Opcenter APS Advanced Planning and Scheduling

Product presentation

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Agenda

Introduction
Product
Outlook

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Introduction
Opcenter APS

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A look to a demand-driven business environment

I want it unique → Mass customization

I want it perfect → High quality

I want it now → Speed

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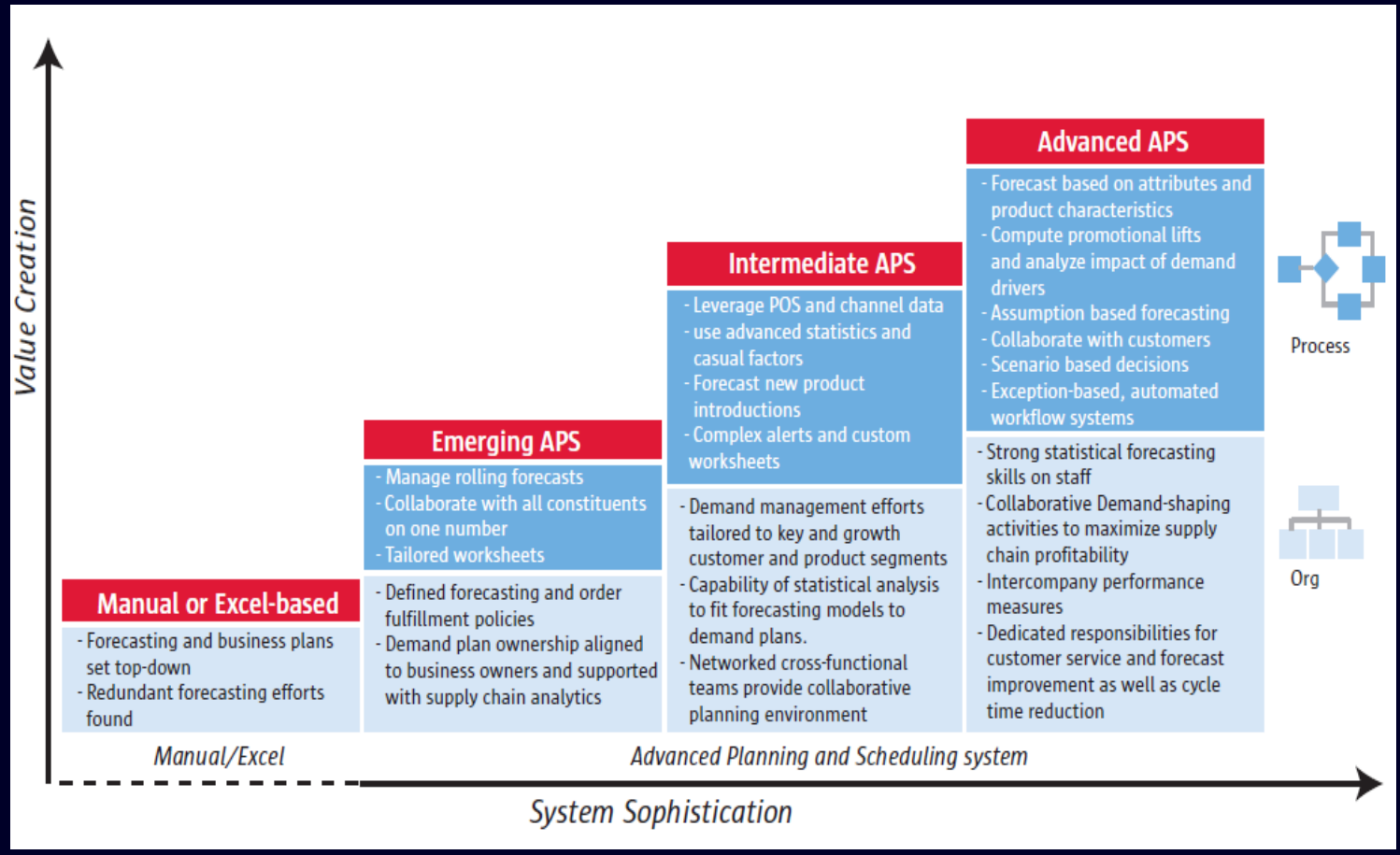
Why an Advanced Planning and Scheduling System ?

APS with progressive implementation allows company to gradually evolve skills and processes and to fully exploit their potential



Source: BearingPoint

Source: "The importance of APS in Demand Planning" , BearingPoint

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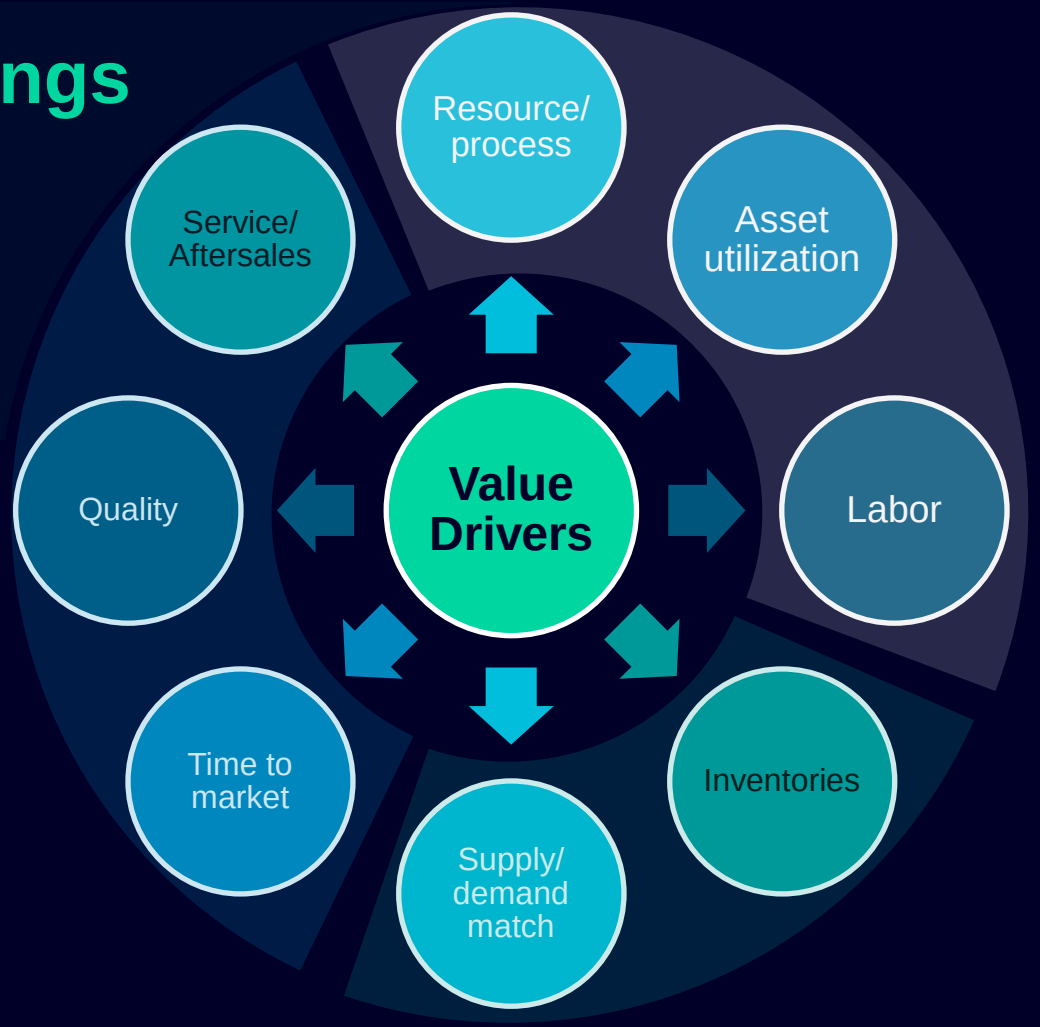
Why an Advanced Planning and Scheduling system?

Opcenter APS brings tangible benefits to your value drivers



Improvement in customer service

Improvement in productivity

Resource allocation and tool utilization increase

Easy bottleneck detection

Fast and frequent reschedule to meet production deviation

WIP reduction

Raw Material Inventory Reduction

Knowledge sharing and collaborative environment

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Business Trends bringing new possibilities 1/2

TRENDS:

- Platform sharing
- Modular production systems
- Market demand more regions specific
- Mass customization
- Emerging market share increase

IMPLICATIONS:

- Globalized production
- Complex Products
- Flexible production
- Complex validation procedure

POSSIBILITIES:

- Innovative manufacturing technologies and manufacturing process
- Integrated approach to product design, production planning and production execution
- APS managing availability and synchronization of limited and complex resources
- APS functionalities to enable Supply Chain coordination and enhance collaboration and visibility and visibility

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Business Trends bringing new possibilities 2/2

TRENDS:

- Rising machining product demand
- Introduction of more flexible machines and innovative materials
- Increased global execution due to growing markets and increase of externalization to FTS

IMPLICATIONS:

- Flexible processes due to new generation of machine tools
- Invest in capacity management to have bigger volumes with lower lead times
- Key role of complex supply chain

POSSIBILITIES:

- Enable flexible production planning and workflow management supporting the integration of more flexible machines
- Optimize and automate production order and asset mgmt. to achieve higher machine tool utilization and reduced order lead time
- Implement APS functionalities to enable Supply Chain coordination and enhance collaboration and visibility

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Scheduling in a nutshell
Opcenter APS

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120

different combinations

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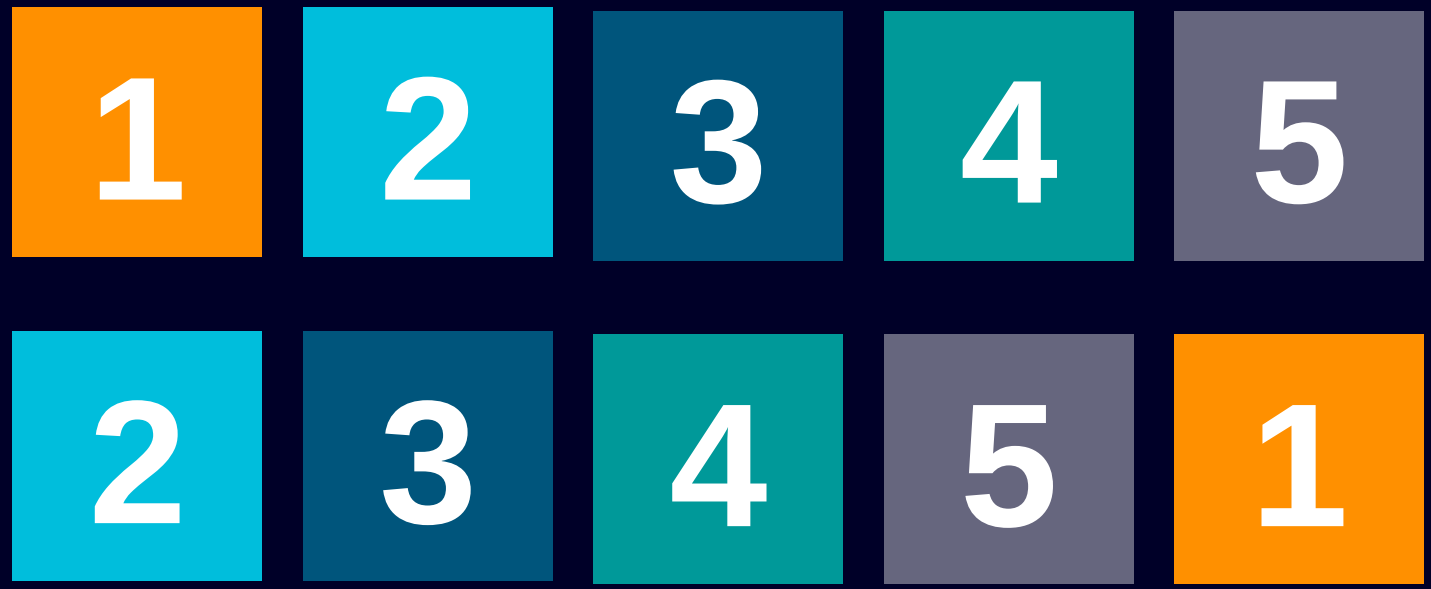

14400
different combinations

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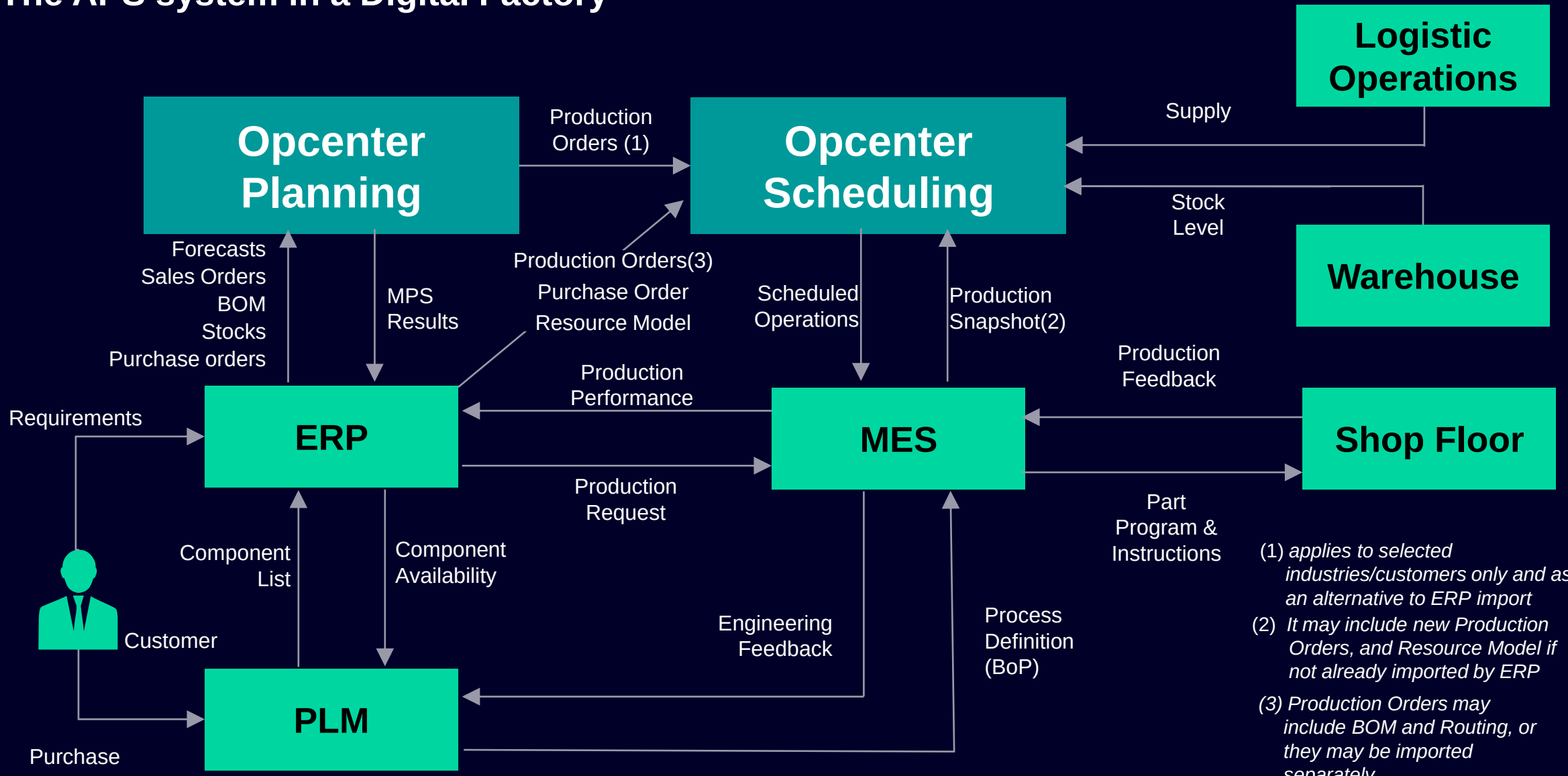
The APS system in a Digital Factory



(1) *applies to selected industries/customers only and as an alternative to ERP import*

(2) *It may include new Production Orders, and Resource Model if not already imported by ERP*

(3) Production Orders may include BOM and Routing, or they may be imported separately.

