Absoft White Paper

Managing maintenance in upstream oil and gas: Which software is best?

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Contents

Executive summary

In the context of challenges facing maintenance departments in upstream oil and gas, this white paper will outline the functionality of three SAP® compatible software solutions offering graphical scheduling functionality; SAP® Multi Resource Scheduling, Prometheus® Graphical Work Order Scheduler and Primavera® Professional Project Management.

SAP Multi Resource Scheduling is fully integrated with all of SAP's other functionality and can pull information from various modules to present it graphically, making the task of planning and scheduling as easy as possible.

Prometheus is well established in the upstream sector and a host of additional features that come with it make Prometheus a solid option.

Beyond simply graphically organising the schedulers work, Primavera is capable of planning entire projects and analysing the resulting data.

Which software best suits your business depends on your maintenance department's unique requirements, which Absoft can work through with you.

Introduction

In asset intensive organisations, managing resources to ensure all necessary maintenance is completed on a timely basis is not only time consuming, but due to the ever increasing complexity of infrastructure, it's becoming increasingly difficult. To efficiently and accurately plan and schedule work, the following information is needed:

- What work do I have to perform?

- Where is the work to be performed?

- When do I have to perform work by?

- What resources do I need to do this work?

Having all this information at hand allows maintenance planners and schedulers to ensure work can be completed, unproductive time and unplanned maintenance is reduced to a minimum and wrench time is maximised. However, failing to complete maintenance tasks efficiently can have a dramatic effect on operations, with lost revenue and higher costs resulting. Worst of all, the integrity of assets can become compromised.

To achieve the maximum volume of maintenance that can be performed with a given quantity of resources, planners and schedulers must maximise resource utilisation. Accurately planning and scheduling work requires the capacity to clearly see all work that needs to be undertaken, including where and when every resource is available.
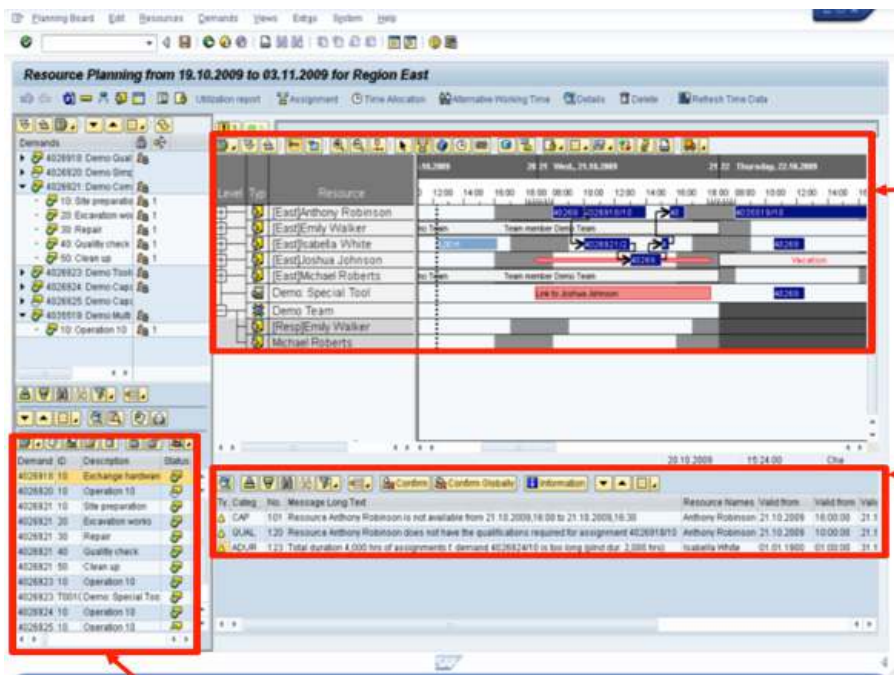
To enable planning down to this level, maintenance departments need to set up their maintenance systems to allow optimised allocation of work demand to the available resources. This includes assigning personnel with suitable skills and materials to each task, and knowing exactly when the resources are available to execute the task. Ideally, all of this information would be easily pulled together in a single planning tool.

SAP Multi Resource Scheduling

SAP Multi Resource Scheduling (SAP MRS) is an integrated SAP solution that allows information from multiple SAP modules to be pulled together into a single graphical planning board. It allows optimised planning and scheduling by clearly identifying available resources to meet planned and unplanned work demand.

