BlackICE Defender

User Guide

INTERNET
SECURITY
SYSTEMS™

Version 2.9

BlackICE Defender User Guide – Version 2.9

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PREFACE

Thank you for purchasing BlackICE Defender from Internet Security Systems. BlackICE is a powerful new way to defend your computer from suspicious and illegal activity on the Internet.

This guide describes how to use BlackICE Defender to monitor, analyze, and stop hacking activity.

Related Documents

For more information about using BlackICE, see these related documents:

BlackICE Guide to Computer Security	Background information about computer security, firewalls, networking, and the culture of hackers. A great place to start if you are new to the world of computer security.
BlackICE Advanced Administration Guide	Details on advanced security and configuration concepts. Intended for those who want to know the inner workings of BlackICE.
Intrusions Reference Guide	Detailed information about all the intrusions BlackICE can detect and block. Includes information about stopping attacks as well.

All these documents are available free of charge on the BlackICE web site at: www.networkice.com/support/documentation.html.

Conventions Used in this Manual

Bold — The names of screen objects, such as menu choices, field names, and items in lists.

Italics — Italics are used for emphasis or to highlight an important word or concept.

`Monospaced` — Pathnames, filenames, and code are shown in monospaced font.

`Monospaced Bold` — Values you must type in are shown in monospaced, bold font.

`Monospaced Italics` — Variables, such as a server name, are shown in monospaced, italic font. These are usually enclosed in angled brackets <***`servername`***> as well.

[Inside Brackets] — Keyboard keys, such as [ENTER] or [Page Up] are shown inside brackets.

Note: — Notes include important information about the operation or use of the product.

Caution: — Warnings contain critical information that may cause harm to your computer or the proper operation of the product.

Tip: — Helpful information about optimizing or using the software.

Getting Help with BlackICE Defender

For more help with your copy of BlackICE Defender, refer to these sources:

Online Help

The online Help provides quick answers to many issues regarding . To access Help, perform one of these procedures:

From the Menu Bar

1. Select **Help**.
2. From the submenu, click **BlackICE Help Topics**.

   The BlackICE Application Help Index tab appears.
3. Click the index entry for which you want information.

   The Help page for the selected entry appears.

From the BlackICE Local Console Tabs

- Click the **Help** button.

  The Help for the open tab appears.

The BlackICE Web Site

The BlackICE Web site, at www.networkice.com, includes the latest information about . In addition to FAQs (Frequently Asked Questions) and a support Knowledge Base, the site includes the advICE library, an extensive online resource for network security information.

To Access the BlackICE Web site

1. From the Local Console Menu Bar, select **Help**.
2. From the submenu, click **WWW Network ICE**.

   A Web browser session opens and the BlackICE home page appears.

   Note: Your system must be connected to the Internet to show this page.

To Access the BlackICE Frequently Asked Questions (FAQ)

1. From the Local Console Menu Bar, select **Help**.
2. From the submenu, click **Online Support**.

   Your Web browser opens and the BlackICE Support Web page appears.

Product Documentation

The latest product documentation is available from the BlackICE Web site at www.networkice.com/support/documentation.html.

Technical Support

Web:	http://www.networkice.com/support
Email:	support@networkice.com

For updates and upgrade information, please visit the BlackICE Web site at www.networkice.com. For information on how to receive the latest update of BlackICE Defender, see “Updating BlackICE” on page 18.

Section 1

INTRODUCTION TO BLACKICE DEFENDER

Overview

BlackICE is a revolutionary Intrusion Detection System (IDS) that not only detects and monitors the activities of hackers, but can also stop them *before* your computer is compromised. This section explains why you need to protect your computer and how BlackICE works.

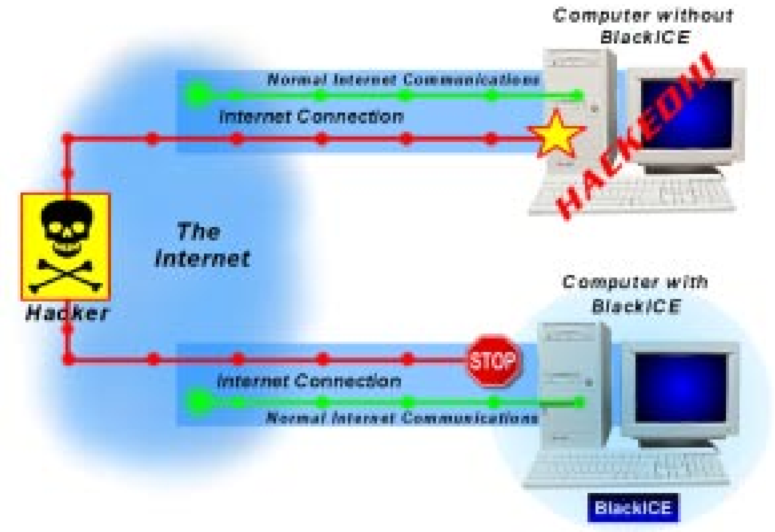


Figure 1 – BlackICE stops hackers before they get into your computer, while normal Internet access remains unaffected.

In the past, computer hacking presented a minor threat to home or small-business computer users. Hackers spent most of their time attacking large corporate networks where they could steal valuable data, vandalize web sites, or benefit from corporate data storage space and connection speeds. Most home computers had slow connections and held nothing of value to hackers.

Today, the typical home or small-business computer presents numerous opportunities for hackers. Many home computers store credit card numbers, account numbers, business contacts, and other confidential information for online commerce, banking, or stock trading. Furthermore, home computers are usually easy targets.

Most home computers have little, if any, protection from hackers. Additionally, "always-on" Internet connections, such as cable modems or DSL connections, make the problem worse. With a dial-up modem, your computer is only online to the Internet while connected. With an "always on" connection, your system is online whenever your computer is turned on.

For hackers to break into your system, they must first locate your computer. The more time your system is exposed to the Internet, the more likely hackers will find it.

Even if your system does not hold credit card numbers, a hacker can still use your computer for other criminal activities. One common trick involves planting remotely controlled hacking programs on unsuspecting computers. While you are asleep, a hacker triggers the program. Before you know it, your computer is hacking a company's credit card database and the police are looking for you.

Until now, detecting and stopping hackers meant purchasing expensive hardware or mastering complex networking tools. BlackICE's easy-to-use software gives your home computer the same advanced, powerful intrusion detection and protection tools that big corporations use.

How BlackICE Works

BlackICE is an extremely powerful detection and analysis engine that constantly monitors the inbound and outbound traffic between your computer and the Internet or any other computers on a network.

Since BlackICE monitors all network traffic for attacks, all communications are analyzed, but only intrusions are blocked. Normal network activity is never affected.

BlackICE responds to incoming traffic in three basic ways.

- If the traffic is safe, BlackICE allows it to enter the computer unhindered.
- If the traffic contains a potential attack that is not immediately threatening to the computer, BlackICE logs the event. The event is then listed in the Events tab in the Local Console. See "The Events Tab" on page 67 for more information.
- If the incoming traffic contains an attack that poses a direct threat to your computer, the BlackICE firewall automatically blocks the hacker's communications. The event is then logged to the Local Console. If you do not want BlackICE to automatically block threatening attacks, see "Ignoring an Event" on page 40.

Superior Technology

When it comes to detecting hackers, BlackICE is a technological leap ahead compared with other personal firewalls. BlackICE uses superior *protocol analysis* technology that detects more attacks with greater accuracy.

The Failure of Pattern-Matching Firewalls

When hackers break into a computer, they have to "break the rules" of networking to make their attacks look safe. Most intrusion detection systems (IDS) use "pattern-matching" technologies to spot these "broken rules." This involves matching each incoming transmission to a huge database of attack "signatures," or patterns.

For pattern-matching systems to work they must know all the possible ways hackers can break the rules. Because hackers are constantly inventing new ways to hack systems, pattern-matching systems can quickly become obsolete.

Pattern-matching systems also require greater computing resources to effectively compare incoming transmissions to the attack database. This makes it easy for hackers to overload and blind such personal firewalls.

The BlackICE Solution

Rather than simple pattern-matching, BlackICE structurally analyzes all incoming communications to ensure they obey the network "rules." Rather than knowing all the ways hackers can break the rules, BlackICE just knows the rules, and makes sure incoming transmissions obey those rules. When hackers try to break the rules, BlackICE shuts them down. This allows BlackICE to detect many more attacks, even attacks the hacker community has not discovered yet.

Protocol analysis is also more effective at detecting attacks on heavily used connections. Independent tests show that BlackICE can accurately detect 98% of the intrusions on a fully loaded network connection. Most pattern-matching systems only catch about 9% of the attacks under these conditions. This is because the BlackICE engine requires considerably less computing resources than pattern-matching systems. This makes it impossible for hackers to blind BlackICE with millions of phony transmissions.

Intelligent Firewall

The superior BlackICE intrusion detection technology is paired with a dynamic firewall. Together, they protect your computer from hackers without any noticeable degradation in traffic speed or computer performance.

Moreover, the BlackICE firewall stops attacks other firewalls miss. For example, most firewalls lack the ability to detect intrusions embedded in badly fragmented or corrupted transmissions. Hackers use this knowledge, and break-up their attacks into numerous "fragmented" packets that pass right through conventional firewalls.

Because BlackICE analyzes the entire communications package entering the computer, instead of looking at each individual packet on its own, the BlackICE firewall detects the attack and can immediately shut it down.

Additionally, the BlackICE firewall can spot and stop "spoofed" attacks. Some hackers forge ("spoof") the IP addresses of other computers to trick intrusion detection systems into believing their transmitted attacks are safe. For this reason, when the BlackICE firewall automatically blocks these intruders, the blocks last only 24 hours. After 24 hours the firewall releases these auto-blocked IP addresses. This provides enough time to stop the hacker from causing any damage, but reopens the connection for the legitimate IP address user.

What BlackICE Blocks

BlackICE can monitor and/or stop several hundred different attacks. Many of these attacks are automated scans that pose little threat to your computer, but might summon a hacker to look at your system later.

Other attacks are extremely dangerous and can cause your computer to crash. Possible damages include lost data, corrupted files, and crippled operating systems. BlackICE can reject and stop all these attacks, thus deterring hackers from trying to access your computer again.

For a complete list of the intrusions BlackICE can stop, download the *Intrusions Reference Guide* from the BlackICE web site at: www.networkice.com/support/documentation.html.

The Hacker Sleuth

Besides detecting intrusions, BlackICE can gather extensive information about the computers trying to break into your system.

As soon as BlackICE detects an attack of sufficient severity, it starts tracing the intruder's network connection back to its origin. Along the way it gathers as much information as possible. This includes valuable data like the hacker's IP address, computer names (NetBIOS and DNS), and hardware address (MAC address).

In addition to back tracing, BlackICE can also collect evidence files that contain data the hacker sent to your computer. In the hands of an experienced network engineer at your Internet Service Provider, these files show exactly what happened. This can be very valuable if you need to pursue legal action against the intruder.

Inside BlackICE

BlackICE's sophisticated intrusion detection system (IDS) has four main components:

- IDS engine
- Firewall
- Evidence gathering monitor
- Local Console

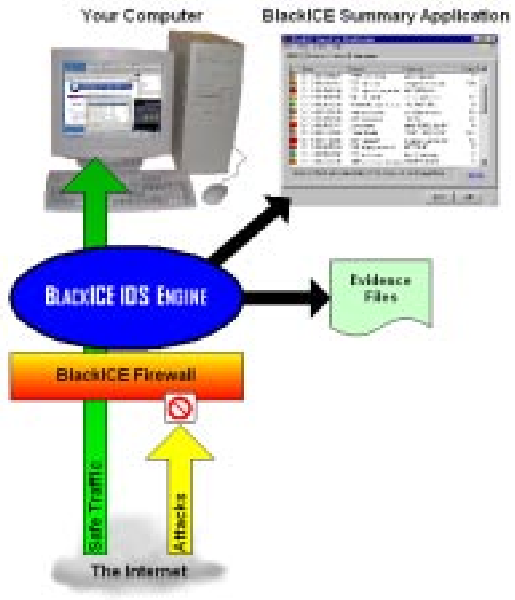


Figure 2 – BlackICE components.

The BlackICE Intrusion Detection Engine

The core of the BlackICE product is the intrusion detection engine. This engine analyzes incoming and outgoing network traffic in real time for intrusions. If the engine detects an intrusion or improper access to the computer, it commands the BlackICE firewall to shut down all access to the intruder.

The BlackICE Firewall

The BlackICE firewall controls access into your computer. When the BlackICE engine detects an intrusion, it commands the BlackICE firewall to block the hacker's IP address. Since the BlackICE firewall controls transmissions at the network TCP/IP stack level, hackers cannot circumnavigate a block from BlackICE.

The BlackICE engine independently analyzes each hacker transmission. Therefore, it can command the firewall to erect a temporary barrier to stop attacks regardless of where the attack originated. Even if a hacker uses a forged ("spoofed") IP address, BlackICE blocks the address if the attack is threatening to your computer.

The BlackICE firewall allows you to manually configure IP addresses, TCP ports and UDP ports to block or accept. For information on how to create and modify firewall settings, see "Blocking Intrusions" on page 57.

The Evidence Gathering Monitor

As described in "What BlackICE Blocks" on page 4, BlackICE can keep an accurate log of everything a hacker sent to your computer. BlackICE gathers three types of evidence:

- **Back Tracing Information**: This includes the intruder's IP address, computer names (NetBIOS and DNS addresses), and hardware addresses (MAC addresses). For information on back tracing intruders, see "Tracking Down Intruders: Back Tracing" on page 49.
- **Evidence Files**: These are raw captures of the transmissions from a hacker. Evidence Files are encoded in special "sniffer"-format trace-files. You must have a program that can decode such files. Only the transmissions from a hacker are captured. Normal (safe) traffic is not. For more information, see "Tracking Down Intruders: Collecting Evidence" on page 51.
- **Packet Logs**: These files capture a raw log of ALL communications with your computer. These files are also encoded in special "sniffer"-format trace files. These files are useful for spotting unauthorized access to your computer. For more information, see "Tracking Down Intruders: Collecting Packets" on page 54.

The Local Console

The Local Console is the user interface for BlackICE. It consists of three tabs (*Events*, *Intruders* and *History*) reporting information about the intrusion events BlackICE has detected. Details about the attacks on your system, including information about the intruders performing these attacks and BlackICE's response to these events, help you determine the severity and location of the intrusions. Additionally, the Local Console shows the recent network traffic and attacks in graph format to allow you to view patterns or spikes in network activity.

For more information about the BlackICE Local Console tabs, see "The Events Tab" on page 67, "The Intruders Tab" on page 73 or "The History Tab" on page 77.

Traffic Filtering

Besides automatically blocking intruders, you can also manually configure BlackICE to ignore, trust, or block *specific* intruders or types of attacks. This allows you to manually control access to your computer.

Intrusion Detection Filtering

The BlackICE intrusion detection engine can be configured to trust specific intruders and ignore specific types of attacks.

Ignoring Events and Intruders

Some intrusions on your computer may be the result of automated port scans or other legitimate Internet tools. For example, some Internet Service Providers carry out routine port scans and ping sweeps to check the state of downstream clients. To concentrate on real dangers, you may want to configure BlackICE to ignore these harmless recurring intrusions.

When an entire event type is ignored, BlackICE does not log any information about attacks of that type. However, it is not advisable to disregard an event type. You also have the option of ignoring a specific type of event only when it comes from a particular intruder. For example, if you have a server that performs regular port scans, you can have BlackICE ignore any port scanning attacks from that server's IP address.

For information on ignoring event types from particular intruders, see "Traffic Filtering" on page 7.

Trusting Intruders

When an address is *trusted*, BlackICE assumes all communication from that address is authorized and excludes the address from any intrusion detection. Trusting ensures that BlackICE does not inadvertently block systems whose intrusions on your local computer may be useful to you.

For example, if you have several computers on a network, you may want to trust them and stop BlackICE from reporting activity from these systems as attacks. For more information on trusting an intruder, see "Ignoring an Event" on page 40.

Caution: Trust or ignore only addresses that do not pose any threat to your system. Keep in mind that intruders can "spoof," or fake, the IP addresses of internal systems. It is possible, though very unlikely, for an intruder to spoof a trusted address and avoid detection from BlackICE.

Firewall Settings

BlackICE blocks intruders only when they initiate an event that is an immediate threat to the computer. Most intrusions are harmless port scans or ping sweeps that are not immediately threatening. Under normal conditions, BlackICE does not automatically block or reject these "attacking" addresses. BlackICE allows other systems to access your computer without hindering network traffic in any way.

The firewall component of BlackICE can block or accept incoming communications from a particular IP address or TCP/UDP port number. When an intrusion does pose an immediate threat to the computer, BlackICE adds the intruder's IP address to a list of blocked addresses, and the firewall then rejects all incoming packets from that address.

BlackICE's firewall is dynamic, meaning it can add addresses or ports to the firewall list and remove them as necessary to protect your computer.

When you want to manually block an intruder that BlackICE does not find immediately threatening, you can edit the firewall configuration to block systems at your own discretion. On the other hand, there may be systems that you do not want BlackICE to block. In this case, you can instruct the firewall to accept all traffic from that specific system.

Reject (Block)

IP address blocks explicitly stop all traffic from the selected address. You can configure IP address blocks from the Local Console tabs (see page 61) or from the Advanced Firewall Settings (see page 93). *Port blocks*, which stop *all* traffic on the selected TCP/UDP port, are only configurable from the Advanced Firewall Settings.

Accept

When an IP address or TCP/UDP port is set to *Accept*, BlackICE allows any communications from that address or over that port. However, the intrusion detection engine of BlackICE still reports attacks from the accepted address or port. Therefore, a BlackICE automatic block, triggered as the result of a direct attack, can override the *Accept* setting.

Accepting traffic using the firewall settings is not the same as trusting an address. A trusted address is free from any intrusion detection. Accepting an address clears any traffic from that system to enter the computer, but still monitors that traffic for potentially harmful intrusions. Addresses that are trusted and accepted are free from any automatic blocking.

Accepting ports ensures that BlackICE keeps certain TCP or UDP ports open for particular applications. For example, if you play Quake II or III on your computer you should explicitly accept UDP ports 27910 and 27970. Other applications use different ports. Check with the application manufacturer for specific port assignments if you are having problems using network or Internet applications.

For information about blocking an IP address from the Local Console, see "Blocking an Intruder" on page 61. For more information about configuring the BlackICE firewall, see "Blocking Intrusions" on page 57. For more information about TCP and UDP ports, see the *BlackICE Guide to Computer Security*.

Caution: Be careful which systems you block. Your Internet Service Provider (ISP) may carry out routine, innocuous port scans. Blocking these scans could be a violation of your ISP's terms of service. Contact your ISP for more information about such scans.

Traffic Filtering Dangers

Traffic filtering has a profound effect on how BlackICE handles communications. In general, trust only those systems that you are absolutely certain are safe, such as systems on a local LAN or at your Internet Service Provider.

To illustrate the problem with traffic filtering, consider the following diagram. It shows how traffic filter settings can affect traffic from a hacker.

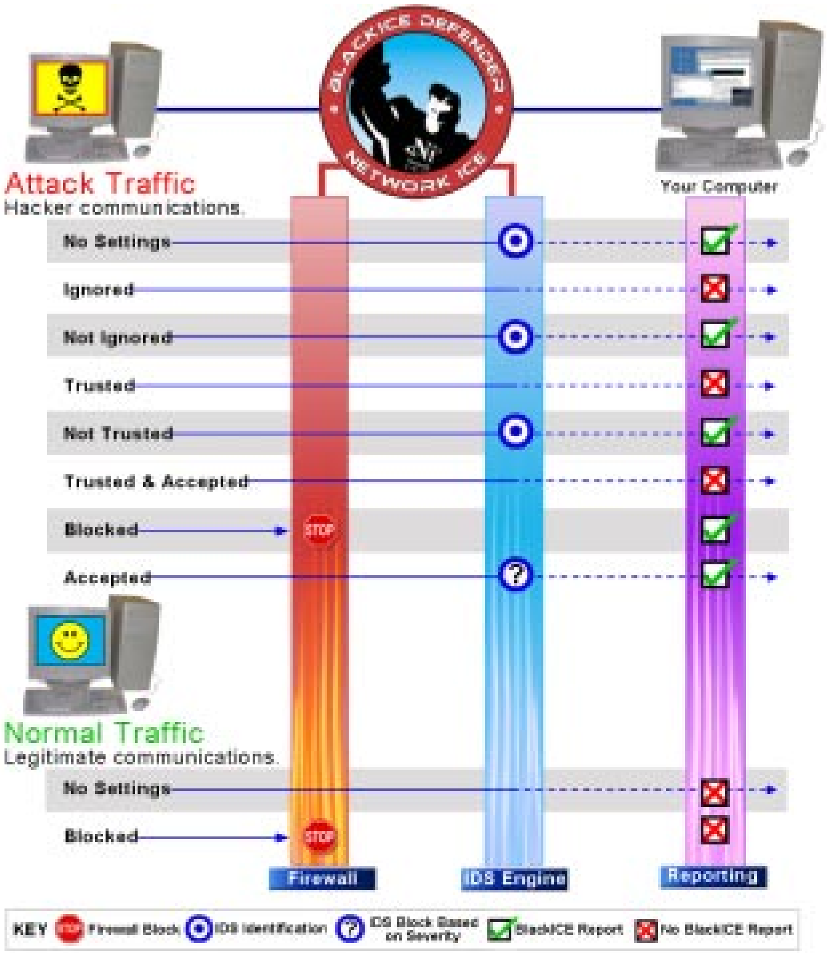


Figure 3 – What happens to incoming network traffic when confronted by the various intrusion defense settings of BlackICE.

For example, if you set the BlackICE firewall to accept an IP address, and a hacker uses that address to break into your computer, BlackICE stops the attack and reports the intrusion.

However, if you accept *and* trust the IP address, the hacker succeeds in penetrating BlackICE's defenses and BlackICE does not report the intrusion. If you trust an address, your computer is open to any communications from that address, even direct attacks. BlackICE does not report or block intrusions from a "trusted" or "trusted and accepted" address.

Intrusion Detection vs. Firewalling

Intrusion detection and firewall protection are separate BlackICE features that work together to secure your computer. To get the most out of BlackICE, it is important to know the differences.

Intrusion Detection

The BlackICE Intrusion Detection System (IDS) is responsible for analyzing network traffic for intrusions. When it detects an intrusion it reports that event to the Local Console. The IDS only monitors traffic; it does not actually control that traffic. Traffic control is the responsibility of the firewall component. For information on how to configure your intrusion detection settings, see "Traffic Filtering" on page 7 and "Ignoring an Event" on page 40.

Trusting

When you *trust* an IP address, the BlackICE IDS component does not analyze any inbound traffic from that IP address for intrusions.

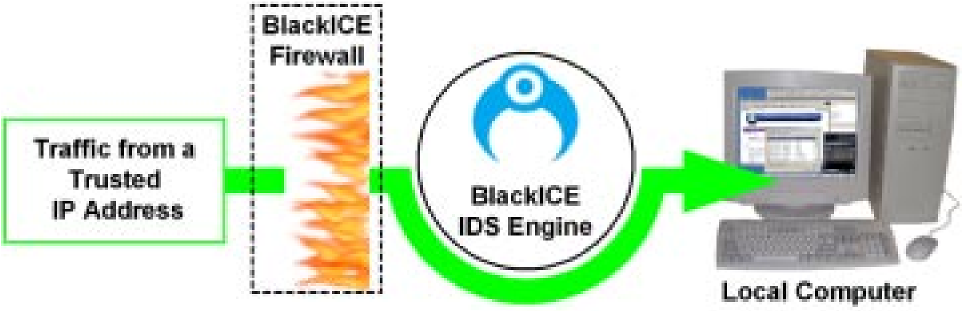


Figure 4 – Trusted traffic is still eligible for firewalling, but is not analyzed for intrusions.

The BlackICE firewall may still block trusted addresses if traffic from that address violates any firewall rule. For example, if a firewall rule blocks all traffic on TCP port 3000, and the trusted system attempts to connect to your computer using port 3000, BlackICE blocks it.

Ignoring

When you **ignore** a type of event (also known as a signature), the BlackICE IDS disregards any event of that type. BlackICE may be instructed to ignore all events of a given signature, or just events originating from a particular IP address.

Similar to a trust setting, the BlackICE firewall can still block ignored events or event/address combinations if they violate any existing firewall rules.

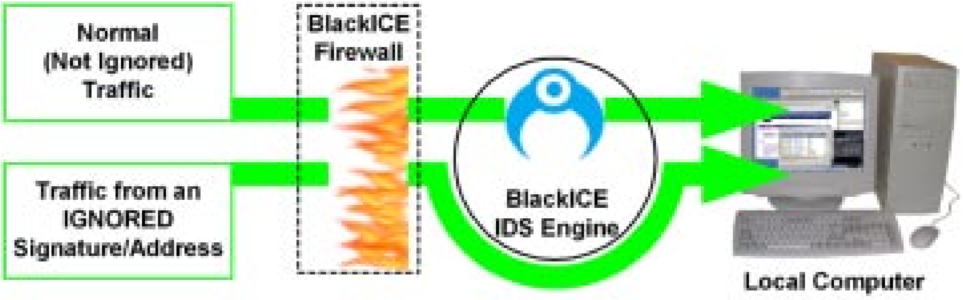

Normal (Not Ignored) Traffic
Traffic from an IGNORED Signature/Address
BlackICE Firewall
BlackICE IDS Engine
Local Computer

Figure 5 – Ignored Signatures or Signature/Address combinations are not analyzed for intrusions, but all other traffic is.

Firewall

The BlackICE firewall component is responsible for controlling network traffic. It can block or allow traffic based on firewall rules. The firewall does not analyze traffic for intrusions, it merely blocks or allows traffic based on whatever rules are in effect. For information on how to configure your firewall, see "Blocking Intrusions" on page 57.

Rejecting (Blocking)

When you create a **reject** (block) rule, the BlackICE firewall stops any network traffic inbound from the IP address or TCP/UDP port identified in the rule. For example, you can create a reject rule that stops all inbound traffic on TCP port 5000. Any time another computer on the network attempts to connect to TCP port 5000 on your system, BlackICE blocks it.

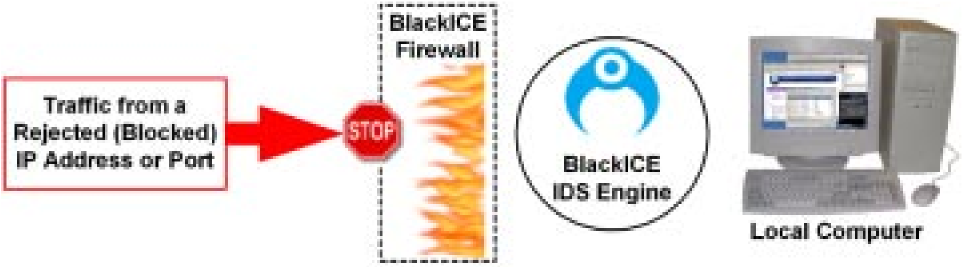


Figure 6 – Rejected (Blocked) traffic is stopped at the BlackICE firewall.

