



Information Technology Vision & Strategic Plan

2018

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Kent County's Mission

The mission of Kent County government is to be an effective and efficient steward in delivering quality services for our diverse community. Our priority is to provide mandated services, which may be enhanced and supplemented by additional services to improve the quality of life for all our citizens within the constraints of sound fiscal policy.

Kent County Vision Statements for 2020

- **Stable Revenues** – Kent County will have stable and predictable revenues to cover expenses.
- **Efficient Use of Resources** – Kent County will provide services through the most efficient means.
- **Safe Community** – Kent County will be a safe community.
- **Citizen Participation** – Kent County will provide opportunities for citizens to be aware of and involved in County government.
- **Proactive & Innovative Government** - Kent County will seek out innovative solutions and address issues systematically.
- **High Quality of Life** – Kent County will maintain a high quality of life that will be attractive to growth and development.

Information Technology's Mission and Goals

Mission

Our mission is providing quality information technology services, enabling our customers to be better at what they do.

Goals

- Provide leadership to the County in applying technology to the challenges of local government.
- Provide a full range of services, including consulting, project management, and business process analysis / re-engineering.
- Provide a robust, flexible and secure computing infrastructure that is capable of handling current and anticipated needs of internal customers and external client agencies.
- Provide responsive and cost-effective support of installed applications, services, and hardware.
- Be collaborative and engage with our customers.

IT Vision

Our vision is to be a customer-focused operation, recognized for quality, responsiveness, flexibility, and the effectiveness of the solutions we provide.

IT Guiding Principles

In addition to the mission statement, goals, and vision, there are several guiding principles that we use in IT to provide daily direction and focus.

- Commitment to customer service. The Information Technology department exists to service the needs of its internal customers, the citizens of Kent County, and other public-sector agencies. In fulfilling this role, all IT staff members will recognize the need to provide value in every interaction.
- Building customer relationships. As a corollary to customer service, we must build strong, effective relationships with County departments and related agencies so that we understand their needs and can plan how best to meet them.
- Communication is critical. Another corollary to customer service is the need to constantly update customers on what we are doing to solve their problems and on project progress.
- Focus on delivering value. We will focus on introducing technology because we should do it to meet a customer's need, not because we can do it to keep up with the latest technology fad.
- Keep things simple for the customer. Managing technology and technology-based solutions is complex and growing in difficulty all the time. However, managing that complexity is a responsibility of the IT department. Keeping it simple for the customer allows departments to concentrate on their objectives rather than having to be concerned about technology.
- Offer technology leadership. There are a multitude of challenges that confront Kent County. Some of these may be answered by deploying technology-based solutions to either extend our services or maintain current service levels in the face of mounting demand with existing resources. However, it will take leadership by IT employees to help those involved to make informed decisions.
- Find a way to say "Yes". Due to time and money constraints there can be a tendency to answer "we can't do that" to more difficult requests. Instead, we will concentrate on working with our customers to find innovative ways to meet their needs.
- Accelerate results delivery. Part of providing effective solutions means delivering them on a timely basis. We will keep the critical portions of planning and coordination but eliminate parts of processes that slow down response or do not add value. This may also involve delivery of partial solutions, with later deliveries refining the earlier product plus adding functionality.

- Act ethically. As employees of a government organization, we owe the public that funds us a responsibility to perform our duties in a manner that upholds high ethical standards.
- Treat others with respect and dignity at all times. This includes a commitment to honoring the diversity of our workforce and our community.

IT Scope of Services

IT (or Central IT, to differentiate this department from those individuals supporting the Department of Public Works and the Health Department) offers a full array of technology services to all but the above two areas. For those County departments, IT handles certain aspects of technology, which vary. In general, IT does not provide technology planning or strategy for them; however, each participates in the County's bi-annual review of IT policies and procedures, has a seat on the Executive IT Steering Committee (EISC), and has a representative to the Technology Advisory Council (TAC). Except for services IT currently provides to DPW and the Health Department, other strategies and plans mentioned in this document do not pertain to these County functions.

IT Priorities

The following priorities are to be used to resolve conflicts between projects.