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Product
Opcenter APS

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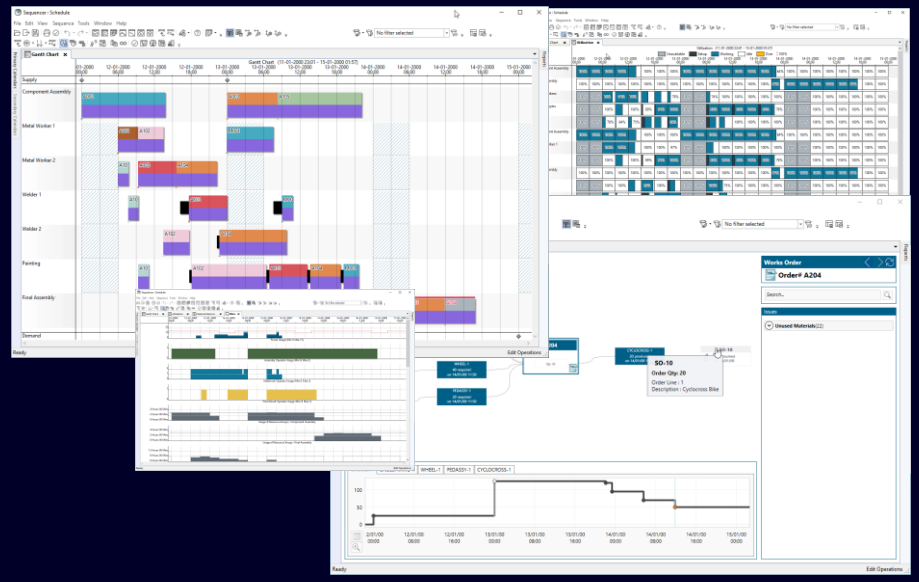
Opcenter APS
Advanced Planning and Scheduling

Global competition forces companies to find ways to optimize production operations by reducing or eliminating non-value-added activities such as setup or waiting time.



Opcenter APS is a range of Advanced Planning and Scheduling tools for the manufacturing industry. It uses algorithms to analyse and calculate achievable production schedules, taking into account a range of constraints and business rules, allowing the planner to generate and evaluate multiple possible scenarios. Highlighting potential problems allows action to be taken to **balance demand and capacity**.

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Opcenter APS value proposition

- Fast
- Adaptable License
- Smart
- Mature and Stable
- Effective
- Flexible
- Scalable
- Worldwide adopted

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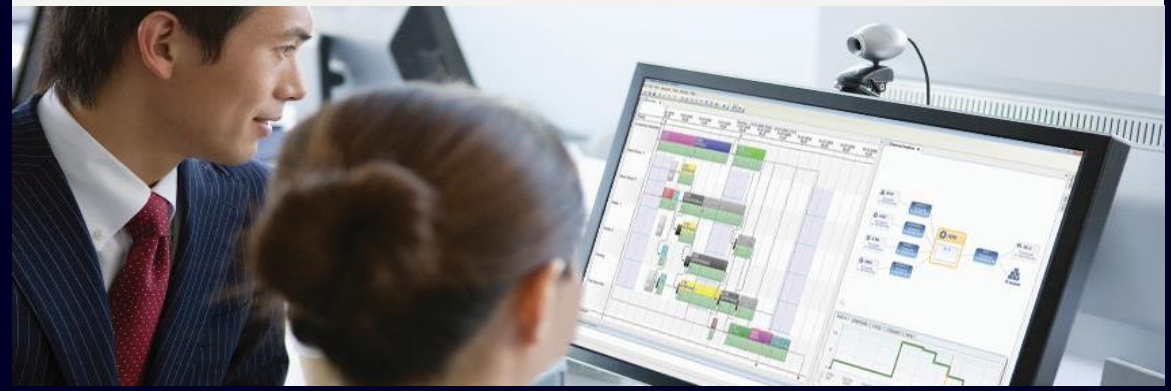
Opcenter APS value proposition

Fast

- Schedules in minutes
- Heuristic approach
- Frequent reschedule
- Deviation management
- Quick problem detection

Smart



- Graphical tool
- Cause & effect analysis
- Identify problems
- Fix before happen

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Opcenter APS value proposition

Effective

- Improved Customer Service rate
- Productivity Increases
- Inventory Reduction
- Cycle Time Reduction
- Fast Return of Investment

Scalable

- Family of products
- From SMB to Fortune 500
- Product evolves with your company

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Opcenter APS value proposition

Adaptable License

- Various License Levels
- You Pay What You Need
- Read Only Users
- Pack Of Licensed Users
- Concurrent users available

Mature and Stable

- Technically superior
- Multi-language
- Easily integration
- Native integration to Siemens products

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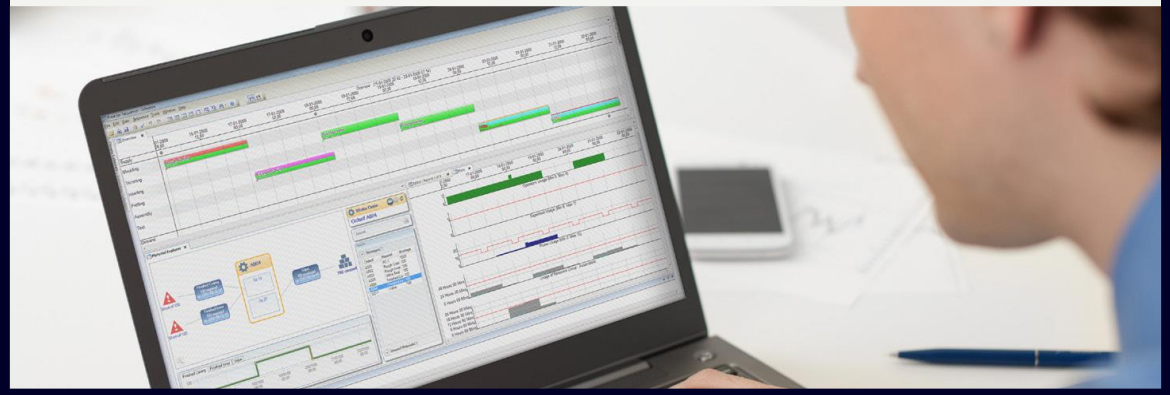
Opcenter APS value proposition

Flexible



- Configurable workspace
- Flexible data structure
- Task automation scripting
- Flexible constraint and sequencing model
- Full API (Programming interface)
- Standards and extendable reporting
- Unattended Scheduling

Worldwide adopted

- Widely adopted
- Local support
- Global support 24/7
- Strong Partner Network

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Companies using APS in place of spreadsheets and ERP outperform in:

Spreadsheet

Scenario analysis

Customers and suppliers inputs handling

Seasoning, trends, campaigns and low sales

ERP

Finite Capacities not managed

Not capable to predict

Not suitable for MTo

ERP and APS systems *together* are synergic to provide competitive edge to manufacturers

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Positioning in Siemens' Portfolio

Manufacturing Operations Management

		Industries											
		Automotive			HE-Special Machinery	Electronics	Semicon-ductors	A&D	Medical Devices	F&B/CPR	Pharma / Cosmetics	Chemicals	Energy
		OEM	Tiers	Tire Manuf.									
Opcenter Execution	Opcenter EX FN	o											
	Opcenter EX DS		o		o			o					o
	Opcenter EX PR			o						o		o	o
	Opcenter EX PH										o		
	Opcenter EX EL					o							
	Opcenter EX MDD								o				
	Opcenter EX SM						o						
Opcenter Quality	Opcenter QL	o	o	o	o	o	o	o	o				o
Teamcenter QL		o	o	o	o	o	o	o					
Opcenter EMI	Opcenter IN	o	o	o	o			o	o	o	o	o	o
	Opcenter PF	o	o	o	o			o		o		o	o
	Opcenter RP	o	o	o	o	o	o	o	o	o	o	o	o
Opcenter APS	Opcenter PL		o	o	o	o			o	o	o	o	o
	Opcenter SC	o	o	o	o	o	o	o	o	o	o	o	o
Opcenter RD&L	Opcenter SP									o	o	o	o
	Opcenter FR									o	o	o	o
	Opcenter LAB			o	o	o			o	o	o	o	o

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Opcenter APS provides fast ROI!

Fast integration

I/O module with standard import scripts and sources (files, DB, xls)

Predefined data model

Immediately start using APS

Easy configuration

Standard widgets can be configured by users (position, visibility, filter on data, colors, labels)

Built in Reporting

More than 25 reports available

Efficient Partner Network

Easily adapt the solution, getting quickly the expertise you need, where you need it.

Language support

Adopt your own language and terminology for a faster change management

(*) selected customer previousvly adopting spreadhsheet based solutions

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Planning and Scheduling
What’s the difference?

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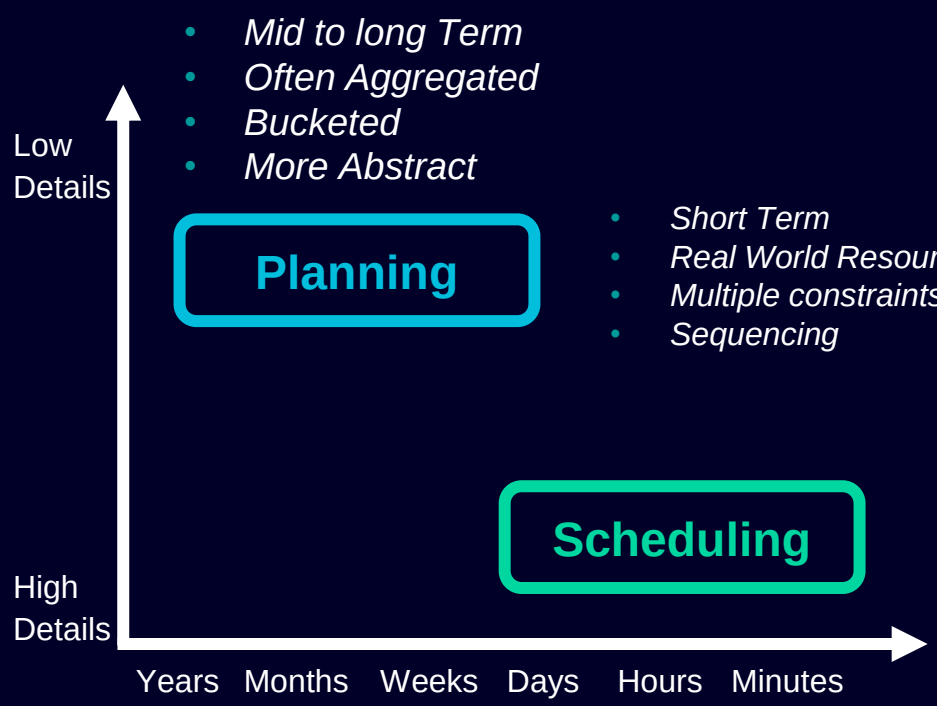
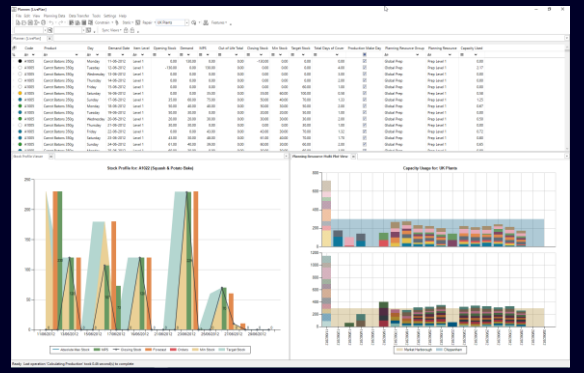
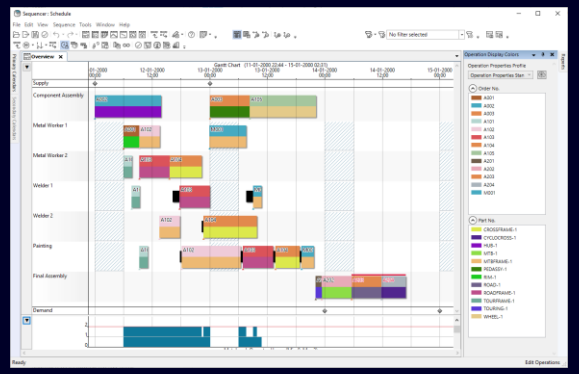
Opcenter APS
Production Planning & Scheduling





Planning
- What to make
- When to make it
- How much to make
- Where to make it
- Materials Required
- Resources Required



Scheduling
- How best to make it
- Sequencing
- Synchronisation
- Priorities, Constraints and Conflicts
- Monitoring
- Managing Change

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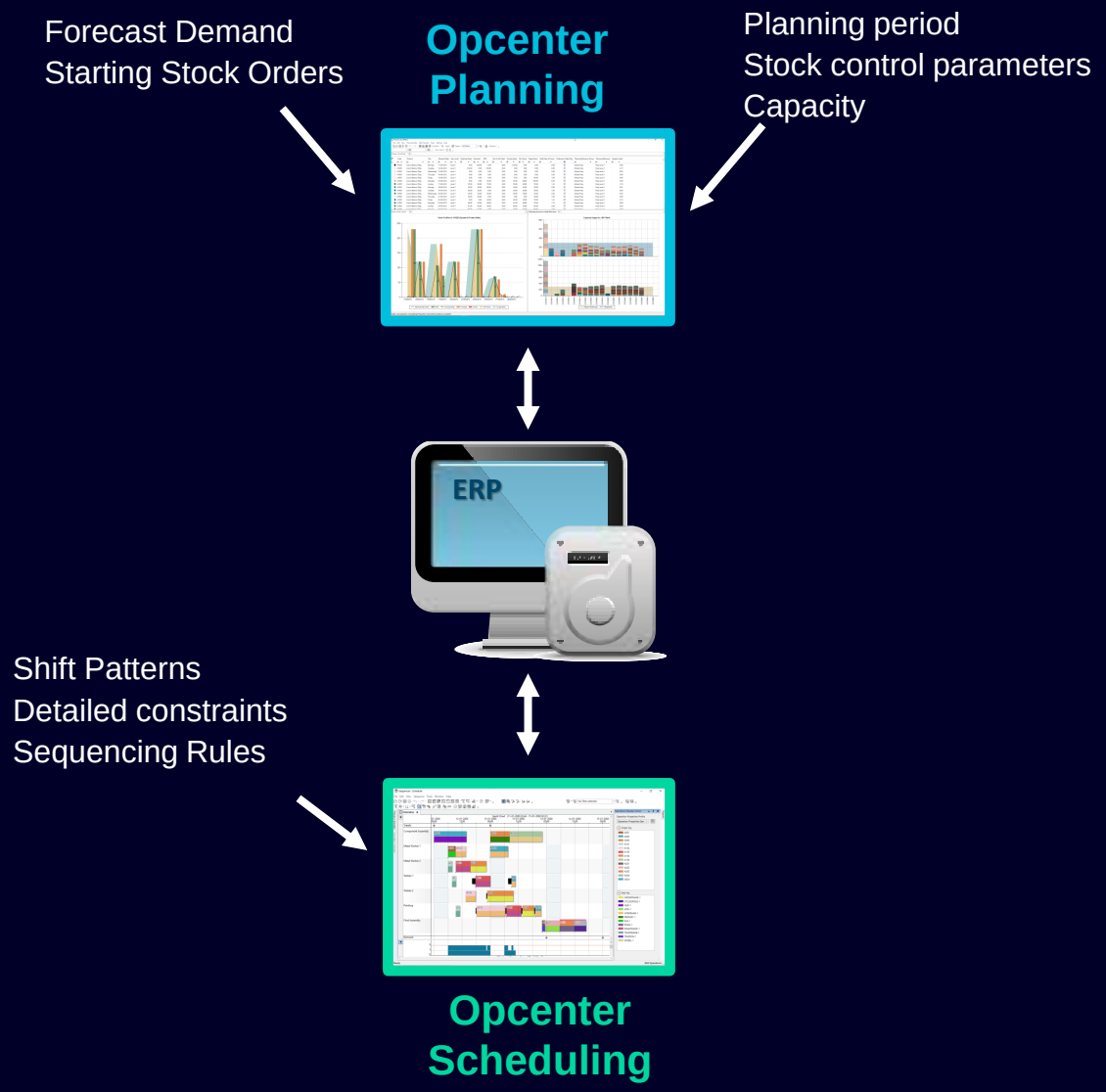
Opcenter APS
Advanced Planning and Scheduling

