OVERLORD

SCHEDULING AND CONTROL SOFTWARE

```
Start
  │
  ▼
Decision ──────┐
  │            ▼
  │         Position
  │            │
  │            ▼
  │         Call procedure
  │            │
  │            ▼
  │         Wait for device
  │            │
  ▼            ▼
Position    Robot (Zone A)
```
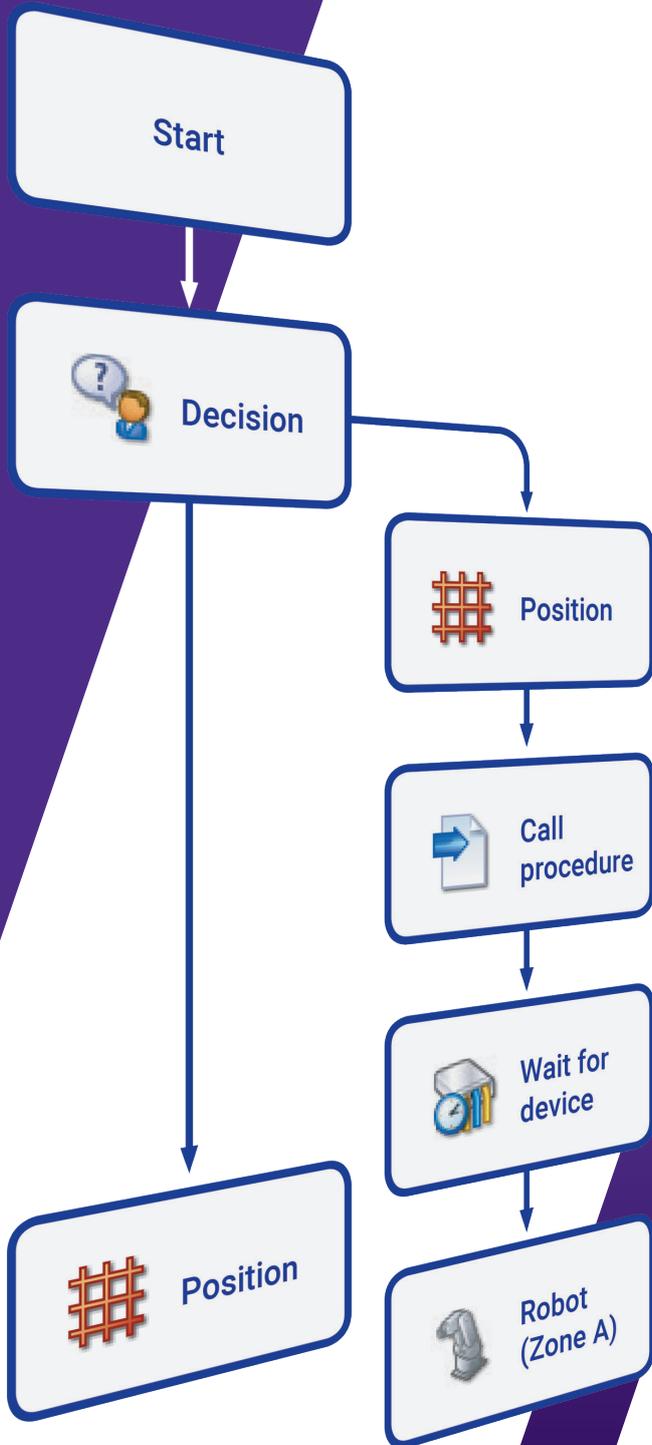
North American Distributor

