Technology That Empowers
Today’s public sector organizations and school districts are increasingly tech-savvy and sophisticated.

Users demand more processing power, versatile interfaces and seamless Web-based functionality. Administrators are paying more attention to what goes into a successful ERP implementation. Agencies and schools are focused on controlling costs and improving efficiency.
Public sector employees are demanding methods to consolidate access to data, streamline processes and improve efficiency. And citizens are looking to access more information and to interact with governments in many ways such as by phone, over the Web and through social media. With the right ERP software, public sector organizations can strategically address each of these challenges.

To find the right technology, public sector organizations must evaluate ERP software vendors on a number of factors that are critical to the long-term viability of the enterprise solution. Solutions must be up-to-date with current technology standards — based on modern technology such as a Microsoft®.NET and Microsoft SQL Server® architecture, HTML5 and XML. Products must be user-friendly, fast and streamlined, and must deliver required functionality. And companies must have a long-term plan and vision to provide upgrades and new releases as well as tools you may need in the future.
Technology That Empowers

The right technology empowers users to become more efficient, productive and responsive to the needs of their constituents. With Tyler Technologies, you are investing in end-to-end solutions that meet your challenges for financials, human resource management and citizen services. Our employees combine extensive public sector experience with software development expertise to provide the tools and technology you need to get the job done right.

The value of public sector technology must emerge in the features and function of the software. As part of our evergreen development philosophy we release new features and product enhancements once a year, strengthening the products our clients use every day. Many of these enhancements originate from the new cities, counties and school districts that select Tyler’s Munis® ERP each year, as well as from our installed base of more than 1,300 entities. With more than 100 developers dedicated to our Munis applications we remain the industry leaders in public sector business logic design. Consequently, clients receive a product that continually meets their changing needs.

Access to the Latest Technology

We take great pride in the fact that our products employ the latest technology. Our team of Munis developers continually researches new technologies and incorporates them into upgrades and new releases. This ensures clients have access to the latest and greatest tools and functionality.

Microsoft Platform

Munis employs the latest Microsoft development environments. It is deployed on the Microsoft stack of technologies, utilizing:

- Active Directory®
- Internet Explorer®
- Internet Information Services
- Lync™
- Office®
- SharePoint®
- SQL Server
- SQL Server Reporting Services
- Windows®
- Windows Server®
- .NET
**Virtualization Support**

Munis fully supports virtualization via Microsoft’s Hyper-V™ and VMware® vSphere™. With these products, organizations can:

- Increase server utilization
- Reduce hardware costs
- Reduce power and cooling expenses
- Increase reliability and reduce downtime

**Hardware Load Balancing Support**

To ensure scalability and reliability, Munis is designed to support the latest in hardware load balancing products including those from F5 Networks® and Barracuda Networks. With this configuration, a hardware appliance sits in front of a cluster of servers and provides health monitoring and balancing of user requests across the cluster.

**High Availability**

Munis clients can achieve highly available systems with different methods depending on whether they are using dedicated or virtual servers. With dedicated servers, redundant server clusters can be configured for each major component in the solution. Microsoft SQL Server AlwaysOn Availability Groups is recommended for an HA RDBMS. With virtualized servers, a clustered server host configuration is utilized with a SAN. If one of the physical hosts goes down, the other physical host starts up the virtual guest that the original physical host was running. If one physical host is over-utilized by a virtual guest, that virtual guest is moved to the other physical host. Though we can’t guarantee availability of a site’s hardware infrastructure, we will work with you and your chosen vendors to achieve a highly available system to run your Munis ERP applications.

**Benefits of an Evergreen Development Philosophy**

As our clients and technology evolve, so do we. Tyler continually enhances our solutions to ensure you have the right tools and functionality to do your job quickly and efficiently. We keep the strong, easy-to-use existing product, then add functionality and enhance features to simplify processes and provide a richer, deeper experience. Product enhancements and upgrades are released annually — not every three to five years — lessening client disruption and eliminating the need for re-training.

