



# What is the future of parking management?

Looking ahead to the next generation of parking platforms.

A thought paper from T2 Systems

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#### About T2 Systems

Since 1994, T2 Systems has delivered proven parking solutions that meet the ever-changing needs of the parking industry, and this commitment shows in T2's quality products and services, thought leadership and strong customer relationships. With its broad range of software, hardware, management services and technology services, T2 Systems is trusted by more than 260 organizations in the US, Canada and Australia including universities, cities, towns, hospitals and airports.

For more information on how T2 Systems can help you manage parking more efficiently and effectively, call 800-434-1502 or visit [www.t2systems.com](http://www.t2systems.com).

**“We live in a society exquisitely dependent on science and technology, in which hardly anyone knows anything about science and technology.”**

**- Carl Sagan**

**“Technology: No Place for Wimps!”**

**- Dilbert**

Whether you're selling burgers, touting tourism or manufacturing widgets, technology is becoming more of a juggernaut in delivering better products, maximum efficiency and top-shelf customer service. The same holds true in the parking industry.

As our TiVo-watching, instant-messaging, take-a-picture-with-your-cell-phone society continues to demand instant information, parking departments across the country are finding new and better ways to improve and streamline operations through the use of technology.

In most cases, technology isn't just about hardware and software. It's about understanding the diverse needs of customers. It's about delivering timely and efficient solutions that address those needs. And it's about creating comprehensive systems that are dynamic enough to be viable today—and forward-thinking enough to be viable well into the future.

As it relates to parking, technology must continue to be developed and implemented to meet the needs and advance the big-picture agendas of cities, universities and other organizations that manage parking operations on a daily basis.

## PROGRESSIVE PARKING

The parking industry has seen some dynamic changes since the first parking meter was introduced seventy years ago. But many of the issues remain the same. How can we manage all of our parking spaces while the number of vehicles continues to increase? What's the most efficient way to process citations? What can we do to improve customer service and increase our revenue at the same time? How can our understanding of current parking trends improve master planning?

Many of these issues have been addressed through advances in technology, however, the advances were not borne solely out of technology. They are founded on the fact that customers (on both sides of the counter) are the engine that keeps the complex parking machine moving forward.

It's not technology for technology's sake. Rather, it's technology for the sake of improved human interaction.

Nobody knows what the future of parking holds, but you can rest assured that ease of use and customer interface will always remain critical issues.

## THE EVOLUTION OF AN INDUSTRY

As with the rest of society, technology has had a profound influence on the parking industry. Here are a just a few examples:

- **Citations.** There was a time when all parking tickets were written by hand. Due to the increasing popularity of electronic ticketwriters and printers, the number of handwritten tickets continues to drop each year. Not only do electronic ticketwriters and printers increase speed, efficiency and accuracy, wireless technology is also becoming more common and allows ticketwriters to remotely access up-to-the-minute information from the main database.
- **Parking online.** Due to the ubiquity of the Internet, many parking departments now feature online interfaces that allow customers to pay for permits and citations without having to stand in line. This also frees up the staff of the parking department to focus on other issues. In fact, according to Kipp Smith, Information Systems Manager at University of California at Riverside, his university sold \$1 million in permits just seven months after going online. Plus, the number of people who were using the system between 12 a.m. and 4 a.m. was 5,000% higher than predicted. The Internet has spoiled consumers to the point that they expect access to information and services all the time, anytime. Even if it's 2 o'clock in the morning.
- **Information.** Sharing of information is an important issue, and the evolution of database technology has allowed parking departments to communicate more effectively and efficiently with other departments and systems.

"As it stands today, most parking departments are managing multiple tasks using multiple systems," says Linda Kauffman, Executive Director of the Allentown (PA) Parking Authority. "Permits. Collections. Processing. Signs. Off-street. On-street. Gates. The parking system of the future will bring all of these systems together under one operating platform. As an example, our current set-up doesn't allow us to see the citation's history for a car that's being towed. The databases aren't able to talk to one another. This needs to change, and I'm sure it will."

**This integration will not only help to significantly improve efficiency, it will allow parking departments to focus on the many other facets of their business.**

## **THE MULT-TASKING DEPARTMENT (AKA PARKING OPERATIONS)**

From small campuses to large cities, airports to hospitals, most parking departments have much more to worry about than just parking. Integration with other departments, P&L, legislative issues, IT, zoning, signage, maintenance, human resources, the list goes on and on.

Technology has become more important in automating many tasks so that parking employees can focus on other issues within their multi-dimensional department.

Integration between databases and operating systems has become a full-time job in itself, with many parking departments having full-time IT professionals on staff to build and maintain efficient and seamless interfaces.

"Our core business shouldn't be data entry," says Peter Lange, Associate Director for Parking Operations at Texas A&M University. "We're looking for parking management solutions that work with our business rules and allow us to provide a better interface for our employees and better service for our end-users."