Opcenter Planning

A Strategic Decision Tool
Considers forecast and long term orders to decide feasibility and set general direction of production;
Dynamically sets target stock levels to meet future demand;
Load balance across multiple resources considering constraints, materials shelf life;
Supports major decisions of production capacity:

- Extend work force
- Extend resource capacity
- Extend factories

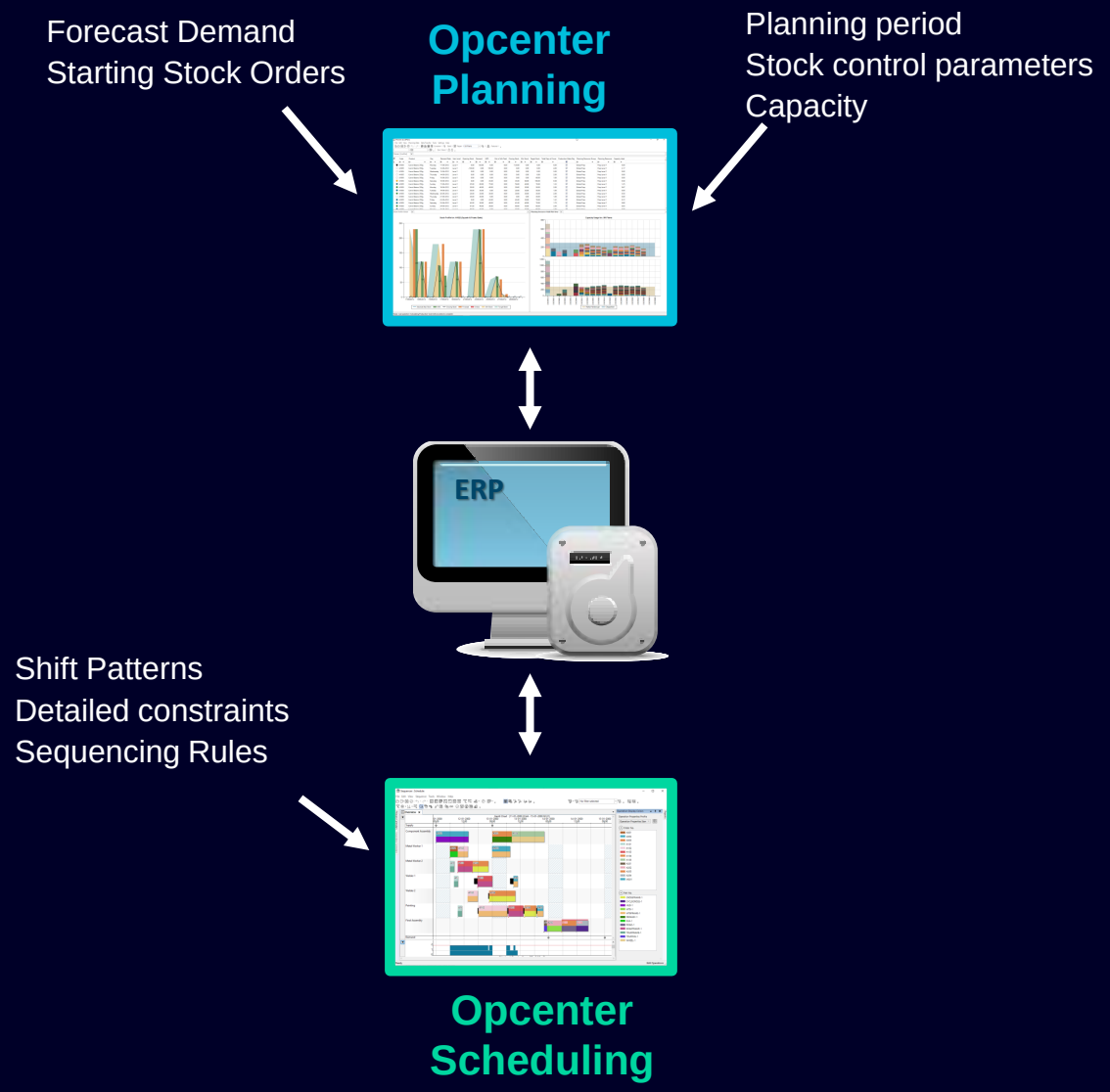


Opcenter APS
Advanced Planning and Scheduling

Opcenter Scheduling

A Tactical Decision Support Tool
Considers detailed production demand to provide production sequence, work to list;
Predicts effects of change in production, interruptions, machine breakdown, scrap;
Reacts to real time production efficiency;
Supports decisions:

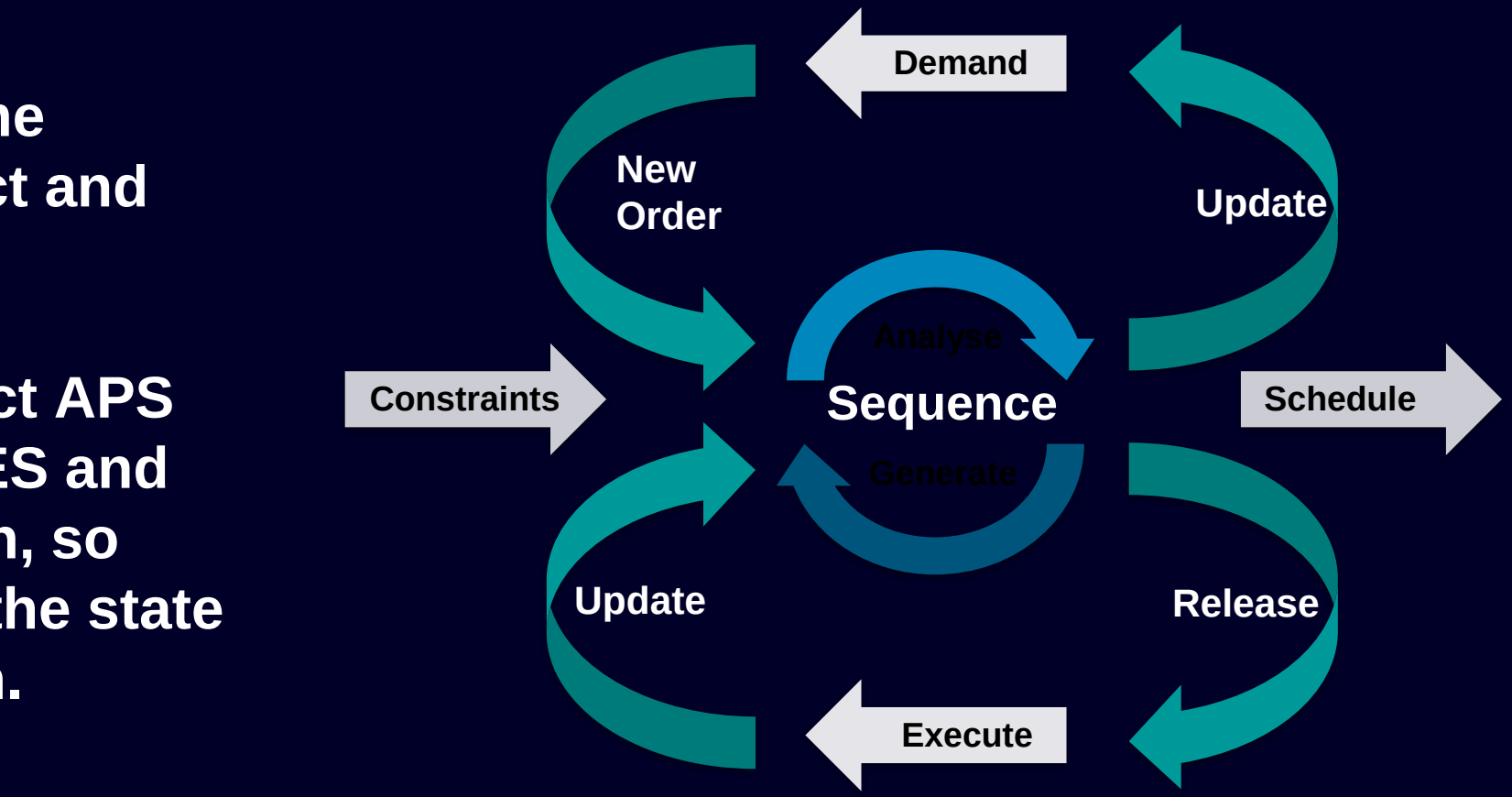
- Overtime
- Order prioritization
- Split production batches
- Due Date Negotiation
- Order Promising (CTP/ATP)



Tight integration with both ERP and MES solutions allows rapid response to changes

Best-in-class use real-time production data to predict and synchronize

Those companies connect APS systems to their ERP, MES and shop-floor data collection, so they are able to monitor the state of execution against plan.



Advanced Planning
Deep dive

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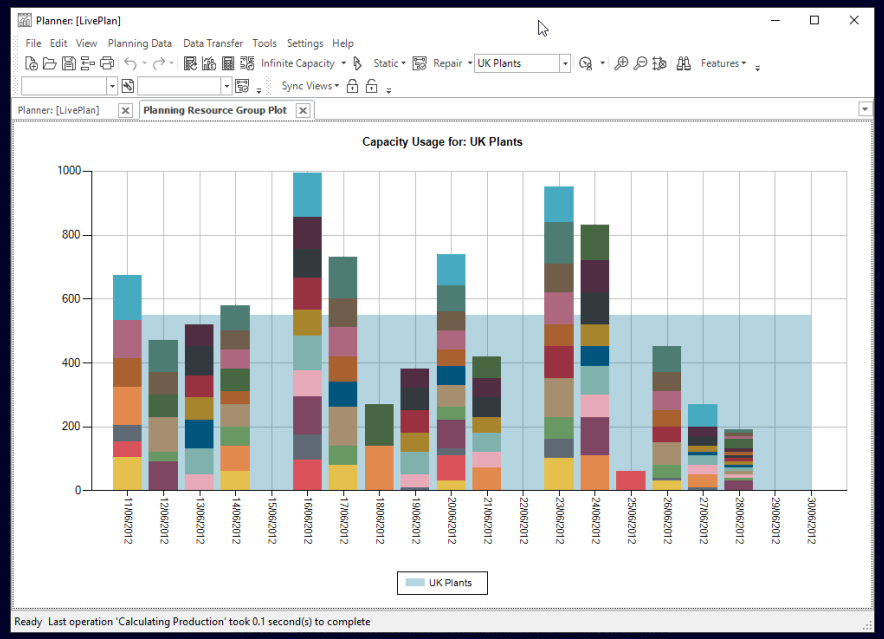
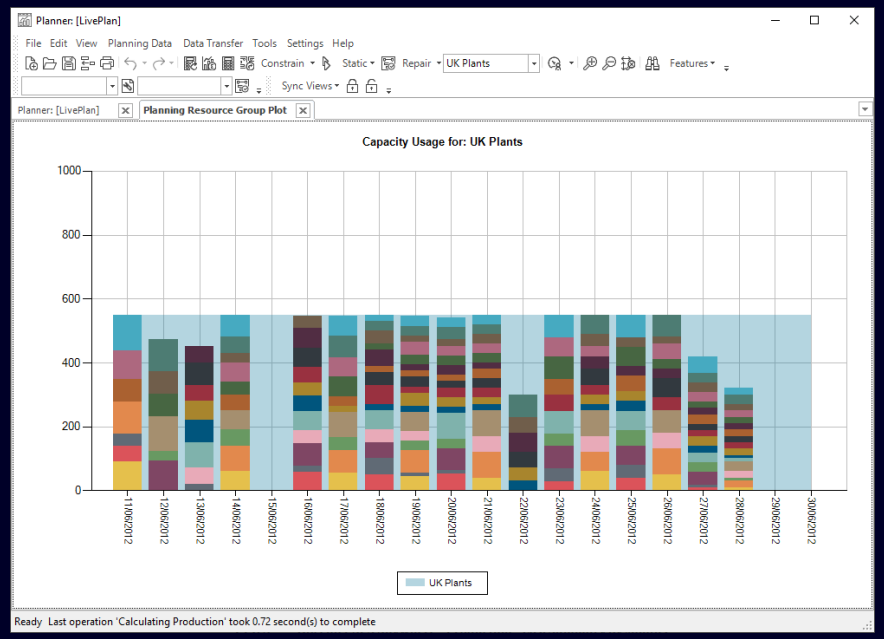
Opcenter Planning - General features

You can choose to plan in finite or infinite capacity mode and your planning time periods can be days, weeks, months or a combination of all three. Parameters can be set against each of your item codes, which allow you to perform different calculations for each item. For example some of your products may be in ‘make to stock’ mode whilst others are in ‘make to order’ mode.

Infinite MPS



Finite MPS



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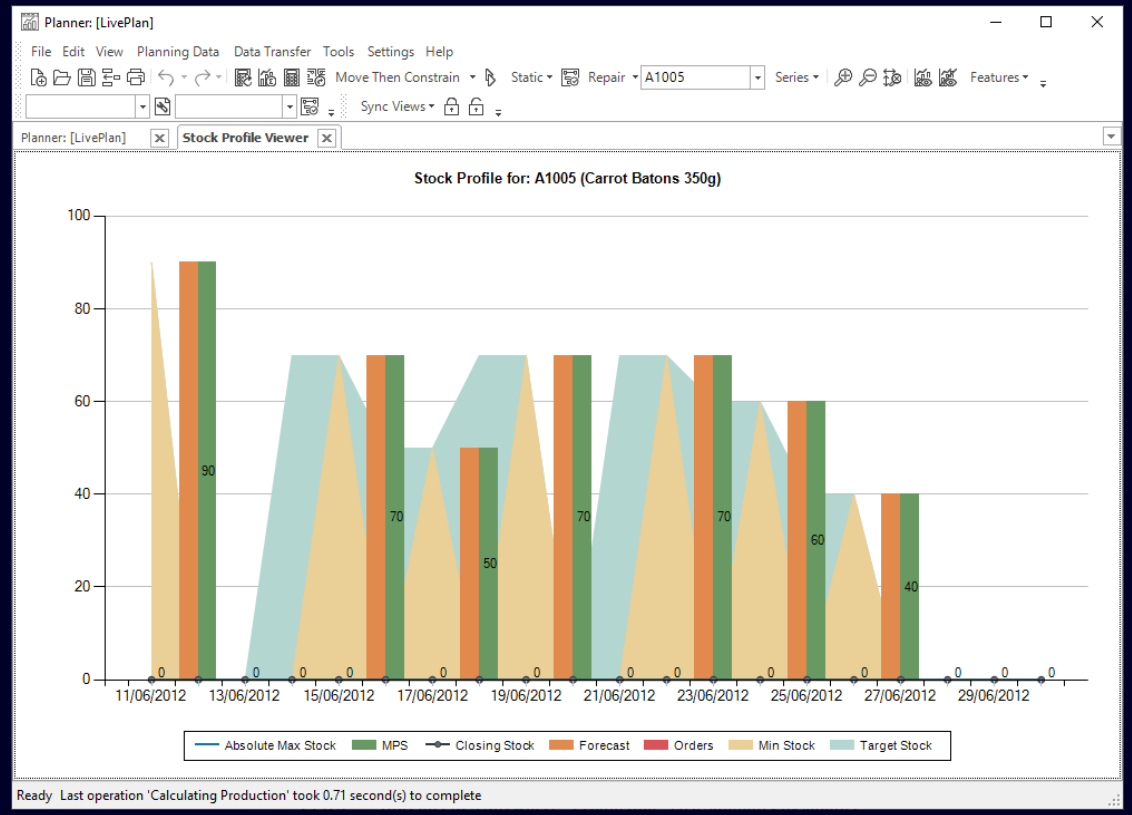
Opcenter Planning - Stock Plots

When a change in demand occurs whether that be in terms of quantity or delivery dates you need to be able to quickly assess if you are able to meet the new requirements.