We do all of this as part of your maintenance contract. This means you’ll never have to purchase a new version of your Munis software. It means you can incorporate changes and advancements when you are ready. And it means a significantly lower total cost of ownership compared to other ERP systems.
Technology Delivered with a Focus on User Experience

Providing a great user experience is our top priority. That’s why we follow a stringent vetting process of usability testing and quality assurance prior to adopting new technologies: so you feel confident that our technology is always proven and stable. By focusing on user experience from the beginning of our development process, we can:

- Lower the cost of implementations
- Reduce training costs
- Improve user acceptance
- Maximize end user productivity
- Ensure a positive user experience
- Reduce the number of client support calls

Usability Studies

Munis has been developed with the guidance of trained usability analysts certified by Human Factors International, the world leader in user-centered design. We involve our users during each step of the usability study — from pre-test questionnaire to scenario testing to post-test review — to gain insight and to make informed design decisions.

Quality Assurance

We also employ more than 30 dedicated Munis quality assurance (QA) professionals. Individuals leading our testing efforts hold master’s degrees in Internet technology and quality leadership. From unit/integration testing on individual system changes and regression testing of critical processes to performance and load/stress testing, our approach to quality assurance ensures clients receive a technologically sound and user-friendly product. Our automation test engineers utilize Microsoft Visual Studio® and Lab Manager, to execute extensive regression tests across multiple software and browser versions in a shorter period of time and throughout the development life cycle. In addition, our performance test engineers utilize our unique performance test lab to measure the efficiency of Munis applications and programs using actual client databases. The lab provides our professionals with the flexibility to test against various hardware configurations on both bare metal and virtual machines, as well as to simulate various levels of concurrent users.
Early Adoption
During the early adopter phase, selected clients of various sizes participate in an intense testing program of quality assurance checks, regression testing and other client-specific product review situations. During the test period critical processes are tested and data is validated in a test environment. Before any version reaches general availability, early adopters run through critical processes and functions in their live environment helping to assure the release is ready for all clients. This testing helps Tyler deliver a higher quality release by incorporating real world testing.

Release Administration Console
Developed based on feedback from clients, the Munis release administration console provides information on all Munis releases. This advanced program integrates into Tyler’s work ticket system enabling authorized users to see status information on enhancements and open and closed support issues, providing real transparency. In addition to the status of an item, the Munis release administration console provides information on configuration, requirements and considerations.

Managed Internet Update
Designed for system administrators, the Managed Internet Update (MIU) — a Microsoft .NET application — allows clients to periodically check for and download software fixes, product enhancements and custom modifications. Users can update all files or select from available updates. The MIU keeps a running history of all releases and maintains log files and rollback options. If a server encounters a problem during an upgrade, the MIU will automatically restore back to the older version and notify both the client and Tyler.

The MIU provides a versatile user interface and offers year-end releases, automatically scheduled updates, message alerts and proactive emails for reported incidents linked to development issues. It also provides the ability to apply new or modified record loads on the fly into select Munis tables. In addition, clients can use the MIU to easily roll updates installed in their test environment directly into production after testing is complete. A view-only version is a useful tool for users who need to know the status of updates but do not have permission to apply updates to the system.

Benefits of Tyler’s Evergreen Model:
• No re-licensing fees or charges for newer versions of the product
• Continual access to the latest, proven technology without disruption to business processes
• Future-proof, protecting your investment
• Ease of use: if you know how to browse a Web page you can use Munis
• Scalability and flexibility to meet changing needs
• Flexible deployment options
• Focus on using the application instead of making it work
• Ability to provide citizens with more and easier access to information and services
Wizards

You need to streamline processes and save time. Munis’ built-in wizards — including those for employee on-boarding, and W-2 and budget projection creation — make it possible. Easy-to-follow directions walk users through each step, from verifying information to final submission, and a progress bar at the top of the screen shows where you are in the process. What’s more, integrated, context-sensitive online help for everything from local screen assistance to important definitions and government links is available on every screen.

Integration with Microsoft

You use Microsoft products every day. From Word to Excel® to Outlook®, these programs are instrumental to getting your tasks done. That’s why we designed Munis to easily integrate with many Microsoft programs. In fact, Munis was one of the first ERP applications to provide single-click integration with Microsoft Office.

