



Achieve real-time schedule visibility. Maximize field workforce productivity. Manage responsibilities. Reduce planning costs. Improve customer satisfaction. Avoid missed SLAs.

## PERSPECTIVE

Imagine if you could offer the absolute best customer service possible, at the lowest cost to your business? Not just intermittently, but consistently guaranteed every hour of every day. The impact of this would be enormously beneficial to your business and your customer. To meet this challenge, Solarvista™ now offers **Solarvista™ 7.0 Optimizing Scheduler**.

## WHERE TO USE:

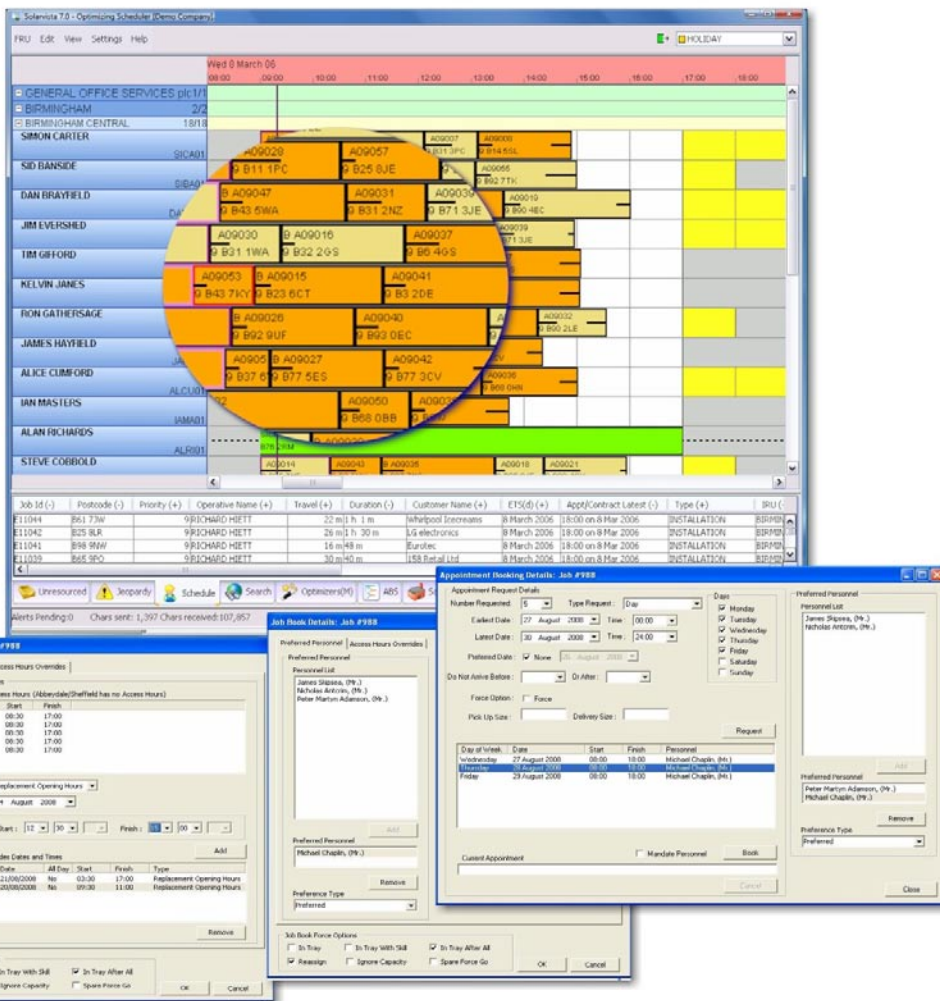
- On-site Break/Fix
- Field Resource Planning
- Installation/Commissioning
- Planned Maintenance
- Job/Route Planning

## FEATURES AT A GLANCE:

- Fully automated scheduling.
- Real-time optimisation of schedules.
- Schedules against service levels (SLAs) or books appointments.
- Uses advanced "simulated annealing" scheduling algorithms.
- Integrated Gantt Manager displays schedule with updates in real-time.
- Drag & drop functions with full SLA and rule validation.
- Jeopardy notifications via visual indicators or list.
- Hover information windows.
- Dynamic Show Candidates Tool.
- Messaging/notifications to mobile devices.
- Job search and filters.
- Multiple zoom levels.
- Easy to read 'now' line.

