

## MULTI-HOSTING / MULTI-COMPANY OPERATION

When considering the functionality of a TAS to handle multiple company operations there are two issues that need to be addressed.

Firstly there is the issue of Multi Hosting ie the ability for the TAS to communicate with more than one Company admin/financial system eg SAP, Oracle or maybe their own in-house developed system.

Secondly and probably more importantly there is the issue of Multi Company Operation ie the ability of the TAS to be able to handle stocks management and product mapping for more than one company. That is each individual Company can order, schedule, and load product from the Terminal in the same manner as they would if it was their own and at the same time be confident that their individual data is secure.

### MULTI-HOSTING TO TAS

Multi-hosting is best described as the capability for the TAS to communicating with two or more head office main-frame servers. Each host-link is independent of the other(s) and messages may be transmitted by batch or real-time on-line processing.

The communications between head office servers and the TAS can be either uni-directional or bi-directional. Typically, a bi-directional host-link is where the mainframe server downloads a message e.g.an order (in one direction) and the TAS uploads messages e.g. completed loads with loaded details (in the other direction).

The communications protocol for each host-link may be different. A multi-hosting TAS which adopts an 'open' architecture must have the flexibility to handle multiple protocols independently for each host-link.

Just as it is important for a multi-hosting TAS to manage different protocols, it must also be able to support different message sets for the different oil companies. For example, one oil company may have an SAP R2 server communicating to the TAS in LU6.2 and another oil company has SAP R3 server communicating on TCP/IP. Each message set is different and TAS must be able to support these message sets concurrently.

Host-link messages must not be restricted to order sending and order confirmation. Stock management features should also be incorporated into the message set. Because the TAS interfaces directly to a tank gauging system in most instances (for stock reconciliation), head office servers can periodically 'poll' each automated site to obtain tank level readings. Thus obtaining a consolidated view of all stocks at the Terminal and also at a National, Regional and/or global basis.

A multi-hosting TAS must have the capability to distinguish the source of the downloaded message and if necessary, segregate the messages in order that other oil companies operating in the joint site cannot access the details in the message hence maintaining security of each Company's data.

It is important to note that a multi-hosting TAS does not necessarily, by definition mean that it has multi-company capability. That is the TAS may be able to communicate to multiple hosts but it may not have the functionality to handle individually Multiple Company Operations.



### MULTI-COMPANY CAPABILITY

A TAS is only truly multi-company when it is able to multi-host and be capable of stock management functions in a jointly operated facility or one where a managing company is set up to manage the facility. Typically, the stocks at these facilities are co-mingled.

The most important features of a multi-company TAS is the ability to track and reconcile product ownership in a jointly owned facility.

A multi-hosting TAS must have the capability to interrogate each load to verify and prevent a participant from loading if it has reached its maximum draw down limit of each product.

A multi company TAS would must allow each company to order, schedule, load etc. using their own product codes and names and then by product mapping, and recipes ensure that the correct product and additives are loaded, whilst at the same time correctly managing the stocks reconciliation for both the individual company and for the Terminal in total.

Product details i.e. names, codes etc are generally held in each company's financial system, with each company using its own naming and coding system. The TAS product mapping enables each company to operating from a multi user Terminal without any change to their own individual product names and codes etc.

A multi-company TAS should be able to distinguish between operating companies to understand who is a Manager , Supplier, Drawer, Carrier and Customer etc. and then manage their order and stocks requirements accordingly. Generally the Manager Company is responsible for the overall stocks management for the Terminal.

The way in which both products and company roles are defined enable a multi-company TAS to manage all other activities related to a jointly operated or owned facility.

At the loading gantry, a multi-company TAS must be able to cater to potentially different authorisation procedures of each drawer company. Typically, some companies require the identification of both the equipment and driver (and therefore, two cards). Others only require the identification of the equipment (one card). Some might pre-schedule all their loads others might have loading on demand etc.

A multi-company TAS would direct the loading instruction and bill of lading documents to the specific company printers.

For a TAS to be said to support Multiple Company Operations it must be able to at least satisfy the above functionality whilst at the same time maintain security of each Company's data and ensuring that each oil company's business and operating process remains independent of each other.