You can import your demand changes into **Opcenter Planning** and create a new ‘what if’ plan. Your planning BoM will be exploded and **Opcenter Planning** will show you if you have any capacity issues. If there are issues you can work interactively to create an acceptable MPS.



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Opcenter Planning
Operation execution landscape

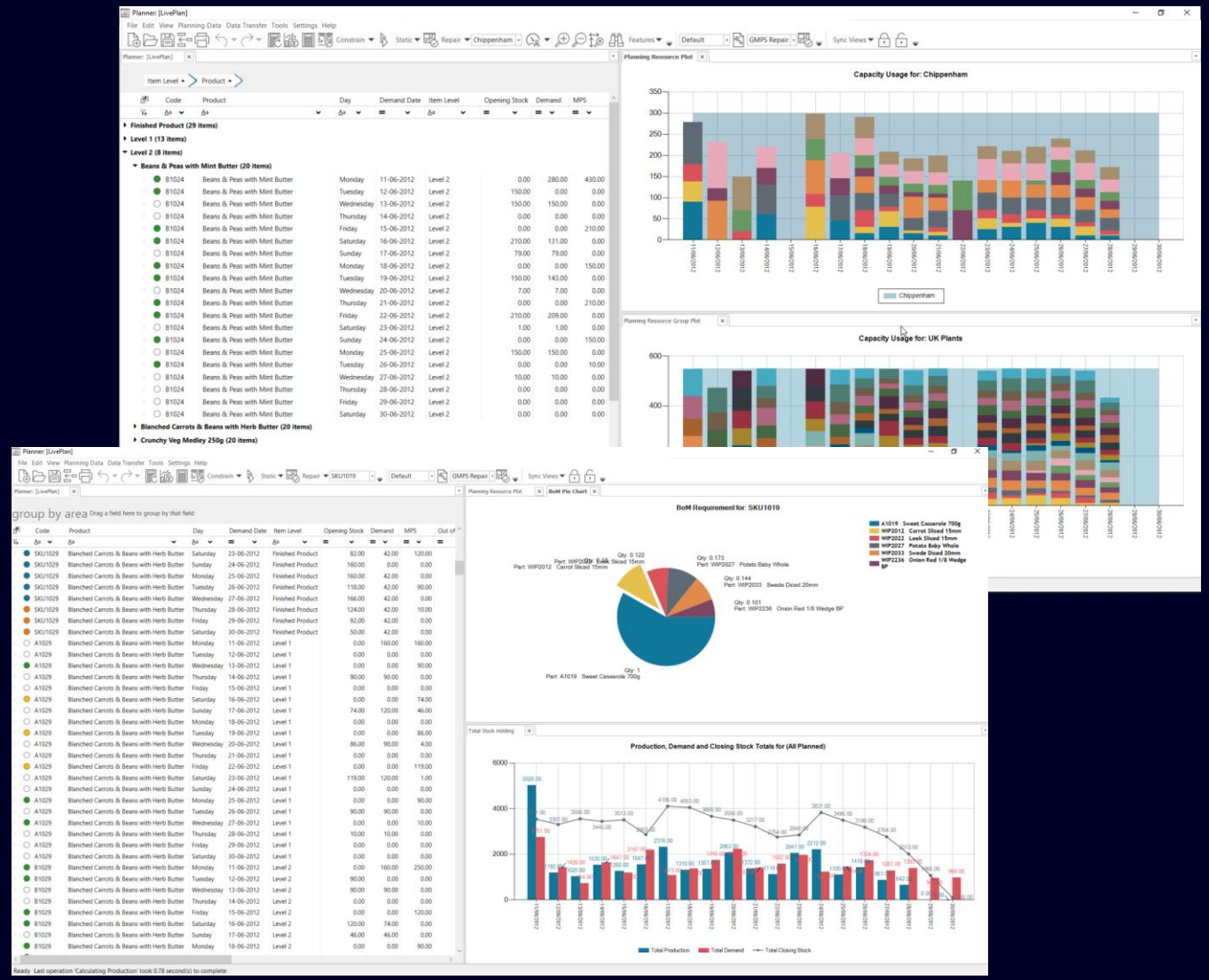
OPCENTER ADVANCED PLANNING

- Planner view & Capacity usage
- Capacity Management & Alerts
- Interactive Stock Profile Viewer
- Planning logics
- What if Simulation
- Measure Planning Efficiency
- Actual schedule

Opcenter Planning
Planner view & Capacity Usage

Overview

The Planner module is the heart of the planning system and contains the Calendar Editor, Plan Overview, Editor, Stocks Plots, BOM Requirements, Alerts, and Reports. It establishes the MPS vs available capacities patterns for resources, provides automatic and manual planning functions, and carries out all finite or infinite capacity calculations.



Main Features

- Planner view
- Calendar management module
- Interactive workload vs capacity graphs (resource or groups)
- Interactive stock profile viewer
- Flexible filters
- Flexible zooming
- Locating & Locking options
- Color management module
- Access to planning & repairing rules
- Access to alerts
- Reports

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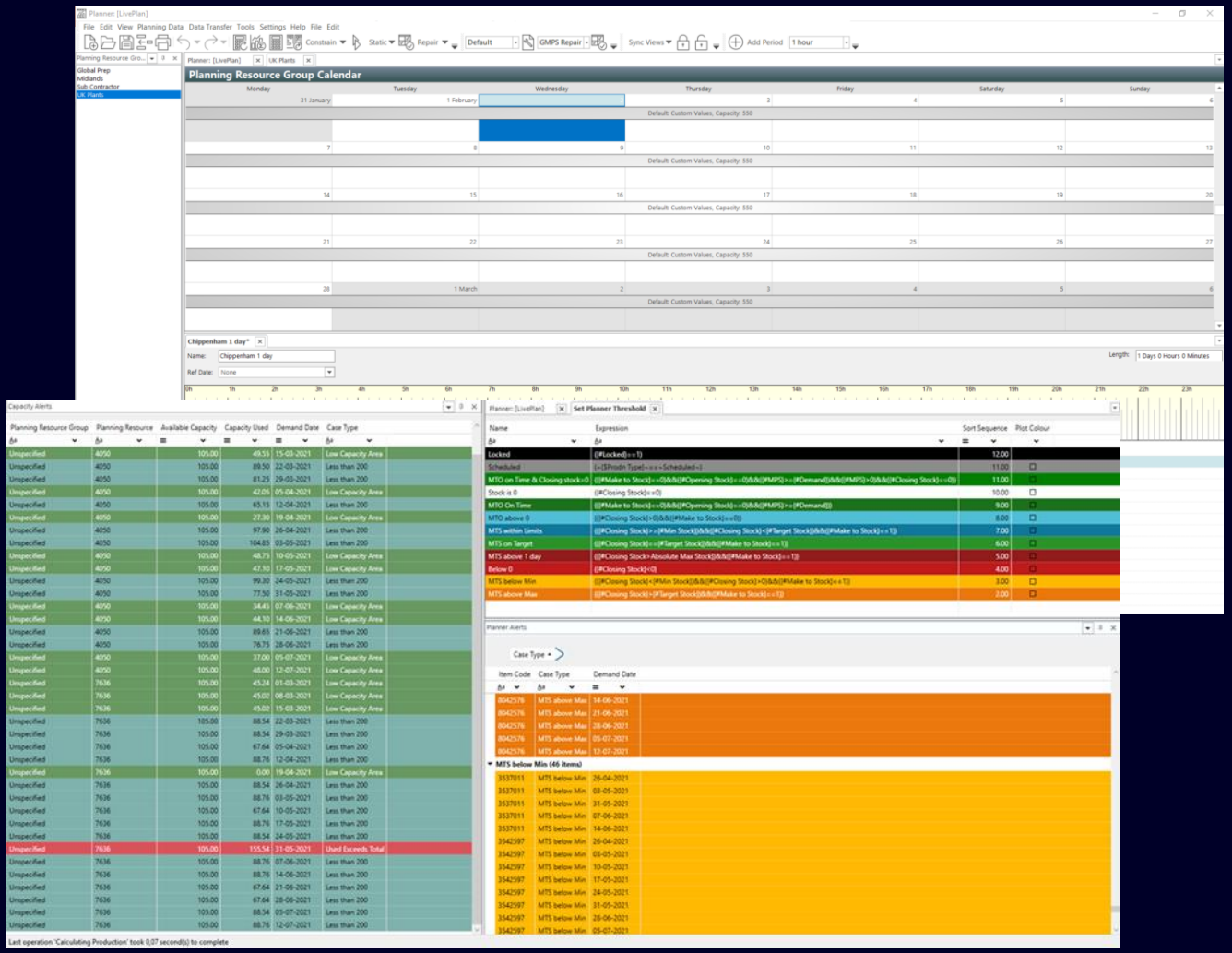
Opcenter Planning
Capacity Management & Alerts

Overview

The definition of the capacity model can be done directly from the calendar editor, which provides the possibility to define templates or edit exceptions. Each capacity model can be allocated to a resource, resource group, or item level and described in hours or quantity.The capacity model can also be imported from a third-party system.



Main Features

- Graphical calendar template editor
- Management of calendar exceptions
- Different level of capacity allocations
- Calendar management module
- Flexible alert configuration window to detect plan issues

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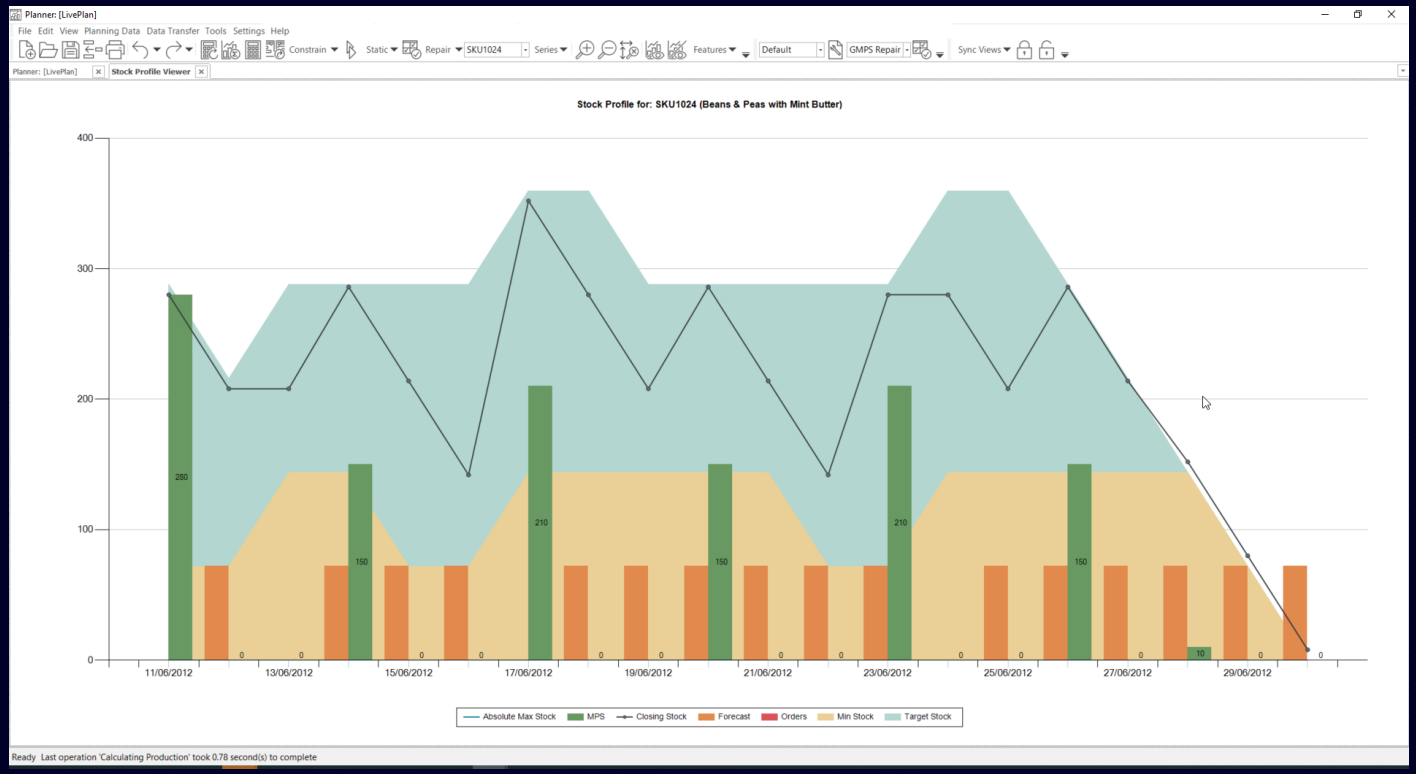
Opcenter Planning
Interactive Stock Profile Viewer

Overview
Planner can access projected stock for each item (all BOM levels) with the possibility to manually adjust demand or production and then visualize the impact on projected and target stocks.



Main Features
- Interactive stock profile per item
- Possibility to adjust manually demand or production
- Projected stock vs min, max or target stock
- Flexible zooming

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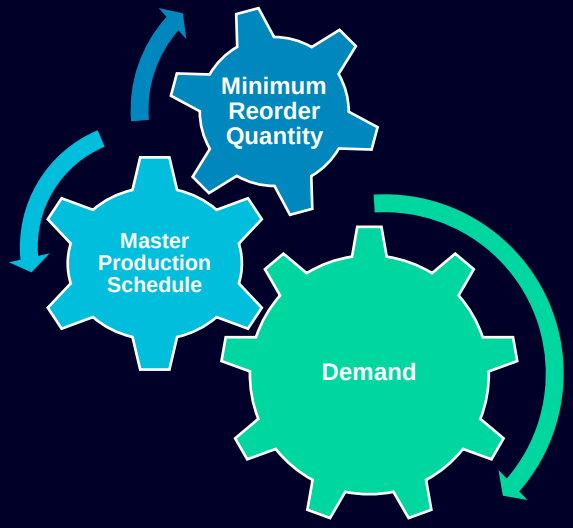
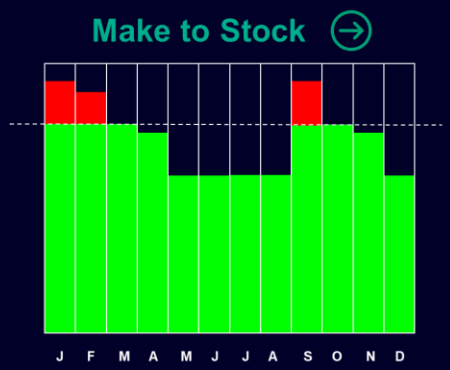
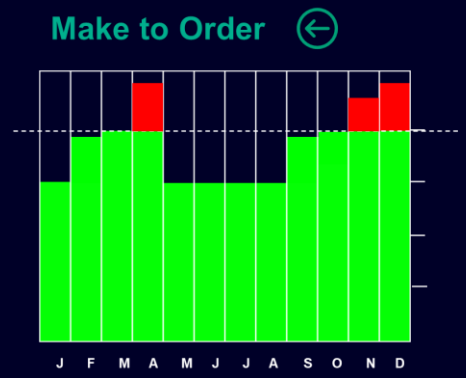
Opcenter Planning
Planning logics

Overview

Opcenter Planning can perform simulation in finite or infinite capacity mode using different planning rules such as move or constraint with the possibility to combine them. Opcenter planning considers the demand variability to set stock control parameters for each item based on Make-to-Stock (MTS) or Make-to-Order (MTO) logic.