## BENEFITS/RETURN ON INVESTMENT:

- Automatic scheduling without human intervention.
- Real-time optimisation ensures maximum productivity.
- Minimised overtime costs.
- Improved customer satisfaction.
- Reduce planning manpower by up to 70%.
- Improve field resource productivity by up to 20%.
- Offer cost-effective appointments time banded against known resource availability.
- Reduced level (SLA) violations.



## INTRODUCING... SOLARVISTA™ 7.0 OPTIMIZING SCHEDULER

**Solarvista™ 7.0 Optimizing Scheduler** delivers a state-of-the-art, intelligent scheduling engine that automatically allocates work in a way that matches your current business priorities. It ensures that your field service organization is consistently delivering the best customer service it can with the anticipated available resource levels. In addition, it ensures it is utilizing its resources (technicians/engineers, dispatchers, call agents etc.) as efficiently as is possible and responding to situations that put SLA-compliant response, or appointments, in jeopardy. Using accurate travel distances and expected road travel journey times for each part of the day, skills of your personnel, the engine considers the entire schedule in real-time and reacts to minimize your costs and maximize your service response. In most cases, thousands of options are considered in a matter of a few minutes. When implemented with Solarvista™ 7.0 Mobile Worker, Solarvista™ 7.0 Optimizing Scheduler can "drip-feed" jobs to the mobile workforce on an on-going basis ensuring that the most efficient resource is used at any one time. Real-time status updates also allow the application to re-plan schedules based on situations which do not go to plan (e.g. traffic jams, illness, longer than expected jobs, "no-shows" etc).



## TECHNOLOGY/CAPACITY/SCALING

- Based on proven ServicePower™ technology in use in global corporations.
- Capacity to process up to 1500 appointments per hour with up to 4000 field personnel.

## CONTROL OF FIELD RESOURCES

- Tracks personnel, location, skills, availability and capability.
- Tracks individual and corporate calendars for holidays, shift work, overtime, etc.
- Tracks individual performance against the planned work schedule.

## CONTROL OF SERVICE ORDERS/JOB

- Schedule according to customer location, appointment band, length and priority.
- Manages capacity, i.e. prevents overbooking of jobs.

## VIEWING OF OPTIMAL SCHEDULE

- Via Gantt Manager, users see real-time display of current schedule, available resources and appointments.
- Flexible schedule reports and jeopardy reporting for un-resourced/late/overtime jobs.

NOTE: Whist Solarvista™ 7.0 Planner can be used to view scheduled jobs and resources it is recommended that the Solarvista™ 7.0 Optimizing Scheduler Gantt Manager is used as this application is tuned specifically for use with automated scheduling.

## SCHEDULING AND OPTIMIZATION OPTIONS

In all the options described below, all of the jobs and relevant scheduling information is available via the Gantt Manager application. The system will automatically allocate jobs based on the location of field service personnel with the required skills, their availability and shift patterns, their local knowledge and even the spares that they are carrying. It uses the Travel Matrix (see later description) utilized for all of the scheduling approaches.

- **Option #1 – Appointment Booking with Automated Single Job Optimization (SJO)** - this is the first level of automated scheduling using a sophisticated scheduling engine to offer cost based appointments and allocate incoming jobs to the best available position. Some existing jobs may be moved in order to improve the schedule. It is recommended in an Appointment Booking environment where the number of jobs per day, per field personnel is low and/or where the level of change to the work schedule is low.
- **Option #2 – Appointment Booking with Automated Enterprise Job Optimization**- this approach provides full optimization in an appointment booking environment. The schedules created are regularly reviewed to see if changes to the schedule (new jobs, cancelled jobs, changes in priority, changes in personnel availability, etc) can result in an improved schedule. In each scheduling unit, all of the jobs and personnel are reconsidered to deliver fully optimized schedules. The optimizing scheduler does not stop at the first viable solution, but continues until the lowest cost schedule is found within a given run-time. It is recommended where the number of jobs per day per field personnel is more than 3 or 4 or for any operation where there are frequent and significant changes to the schedule.