1. **Enterprise-wide** – these are applications that serve most or all County employees or are common infrastructure projects.
2. **Limited-Time funding** – these are applications or projects that need to be completed in a specific time frame in order to receive outside funds. The most common example is a grant-funded project.

3. As Negotiated

These priorities reflect our emphasis on leveraging solutions to the widest extent possible, which will result in maximizing the benefit to the County. The IT Department recognizes there are numerous needs across the County and its operations, and fulfilling some may achieve benefits only for a single department. However, in order to achieve the best use of scarce resources, IT will first concentrate on those projects that serve a wide variety of departments. The second priority will be projects that are undertaken with outside funds and have specific time limits. Typically, these are narrow in scope and limited to a single department. Negotiation among departments with conflicting needs will be used to settle remaining project priorities, unless a requesting department has funding available that can be used to supplement available IT resources.

All priorities are subject to changes due to emergencies or critical needs. In those situations, the IT department will respond immediately to provide required services.

IT Focus Areas

- Customer Service

- Architecture
 - Simplify
 - Unify
 - Solidify
 - Mobilize

- Communication / Collaboration

- Applications
 - Advantage 360
 - GIS – Geographic Information System
 - JNET – Justice Network
 - Document Imaging / Workflow
 - Internal Applications
 - accessKent

- Infrastructure

- Staff

Customer Service

- ITIL. The Information Technology Infrastructure Library (ITIL) is a series of modules that outlines best practices in various aspects of IT. We are committed to the use of ITIL within County IT, and we will continue to modify our practices so that we are in general conformance with many of ITIL's approaches. We should note here that ITIL is fairly generic, so individual tailoring to an organization's requirements is part of a standard implementation. For 2018 we will continue our efforts at diversification and review existing processes for improvement opportunities.

- **Service Level Agreements (SLAs)**. At this time we continue to monitor our compliance with agreed standards. In addition, we will tailor individual function or department SLAs where required. Meeting SLA requirements is a standard portion of each IT staff member's goals and objectives. SLA performance is now a routine part of our performance assessment, and these figures were reflected in our annual updates to the County Board of Commissioners. As we progress with our ITIL implementation, SLAs and their review will become integrated with service support.
- **Deliver value when we engage**. One of the challenges we confront as an IT department is to continually evolve the value we provide. As part of this process, IT staff members will be encouraged to build relevant and meaningful relationships with our customer base and to understand the processes and needs of each area of the County. We will look for opportunities to provide additional services and improve current service levels. Finally, we will strive to stay current with plans in all departments so that we can insure investments in technology are in line with department needs. As part of our ongoing commitment to customer service, we have incorporated the results from the annual IT survey into our department performance measures.
- **Find new ways to engage**. As consumer-oriented technology continues to permeate the organization and younger employees are joining, expectations of County management and employees are changing. Making sure that the IT team understands those expectations and attempts to manage them will take new forms of engagement. In response, we have initiated annual meetings with department management, similar to those held by Purchasing. In addition, in late 2015 we created the Technology Advisory Council, a group of largely supervisory-level employees who gather quarterly to offer advice and insights "from the trenches" to help guide IT decision-making. We are also forming another group to help us test the new features that Microsoft is delivering as part of our Office 365 subscription.

Architecture

- **Simplify**
 - **Thin-client delivery**. We will deliberately favor solutions that employ the web browser (or so-called thin client) for the client interface. This greatly simplifies desktop PC installation and support, and allows for easy access by users in remote locations that have low-bandwidth connections to the data center. Further, we favor "browser agnostic" applications over those that dictate use of specific web browsers (such as Internet Explorer, or worse, specific versions of browsers).
 - **Cloud-based computing**. We will continue to evaluate the trade-offs between solutions as opportunities become available, but in general we favor those applications that offer hosted or cloud-based (Software as a Service, or SaaS) options. This favoritism will be tempered by our experience with cloud-based offerings, so that we remain focused on delivering an appropriate level of service. We will also be exploring the use of Platform as a Service, or PaaS, as an alternative to having all our infrastructure "in house".

