



Cam Finder Protocol Specification

Version	Date	Changes
1.0	2010/5/27	Created
1.1	2010/6/7	Modify
1.2	2010/7/26	Modify for protocol
1.3	2010/10/14	Modify for introduction



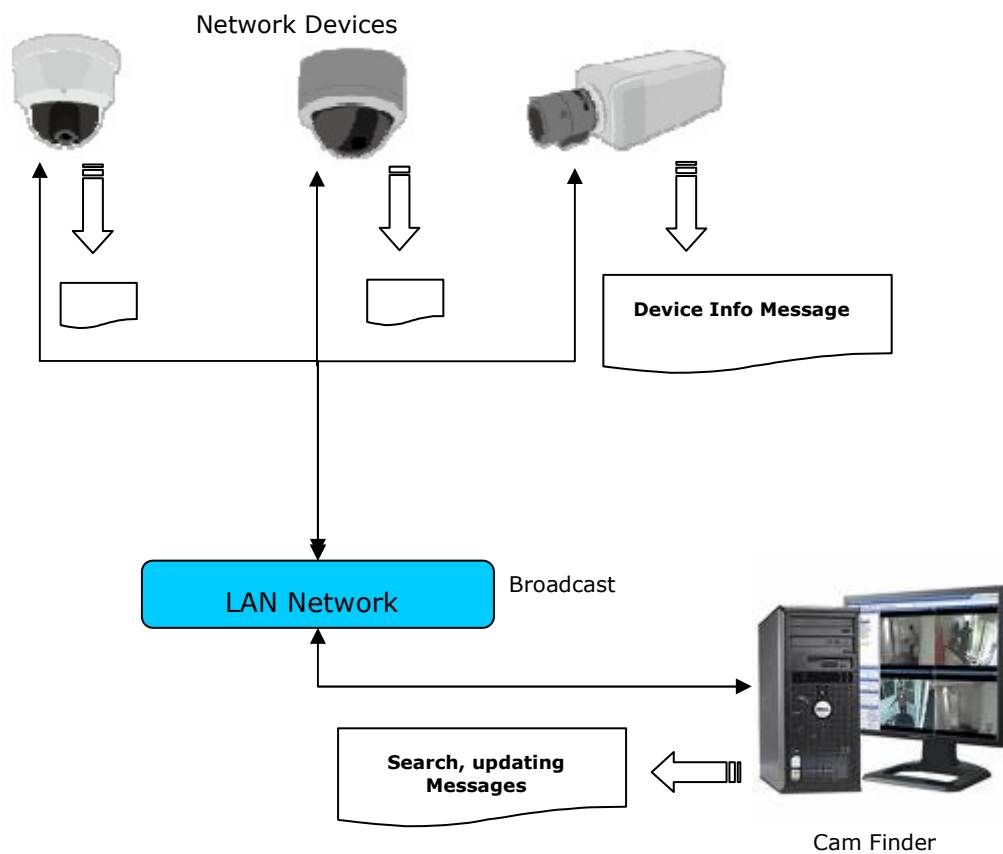
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1. Introduction

This document describes the Cam finder protocol that is a private protocol to provide a way to search all working cameras or video servers in the LAN. The protocol is based on broadcast technology and used to get or set the network settings of device. For example, you could broadcast a finding message, and then you will receive the information of devices and reconfigure it. We provided a freeware **CamFinder.exe** which is performed through this protocol.

2. Cam Finder Protocol



The above figure is illustrated the Cam finder protocol which how to interact in system. The messages are sent by broadcast address (255.255.255.255) and default port 4000, so this protocol is only worked in LAN network.



There are search, updating and device information messages described in this document. The search and updating messages are sent by finders who want to know what devices in the LAN. The search message is used to inquire about camera information. Device information message will be broadcast in reply to search message if the device received it. The updating message is used to change the camera settings like as http port, network, Gateway and device name. The device also replies the device information message after updated successfully.

2.1 Search Message

Header (64 bytes)

The header format of search message data is fixed to 64 bytes.

Byte	Purpose	Description
0-5	Identity	Issuer, fixed to "3SEdit". Plan it can be any identification information depends on customer's requirements
6	Issue command	0x02 means search message command
7-63	Reserved	Reserved

2.2 Updating Message

Header (193 bytes)

Note. If only the MAC address value in the command matches device's one, the updating message will be processed.

The header format of updating message data is fixed to 200 bytes.

Byte	Purpose	Description
0-5	Identity	Issuer, fixed to "3SEdit". Plan it can be any identification information depends on customer's requirements



6	Issue command	0x01 means update message command
7-10	Reserved	Reserved
11-14	IP address	Changed IP address values and using big-endian. EX. 1.2.3.4 correspond to byte values are 0x1 0x2 0x3 0x4
15-20	MAC address	The NIC MAC address of receiver, that used to decide to process the message or not when device received message.
21-24	Netmask address	Network mask.
25	Flag	Changing gateway or not. The value 0x1 indicates updating gateway.
26-27	Reserved	Reserved
28-31	Gateway address	Changed gateway address.
32	Flag	Changing camera name or not.
33-50	Name	A string of camera name, which must be normal characters.
51	Flag	Changed HTTP port or not.
52-56	HTTP Port	HTTP port present in text format. Ex: "80"
57	Flag	Reserved for changing HTTPs port or not
58-62	Reserved (HTTPS Port)	Reserved for HTTPS Port
63	NVRAM_Flag	Indicates device to clear nvram
64	DHCP_Flag	Indicates device is DHCP or not
65-128	Username	Username to issue the update command
129-192	Password	Password to issue the update command

* The allowed character set of name of device are {'A', 'B', 'C', 'D', 'E', 'F', 'G', 'H', 'I', 'J', 'K', 'L', 'M', 'N', 'O', 'P', 'Q', 'R', 'S', 'T', 'U', 'V', 'W', 'X', 'Y', 'Z', 'a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j', 'k', 'l', 'm', 'n', 'o', 'p', 'q', 'r', 's', 't', 'u', 'v', 'w', 'x', 'y', 'z', '0', '1', '2', '3', '4', '5', '6', '7', '8', '9', '_', '-', '.', ' ', '@', '!'}



2.3 Device Information Message

Header (63 bytes)

Note. The message is broadcast when device starts up or received the search command.

The header format of device information message data is fixed to 64 bytes.

Byte	Purpose	Description
0-4	Identity	Issuer, fixed to "3SCam"
5	Reserved	Reserved
6-9	Ethernet interface	Report message is belong to which Ethernet interface. Ex: eth0, ra0...
10-13	IP address	IP address values and using big-endian. EX. 1.2.3.4 correspond to byte values are 0x1 0x2 0x3 0x4
14-19	MAC address	The NIC MAC address of device
20-23	Netmask	Network mask.
24	Reserved	Reserved
25-26	"gw"	Static keyword "gw"
27-30	Gateway address	Gateway address is used in device.
31	Reserved	Reserved
32-50	Camera name	A string of camera name
51-55	HTTP Port	HTTP port present in text format. Ex: "80"
56-60	Reserved (HTTPS Port)	Reserved for HTTPS port present in text format. Ex: "443"
61	DHCP	Indicates device is DHCP or not
62	Wireless	Indicates device NIC is wireless or not