Accepting

An **accept** rule is the exact opposite of a reject rule. These rules explicitly allow traffic from a specific IP address or TCP/UDP port.

Instructing the firewall to *accept* traffic from an IP address is not the same as instructing the IDS to *trust* the address. Accepting an address clears any traffic from that system to enter the computer. However, the BlackICE IDS engine will continue to analyze that traffic for intrusions.

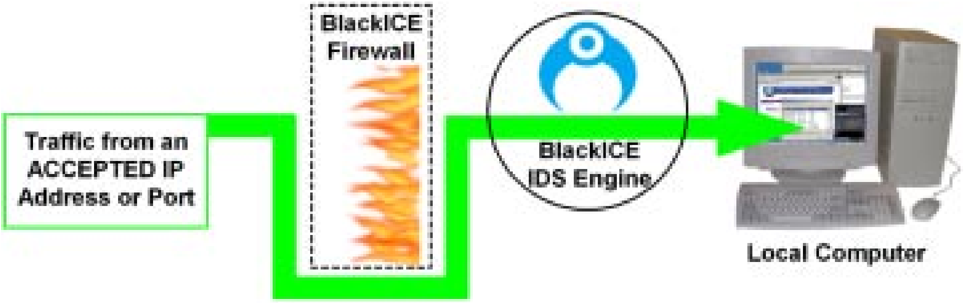


Figure 7 – Accepted traffic is allowed to pass through the firewall unhindered, but is still analyzed for intrusions.

Accept & Trust

When an address is both Accepted and Trusted, both the firewall and IDS engine permit the inbound traffic to access the system. This setting should only be used for addresses that are absolutely safe.

Auto-Blocking

When BlackICE automatically blocks an intrusion, the IDS engine is instructing the firewall to block an address or port that it has determined to be an immediate threat. The IDS engine does not actually block the traffic; the firewall does.

Terminology

If you are a new BlackICE user, these are some terms you should know while reading this guide. A complete list of terms and concepts is in the Glossary, in Appendix B.

Local Console

The Local Console provides a local user interface for BlackICE. The Local Console lists all the recent attacks on your system, as well as information about each intruder, in both list and graph format. For more information, see "The Local Console" on page 6.

Intruder/Attacker

Terms used to identify either the computer or the person carrying out an attack.

Event

BlackICE can detect numerous network activities. Some activities are direct attacks on your system, while others might be attacks depending on the circumstances. Any activity BlackICE detects, whether a direct attack or not, is called an event. Within this document, this term is used interchangeably with "attack" and "intrusion."

Issue

The name BlackICE assigns to an event. Issues refer to a kind of event, rather than a specific event. For example, if an attacker tries to hack your FTP services, BlackICE may assign that attack to the "FTP Port Probe" issue.

Port

When computer programs communicate over a network or the Internet, they use virtual "connection points" or ports. For example, when you open a web browser, the software uses TCP port 80 to open communications with the network. There are over 65,000 ports available in two types: *UDP* and *TCP*.

TCP connections are the most common. They are used for web browsing, downloading files, and other networking functions. TCP and UDP ports are very similar. However, UDP connections do not have the error correction features that TCP has. UDP is most often used for streaming content like RealAudio, or games, such as Quake.

Both TCP and UDP ports are divided into two categories: *System* and *Application*. The lower or system ports (1 - 1023) represent established ports used by common Internet and network applications. They are tightly regulated by international standards. These ports are used for services installed on a computer, such as e-mail or web browsing. The higher or application ports (1024 - 65535) are typically used by very specialized client programs (Internet telephone or chat) and as such are not as tightly regulated.

Hackers often exploit open ports on computers to hack into a system. For more information, please see the *Guide to Computer Security*, available from Network ICE.

Intrusion Protection/Decoding Engine

The core intrusion analysis engine of BlackICE. This component is responsible for analyzing incoming communications. It is separate from the firewall, which performs the actual blocking of intruders. See *The BlackICE* Intrusion Detection Engine on page 5 for more information.

Firewall

A hardware or software barrier that restricts access in and out of a network. Firewalls are most often used to separate an internal Local Area Network (LAN) or a Wide Area Network (WAN) from the Internet. A gateway can serve as a firewall between two or more networks. For more information, see *The BlackICE Firewall* on page 6.

Section 2

SETTING UP BLACKICE DEFENDER

Installing BlackICE Defender

System Requirements

- **Operating Systems**: Windows 95, Windows 98, Windows Millennium Edition, Windows XP Home or Professional, Windows NT 4.0 (Service Pack 4 or better), or Windows 2000 (Service Packs 1 or 2).
- **Processor**: Pentium or better.
- **Memory**: 16 MB or more.
- **Hard Drive Space**: 10 MB free.
- **Network Protocol**: TCP/IP.
- **Internet/Network Connection**: 10/100 Ethernet LAN/WAN, cable modem, DSL router, ISDN router, or dial-up modem.

Installation Procedure

1. **Locate the Setup Application**

   If you are installing BlackICE Defender for Workstation, the setup application file is **`bidsetup.exe.`** If you have BlackICE Defender for server, the file is **`bidserversetup.exe.`**
   If you have lost your original copy of the software, you can download a new copy from the BlackICE web site at www.networkice.com.

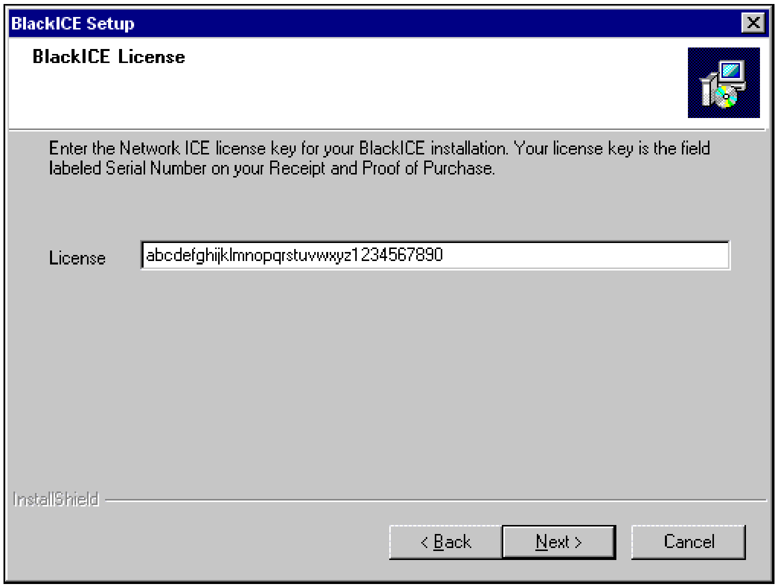
2. **Execute `bidsetup.exe`**
   The system must unpack the files and verify them. When that is finished, the setup application begins.

3. **Welcome Screen**
   Click **Next** to continue.

   If setup detects an existing version of BlackICE, it prompts you to **Remove** (uninstall) or continue to **Upgrade** the existing version.

4. **License Agreement**
   If you accept the agreement terms, click **I Accept**. Otherwise, click **I Decline** to exit the BlackICE Defender setup application.

5. **License Key**
   Enter the license key provided to you when you purchased BlackICE. If you have lost this key, contact Network ICE customer support at support-L1@networkice.com to obtain a copy of your key. Click **Next** to continue.



BlackICE Setup

BlackICE License

Enter the Network ICE license key for your BlackICE installation. Your license key is the field labeled Serial Number on your Receipt and Proof of Purchase.

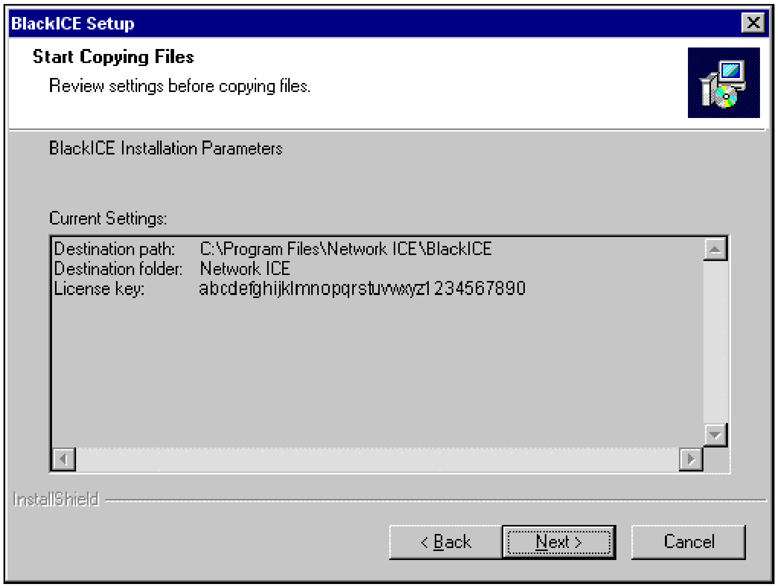
License: abcdefghijklmnopqrstuvwxyz1234567890

Figure 8 – Enter your license key.

6. **Destination Path**
   This is the folder where you want to install BlackICE Defender. If you wish to change the path, click **Browse** and locate the path you wish to use. Click **Next** to continue.

7. **Program Shortcuts**
   In the Select Program Folder window, verify the folder where BlackICE shortcuts are located on the Windows Start menu. If you wish to use a different folder, select it from the list or enter a name in the **Program Folders** field. Do not place BlackICE shortcuts in the **Startup** folder. The setup application automatically places a shortcut in the Startup folder to launch the BlackICE user interface when the system is turned on. Click **Next** to continue.

8. **Installation Summary**
   The Start Copying Files window summarizes all the selections you have made. If you need to change any parameters, click **Back** to retrace the previous steps.



BlackICE Setup

Start Copying Files

Review settings before copying files.

BlackICE Installation Parameters

Current Settings:

```
Destination path:   C:\Program Files\Network ICE\BlackICE
Destination folder: Network ICE
License key:        abcdefghijklmnopqrstuvwxyz1234567890
```

Figure 9– BlackICE Installation Parameters.

If the information is correct, click **Next**.

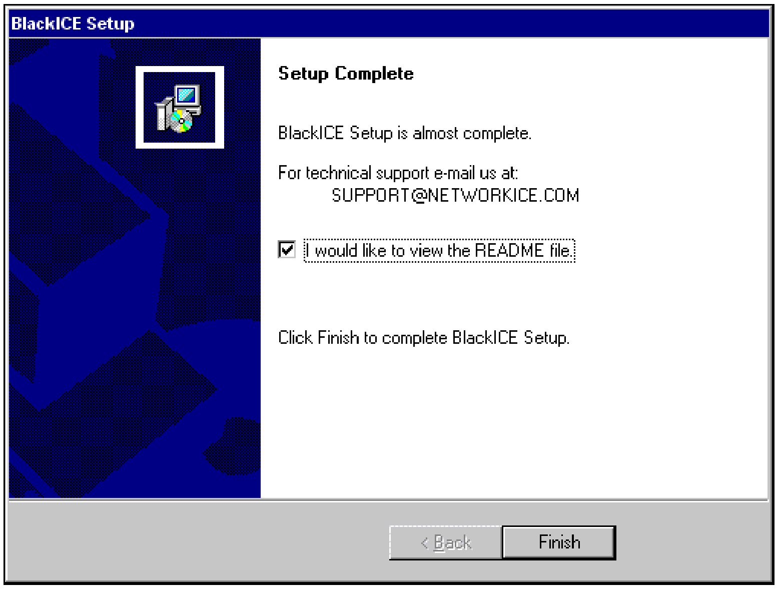
9. **Copy Files**

   The installation begins. When finished, the BlackICE Defender service is started.

10. **Release Notes**

    The system then prompts you to read the Release Notes. If this is your first time installing this version of BlackICE Defender, it is a good idea to review this information. To avoid reviewing the release notes, uncheck **I would like to view the README file**. Otherwise, leave this box checked.

    Click **Finish** to complete the BlackICE Defender setup.



BlackICE Setup

Setup Complete

BlackICE Setup is almost complete.

For technical support e-mail us at:
SUPPORT@NETWORKICE.COM

☑ I would like to view the README file.

Click Finish to complete BlackICE Setup.

Figure 10 – Final setup screen.

The BlackICE Defender setup is complete.

Updating BlackICE

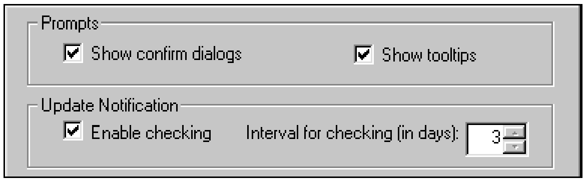
ISS issues regular updates to BlackICE to ensure that it can detect and stop the latest attacks. Check the BlackICE web site periodically for updates at www.networkice.com/downloads.

To update an existing installation of BlackICE you must download the update. There are two ways to do this: BlackICE can *automatically* check the BlackICE web site for updates at regular intervals; or you can *manually* instruct BlackICE to check for updates.

Automatic Update Checking

You can set BlackICE Defender to automatically check for updates at the BlackICE web site. If a new version is available when the check is made, a Network ICE logo (Ni) appears on the top right of the Local Console. Click the logo to download the update.

1. From the BlackICE Local Console Menu Bar, select **Tools**, then **Edit BlackICE Settings**.
2. In the BlackICE Settings, select the **Preferences** tab.
3. In the Update Notification section of the Preferences tab, check **Enable checking** to automatically check the BlackICE Web site for updates. This option is disabled by default.



Prompts

☑ Show confirm dialogs ☑ Show tooltips

Update Notification

☑ Enable checking Interval for checking (in days): 3

Figure 11 –The Update Notification section of the BlackICE Preferences tab.

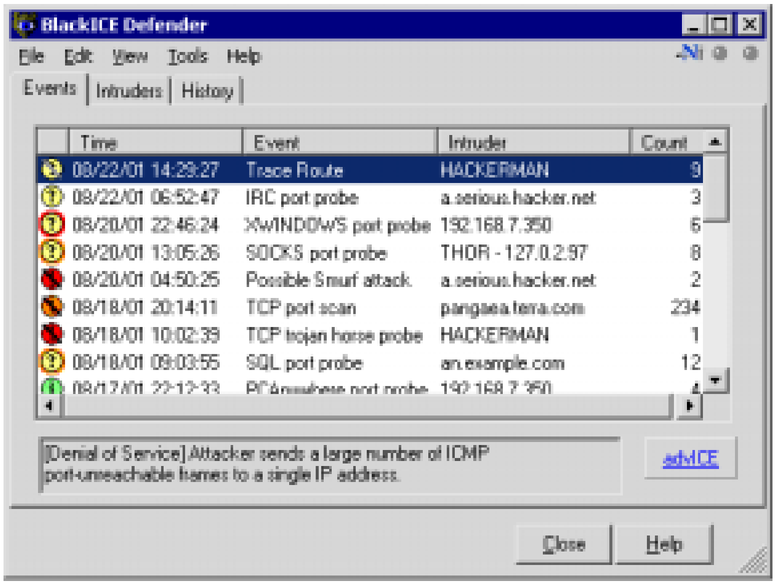
4. Enter how often you want BlackICE to check for updates in the **Interval for checking** edit box (in days). The default automatic update check time is every 3 days. This would cause BlackICE to check for an update after 3 continuous days of operation.

Note: The interval cycle is restarted if you reboot the computer or stop and restart the BlackICE engine. If you turn off your computer each night, it is probably best to perform manual update checks. (For information on manual updating, see page 20.) Exiting or closing the Local Console does not affect the update cycle. BlackICE continues to check for newer versions even if closed.

5. Click **OK** to implement automatic updating. The BlackICE Settings dialog box is closed and you return to the BlackICE user interface.

BlackICE checks the BlackICE web site for updates at the selected interval. When a new version of BlackICE is available, the Network ICE logo Ni appears on the user interface.

Note: If you access the Internet via a dial-up connection, your system may automatically initiate your connection when checking for updates.



	Time	Event	Intruder	Count
	08/22/01 14:29:27	Trace Route	HACKERMAN	9
	08/22/01 06:52:47	IRC port probe	a.serious.hacker.net	3
	08/20/01 22:46:24	XWINDOWS port probe	192.168.7.350	6
	08/20/01 13:05:26	SOCKS port probe	THOR - 127.0.2.97	8
	08/20/01 04:50:25	Possible Smurf attack	a.serious.hacker.net	2
	08/18/01 20:14:11	TCP port scan	pangaea.terra.com	234
	08/18/01 10:02:39	TCP trojan horse probe	HACKERMAN	1
	08/18/01 09:03:55	SQL port probe	an.example.com	12
	08/17/01 22:12:33	PCAnywhere port probe	192.168.7.350	4

[Denial of Service] Attacker sends a large number of ICMP port-unreachable frames to a single IP address.

Figure 12 –The Network ICE logo at the top right of the user interface informs you that a BlackICE Defender update is available from the BlackICE Web site.

- Click the logo to connect to the BlackICE update Web site. Your Web browser opens.

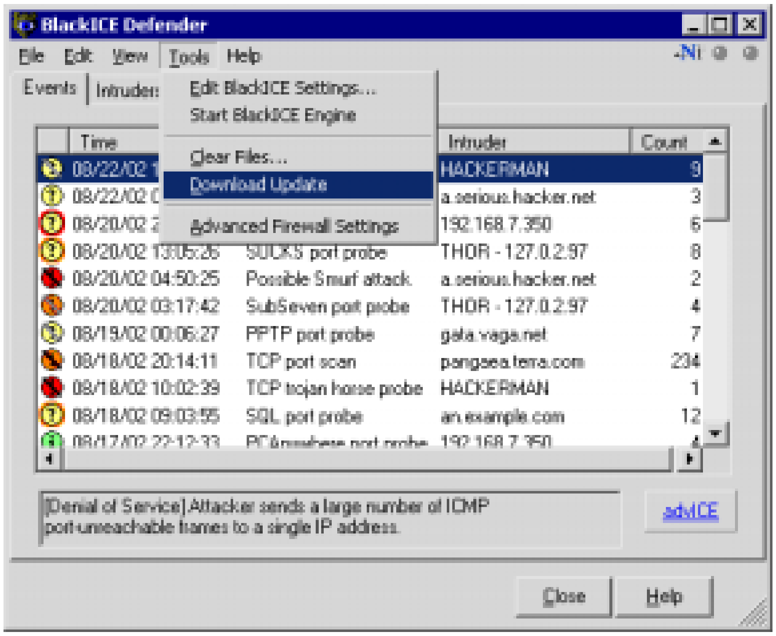
Note: If you access the Internet via a dial-up connection, your system may automatically initiate your connection when updating BlackICE.

- You are prompted to run a setup file. You can either download the file locally and run it later, or execute it immediately. If you download the update, double-click the downloaded **`update.exe`** to update BlackICE.

Manual Update Checking

If you do not wish to have BlackICE Defender automatically notify you about updates, you can manually instruct BlackICE to connect to the BlackICE Web site and check for new versions.

1. From the BlackICE Local Console Menu Bar, **click Tools**.
2. A sub-menu appears. Select **Download Update**.



Time		Intruder	Count
08/22/02 1		HACKERMAN	9
08/22/02 0		a.serious.hacker.net	3
08/20/02 2		192.168.7.350	6
08/20/02 13:05:26	SOCKS port probe	THOR - 127.0.2.97	8
08/20/02 04:50:25	Possible Smurf attack	a.serious.hacker.net	2
08/20/02 03:17:42	SubSeven port probe	THOR - 127.0.2.97	4
08/19/02 00:06:27	PPTP port probe	gala.vaga.net	7
08/18/02 20:14:11	TCP port scan	pangaea.terra.com	234
08/18/02 10:02:39	TCP trojan horse probe	HACKERMAN	1
08/18/02 09:03:55	SQL port probe	an.example.com	12
08/17/02 22:12:33	PCAnywhere port probe	192.168.7.350	4

[Denial of Service] Attacker sends a large number of ICMP port-unreachable frames to a single IP address.

Figure 13 – Download the BlackICE update.

3. BlackICE Defender opens a Web browser session and connects to the BlackICE Web site. The site checks your version against the Network ICE database. If there is a newer version available, click the indicated link.

You are prompted to run the setup file across the network or given the option to download and save the update file. If you download the update, double-click the downloaded **`update.exe`** to update BlackICE.

If you have the latest version, the Web page shows your version number and license key.

Uninstalling BlackICE Defender

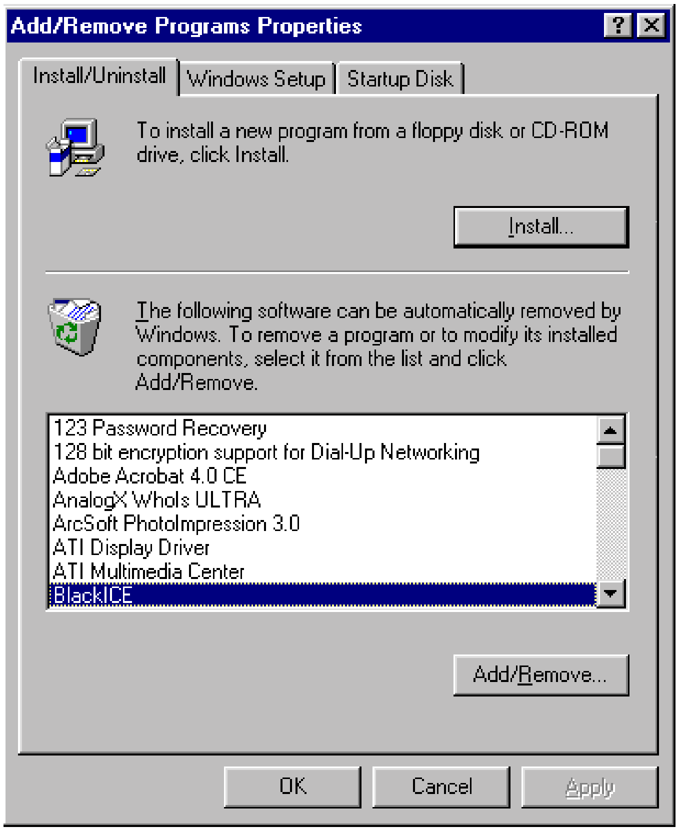
When you buy a new computer or switch to a different computer, you may need to remove BlackICE from the old machine. Use the *Uninstalling from Windows* instructions to remove BlackICE. If this does not work, proceed to *Uninstalling with the biremove Utility*. Only use `biremove.exe` as a last resort.

Before removing BlackICE, make note of your license key. You will need this to reinstall the product later.

Note: Once BlackICE is uninstalled, your system is no longer protected from intrusions.

Uninstalling with the Windows Control Panel

1. From the **Start** menu, select **Settings**, then **Control Panel**.
2. Double-click **Add/Remove Programs**.



To install a new program from a floppy disk or CD-ROM drive, click Install.

The following software can be automatically removed by Windows. To remove a program or to modify its installed components, select it from the list and click Add/Remove.

123 Password Recovery
128 bit encryption support for Dial-Up Networking
Adobe Acrobat 4.0 CE
AnalogX WhoIs ULTRA
ArcSoft PhotoImpression 3.0
ATI Display Driver
ATI Multimedia Center
BlackICE

Figure 14 – The Add/Remove Programs dialog box in Windows 98.

3. Locate **BlackICE** in the list of programs.
4. Select **BlackICE** and click **Add/Remove** (Windows 98 or NT) or **Change/Remove** (Windows 2000).

5. You are prompted to confirm the removal of BlackICE Defender and all its components in the Confirm File Deletion dialog box. Click **OK** to continue.
6. The application prompts you regarding all remaining data files. Click **Yes** to remove the files and delete the BlackICE directory. Click **No** to leave the remaining files and the BlackICE directory in place.

   If the uninstall encounters any errors or is unable to remove some components, a **Details** button appears. Click **Details** to display the uninstallation log. You may need to manually delete the folders where you installed BlackICE.
7. In the Maintenance Complete dialog box, click **Finish** to conclude the removal.

   BlackICE Defender is removed from your system.

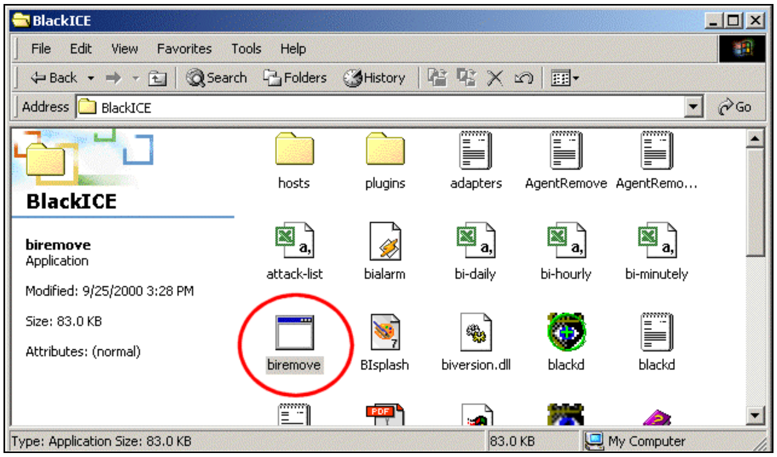
Note: You can also execute **`bidsetup.exe`** to uninstall BlackICE Defender. When the setup detects the existing version of BlackICE, select **Remove BlackICE**. For more information, see "Installing BlackICE Defender" on page 15.

Uninstalling with the `biremove` Utility

If you fail to uninstall BlackICE through Windows, you can run the `biremove` utility to remove BlackICE Defender.

1. Locate the **`biremove.exe`** utility on the `BlackICE` CD.

   Alternatively, locate the utility in the ***`<installation directory>`*** folder. For example, if you installed BlackICE to the `Program Files` directory on the `C:` drive (the default), the **`biremove.exe`** utility would be located in **`C:/Program Files/Network ICE/BlackICE`**.



BlackICE

biremove
Application

Modified: 9/25/2000 3:28 PM

Size: 83.0 KB

Attributes: (normal)

Figure 15 - Locate the `biremove` *utility in the BlackICE folder.*

2. Double-click **`biremove.exe`** to launch the utility. This utility will remove both the `blackice.exe` (the Local Console component of BlackICE) and the `blackd.exe` (the intrusion detection engine) programs.

3. When the utility has finished deleting the appropriate files from your system, the folder where `biremove.exe` is located will show two new log files. These log files are prefixed `AgentRemove`.