## **CUSTOMER SERVICE AT ITS BEST**

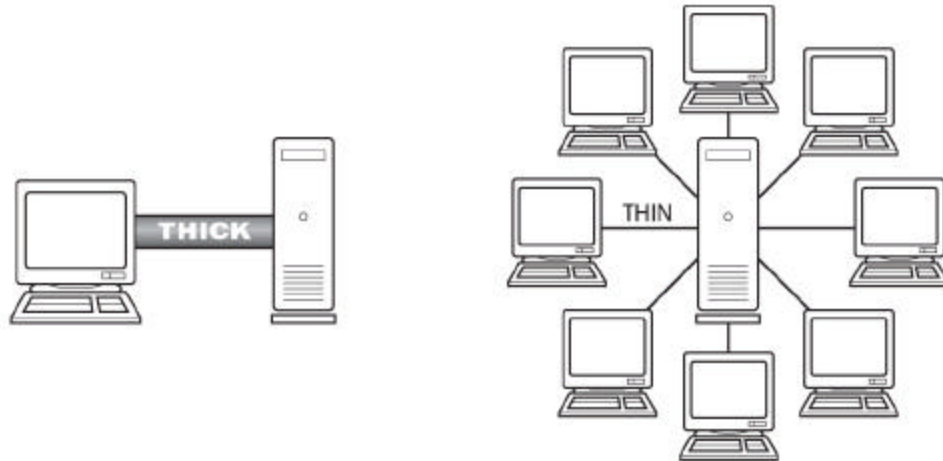
One of the greatest examples of how technology has improved customer service is the Automatic Teller Machine. A bank teller can work 8 hours per day and conduct 200 customer transactions, while an ATM can perform more than 2,000 transactions per day for 24 hours.

The Internet has also had a profound effect on how organizations conduct business and interact with their customers. In fact, the e-commerce industry has grown from a fledgling segment in the late 1990s to a whopping \$20 billion-a-year today. In fact, more than 50% of all Internet users have made an online purchase within the past year.

The demand for easy access and the widespread use of the Internet for an increasing number of tasks are playing significant roles in the development of the parking management systems of the future.

## THIS ISN'T THE JETSONS, THIS IS NOW

What role will technology have in changing customer service within the parking industry in the not-so-distant future? Operationally, it will have a profound effect on how parking management is both structured and accessed. Let's take a look at the evolution from "thick" to "thin" clients and how it might affect the world of parking.



**Thick systems**—are those who have software loaded onto each PC. Information inquiries are not very streamlined, which slows down the process.

**Thin systems**—are browser-based. Parking data and functionality can be accessed from any computer with a browser. Also called a "hosted solution," both the software and the data reside on the server(s), while each client (PC) assesses the functionality and the data via the web browser.

Thin system information transfer is also much more efficient because all data searches occur on the host server, and only the information that is needed is transferred to the user's PC interface.

What's more, hosted solutions are much easier to maintain. Any upgrading is done at a system level, not at PC level, which lowers the total cost of ownership over the life of the system.

One of the main benefits of a thin-system architecture is accessibility. Numerous departments are able to securely tap into the same backend database with an Internet connection, while remote users (i.e. officers writing citations) can access information via wireless devices or computers with wireless fidelity (WiFi) technology.

## WHAT ARE ORGANIZATIONS LOOKING FOR WHEN IT COMES TO THEIR DATABASE?

- **Security.** Millions of pieces of personal information (including names and addresses, social security numbers, credit card information, etc.) are transmitted through the parking operations systems.
- **Reliability.** Downtime is not an option. Loss of functionality means loss of revenue, not to mention some very unsatisfied customers.
- **Scalability/Extensibility.** Buying a database isn't like buying shoes for a child. Organizations are looking for parking solutions that grow as they grow and systems that don't have to be replaced every few years. The technical term is "extensibility," which means a system can be modified by changing or adding features.
- **Flexibility.** Whether you're a large municipality with thousands of parking spaces covering hundreds of square miles or a community hospital where all parking is contained within a single parking garage, the parking database nucleus needs to be flexible enough to address each organization's operational rules and goals.

## **PARKING IS COMPLEX, YET SIMPLE**

To say that parking management is easy would be an understatement. But, as with any operation, the success of a parking operations department, and the products and systems that support it, can be narrowed to two main categories:

### **Integration**

Are different databases within an organization able to talk to one another? Better yet, is there any way to streamline databases so there is no duplication of data? How easily is information accessed from the field? How user-friendly and intuitive is the user interface?

Parking operations departments have been asking for a unified platform for parking management for many years, and their day has finally come. Parking managers are being asked to juggle enough tasks as it is, and a seamless, integrated solution will bring the “under one roof” concept to reality.

### **Automation**

Customers are looking for instant access to information and services, 24/7/365. Customer service is enhanced through automation, such as systems that automatically send out e-mail reminders to customers when it's time to renew one's permit. Technology also improves efficiency and revenue by streamlining tasks and allowing customers to serve themselves.

“The parking industry needs to get up to the 21<sup>st</sup> century with automation—to integrate the right information and better manage our operations.”

## CUSTOMER FOCUSED, TECHNOLOGY ENABLED

The future of parking will be built on technology that focuses on the customer. The industry has developed products that meet customers' needs, and the next generation of solutions will be built on robust, scalable platforms that offer product modules tailored to each organization's specific needs.

"What's driving our technology decisions today and in the future? Simply put, we're looking for solutions that streamline our operations," adds Kauffman. "The ideal parking management system of the future will address as many parking issues as possible, through one management platform, so that I can focus on other aspects of my department."

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