

# TCP/IP Ports for Smart Cameras

## TCP/IP Port Connectivity

When communicating over Ethernet, the smart camera uses the following predefined ports.

The camera establishes connections as a server and, therefore, listens for host clients to initiate the connection on a particular port.

Any number of clients can connect to the camera, each one with their private peer-to-peer connection and each one monitored by a special \*heartbeat\* connection on port 49079 (see table below).

Port Name	Protocol	Number	Note
File Transfer Port	FTP	21	Allows the Host to send and retrieve files from the smart camera.
Telnet Port	Telnet	23	Console terminal to the device, runs the vxWorks OS console target shell.
DHCP Client Port	DHCP	68	Supports the assignment of IP addresses from a DHCP server for the smart camera.
Web Server	HTTP	80	Allow access to boot parameters when HyperTerminal over Serial and Bootloader menu is not convenient.
Routing Port	RIP	520	Receives and updates local routing tables from the network.
IO Service Port	TCP	49049	Controls IO on the camera, i.e., physical and virtual IO and receives IO change notification events back to the client.
Pic and Live Acquire Port	TCP	49050	Takes pictures and goes to Live Video.
Camera RPC Port	TCP	49059	When in control, sends editing and runtime commands to the camera for example: Start, Stop, Download, Flash, etc...
Connection Monitor Port	TCP	49079	This special connection is created automatically whenever any of the other connections above is made by a client (when using the vskit libraries or by FrontRunner). It monitors the connections and provides a timely mechanism to report connection drops to the client within a few seconds).
Reports and Statistics Port	TCP	49200	Used by FrontRunner and vskit programming library for camera reports. Reports are defined by the AVP and can include any results with or without images. Connections can be programmed to be lossless, i.e., in-line with the Inspection or lossy, i.e., at a particular rate per second.
Part Queue Retrieval Port	TCP	49201	Retrieves the reports records stored inline in camera.
Reports and Statistics Control Port	TCP	49202	Allow control over a Report Connection, in particular update rate and allows records to be added/removed from the connection.
Serial TCP Ports	TCP	49211 49212 49213 49214	Send Formatted Output Strings serially over TCP as programmed in the AVP by the Formatted Output Step.
Camera Login / Command Port	UDP	49493	Gains control to the camera in order to edit and modify its network parameters. A network login to the camera maybe required to gain control with the smart camera.
Camera Announce Port	UDP	49495	Broadcasts Smart Camera identity on the current subnet used by Network View in FrontRunner, provides general counters, camera name, IP, IP in control, camera status, and camera software version.