   In the log file named **`AgentRemove-<`*`your system name`*`>.log`**, look for this entry:

   ```
   AgentRemove() successful on <your system name>
   ```

   or this entry:

   ```
   AgentRemove() failed on <your system name>. Retcode =
   ```

   You can report the `Retcode` to Technical Support for further investigation.

4. To remove BlackICE Defender completely from your system, you must manually delete the BlackICE directory.

   BlackICE Defender is removed from your system.

Using BlackICE on a Home LAN

If you have a network, you must enable Windows resource sharing to ensure that each of the computers on your LAN (Local Area Network) can communicate with each other using Network Neighborhood.

Enabling the Windows sharing features exposes your computers to some risk. One way to minimize this risk is to password protect all shared devices, especially hard drive folders. However, this does not prevent hackers. To thwart hacking activity, while still allowing internal file sharing between computers, you can implement one of the following solutions: Install the NetBEUI Protocol, Install a Hardware Router, or Build a Dual-Interface Proxy Server.

Solution One: Install the NetBEUI Protocol

Your computers use NetBIOS to communicate with each other over Network Neighborhood. By default, Windows uses the TCP/IP protocol for NetBIOS resolution. Your network uses the TCP/IP protocol to communicate and route to the Internet. Therefore, all those files you can access internally are also available to the Internet and any hackers.

To allow internal file sharing without exposing any information to the Internet, you can install the NetBEUI protocol on all the computers on your network. NetBEUI (NetBIOS Extended User Interface) is a non-routable protocol that Windows can also use for NetBIOS resolution. Since NetBEUI transmissions cannot be transmitted over the Internet, this is a better protocol to use for NetBIOS, rather than the exposed TCP/IP.

Instructing your systems to use the NetBEUI protocol for NetBIOS resolution allows the network to access internal shares without the danger of hackers finding you. However, communication over the Internet is still routed using TCP/IP. Therefore, you must make sure that you do not remove this protocol from your computer.

To use NetBEUI for internal access, follow these steps:

1. Install NetBEUI on all the computers on your internal network. For more information about how to install NetBEUI, see the documentation included with your copy of **Windows**.
2. On the BlackICE Local Console, select **Edit BlackICE Settings** from the **Tools** menu. On the Protection tab, make sure that **Internet File Sharing** and **NetBIOS neighborhood** are enabled.
3. In the network properties of Windows, disable **NetBIOS over TCP/IP**. Since the computers on the internal network communicate and route over the Internet using TCP/IP, this prevents your computer from reporting any NetBIOS information over the Internet.

   When you disable **NetBIOS over TCP/IP**, Windows starts using NetBEUI for NetBIOS resolution. Because NetBEUI is non-routable, Windows cannot expose shared resources to the Internet.

Note: NetBEUI is intended for small networks only. If you are installing BlackICE on a large network, it is not advisable to use NetBEUI, as it cannot be routed across multiple subnets. This may ultimately slow down your communications with remote computers on your network.

Solution Two: Install a Hardware Router

You can also allow internal file sharing by installing a gateway router connected to your DSL or cable modem. The router can isolate your internal network, providing some protection from hackers while allowing you to keep NetBIOS enabled.

Additionally, many hardware routers can offer Network Address Translation (NAT) firewall features. NAT firewalls are quite simple and easy to penetrate, but they stop many casual or inexperienced hackers from probing your computer for open ports or vulnerabilities.

Several manufacturers, such as NetGear and LynkSys, sell these hardware routers. See the information included with the gateway router for installation and setup instructions.

Solution Three: Build a Dual-Interface Proxy Server

Another way to solve the sharing problem is to build a dual-interface proxy server and disable the WINS/NetBIOS interface on the external network interface.

Such an arrangement requires some advanced experience with computer networking. It also requires proxy server software. This solution is ideal for larger networks that cannot use NetBEUI and need the services of a proxy server.

This arrangement requires two network interface cards in the proxy server computer. Building a dual-interface proxy server will stop attacks directed at the proxy server system, but will not protect computers on the internal network. Therefore, make sure to purchase copies of BlackICE for your internal computers.

Stopping and Starting the BlackICE Engine

Although it is not recommended, there may be special circumstances that require you to manually stop BlackICE on a system. When the BlackICE engine is stopped, the system is no longer protected from network intrusions.

There are several ways to stop the BlackICE engine. This section describes how to stop or restart BlackICE from the Local Console.

If the BlackICE application is running but the engine is stopped, the system tray icon shows a red line through the BlackICE icon.

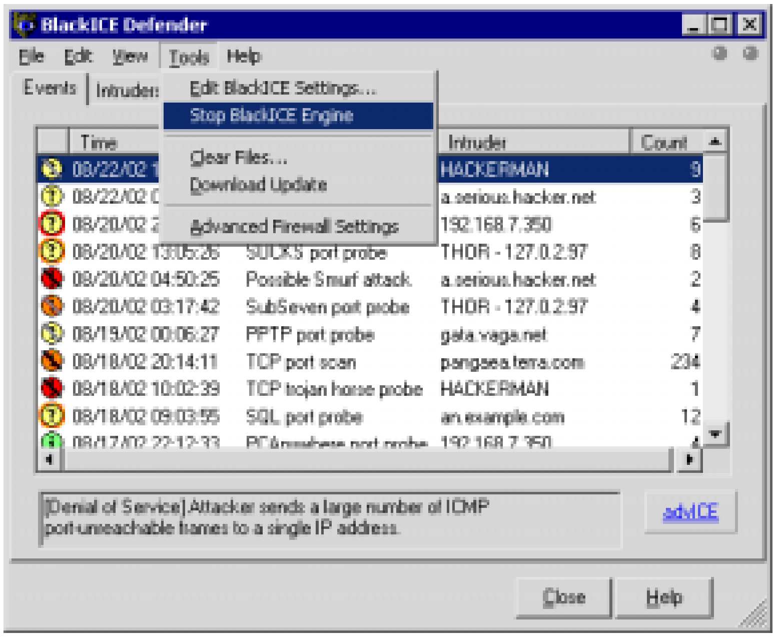
For information about removing BlackICE Defender, see "Uninstalling BlackICE Defender" on page 18. For information about the BlackICE intrusion detection and protection engine, see "Inside BlackICE" on page 5.

Note: Closing or exiting the BlackICE Local Console does not stop the BlackICE monitoring and protection engine. Opening the BlackICE Local Console does not restart a stopped BlackICE engine. You must either restart the engine using one of the methods described in this section, or reboot your system.

From the Local Console (All Windows Operating Systems)

From the Menu Bar, select **Tools**, then **Stop BlackICE Engine**.

If the BlackICE engine is not running, the only available option is **Start BlackICE Engine**.



Time		Intruder	Count
08/22/02 1		HACKERMAN	9
08/22/02 0		a.serious.hacker.net	3
08/20/02 2		192.168.7.350	6
08/20/02 13:05:26	SOCKS port probe	THOR - 127.0.2.97	8
08/20/02 04:50:25	Possible Smurf attack	a.serious.hacker.net	2
08/20/02 03:17:42	SubSeven port probe	THOR - 127.0.2.97	4
08/19/02 00:06:27	PPTP port probe	gala.vaga.net	7
08/18/02 20:14:11	TCP port scan	pangaea.terra.com	234
08/18/02 10:02:39	TCP trojan horse probe	HACKERMAN	1
08/18/02 09:03:55	SQL port probe	an.example.com	12
08/17/02 22:12:33	PCAnywhere port probe	192.168.7.350	4

[Denial of Service] Attacker sends a large number of ICMP port-unreachable frames to a single IP address.

Figure 16 – Stopping the BlackICE engine from the Local Console.

The BlackICE engine is stopped, and the BlackICE service is no longer protecting your system.

To restart BlackICE, follow the same steps as above, but select **Start BlackICE Engine**. BlackICE also restarts when the system is rebooted.

From the Desktop (All Windows Operating Systems)

1. If the BlackICE engine is running, right-**click** the system tray icon.
2. If the BlackICE engine **is** stopped, select **Start BlackICE Engine**.

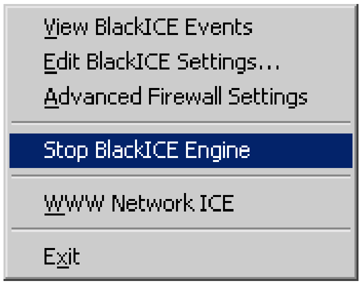


Figure 17 – Stopping the BlackICE engine from the system tray icon.

The BlackICE engine is stopped, and the BlackICE service is no longer protecting your system. The system tray icon shows a red line through the BlackICE icon.

To restart BlackICE, select **Start BlackICE Engine** from the BlackICE system tray icon menu. BlackICE also restarts when the system is rebooted.

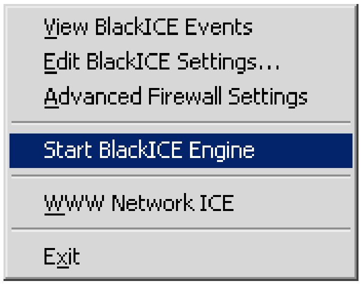


Figure 18 – Starting the BlackICE engine from the system tray icon.

To Stop BlackICE from the Control Panel (Windows NT)

1. From the **Start** menu, select **Settings**, then **Control Panel**.
2. Double-click **Services**. The Services dialog box appears.
3. Select the **BlackICE** service, then click **Stop**.

Windows NT stops the service. BlackICE restarts when the system is rebooted, or if the service is restarted from the Services dialog box.

To Stop BlackICE from the Control Panel (Windows 2000)

1. From the **Start** menu, select **Settings**, then **Control Panel**.
2. Double-click **Administrative Tools**.
3. Double-click **Services**. The Services Console appears.
4. Right-click the **BlackICE** service.
5. Select **Stop** from the shortcut menu.

Windows 2000 stops the service. BlackICE restarts when the system is rebooted, or if the service is restarted from the Services dialog box.

Setting Alarm Preferences

The BlackICE Local Console can set off a visual and sound alarm when an intrusion is detected. You can choose how and when BlackICE sets off these alarms. By default, alarms are triggered when a suspicious (yellow), serious (orange), or critical (red) event is recorded.

For more information about Alarm Preferences, see "The Notifications Tab" on page 87.

Visual Alert

The visual alert is a flashing system tray icon. When an attack is detected, the BlackICE tray icon (in the task bar) flashes red, orange or yellow, depending on the severity of the event. The BlackICE icon continues flashing the color of the most severe event detected until you open the Local Console. For example, if the tray icon starts to flash orange, a "serious" event is the most severe event detected since the Local Console was last opened.

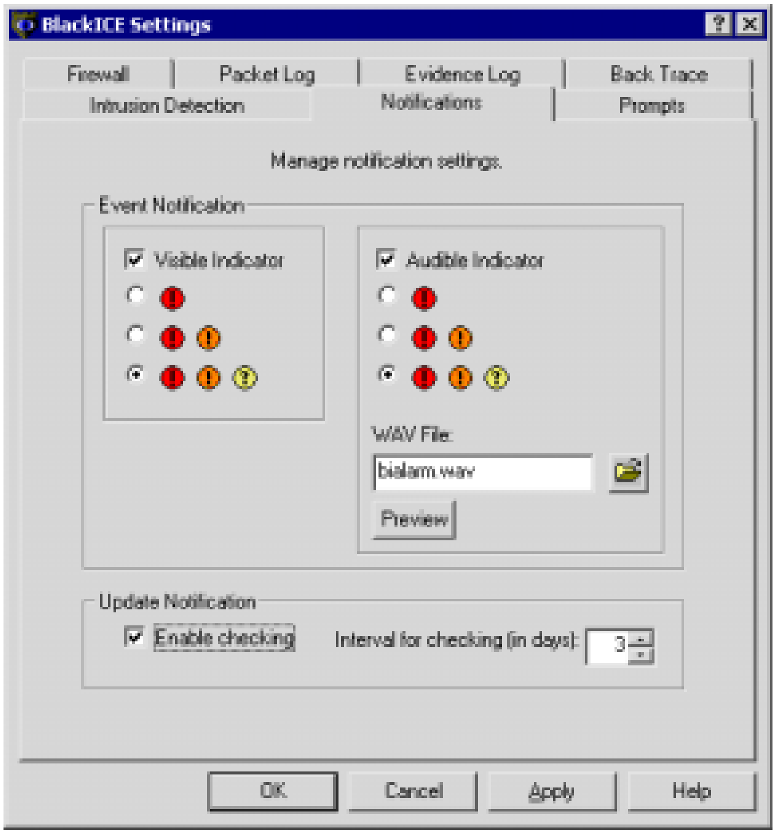
Sound Alert

BlackICE can play a `.wav` file of your choice whenever an attack is detected. Your computer must have a sound card and speakers for you to hear the sound alarm.

Note: The sound alert is triggered whether the BlackICE window is open or closed. The visual alert option, however, only notifies you of an event if the Local Console is closed, minimized, or hidden.

How to Set Event Notification

1. From the BlackICE Local Console Menu Bar, select **Tools**, then **Edit BlackICE Settings**.
2. On the BlackICE Settings dialog box, select the **Notifications** tab.



Manage notification settings.

Event Notification

☑ Visible Indicator
○ (!)
○ (!) (!)
● (!) (!) (?)

☑ Audible Indicator
○ (!)
○ (!) (!)
● (!) (!) (?)

WAV File: bialarm.wav

Update Notification

☑ Enable checking

Interval for checking (in days): 3

Figure 19– Use the Notifications tab to configure your BlackICE alarms.

3. Under Event Notification, select **Visible Indicator** to flash the tray icon the color of the most severe event until the Local Console is opened. This option notifies you of an event when the Local Console is closed or hidden.
4. From the options below, select the severity level that triggers the alarm. The default setting notifies you visually if any suspicious (?), serious (!) or critical (!) attacks are detected.
5. Select **Audible Indicator** to play a `.wav` file of your choice whenever an event of the selected severity is detected. The audible alarm is triggered regardless of the state of the BlackICE window.
6. From the options below, select the severity level that triggers the alarm.

   ❗ **(Critical)**: The selected alarm option is triggered only when BlackICE detects a critical event.

   ❗ ❗ **(Critical and Serious)**: The selected alarm option is triggered when BlackICE detects a critical or serious event.

   ❗ ❗ ❓ **(Critical, Serious and Suspicious)**: The selected alarm option is triggered when BlackICE detects a critical, serious, or suspicious event. This is the default alarm option.

7. If the **Audible Indicator** option is selected, the **WAV File** field shows the default alarm sound (`bialarm.wav`). To change the `.wav` file used in audible notification, click the folder icon to browse your system, and locate the desired file. The selected alarm file is now shown in the **WAV File** field. To listen to the selected `.wav` file, click **Preview**. Your computer must have a sound card and speakers to play the audible alarm.

8. Click **OK** to implement the selected preference settings.

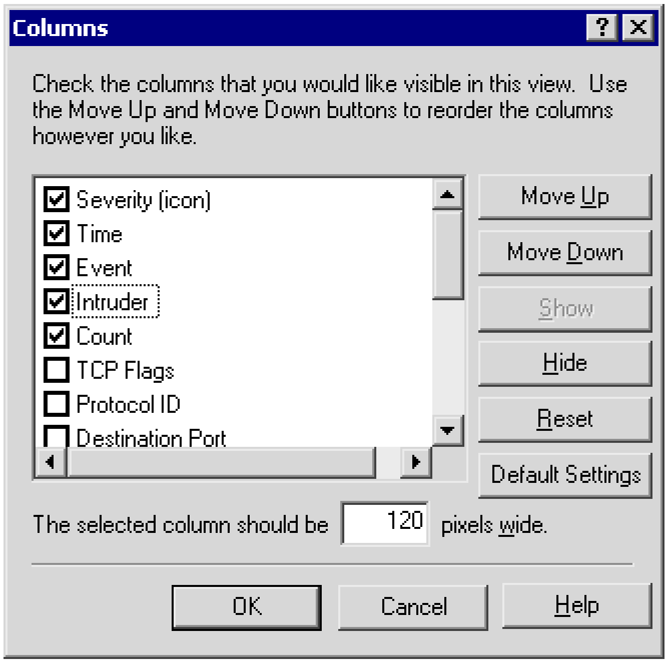
Selecting Columns to View

You can add and remove data columns on the Events or Intruders tabs at any time. Removing columns from the screen does not remove that column's information from BlackICE.

For information on the Events tab, see "The Events Tab" on page 67. For information on the Intruders tab, see "The Intruders Tab" on page 73.

To select which data columns you wish to view or hide, follow these steps:

1. From the tab where you want to hide or show columns, right-click any column header.
2. Select **Columns...** from the pop-up menu. The Columns window opens.



Columns

Check the columns that you would like visible in this view. Use the Move Up and Move Down buttons to reorder the columns however you like.

☑ Severity (icon)
☑ Time
☑ Event
☑ Intruder
☑ Count
☐ TCP Flags
☐ Protocol ID
☐ Destination Port

The selected column should be 120 pixels wide.

Figure 20 – Select a column to show, hide or move.

3. To add a column to the tab, select the column name and click **Show**. Alternatively, you can check the columns you wish to show.
4. To modify the order of the columns, select a column and click **Move Up** or **Move Down**. The top column is the leftmost column on the tab.
5. To modify the width of a column, select the column name and enter the size (in pixels) in the **The Selected column should be … pixels wide** box.
6. You can always resize the columns normally within the tab. Place the cursor near the column divider until a resize icon appears, then click and drag the column to the desired size.

7. To remove a column from the tab, select the column name and click **Hide**. Alternatively, you can uncheck the column name. Columns that are not selected in the Columns list are automatically moved to the bottom of the list when the column selection is applied.
8. Click **Reset** to undo all recent changes and return to the previous column selections.
9. Click **Default Settings** to revert all columns to the default settings.
10. When you are finished customizing the column list, click **OK**.

Your column changes appear. You can move, add or remove columns from the tab at any time.

Section 3

CONFIGURING BLACKICE DEFENDER

Accessing the Configuration Settings

Use the BlackICE Settings dialog box to customize BlackICE. You can access the Settings dialog box two ways: from the BlackICE system tray icon or from the BlackICE Local Console.

From the Windows Task Bar

1. From the Windows taskbar, right-click the BlackICE system tray icon. A submenu of choices appears.
2. Select **Edit BlackICE Settings…** The BlackICE Settings window appears.

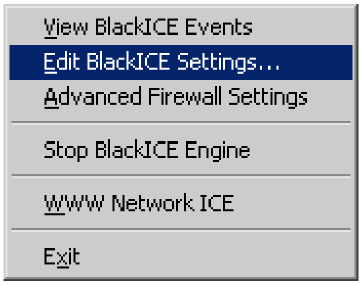
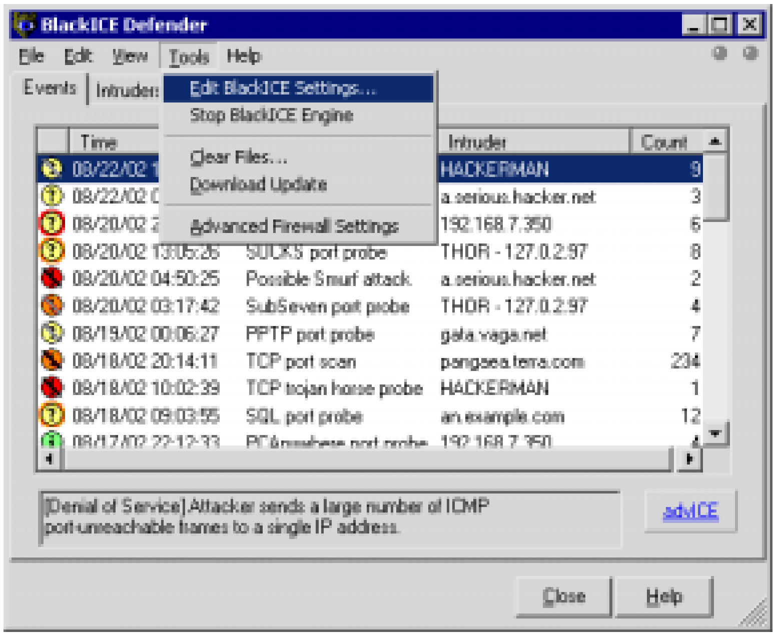


Figure 21 – From the desktop, right-click the BlackICE system tray icon.

From the BlackICE Local Console

1. From the BlackICE Local Console Menu Bar, select **Tools**.



Time		Intruder	Count
08/22/02 1		HACKERMAN	9
08/22/02 0		a.serious.hacker.net	3
08/20/02 2		192.168.7.350	6
08/20/02 13:05:26	SOCKS port probe	THOR - 127.0.2.97	8
08/20/02 04:50:25	Possible Smurf attack	a.serious.hacker.net	2
08/20/02 03:17:42	SubSeven port probe	THOR - 127.0.2.97	4
08/19/02 00:06:27	PPTP port probe	gala.vaga.net	7
08/18/02 20:14:11	TCP port scan	pangaea.terra.com	234
08/18/02 10:02:39	TCP trojan horse probe	HACKERMAN	1
08/18/02 09:03:55	SQL port probe	an.example.com	12
08/17/02 22:12:33	PCAnywhere port probe	192.168.7.350	4

[Denial of Service] Attacker sends a large number of ICMP port-unreachable frames to a single IP address.

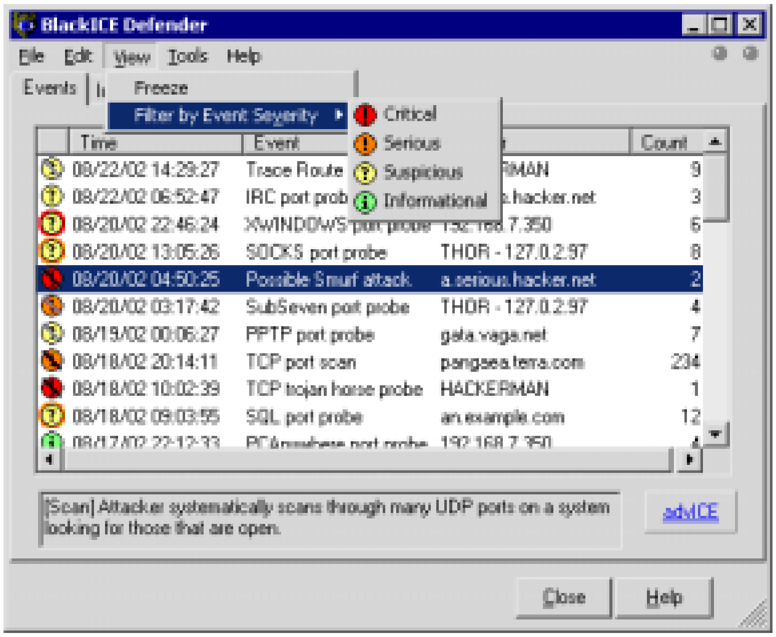
*Figure 22 – From the Local Console Menu Bar, select **Tools**, then **Edit BlackICE Settings**...*

2. Select **Edit BlackICE Settings…** from the shortcut menu. The BlackICE Settings window appears.

Filtering the Events List

When BlackICE has been protecting your computer for an extended time, the BlackICE Events tab may contain more events than you need to track. To reduce the number of irrelevant events, you can filter which types of events are displayed.

1. From the BlackICE Local Console, select **Filter by Event Severity** from the **View** menu.



	Time	Event		Count
	08/22/02 14:29:27	Trace Route	RMAN	9
	08/22/02 06:52:47	IRC port prob	s.hacker.net	3
	08/20/02 22:46:24	XWINDOWS port probe	192.168.7.350	6
	08/20/02 13:05:26	SOCKS port probe	THOR - 127.0.2.97	8
	08/20/02 04:50:25	Possible Smurf attack	a.serious.hacker.net	2
	08/20/02 03:17:42	SubSeven port probe	THOR - 127.0.2.97	4
	08/19/02 00:06:27	PPTP port probe	gala.vaga.net	7
	08/18/02 20:14:11	TCP port scan	pangaea.terra.com	234
	08/18/02 10:02:39	TCP trojan horse probe	HACKERMAN	1
	08/18/02 09:03:55	SQL port probe	an.example.com	12
	08/17/02 22:12:33	PCAnywhere port probe	192.168.7.350	4

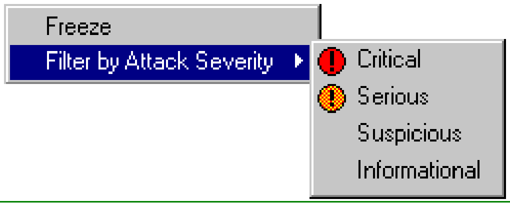
[Scan] Attacker systematically scans through many UDP ports on a system looking for those that are open.

Figure 23 – From the Menu Bar, select the ***View*** *option, then click* ***Filter by Event Severity****.*

2. From the submenu, select the *least severe* events to show. For example, if you select ? **Suspicious**, all suspicious, serious, and critical attacks are displayed. Informational events are not listed.

   To return the list to its default setting, select i **Informational**. This causes BlackICE to show all intrusions.

Tip: When the list is filtered, the Filter by **Event** Severity list shows only the severity icons for the attacks. For example, if the list is filtered to show only serious and critical attacks, the suspicious and informational icons are not displayed.



Clearing the Events List

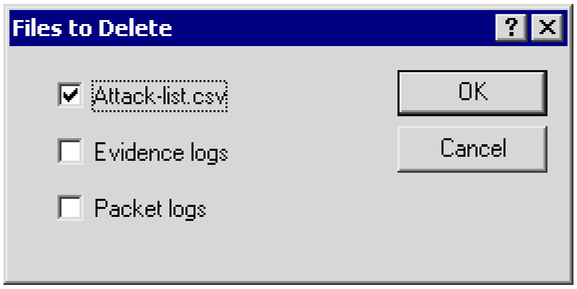
You can delete any event from the Events list, or you can delete all event reports in the Event List. To clear the Events list entirely, follow these steps:

Note: Clearing the event list does not stop BlackICE from *trusting*, *blocking* or *ignoring* any events or intruders.

1. From the Menu Bar, select **Tools**.
2. From the sub-menu, select **Clear Files…**

   Alternatively, in the **Events** tab, right-click anywhere on the event list and select **Clear Event List**.

   The Files to Delete dialog box appears.

   ☑ Attack-list.csv

   □ Evidence logs

   □ Packet logs

   Figure 24 – Use the Files to Delete dialog box to clear unwanted intrusion data.

   - To delete all intrusion records from the Events tab, select **attack-list.csv**. This is the file that contains the intrusion records that you see on the Events tab.
   - To delete all evidence logging data, select **Evidence logs**. For more information on evidence log data, see "Tracking Down Intruders: Collecting Evidence" on page 51.
   - To delete all packet logging data, select **Packet logs**. For more information on packet log data, see "Tracking Down Intruders: Collecting Packets" on page 54.
3. Click **OK** to delete the data you have selected.