SAP MRS provides planners and schedulers with a graphical planning board, which allows visualisation of the work volume that needs to be performed for a specified period. Users can search for people and material resources with the necessary qualification and availability to perform the work, all using a single platform.

The easy to use planning board allows manpower capacity and material availability to be utilised to the highest level, reducing non-productive time and driving down maintenance costs in the process.

Capacity Window
Allows resource availability to be clearly identified. Work from the demand section can be dragged and dropped to an available resource

Message Window
Gives warning messages warning on availability or whether a resources is qualified to do the task
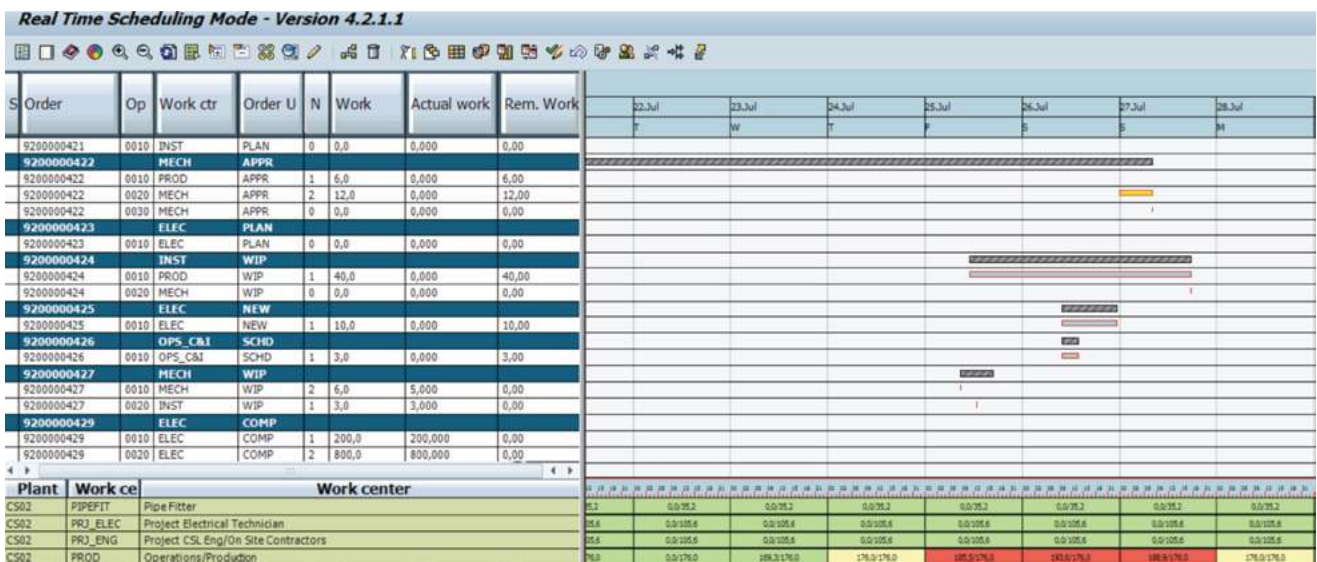
Demand Window
Shows all work for the Work Centre

SAP MRS provides planners with:

- Complete integration with SAP solutions

- Resource management

- Time management

- Qualification and skill management

- PRT management

- Manual, automated and optimised planning

- Integration with mobile devices

- Utilisation reporting

- Integration with Geographical Information Systems

Prometheus Graphical Work Order Scheduler

Prometheus Graphical Work Order Scheduler (GWOS) provides a user friendly tool that gives SAP Plant Maintenance users the ability to visually inspect and graphically schedule work orders in a Gantt chart view. By eliminating the arduous process of completing multiple SAP transactions to accomplish a simple task, GWOS helps maintenance teams become more efficient.

Prometheus has seen a larger uptake in the upstream market than some of its competitors due to its user friendly interface. It has already been successfully implemented in several large organisations and comes with extra functionality included with the Prometheus license, including dashboards, print, work order management and project management capabilities.