- Unify
 - **Move toward Single Sign On (SSO).** Due to the wide variety of servers and applications we run at the County there is a proliferation of user IDs and passwords required. Introducing Active Directory is helping us move to a time when one user ID and password can be used for most applications. There will always be some, however, such as LEIN access, which will be outside the scope of this approach.
 - **Upgrade all Windows Servers to the Same Version.** Currently we are using multiple versions of Windows on our servers, which means we support them less effectively with having to keep track of where each version sits regarding patches and other issues. Going to a consistent version of Windows will make us more effective at ongoing support, in line with the goal of reducing the number of operating systems.
 - **Database Consolidation.** Currently we support two primary database management systems at Kent County; Microsoft's SQL Server and Oracle. We will be retiring one Oracle-based applications by mid-2018 – JailView. We intend to leave PeopleSoft running for some time after the planned early-2018 wrap up of the FMS implementation, but not for any production use. That leaves only a single remaining Oracle application, CourtView. We will be examining the potential to convert CourtView to SQL Server and eliminating Oracle from our database portfolio along with the impact of such a change on IT resources.

- Solidify
 - **Plan for a dynamic, adaptable, and secure infrastructure.**
 - Review single points of failure and plan for redundancy. While we attempt to eliminate single points of failure during design, due to growth and complexity sometimes changes will introduce them. In other situations, budget constraints or available technology may have restricted our options. This effort will be on-going as we seek to ensure that we offer the best available service for the available level of funding.
 - Implement server clustering for higher availability. As hardware prices continue to fall we have determined that one way to approach higher availability is to use clustering of relatively inexpensive servers. Clustering essentially “pools” multiple servers, so that when the primary server fails other servers in the pool act in its place and maintain uninterrupted service. Eventually, all critical applications will be run in a clustered environment to provide improved reliability.
 - Cluster-tolerant applications. We will highly favor solutions that are designed to operate in a clustered-server environment. While clustering file / print and database servers provides some protection, we also need to do the same with application servers. To do so, however, we need to deploy applications that are designed to work in this environment or the benefit is lost.
 - Continually look for ways to improve security. Threats to information security are on the increase, and there is no end in sight. These threats are multiplied as we seek to mobilize access to our computing infrastructure.

Our efforts to improve our security stance and add layers of defense will be ongoing, and there will be a specific focus when we add new capabilities.

- **Improve network / systems monitoring.** This is an area of increasing attention. Because we have multiple internet-facing applications, we are consistently striving to increase and improve the methods we use to monitor the traffic and transactions that take place. We also participate in multiple security associations to gain insights from other participants into best practices. Efforts regarding cyber-security will continue to receive significant attention as the number of threats in this arena is on a steep upward trajectory.
- **Mobilize**
 - **Mobile support as a selection criteria.** As we look at new solutions and replacements for existing ones we will be adding support for mobile devices as a selection factor. Preference will be given to those applications that are either mobile-native or have mobile capabilities embedded in the offerings.
 - **Improve access to core applications for mobile workers.** We currently offer some access for mobile employees, including VPN access, web access to e-mail, and terminal server access for selected applications. However, these solutions have been put into place largely on an ad hoc basis. We have begun looking at these and other solutions from a more strategic perspective, with an end goal of enabling remote access for any County employee that requires it. Public and private wireless is now available in the County Administration building, the downtown courthouse, and at the Sheriff's Department. Other County facilities will be addressed as funding and timing permit, although our goal is to have this be a ubiquitous offering in County buildings.
 - **Smartphone / tablet apps.** To date the County has a GIS application specific to these devices, targeting iOS and Android. Based on our experience, demand, and resources, we will look at introducing more apps in the future. In terms of solution selection, we will favor those that offer mobile app support.
 - **Virtual desktops / applications.** While the ability to "remote in" to a desktop has been available for some time, there are some inherent security risks involved and it also means that individuals must remember to leave their desktop PCs on. We are investigating the use of virtual desktops, which run desktop sessions on servers to alleviate these problems, as well as to potentially address other issues. We are also considering solutions that "virtualize" applications and deliver them remotely where that would provide a better experience on a small form-factor device. We plan to submit a funding request for the 2018 CIP cycle for this facility.