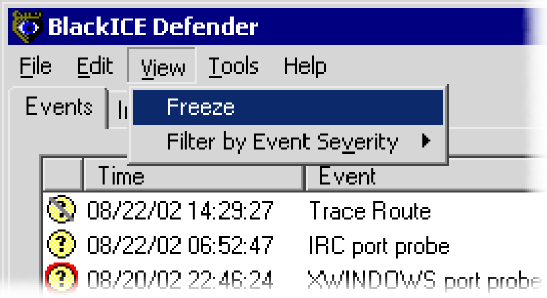
Freezing the BlackICE Tabs

By default, BlackICE automatically refreshes the Events, Intruders and History tabs each time a new event is detected. If your system is experiencing repeated attacks, this auto-refreshing may make it difficult to view the information in the tabs. For this reason, you may want to temporarily *freeze* the tab.

Freezing stops BlackICE from refreshing the tab information until you *unfreeze* it. However, freezing does not stop the monitoring, detection, and protection features of BlackICE Defender.

Note: Remember to *unfreeze* the application after viewing the tabs so that the Local Console can show new attacks. When you close the Local Console or restart the computer, BlackICE resets to an unfrozen state.

1. From the Menu Bar, select **View**.



Time	Event
08/22/02 14:29:27	Trace Route
08/22/02 06:52:47	IRC port probe
08/20/02 22:46:24	XWINDOWS port probe

Figure 25 – From the Menu Bar, select the ***View*** *option, then click* ***Freeze****.*

2. From the submenu, select **Freeze**.

   BlackICE stops showing new information on the tabs. As a reminder, "Display Frozen" appears in the title bar of the application.

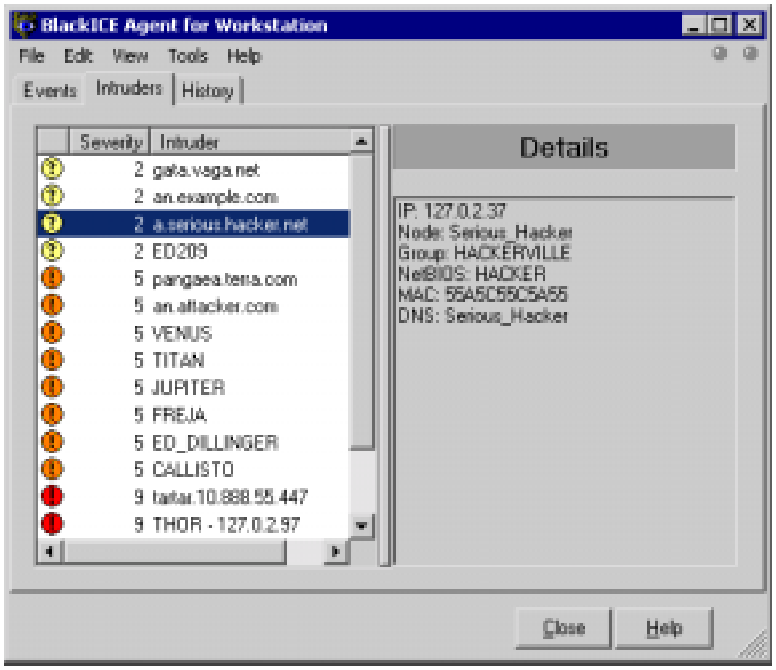
To *unfreeze* and refresh the BlackICE tabs, follow the steps above and select **Unfreeze**.

Section 4

DETECTING INTRUSIONS

Understanding the Severity of an Intrusion

BlackICE assigns a severity level to all detected events and intruders, and indicates that level graphically and with a number. Each individual event reported on the Events tab is ranked by its severity. Each intruder tracked on the Intruders tab is ranked by the most severe attack associated with that intruder.



	Severity	Intruder
●	2	gata.vaga.net
●	2	an.example.com
●	2	a.serious.hacker.net
●	2	ED209
●	5	pangaea.terra.com
●	5	an.attacker.com
●	5	VENUS
●	5	TITAN
●	5	JUPITER
●	5	FREJA
●	5	ED_DILLINGER
●	5	CALLISTO
●	9	tartar.10.888.55.447
●	9	THOR - 127.0.2.97

IP: 127.0.2.37
Node: Serious_Hacker
Group: HACKERVILLE
NetBIOS: HACKER
MAC: 55A5C55C5A55
DNS: Serious_Hacker

Figure 26 – BlackICE can represent the severity of an intruder's actions graphically and numerically.

BlackICE defines the severity of events as *critical*, *serious*, *suspicious*, or *informational*.

Icon	Severity Value	Description
!	7-10	**Critical event:** *Red exclamation point.* Deliberate attacks on a system for the purpose of damaging data, extracting data, or crashing the computer. Critical events always trigger protection measures.
!	4-6	**Serious event**: *Orange exclamation point.* Deliberate attempts to access information on a system without directly damaging anything. Some serious events trigger protection measures.
?	1-3	**Suspicious event**: *Yellow question mark*. Network activities that are not immediately threatening, but may indicate that someone is attempting to locate security vulnerabilities in the system. For example, intruders often scan the available ports or services on a system before attacking it. Suspicious events do not trigger protection measures.
i	0	**Informational event**: *Green "i."* Network events that are not threatening but are worthy of attention. Informational events do not trigger protection measures.

Internal software errors or issues are also reported as events, and are assigned a severity based on the seriousness of the problem. Refer to the support section of the BlackICE Web site (http://www.networkice.com/support) if BlackICE is experiencing repeated internal errors.

Ignoring an Event

You can tell the BlackICE intrusion detection engine to ignore an event of a particular type when it comes from a specific intruder, or ignore an event type altogether. Be careful about which events you ignore. For more information about ignoring attacks, see "Ignoring Events and Intruders" on page 7.

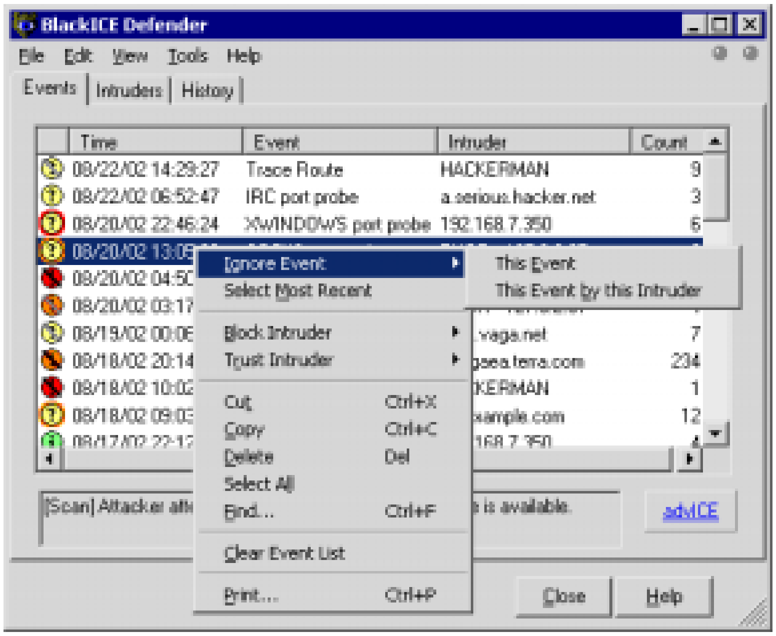
Caution: When an entire event type is ignored, BlackICE does not log any information about that type of event. Be careful which events you ignore, because some innocuous events could signal a prelude to a serious attack.

From the Events tab

You can choose an event from the Events tab and tell BlackICE to ignore all events of that type. Follow these steps:

1. From the **Events tab**, right-click the event/intruder combination to ignore.
2. From the shortcut menu, select **Ignore Event**.
3. A submenu appears. Select how you want BlackICE to ignore the event.

- **This Event** instructs BlackICE to ignore all future instances of the event.
- **This Event by this Intruder** instructs BlackICE to ignore all future instances of this event by the referenced intruder. If a different intruder executes the same attack, BlackICE still logs that event.



Time	Event	Intruder	Count
08/22/02 14:29:27	Trace Route	HACKERMAN	9
08/22/02 06:52:47	IRC port probe	a.serious.hacker.net	3
08/20/02 22:46:24	XWINDOWS port probe	192.168.7.350	6
08/20/02 13:05			
08/20/02 04:50			
08/20/02 03:17			
08/19/02 00:06		.vaga.net	7
08/18/02 20:14		gaea.terra.com	234
08/18/02 10:02		KERMAN	1
08/18/02 09:03		xample.com	12
08/17/02 22:12		168.7.350	

[Scan] Attacker afte ... is available.

Figure 27 – Use the Events tab to ignore events of a particular type or from a particular intruder.

4. Click **Yes** to ignore the event.

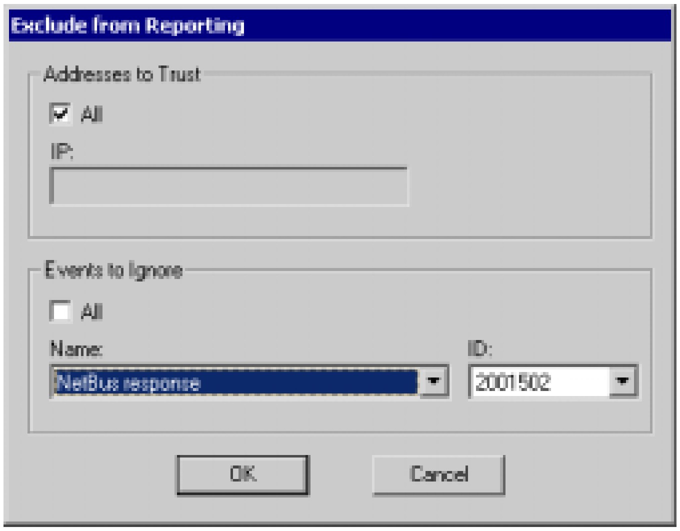
   BlackICE immediately begins ignoring the selected event. The event is added to the list of ignored events on the Detection tab in BlackICE Settings.

For more information on ignoring events, see “The Intrusion Detection Tab” on page 86.

From the Intrusion Detection Tab

You can also identify an event type before it occurs and tell BlackICE to ignore it. Follow these steps:

1. From the BlackICE Local Console Menu Bar, select **Tools**, then **Edit BlackICE Settings**.
2. Select the **Intrusion Detection** tab in the BlackICE Settings window.
3. To place a new ignored signature in the list, click **Add**. The Exclude from Reporting dialog box appears.



Exclude from Reporting

Addresses to Trust

☑ All

IP:

Events to Ignore

☐ All

Name: NetBus response

ID: 2001502

Figure 28 – The Exclude from Reporting dialog box.

4. To instruct BlackICE to ignore all future events of a particular type, regardless of the originating system, follow these steps:

- In the Addresses to Trust section, select **All** to ignore an event type on *all* IP addresses.
- In the **Name** selection box, which lists all the signatures BlackICE can identify, select the event type to ignore, or select the event ID number from the **ID** selection box.

5. To instruct BlackICE to ignore all future events coming from a specific intruder, follow these steps. If a different intruder executes an attack of the same type, BlackICE still logs that event.

- Enter the IP address for the system whose event you want to ignore in the **IP** box. Use the standard `000.000.000.000` notation. To specify an IP address range, place a dash between each distinct IP address (no spaces). For example, `192.168.10.23-192.168.10.32`.
- Clear **All** in the Attacks to Ignore section to enable the event **Name** and **ID** selection boxes. The **Add Firewall Entry** checkbox is now disabled.
- In the **Name** selection box, which lists all the signatures BlackICE can identify, select the event to ignore, or select the event ID number from the **ID** selection box.

6. Click **Add**. The new ignored event is added to the Detection tab.

Trusting an Intruder

When an intruder's IP address is *trusted*, BlackICE assumes all communication from that address is authorized and excludes the address from any intrusion detection. Trusting ensures that BlackICE does not inadvertently block systems whose intrusions on your local computer may be useful to you. For example, if you have several computers on a network, you may want to trust them and stop BlackICE from reporting activity from these systems as attacks.

You can choose to trust a system that has already intruded on your machine, or you can identify a potential intruder to trust ahead of time. This section tells you how to trust an existing intruder. For information on naming a system to be trusted in the future, see "Trusting an Address" on page 45.

Trust only those systems that you are absolutely certain are safe, or are legitimately executing network scans, such as servers from an ISP.

Note: Trusting a system is not the same as accepting a system. For an explanation of the difference between trusting and accepting, see "Traffic Filtering" on page 7.

1. From the **Intruders** tab, right-click the intruder to trust. Alternatively, from the **Events tab**, right-click the event/intruder combination that includes the intruder you want to trust.
2. From the shortcut menu, select **Trust Intruder**.

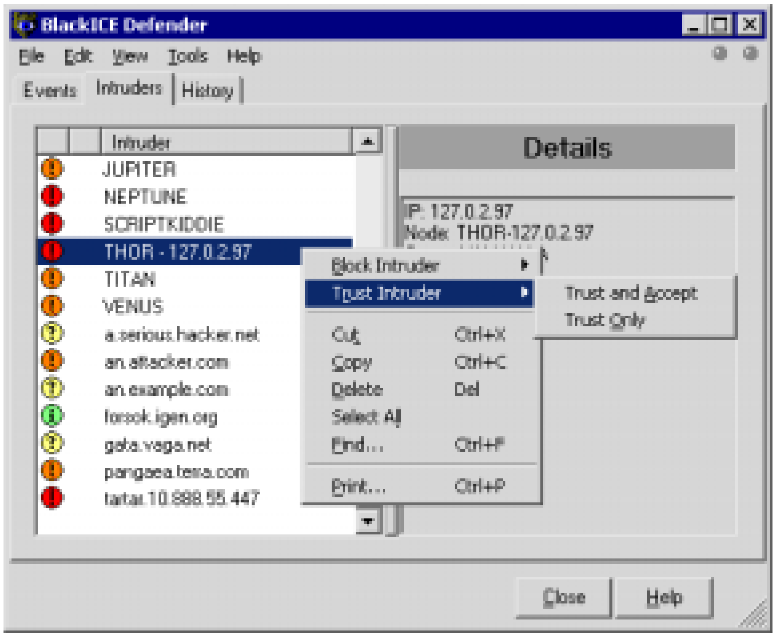


Figure 29 – You can use the Intruders tab to manually trust an address.

3. From the submenu, select the appropriate option. For more information about these options, see "The Events Tab" on page 67.

- **Trust and Accept**: The intrusion detection engine ignores all attacks from the selected intruder; and the BlackICE firewall accepts all communications from the intruder's IP address. The selected intruder is free from any BlackICE detection or protection.
- **Trust Only**: The intrusion and detection engine ignores all attacks from the selected intruder.

Caution: Be very careful which systems you trust. Because intruders often mask their true identity through forged or "spoofed" IP addresses, an intruder could use your trusted addresses as a mechanism against you. Network ICE recommends only trusting those systems that are authorized, trustworthy and secure.

4. Click **Yes** to trust the intruder.

   BlackICE immediately begins trusting the selected intruder. The address is added to the list of trusted IP addresses on the Detection tab in BlackICE Settings.

For more information on trusting an intruder, see "The Intrusion Detection Tab" on page 86. For information on how to stop trusting an intruder, see "Deleting a Trusted Address or Ignored Event" on page 47. For information on how to stop accepting the intruder's traffic, see "Blocking an Intruder" on page 61.

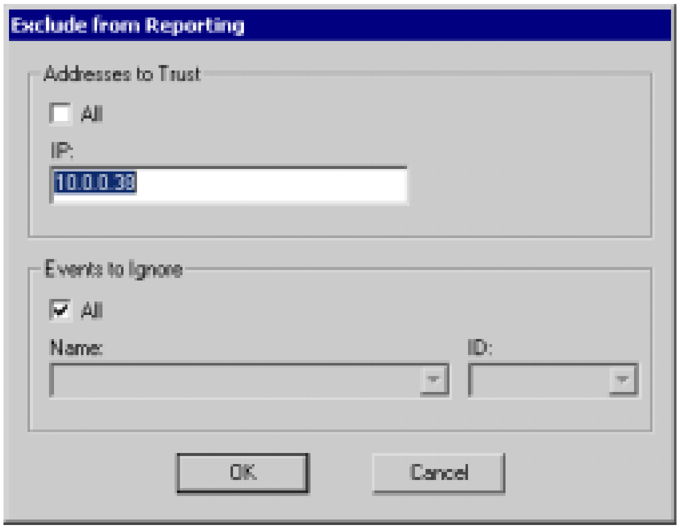
Trusting an Address

When an address is *trusted*, BlackICE assumes all communication from that address is authorized and excludes the address from any intrusion detection. Trusting ensures that BlackICE does not inadvertently block systems whose intrusions on your local computer may be useful to you. For example, if you have several computers on a network, you may want to trust them and stop BlackICE from reporting activity from these systems as attacks.

You can identify a potential intruder to trust ahead of time, or you can choose a system that has already intruded on your machine and tell BlackICE to trust it. This section tells you how name an IP address to be trusted in the future. For information on trusting an existing intruder from the Events tab or the Intruders tab, see "Trusting an Intruder" on page 40.

Caution: Trust or ignore only addresses that do not pose any threat to your system. Keep in mind that intruders can "spoof," or fake, the IP addresses of internal systems. It is possible, though very unlikely, for an intruder to spoof a trusted address and avoid detection from BlackICE.

1. From the BlackICE Local Console Menu Bar, select **Tools**, then **Edit BlackICE Settings**.
2. Select the **Detection** tab in the BlackICE Settings window.
3. To place a new trusted address in the list, click **Add**. The Exclude from Reporting dialog box appears.



Exclude from Reporting

Addresses to Trust

□ All

IP: 10.0.0.38

Events to Ignore

☑ All

Name:

ID:

Figure 30 – Use the Exclude from Reporting dialog box to add trusted addresses or ignored signatures.

4. Enter the IP address for the system to trust in the **IP** box. Use the standard `000.000.000.000` notation. To specify a range of IP addresses, place a dash between two addresses. For example, the range `192.168.10.23-192.168.10.32` instructs BlackICE to trust ten IP addresses, beginning with `192.168.10.23` and ending with `192.168.10.32.` The **IP** box is disabled if **All (addresses)** is selected.
5. To add an ACCEPT entry in the BlackICE firewall for this IP address, select **Add Firewall Entry**. This instructs BlackICE to trust the IP address and to allow *all* communications from the selected address, regardless of content. For more information about trusting IP addresses, see "Trusting Intruders" on page 7.
6. Click **Add**. The new trusted address is added to the Intrusion Detection tab.

Deleting or Changing a Trusted Address or Ignored Event

To stop trusting an intruder or ignoring an event, you must remove the entry from the *Intrusion Detection* tab. You can also use this tab to modify trusted addresses or ignored attacks from this tab. For more information on managing trusted addresses and ignored signatures, see "The Intrusion Detection Tab" on page 86.

Deleting a Trusted Address or Ignored Event

To delete a trusted address or ignored event from the Detection tab, you can right-click the entry or use the **Delete** button.

1. From the BlackICE Local Console, select **Edit BlackICE Settings** from the **Tools** menu.
2. Select the **Detection** tab.
3. On the Detection tab, right-click the entry to delete.
4. Select **Delete** from the shortcut menu.
5. Click **Yes** to delete the entry.
6. Click **OK** on the BlackICE Settings dialog box to remove the trusted IP address or ignored event from the Detection tab and return to the Local Console. BlackICE resumes monitoring the intruder and event.

If you click **Cancel** on the BlackICE Settings dialog box, the trusted address or ignored event is not deleted.

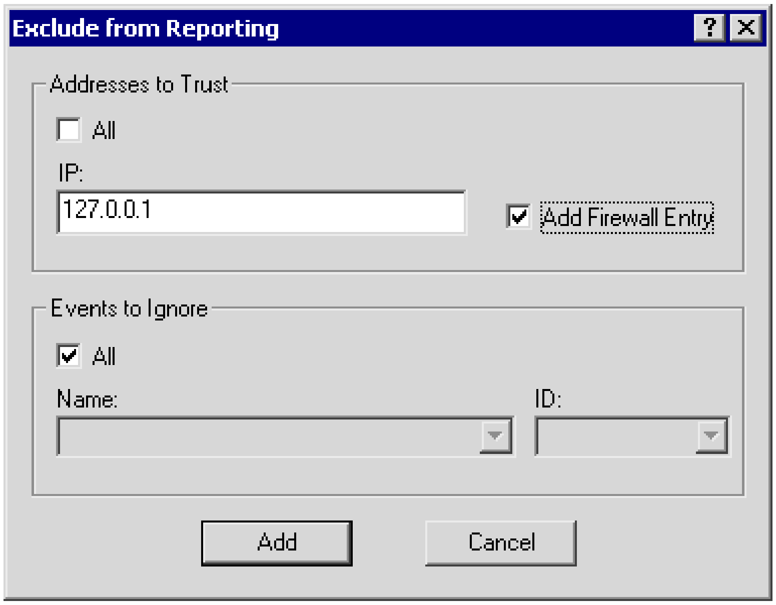
Editing a Trusted Address or Ignored Event

To edit a trusted address or ignored event from the Intrusion Detection tab, you can right-click the entry or use the **Modify** button.

1. In the BlackICE Local Console, select **Edit BlackICE Settings** from the **Tools** menu.
2. Select the **Detection** tab.
3. Right-click the entry to edit.

4. Select **Modify** from the shortcut menu.

   The Exclude from Reporting dialog box appears.



Exclude from Reporting

Addresses to Trust

□ All

IP: 127.0.0.1

☑ Add Firewall Entry

Events to Ignore

☑ All

Name:

ID:

Figure 31– Use the Exclude from Reporting dialog box to change a trusted or accepted address or port.

5. When you are finished editing the entry, click **Add** to return to the Detection tab.
6. On the BlackICE Settings dialog box, click **OK** to implement the modification and return to the Local Console.

If you click **Cancel** on the BlackICE Settings dialog box, the trusted address or ignored event is not modified.

For more information about excluding addresses or events from reporting, see "Ignoring an Event" on page 40.

Tracking Down Intruders: Back Tracing

Back tracing is the process of tracing a network connection back to its origin. When somebody connects to your computer via a network such as the Internet, your system and the intruder's system exchange packets. Before an intruder's packets reach your system they travel through several routers. BlackICE can automatically read information from these packets and identify each router the intruder's packets traveled through. Eventually, BlackICE can "hop" all the way back to the intruder's system.

BlackICE can back trace information *indirectly* or *directly*.

- An indirect trace uses protocols that do not make contact with the intruder's system, but collect information indirectly from other sources along the path to the intruder's system. Indirect back tracing does not make contact with the intruder's system, and therefore does not acquire much information. Indirect traces are best suited for lower-severity attacks.
- A direct trace goes all the way back to the intruder's system to collect information. Direct back tracing makes contact with the intruder's system and therefore can acquire a lot of information. Direct back traces are best for high-severity attacks, when you want as much information about the intruder as possible.

Intruders cannot detect an indirect trace. However, they can detect and block a direct trace. Fortunately, most intruders are not experienced enough to block direct traces.

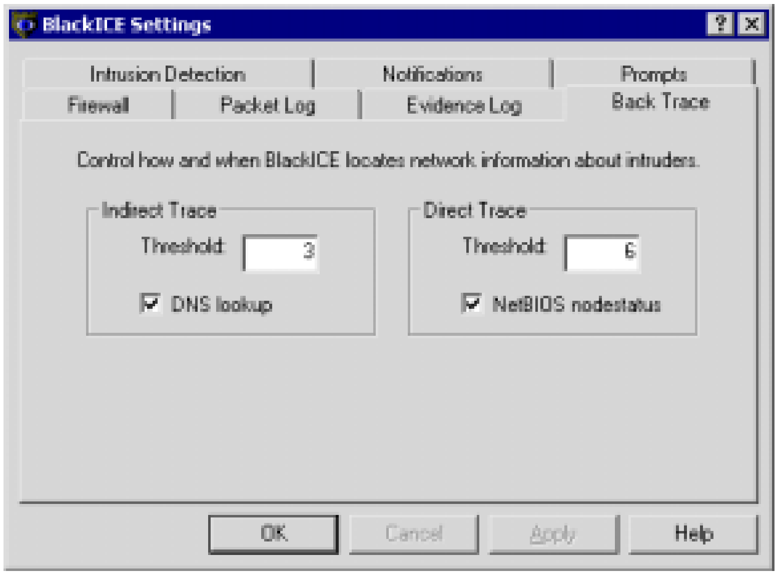
The Back Trace tab allows you to set the threshold when an indirect or direct back trace is set off. The severity of the incoming event, not the address of the intruder, triggers the back trace.

BlackICE shows all the back tracing information it has collected about the intruder next to the Intruder List. When BlackICE back traces an intruder it attempts to gather the IP address, DNS name, NetBIOS name, Node Name, Group name and MAC address. Savvy intruders will likely block BlackICE from acquiring this information.

Back trace information is also stored in standard text files in the **Hosts** folder in the directory where BlackICE is installed. Each file is prefixed with the intruder's IP address.

To control when and how BlackICE looks for information about intruders, follow these steps:

1. From the BlackICE Local Console Menu Bar, select **Tools**, then **Edit BlackICE Settings**.
2. Select the **Back Trace** tab in the BlackICE Settings window.



Control how and when BlackICE locates network information about intruders.

Indirect Trace

Threshold: 3

☑ DNS lookup

Direct Trace

Threshold: 6

☑ NetBIOS nodestatus

Figure 32– Use the Back Trace tab to gather information about intruders.

3. In the **Indirect Trace Threshold** text box, type the numeric severity level at which BlackICE should initiate an indirect back trace.

   The default threshold for an indirect trace is 3. With this setting, any event with a severity of 3 or above triggers an indirect back trace. For an explanation of the BlackICE severity levels, see "Understanding the Severity of an Intrusion" on page 38.

4. Select **DNS Lookup** to have BlackICE query Domain Name Service servers for information about the intruder as part of an indirect trace. DNS Lookup is enabled by default.
5. In the **Direct Trace Threshold** text box, type the numeric severity level at which BlackICE should launch a direct trace.

   The default event severity for the direct trace threshold is 6. With this setting, any event with a severity of 6 or above triggers a direct back trace.

6. Select **NetBIOS nodestatus** to have BlackICE find out the machine address of the intruder's computer using a NetBIOS lookup on the intruder's system. NetBIOS Node Status is enabled by default.