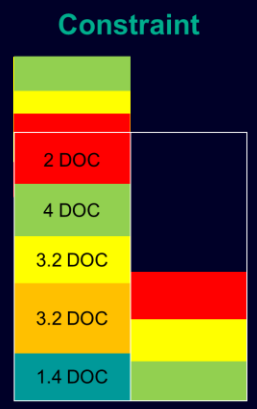


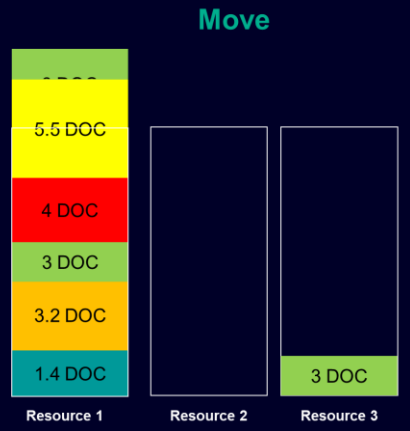


Main Features

- Finite of infinite capacity mode
- Consider demand variability using demand days of cover parameter
- Possibility to balance workload other multiple work center or constrain to a single work center
- MTS or MTS logics can be defined at item level
- MPS calculation at all BOM level
- Automated repair rule to address capacity issues

Sales Orders	23
Forecast	4
Stocks	2
Actual Scheduled	4
Min Order	5
Reorder	3
Net Qty	21
MPS Value	23





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Opcenter Planning
What if simulation

Overview

When a change in demand occurs in terms of quantity or delivery dates, you need to quickly assess if you can meet the new requirements.
You can import your demand changes into Opcenter Planning and create a new ‘what if’ plan. Your planning BoM will be exploded, and Opcenter Planning will show you if you have any capacity issues. In this case, you can work interactively to create an acceptable MPS.

Main Features

- Simulate using different planning logics, demand levels, or capacity models.
- No limitations in the number of scenarios that could be simulated
- Possibility to release a new scenario as a live plan at any time
- Comparison reports available

Plan Comparison

Item Code: A1011

LivePlan	MPS	Total Days Of Cover	MPS	Total Days Of Cover
6/11/2012		19		
6/12/2012	120	18	120	4
6/13/2012		17		3
6/14/2012		16		2
6/15/2012		15		1
6/16/2012	29	14	29	.58
6/17/2012	61	13	61	1.33
6/18/2012	50	12	50	2
6/19/2012		11		1
6/20/2012	90	10	90	4
6/21/2012		9		3
6/22/2012		8		2
6/23/2012		7		1
6/24/2012	40	6	40	2
6/25/2012		5		1
6/26/2012	40	4	40	4
6/27/2012		3		3

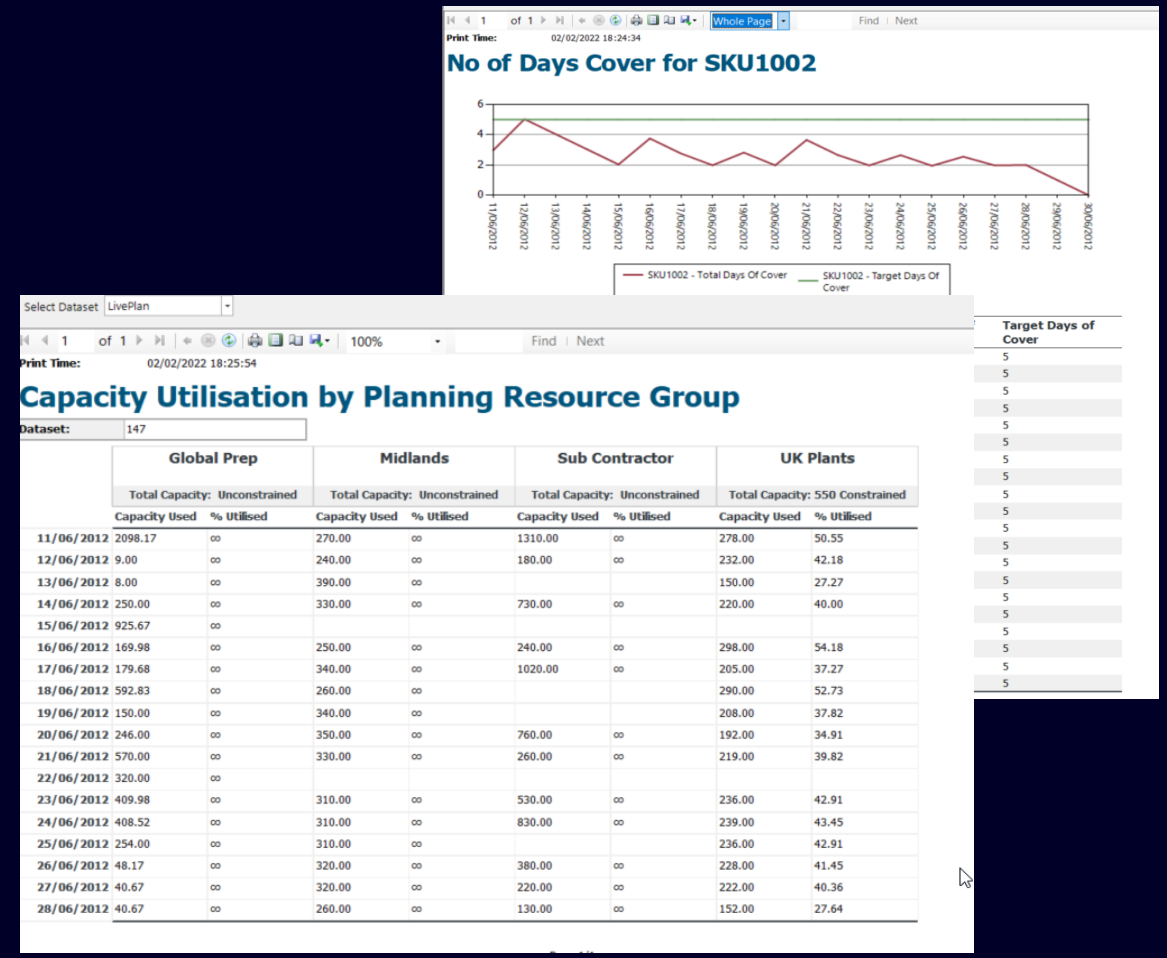
Opcenter Planning
Measure planning efficiency

Overview

Opcenter Planning is proposing a set of standard reports and KPIs. It is using standard SQL reporting technology. Reports can be amended, or new reports can be added.
Opcenter SC is also providing a configurable alert module to detect any issues with MPS results

Main Features

- Standard Microsoft SQL reporting technology
- Items below or above stocks limits
- Capacity usage per resource
- Out of life item
- Days of cover of demand
- Plan comparison report
- …



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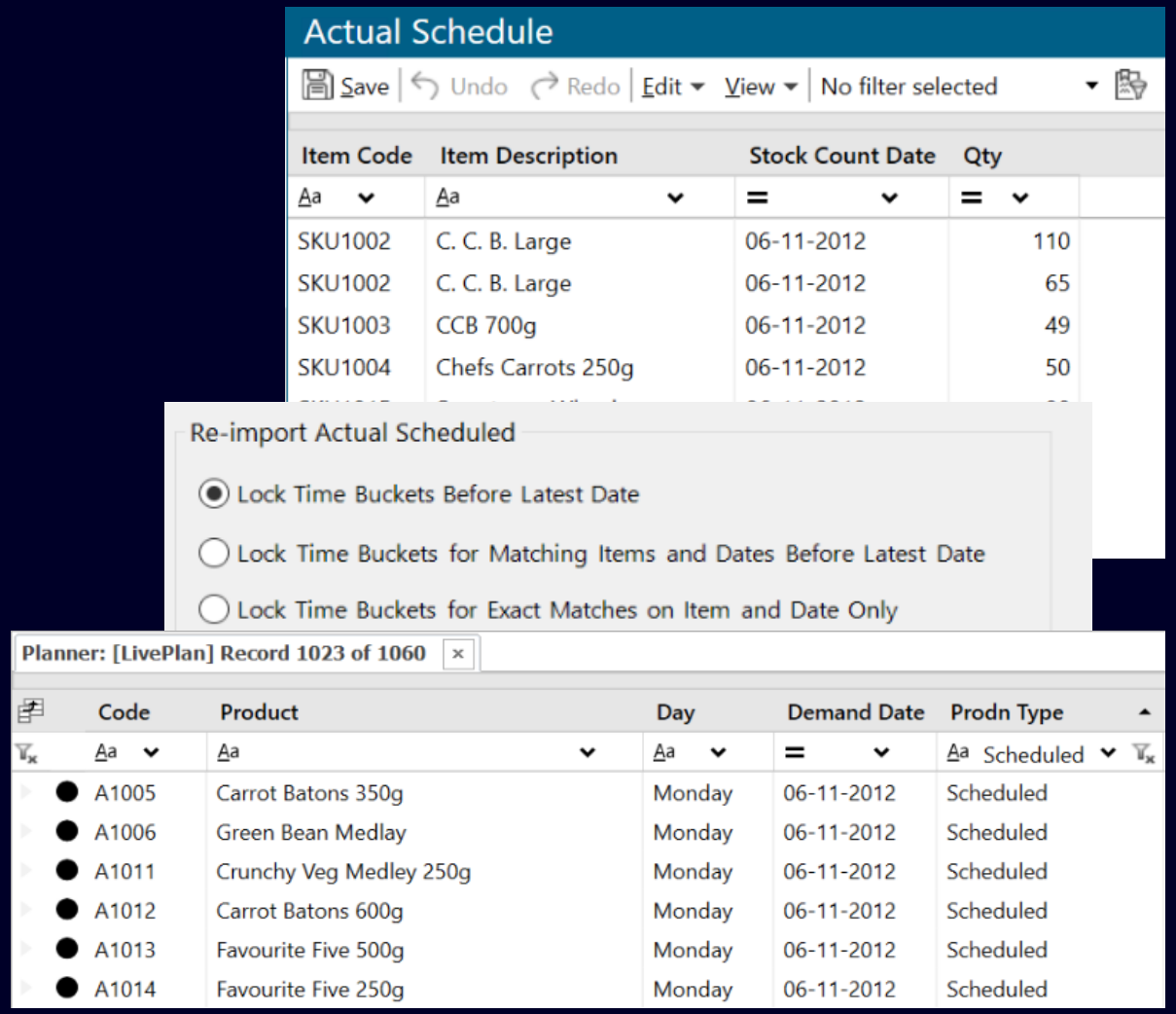
Opcenter Planning
Actual schedule

Overview

Actual Schedule allows importing or re-importing from a scheduler of the actual stock quantity for a specific item and date. This data can then be used to modify a plan to accurately portray current item quantities for certain dates, and affect future planning for items.
Using the Actual Schedule data is beneficial for ensuring accuracy, especially as plans can span a long period such as a month or so.
Importing actual schedule data at the planning level will allow for managing the short-term plan horizon with a higher degree of accuracy. It will also allow locking production planned at the scheduling level within the planning system.

Main Features

- Actual Schedule data table
- Actual schedule import script
- Actual schedule event to implement PESP rules triggered by Re-import of actual schedule data.
- Planning options to define how MPS is being recalculated upon re-import of actual schedule data.



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Advanced Scheduling
Deep dive

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Operation execution landscape

OPCENTER ADVANCED SCHEDULING

Gantt View | Tools & Staff constraints management | Material Constraint | Sequence Optimization | What if Simulation | Impact Analysis & Schedule Repair | Measure Planning Efficiency | Operations Status Update | Distributed Scheduling | Order Enquiry (CTP) | Unattended Scheduling

ERP Integration | MES Integration | Security Module | SaaS

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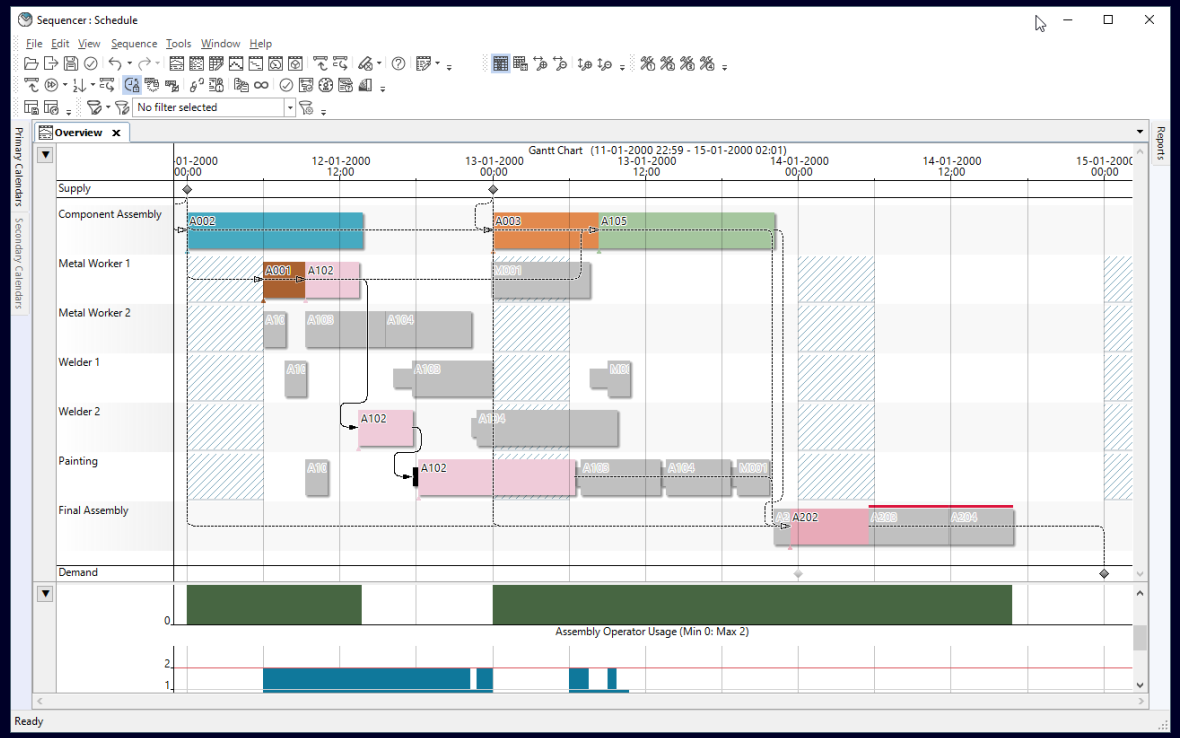
Opcenter Scheduling
Gantt view

Overview

The Sequencer is the heart of the scheduling system and contains the Calendar Editor, Schedule Overview, Editor, Plots, Trace Chart, and Hot Spots Grid windows. It establishes the shift calendar patterns for both primary and secondary resources, provides automatic and manual scheduling functions and carries out all finite capacity calculations.



