevented.
Application Management Best Practices	The City has not had any policies, processes, or best practices in place for the selection and implementation of application software. As a result, there is a significant amount of software duplication. There also is a gap in IT for the support of software applications. Best practices can manage your software acquisitions and Application Management talent (Business Analyst) can help ensure you have effective implementations and software is adequately managed to realize a return on investment.
GIS Consolidation and Master Plan	GIS and spatial maps are the future and will drive many of the City's operations moving forward. GIS and maps also provide a visual interface for your citizens to access services and information. Having a citywide approach to GIS will setup the City to meet these geospatial and mapping needs in the future.

BENEFITS OF MODERN ERP SOFTWARE

An Enterprise Resource Planning (ERP) System automates and integrates many core, citywide functions into a single solution, while automating manual processes and providing a central location of information and reporting. An enterprise system allows collaboration and sharing of information between divisions, departments, and citizens to provide a transparent and efficient government operation. The benefits of an enterprise system are numerous and include:

- Built-in integrations between Land, Work, Financial, and People Management application suites
- Newer technology platform (processing, capacity advantages)
- Real-time notifications/queues
- Task tracking
- Real-time access to information
- Elimination of duplicate data entry
- Improved data integrity
- Centralized location and customer account maintenance

- Reliable information
- Workflow capabilities
- Centralized cash receipt capabilities
- Efficient revenue collection
- Reduced operating costs
- Improved internal communication
- Foundation for future improvement
- Potential reduction in annual maintenance and support fees
- Improved online information for citizens to access

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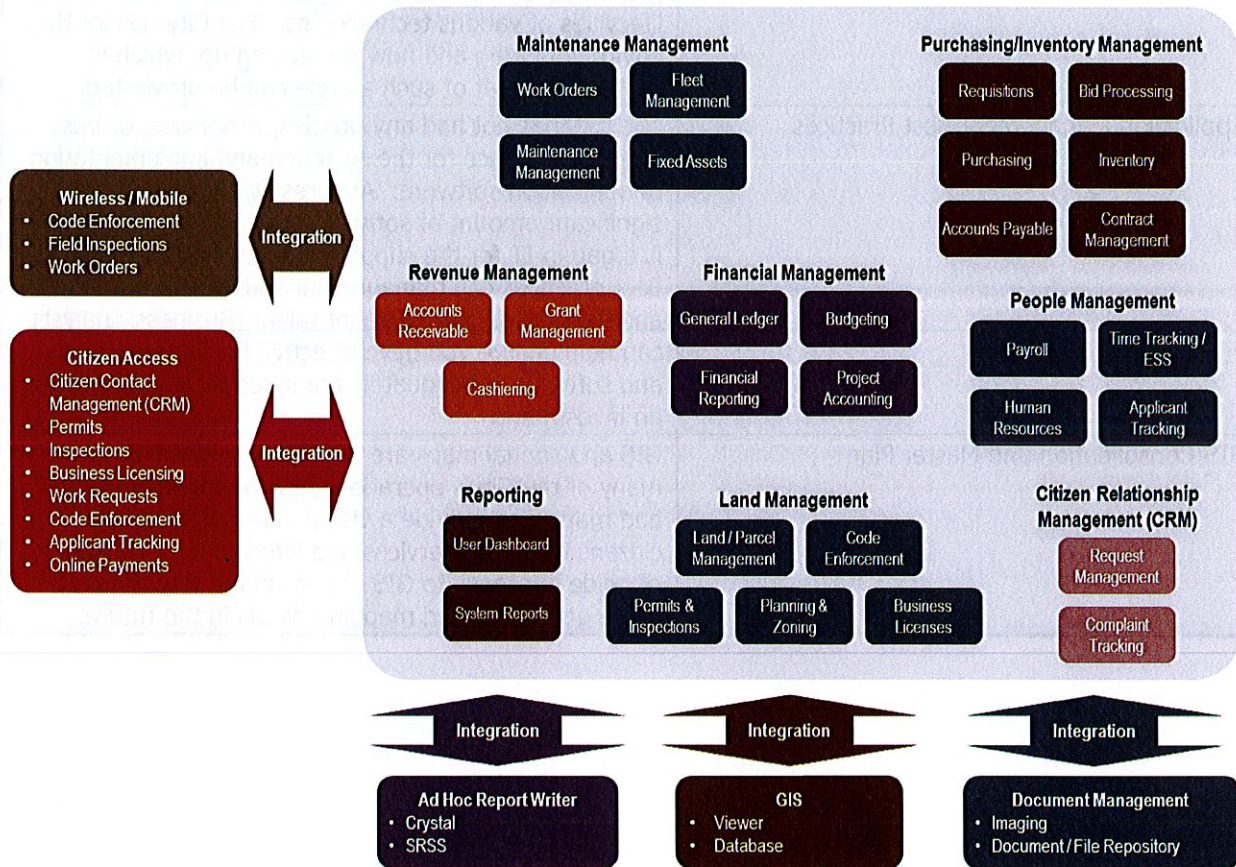
Financial and People Management