Plant	L	Material	Material Description	MT...	Unrestricted	Unrestr. Consignment	MovAvgPrice	Crcy
CS_	E	90001858	STEM GUIDE LOCKSCREW 4IN ORBIT VALVE	ZCS	0.000	0.000	8.14	GBP
CS_	E	90001882	PIN DISC DRIVE VALVE BUTTERFLY	ZCS	0.000	0.000	71.70	GBP
CS_	E	90001883	VALVE BUTTERFLY TAPE BEARING 16IN	ZCS	0.000	0.000	94.00	GBP
CS_	E	90001884	VALVE BUTTERFLY PACK RING 16IN	ZCS	0.000	0.000	13.50	GBP
CS_	E	90001885	VALVE BUTTERFLY SEAT RING 16IN	ZCS	0.000	0.000	1,578.00	GBP
CS_	E	90002169	VALVE ORBIT SEAT 4IN	ZCS	0.000	0.000	33.26	GBP
CS_	E	90002170	GASKET BONNET VALVE ORBIT 4IN	ZCS	0.000	0.000	57.20	GBP
CS_	E	90002171	PACKING RING VALVE ORBIN 4IN	ZCS	0.000	0.000	5.00	GBP
CS_	E	90002172	STEM GUIDE VALVE ORBIT 4IN	ZCS	0.000	0.000	88.47	GBP
CS_	E	90002173	GUIDE VALVE ORBIT 4IN	ZCS	0.000	0.000	88.47	GBP
CS_	E	90002174	STEM GUIDE VALVE ORBIT 6IN	ZCS	0.000	0.000	29.59	GBP
CS_	E	90002175	CORE VALVE ORBIT 2IN	ZCS	0.000	0.000	310.00	GBP
CS_	E	90002176	SEAT VALVE ORBIT 3IN	ZCS	0.000	0.000	497.31	GBP
CS_	E	90002177	SEAT VALVE ORBIT 6IN	ZCS	0.000	0.000	1,409.53	GBP
CS_	E	90002178	SEAT VALVE ORBIT 3IN	ZCS	0.000	0.000	835.96	GBP
CS	E	90002179	GASKET BONNET VALVE ORBIT 2IN	ZCS	0.000	0.000	43.00	GBP

The extra functionality also includes a material and service shopping cart, which eliminates any difficulty navigating SAP to purchase materials and services. The material purchasing process is quick and easy, allowing users to retrieve SAP material master numbers through an advanced multi-word, any-order search.
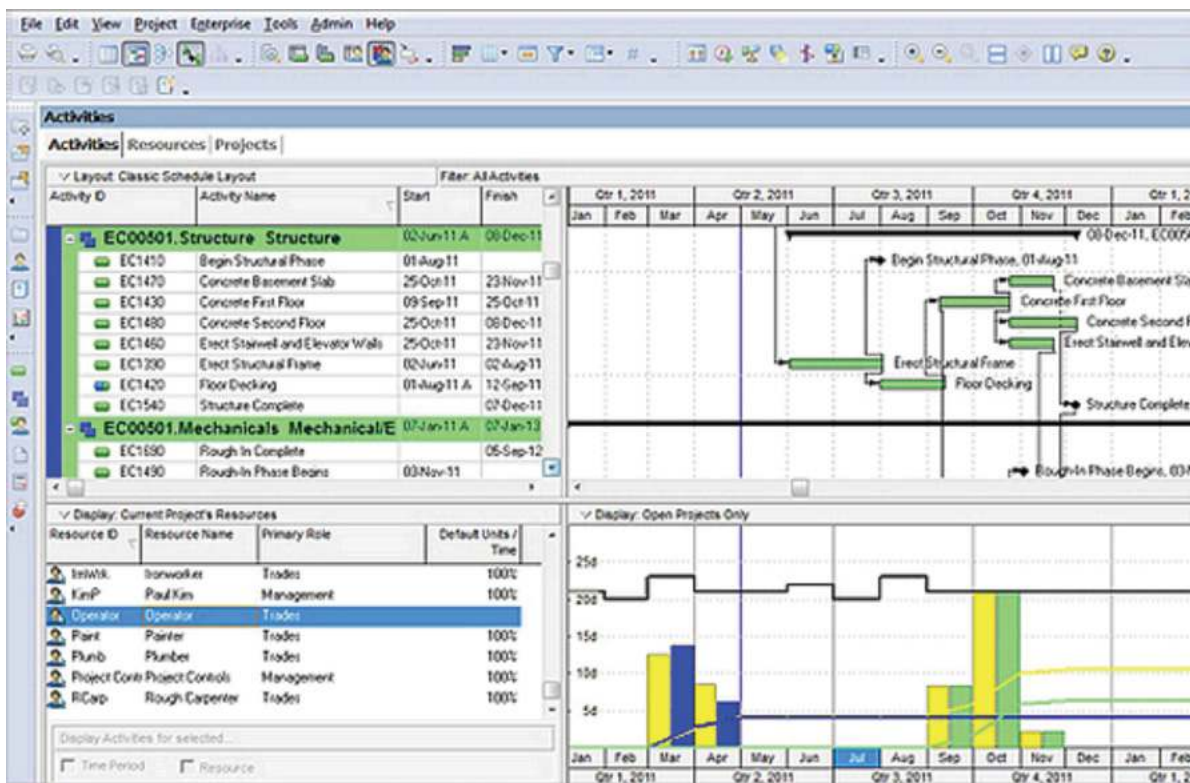
Primavera Professional Project Management