Calendars in Munis don’t just work like Microsoft Outlook — they are Microsoft Outlook. Full integration with Microsoft Exchange means calendar appointments and meetings, vacation requests and workflow are fully synched with users’ daily schedules. Users can schedule appointments for other employees in Munis; the employee updates the appointment time in their Outlook calendar and the information is automatically reflected in Munis. Managers can view employees’ calendars alongside items that need to be scheduled. And users can email records and reports right from the Munis ribbon. Outlook tasks and reminders are accessible directly from the role-tailored dashboard so users can set them while working on another task.

GIS Map Integration

Using your organization’s existing Geographic Information System (GIS) in conjunction with your Munis data can be extremely beneficial. Munis MapLink™ seamlessly integrates your transactional and spatial data by integrating Munis with the Esri® ArcGIS® Server. Users can view assets and properties on a map, spatially analyze data, perform spatial functions such as buffer searches and even assist with worker or inspector routing by placing locations on a map.

Need to inform abutters about a neighbor’s building permit request when processing a permit application? Simply click on the GIS button on the Permit Application page to use the tools in MapLink to identify properties to notify. Return that record set to Munis by clicking a button in the map. Notices, printed or email, can automatically be archived to Tyler Content Manager, our automated document storage solution. Munis can even query the GIS system to identify whether a property falls in a historical district or a flood zone and then automatically create special conditions without the user having to look at the map.

Smart Process Tools

Munis also integrates fully with Microsoft Lync to enable easy communication with other application users. Need to know if an employee is available? Advanced presence functionality indicates an employee status, such as available, busy or out of office. Users can initiate an email, IM, or phone or video call directly from the Munis screen, saving time.
**Workflow**

Based on our extensive experience and exclusive focus on education and public sector clients, Munis Workflow helps you automate your business processes, ensuring the right tasks are carried out by the right people at the right time. We provide templates and easy-to-learn, drag-and-drop tools that allow subject matter experts to build and modify workflows without programming. Workflows are assigned by role and can be copied which allows for a quick and painless transition when you have a turnover among approvers.

**Munis Workflow:**

- Automates approvals, notifications and tasks
- Can be built on-the-fly, based on the transaction enforcing rules only when the detail of the transaction requires them
- Is triggered by table updates, time intervals, process execution and Web forms
- Includes checklists for tracking tasks that occur outside of Munis like assigning keys
- Includes configurable audit/date alerts notifying users when a license of certification expiration is upcoming
- Scheduler engine enables key processes and jobs to run off hours or during optimal times
- Can conditionally chain workflows together as needed

**Workflow Central** helps users digitally enable complex business rules based on an easy-to-use drag-and-drop approach. Workflow administrators can get a view of all workflows in progress, identify and treat bottlenecks, re-route in the event of an unforeseen emergency and comb through workflow history to problem resolution or analysis.

**Role-Based Security and System Setup**

Streamline the processes of adding users, assigning permissions and securing access to sensitive information with role-based security and system setup. Roles control what data, applications, screens, menus, records and fields users have access to and whether they have the ability to modify, delete or simply view records based on their job within the organization. Roles allow you to update permissions for multiple users simultaneously. Easily assign predefined roles to users, add new roles and create new Munis permissions as needed. Administrators can even apply effective dates for times when a user may be filling in for another. Similar to Workflow, security administration can also be managed centrally by IT or decentralized to domain experts.

Munis uses Microsoft Active Directory for end-user authentication. This integrated approach provides users with a single sign-on to all Munis applications, eliminating the need for employees to remember separate application credentials.
Central Programs

Decision makers need easy access to key data in order to make strategic, informed decisions. But pulling this information from various screens and locations is time consuming and cumbersome.

Munis central programs provide easily accessible 360-degree overviews of critical data, giving you unrivaled insight into your organization. Accessed directly from the Tyler dashboard, these advanced views integrate key information from Munis applications into one central screen, providing access to important data. View summary or detail information, link to details contained in individual Munis applications and export data to Microsoft Excel. Drag and drop information and images for easy data organization. Even customize which fields of information are visible on your central screen for faster review or organize information to fit your immediate needs. Working on training tomorrow morning? Simply move the panel that contains the latest training information higher in your workspace and move it down or turn it off when you’re done.

Reports, Analytics and More

Getting information out of your ERP is at least as important as getting it in. That’s why Munis provides more than just traditional paper-based reports for accessing critical information. Munis is designed to provide you with the information you need in the format you want.

