

AI-powered Schedule Optimization to the Rescue Part 1

Save your techs. Save your customers.
Save your business.





AI-powered Schedule Optimization

Schedule optimization is an important topic for field service organizations, as leaders look for ways to control costs, boost productivity, and please demanding customers in a challenging economic environment. Smarter scheduling helps on all fronts. Modern AI-powered technology helps service organizations become highly strategic in assigning technicians and other field resources, continually monitoring and adjusting schedules to reflect real-time changes. The result — greater efficiencies and contributions to larger digital transformation objectives.

Scheduling is complex. Multiple factors need to be considered before assigning a field resource to a service request. Some outdated, manual, or overly simple field service solutions don't address issues like traffic or technicians calling in sick unexpectedly, and fail to make real-time adjustments. In a rush to send the next available field worker to the next critical job, resources can cross paths or arrive at a customer's location missing parts they will likely need. Such inefficiencies eat into thin margins and profitability. It's time to look closer at schedule optimization and tools to help automate the process.

What does an optimized schedule look like anyway?



Schedule optimization is making job assignments that meet customer expectations for prompt service, as-promised arrival times, and the ability to get the job done. But there's more. The schedule should also support the organization's need for operational efficiency. To be truly effective, scheduling optimization requires AI-powered technology and must be continually adjusted for real-time changes.

Here are some key benefits of AI-powered schedule optimization:



Improved first-time fix rates. Assigning the right field worker to a service order, based on numerous factors, helps ensure calls are completed on the first trip. This reduces multiple visits, saving valuable time and fuel, while elevating customer satisfaction.



More calls completed daily. When the field resource can successfully complete the assignment while doing it faster and with less drive time between jobs, more jobs are completed every day.



Intraday updates. AI-powered schedule optimization also considers a wide range of factors that will change throughout the day, such as traffic patterns, cancellations, field workers calling in sick, and unexpected complications on service orders. The ideal solution monitors numerous factors in real-time, making changes as needed.



Best field resource. It's not enough to get to the next call quickly. The right field resource should be assigned to the service order, one that is knowledgeable about the product. Field worker expertise helps build trust relationships, allowing the field resource to make suggestions for upgrades and add-on warranties and service agreements.



Intelligent decisions. True schedule optimization considers hundreds of factors as it calculates and recommends the day's schedule, continually adjusting as needed – instantly. A combination of “hard” and “soft” factors should influence the assignments, including judgements, such as whether the field resource's skills outweigh the distance from the job or the priority of the customer.



Why is true schedule optimization so critical today and why is it hard to achieve?

Numerous high-stakes pressures are driving companies to become more strategic in their scheduling. Costs are one of the most obvious reasons. Service-centric companies typically operate on thin margins, with today's high inflation and labor costs pushing overhead expenses upward, further compressing profitability.

The 2023 TSIA Field Service Benchmark report says labor typically accounts for 60% of an organization's expenses. Controlling labor costs is often the first line of defense for companies wanting to reduce costs. Improved scheduling helps to keep labor costs by boosting productivity. Improving resolution rates expedites billing and improves cashflow.



“A 2% increase in customer retention has the same effect as decreasing costs 10%.”

Leading on the Edge of Chaos, Emmet Murphy and Mark Murphy

Today's shortage of skilled technicians and other field resources also contributes to the need for improving scheduling processes.

70%

Brad Hawkins, Chief Product Officer for ServicePower, reports in [Solutions Review](#) that 70% of organizations that perform service are facing a technician shortage.

Acquiring and retaining existing technicians is critical. Without modern, easy-to-use tools for optimizing scheduling and dispatch, technicians and other field resources can become frustrated with erratic routes, confusion over next assignments, being sent into traffic jams, or assigned to jobs that don't match their skills or experience. Dissatisfaction leads to low retention and the arduous task of recruiting and training new team members.

Customer satisfaction is arguably the most important factor, though. Today's customers are highly demanding and quick to turn to social media to vent their frustrations to the masses. [Research shows](#) U.S. companies lose \$136.8 billion per year due to avoidable consumer switching among brands.