- **Option #3 – SLA Job Booking with Automated Enterprise Job Optimization** – this works in the same way as Option #2, but in the SLA job booking environment. It is recommended where the number of jobs per day per field personnel is more than 3 or 4 or for any operation where there are frequent and significant changes to the schedule.

## APPOINTMENT OFFERING/BOOKING (OPTIONS #1 & #2)

- **Appointment Duration** - schedules appointment jobs with duration from a few minutes to an entire day's shift.
- **Grouping of Appointment Offers** - by geographic area, skill/resource requirement.
- **Range of Appointment Types** - any appointment time band can be defined and therefore offered to customers. Examples include: All day, Morning or Afternoon, 2-hour time banded (e.g. 9-11am), Evening (e.g. 5-8pm), Not School (e.g. 10am-3pm), First Call, Last Call.
- **Number of Appointment Offers** - allows a configurable number of appointments of each appointment type to be offered to the customer, or call agent, e.g. 2 x All Day, 2 x AM or PM and 2 x time banded or 6 x all day, 5 x AM or PM.
- **Ranking of Appointment Offers** - when the Optimizing Scheduler returns a number of potential appointment offers, these offers are each computed for cost and ranked, such that the lowest cost appointment may be offered to the customers.
- **Same Day Appointments** - subject to resource availability and the dispatch approach used, the Appointment Booking module can offer and book appointments for today.
- **Overtime/Non-Std Hours** - allows appointments to be booked using an allowed amount of overtime per field resource. Using overtime/non-std hours may be computed to cost more.
- **Forced Appointments** - allows jobs to be booked for subsequent scheduling, even if there is currently no capacity available.
- **Multiple Day Appointments** - allows a series of appointments to be booked, as one, against a series of days, i.e. a job on all of Monday, Tuesday and Friday - all for the same field personnel.

## SERVICE LEVEL AGREEMENT (SLA) BOOKING (OPTIONS #1 AND #2)

- **On-line and Real-time Scheduling of Incoming SLA Jobs** - allows the job to be scheduled in real-time to a suitable resource. Any SLA can be used, from a few to days in the future.
- **Customer Availability** - takes account of specified times when the job must, or must not be done, e.g. customer premises closing for lunch, school holidays, etc.

## COMPLETE SYSTEM OR INTEGRATION TO LEGACY:

Optimizing Scheduler operates as part of Solarvista's sophisticated complete service management system (Solarvista™ 7.0 Service Management System) or as a separate product integrated to your existing legacy systems (as part of Solarvista™ 7.0 Workforce Mobilisation Platform).

## OTHER SOLARVISTA 7.0 SERVICE MANAGEMENT SYSTEM PRODUCTS:

### Business Manager

Complete, best-of-breed, service-oriented business management system including modules for service (field service, help desk, repair centre), agreements, sales, inventory, contact centre and automated financial billing.

### Mobile Worker

A feature-rich "occasionally connected" application for field service personnel operating on mobile devices.

### MapTrak

Live GPS mapping and tracking of field personnel integrated with Planner.

### Planner

Graphical Gantt-style planning tool with jeopardy and show candidates function (manual not automatic).

### Customer Web Self Service

Allows customers to view their service jobs via the internet or register new service requests.

### Event Manager

Allows events to be monitored and users/customers emailed automatically e.g. when jobs are scheduled.

### SMS Text Messenger

Sends job details as an SMS Text Message.

### Mobile Tech Content

Allows technical manuals to be stored on the mobile device and rapidly searched.