Main Features

- Gantt view
- Operations dependencies display
- Filtered view per resource group
- Dynamic locating option through the Gantt chart
- Locking capabilities
- Highlight late operations, critical operations
- Automatic scheduling and drag & drop capabilities
- Built-in filtering with cross-table and user based configuration for improved efficiency and personalization

Value Propositions

- Gantt view
- Operations dependencies display

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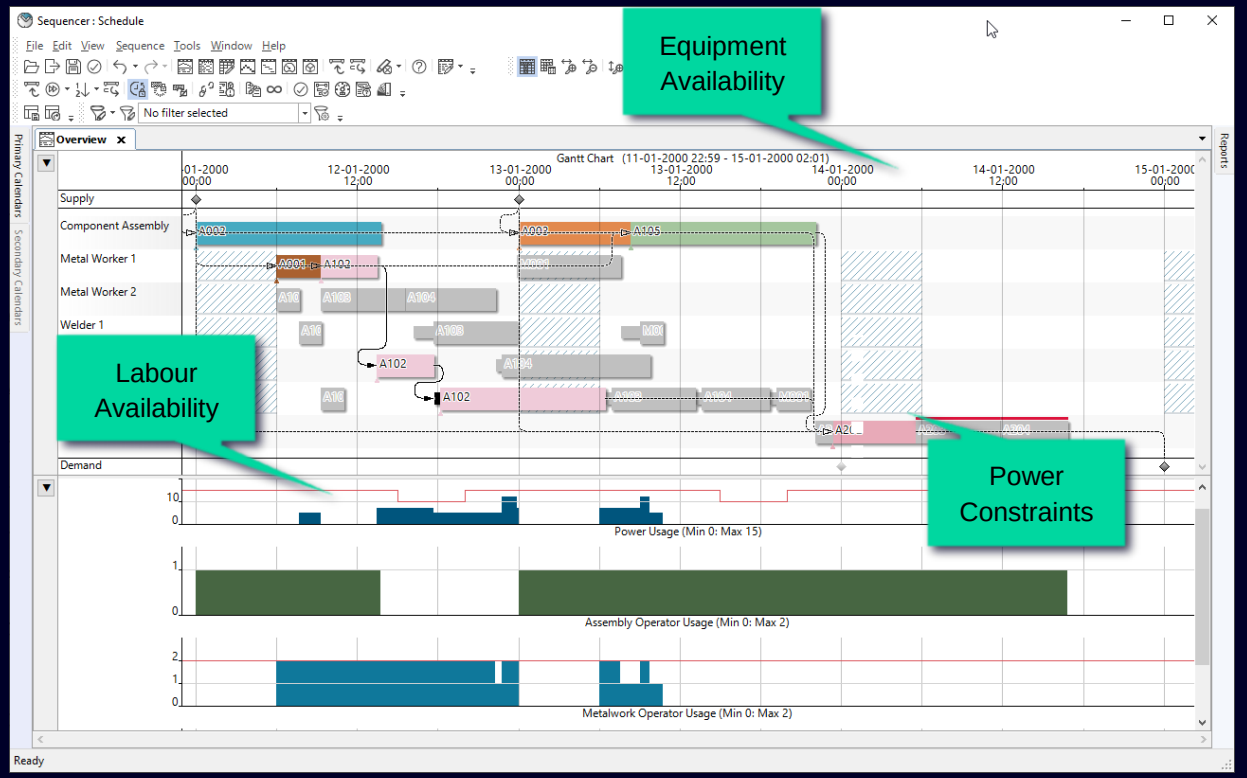
Opcenter Scheduling
Tools, Staff and other constraints management

Overview

Staff and tooling (as other constraints such as space limitations, power constraint or tank/vessels capacities) can be define thanks to secondary resources within Opcenter SC.

- Opcenter SC can manage allocation of multiple constraint on a single operation.
- Each constraint can enable or disable for simulation purpose



Main Features

- Finite capacity management of staff and tools
- Possibility to disable constraint for team or tool pool sizing simulation
- Possibility to allocate in calendar model for staff availability
- Possibility to allocate multiple staff to an operation
- Possibility to define staff usage on partial time for an operation

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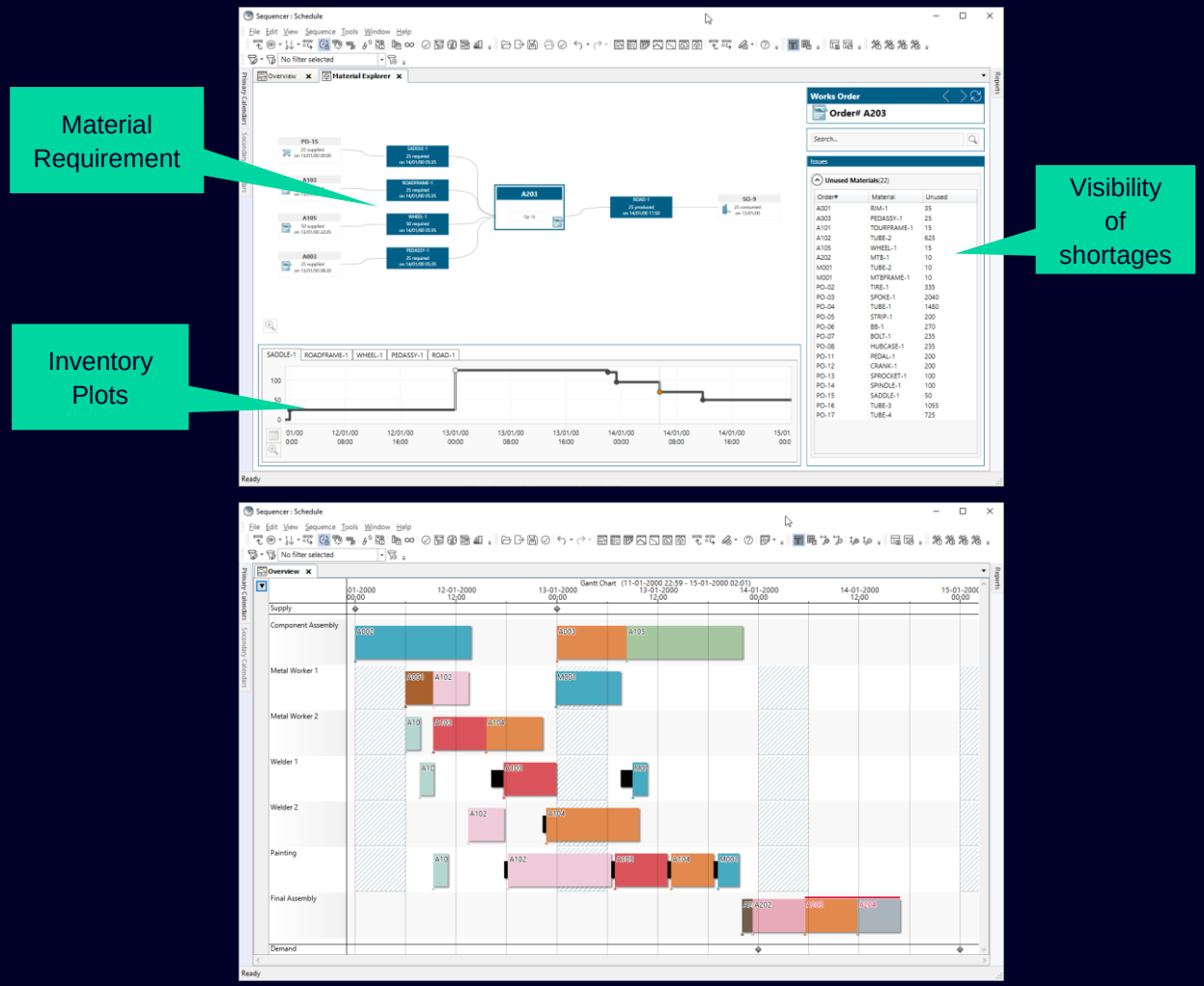
Opcenter Scheduling
Material Constraint

Overview

When materials from one order are used by another, they are defined as dependent. It is quite common for ERP systems to generate an order for each part of the BoM structure for a product. To ensure that this dependency is utilised when generating a plan or schedule they must be connected in some way. The simplest way to do this is to make the start date of the dependent order the same as the due date of the producing order. However this does not work very well where the real constraints of the facility must be taken into account or delays occur.

Opcenter SC has features to connect orders together so it can take into account real constraints and unexpected delays automatically. SMC or 'Standard Material Control' is a function that creates links between orders (pegging of materials). These links can then be used by Opcenter SC to ensure that only when materials are available from one or more producing orders can the consuming orders connected to them by SMC start.



Main Features

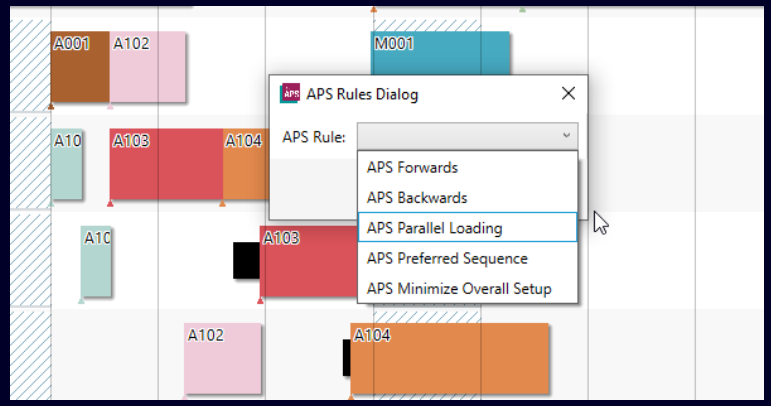
- Automatic pegging (links creation) with locking options
- Graphical user interface for material consumption/production analysis
- Display provisional shortages and unused materials
- Display links between production orders and customers' orders
- Projected stocks plots and stocks movements for all BOM levels

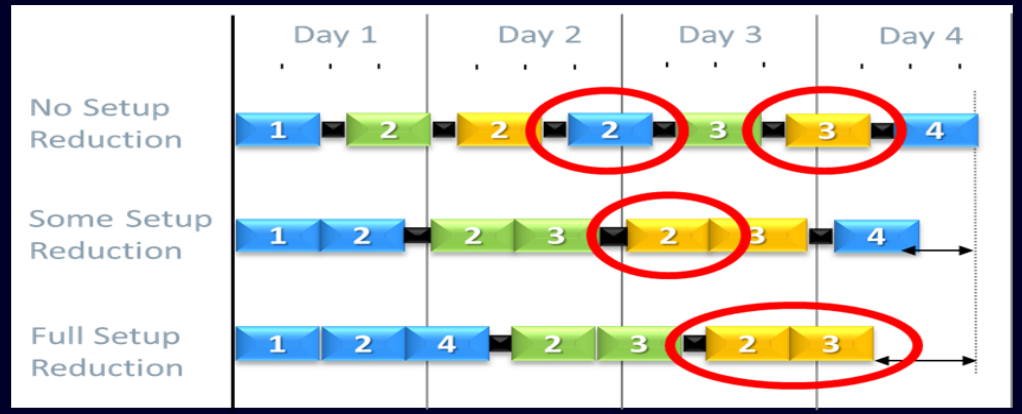
Opcenter Scheduling
Sequencing Optimization

Overview

Opcenter SC has enhanced functionality to deal with complex scheduling problems. It offers additional optimizations rules that can be further customized for each application. Standard dispatching rules include those that attempt to Minimize Setup time, Minimize Late Orders, use a Preferred Sequence at each resource, Bottleneck Scheduling (Theory of Constraints) and Campaigning.

Rules can be made to be customer, product or resource specific and virtually any logic can be built into a customized scheduling rule. These can be built using PESP tool, a scripting language with standard building blocks, or by using a programming language such as VB.NET thanks to Opcenter SC API.





Main Features

- Event based or order based sequencing rules
- Set of predefined APS rules available from standard configuration
- Possibility to built any logic within a customized sequencing rule
- Possibility to create multi pass sequencing rules thanks to PESP tool
- Possibility to apply different logic and constraint model to each resources, work centers or shop floors.

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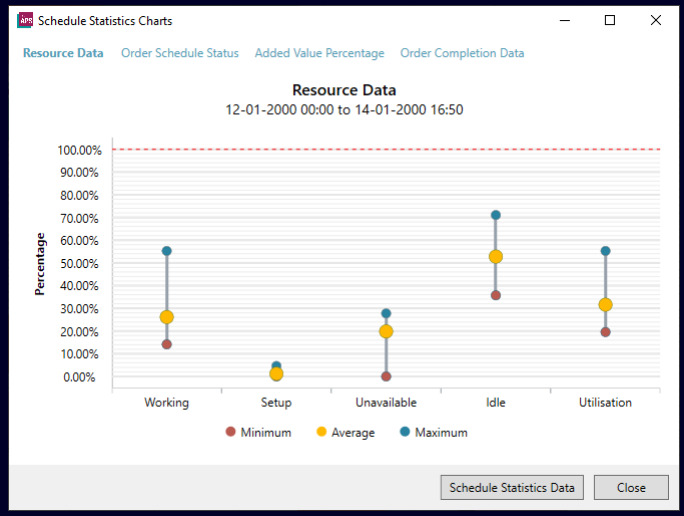
Opcenter Scheduling
What if simulations

Overview

Opcenter SC the user has access to a number of reports that help him analyze a schedule or compare one saved schedule with another. These include: Order Analysis data, Order Comparison Data, Order Make span bar chart, and Order Net Change Summary.

Opcenter SC also contains comparison reports on a number of different indicators such as utilization by day and week by resource, by resource group and by secondary constraint.

Graphic comparison from Gantt chart display or comparison reports are available.



Main Features

- Possibility to display in parallel 2 scenarios on the same Gantt chart
- Comparison reports on orders, resources and scenarios
- No limitations in the number of scenarios which could be simulated
- Possibility to release a new scenario as live schedule at any time
- Possibility to upload any scenario to SaaS Viewer for stakeholder approval

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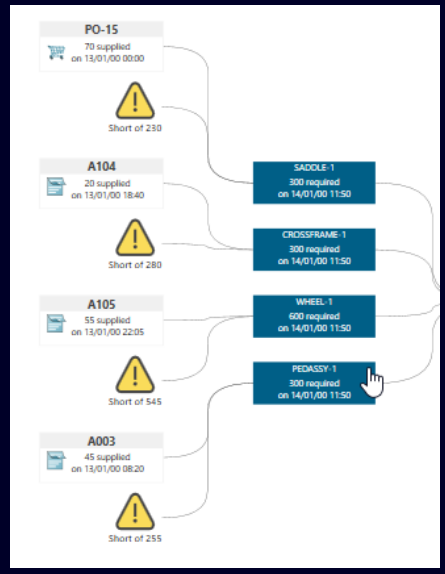
Opcenter Scheduling
Impact analysis & schedule repair

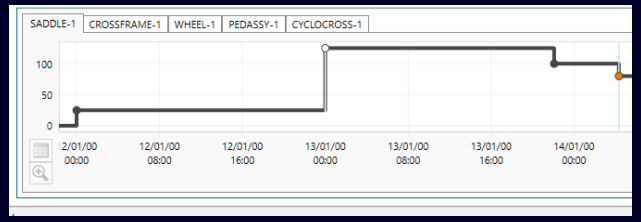
Overview

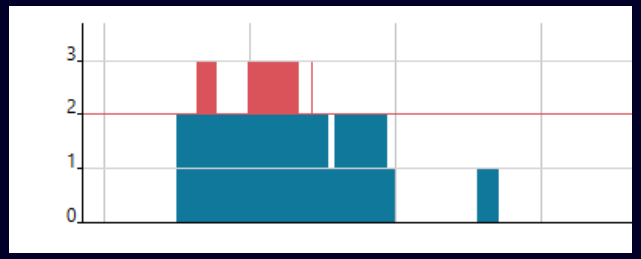
When things change, the tools are provided within Opcenter SC to clearly display the impact of the change (breakdown, material shortage, staff level change…).