Late arrival for installation or service is a common complaint. Customers have less tolerance for very broad windows of when to expect the service call. As the entire service strives to be more specific and accurate in their arrival estimates, customer expectations also shift. Consumers value service so much that [68% say](#) they are willing to pay more for products and services from a brand known to offer good customer service experiences.

Retaining customers is essential to the bottom line and worth the investment in modern field service solutions. It's commonly accepted that [acquiring a new customer](#) can cost five times more than retaining an existing customer, and schedule optimization plays an important role in retaining customers.

Business Transformation

“Business transformation is designed to boost overall performance through increased revenue, lower operating costs, and better customer satisfaction and workforce productivity.”

McKinsey & Company.



What other benefits can be derived from schedule optimization?



In addition to improved customer satisfaction, increased productivity, and increased first-time fix rates, additional benefits help cost-justify investment in modern technology with real-time, AI-powered schedule optimization.

Reduced calls to the service desk. With service calls running smoothly and according to schedule, calls to the service desk will be reduced. Instead of fielding calls from disgruntled customers about late field workers, call center agents can focus on new inquiries and service requests.

Reduced driving. Cutting drive-time and associated fuel costs and CO2 emissions has many benefits, including helping organizations meet their sustainability goals.

50%

Nearly half of field service leaders consider reducing greenhouse gas emissions in their field service operations one of their most important environmental, social and governance (ESG) objectives. [-Field Technologies Online](#)

Matching the right field worker to a job. Having the optimal worker show up on time with the right parts helps create the trusted ally or advisor relationship with the customer. When servicing equipment or appliances of high value to the customer, such as a furnace or roof,

the field worker often makes recommendations on replacement vs. repair. Upgrades, warranty, or service agreements might also be offered, with large revenue opportunities possible. A technician or other field worker that clearly understands the product is more likely to be trusted and able to close sales on the first call.

Relief for dispatchers. These valued members of the service operation benefit from enterprise-grade schedule optimization as well. Without advanced scheduling tools, the dispatcher faces a hectic day of trying to juggle many conflicting demands and adjusting for traffic changes and more. The often-rushed decisions based on a few surface-level factors and instinct is haphazard. All this is eliminated with AI-powered schedule optimization.

If a major event happens, such as a field worker calling in sick, the entire schedule may need to be reworked, causing stress for the dispatcher. With advanced schedule optimization, most job assignments are automated.

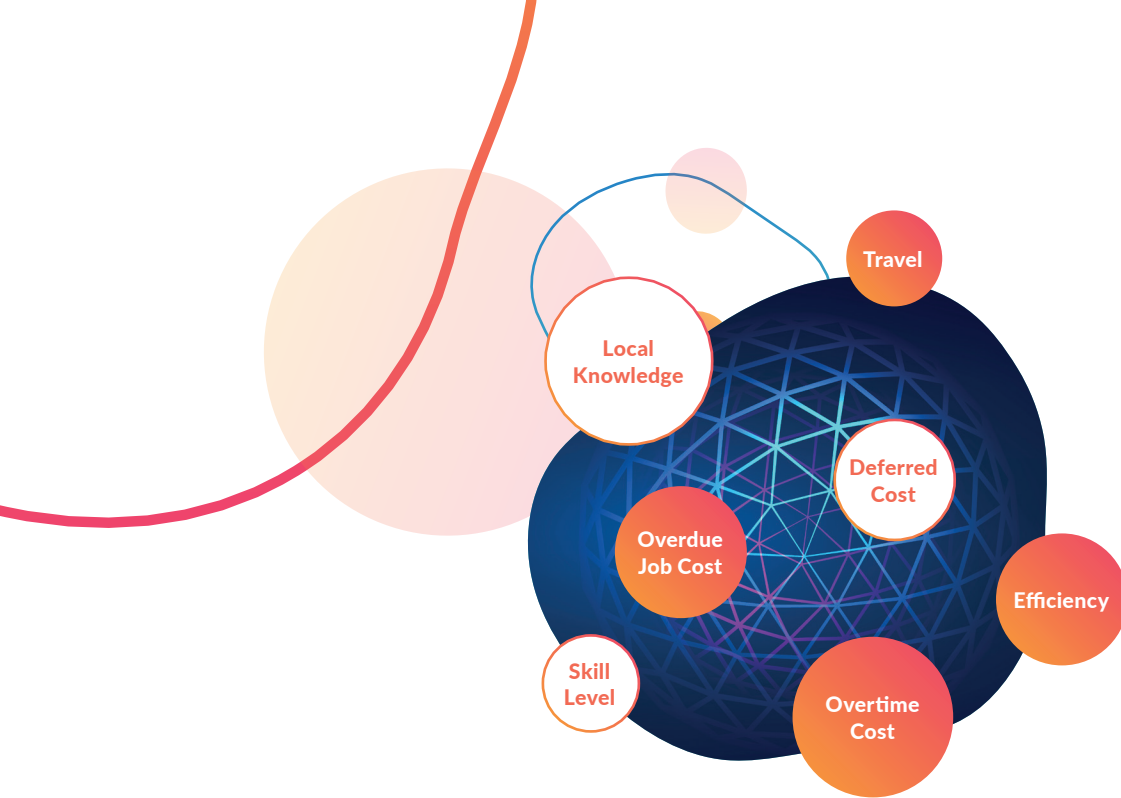
Dispatchers are freed from the tedious workload so they can calmly and rationally deal with the exceptions that need more attention and customer interaction.

