

# TPAC Operations

---

Keeping a transport fleet functioning while balancing the sometimes-conflicting demands of on-time running, resource management and cost control can be difficult.

In current-day operations, things don't always follow the carefully worked-out schedule: vehicles break down, weather slows things down (or closes ports), late passengers delay departures, which leads to knock-on delays. One must be able to re-schedule on the fly, keeping track of not only what vehicles are available, but of passenger connections, crew connections, maintenance schedules, curfews, slots and other restrictions.

## What is an Operations Control System?

An Operations Control System aids in the control of the current-day operations of a transport fleet. To aid with this, it provides real-time visibility of:

- where the vehicles and crew are
- whether they are on time
- whether they will make their connections
- whether they will violate restrictions
- whether vehicles are unserviceable or crew are sick

It then allows the user to take corrective action to minimise the disruption, such as:

- re-scheduling or cancelling sectors
- reallocating vehicles and crew

## Feature Summary

TPAC Operations has been designed to handle the requirements of operations control for a transport fleet, including:

- real-time fleet tracking and management
- optimised and user-controlled problem solving
- scenario development and modelling
- network-wide information gathering, display, management and dissemination, covering problem alerts, resource constraints and commercial imperatives.
- fully integrated capability with both CTI and other in-house systems, including network development, crew management and maintenance systems
- interface capability with a range of other external systems
- regulatory and company compliance checking and reporting
- extensive reporting

# Feature Highlights

## Modelling and Publishing

Changes are made to a model, and when the operator is satisfied with the changes, they are then published. They are updated in real-time with data continually fed to the database, so changes, arrivals, departures and warnings appear on the screen as they happen. Models can also be shared with more than one operator so that simultaneous problem solving can occur.

## Schedule Recovery

Juggling all the factors required to make optimal re-scheduling of vehicles needs all the help it can get. The Operations Control system can be interfaced with TPAC Schedule Recovery, that advises recommended actions that can be used to recover to schedule in the minimum time with the minimum disruption. This allows the operator to use this function to support the fleet's operational management, by advising changes that reduce current and future operational problems.

## Reporting

TPAC Operations has many built-in reports and information windows, including:

- Crew Connections
- Cost and Contribution
- Flying Hours/Frequency Analysis
- Numeric Schedule Notices
- Capacity by Flight Type
- Overnight Bases
- Broken Connections
- Passenger Loadings
- Block Hours

## Block Hours Report

## Status At A Glance

The Pattern Display shows a colour-coded GANTT chart that enables the operator to easily see the status of the fleet: a time-positioned time-proportional display of the schedule with details such as:

- Vehicle type and registration
- Departure and Arrival times
- On-ground times
- Ports

- Scheduling conflicts
- Problems
- Crew problems
- Movement slot violations

Differing vehicle types are given different colours. Arrivals are greyed out, so that the operator can concentrate on what is important. Warnings, errors, and unserviceability are shown in attention-getting colours. The display can be extensively configured by the operator to suit the needs of individual transport networks.

### Detail of the GANTT display showing arrivals, warnings, and errors



## Technical Overview

### Architecture



TPAC Operations works on a client-server model. The client application, providing the application GUI, runs on individual PCs or workstations. The server and database run on one or more servers, and support server redundancy and automatic failover. This provides extremely high up-time even in the event of hardware failure.

### Supported Platforms

Supported platforms for TPAC Operations are described below. Ports to other Unix platforms are available upon request.

#### TPAC Operations Client

**Table 1. Client Supported Platforms**

Type of application	Native application
Required hardware	PC or Unix workstation
Operating System	Linux (RHEL 4), Solaris 8
Memory	512MB minimum
Disk space	200MB for full installation

#### TPAC Operations Server and Database

**Table 2. Server and Database Supported Platforms**

Type of application	Native application
Required hardware	Server
Operating System	Linux (RHEL 4), Solaris 8
Memory	1.0GB minimum

Disk space 8.0GB minimum

## Further Information

You may wish to look at the [PDF version](#) of this document.