Main Features

- Schedule validation tool in case of manual changes (constraints and sequence checks)
- Automatic repairing tool
- Planning comparison reports to visualise impact of changes
- Staff level simulation with usage plots







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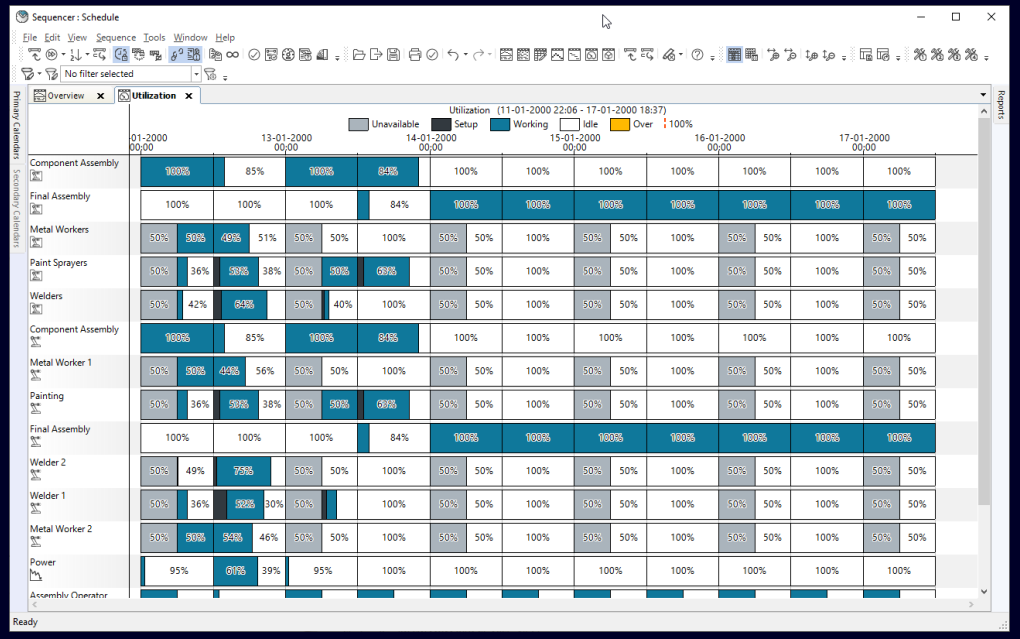
Opcenter Scheduling
Measure Planning Efficiency

Overview

Opcenter SC is proposing a set of standard reports and KPIs. It is using standard SQL reporting technology. Reports can be amended or new reports can be added.
Opcenter SC is also providing graphical KPIs based on lateness analysis, resource utilization, setup times, WIP, stocks levels, orders lead times …
Different levels of aggregation such as resource, work centre, shop floor and plant could be available.

Specific KPI's can be added thanks to our Opcenter API module if necessary.



Main Features

- Graphical indicators and reports on due date adherence
- Utilization of resources
- Work to list
- Material shortages
- Work orders statistics
- Projected stocks plots
- Planning comparison reports to visualize impact of changes
- Staff level simulation with usage plots

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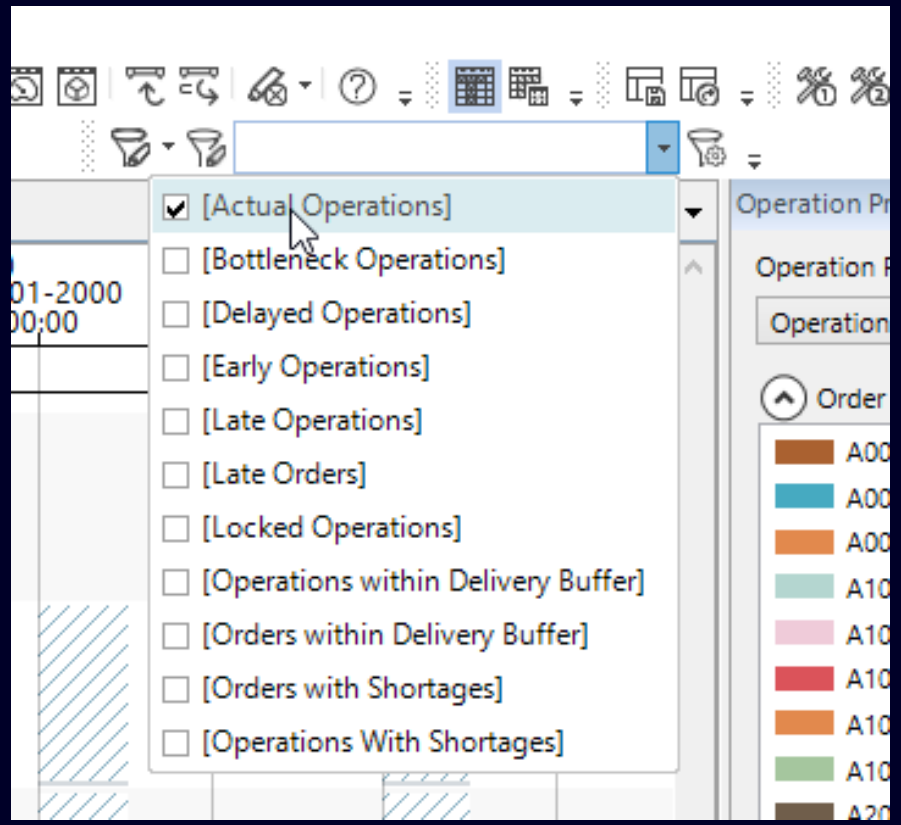
Opcenter Scheduling
Operation Status/Progress

Overview

Getting shop floor data regarding real order progress is a must have to keep a schedule up to date. Deviations between schedule and real execution are identified very often for various reasons (machine breakdowns, late PO, staff availability,…) and then needs to be taken into accounts before recalculating and releasing a new schedule to the shop floor. In Opcenter SC you can enter (manually or automatically integrated) a mid-batch update for a batch at an operation. For example you may wish to enter the quantity complete and time for part of a batch. Opcenter SC re-calculates the process time per item. It also provides a convenient and visual way of tracking the progress of an operation. As a mid-batch quantity and time is entered for an operation, part of the bar color will change equivalent to the progress made. The change color is definable by the user.



Main Features

- Automatic integration of order progress based on shop floor data
- Possibility to receive real time messages/updates from MES for order completion
- Possibility to display order progress graphically on each bar scheduled on the Gantt
- Possibility to highlight operation currently in progress or completed
- Scheduled vs actual time comparison possibility

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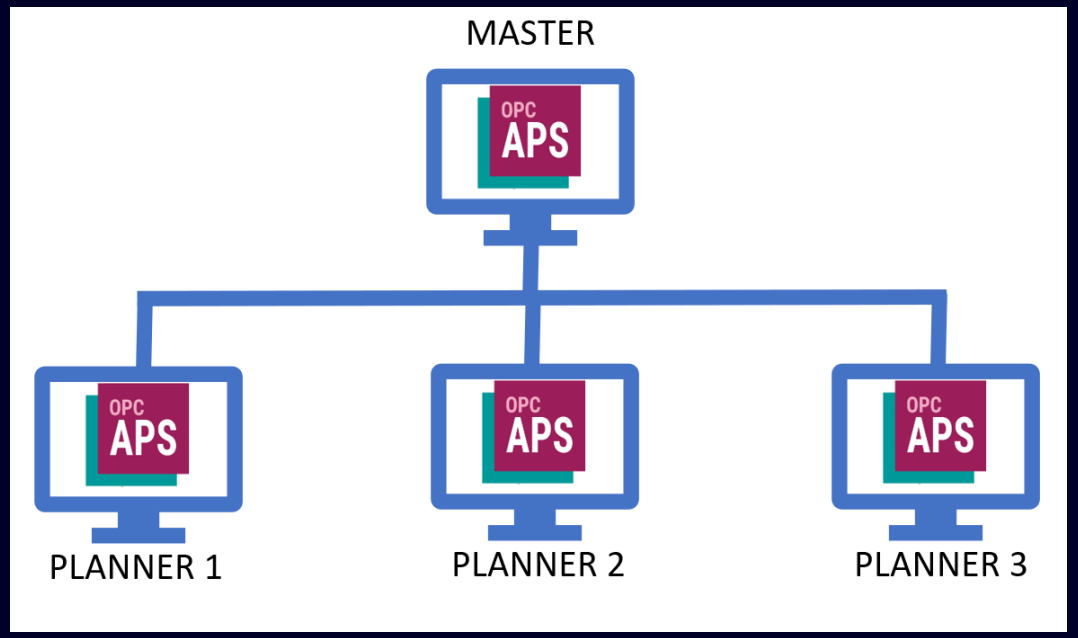
Opcenter Scheduling
Distributed Scheduling – Multi Factory/Shop Floor synchronization

Overview

We understand the nature of modern business means operations are often split over several sites. Whether it is the complexity of the work or the specific knowledge of processes or customers held by individuals, or even basic organizational or geographic issues, the responsibility for making scheduling decisions is often divided.

That's why APS is equally at home scheduling with multiple planners as it is with a single user.



Main Features

- A single application can standardize the shop floor and extend well into the supply chain execution model for a diversified corporation
- Reduce uncertainty, conflict, error & misunderstanding in coordinating tasks across the organization
- Knowledge rises from individual level to the group level minimizing risk of single point of failure in complex scheduling while improving dynamic decision making
- Schedulers communicate with common purpose

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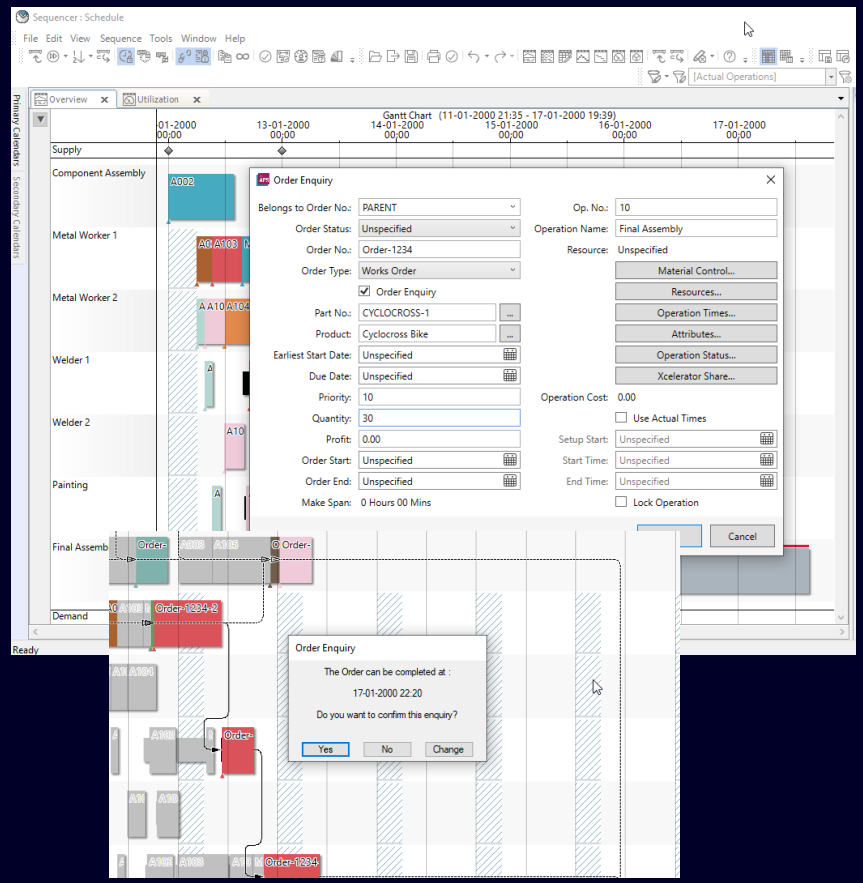
Opcenter Scheduling
Order Enquiry (CTP)

Overview

Where there is an inbuilt table of routing information, a (possible) multi-level BoM and sub-assemblies, the user can use the Order Enquiry button to find the earliest delivery date for a batch of product.

Where a multi-level BoM and sub-assemblies exist, Opcenter SC will leverage the routing and BoM explosion features, allowing for orders to be created for all of the required items which are currently in a shortage state.



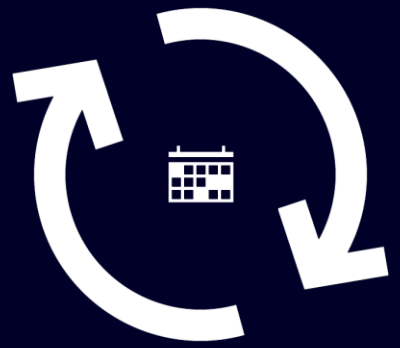
Main Features

- Unlimited number of enquiries
- CTP on material/semi finished/Finished product level
- BOM explosion

Opcenter Scheduling
Unattended Scheduling

Overview

It allows automatic or periodic maintenance and repair of a schedule without the need for a user to interact with it.
Scheduling tasks are run by a console application.
Its execution, without dialog boxes, produces the same results as the standard application.



Main Features

There are four main console executables
Sequencer Console: The Sequencer Console allows a user to generate and modify a schedule without having to open the schedule. Users are able to generate a schedule using the scheduling directions and order or by shipped and user-created APS Rules.
SMC Console: it is used to perform any SMC Rules that have been defined in the Configuration. It is used to perform Material Control
Import/Export Console: It allows data to be imported or exported by running Import/Export Scripts.
PESP Console: it allows the running of PESP scripts.

```
ConsoleSequencer.exe -c "C:\Users\Admin\Documents\Opcenter APS
Configurations\Opcenter SC Ultimate\Opcenter SC Ultimate.prcdf" -dataset
Schedule -d Forward -o Priority
```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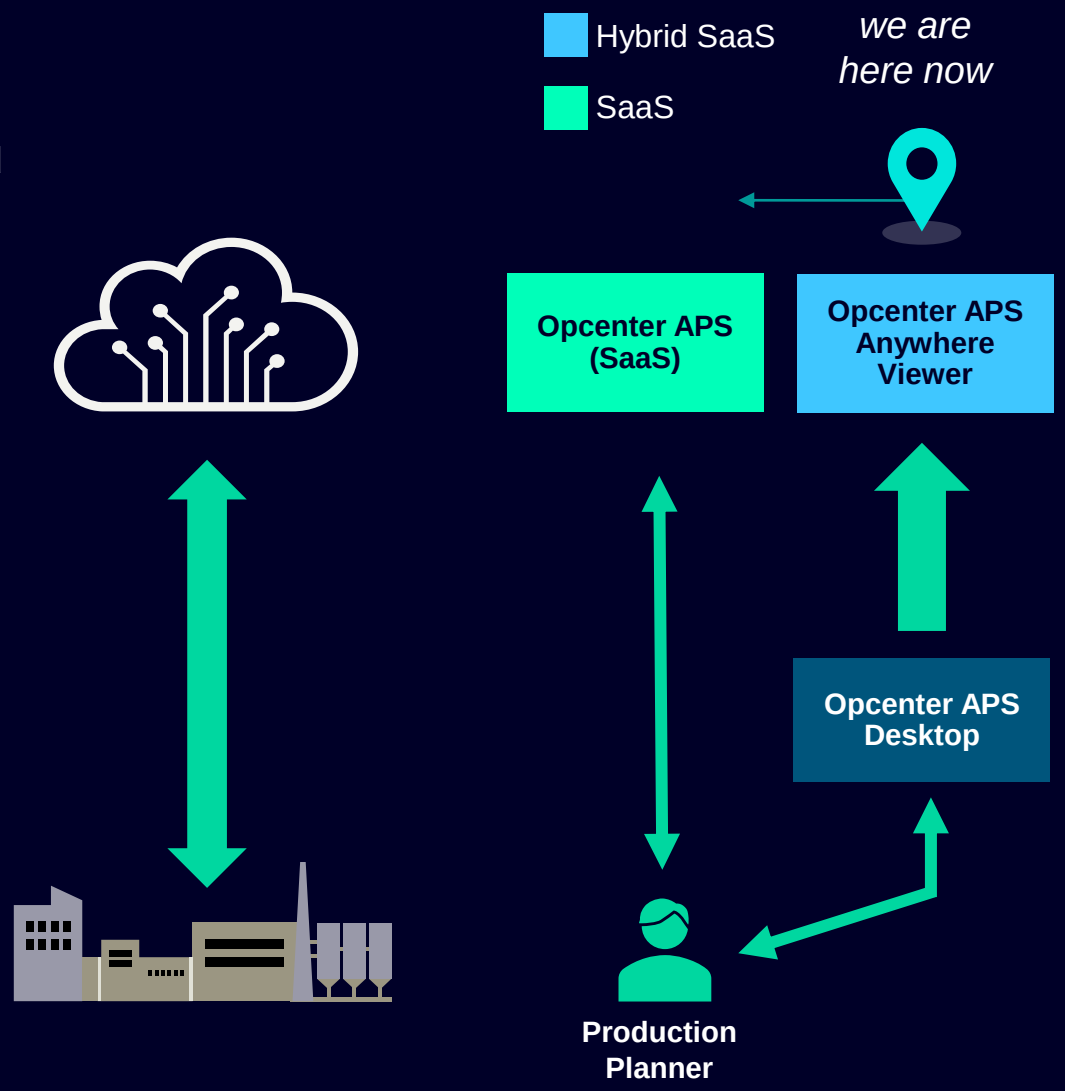
Opcenter Scheduling
SaaS and Hybrid offering and evolution