TEK MATIC
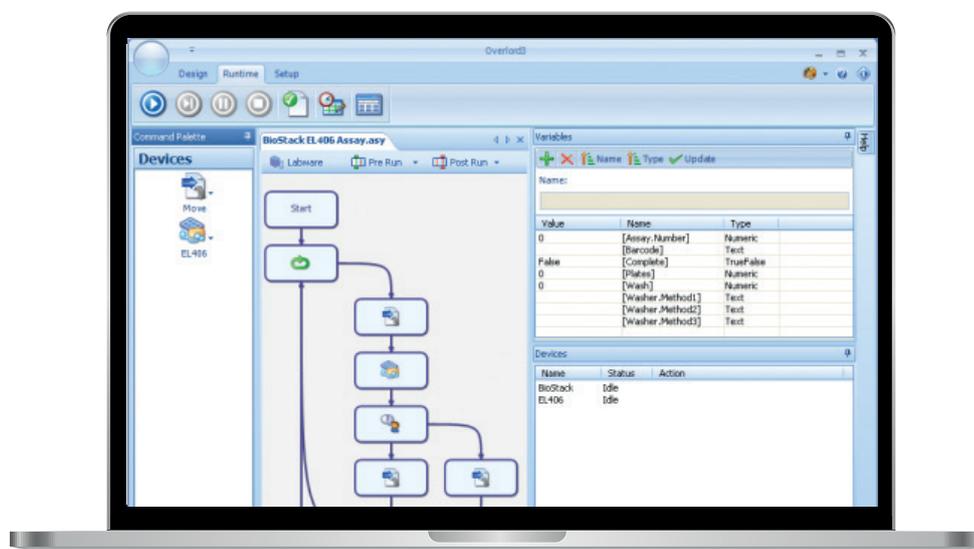automation for life

OVERLORD

OVERLORD™ SOFTWARE IS THE CORE OF ALL PAA'S LABORATORY AUTOMATION PRODUCTS AND SERVICES.

It provides instrument control and the scheduling required to run an automation workcell and is used in laboratories throughout the world.
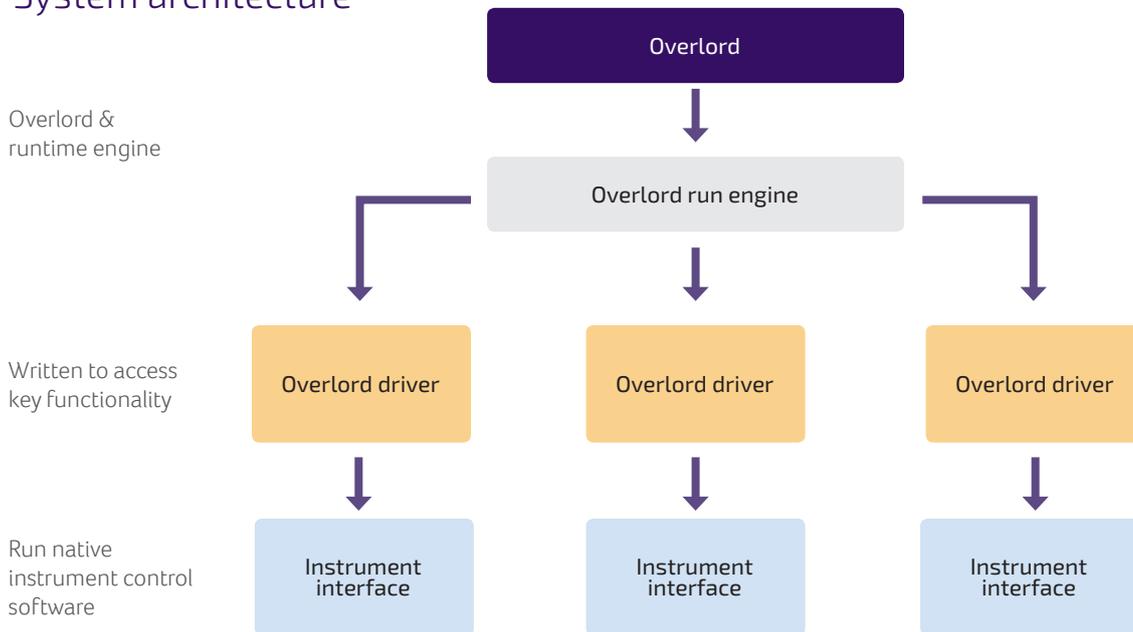
OVERLORD™
HARMONY™
ASSAY MANAGER™

Overlord is completely scalable and is used on the simplest systems, loading a single instrument, to the most complex, controlling the work flow around an enormous workcell with several dozen instruments. It is supplied 'per socket', to ensure a cost effective solution for all sizes of workcell. A socket is a connection to an instrument, via an instrument driver.

Overlord is the first laboratory automation scheduler and control software that seamlessly contains both dynamic (event-driven) and static (time-driven) scheduling on one platform. Its simple drag and drop interface enables complex routines to be rapidly and easily developed. An elegant easy-to-use software solution for control and scheduling of your automation platform.