Tracking Down Intruders: Collecting Evidence

When an intruder attempts to break into your system, BlackICE Defender can capture network traffic attributed to the intruder and place that information into an *evidence file*. Because BlackICE captures and actually decodes each packet coming into the system, it can generate files that contain detailed information about the intruder's network traffic.

BlackICE evidence files are located in the ***<installation directory>*** folder. For example, if you installed BlackICE in the `Program Files` directory on the `C:` drive (the default), the evidence files are located in **`C:/Program Files/Network ICE/BlackICE`**. Each file has an **`*.enc`** extension.

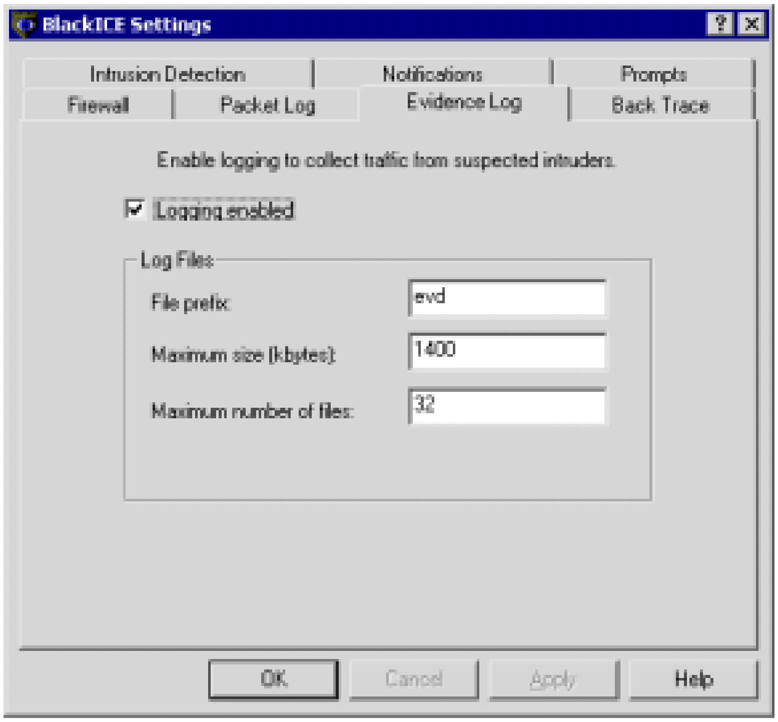
The intruder's activities are logged into special trace files in "sniffer" format. To view the contents of these files, you need a trace file decoding application. Many networking and security product companies produce such decoders. Some shareware decoders are also available on the Internet. If you are running Windows NT or Windows 2000 Server, you can install the Network Monitoring service, which includes Network Monitor, a decoding application. See the Windows NT or Windows 2000 documentation for more information.

To an experienced network engineer, evidence files show exactly what the intruder did or attempted to do. Because evidence files provide proof of the attacker's activities, this can be very useful to law enforcement or legal counsel in tracking down criminal intruders.

You can choose the number of evidence files BlackICE captures, the filename prefix, and the size of each evidence file on the Evidence Log tab in BlackICE Configuration. For more information about the Evidence Log tab, see "Evidence Log Settings" on page 82.

To collect evidence files for suspicious events, follow these steps:

1. On the BlackICE main menu bar, click **Tools** > **Edit BlackICE Settings**.
2. Click the Evidence Log tab to bring it to the front.



Enable logging to collect traffic from suspected intruders.

☑ Logging enabled

Log Files

File prefix: evd

Maximum size (kbytes): 1400

Maximum number of files: 32

Figure 33– Use the evidence log tab to gather detailed information about intrusions.

3. Select **Logging Enabled.** This setting is enabled by default.
4. In the **File Prefix** text box, specify the prefix for the evidence file names.

   To place a date stamp (format `YYYYMMDD`) and number (`NN`) in the file name, enter **`%d`** after the selected prefix. For example, if you enter `evd%d`, the file names will look like this: `evdYYYYMMDD-NN.enc`. The time is in 24-hour format in Greenwich Mean Time (GMT).
5. In the **Maximum Size** text box, specify how big each evidence file can get. For best results, keep this value under 2048 kilobytes (2 MB).
6. In the **Maximum Number of Files** text box, choose how many files BlackICE should generate in the specified collection time period. For example, if the Maximum Number of Files is 32 (the default value), BlackICE does not generate more than 32 evidence files in any given 24 hour period.

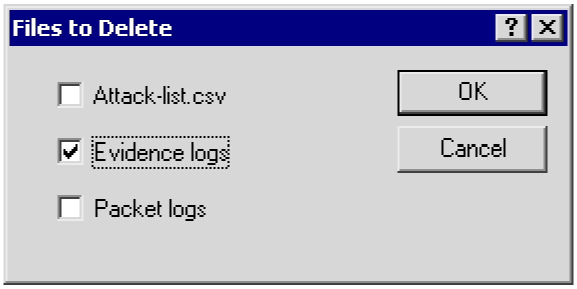
Clearing Evidence Logs

Evidence logs contain a large amount of information, and over time they can grow to take up a large amount of disk space. To save disk space, you can delete logs you no longer need. To delete your evidence logs, follow these steps:

Note: Clearing evidence log data does not affect the BlackICE intrusion detection and firewall functions.

1. From the Menu Bar, select **Tools**.
2. From the sub-menu, select **Clear Files…**

   The Files to Delete dialog box appears.



Files to Delete

□ Attack-list.csv

☑ Evidence logs

□ Packet logs

Figure 34 – Use the Files to Delete dialog box to delete evidence log data you do not need.

3. To delete all evidence logging data, select **Evidence logs**.
4. Click **OK** to delete your evidence logs.

Tracking Down Intruders: Collecting Packets

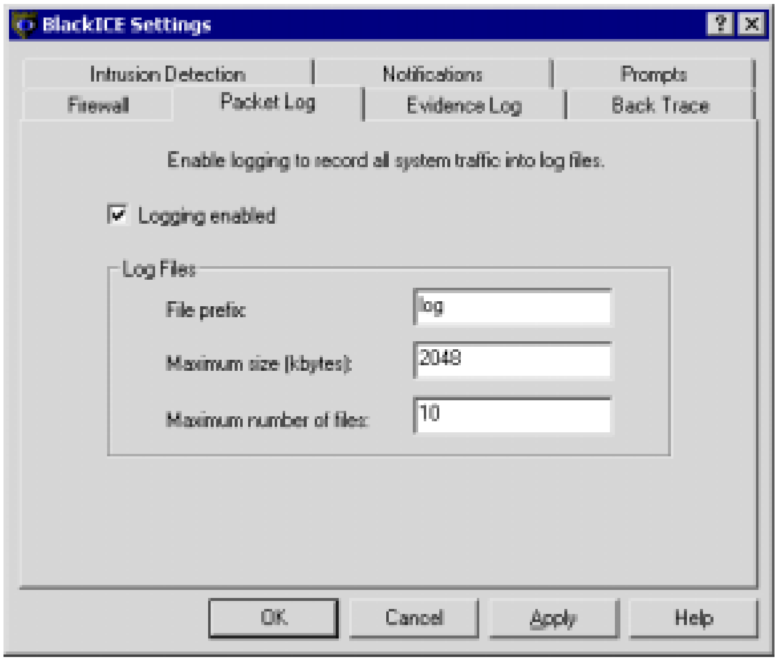
Packet logging lets you keep track of who is attempting intrusions on your machine without recording their actions. This can be useful if you have limited disk space for evidence files or if your Internet Service Provider requests only IP address information. When packet logging is enabled, BlackICE records the IP address of *all* systems that communicated with the local system. BlackICE does not capture the actual packet content, only a record of IP addresses. Packet logs can become very large and use up considerable hard disk space. However, if you are having repeated intrusions on a system, packet logging can help gather additional information about activity on the system.

Packet logs are encoded as trace files in "sniffer" format. You need a decoding application such as Network Monitor, included with Windows NT Server and Windows 2000 Server, to view the contents of these files. Packet logs are located in the ***`<installation directory>`*** folder. The file extension for all packet log files is **`*.enc`**.

BlackICE also captures network traffic that is specifically related to an intrusion in Evidence Files. For more information, see "The Evidence Log Tab" on page 82.

To track intruders' IP addresses, follow these steps:

1. On the BlackICE main menu bar, click **Tools** > **Edit BlackICE Settings**.
2. Click the Packet Log tab to bring it to the front.



Enable logging to record all system traffic into log files.

☑ Logging enabled

Log Files

File prefix: log

Maximum size (kbytes): 2048

Maximum number of files: 10

Figure 35– Use teh Packet Log tab to collect detailed information on intrusions.

3. Select Logging Enabled. Packet logging is disabled by default.

4. In the **File Prefix** text box, specify the prefix for the packet log file names. BlackICE automatically places an incremented counter in the filename. For example, if you enter `ABC`, the file names will be `ABC0001.enc`, `ABC0002.enc`, etc.
5. In the **Maximum Size** text box, specify the largest size, in kilobytes, for each log file. It is a good idea to keep this under the default value, 2048 kilobytes (2 MB).
6. In the **Maximum Number of Files** text box, specify the maximum number of log files to generate. The default is 10.

   Packet log files are filled until a maximum size is reached. Then a new file is generated, until the maximum number of files are used. Once the maximum number of files are used, BlackICE starts over, replacing the first log file with a new file.

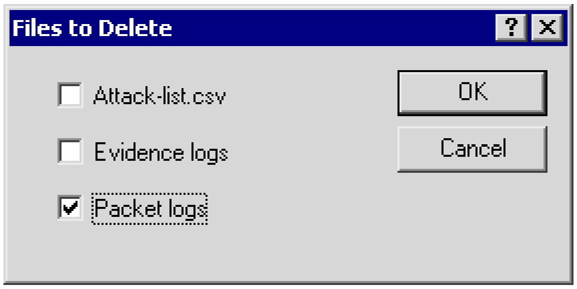
Clearing Packet Logs

Because packet logs can become very large, you may want to save disk space by deleting unneeded packet information. To delete your packet logs, follow these steps:

Note: Clearing packet log data does not affect the BlackICE intrusion detection and firewall functions.

1. From the Menu Bar, select **Tools**.
2. From the sub-menu, select **Clear Files…**

   The Files to Delete dialog box appears.



☐ Attack-list.csv

☐ Evidence logs

☑ Packet logs

Figure 36 – Use the Files to Delete dialog box to packet log data you do not need.

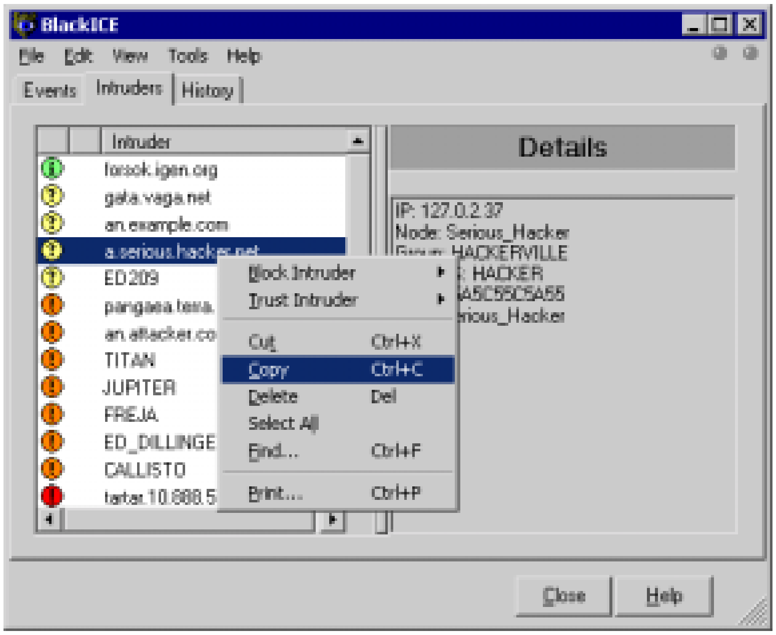
3. To delete all packet logging data, select **Packet logs**.
4. Click **OK** to delete the data you have selected.

Exporting BlackICE Data

The BlackICE export feature allows you to copy event information from the Local Console to the Windows clipboard for use in any other application such as a spreadsheet or database. From those applications you can archive information, develop custom reports, or develop your own analysis programs.

To export data from BlackICE, follow these steps:

- On the Events tab, the Intruders tab, or any of the Firewall Settings tabs, right-click a list entry and select **Copy** from the shortcut menu. BlackICE copies the information to your computer's clipboard in comma-delimited text format. You can paste the information into any application that accepts text input.
- To copy all the events on the list, right-click a list entry combination and choose **Select All** from the shortcut menu. You can right-click the list again and select **Cut** or **Copy** to put all the highlighted information on your computer's clipboard, from which you can paste the information into any application that accepts text input.



Intruder
forsok.igen.org
gata.vaga.net
an.example.com
a.serious.hacker.net
ED209
pangaea.terra.
an.attacker.co
TITAN
JUPITER
FREJA
ED_DILLINGE
CALLISTO
tartar.10.888.5

IP: 127.0.2.37
Node: Serious_Hacker
Group: HACKERVILLE
: HACKER
5A5C55C5A55
rious_Hacker

Figure 37 – Select Copy to bring data from BlackICE into other applications.

- To copy the data and remove the record from BlackICE, right-click a list entry and select **Cut** from the shortcut menu. BlackICE deletes the event/intruder combination from the Events list and copies the information to your computer's clipboard in comma-delimited text format. You can paste the information into any application that accepts text input.
- To send the contents of the list directly to a printer, right-click a list entry and select **Print**… from the shortcut menu. In the **Print** dialog box, choose a printer and the number of copies, then click **OK**.

Section 5

BLOCKING INTRUSIONS

Understanding Response Levels

When BlackICE detects an event, it can initiate a response to that event. The *response level* indicates how BlackICE reacted to a particular event. Lower-severity events rarely prompt a response, as they do not pose any threat to the system. However, higher severity intrusions may prompt more decisive responses.

The BlackICE response levels are displayed as an individual icon, or as an overlay on the severity icon. For example, if BlackICE blocks an event of *critical* severity, a black diagonal line like this ╲ appears over the *critical event* icon ❗ to create this image: ⊘.

Icon	Overlay	Description
⊘	╲	**Attack Blocked**: *Black line overlay*. BlackICE successfully blocked the attack. Depending on the severity of the event, BlackICE may also have blocked the attacking system. To see if BlackICE is currently blocking the attacker, double-click the event.
⊘	╲	**Attack Unsuccessful**: *Gray line overlay*. Other defenses of your computer, such as the operating system, successfully blocked the intrusion. Therefore, BlackICE did not need to block the event. The event did not compromise the system.
⚠		**Attack Status Unknown**: *No overlay*. BlackICE triggered protection measures as soon as it identified the attack, but some attacking packets may have made it through to the computer. It is unlikely that the event compromised the system.
⚠	○	**Attack Possible**: *Orange Overlay*. Similar to the Event Status Unknown response, BlackICE triggered protection measures as soon as it identified the intrusion. However, some attacking packets were able to get into the computer. The event may have compromised the system.
⚑	○	**Attack Successful**: *Red overlay*. BlackICE detected abnormal traffic entering or exiting the system as a result of the intrusion. However, the protection measures of BlackICE could not block the intrusion. The event has thus compromised the system.

Choosing a Protection Level

You can choose a **Protection Level to** define how rigorously BlackICE blocks unsolicited traffic. The more restrictive the protection level, the more likely BlackICE will block unsolicited inbound traffic. Outbound traffic is never blocked, to ensure that Web browsing and other regular networking functions remain unaffected.

Protection levels can prevent some attacks. For example, when set to the Paranoid level, a computer is practically invisible on the Internet. You can surf the Web and get email, but not much else. BlackICE locks all but the most critical TCP ports.

You can choose your BlackICE protection level in the BlackICE configuration settings. For information on setting protection levels, see "Protection Level Settings" on page 84.

Paranoid

The *Paranoid* setting is very restrictive, but useful if your system is enduring frequent and repeated attacks. Under this setting, BlackICE blocks all unsolicited inbound traffic. This setting may restrict some Web browsing and interactive content.

Nervous

This setting is preferable if you are experiencing frequent intrusions. Under the *Nervous* setting, BlackICE blocks all unsolicited inbound traffic except for some interactive content on Web sites (such as streaming media and other application-specific uses of the Internet).

Cautious

This setting is good for regular use of the Internet. This setting only blocks unsolicited network traffic that accesses operating system and networking services. This is the default protection level setting.

Trusting

With this setting, all ports are open and unblocked and all inbound traffic is allowed. This setting is good if you have a minimal threat of intrusions.

Different applications interact with the protection levels in different ways:

Protection level	Blocked	Configurable	Not Blocked
Paranoid	◆ IRC file transfer (DCC) ◆ NetMeeting ◆ PC Anywhere ◆ ICQ	◆ Quake (II/III) ◆ Internet Phone ◆ Net2Phone	◆ FTP file transfers ◆ Sending/ receiving email ◆ Real Audio ◆ IRC Chat
Nervous	◆ IRC file transfer (DCC) ◆ NetMeeting	◆ ICQ ◆ Internet Phone ◆ Net2Phone	All of the above plus: ◆ PC Anywhere, Quake (II, III)
Cautious	Only blocks unsolicited traffic that accesses operating system and networking services.	◆ None	All of the above plus ◆ IRC file transfer (DCC) ◆ NetMeeting
Trusting	No applications are blocked.	◆ None	This setting allows all inbound traffic.

Configurable means the applications are normally blocked, but can be unblocked through advanced configuration of the application or BlackICE. To use an application that is blocked under a selected protection level, use the Advanced Firewall Settings to explicitly open the ports that application uses. For more information on opening ports, see “To Block or Accept a Port” on page 64.

To choose a level of protection for BlackICE to provide, follow these steps:

1. From the BlackICE main menu bar, select **Tools** > **Edit BlackICE Settings** > **Firewall**.
2. Select a protection level to use. The default protection level is **Cautious**.
3. To stop BlackICE from auto-blocking intruders, clear **Enable Auto-Blocking**. To enable auto-blocking, leave this option selected. By default, this feature is enabled.
4. To disable all resource sharing, clear **Allow Internet File Sharing**. To enable resource sharing, leave it selected. By default, this feature is enabled.
5. If you want this computer to appear in the Network Neighborhood window, select **Allow NetBIOS Neighborhood**. To hide your system from browsing, clear this option. By default, this feature is enabled.
6. Click **Apply** to begin using the new Firewall settings.

Managing Your Firewall

BlackICE enables you to control the kinds of traffic that enter your machine by managing the Advanced Firewall Settings. You can access the Advanced Firewall Settings dialog box from the BlackICE system tray icon or from the BlackICE Local Console.

1. From the BlackICE Local Console Menu Bar, select **Tools**.

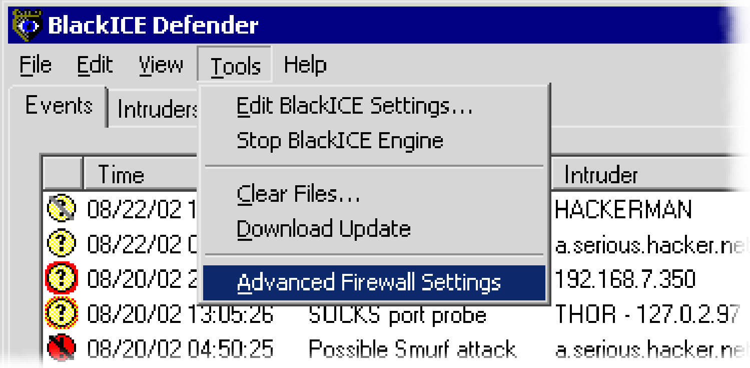


*Figure 38 – From the Menu Bar, select **Tools**, then **Advanced Firewall Settings**.*

2. Select **Advanced Firewall Settings** from the shortcut menu. The BlackICE Advanced Firewall Settings window appears.

   Alternatively, you can right-click the BlackICE system tray icon in the Windows taskbar and select **Advanced Firewall Settings** from the shortcut menu.

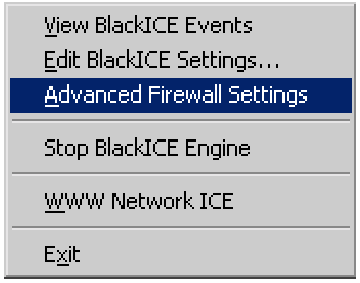


Figure 39 – From the desktop, right-click the BlackICE system tray icon.

Blocking an Intruder

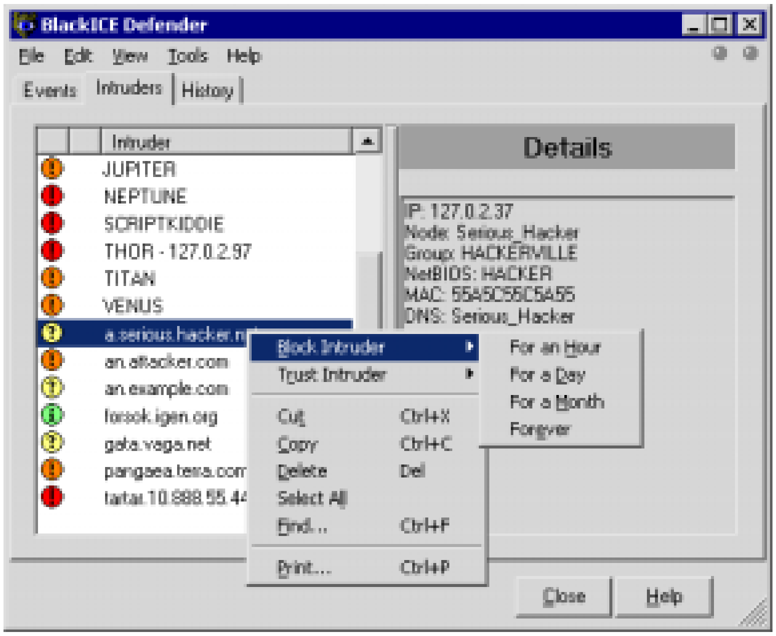
BlackICE Defender does not automatically block every intruder that attacks your computer. Only events that are a direct and immediate threat to the functioning of the local system are blocked. However, you can manually block any intruders that are not automatically blocked. For more information about blocking, see "Traffic Filtering" on page 7 and "Managing Your Firewall" on page 60.

Caution: Some systems may carry out routine, innocuous port or resource access scans. Blocking these systems may harm the ability of network servers, Internet Service Providers (ISPs), and probes to properly monitor your system.

1. From the **Intruders** tab, right-click the intruder to block.

   Alternatively, from the **Events tab**, right-click the event/intruder combination whose intruder you want to block.

2. From the shortcut menu, select **Block Intruder**.
3. On the submenu, select the duration of the block: *For an Hour*, *For a Day*, *For a Month*, or *Forever*. "For a Month" is defined as 30 days.



IP: 127.0.2.37
Node: Serious_Hacker
Group: HACKERVILLE
NetBIOS: HACKER
MAC: 55A5C55C5A55
DNS: Serious_Hacker

Figure 40 – You can use the Intruders tab to manually block an intruder.

4. Click **Yes** to block the intruder for the selected amount of time.

BlackICE immediately begins blocking the selected intruder. When an intruder is blocked, an Event Blocked icon ⊘ appears in the Blocked State Column next to the intruder's name. When you right-click a blocked intruder, a check mark shows the length of time the intruder is to be blocked. For information on unblocking an intruder, see "Ignoring an Event" on page 40.

Blocking or Accepting an IP Address or Port

The BlackICE firewall provides the basic blocking mechanism for stopping intruders. When BlackICE detects a threatening event, the firewall automatically blocks all network packets from that intruder.

BlackICE also allows you to manually configure what IP addresses or ports it should *reject* (block) or *accept*. This can be very useful if you need to explicitly instruct BlackICE to leave a port or address open for use by a special application. For example, if you use your computer to play Quake II or III games, you should create a port accept setting for UDP ports 27910 and 27970.

For detailed information about the *Accept* and *Reject* firewall settings, and for more information on configuring your firewall, see "The Advanced Firewall Settings Dialog Box" on page 92. For an explanation of ports and IP addresses, see the *BlackICE Guide to Computer Security*.

Note: Firewall filters are intended for users with advanced networking experience.

To Block or Accept an IP Address

1. From the BlackICE Local Console, select **Advanced Firewall Settings** from the **Tools** menu. The Advanced Firewall Properties dialog box appears.
2. Click **Add** to create a new IP address firewall entry. The Add Firewall Entry dialog box appears.
3. Enter a **Name** for the IP address filter. This should be the name of the system to accept or block, if you know it. For example, if you are creating a filter to allow all port scans from your Internet Service Provider, use the ISP's name for the name of this address filter.
4. Enter the IP address for the system to accept or block in the **IP Address** box. Use the standard `000.000.000.000` notation. To specify an IP address range, place a dash between each distinct IP address. For example, `192.168.10.23-192.168.10.32`.
5. To block or accept transmissions from *all* IP addresses through a specific port, select **All Addresses**. The **IP Address** text box is disabled.

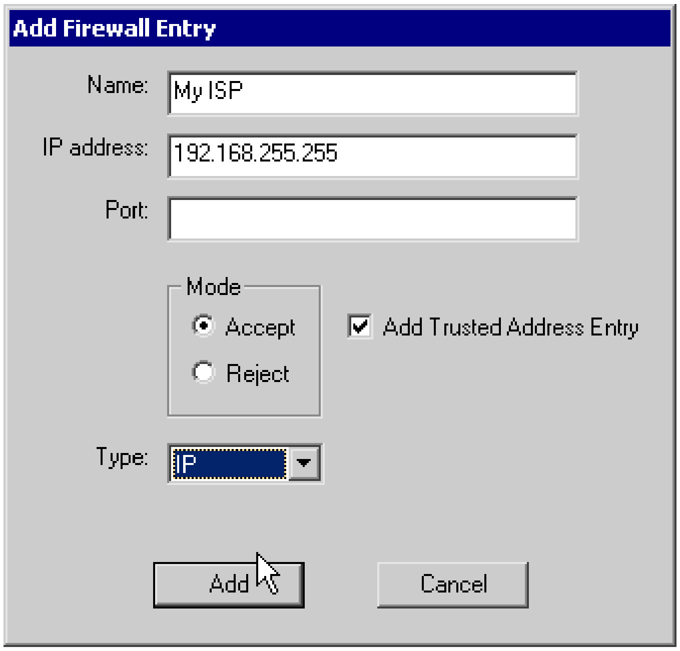
   Note: You cannot use Add Firewall Entry to block all transmissions from all IP addresses through all ports. To instruct BlackICE to block all unsolicited inbound traffic, select the "Paranoid" protection level on the Firewall tab. To accept all traffic, select the "Trusting" protection level. For more information, see "Protection Level Settings" on page 84.