Overview
The classic on-premise product is being joined by a new cloud-based product line.
- Cloud Companion Viewer
- Standalone APS SaaS

Anywhere Viewer Main Features
Interactive SaaS browser-based Gantt Chart Visualization
Utilization diagram
Multiple What-if Scenarios Analysis
Multi-plant

Opcenter APS SaaS Main features
Full SaaS Opcenter Scheduling Capabilities
Natively integrated with other Opcenter SaaS modules
Multi-plant / Multi-User



IT Integration & Security

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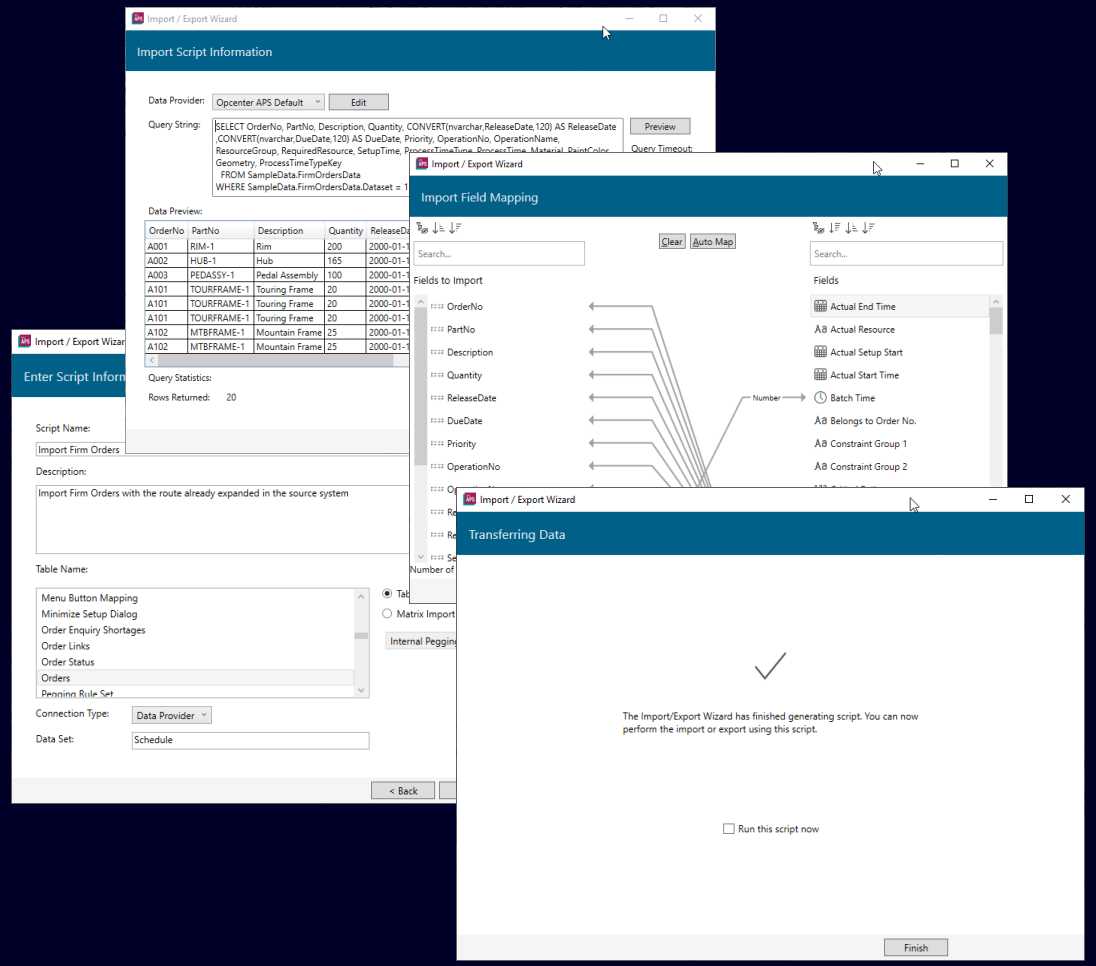
Opcenter Scheduling
ERP/MES integration

Overview

Opcenter SC provides a wide range of features that enable you to integrate data from an almost limitless range of sources including file exchange (txt, csv, XML, …) or databases such as SQL Server, Oracle or OLE DB data sources.

To enable support for those scenarios Opcenter SC provides a consistent, high performance and extensible integration pipeline built using Microsoft® ADO.NET. It provides five main technologies to support data integration with 3rd party systems.

Typically, a Opcenter SC configuration will make use of many, if not all of these technologies to provide a complete solution. Web services can also be used to import or export data to or from Opcenter SC



Main Features

- File exchange or Database connection
- On user demand, preschedule or Event driven (real time) integration
- Graphical mapping
- Import/Export scripts

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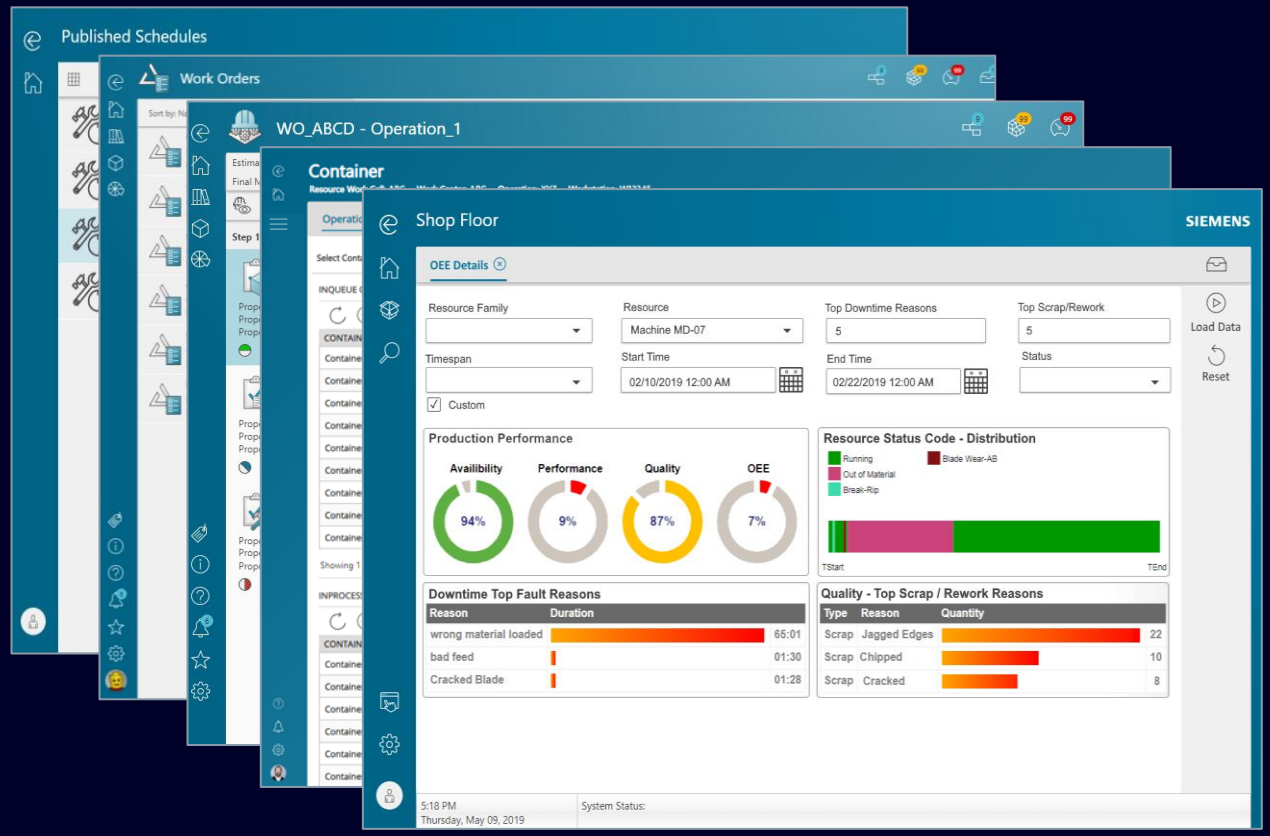
Opcenter Scheduling
MOM Integration

Opcenter Scheduling is integrated with the following MOM Portfolio products :

- **Opcenter Execution (MES)**
  - Medical Devices and Diagnostics
  - Electronics
  - Discrete
  - Process
  - Semiconductors
- **Opcenter Scheduling SMT** *(fka Valor LX)*
- **Opcenter RD&L**
- **Opcenter Reporting (PoC)**
- **Opcenter Planning**

OC APS | OC IN | OC RDL | OC EX FN | OC EX CR | OC SC SMT



Offering a solution with native and effective positioning in the manufacturing landscape

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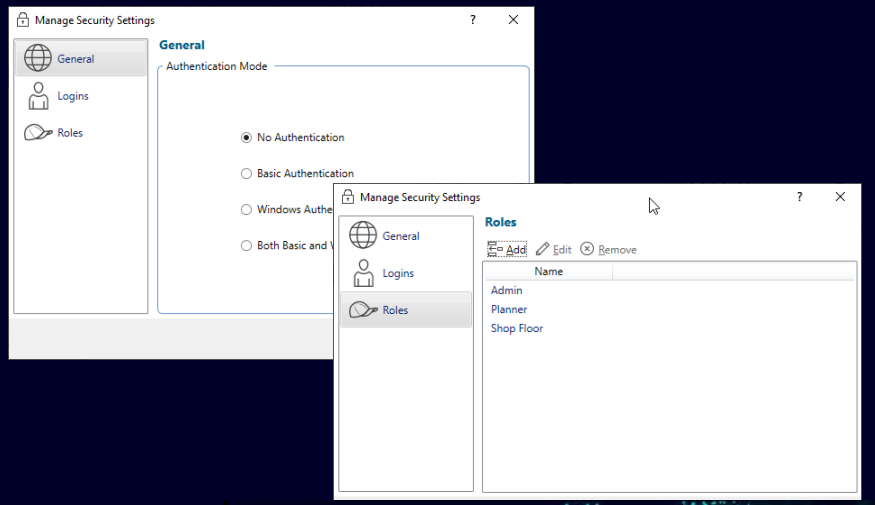
Opcenter Scheduling
Security module

Overview

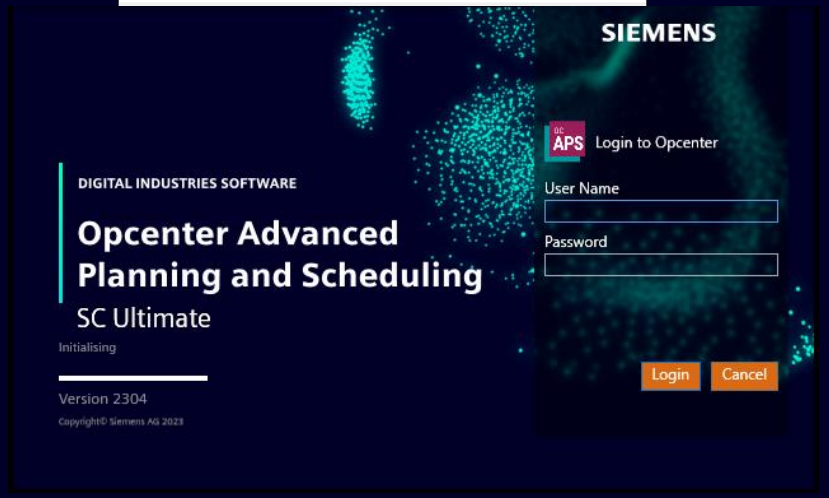
The security module allows Opcenter Scheduling users to connect to it and manage authorizations within the system.

There are 3 Authentication Modes:

- None; Security module is disabled
- Basic; User details are stored in the database
- Windows; Users are granted permission to Opcenter Scheduling but must authenticate with the domain to gain access.



With the role setup within the Opcenter Scheduling security module, it is possible to define the level of access for each data table and link it to each user profile. Each user will have the possibility to access only the data based on their role permission. Also when data is loaded from the Database server to the client, it is possible to encrypt these based on standard SQL server mechanism (SSL).



Main Features

- Managing permissions
- Possibility to manage access via LDAP dictionary
- Data encryption possibilities
- User specific workspace

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Outlook
Opcenter APS

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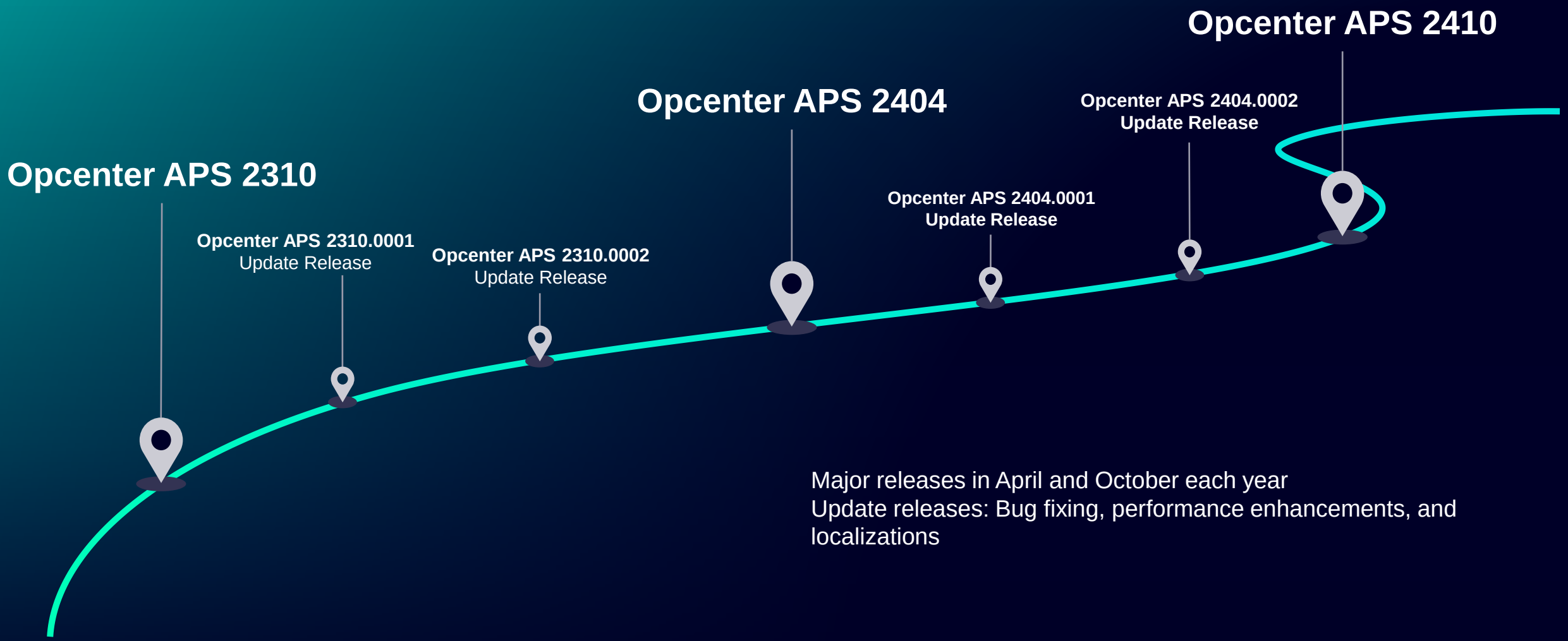
APS Release Timeline



Major releases in April and October each year
Update releases: Bug fixing, performance enhancements, and localizations

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Thank You!