AI-powered Schedule Optimization to the Rescue

Part 2

ServicePower Scheduling to save your techs, customers, and business.





Field service organizations understand how critical efficient scheduling is to deliver exceptional customer service. But many don't realize that scheduling applications vary greatly, some only offering surface-level capabilities, like using just one or two factors to determine what technicians to assign to a service order. The process may be as rudimentary as who is "next up" or who is assigned to a territory. While this may help produce a schedule, it can't be trusted to be a truly optimized schedule. This paper takes a deep dive into schedule optimization, what it is, and what to look for in a solution.

As market pressures escalate and organizations strive to control costs and enhance service operations, it is more important than ever to make smart decisions about scheduling. However, evaluation committees need to be leery of exaggerated claims.

Details make a difference — points to consider:



Manual processes. Whether spread sheets, Gantt charts, or a large whiteboard on the wall, manual systems seldom can accommodate the many factors that should be considered in sound scheduling. **Such systems rely on a dispatcher's instincts, habits, and guesses...far from being fact-based.** The whole system may be in jeopardy when the seasoned dispatcher is sick or retires and the tribal knowledge is lost.



Planned once and done. Some solutions assign a field resource to a job and that assignment is never amended as the day progresses, even if major interruptions arise. Some solutions depend on the dispatcher to identify when the worker is off-schedule and shifts need to be made. Or, the field worker may have to communicate with the dispatcher that a major traffic jam is interfering with original travel time estimates. **These types of systems shift much of the responsibility to the dispatcher, making that role tedious, time consuming, and stressful.** Several dispatchers may be required to manage the workload.



Judgement calls. Some solutions don't take into consideration "soft constraints" that require more than a yes/no answer. For example, traffic patterns change based on time of day, special events, or holidays. A big pro-sports game or concert can clog main arteries. A field worker may have a hard stop one day per week. A traffic stall may take three minutes or three hours. **Most solutions don't have the capabilities to consider multiple factors, never mind ones that change during the day.** All these changes add up, dramatically impacting team efficiency – and the service delivered.



Priorities. Every organization has different sets of criteria used to plan optimal scheduling. Is it more important to get any field worker to a job on the same day, or is it more important to assign the resource with experience on that specific unit and model? **Unfortunately, most solutions don't allow the organization to rank first-, second- and third-level considerations.**



In-jeopardy calls and views. Most solutions provide limited reporting and views of the schedule for dispatchers. This can allow some service requests to be repeatedly pushed back as highly vocal customers are moved up. **Without advanced tracking and reporting tools, organizations can't keep dispatchers from managing high volumes of calls without risk and juggling multiple priorities.**

Product spotlight:

ServicePower Scheduling provides enterprise grade real-time AI-powered schedule optimization.

ServicePower's field service management solution takes scheduling optimization to a higher level in performance and productivity, using advanced, real-time insights to create the best, most efficient schedule possible.