6. Select the firewall **Mode**.

   - **Accept** causes BlackICE to explicitly accept all packets from the IP address. However, **BlackICE** still monitors the traffic. Therefore, if BlackICE detects a direct, threatening attack from the accepted address, it can still auto-block the address.

   - **Reject** causes BlackICE to explicitly stop any packets from the IP address. Blocks are performed at the network level, so there is no way for a rejected IP address to communicate with your system.

7. If you selected **Accept,** and you also want BlackICE to exclude the IP address from all intrusion detection, select **Add Trusted Entry**. BlackICE now assumes all traffic from the address is safe, regardless of what the remote system sends. To allow BlackICE to continue reporting any security issues on this address, leave the box cleared.



Add Firewall Entry

Name: My ISP

IP address: 192.168.255.255

Port:

Mode
● Accept
○ Reject

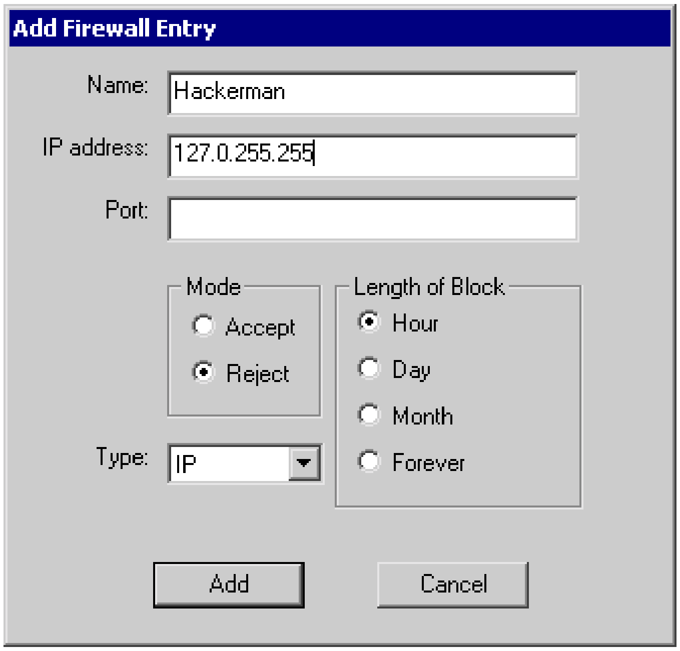
☑ Add Trusted Address Entry

Type: IP

Figure 41 – Use the Add Firewall Entry dialog box to add a trusted address.

For more information about trusting and accepting, see “Intrusion Detection vs. Firewalling” on page 10.

8. If you selected **Reject**, select the length of the block: **Hour**, **Day**, **Month**, or **Forever**. The IP address block is started as soon as the blocked address entry is created.



Add Firewall Entry

Name: Hackerman

IP address: 127.0.255.255

Port:

Mode: ○ Accept ● Reject

Type: IP

Length of Block: ● Hour ○ Day ○ Month ○ Forever

Figure 42 – Use the Add Firewall Entry dialog box to reject traffic from an IP address.

9. Click **Add**. The item is added to the list in the Advanced Firewall Settings dialog box.

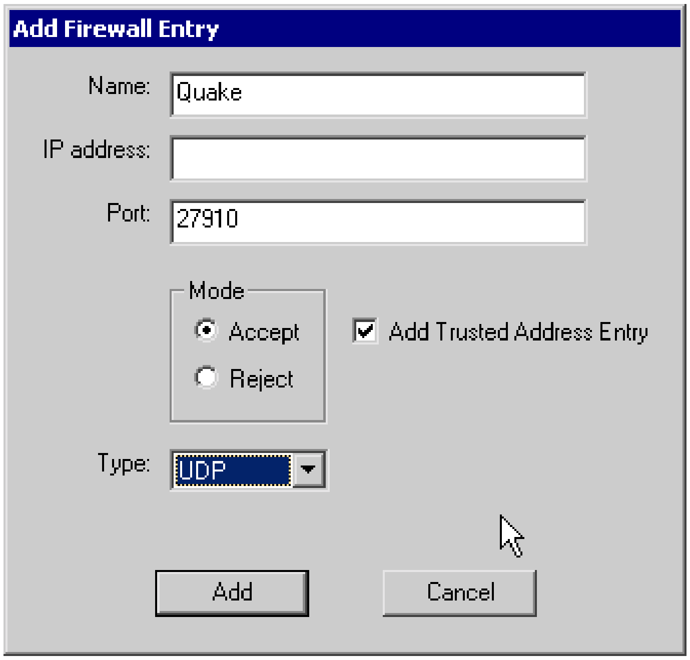
To change any settings on this IP address filter, highlight the filter on the Advanced Firewall Settings dialog box and click **Modify**. For more information about the contents of this screen, see "The Advanced Firewall Settings Dialog Box" on page 92.

To Block or Accept a Port

1. From the BlackICE Local Console, select **Advanced Firewall Settings** from the **Tools** menu.
2. Click **Add** to create a new port firewall entry. The Add Firewall Entry dialog box appears.
3. Enter a **Name** for the port filter. This can be any name.For example, you can use the name of the protocol or software using the port, such as "Quake" or "SMTP."
4. Enter the **Port Number** you want BlackICE to accept or reject. You must use a whole number between 1 and 65536. To enter a range of ports, use the format **`9-999`**.
5. To open or close all ports on your local system to communications from a specific IP address, select **All Ports**. The **Ports** text box is disabled.

Note: You cannot use Add Firewall Entry to block or accept all transmissions from all IP addresses through all ports. To instruct BlackICE to block all unsolicited inbound traffic, select the "Paranoid" protection level on the Firewall tab. To accept all traffic, select the "Trusting" protection level. For more information, see "Protection Level Settings" on page 84.

6. Select the port **Type**: **UDP** or **TCP**. If you need to create an entry for both types, you must create two separate port filters.
7. Set the **Blocking** setting to *Accept* or *Reject.*
   - **Accept** causes BlackICE to explicitly accept all packets through this port. BlackICE can still block specific IP addresses that attempt threatening attacks through this port. However, the port remains open for other users.
   - Reject causes BlackICE to explicitly close the port. A closed port prohibits any system or software from communicating with your computer on that specific port.
8. **If you selected Accept,** and you also want BlackICE to exclude this port from all intrusion detection, select **Add Trusted Entry**. BlackICE now assumes all traffic through this port is safe, regardless of what the remote system sends. To allow BlackICE to continue reporting any security issues on this port, leave the box cleared.



Add Firewall Entry

Name: Quake

IP address:

Port: 27910

Mode

● Accept

○ Reject

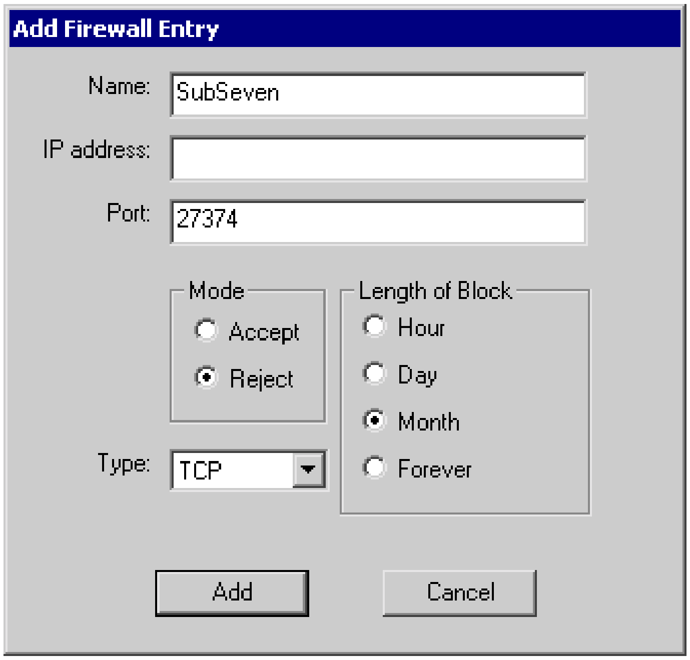
☑ Add Trusted Address Entry

Type: UDP

Figure 43 – Use the Add Firewall Entry dialog box to accept all traffic through a port.

For more information about trusting and accepting, see "Intrusion Detection vs. Firewalling" on page 10.

9. If you selected **Reject**, enter the duration of the setting. Select **Perpetual** to create a filter that never expires. Otherwise, enter a **date** and **time** in the **Expires** fields to select an end-point for the setting. The maximum duration for any filter is until December 31, 2038. The **Set** field shows the time the firewall entry was created.



Add Firewall Entry

Name: SubSeven

IP address:

Port: 27374

Mode: ○ Accept ● Reject

Length of Block: ○ Hour ○ Day ● Month ○ Forever

Type: TCP

Figure 44 – Use the Add Firewall Entry dialog box to reject all traffic through a port.

10. Click **OK** to return to the Advanced Firewall Settings dialog box. The item is added to the list.

To change any settings on this port filter, highlight the filter on the Advanced Firewall Settings dialog box and click **Modify**. For more information about blocking and accepting ports, see “To Block or Accept a Port” on page 67.

Section 6

The BlackICE Defender Screens

Tabs for Operating BlackICE

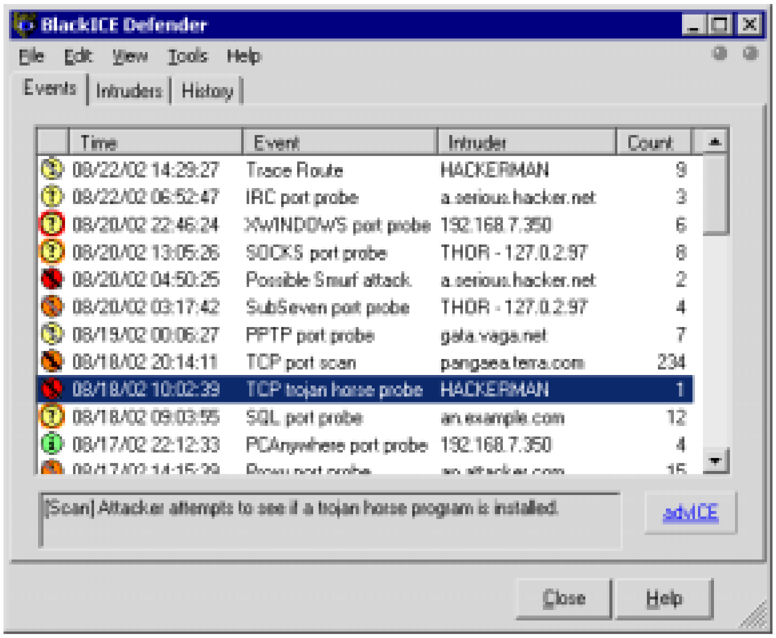
The Local Console consists of three tabs (Events, Intruders and History) for reporting information about the intrusions BlackICE has detected. Details about these events, including the intruders performing the attacks and BlackICE's responses, help you determine their severity and source. The Local Console also shows recent network traffic and attacks in graph format to so you can view patterns or spikes in network activity.

The Events Tab

The **Events tab** summarizes all intrusion and BlackICE system events on the local computer. The tab columns show the time, type, and severity of an event; the intruder's name and IP address; how BlackICE has responded to the event, and other information.

To customize the information on the **Events tab**, you can right-click a column header and select **Columns**. A dialog box appears, with which you can hide, show, resize, or rearrange the tab's columns. By default, the information on the Events tab is sorted first by severity, then by time. To sort the list according to the information in a particular column, click that column's header. To sort the list in the reverse order (ascending or descending), click the column header again.

For more information on controlling the information shown on the Events tab, see "Filtering the Events List" on page 35.



Time	Event	Intruder	Count
08/22/02 14:29:27	Trace Route	HACKERMAN	9
08/22/02 06:52:47	IRC port probe	a.serious.hacker.net	3
08/20/02 22:46:24	XWINDOWS port probe	192.168.7.350	6
08/20/02 13:05:26	SOCKS port probe	THOR - 127.0.2.97	8
08/20/02 04:50:25	Possible Smurf attack	a.serious.hacker.net	2
08/20/02 03:17:42	SubSeven port probe	THOR - 127.0.2.97	4
08/19/02 00:06:27	PPTP port probe	gala.vaga.net	7
08/18/02 20:14:11	TCP port scan	pangaea.terra.com	234
08/18/02 10:02:39	TCP trojan horse probe	HACKERMAN	1
08/18/02 09:03:55	SQL port probe	an.example.com	12
08/17/02 22:12:33	PCAnywhere port probe	192.168.7.350	4
08/17/02 14:15:39	Proxy port probe	an.attacker.com	15

[Scan] Attacker attempts to see if a trojan horse program is installed.

Figure 45 – The Events tab shows all the intrusions the local system has detected.

When you select an event in the Events tab, a brief description of the attack appears at the bottom of the tab. For more information, or to see suggested remedies for the selected attack, click the **advICE** button. This opens your Web browser and connects to the BlackICE Web site for the latest information about that particular event.

To show the responsible intruder on the Intruders tab, double-click an event on the Events tab. For more information about what you can learn about intruders, see "Tracking Down Intruders: Back Tracing" on page 49.

Events Tab Columns

Events tab consists of several configurable columns that show event details. You can add, reorder, and remove these columns to customize the information on the tab.

By default, only five columns are displayed. To rearrange or display other columns on the tab, right-click any column header and select **Columns**.

The Events tab includes these default columns when you install BlackICE Defender. To add optional columns, right-click the column header, then select **Columns**.

Severity Icon

A visual representation of two factors: the severity of the event; and the action BlackICE took in response to the event (the response level). Each event is indicated with one of four severity levels, overlaid with one of five response levels. For descriptions of the BlackICE event severity and response levels, see "Understanding the Severity of an Intrusion" on page 38.

Time

Date and time of the event, in the format: `MM-DD-YY hh:mm:ss`. The time is in 24-hour format for the time zone applicable to the local system.

Event

The name of the event type. For more information about a particular event, select the event in the list. A brief description of the event appears at the bottom of the screen.

For a full description of an event, as well as suggested remedies, select the event of interest and click the **advICE** button. For extra options on how to respond to an attack or how to report an intruder, see the *BlackICE Guide to Computer Security* available from Network ICE.

Intruder

The best name BlackICE can gather from the attacking system. This column shows the NetBIOS (WINS) name or DNS name for the attacking system. If BlackICE cannot determine a name, it shows the intruder's IP address.

For more information about a particular intruder, double-click an event on the Events tab. The application shows the Intruders tab, which collects all known information about each intruder who has provoked an event on your system.

Count

If an intruder executes the same attack several times in a row, BlackICE shows the collection of events as *one* event, instead of showing each instance. The count column displays how many times the intruder executed the same attack. The timestamp on attacks with multiple counts represents the most recent event.

Optional Events Tab Columns

You can add these columns to the display by right-clicking the column header and selecting **Columns…**

Parameter(s)

When an intruder carries out an attack, BlackICE can often determine details about the event. For example, if the intruder is scanning a particular port, this column shows the port number(s) scanned. See the advICE Web site for details about a specific event's parameters. The Parameter(s) column cannot be used to sort the Events list.

Victim

The NetBIOS (WINS) name or DNS name of the attacked system (the victim). In most cases, this is the local system. If BlackICE cannot determine a name, it shows the victim's IP address.

Victim IP

The IP address of the attacked system. For BlackICE Agent this is always the IP address of the local system.

Intruder IP

The IP address of the attacking system.

Event ID

Internal number BlackICE uses to reference each unique event signature.

Response Level Icon

A visual representation of the protection BlackICE provided against the intrusion. Each event is indicated with one of five response levels. For information on how BlackICE responds to events, see “Inside BlackICE” on page 5.

Severity (numeric)

A numeric representation of the severity of the event. For more information, see “Understanding the Severity of an Intrusion” on page 38.

IP Flags

Data in the packet header specifying the intended treatment of the packet. For example, R (RESET), P (PUSH), U (URGENT).

Protocol Type

The network protocol (such as HTTP, FTP or NetBIOS) applicable to the intruder’s communications. For example, if the intruder was sending malicious Web site commands, the protocol would likely be HTTP.

Destination Port

The TCP/UDP port on the local system that was the target of the attempted intrusion.

Source Port

The TCP/UDP port on the intruder’s system where the event originated.

Other Events Tab Features

Event Description

Below the event list, BlackICE displays a brief description of the selected event. For additional information about the event, click **advICE**.

advICE Button

Opens a browser session that accesses the advICE section of the BlackICE Web site. Select the particular event of interest and click **advICE**. Information about that specific intrusion appears.

Close Button

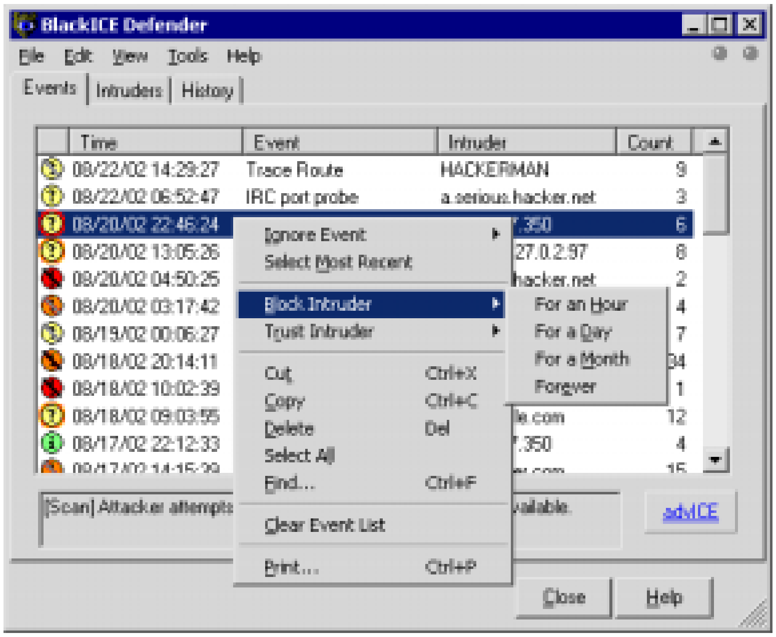
Closes the BlackICE Local Console. The detection and protection engine remains active.

Help Button

Shows the online help for the Events tab.

Events Tab Shortcut Menu Commands

Right-click any item in the Events tab for these commands.



Time	Event	Intruder	Count
08/22/02 14:29:27	Trace Route	HACKERMAN	9
08/22/02 06:52:47	IRC port probe	a.serious.hacker.net	3
08/20/02 22:46:24		7.350	6
08/20/02 13:05:26		27.0.2.97	8
08/20/02 04:50:25		hacker.net	2
08/20/02 03:17:42			4
08/19/02 00:06:27			7
08/18/02 20:14:11			34
08/18/02 10:02:39			1
08/18/02 09:03:55		le.com	12
08/17/02 22:12:33		7.350	4
08/17/02 14:15:39		er.com	15

[Scan] Attacker attempts … vailable.

Figure 46 – Right-click an event to show additional options.

Ignore Event

Right-click an event/intruder combination and select **Ignore Event** from the shortcut menu. On the submenu, select whether to ignore all events of this type (*This Event*), or ignore events of this type only when sent from this particular intruder (*This Event by this Intruder*). Ignoring event types is a useful way to stop BlackICE from reporting routine scans from ISPs or network probes. For more information about ignoring event types, see "Ignoring Events and Intruders" on page 7. For information on how to stop ignoring an event, see "Deleting a Trusted Address or Ignored Event" on page 47.

Select Most Recent

Right-click an event and click **Select Most Recent** from the shortcut menu. BlackICE highlights the event that occurred last.

Block Intruder

Right-click an event/intruder combination and select **Block Intruder** from the shortcut menu. This action instructs BlackICE to block the intruder. On the submenu, choose how long to block the intruder: *For an Hour*, *For a Day*, *For a Month*, or *Forever*. For more information about *blocking*, see "Traffic Filtering" on page 7. For information on unblocking an intruder, see "The Intrusion Detection Tab" on page 86.

Trust Intruder

Right-click an event/intruder combination and select **Trust Intruder** from the shortcut menu. On the submenu, select **Trust and Accept** or **Trust Only**. For detailed information about trusting, see "Trusting Intruders" on page 7. For information on how to stop trusting an intruder, see "Deleting a Trusted Address or Ignored Event" on page 47. For information on how to stop accepting an intruder, see "Blocking an Intruder" on page 61.

Cut

Right-click an event/intruder combination and select **Cut** from the shortcut menu. BlackICE removes the event/intruder combination from the Events list and copies the information to your computer's clipboard in comma-delimited text format. You can paste the information into any application that accepts text input, such as a word processing or spreadsheet program.

Copy

Right-click an event/intruder combination and select **Copy** from the shortcut menu. BlackICE copies the information to your computer's clipboard in comma-delimited text format. You can paste the information into any application that accepts text input.

Delete

Right-click an event/intruder combination and select **Delete** from the shortcut menu. BlackICE removes the event/intruder combination from the Events list.

Select All

Right-click an event/intruder combination and choose **Select All** from the shortcut menu. BlackICE highlights all the events you have viewed during this session. You can right-click the list again and select **Cut** or **Copy** to put all the highlighted information on your computer's clipboard in comma-delimited text format, from which you can paste the information into any application that accepts text input.

Find...

Right-click an event/intruder combination and select **Find…** from the shortcut menu. In the **Find** dialog box, select **Match Whole Word Only** or **Match Case** to narrow your search terms. To search only records above the highlighted record, click the **Up** option button. To search records below, click **Down**.

Clear Event List

To remove all attacks from the event list, right-click anywhere in the event list and select **Clear Event List** from the shortcut menu. Clearing the event list does not change any blocked, trusted, or ignored intruders or attacks.

Print...

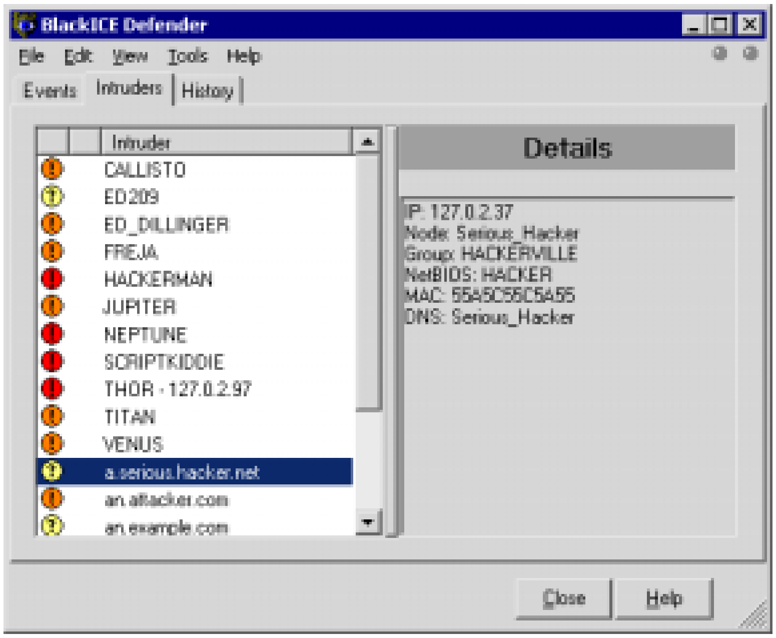
To print the entire contents of the Events list, right-click any event/intruder combination and select **Print…** from the shortcut menu. In the **Print** dialog box, choose a printer and the number of copies, then click **OK**.

The Intruders Tab

The **Intruders** tab collects information about all the intruders who have initiated events on your system. This tab is designed to help you determine the severity and location of each intruder.

To customize the information on the Intruders tab, you can right-click a column header and select **Columns**. This displays a menu with which you can hide, show, resize, or rearrange the tab's columns. For instructions on arranging the information in the columns, see "Selecting Columns to View" on page 31.

By default, the information on the Intruders tab is sorted first in alphabetical order by intruder and then in descending order of severity. Click a column header to re-sort the list by that column. To reverse the sort order (ascending to descending or vice versa), click the column head again.



		Intruder
!		CALLISTO
?		ED209
!		ED_DILLINGER
!		FREJA
!		HACKERMAN
!		JUPITER
!		NEPTUNE
!		SCRIPTKIDDIE
!		THOR - 127.0.2.97
!		TITAN
!		VENUS
?		a.serious.hacker.net
!		an.attacker.com
?		an.example.com

IP: 127.0.2.37
Node: Serious_Hacker
Group: HACKERVILLE
NetBIOS: HACKER
MAC: 55A5C55C5A55
DNS: Serious_Hacker

Figure 47 – The Intruders tab shows the information BlackICE has been able to gather about attackers.

When you select an intruder from this list, all the information BlackICE has discovered about the attacker appears on the right side of the window, in the box labeled Details. To adjust the relative sizes of the two parts of this tab, move your cursor over the dividing line between them until it turns into a resize symbol, then drag the line to the right or left.

To view the intruder's activities on the Events tab, double-click the intruder's entry.

The **Intruders** tab consists of several configurable columns that show intruder information. You can add, reorder, and remove these columns to customize the information on the tab.

By default, only three columns are displayed. To rearrange or show other columns on the tab, right-click any column header and select **Columns**. For instructions on arranging the information in the columns, see "Selecting Columns to View" on page 31.

Default Intruders Tab Columns

The Intruders tab includes these columns when you first install BlackICE Defender:

Severity Icon

This is a visual representation of the intruder's rank. The severity level reflects the most severe attack attributed to this intruder. For an explanation of the BlackICE severity levels, see "Understanding the Severity of an Intrusion" on page 38.

Blocked State Icon

If a blocked icon ⊘ appears, BlackICE is blocking all network traffic from that intruder. If there is no icon, the intruder is not blocked.

You can see the start and end time of the block, check if the block is manual or automatic, or unblock the intruder. For information on how to set blocking policies, see "Blocking an Intruder" on page 61.

Intruder

The best name BlackICE can gather from the attacking system. This column shows the NetBIOS (WINS) name or DNS name for the attacking system. If BlackICE cannot determine a name, it shows the intruder's IP address.

For details about a particular intruder, select the intruder on the list. A description of all the information discovered about the attacking system appears in the right side of the window. For information about the intruder's attacks, double-click the intruder. The attacks attributed to this intruder are shown on the Events tab.

Optional Intruders Tab Columns

You can add these columns to the display by right-clicking the column header and selecting **Columns…**

Intruder IP

The IP address of the attacking system.

Severity (numeric)

A numeric representation of the highest severity rating attributed to this intruder. For an explanation of the BlackICE severity levels, see "Understanding the Severity of an Intrusion" on page 38.

Other Intruders Tab Options

Details

BlackICE shows all the back tracing information it has collected about the intruder next to the Intruder List. When BlackICE back traces an intruder it attempts to gather the IP address, DNS name, NetBIOS name, Node Name, Group name and MAC address. Savvy intruders will likely block BlackICE from acquiring this information.