## FEATURES APPLICABLE TO ALL OPTIONS (OPTION #1, #2 & #3)

- Consideration of Priority - this ensures that urgent jobs, preferred customers or mission-critical equipment can be assured priority service.
- Capacity Management - a series of capacity ranges ensure that advanced job bookings can be limited. This prevents overbooking, and ensures that resource capacity can be withheld for short term, or higher priority work.
- Preferred Personnel - supports booking of jobs to a Mandatory Personnel (who must do the job), Primary and Secondary Preferred Personnel (who should do the job unless too expensive) or a Prohibited Personnel (who must not do the job).
- Consideration of Skill Levels - considers different skill levels of the field personnel.
- Scarce Skills and Operatives - supports offering and booking of appointments where the required skill is scarce.
- Lunch Breaks - schedules the allowed lunch break to each field personnel.
- Local Knowledge - encourages the scheduler to keep field personnel working in geographic areas - or travel ranges - with which they are familiar, and prevents field personnel from travelling too far from home.
- Parts/Materials - can specify up to five spare parts/materials required for any job. Considers those field personnel who have the spare parts as part of their vehicle stocks.
- Substitute Parts/Materials - in addition to the above, up to four substitute parts may be specified. This is important where many parts are interchangeable.
- Variable Costing of Business Parameters - when a job is scheduled, weighted cost based parameters are used to determine the allocation. Factors used include: skill levels, priority, spare parts, specified field personnel, travel, overtime/non-std hours, local knowledge and overdue costs (missed SLA). These weightings are user definable.

## FEATURES APPLICABLE TO SLA BOOKING OPTIONS (OPTIONS #2 and #3)

- Real Time Optimization - the real time automatic optimization of today's schedule and future days' schedules, to ensure that the lowest possible cost schedule is maintained at all times, despite disruption to the schedule (e.g. new jobs arriving, jobs being re-booked or cancelled, engineers becoming unavailable today and/or in the future, engineers over-running, "no-shows", new joiners and leavers)

## SCHEDULE VISIBILITY - GANTT MANAGER

- Configurable Display of Personnel Schedules - the Gantt Manager allows the user to view the work schedules for each field personnel under their control, irrespective of the scheduling method selected or the booking method.
- Drill Down Access - simple mouse operation allows the user to display additional information about individual jobs and field personnel.
- Drag and Drop Manual Scheduling - an "in-tray" displays all of the currently un-resourced jobs. These jobs may be scheduled to specific field personnel via "drag-and-drop" functionality, or by automatic allocation from within the Gantt.
- Support for Scheduling Decisions - provided by the 'Show Candidates...' function, which re-orders the Gantt display in ascending order of the closest skilled field personnel to a specific job.
- Flexible Schedule Reports - in addition to the graphical schedule display on the main Gantt, a textual schedule report is provided. This report may be

sorted against a number of fields to provide flexible views of the scheduled jobs.

- Flexible Jeopardy Reporting - any schedule jeopardy events, such as an un-resourced job, a late job or a job extending into overtime, missing feedback from the field, can be reported. As with the schedule report, the display options are very flexible to support different approaches to exception handling.
- Search Facilities - provided to allow rapid user navigation to specific personnel or jobs.
- Personnel Availability - the Gantt Manager includes supporting functions to allow a user to modify service resource availability, through extending shifts or through allocation of standard activities (approved non-working time) such as holiday, training or team meetings.

## DISPATCH

- Inform Lead Time - definable for each field personnel, to prescribe a time at which each job is dispatched prior to its expected start time (including travel time).
- Automatic Dispatch - when used with Solarvista™ 7.0 Mobile Worker (see separate data sheet for more information), jobs are automatically dispatched and transmitted to mobile devices (based upon Inform Lead Time).
- Manual Dispatch - available where Solarvista™ 7.0 Mobile Worker is not deployed, job information is available from pop-window of Gantt to issue via voice/phone etc.
- Batch - where whole schedules are dispatched to the field personnel e.g. a whole day's work. This is recommended where there is little or no real-time change to the work schedule, where field personnel are allocated an amount of work to complete, typically the next day. Suited to operations where the degree of change required to the schedule during the day is relatively low.
- One-by-One - where jobs are individually dispatched to field personnel at definable intervals. This is recommended where job durations vary and/or there are real-time same-day changes to the schedule - typically in a SLA operation.