Based on Microsoft SharePoint, the Tyler role-tailored dashboard provides an easy-to-use, simplified way of finding, accessing and sharing information by aggregating the data you deem important into customizable views containing Web parts which display information from Munis and other Web-based tools. Each user can personalize his or her dashboard, tailoring it to their role. Simply click on hyperlinks embedded in the Web part to access more specific detail.

Munis also offers full bi-directional integration with Microsoft Excel. The Munis database provides a user-friendly, multi-dimensional view of your data across many platforms including Excel, SQL Server Reporting Services (SSRS) and your Tyler dashboard. Analyze and report on trends, track key performance indicators, create charts and graphs, generate reports and more using the tools you’re already comfortable with. Embedded hyperlinks point to the originating record stored in Munis for fast access to detailed information.

Need to produce a paper report? Choose from our vast library of report templates or use Tyler reporting services for more customized reporting. Powered by SSRS, Tyler reporting services enables users to create custom, complex reports using powerful wizards and a report builder. Add charts, drill downs, parameters and hyperlinks to turn reports into interactive documents or Web content. Users can also use analysis tools — including charts, field highlighting, running totals and sorting — to examine trends, expose relationships and zero in on important facts. Additional reports are also available on the Munis KnowledgeBase.

Business Intelligence

The right business intelligence solution is crucial for effective data analysis and strategic decision making. That’s why we created the Munis business intelligence toolkit specifically for our clients’ needs, leveraging our decades of public sector experience. By utilizing Microsoft SharePoint, SQL Server Analysis Services and OLAP cubes provided with the Munis system, this advanced toolkit provides administrators with tools for what-if scenario analysis, monitoring of key performance indicators, reporting, charting and publishing.

Full integration with the Tyler role-tailored dashboard provides data visually when users log into the system. Custom Web parts built on SharePoint servers access cube data, meaning users can simply browse their home page in order to access, analyze and report on key information. Modify measurements, change chart type, export to Excel and drill down into any data the cube offers. When you’re done the dashboard refreshes back to your main setting the next time you log into the system.

Role-Tailored Dashboard
The Right Deployment Option for Your Needs and Available Resources

**Cloud-Based SaaS (Software as a Service)**
This is a subscription-based solution that is hosted and administered by Tyler. With Munis SaaS, you have complete access to our comprehensive and tightly-integrated Munis solution — without the worries of technology and infrastructure maintenance or hardware and software costs. We host, administer and support Munis from our state-of-the-art data centers, offering access to leading-edge technology, regardless of local resources. No heavy up-front fees and no maintenance required, allowing your IT team to focus on other mission critical initiatives.

**Self-Hosting on Premises**
Tyler has a long history of on-time and on-budget implementations. With a traditional model you purchase and maintain all software, databases, hardware and services on site.

Smart Services to Protect Your System and Data

**Disaster Recovery**
Emergencies can happen at any moment. If your organization isn’t prepared, you could be left without the data, tools and staff to run critical processes. With Munis Disaster Recovery, our team of experts dedicated solely to the Munis product can have your critical functions back up and running within 24 hours following an emergency. We work with you to determine your unique response plan. We provide the servers, the operations staff and have your stored data transferred each night to the secure facilities. In the event of a disaster, your live database is loaded into a Munis environment on a server that can be accessed from any computer with an Internet connection.

**Operating System and Database Administration**
Regular maintenance reduces downtime and ensures consistent performance, but that doesn’t mean your staff has the time to do it. Protect your Munis investment with Tyler’s Operating System and Database Administration (OSDBA) service. Our professionals — trained specifically for Munis server configurations — offer operating system and database management services such as installations, upgrades, routine maintenance to system administrator software and database tuning. With only one point of contact for both software and system support, Tyler is responsible for resolving your issues, meaning you’ll never have conflicting reports or advice.
At Tyler Technologies (NYSE: TYL), we have a single mission: enable the public sector to be more efficient, more accessible and more responsive to the needs of citizens. That’s what we do. And that’s all we do — in partnership with more than 11,000 clients, including local government and school offices throughout all 50 states, Canada, the Caribbean, the United Kingdom and other international locations.

Tyler Technologies is a leading provider of information management solutions and services for the public sector — and Tyler is the largest company in the country solely dedicated to providing software and IT services to the public sector market.