WebXL Network Implementation

The WebXL system communicates over a standard UTP Ethernet connection. It uses a number of ports and also implements security measures to minimize the effect of people trying to hack into the system.

HTTP

The standard connection method uses the onboard http web server. This uses the standard port 80. Authentication is required and there are 2 levels of password protection. Administrator access allows full access to all pages while operator access limits the pages which can be viewed to those required by a plant operator. The WebXL system is based around a small microprocessor which does NOT use a PC type chip or a Windows, MAC or Linux API so it is immune to hackers trying to download compiled PC code.

UDP

The WebXL system supports UDP connections. The system has a table of allowed IP addresses which the user can assign. Any incoming message on the UDP port where the ip address does not match an entry in the table is ignored. The WebXL system only listens on the user assigned UDP port. This is typically port 14215. All messages are received and sent on the same port. Although this should never occur, messages received on an invalid port are discarded. Messages longer than the assigned port buffer are truncated so will not cause a buffer overflow.

The WebXL controller also listens on a user specified multicast address using the user defined port number. Any messages coming on this address and with a valid port number will be handled by the controller.

Emails

The WebXL controller can send emails but not receive emails. It acts as an email client. There is no code in the controller to listen for incoming emails so it is totally immune to attempts to hack in via incoming emails. It uses the standard email port 25 for sending emails.

Summary of ports used

Port	Use
25	emails port
80	http port
14215	UDP port – user assigned