



Routing

The Power of Prediction

Mastering the Game

You don't become a Grandmaster in chess by reading a book and following the rules quite well. Rather, Grandmasters are born of experience, testing their skills against others, and learning to anticipate not just their opponent's next move, but the move after that and after that and after that. TOA's Cloud-based predictive engine employs a similar approach to optimize the routing, scheduling and managing of your mobile workforce.

TOA's customer-centric solution enhances customer service by predicting with a high degree of accuracy when a technician will arrive at a customer's home – and allowing service providers to give customers a smaller "wait window" of just one hour. Our patented, industry-leading, predictive statistical engine analyzes learned historical performance patterns, overlays skill set, job history and customer proximity to accurately predict the amount of time each engineer will take to complete an appointment and personalizes his or her schedule accordingly.

Time Control

The patented TOA solution combines our unique, time-based view of the field with the fastest scheduling optimization engine on the market, advanced mobility and management tools and proactive customer communications.

Companies that offer first-generation routing solutions claim that this kind of accuracy and detail is impossible, that the computing power simply doesn't exist. But TOA customers are realizing the operational and financial benefits of this very technology today. Just how fast is our predictive engine? We have systems in production that are scheduling 10,000 appointments in under four and a half minutes for our customers.

First-generation routing software utilized a known set of conditions about geography, schedules, work locations, and vehicle specifications as inputs. Applying these pre-conceived parameters, the software dutifully calculated efficient, static routes for daily use by dispatch. Like chessmen on a board, moving each piece efficiently according to its rules, this worked reasonably well and had been the method routing software had employed for over 30 years. The problem with this technique is that it lacked real-world knowledge, and therefore its accuracy suffered, resulting in wasted time, wasted effort, customer dissatisfaction and ultimately a lot of wasted money.

Just as with first-generation routing, we start with a set of rules, actors, actions and maps. Like the chess pieces and chessboard these components (along with many others) define the scope within which the "game" is to be played. TOA's next-generation predictive engine then goes further by actually *learning* how each of the many components act, react and interact in real-world operation, using its increasing understanding to predict the day's optimal workloads, travel times work times, etc. with unprecedented accuracy.

"Strategy requires thought; tactics requires observation."

Max Euwe (*Mathematician, Author, Chess Grandmaster, World Chess Champion*)

When TOA Technologies introduced its patented predictive engine to the management of Mobile Workforces, we knew it would revolutionize routing and dispatch for our customers—and we were right. In head-to-head comparisons with competing legacy routing solutions in a live environment, TOA delivered:

- **39% decrease** in drive time
- **68% reduction** in overtime
- **13% increase** in overall service delivery capacity

This groundbreaking technology is how TOA is helping its customers save millions of dollars annually on their mobile workforce operational expenses.

Check

The goal of TOA's predictive capability is to route all appointments to all available technicians with the skills to complete the job within the promised service windows. Routing analyzes many different variables, taking into account technician skills, calendars, historical performance, and home or workday-starting location along with such items as appointment locations, required travel time, job duration, skill requirements and priority. The result is routing, work-plans and schedules with astounding down-to-the-minute granularity.

Checkmate

And the benefits of our predictive engine aren't limited to more effective routing, optimal personnel scheduling and resource allocation. Dependable, accurate and highly granular scheduling allows our customers to be more precise in the arrival times they provide to their customers and to more consistently meet or exceed customer expectations. Moreover, our customers save the procurement headaches and management overhead of deploying high-availability number-crunching hardware because TOA's Cloud-based servers handle all the computations with 99.995% uptime.

Endgame

If you're a champion for reducing cost and improving customer satisfaction with your organization, then we want to be your partner. Let us show you how TOA's unique patented Predictive Routing can measurably and substantially improve your bottom line. We'll demonstrate how we're doing it for other customers right now and we'll help you every step of the way to realize the same kind of outstanding results.

About TOA Technologies

TOA Technologies is the leading provider of Cloud-based mobile workforce management applications for large enterprises. Its patented platform improves customer service while dramatically reducing operational costs and providing immediate return on investment. As the industry's only solution using predictive, time-based analytics, TOA reduces customer wait times while increasing field workforce efficiency. TOA automates Time Of Arrival communications across multiple channels to proactively keep customers apprised of their appointment status. It delivers unparalleled cost savings by providing on-demand tools for real-time planning, routing, dispatching and tracking of workers in the field. TOA's system deploys quickly, is highly configurable and is easily integrated with existing CRM solutions. Named a Visionary for three years running in Gartner's annual Magic Quadrant for Field Service Management, TOA Technologies is headquartered in the United States and has offices across Europe. For additional information please visit www.toatech.com.

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