

Tank Monitoring Case (eSourceWorld.com)

The Problem

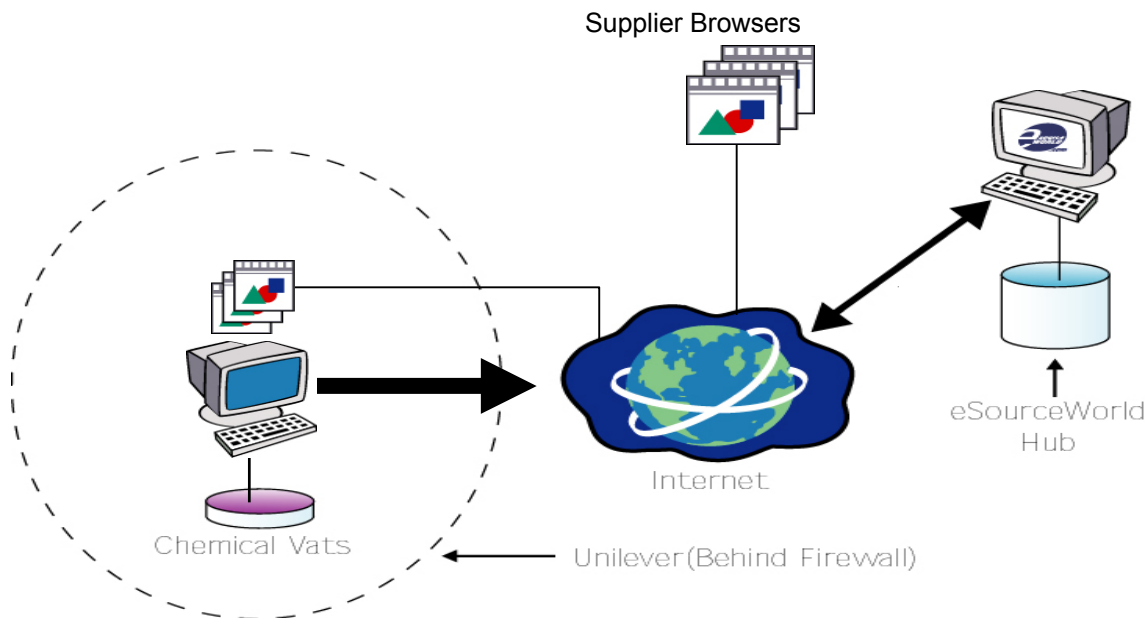
A consulting firm representative contacted eSourceWorld in April, 2000 to investigate the possibility of delivering a solution for an e-business pilot project for the Fortune Global 100 client. They wanted a solution to provide visibility into the inventory levels at their manufacturing plant to corporate headquarters and, most importantly, to the suppliers that refill the chemical storage tanks. The manufacturer chose eSourceWorld as the tank monitoring pilot application vendor at the recommendation of their consulting firm.

eSourceWorld established an XML standard for relaying the level of the tank to the eSourceWorld hub, and commenced on implementation. Connectivity with the vats at the manufacturing facility was conducted with partner Sterner Automation, who also integrated the reporting to the XML standard, transmitted via FTP.

The solution

eSourceWorld collects data documenting the level of raw materials inventory stored in chemical tanks at the client's manufacturing facility. Vat level is reported at 15-minute intervals and stored at the eSourceWorld hub. The eSourceWorld portal publishes a variety of web-based reports on this inventory level and history to authorized users both within the manufacturing firm and at its chemical supplier.

Users with administrative privileges can also define a list of recipients for e-mail alerts as well as an alert threshold for the storage tank. When the tank level falls below the alert threshold defined by the administrator, all recipients on the list are immediately notified via e-mail.



Benefits to Client

According to regression analysis carried out by the manufacturer, average inventory level for materials covered by the project declined by more than 12% since the project began. This has translated into a significant reduction in inventory carrying costs.

Chemical storage tanks are sometimes not sufficiently empty to accept discharge of a full truckload of inventory. By using the eSourceWorld solution, the client achieved an 80% reduction in demurrage charges incurred for time that supplier trucks spend waiting in the lot to replenish inventory. Supplier access to client data on the eSourceWorld portal has led to closer synchronization of replenishment with inventory levels and elimination of significant costs.