The financial management suite is another suite of an enterprise system that encompasses the financial tasks and processes performed to ensure all organization-wide activity is properly accounted for and accurately reported to local, state, and federal agencies. Benefits of a financial management suite include:

- Quick generation of financial reports
- More efficient budgeting processes
- Real-time access to available budget and funding
- Better spending controls for departments and projects
- Management of grants and funding sources
- Real-time inquiries into capital improvement project progress

The People Management suite manages the organization's workforce and provides automation to the human resources, payroll, time keeping, and applicant tracking functions. Employee self-service is also available to allow employees the flexibility in retrieving their information at their convenience. Benefits of a People Management suite include:


- Paperless personnel forms
- One-time data entry
- Tracking or misplacement of employee paper files
- Incorporation of Employee Self-Service (ESS)
- Integration between time keeping, payroll, HR, and financial management
- Quick and reliable reporting to federal and state agencies
- Improved employee satisfaction
- Automated Time Entry Approvals and Payroll Calculations
- Minimal steps between processing payroll and issuing direct deposits and checks

Employee Self-Service

Employee Self-Service (ESS) empowers employees to provide, change, and retrieve their personal information through an online employee portal, therefore reducing the manual interaction required with the Human Resources Department. Employee Self-Service offers an online option for employees to access and manage information for themselves:

- Address changes
- Tax allowances changes
- Open enrollment benefits
- Dependent changes
- Leave/vacation accrual balances
- Electronic paystub copies
- Year-end W2's
- Populating and retrieving time sheets
- Time requests
- Tax forms
- Many other forms and applications
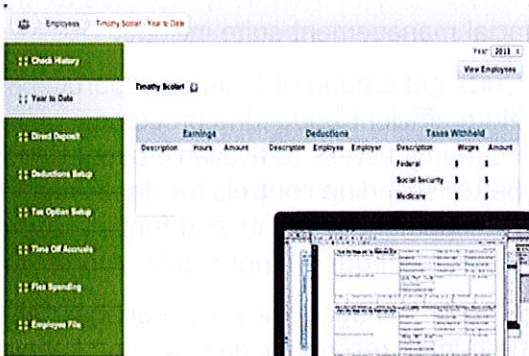
Reporting

The number one problem that is commonly seen when utilizing disjointed applications is the extensive time users dedicate to the consolidation of information for reporting purposes. Enterprise systems allow information to be quickly retrieved from a single source with numerous readily available reports. Users are also able to create their own reports without requiring them to be technical experts. This allows staff to spend more time studying analytics, rather than manually assembling reports. Benefits of improved reporting include:

- Aggregated data across divisions, departments, and organization
- Improved data accuracy and reduced human error
- Intuitive report creation capabilities
- Board-ready reports
- Sharing of created reports
- Elimination of labor-intensive report creation
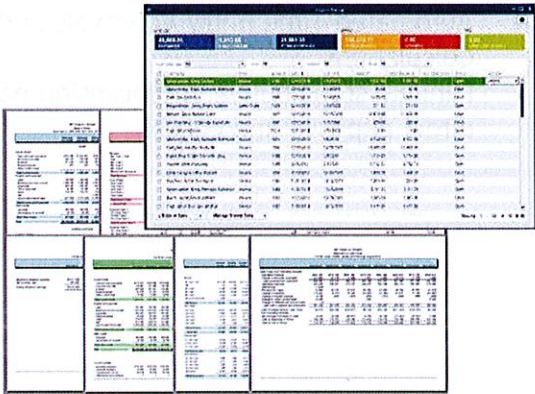
Dashboards

Dashboards form part of a user's home page and display reports, key indicators, and other metrics regarding day-to-day operations, activities, and historical trends. Benefits of dashboards include:

- Quick links for immediate access to required tasks and approvals
- Easy modification of dashboards for each user's preference
- Automated generation of dashboard information
- Transformation of data into visual information
- Easy-to-understand graphics
- Real-time analysis
- Drill-down access to activity detail

Mobile Computing

Mobile computing provides the flexibility to operate a more mobile and productive workforce. An enterprise system can allow staff to utilize applications while in the field in order perform their job functions while away from their office. Common benefits of mobile computing include:

- Completion of work while in the field
- Real-time access to information
- Inspection results in the field
- Receipt of notifications and job assignments
- Reduced travel to and from office locations
- Map routing based on location of activities
- Retrieval of mapping information
- Management of Code Enforcement cases in field

