

Traditional maintenance scheduling based on an elapsed period of time such as a 3 monthly service can present a number of disadvantages as equipment may not need servicing at regular intervals. It may require attention sooner or later than planned due to changes in the load or duty.

The IMPACTxp Run Time Scheduling Module therefore takes into account usage indicators such as hours run and volume of product processed.

Tasks are triggered via the use of meters and/or clocks to match maintenance requirements more closely. A chiller for example, will need increased service levels in summer.

The benefits of run time scheduling include:

- Confidence that the work needs to be carried out*
- Less waste in manpower*
- Less waste in the materials involved in servicing the equipment*
- Reduction in maintenance costs*
- Reduction in the potential for breakdowns*
- Higher production output*

Run Time Scheduling also allows for an unlimited number of maintenance tasks to be triggered by the same clock or meter. Multiple level servicing and rotatable equipment can also be monitored.

● Run Time Task

A measure is first defined by the user that will control and trigger a maintenance task. This is usually hours run or volume produced. This measure is taken from a meter or clock on the machine itself to be inputted into the system.

There are a number of methods the user can employ for the collection and inputting of data. These include:

- Generic Interfaces*
- Standard Work Order*
- Completion of a work order*

The Generic Interface module can be utilised in conjunction with Run Time Scheduling to provide an interface into a range of packages that specialise in tracking meters and clocks. IMPACTxp will automatically take a reading at pre defined intervals.

Alternatively, the user can input readings by hand in the form of a standard work order.

In fact, a library job can be set up in the system to prompt the user to take a reading at fixed intervals.

The user can also be prompted by the system to take a reading upon completion of any work order associated with run time plant.

Based on past trends, the system is now able to calculate usage over time in order to predict future readings. There are two types of formulae for the calculation of statistics.

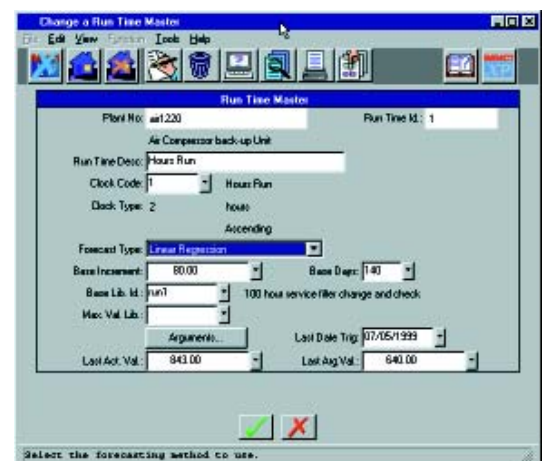
- Linear Regression*
- Exponential Regression*

Linear calculates a standard average across all readings whilst ironing out short-term fluctuations. Exponential gives greater weight to the most recent readings and takes into account any sharp increases.

Either way, the system can predict when the next service is due.

A decision is now made. The trigger of the maintenance task will be as a result of either hours run or an elapsed period of time. In the case of a car the argument for carrying out a service might be:

Every 6,000 miles or 6 months – whichever comes first.



[Change A Run Time Master]

SoftSols Group:

ASIA PACIFIC

SoftSols (Asia / Pacific) Pty Ltd

5 Park Road, Glen Iris
Victoria 3146, Australia

Tel/Fax: +61 (0)3 9809 4566
Email: asia@impactxp.com

EUROPE, MIDDLE EAST & AFRICA

SoftSols (EMEA) Limited
Soft Solutions Limited
Matrix Resource Management Ltd

Matrix House, Bradford Road,
Wrenthorpe, Wakefield,
WF2 0QH, UK

Tel: +44 (0)1924 200344
Fax: +44 (0)1924 200418
Email: info@impactxp.com

THE AMERICAS

SoftSols (North America) Inc

P.O. Box 227
LeClaire, IA 52753-0227, USA

Tel: +1 (563) 289-2900
Fax: +1 (563) 289-9911
Email: ssna@impactxp.com

● *Benefits*

When a run time task becomes due, a work order is printed in the same way as any other scheduled task. However, the user can be absolutely certain that this work needs to be done because the presence of the work order indicates that the machine has now completed a duty cycle. The work order is not being prompted solely because of an elapsed period of time. After utilising the Run Time Scheduling module, the user may find that maintenance tasks are being prompted less or more often. The user can be certain that any adjustments to the maintenance cycle match the individual requirements of the equipment more closely and an overall improvement will be gained in the quality of the maintenance operation.

● *Rotables*

IMPACTxp can also track the usage of rotatable sub-assemblies. These are pieces of equipment that are used as part of a higher-level plant item, typically pumps, motors and gearboxes. A run time argument can be formulated for these items regardless of the fact that they may move around from time to time.

● *Multiple Run Time Arguments*

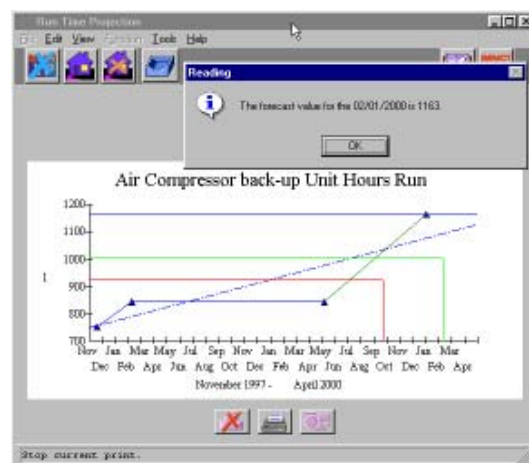
The implementation of the Run Time Scheduling module can support complex scenarios, depending on the nature of the equipment to be maintained. An asset may have a large amount of maintenance schedules attached to it, each to be carried out by different crafts, trades or departments. For this reason, each item of plant can have many simultaneous run time arguments all feeding off the same meter or clock reading.

● *Father/Son*

The father/son approach to maintenance is a feature already utilised within the Base Module for the scheduling of time-based tasks. It can also be used for the scheduling of run time tasks. It revolves around the idea that some tasks may be more complex than others. In fact part of a complex task may involve the same work to be carried out as the smaller tasks. For instance, the checking and changing of oil. A maintenance schedule will exist for the changing of oil, but is a longer and more expensive task than checking the oil. It will also have a longer maintenance cycle of perhaps once every 6 months as opposed to once every 4 weeks. When the oil is changed there is no need to check it. The system therefore suppresses this second less senior task. This avoids a further waste of resources.

● *Graphical Presentation*

IMPACTxp is highly user friendly and a major feature throughout the system is the use of standard graphical reporting. An instant overview of the progression of run time controlled plant is therefore available in the form of a graphical presentation without the need for exporting data. A simple click of a mouse reveals an indication as to the next likely service dates and shows whether this is likely to be triggered by the time or mileage default.



[Run Time Projection]

● *Other Schedules*

Run Time Scheduling is an effective way of scheduling work to the actual and individual requirements of a piece of equipment. It can produce benefits both in terms of direct cost and the quality and focus of the work being carried out. However, IMPACTxp offers 3 other methods of scheduling work to cope with every maintenance situation:

Based upon elapsed time (Base Module)

Based upon the condition of the plant (Condition Monitoring Module)

On call-off when circumstances allow (Base Module)

Please find details of these modules on other fact sheets.