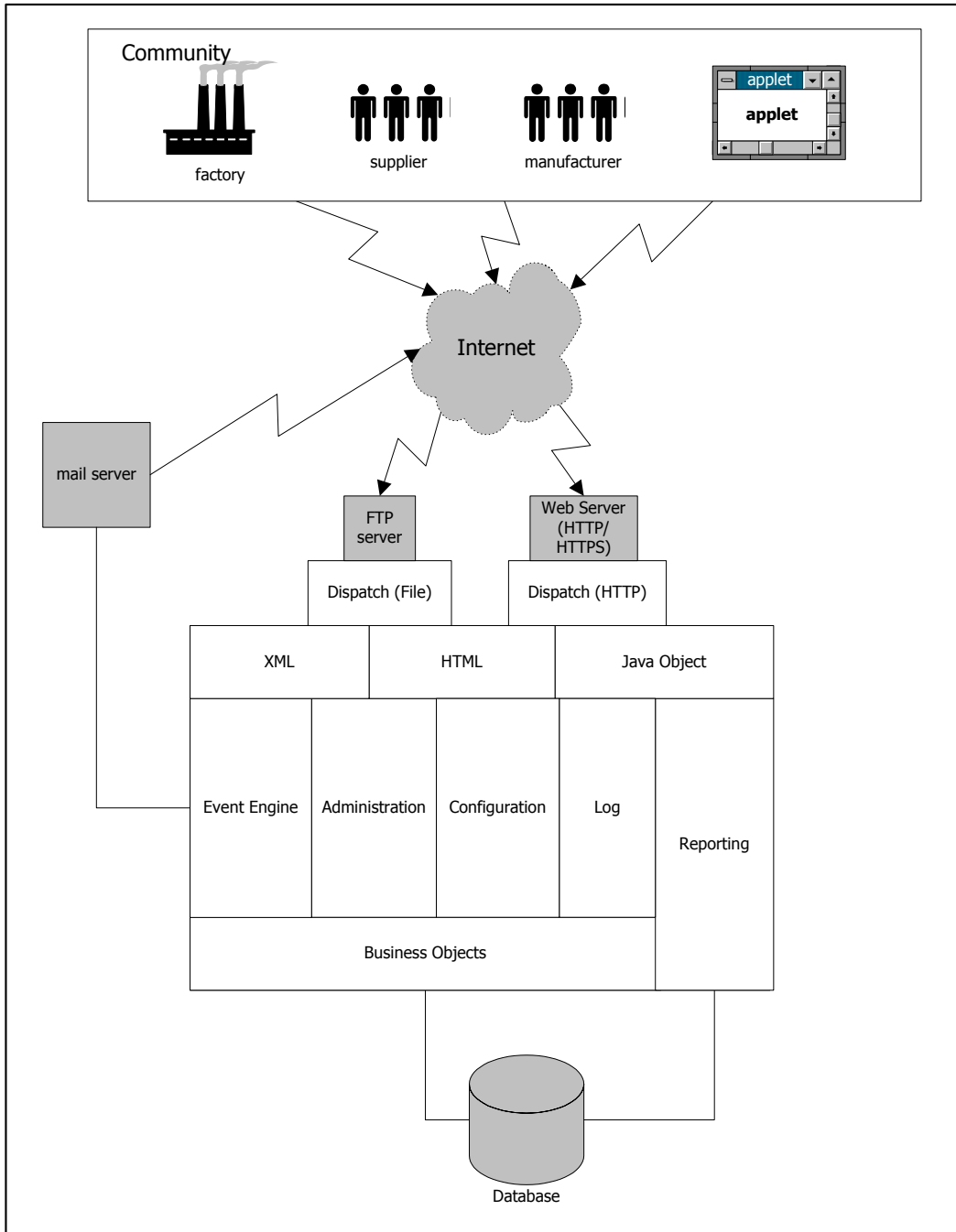
Another benefit from the solution is that key process stakeholders at head office and supplier locations have a real-time and historical view of inventory level. Previously only certain production personnel could get a reading on the tank level. This has generated cost savings in

personnel time that are difficult to quantify immediately, and this solution represents a major step toward supplier-managed inventory on a demand-pull basis because the supplier can respond directly to the signal from the tank. Internal studies by the client demonstrated that a wide implementation will result in significant savings in personnel costs in the areas of procurement, planning and scheduling.

Finally, by notifying supplier and in-house personnel when chemical levels fall below acceptable thresholds, the eSourceWorld alert system reduces the likelihood of very costly shutdowns of the production line. By calibrating the system to alert suppliers well in advance of running out of key chemical inventory, project administrators can be assured that their facility will continue to operate smoothly.

Project Architecture:

The signal from the tank is reported from a PLC in the manufacturing facility over their automation network to a PC, which sits on a network behind a firewall. This PC translates the signal into a tank level, and forms and XML file using a VB script, which is sent over common Internet protocols to the eSourceWorld hub every 15 minutes. These XML files are received, parsed, and then stored in a relational database.



The vat level readings are then made available through the persistence framework as vat reading objects to a variety of Java classes, including servlets and an applet as front-end reporting tools. Authorized users can authenticate and view reports including a Java applet displaying the vat level history.

Conclusion

The implementation was completed and the project went live on July 21, 2000. It is still in production and being used on a regular basis by the chemical supplier and client personnel. A number of upgrades have been made to the reporting tools to increase usability. The project is now in evaluation for a rollout across the facility and in North America as a whole.