Communication / Collaboration

- **Revamp and improve the Intranet.** The intranet in its current form has been in place for many years. While useful, it is not particularly compelling, particularly because the content changes infrequently. While it does act as a portal in some respects, it is primarily used as a resource for forms, documents, and policies. Our vision is to re-

invent the intranet and begin positioning it as a primary information vehicle for County staff. This means we will address timeliness of information as well as linking applications. Over time, we intend to move many of our in-house applications to run in a browser. These will be accessed via the intranet, which turns the intranet into more of a portal. We have access to Microsoft's SharePoint product via our Office 365 subscription, and are considering that to support our intranet.

- **Investigate collaboration technologies.** There are numerous applications on the market today designed to enhance sharing and organizing of information, as well as facilitating the work of teams on projects. Some of those include Microsoft's SharePoint portal, OneNote, wikis, and blogs. We will be working with these during 2018 to determine what, if any, role they should play in the IT infrastructure and publish the results as part of our product selection criteria.
- **Actively seek collaboration opportunities.** The Information Technology management team will look for situations where working together with other local government units, school systems, or non-profit agencies can provide benefits to all parties involved. Examples of our efforts so far include support for the 61st District Court and participation in state / local government unit cross-boundary collaboration efforts. We have and will continue to explore collaborative opportunities with all local and regional government units as well as the State of Michigan.
- **Social media involvement.** While use of social media to promote County activities and objectives does not, per se, fall within the purview of the Information Technology department, there are clearly implications for such use for our Computing Environment. IT management will stay involved as the County develops social media policies and determines what channels are appropriate.

Applications

- **PeopleSoft**
 - **Plan for replacement.** In late 2014, in conjunction with the City of Grand Rapids, Genesee County, and the Michigan Municipal Services Authority (MMSA), the County decided to move forward with implementing CGI's Advantage 360, a SaaS solution to replace PeopleSoft. Financial management will be the first module implemented, followed by Performance Budgeting and then Human Resources / Payroll. We expect that the bulk of the implementation activity will be complete in 2018. Following the initial implementation, we expect there will be ongoing efforts to refine processes and improve support.
 - **Effective utilization.** Any changes or extensions to PeopleSoft will be reviewed carefully to ensure that either the change is an absolute necessity (required by a change in the law, for instance) or will produce a short-term payback. We may elect to utilize other means to accomplish the same end, such as the use of the County's website (accessKent) to facilitate improvements to purchasing procedures. Another option may be to acquire an application or

subscribe to a service that would potentially be used even after the PeopleSoft replacement project is complete.

- CGI Advantage 360
 - **Enhance usage.** Work is already underway to make improvements to the base Advantage 360 (A 360) implementation of financials for Kent County. There are planned improvements to reports as well as the use of the OnBase adapter. We fully expect the same type of activity will take place after implementation of the performance budgeting and HR / payroll modules of A 360. Another pending effort will be the full integration of Kronos timekeeping for the Sheriff's Department, and possibly other areas of the County.

- GIS – Geographic Information System
 - **Leverage use of ArcGIS Server.** We completed an upgrade of our ArcGIS Server in 2015, along with updated versions of our GIS applications. This opens up new opportunities for IT to deliver GIS services, and we will be examining which of those opportunities makes the most sense for us. The new architecture will enable us to deliver LIDAR and LIDAR derivatives via web services. We are also planning the roll-out of mobile applications for use on smartphones and tablets with integration to ArcGIS online.
 - **Integrate GIS further in business processes.** There are some areas, such as Property Description & Mapping, where GIS is totally integrated into their daily work processes. Another example is Central Dispatch; our staff spent considerable time working through numerous issues relating to data provision and procedures. We will partner with departments that are interested in expanding their use of geographic data and services to assist them in integrating these tools into their daily work.
 - **Data Access.** At the request of Canon Township, we put together a pilot project allowing Canon staff to access a restricted version of our KCoGS application. This has since been expanded to other local units of government. In addition, we reached a significant milestone in 2013 with the introduction of free public downloads of many of the County's GIS datasets.