AI-powered schedule optimization is a valuable strategic tool, helping to meet the demands of today's time-pressed customers.

AI-driven insights help manage complexity.

ServicePower leverages AI-driven algorithms and real-time data insights to automate scheduling, based on multiple factors such as location, field worker skills, traffic, product type, parts available, and many more. The algorithms consider hundreds of hard and soft constraints—criteria that the organization personalizes—such as regions, overtime limits, and skill levels associated with types of service orders.

Hard Constraints

Yes/No

- Is the site/location open?
- Is the technician allowed to go?
- Is the technician qualified?
- Does the technician have the right parts?
- Has the customer blocked this technician?
- Is this the right type of work?

Soft Constraints

Evaluation

- How much will it cost to send this technician?
- How long will it take?
- How important is this customer?
- Will it be quicker to send someone with fewer parts?
- What if we use overtime?
- Is this technician cheaper or faster than that technician?
- This technician is closest but is needed for another job requiring a specialist.

Highly robust vs. rule-based.

When evaluating scheduling tools, organizations need to be alert for solutions that simply use surface-level rule-based scheduling assignments rather than true AI-driven algorithms capable of making more advanced decisions based on hundreds of complex factors. Many solutions that are available today can automate scheduling.

These many factors are instantaneously considered, weighted, and compared. Possible scenarios are ranked, based on likely ability to complete the job in one call, projected travel time, and estimated costs.

The illogical routes and assignments are totally eliminated so the dispatcher doesn't need to weed through unlikely options, saving even more time.

AI-powered schedule optimization

- Continually analyzes and adjusts schedules with an understanding of your unique competing priorities of workforce efficiency, customer demands, and technician availability.
- Processes massive amounts of competing data to make millions of decisions on how to best build a schedule.
- Learns every day, throughout the day, to understand the data to become more efficient and better optimized over time.
- Self-builds a matrix of travel times to become more accurate and more efficient each time it's used.



Ability to factor in service level agreements (SLAs).

Offering service level agreements is an important way to enhance relationships with customers. For most scheduling solutions, addressing SLA terms is beyond their capabilities. **For ServicePower, the advanced scheduling optimization tools easily incorporate SLA factors, ensuring customers with an SLA get the service their contract guarantees, even if the cost is slightly higher to the organization.**

Flexibility allows companies to set priorities.

The solution can also be personalized to match company preferences. This means the algorithm will tailor-rank criteria, such as putting an emphasis on matching field worker skills over responding quickly. **The dispatcher can also enter variables like vacations, field workers out sick, or seasonal considerations like freezing temperatures that can impact certain types of repairs.**

Real-time monitoring keeps the schedule timely.

ServicePower Scheduling automates scheduling, providing a modern web-based Gantt view that can be configured by region, solutions, or technicians or other field workers. **It provides an easy-to-understand color-coded view of the planned schedule, plus monitors in real-time evolving factors, such as traffic, and on-site job complications, and then updates field resource scheduling to continue to provide the best schedule possible.**

Easy-to-use screens make tasks easier.

The dispatcher is given many tools to help make the job easier. **The “air traffic controller view” is color coded by types of jobs and can be displayed by region, product, or field resource, making it easy to spot trends and gaps.** Jobs in jeopardy—ones not yet assigned—are flagged for special attention so the dispatcher can consider possible remedies such as approving overtime.

Detailed information prevents confusion.

Highly detailed views of assignments, locations, and workorders are available, including maps and routes. The field resource receives notices of changes and updates as they happen. Detailed maps show appointments and recommended routes, using reliable geographic information system (GIS) traffic technology.

Exception-based focus minimizes risk.

Because the routine work orders are automatically assigned, the dispatcher can focus on exceptions or in-jeopardy calls and other strategic decisions. The Gantt chart supports drag-and-drop functionality, making it easy for the dispatcher to override recommendations and make changes.

Insightful reports view the big picture.

Not only does the solution focus on today’s real-time data, it also helps managers create reports on performance trends over weeks or months. This helps identify any issues needing attention and allows managers to drill into opportunities for improvement, such as a region that may be short-staffed.

