

# LinQ™ Software Doesn't Detect SMART Products on a Network



**Applies to:** LinQ™ software 1.x for Windows® XP, 2000 and 98 operating systems and the Windows NT® 4.0 (SP6) operating system

## Issue

LinQ software can't find a SMART product on a network.

## Causes

The potential causes of this problem include:

- the SMART interactive product's resident computer isn't running the Mobile Device Manager.
- network multicasting isn't enabled or supported.
- the multicast Time-To-Live (TTL) value is too small.
- a firewall between the LinQ client and the SMART interactive product's resident computer is blocking communications.
- routers or layer 3 switches are interfering with multicasting.

## Solutions

### The SMART interactive product's resident computer isn't running the Mobile Device Manager

The laptop's LinQ software can find a SMART interactive product only when the product's resident computer is running the Mobile Device Manager.

1. If the Mobile Device Manager icon isn't in the resident computer's notification area, click **Mobile and Wireless Device Settings** in the SMART Board™ software Control Panel, select **Start the Mobile Device Manager** and click **OK**.
2. Click the **Mobile Device Manager** icon in the notification area and select **Open** to start the Mobile Device Manager.
3. Click **Refresh** in the laptop's LinQ software *Connect* dialog box. LinQ software searches the network again for computers with running Mobile Device Managers.

## Network multicasting is not enabled or supported

LinQ software uses IP multicasting to detect computers that are running the Mobile Device Manager. If your network hardware supports IP multicasting, enable the multicasting option.

Because some networks don't support IP Multicasting, you must use the resident computer's IP address to connect your laptop's LinQ client.

1. If your laptop's LinQ software *Connect* dialog box has an **Options** button, click it and select **Connect using host name or IP address**.

OR

If the laptop's LinQ software's *Connect* dialog box doesn't have an **Options** button, and there aren't any SMART products listed in the dialog box, click **Connect**.

The *Connect - SMART Product Detection Failed* dialog box appears.

2. Type the resident computer's IP address and click **Connect**.

## The multicast Time-To-Live (TTL) value is too small

LinQ software uses IP multicasting to detect computers running the Mobile Device Manager. Because LinQ software broadcasts multicast packets, you must set the TTL value of those packets to a value larger than the number of router hops between the laptop's LinQ software and the computers that are running the Mobile Device Manager.

LinQ software and Mobile Device Manager multicast packets have a default TTL value of 3. This value is suitable for most applications. You can, however, configure the laptop's LinQ software and the resident computer's Mobile Device Manager to send multicast packets with a larger TTL value so that the multicast packets can reach their destination after any number of hops.

LinQ software stores its multicast TTL settings in the following Windows registry key:

```
HKEY_LOCAL_MACHINE\Software\SMART Technologies Inc.\LinQ\1.0.
```

Increase the MulticastTTL entry to a value larger than the number of router hops in your network.

### CAUTION



If you use the Registry Editor incorrectly, you may cause serious problems that may require you to reinstall your operating system. It is not guaranteed that you can solve problems that may result from the Registry Editor incorrectly. Use the Registry Editor at your own risk.

On the resident computer, the Mobile Device Manager stores its multicast TTL settings in the following Windows registry key:

```
HKEY_LOCAL_MACHINE\Software\SMART Technologies Inc.\Mobile Device Manager\1.0.
```

Use the same **MulticastTTL** value for the Mobile Device Manager that you used for LinQ software.

**NOTE:** Some routers, such as Internet gateways, won't forward broadcast traffic regardless of the packet's TTL.

## A firewall between the LinQ client and the SMART interactive product's resident computer is blocking communications

If you enable the Windows XP firewall, LinQ software and the Mobile Device Manager will open the appropriate communication ports automatically. Other firewall products require you to open the ports manually.

Open the UDP port 5451 on both the laptop and the resident computer to enable the automatic detection of interactive products.

**NOTE:** SMART Board software also uses TCP port 5450 for other communications such as desktop sharing.

### **Routers or layer 3 switches are interfering with multicasting**

If you're using newer network hardware, the previous solutions don't work and multicasting works intermittently, you may have to configure IP multicast filtering on the network hardware. You can configure some of the newer layer 3 switches to send multicast packets to specific hosts only.

If you are using 3Com® switches in the LinQ network:

- enable the **IGMP Multicast Filtering SnoopMode** option.
- enable the **IGMP Multicast Filtering QueryMode** option.

You will find similar settings on layer 3 switches made by other manufacturers, such as Cisco®. If changing these options doesn't work, or you can't configure them, you may have to disable all multicast filtering. See your product's configuration guide for more information.

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