- JNET – Justice Network
 - **CourtView**
 - Judicial Data Warehouse. This is a project undertaken by the Supreme Court Administrator's Office (SCAO). Kent County is one of the early participants, and we continue to work with SCAO on its implementation.
 - **JailView**
 - Replacement. Due to ongoing concerns regarding the stability and support of JailView, the County signed a contract in late 2015 with Global Telelink (GTL) to implement its Offender Management System (OMS) as a replacement. Currently the project schedule calls for us to wrap up this endeavor by mid-2018.

- Specialty Applications
 - **Workflow / Imaging.** OnBase has been extremely well-accepted at Kent County. There is a consistent queue of requests for image and workflow-based applications using this product. Project requests will be accommodated as we have resources available.

- accessKent – County eGovernment Portal
 - **Maximize revenue opportunities.** This is becoming a challenge, as multiple departments are opting to move services away from accessKent to applications hosted by other vendors. Typically, these moves occur as part of implementation of a wider-ranging solution than we can justify developing in-house. There may be some limited opportunities to develop revenue-generating applications, but we do not expect these to provide much income.
 - **Improve government processes.** As the County seeks to improve both its internal and external processes, we will seek opportunities to use accessKent as part of the solution. While the primary focus of accessKent is on directly serving the County’s citizens, it is also possible to use the site to facilitate cross-department or public-to-department information or transaction flows. Examples could include information gathering from specific public agencies or surveys to obtain public input on County priorities.
 - **Support mobile environments.** We introduced in the first quarter of 2013 a revamped website that automatically recognizes and adjusts to mobile browsers. This adjustment will occur not only for content pages but also for our interactive applications. We expect to maintain this responsive framework going forward.

Infrastructure

- Telephony. With the introduction of Voice over Internet Protocol (VoIP) telephony to the Fuller Campus, the majority of phones in the County now operate on VoIP. We will continue to look to VoIP implementations as the need to upgrade or replace portions of our current digital PBX arises. In addition, the nature of telephony is continuing to evolve. Desk phones are becoming less common, and unified messaging looms on the horizon. We will continue to look at the most cost-effective ways to handle the County’s telephony needs. One other project that will emerge in 2018 is replacement of the County’s voice mail system. The current platform goes end-of-support shortly after the middle of the year, and we should have the new system in place by that point.

- Disaster Recovery. Our disaster recovery plan needs updating. As part of the update process, we identified the need for a second data center facility. Working with Facilities Management, we have established a second data center (called “DC2”) in a secured County facility. In 2007, we began the migration of equipment to that facility. In 2016, we will continue to move hardware to DC2 and update our recovery plans. We will also develop and implement a testing schedule that outlines how often we perform recovery

tests and on which applications. In addition, we are working with individual departments to assist them in development of business continuity plans. The other factor that will drive our planning in this area is the potential of having to relocate one or both data centers as a result of implementing recommendations from the Space Needs Study.

- **Storage Management.** Our data storage requirements are growing at an annual pace that far surpasses revenue growth. This mirrors industry trends, and is a result of the increasing amount of data that is collected not as text documents but as images, sound, and video clips. As we continue to move aggressively towards streamlined processes that eliminate paper this trend will accelerate. Given the tight budgets at the County there is an obvious collision point. Therefore, we are developing strategies for managing data through a framework called information lifecycle management. Essentially what this entails is using lower cost storage for information that is older and not referenced frequently, rather than storing everything on our high-availability storage network. In addition, we will begin assessing the viability of charging departments for storage space to garner their assistance in managing the rate of growth.
- **Information Security.** Given the rapid proliferation of devices that can hold large amounts of data, in 2018 we are looking at tools that will allow for management of external devices to provide additional layers of security. Another possibility is hosting our own externally-accessible storage system to help keep documents secure. Data encryption on portable devices, including laptops, tablets, smartphones, and jump drives, is also an area of inquiry. We further intend to investigate tools that allow for management of external devices to provide additional layers of security.
- **Windows / Office.** Our roll out of Windows 7 is largely complete, with the notable exception being those workstations that need access to JailView. With the last major upgrade of JailView planned for early 2016, we hope to eliminate the last vestiges of Windows XP. Microsoft has introduced Windows 10; this will be our next target desktop operating system. Our plan is to introduce Windows 10 through attrition; that is, new PCs are being ordered with Windows 10. That should mean close to our entire PC population will be running Windows 10 by the end of extended support for Windows 7 in April 2020.