Primavera Professional Project Management is a highly regarded piece of third party project management software. With the implementation of an effective SAP interface, Primavera is capable of handling highly sophisticated and multifaceted projects. It can be used to organise projects of up to 100,000 activities and provides unlimited resources for an unlimited number of target plans.

Primavera has been widely used across the upstream oil and gas sector and is considered one of the best pieces of project management software for handling large scale activities and projects. This is especially prevalent in terms of turnarounds, shutdowns and large CAPEX projects, where up to 100,000 activities must be planned and executed within a confined time window.

Primavera capabilities include:

• Balance resource capacity

• Plan, schedule, and control complex projects

• Allocate best resources and track progress

• Monitor and visualise project performance versus plan

• Conduct 'what-if?' analysis and compare alternative project plans

Conclusion

Accurate maintenance scheduling is a common problem for many upstream oil and gas companies. Maximising wrench time is a common goal and graphical scheduling has been proven to help. Having the ability to accurately analyse and assign work assignments to the correct personnel will noticeably lower levels of unproductive time while also minimising the level of effort on the part of maintenance schedulers.

However, every business is different to some extent and will have different requirements. Each software has different strengths and will thus be more or less appropriate for individual companies because of them.

SAP's Multi Resource Scheduler can extract information from each of the different modules and graphically present it within SAP in order to make the task of planning and scheduling as easy as possible. As SAP MRS is an official SAP product, it has the benefit of being fully integrated with all of SAP's other functionality, including Geographical Information Systems and mobility software such as SAP Mobile Platform and Fiori.

Prometheus is well established in the upstream sector and Absoft has been involved in a range of successful implementations of this product. This experience, and the host of other features that come with Prometheus make it a strong option when looking for maintenance scheduling software.

Primavera is a heavy duty piece of project management software. Beyond simply graphically organising the schedulers work, Primavera is capable of planning entire projects and analysing the resulting data. With Absoft's experience in implementing effective interfaces with Primavera, using third party software is no longer a concern.

This is just a short summary of SAP compatible software available to handle your maintenance scheduling. If you would like to discuss your company's specific maintenance requirements in more detail, please do not hesitate to contact Absoft.

About Absoft

Driving operational excellence and enhanced business performance through SAP best practice.

Absoft is a dedicated SAP specialist, established in 1991. Our SAP expertise, preconfigured templates, solutions and accelerators mean we deliver the best business and technical solutions for your individual needs to the highest standards of quality, quickly.

We are the only SAP partner to specialise in upstream oil and gas. We are working with leading players in the industry and have been for over 20 years, uniquely combining business process, oil and gas and SAP expertise to deliver best practice solutions globally.

If you are working with SAP then Absoft can save your business time and money, leading to increased revenue and bottom line impact.

We enable:

- The best SAP solutions for your oil and gas business, implemented on time and within budget

- More cost efficient and profitable upstream operations

- More value from your growth and acquisition activity

- Safe and compliant oil and gas operations

- Dedicated oil and gas SAP experts working as part of your team for maximum performance

- Highly tailored, best in quality SAP technical and functional support

Absoft's track record for delivering value for upstream oil and gas companies and our support clients is unrivalled. Our customers praise our flexibility and ability to integrate with their internal teams.

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