Back trace information is also available in standard text files in the **Hosts** folder in the directory where BlackICE is installed. Each file is prefixed with the intruder's IP address.

For more information about back tracing, see "Tracking Down Intruders: Back Tracing" on page 49.

Close

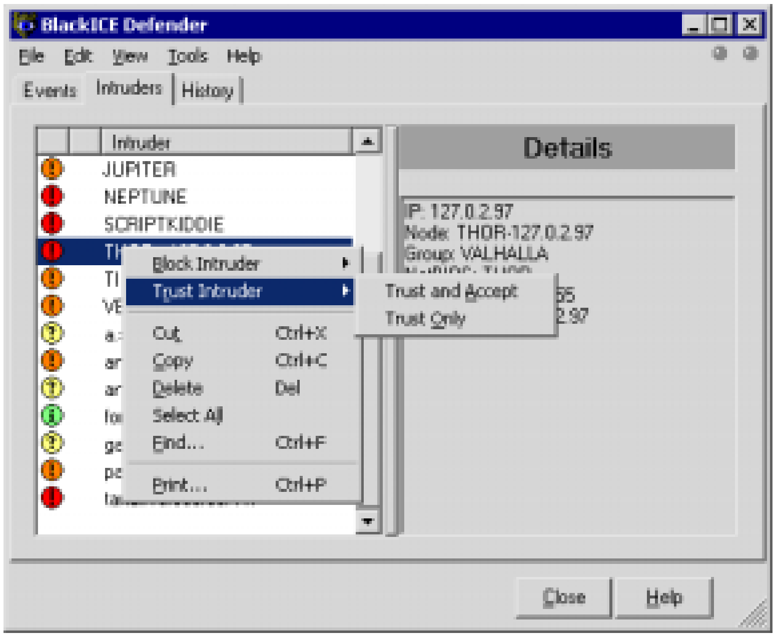
Closes the BlackICE Local Console. The detection and protection engine remains active.

Help

Shows the online help for the Intruders tab.

Intruders Tab Shortcut Menu Commands

Right-click any item in the Intruder list for these commands.



IP: 127.0.2.97
Node: THOR-127.0.2.97
Group: VALHALLA

Figure 48 – Right-click an intruder to show additional Intruders tab options.

Block Intruder

To instruct BlackICE to block an intruder, right-click the intruder and select **Block Intruder** from the shortcut menu. On the submenu, choose how long BlackICE should block the intruder: *For an hour*, a *day*, a *month*, or *forever*. For more information on blocking and unblocking intruders, see 'Blocking an Intruder" on page 61.

Trust Intruder

Once an intruder is trusted, all attacks from that intruder are totally ignored. To trust an intruder, right-click the intruder and select **Trust Intruder** from the shortcut menu. From the submenu, select **Trust Only** or **Trust and Accept**. For more information about trusting and accepting, see "Ignoring an Event" on page 40. For information on how to stop trusting an intruder, see "Deleting a Trusted Address or Ignored Event" on page 47.

Cut

Right-click an intruder and select **Cut** from the shortcut menu. BlackICE removes the entry from the Intruders list and deletes all events associated with this intruder from the Events tab. BlackICE copies the intruder entry to your computer's clipboard in comma-delimited text format. You can paste the text into any application that accepts text input, such as a word processing or spreadsheet program.

Copy

Right-click an intruder and select **Copy** from the shortcut menu. BlackICE copies the information to your computer's clipboard in comma-delimited text format. You can paste the information into any application that accepts text input.

Delete

Right-click an intruder and select **Delete** from the shortcut menu. BlackICE removes the entry from the Intruders list.

Select All

Right-click an intruder and choose **Select All** from the shortcut menu. BlackICE highlights all the events you have viewed during this session. To put all the highlighted information on your computer's clipboard in comma-delimited text format, right-click the list again and select **Cut** or **Copy.** You can then paste the information into any application that accepts text input.

Find…

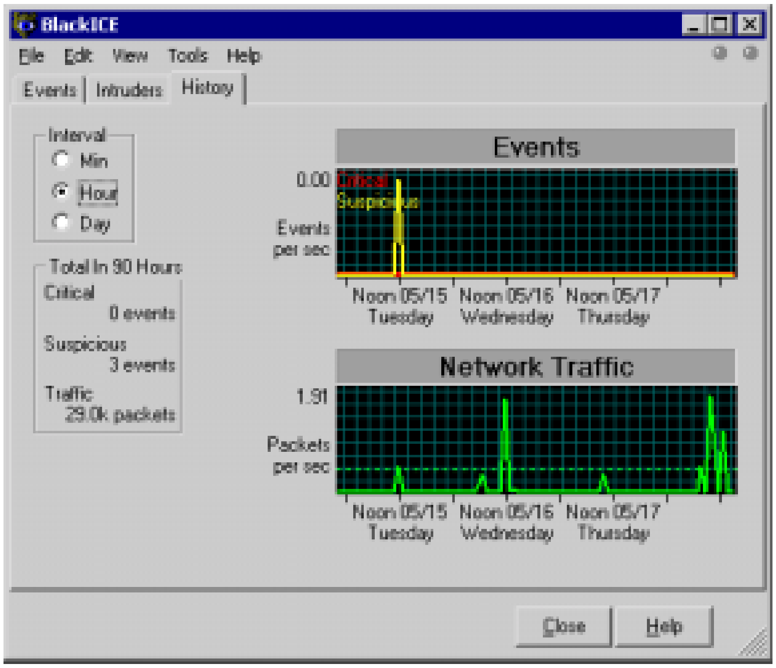
Right-click an intruder and select **Find…** from the shortcut menu. In the **Find** dialog box, select **Match** Whole **Word Only** or **Match Case** to narrow your search terms. To search only records above the highlighted record, click the **Up** option button. To search records below, click **Down**.

Print…

To print the entire contents of the Intruders list, right-click any intruder and select **Print…** from the shortcut menu. In the Print dialog box, choose a printer and the number of copies, then click **OK**.

The History Tab

The **History** tab graphs network and intrusion activity on your computer. This tab is useful for monitoring intrusion trends and general network use.



Interval
○ Min
● Hour
○ Day

Total In 90 Hours
Critical
0 events
Suspicious
3 events
Traffic
29.0k packets

Figure 49 – The History tab is a good way to spot trends in intrusions.

Note: For detailed information on activity in the **Events** graph, click the graph near the marker that shows the time you are interested in. The Events tab appears, highlighting the intrusion closest to that time.

Interval

Use these option buttons to select the interval for both graphs. To show activity over the last 90 minutes, select **Min** (for Minute). For the last 90 hours, select **Hour**. For the last 90 days, select **Day**. BlackICE automatically shows the most informative interval.

Total In 90 Hours (Days, Minutes)

Displays summary statistics for the selected interval.

- **Critical**: The total number of events rated as critical for the selected interval. The events of this type are tracked on the Events graph with a red line.
- **Suspicious**: The total number of events rated as serious and suspicious. The events of this type are tracked on the Events graph with a yellow line.
- **Traffic**: The total amount of network traffic, measured in number of packets. Traffic is tracked on the Network Traffic graph with a green line.

Events Graph

Tracks the number of Critical and Suspicious events BlackICE detects per second during the period shown. The maximum number of events per second during the period appears at the upper left corner of the Events graph.

The display changes to reflect the interval selected with the **Interval** option buttons:

- If the interval selected is **Min.**, the graph shows a period of 90 minutes, and the caption shows tick marks for every half hour.
- If the interval selected is **Hour**, the graph displays a period of 90 hours, with a tick mark at noon of each day.
- If the interval selected is **Day**, the graph shows 90 days, with a tick mark at noon on Sunday of each week.
- The red graph line represents events that BlackICE considers Critical. The yellow line represents Suspicious events. A dotted line shows the average number of events per second. If the average is less than 1, the dotted line is not shown.

Network Traffic Graph

Tracks the number of packets your system sends and receives during the period shown. The maximum number of events per second during the period appears at the upper left corner of the Events graph. The dotted line represents the average number of packets sent and received per second during the period shown on the graph.

The display changes to reflect the interval selected with the **Interval** option buttons:

- If the interval selected is Min., the graph shows a period of 90 minutes, and the caption shows tick marks for every half hour.
- If the interval selected is Hour, the graph shows a period of 90 hours, with a tick mark at noon of each day.
- If the interval selected is Day, the graph shows 90 days, with a tick mark at noon on Sunday of each week.

Close

Closes the BlackICE Local Console. The detection and protection engine remains active.

Help

Displays the online help for the History tab.

Tabs for Configuring BlackICE

The Back Trace Tab

The Back Trace tab allows you to control when and how BlackICE looks for information about intruders.

When BlackICE's monitoring engine detects a suspicious event, it immediately starts collecting information. One method BlackICE uses to locate an intruder is a networking procedure called *back tracing*.

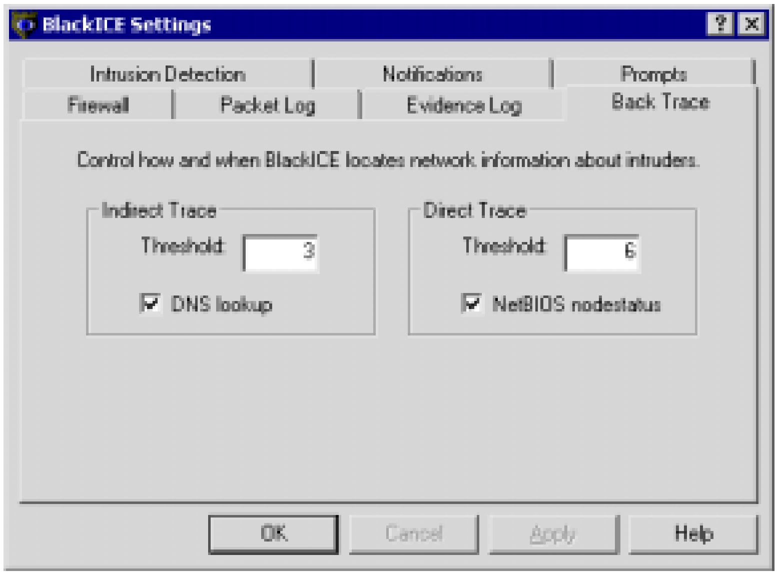
Back tracing is the process of tracing a network connection back to its origin. When somebody connects to your computer via a network such as the Internet, your system and the intruder's system exchange packets. Before an intruder's packets reach your system they travel through several routers. BlackICE can read information from these packets and identify each router the intruder's packets had to travel through. Eventually, BlackICE can "hop" all the way back to the intruder's system.

BlackICE can back trace information *indirectly* or *directly*.

- An indirect trace uses protocols that do not make contact with the intruder's system, but collect information indirectly from other sources along the path to the intruder's system.
- A direct trace goes all the way back to the intruder's system to collect information. Direct traces generally gather more reliable information than indirect traces.

Intruders cannot detect an indirect trace. However, they can detect and block a direct trace. Fortunately, most intruders are not experienced enough to block direct traces.

The Back Trace tab allows you to set the threshold when an indirect or direct back trace is set off. The severity of the incoming event, not the address of the intruder, triggers the back trace.



Control how and when BlackICE locates network information about intruders.

Indirect Trace

Threshold: 3

☑ DNS lookup

Direct Trace

Threshold: 6

☑ NetBIOS nodestatus

Figure 50 – The Back Trace tab.

Back Trace Settings

Indirect Trace

Indirect back tracing does not make contact with the intruder's system, and therefore does not acquire much information. Indirect traces are best suited for lower-severity attacks.

Threshold

Indicates the event severity level that triggers an indirect trace of the attack. Severity refers to the numeric level of each event. The default event severity for the indirect trace threshold is 30. With this setting, any event with a severity of 30 or above triggers an indirect back trace. For an explanation of the BlackICE severity levels, see "Understanding the Severity of an Intrusion" on page 38.

DNS Lookup

When **DNS Lookup** is selected, BlackICE queries available DNS (Domain Name Service) servers for information about the intruder. DNS Lookup is enabled by default.

Direct Trace

Direct back tracing makes contact with the intruder's system and therefore can acquire a lot of information. Direct back traces are best for high-severity attacks, when you want as much information about the intruder as possible.

Threshold

Indicates the event severity that triggers a direct trace of the intruder. The default event severity for the direct trace threshold is 60. With this setting, any event with a severity of 60 or above would trigger a direct back trace. For an explanation of the BlackICE severity levels, see “Understanding the Severity of an Intrusion” on page 38.

NetBIOS Nodestatus

When **NetBIOS nodestatus** is selected, BlackICE performs a NetBIOS lookup on the intruder’s system. The NetBIOS Node Status is enabled by default.

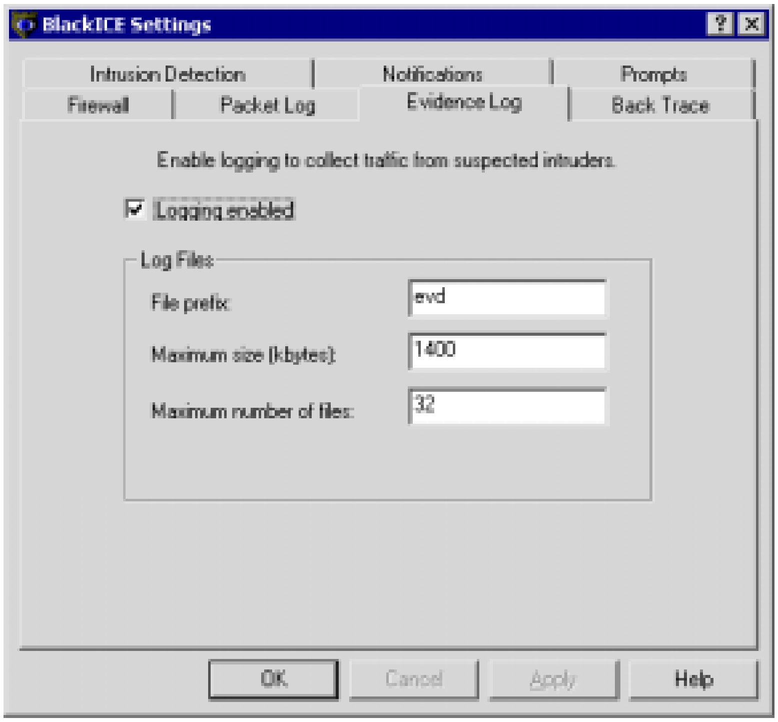
The Evidence Log Tab

When a computer is attacked, BlackICE can capture evidence files that record network traffic from the attacking system. These files are located in the ***<installation directory>*** folder. For example, if you installed BlackICE to the `Program Files` directory on the `C:` drive (the default), the evidence files are in **`C:/Program Files/Network ICE/BlackICE`**. The file extension for all evidence log files is **`*.enc`**.

Evidence files are encoded as "sniffer"-format trace files. To view the contents of these files, you need to have a decoding application, such as Network Monitor (included with the Windows NT Server and Windows 2000).

The Evidence Log tab controls the size and grouping of each evidence file set. For more information about tracking evidence of intrusions, see "Tracking Down Intruders: Collecting Evidence" on page 51.

Note: Evidence files are not the same as packet logs. Packet logs are a summary of *all* inbound and outbound traffic on the system. An evidence file focuses on the traffic associated with specific attacks.



Enable logging to collect traffic from suspected intruders.

☑ Logging enabled

Log Files

File prefix: evd

Maximum size (kbytes): 1400

Maximum number of files: 32

Figure 51 – The Evidence Log tab controls how BlackICE collects evidence files.

Evidence Log Settings

Logging Enabled

Instructs BlackICE to collect evidence files for suspicious events. This setting is enabled by default.

File Prefix

Specifies the prefix for the evidence file names. To place a date stamp (format `YYYYMMDD`) and number (`NN`) in the file name, enter **`%d`** after the selected prefix. For example, if you enter `evd` (the default file prefix), the file names will look like this: `evdYYYYMMDD-NN.enc`. The time is in 24-hour format in Greenwich Mean Time (GMT).

Maximum Size (kbytes)

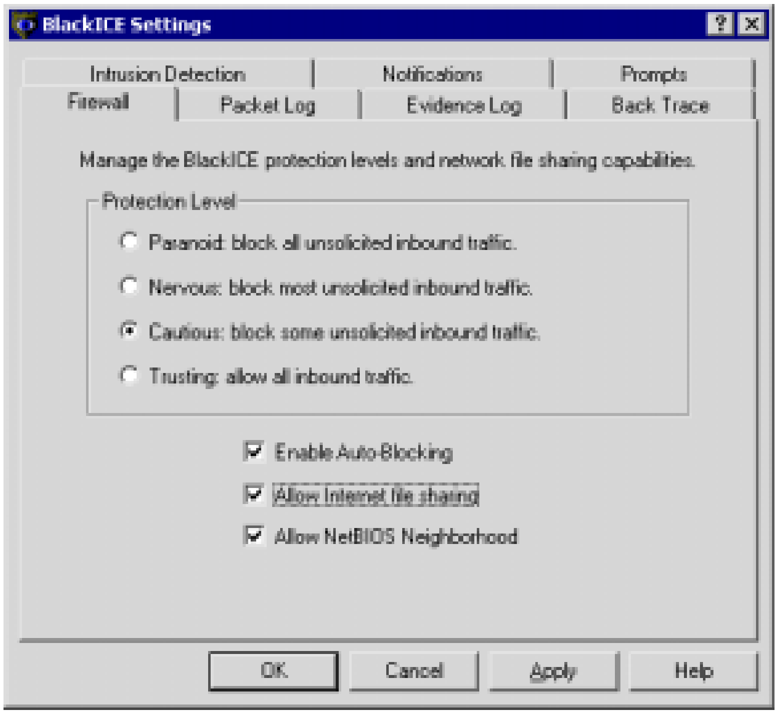
Controls how big each evidence file can get. For best results, keep this value under 2048 kilobytes (2 MB). To ensure that the file fits on a floppy disk, consider using a maximum size of 1400 kilobytes (the default).

Maximum Number of Files

Limits how many files BlackICE generates in the specified collection time period (as defined by the Maximum Number of Secs value). For example, if the Maximum Number of Files is 32 (the default value), BlackICE does not generate more than 32 evidence files in any given 24 hour period.

The Firewall Tab

Use the Firewall tab to choose how tightly BlackICE controls access to your computer. The default protection level setting is *Trusting*. For more information about how protection levels work, see “Choosing a Protection Level” on page 58.



Manage the BlackICE protection levels and network file sharing capabilities.

Protection Level

○ Paranoid: block all unsolicited inbound traffic.

○ Nervous: block most unsolicited inbound traffic.

● Cautious: block some unsolicited inbound traffic.

○ Trusting: allow all inbound traffic.

☑ Enable Auto-Blocking

☑ Allow Internet file sharing

☑ Allow NetBIOS Neighborhood

Figure 52 – The Firewall tab.

Protection Level Settings

Paranoid

The *Paranoid* setting is very restrictive, but useful if your system is enduring frequent and repeated attacks. Under this setting BlackICE blocks all unsolicited inbound traffic. This setting may restrict some Web browsing and interactive content. All ports are blocked to incoming traffic.

Nervous

This setting is preferable if you are experiencing frequent intrusions. For the *Nervous* setting, BlackICE blocks all unsolicited inbound traffic except for some interactive content on Web sites (such as streaming media and other “application specific” Internet usage). All system ports are blocked, and TCP application ports 1024 through 6635 are blocked.

Cautious

The *Cautious* setting is good for regular use of the Internet. This setting only blocks unsolicited network traffic that accesses operating system and networking services. All system ports are blocked, but all application ports that you have not explicitly blocked are open.

Trusting

Trusting keeps all ports open and unblocked, allowing all inbound traffic. This setting is acceptable if there is minimal threat of intrusions.

Other Firewall Tab Options

Enable Auto-Blocking

When selected, BlackICE automatically blocks intruders when they attempt to break into your system. To stop auto-blocking, clear this option. Attacks are still reported and logged, but not automatically blocked.

If Auto-Blocking is not selected, you must manually block intruders to protect your system. For more information about how to manually block intruders, see "Blocking an Intruder" on page 61.

Allow Internet File Sharing

Internet or Windows file sharing allows you to share files with others across the Internet or over a LAN. For example, with Internet file sharing enabled, you can connect to your computer over the Internet and upload or download files. To prevent systems from connecting to your computer and accessing your shares over the Internet or network, clear this checkbox.

Caution: Disabling file sharing makes the computer unavailable to all other systems on the local network.

If you are on a network, you should leave this item selected (enabled), unless your network does not perform any file sharing among systems. For more information, see "Using BlackICE on a Home LAN" on page 23.

Note: The **Allow Internet File Sharing** option modifies the firewall setting for TCP port 139. If you select this option, BlackICE *accepts* communications on port 139; if you disable this option, BlackICE *rejects* or *blocks* communications on port 139. On Windows 2000, this setting also affects port 445.

Allow NetBIOS Neighborhood

When **Allow NetBIOS Neighborhood** is selected, your computer appears in the Network Neighborhood of other computers. When it is cleared, the system does not appear.

Hiding a computer from the Network Neighborhood does not disable file sharing. Other systems can still access the resources on the local system. Users have to manually locate the computer using the local computer's IP address.

Note: The **Allow NetBIOS Neighborhood** option modifies the firewall setting for UDP ports 137 and 138. If you select this option, BlackICE *Accepts* communications on these ports; if you disable this option, BlackICE *Rejects/Blocks* communications on these ports. For information about accepting and rejecting ports, see "Firewall Settings" on page 8.

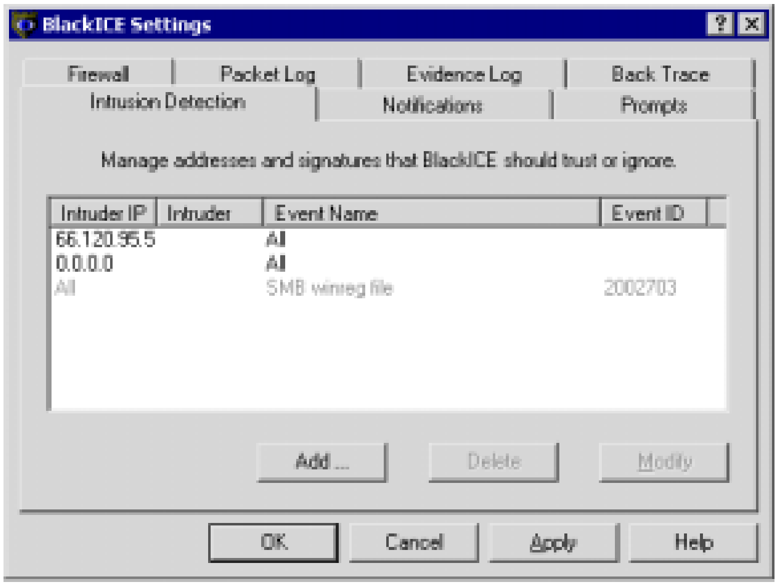
The Intrusion Detection Tab

The Intrusion Detection tab allows you to control which IP addresses or attacks the BlackICE engine trusts or ignores.

- *Trusting* means manually excluding one or more addresses from intrusion detection. When an address is trusted, BlackICE excludes the system from any monitoring and protection. All network traffic from that address is considered safe, and attacks that originate from that system are not shown on the Events tab.
- *Ignoring* means configuring BlackICE to disregard certain kinds of events. For example, if you have a server that carries out regular port scans, you may want to have BlackICE ignore any port scanning "attacks" from that server's IP address. When an event type is ignored, BlackICE does not log any information about events of that type.

Trusting and *ignoring* work in tandem with BlackICE firewall settings. For more information about trusting, ignoring or firewall settings, see "Traffic Filtering" on page 7. For information about ignoring events, see "Ignoring an Event" on page 40. For information about trusting, see "Trusting an Intruder" on page 43 and "Trusting an Address" on page 45.

Caution: Trust or ignore only addresses that do not pose any threat to your system. Keep in mind that intruders can "spoof" the IP address of internal systems. It is possible, though extremely unlikely, for an intruder to spoof a trusted address and avoid detection from BlackICE. A seemingly innocuous event can also signal a prelude to a serious attack.



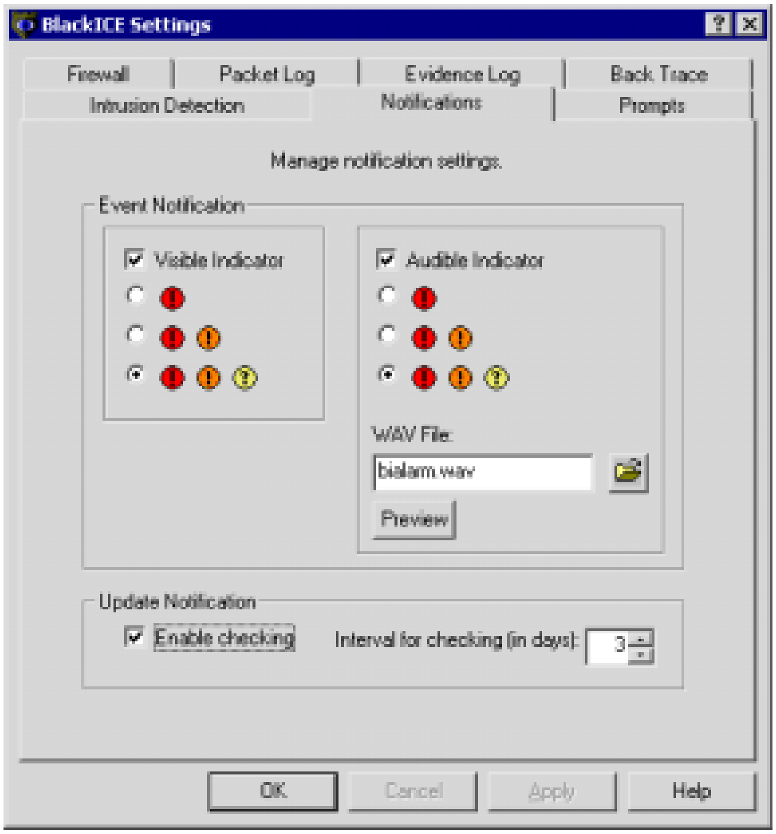
Manage addresses and signatures that BlackICE should trust or ignore.

Intruder IP	Intruder	Event Name	Event ID
66.120.95.5		All	
0.0.0.0		All	
All		SMB winreg file	2002703

Figure 53 – The Intrusion Detection tab.

The Notifications Tab

The Notifications tab allows you to control some noncritical interface and notification functions of the Local Console.



Manage notification settings.