Online Citizen Access

Online citizen access enables a more transparent government by providing the public with 24/7 access to real-time information for inquiries and payment processing. This empowers residents to retrieve online information that is pertinent to each individual, and for them to take further actions, which improves customer relations by eliminating the need to be physically present at City Hall. The following are examples of online citizen access transactions:

- Online permit applications
- Submit and access plan review comments
- License renewals (business, animal, etc.)
- Utility, permitting, planning, licensing, and tax payments
- Submit code enforcement complaints
- Submit citizen requests
- Submit inspection requests
- Access to inspections results
- GIS maps (zoning, voting districts, etc.)

Citizen Request Management

A Citizen Request Management system is used to track, manage, and resolve citizen concerns and requests in a timely manner by automatically routing citizen requests to the appropriate department. It also provides the citizen with the flexibility to submit and track their complaints through the Web or a mobile phone application. Common benefits of a Citizen Request Management system include:

- Ability for citizens to submit requests 24/7 through a phone application or the website
- Automatic assignment and routing of requests, by type, to appropriate department(s) or staff
- Ability for citizens to view current request status
- Conversion of requests to work orders
- Ability to include photos and geolocation of a request
- More effective and efficient processes
- Improved transparency and citizen relationships

Land Management (Development Services)

The Land Management system is one of the suites that are offered by enterprise application systems and manages the creation, issuance, and tracking of community development activities related to planning and zoning, permitting, building inspections, licensing, and code enforcement. Benefits associated with the utilization of the application include:

- More automated permit processing from application through permit issuance
- Automatic routing for permits requiring reviews and approvals
- Single electronic file for all permit applications and documents
- More automated tracking of reviews, inspections, and fees by permit and development projects
- Tracking of timelines, tasks, and required group reviews
- Viewing all project and permit information at a glance
- Readily accessible planning and zoning records
- Automatic generation of case documentation
- Centralized current and historical parcel information

GIS Integration

Enterprise systems offer real-time integration to geographic information systems (GIS) in order to display land-use, zoning, and infrastructure layers on a map, as well as parcel, permit, inspection, code enforcement, and work order activity that resides within the enterprise system. Benefits of GIS integration include:

- Viewing system activity on a map (e.g., active planning projects, permits, code cases, etc.)
- Map routing of work orders, service request, and daily inspections
- Displaying locations of infrastructure assets
- Generating asset condition analysis
- Ability to overlay multiple map layers
- Integration to website for resident inquiries

Electronic Plan Submittals and Reviews

Electronic plan submittals are architectural/developmental plans that are in an electronic format. These plans can be submitted by the public through the City's permitting and planning processes. In addition to the electronic receipt of plans, electronic plan reviews allow City staff to review plans and electronically mark up and track plan comments. The following are benefits associated with electronic plan submittals and reviews:

- Increased productivity through quicker processing
- Elimination of physical plan routing
- Submittal, review, and tracking of electronic plans
- Centralized storage and retrieval of electronic plans
- Performance of activities in parallel
- Concurrent review of plans by multiple staff
- Electronic collection of plan review comments
- Reduced number of and shorter resubmission cycle(s)
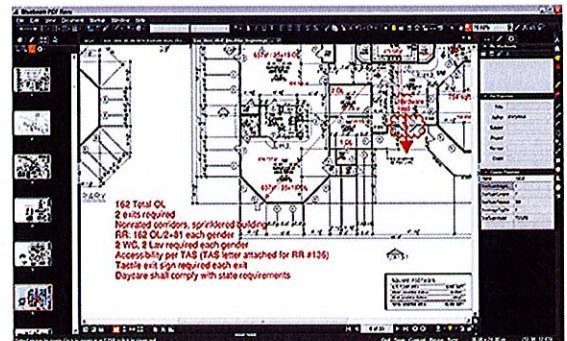
Maintenance/Work Order Management

Another suite of an enterprise system is the Maintenance/Work Order Management system, which provides automation in managing the maintenance and day-to-day operations related to infrastructure assets, buildings, facilities, and fleet vehicles, while being able to capture and report on the labor, equipment usage, and material costs associated with a work order and preventative maintenance. System benefits include:

- Electronic routing of citizen requests
- Centralized task and maintenance management
- Completion of work orders from the field
- Streamlined public works operations
- Retrieval of historical work order information and costs
- Quicker work order completion times
- Improved decision making through access to real-time information
- Viewing of asset and activity trends visually through GIS mapping capabilities
- Better replacement planning and forecasting
- Enhancement of staff productivity
- Improved compliance with regulatory standards
- Improved safety and risk management