## JEOPARDY REPORTING

- Report Variance - the jeopardy monitor reports variance against the following job states: late accepted (contacted), late depart (travelling), late arrival (logged on), late finish (logged off) and late completed (cleared). The jeopardy report in the Gantt also displays other "jeopardy conditions" for any job, such as: un-resourced (not scheduled to a field personnel), early, late, in overtime, etc.
- Configurable - the jeopardy monitor may be configured such that some, or all, of the states used are reported against. Thus, if a field personnel only reports arrival at the site and job completion, only these two events will be monitored.
- Definable Thresholds - real service operations determine that the work schedule has a range of variables. The travel times and expected job durations are best estimates, but the actual times vary considerably. Allows you to set different tolerances i.e. + or - 15 minutes, so that only significant variances to the schedule are reported.

## A FUTURE PROOF PLATFORM

Even if using your existing legacy business control software, Planner is part of the Solarvista™ 7.0 Workforce Mobilisation Platform which means one integration exercise gives you the benefits of many products.

## OTHER SOLARVISTA™ 7.0 WORKFORCE MOBILISATION PLATFORM PRODUCTS:

### Mobile Admin Manager

Manages key information to facilitate the use of Mobile Worker with your existing business system.

### Mobile Worker

A feature-rich "occasionally connected" application for field service personnel operating on mobile devices.

### MapTrak

Live GPS mapping and tracking of field personnel integrated with Planner.

### Planner

Graphical Gantt-style planning tool with jeopardy and show candidates function (manual not automatic).

### Customer Web Self Service

Allows customers to view their service jobs via the internet or register new service requests.

### Event Manager

Allows events to be monitored and users/customers emailed automatically e.g. when jobs are scheduled.



## GEOGRAPHIC TERRITORIES (TRAVEL MATRIX)

- Comprehensive Road/Geographic Knowledge - the Travel Matrix<sup>2</sup> holds travel times, based on the real road network, for each of the millions of possible route combinations. These times may be overridden if required.
- Hour-by-hour Profiling – calculated journey times hourly to take account of peak-hour conditions.

1. Host system is either Solarvista™ 7.0 Business Manager in case of Solarvista™ 7.0 Service Management System or third-party application in case of Solarvista™ 7.0 Workforce Mobilisation Platform. Some features may not be feasible when used with third party application 2. This requires configuration services in addition. 3. Each Travel Matrix is separately licensed for each country required.

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## DEPLOYABLE:

### On desktop or laptop PCs

Runs on Microsoft® Windows™ XP, 2000 and Vista.

### Run via Web Browser

When using Citrix® Metaframe™ Web Service.

### Via Remote Desktop

When using Remote Desktop (within Windows), Microsoft® Terminal Server or Citrix® Metaframe™.

## KEY SYSTEM REQUIREMENTS:

Microsoft® Windows™ XP, 2000 or Vista.

Microsoft® SQL Server™ 2000 or 2005.

.NET Framework 2.0

## CONTACT:

### NORTH AMERICA:

Solarvista Software, LLC  
225 Franklin Street, 26th Floor  
Boston, MA 02210  
United States

Tel: +1 (617) 217-2852  
Fax: +1 (617) 217-2000

### EUROPE/WORLD:

Solarvista Software Limited  
18 Atlas Way, Atlas North  
Sheffield, S4 7QQ  
United Kingdom

Tel: +44 (0) 114 221 1000  
Fax: +44 (0) 114 221 5000

[www.solarvista.com](http://www.solarvista.com)  
[sales@solarvista.com](mailto:sales@solarvista.com)

Solarvista™ specialises in delivering integrated Service Management, Customer Relationship Management (CRM), Mobile and Scheduling solutions for organisations that market, sell, service and support equipment/assets or provide professional services. In addition, we provide Workforce Mobilisation software for integration with existing systems. Our products are used by companies of varying sizes, from blue chip to SME in over 20 countries.

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