We are largely done with the rollout of the Office 2016 productivity suite, although there are still a few pockets of Office 2013 in our environment. We hope to have this completely wrapped up by mid-2018. Microsoft is also introducing a steady stream of product enhancements to Office 365; evaluating those enhancements and developing recommendations for their use will add to our existing workload.

- **Security.** The number and types of threats to the County's Computing Environment continues to grow. We continue to monitor these threats, largely through vendors that support our security mechanisms and through our participation in various security-related groups. We are also working to stay abreast of changes to all relevant regulations and industry standards. In response, we reorganized IT in 2013, creating a separate group, headed by the Information Security Director. The Network Security Administrator has moved from the Network team to the Security team as well. We

continue to provide a series of security online courses to help educate employees on appropriate practices, both at work as well as at home. As 2018 unfolds we expect to further emphasize our focus on security.

Projects

- **Facility Changes.** It is possible that there will be a relocation of multiple departments. Foremost among possibilities (from IT's perspective) is the potential for the department to relocate from its current downtown Grand Rapids location. Depending on where the department ends up, this could have adverse consequences for the department's service delivery model. In addition, there could be moves by several other departments, and we will need to accommodate the work required by those moves into our schedule. The timing these projects has the potential to disrupt IT's ability to provide the level of service County departments have come to expect.
- **Financial Management System (FMS).** While this was addressed previously under Applications, it is difficult to understate the magnitude of the undertaking and the resulting implications for IT.
- **JailView Replacement.** The replacement application will be the most technically complex we run in-house. This will mean a significant draw on our infrastructure resources due to the real-time nature of the interfaces with other applications.
- **Document Management.** We have two significant OnBase application efforts underway using outside resources. The first is electronic warrants, which implicates the courts, Sheriff's Department, and the Prosecutor. The second is managing court records for the Specialized Business Docket, which will create a paperless back-end for this court. We have also brought back a retired employee to assist us in reducing the backlog of other projects.

Staff

- **Training.** The Information Technology department is committed to giving IT staff members the training they need to both perform their jobs as well as to grow professionally. Training plans for every staff member are developed and reviewed annually as part of the MPP evaluation process. Over 90% of the IT staff is now certified in ITIL at the Foundations level, and we will continue to have staff training in ITIL-related disciplines. In late 2010, we introduced a project management class and implemented a standard project management methodology throughout IT in 2011. Training in 2018 will be aimed at leveraging both ITIL and project management, as well as keeping staff skills current. We are also committed to increasing County employee knowledge of proper cyber security practices. There will also be a continuation of the IT-

funded technology training offered to other departments. The classes are offered through New Horizons here in Grand Rapids.

- **Project Management.** Much of the work of the Information Technology department is project-related. However, the department has not formally adopted project management disciplines. How best to introduce project management to IT is an ongoing topic.
- **Flexibility.** As technology continues to evolve we are finding that our needs are shifting within the department. To provide the best service possible, we will continuously examine the needs and staffing availability. We anticipate this will result in shifting responsibilities over time, likely accomplished by beginning to split positions between functions. This will permit us to offer new opportunities to staff while encouraging higher productivity across the board.
- **Redundancy.** Similar to what we are proposing for critical equipment, we will be identifying skills where there is only one individual available and working through training and job responsibilities to ensure that we are at least two deep across the department.
- **Turnover and Staff Acquisition.** In response to challenges we have been experiencing in recruiting new employees, in 2017 the IT management team introduced new practices that offer more work flexibility. We now have flex time, where an employee can work a longer day most of the week and then have a half or full day off during the normal workweek. We have also introduced telecommuting for some employees. Both are offered at the discretion of the individual manager and can be withdrawn.