Real-world results

40%

increase in first-time fix rates

15%

reduction in travel costs

30%

increase in service calls per day

A day in the life of a dispatch.

Meet Barb, Bob, and Harry, field workers ready to take on a busy day of work.



Day Without ServicePower Scheduling

Dispatcher creates manual schedules

Schedules are created for all field workers (if possible, based on skills, location, availability)

Dispatcher prioritizes jobs using knowledge, hunches, and guesses.

The dispatcher undergoes the time-consuming process of communicating the schedule to field workers and lets customers know of expected arrival times.

Dispatcher creates manual schedules

Dispatcher must redo the schedule, postponing the field worker's later jobs until the next day. Depending on the number of field resources and customers, this could involve the evaluation of hundreds of scenarios, literally impossible for a human to do effectively.

Dispatcher must redo the schedule

Dispatcher must authorize overtime and reschedule jobs until the next day. Depending on the number of field resources and customers, this could involve the evaluation of hundreds of scenarios, literally impossible for a human to do effectively.

Call desk receives numerous complaints about changes and delays.

Barb goes home early

Barb goes home early because she has no other assignments.

business is in disarray, inefficient and losing money

Day With ServicePower Scheduling

The system creates an optimized schedule

Schedule is based on hundreds of criteria.

AI algorithms automatically and instantaneously factor urgency/importance of jobs based on facts and criteria definitions.

The system communicates the schedule to field workers and customers, updating them as needed.

The system automatically and instantaneously shifts the schedule

It assigns Henry to pick up Bob's second service call. The system evaluates hundreds or thousands of possible scenarios based on unique hard and soft constraints of the business.

The system evaluates the impact of the delays and amends the technician schedules

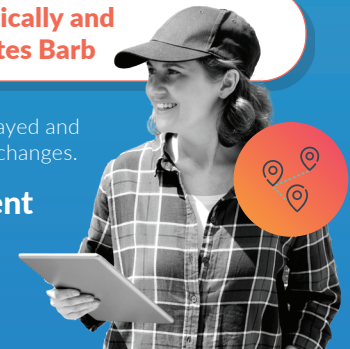
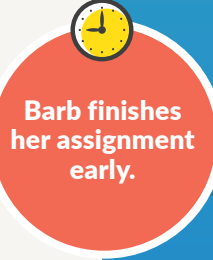
It finds the best solution to the traffic problems. The system evaluates hundreds or thousands of possible scenarios based on unique hard and soft constraints of the business.

Field resources and customers are automatically notified of changes, drastically reducing or eliminating inbound calls.

The system automatically and instantaneously routes Barb

She helps pick up jobs delayed and informs customers of the changes.

business is efficient and profitable



Conclusion

Service organizations will benefit from a close inspection of their existing scheduling processes and solutions. There is likely room for improvement. Today's economic headwinds and market pressures make it more important than ever to leverage technology to help deliver service with speed and efficiency.

When fact-finding and evaluating the various solutions on the market, organizations should look closely at methods for scheduling and optimization. Following a few rules-based guidelines is far from true optimization and can be disappointing. ServicePower provides the advanced, enterprise-grade, AI-powered schedule optimization that organizations need to achieve fast return on investment.

ServicePower's highly robust solution calculates hundreds of factors in an instant, creating a schedule that is truly optimized—and is continually reviewed as factors change. This helps expedite dispatch, retain skilled technicians and other field workers, meet SLAs, and lighten the workload of dispatchers who are often stretched to capacity. Smarter scheduling also contributes to faster, more reliable service, leading to customer loyalty.

As a global leader in field service management, our solutions are designed and built with a focus on providing your customers with an exceptional experience, while delivering operational efficiencies and digital transformation capabilities. Our secure and flexible solutions provide organizations with the ability to optimally manage their workforces, while increasing revenue, improving the customer experience, and reducing costs.

“ServicePower has been a game changer for us through the years. Its automated AI-based scheduling improves our workforce productivity and customer satisfaction daily, with every customer interaction, resulting in increased profitability for Siemens.”

- Pre-Job Process Owner, Siemens

Contact us today:

servicepower.com



**Our customers stay with us for the long haul – 12 years on average –
56% higher than the industry average.**