System architecture

Overlord &
runtime engine

Written to access
key functionality

Run native
instrument control
software

```
                    ┌─────────────────────────┐
                    │        Overlord         │
                    └─────────────────────────┘
                                 │
                                 ▼
                    ┌─────────────────────────┐
                    │    Overlord run engine   │
                    └─────────────────────────┘
              ┌──────────────┼──────────────┐
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      ┌──────────────┐┌──────────────┐┌──────────────┐
      │Overlord driver││Overlord driver││Overlord driver│
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      │  Instrument  ││  Instrument  ││  Instrument  │
      │  interface   ││  interface   ││  interface   │
      └──────────────┘└──────────────┘└──────────────┘
```

What this means to you:

/ Develop and optimise automation applications with a single software package

/ Difficult decisions on what type of scheduling algorithm to use are a 'thing of the past'! Overlord has both time-driven and event-driven schedulers. Overlord always presents the best solution

/ You can control a huge variety of instruments. Overlord has the largest library of any automation scheduler, currently containing drivers for more than 300 instruments including; robots, incubators, liquid handlers, plate readers, heaters and shakers

/ Obtain precise time control and scheduling for kinetic assays and other applications where timing is critical

/ It is easier to run your process with Overlord – the user interface is simple and provides a wealth of information. Overlord prompts you where to load labware, estimates time required to complete the run of assays and provides a Gantt chart display showing exactly where you are as the run progresses

/ Improves reliability - Overlord provides proper error detection with full recovery, not available in most time resolved schedulers

/ Intuitive user operation - Overlord has a number of high level interfaces that allows Overlord to be controlled from LIMs, laboratory databases and Biobanking software. Harmony and Batch Manager enable the system to be tailored exactly to the users requirements and operator level.
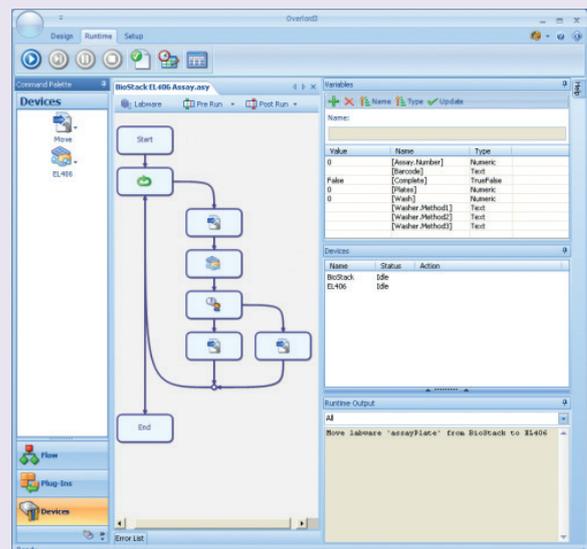
High level user interfaces

Overlord can be run from a number of high level user interfaces, geared at easy operator use. For instance; Overlord is as happy running a large biobanking system as it is loading a single instrument.

Harmony™

The Harmony user interface is simplicity itself! It replaces the complex options and flow diagram, usually seen with laboratory automation software, with a simple step-by-step touch screen input. The user follows the standard operating process by answering a series of straight forward questions presented. Once the final question is answered and the summary screen accepted, the system is ready to go. When the run is finished the user may be alerted by email. Harmony is perfect for instrument loading and unattended operation.
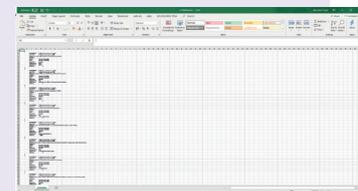
Assay Manager™

Assay Manager is a multi-user automation environment. Researchers add their samples to the automated system when required any time of the day, even when the system is running. The user can select either one or a series of different assays to be run. Assay Manager also supports kinetic assays, which require plate reads to be made at precise time intervals. Overlord remains in the background handling the complex scheduling involved.

Perfect for multiuser applications, enabling users to queue their samples until a slot in the schedule is available to process them. There is also functionality to queue jump important samples and get them processed faster.
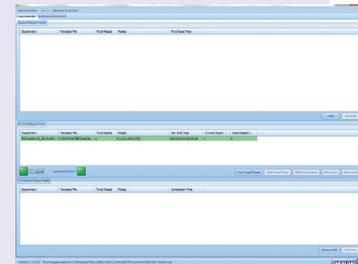
Customer database

Overlord may be controlled from a LIMS or database by either calling a command line with parameters or full integration with complete control by C# or VB.NET. This tight integration provides reliable data flow to and from the database and is ideal in large scale automation applications.