Event Notification

☑ Visible Indicator
○ ●
○ ● ●
● ● ● ●

☑ Audible Indicator
○ ●
○ ● ●
● ● ● ●

WAV File: bialarm.wav

Preview

Update Notification

☑ Enable checking   Interval for checking (in days): 3

Figure 54 –The BlackICE Notifications tab

Notification Settings

Event Notification

BlackICE alarm preferences control how and when the application notifies you of an event. For more information about setting BlackICE alarms, see “Setting Alarm Preferences” on page 28.

Visible Indicator

Select this option to have the BlackICE System Tray icon flash when an event is reported. The visible indicator is triggered only if the Local Console is closed or hidden. The three options below **Visible Indicator** determine which events trigger an alert.

Audible Indicator

Select this option to have BlackICE play a `.wav` file when an event is reported. The audible alarm is triggered whether the BlackICE window is open or closed. The three options below **Audible Indicator** determine which events trigger a sound alert.

Wav File

If the **Audible Indicator** option is selected, use this field to define the `.wav` file to play. Click the folder icon to locate a new `.wav` file.

Preview

Click to listen to the selected alert `.wav` file. This feature is only enabled if the **Audible Indicator** option is selected. Your computer must have a sound card and speakers to play the audible alarm.

Update Notification

BlackICE can automatically check for software updates for protection against new kinds of intrusions. Use these inputs to configure your own checking schedule.

Enable checking

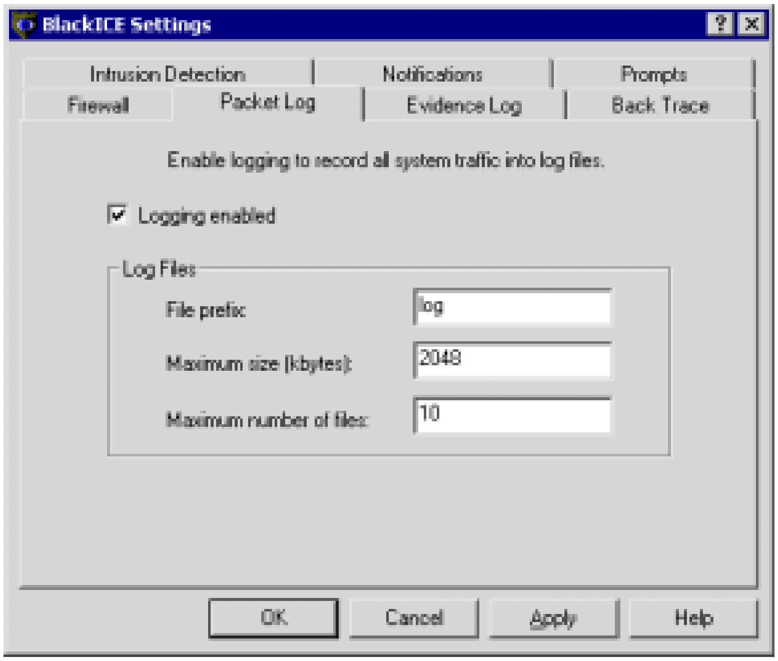
Select to automatically check the BlackICE Web site for updates. This option is disabled by default.

Interval for checking

Enter the number of days between checks for updates. The default automatic update check time is every 3 days. This would cause BlackICE to check for an update after 3 continuous days of operation.

The Packet Log Tab

The Packet Log tab allows you to configure the packet logging features of BlackICE. When packet logging is enabled, BlackICE records the IP address of *all* systems that communicated with the local system. For more information on evidence gathering, see "The Evidence Log Tab" on page 82.



Enable logging to record all system traffic into log files.

☑ Logging enabled

Log Files

File prefix: log

Maximum size (kbytes): 2048

Maximum number of files: 10

Figure 55 – You can use the Packet Log tab to configure how BlackICE tracks system traffic.

Packet Log Settings

Logging Enabled

When selected, BlackICE captures packet logs. Packet logging is disabled by default.

File Prefix

Specifies the prefix for the packet log file names. BlackICE automatically places an incremented counter in the filename. For example, if you enter `ABC`, the file names will be `ABC0001.enc`, `ABC0002.enc`, etc. The default file prefix is `log`.

Maximum Size (kbytes)

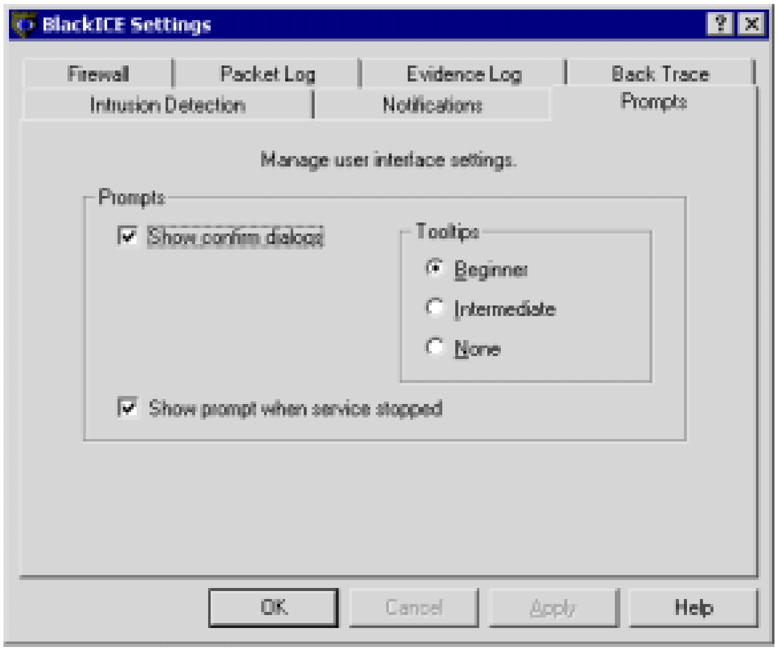
Specifies the maximum size, in kilobytes, for each log file. The default value is 2048 kilobytes.

Maximum Number of Files

Specifies the maximum number of log files to generate. The default value for the maximum number of files to log is 10.

The Prompts Tab

The Prompts tab enables you to choose the level of feedback you want from the BlackICE user interface.



Manage user interface settings.

Prompts

☑ Show confirm dialogs

Tooltips

● Beginner

○ Intermediate

○ None

☑ Show prompt when service stopped

Figure 56 – The Prompts tab.

Tab Options

Show Confirm Dialogs

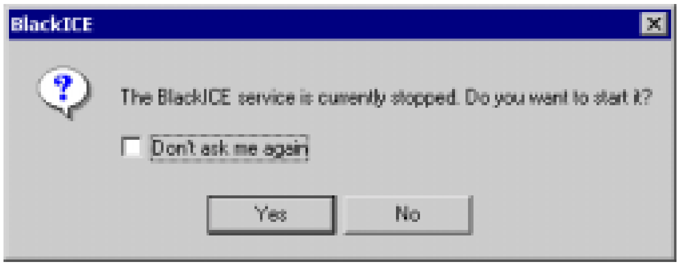
Select this option to have BlackICE prompt for confirmation when deleting items, clearing the event list, and when other significant changes are made to BlackICE. Clear to turn off such confirmations. By default, this checkbox is enabled.

Tooltips

A Tooltip is the descriptive text that appears when the mouse cursor hovers over a user interface item. Select the option corresponding to the level of information you need. To show information appropriate to a new user, click **Beginner**. To show information useful for a user who is familiar with computers, click **Intermediate**. To hide these Tooltips, click **None**. By default, **Beginner** is selected.

Show Prompt When Service Stopped

Select this option to have BlackICE remind you when the BlackICE intrusion detection engine is stopped and your local system is unprotected. When you restart your computer after stopping the BlackICE service, BlackICE asks if you want to restart the service. Click **Yes** to restart BlackICE. To instruct BlackICE not to remind you when the service is stopped, select **Don't ask me again**.



The BlackICE service is currently stopped. Do you want to start it?

☐ Don't ask me again

Figure 57 – BlackICE can remind you when the BlackICE intrusion detection engine is not protecting your system.

The Advanced Firewall Settings Dialog Box

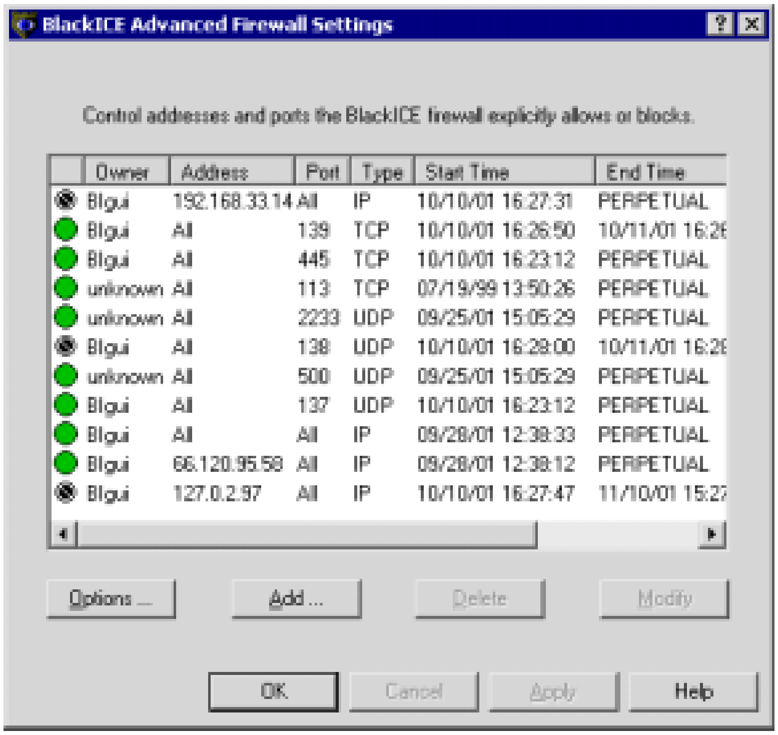
The firewall component of BlackICE blocks or accepts incoming and outgoing packets from a particular IP address or TCP/UDP port number. The BlackICE firewall is dynamic. You can add and remove addresses or ports from the firewall list as necessary to modify and protect your computer.

In addition to manually editing the firewall settings to accept or block IP addresses or ports, you can *reject* (block) an IP address from the BlackICE Local Console tabs.

Caution: This firewall editor is intended for users with advanced understanding of computers and systems networking.

Use the Advanced Firewall Settings dialog box to create, modify and delete firewall settings for IP addresses and ports. It shows the IP addresses and ports that BlackICE is currently blocking. Clicking a column header re-sorts the list by that column. Clicking the column header again reverses the sort order from ascending to descending or vice-versa.

For more information about how the firewall settings work, see "Firewall Settings" on page 8. For information on managing individual IP addresses, see "To Block or Accept an IP Address" on page 62. For more information on working with ports, see "To Block or Accept a Port" on page 64.



BlackICE Advanced Firewall Settings

Control addresses and ports the BlackICE firewall explicitly allows or blocks.

	Owner	Address	Port	Type	Start Time	End Time
⊗	Blgui	192.168.33.14	All	IP	10/10/01 16:27:31	PERPETUAL
●	Blgui	All	139	TCP	10/10/01 16:26:50	10/11/01 16:2
●	Blgui	All	445	TCP	10/10/01 16:23:12	PERPETUAL
●	unknown	All	113	TCP	07/19/99 13:50:26	PERPETUAL
●	unknown	All	2233	UDP	09/25/01 15:05:29	PERPETUAL
⊗	Blgui	All	138	UDP	10/10/01 16:28:00	10/11/01 16:2
●	unknown	All	500	UDP	09/25/01 15:05:29	PERPETUAL
●	Blgui	All	137	UDP	10/10/01 16:23:12	PERPETUAL
●	Blgui	All	All	IP	09/28/01 12:38:33	PERPETUAL
●	Blgui	66.120.95.58	All	IP	09/28/01 12:38:12	PERPETUAL
⊗	Blgui	127.0.2.97	All	IP	10/10/01 16:27:47	11/10/01 15:2

Figure 58 – The Advanced Firewall Settings screen.

Firewall Settings

Icon

A visual representation of the firewall setting. Green 🟢 indicates that all communication is accepted from the address. A slash through the icon ⊘ indicates that the IP address is blocked and all network traffic from that system is rejected.

Owner

Shows who created the firewall entry. Entries generated through the BlackICE automatic blocking feature display *auto*. Entries created manually from the BlackICE Local Console show *BIgui*.

Address

The IP address of the accepted or blocked system. If the firewall entry is for a port, the word *ALL* appears.

Port

The accepted or rejected port number. If the firewall entry is for an IP address, the word *ALL* appears.

Type

The type of port: *UDP* or *TCP*.

Start Time

The date and time the setting was created, in `MM/DD/YY hh:mm:ss` format. Times are in 24-hour format.

End Time

The termination time and date for the setting in `MM/DD/YY hh:mm:ss` format. Times are in 24-hour format. Permanent settings show the text PERPETUAL.

Name

The best name BlackICE has for the IP address. This may be a DNS or NetBIOS (WINS) name. If the setting was configured from the Advanced Firewall Settings screen, this column is empty.

Buttons

Options

To be notified when BlackICE is about to stop blocking an IP address, select **Warn Before Block Expires**.

Add

To manually add a new IP address filter or a new port configuration, click **Add**. The Add Firewall Entry dialog box appears. For information on managing individual IP addresses, see "To Block or Accept an IP Address" on page 62. For information on managing ports, see "To Block or Accept a Port" on page 64.

Delete

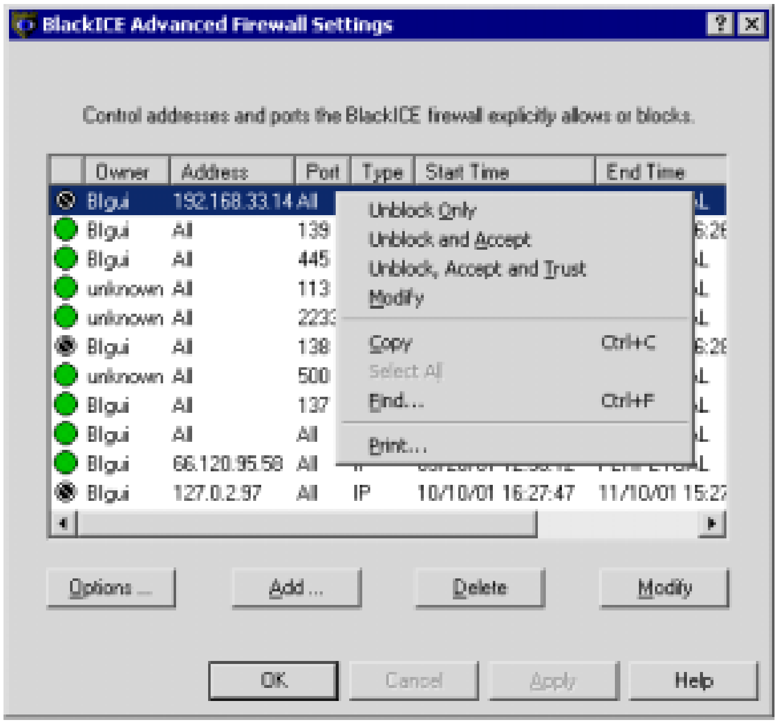
To delete a firewall setting, select the setting and click **Delete**. Click **Yes** to remove the IP address from the BlackICE firewall.

Modify

Select a firewall setting to change and click **Modify**. A Modify Firewall Entry dialog box appears. For more information on managing Firewall entries, see "Blocking Intrusions" on page 57.

Advanced Firewall Settings Dialog Box Shortcut Menu Commands

These commands are available when you right-click any item. Accept and Reject settings prompt different right-click options.



BlackICE Advanced Firewall Settings

Control addresses and ports the BlackICE firewall explicitly allows or blocks.

	Owner	Address	Port	Type	Start Time	End Time
⊘	Blgui	192.168.33.14	All			L
●	Blgui	All	139			6:26
●	Blgui	All	445			L
●	unknown	All	113			L
●	unknown	All	223			L
⊘	Blgui	All	138			6:26
●	unknown	All	500			L
●	Blgui	All	137			L
●	Blgui	All	All			L
●	Blgui	66.120.95.58	All			L
⊘	Blgui	127.0.2.97	All	IP	10/10/01 16:27:47	11/10/01 15:27

Figure 59 – Right-click an entry to show additional options.

Commands for Accepted Entries

Modify

Opens a Modify Firewall Entry dialog box that allows you to change the firewall setting. See "Blocking or Accepting an IP Address or Port" on page 62.

Delete

Removes the accepted address from the firewall. Click **Yes** to remove the address.

Cut

Removes the address from the list and copies the information to your computer's clipboard in comma-delimited text format. You can paste the information into any application that accepts text input, such as a word processing or spreadsheet program.

Copy

Copies the selected address to your computer's clipboard in comma-delimited text format. You can paste the information into any application that accepts text input, such as a word processing or spreadsheet program.

Find…

Searches the list of addresses for the string or letters or numbers that you enter.

Print…

Sends the contents of the Advanced Firewall Settings window to the default printer in comma-separated text format.

Commands for Rejected Entries

Unblock Only

Removes the blocked address from the firewall. Click **Yes** to remove the address.

Unblock and Accept

Changes the blocked addresses' firewall setting from ⊗ REJECT to 🟢 ACCEPT.

Unblock, Accept and Trust

Changes the entry's firewall setting from ⊗ REJECT to 🟢 ACCEPT, and then trusts the address or port. When trusting the entry, the BlackICE intrusion detection engine adds it to the BlackICE Settings Intrusion Detection tab (see "The Intrusion Detection Tab" on page 86) and ignores *any* attacks from the address.

Modify

Opens a dialog box that allows you to change a firewall entry.

Copy

Copies the selected address to your computer's clipboard in text format, with values separated by commas. You can open another application, such as a word-processing or email program, and paste this information into a text message, or you can import it into a spreadsheet program.

Find…

Searches the address list for information that you specify.

Print…

Sends the contents of the Advanced Firewall Settings window to the default printer in comma-separated text format.

The Menu Bar

The menu bar appears above the BlackICE Defender Local Console tabs. The Menus contain features that enable you to control how BlackICE works and how it looks.

The File Menu

The File menu allows you to control the essential operations of BlackICE Defender.

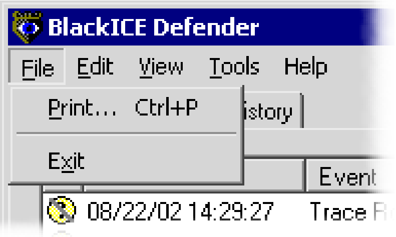


Figure 60– Use the File menu to control BlackICE basics.

Print…

Sends information from the BlackICE Local Console to the default printer. On the Events or Intruders tab, select an event or intruder. Click **Print…** on the File menu. In the Print dialog box, choose a printer and the number of copies, then click **OK**. You can also access this command by right-clicking on the Events and Intruders tabs.

Exit

Click **Exit** to close the BlackICE Local Console. The BlackICE icon is removed from the taskbar. The intrusion-monitoring engine remains active.

The Edit Menu

The Edit menu enables you to manipulate the intrusion records that BlackICE gathers.

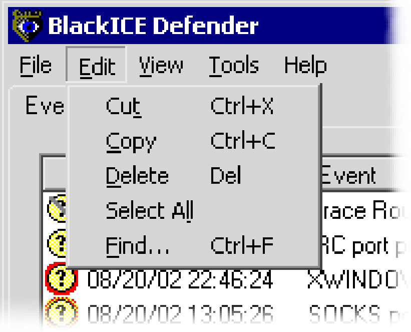


Figure 61– Use the Edit menu to work with information BlackICE gathers.

Cut

On the Events or Intruders tab, click an event or intruder and select **Cut** from the Edit menu. BlackICE copies the entry to your computer's clipboard in comma-delimited text format. You can paste the text into any application that accepts text input, such as a word processing or spreadsheet program. BlackICE also removes the entry from the list. You can also access this command by right-clicking on the Events and Intruders tabs.

Copy

On the Events or Intruders tab, click an event or intruder and select **Copy** from the Edit menu. BlackICE copies the information to your computer's clipboard in comma-delimited text format. You can paste the information into any application that accepts text input. You can also access this command by right-clicking on the Events and Intruders tabs.

Delete

On the Events or Intruders tab, click an event or intruder and select **Delete** from the Edit menu. BlackICE removes the entry from the list. You can also access this command by right-clicking on the Events and Intruders tabs.

Select All

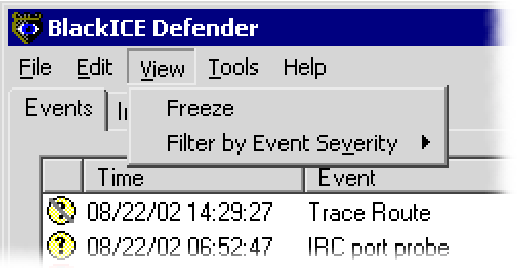
On the Events or Intruders tab, click an event or intruder and choose **Select All** from the Edit menu. BlackICE highlights all the events you have viewed during this session. To put all the highlighted information on your computer's clipboard in comma-delimited text format, right-click the list again and select **Cut** or **Copy.** You can then paste the information into any application that accepts text input. You can also access this command by right-clicking on the Events and Intruders tabs.

Find…

On the Events or Intruders tab, click an event or intruder and select **Find…** from the Edit menu. In the **Find** dialog box, select **Match** Whole **Word Only** or **Match Case** to narrow your search terms. To search only records above the highlighted record, click the **Up** option button. To search records below, click **Down**. You can also access this command by right-clicking on the Events and Intruders tabs.

The View Menu

The View menu enables you to change what is displayed, and how, on the BlackICE Events and Intruders lists.



08/22/02 14:29:27 Trace Route
08/22/02 06:52:47 IRC port probe

Figure 62– Use the View menu to control what BlackICE shows.

Freeze

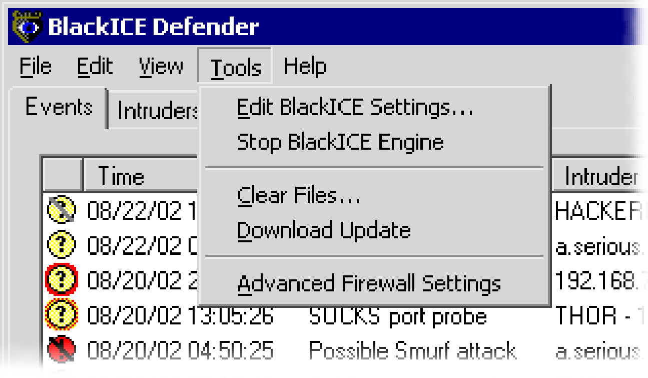
Stops BlackICE from refreshing the tab information until you unfreeze it.

Filter by Event Severity

Filters which types of attacks are displayed. On the Events or Intruders tab, select **Filter by Event Severity** from the View menu and choose the minimum severity level you want to see reported.

The Tools Menu

The Tools menu enables you to configure the application by editing the BlackICE Defender settings; edit the Advanced Firewall settings; start or stop the BlackICE engine; clear the event list; or change other preferences.



08/22/02 1 HACKER
08/22/02 0 a.serious
08/20/02 2 192.168.
08/20/02 13:05:26 SOCKS port probe THOR - 1
08/20/02 04:50:25 Possible Smurf attack a.serious

Figure 63– Use the Tools menu to control how BlackICE Defender works.

Edit BlackICE Settings

Displays the configuration tabs that control the operation of the BlackICE engine.

Stop BlackICE Engine

Turns off the BlackICE Intrusion detection engine.

Clear Files…

Deletes intrusion information by removing the `attack-list.csv` file, the evidence log files or the packet log files. You can also do this by right-clicking on the Events tab and choosing **Clear Event List**.

Advanced Firewall Settings

Shows the Advanced Firewall Settings window, which enables you to control which IP addresses or TCP/UDP port numbers BlackICE blocks or accepts.

The Help Menu

The Help menu offers links to the online help system, the World Wide Web site for BlackICE, or information about BlackICE.

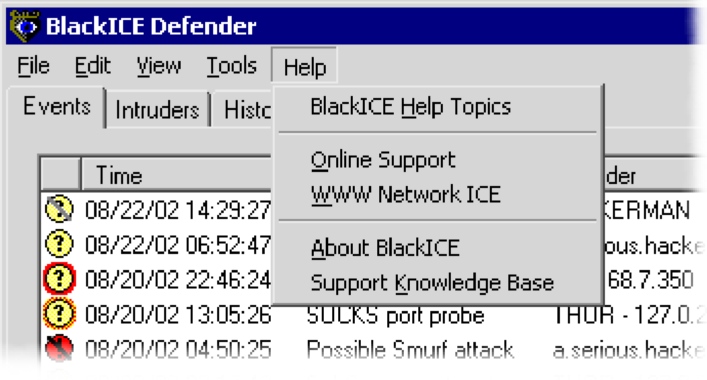


Figure 64– Use the Help menu to get more information about using BlackICE.

BlackICE Help Topics

Displays the BlackICE online help. The online help provides quick answers to many questions about using BlackICE Defender.

You can also get online help from the BlackICE Local Console Tabs. Click the **Help** button at the bottom of any tab. For quick help on most screen options, press [Shift-F1] or click the **?** button in the top right corner of the screen, then click the option.

Tip: The latest product documentation is available from the BlackICE Web site at www.networkice.com/support/documentation.html.

Online Support

Launches your browser and points it to the BlackICE support Web site at www.networkice.com/support.html. You can also get online support by writing to support@networkice.com.

WWW Network ICE

Launches your browser and points it to the BlackICE Web site at www.networkice.com. The Web site includes the latest information about BlackICE Defender, such as FAQs (Frequently Asked Questions), a support Knowledge Base and the advICE library, an extensive online resource for network security information.

About BlackICE

Shows your BlackICE license key and provides information about your version of BlackICE.

Support Knowledge Base

Launches your Web browser and points it to the advICE section of the BlackICE Web site at advice.networkice.com/advICE/Support/KB.

GLOSSARY

Anonymous Re-mailer: A program that removes header information from an e-mail message, making it impossible to tell where it actually came from. *See* SPAM.

Application Port: TCP and UDP ports from 1024 to 65536. These ports are available for applications to use for special networking use. *See* System Ports.

Application Program Interface: API is a set of routines, protocols, and tools for building software applications. A good API makes it easier to develop a program by providing all the building blocks. A programmer puts the blocks together.

Most operating environments, such as MS-Windows, provide an API so that programmers can write applications consistent with the operating environment. Although APIs are designed for programmers, they are ultimately good for users because they guarantee that all programs using a common API will have similar interfaces. This makes it easier for users to learn new programs.

ARP: **A**ddress **R**esolution **P**rotocol. A TCP/IP protocol used to convert an IP address into a physical address (called a DLC or MAC address), such as an Ethernet address. A host wishing to obtain a physical address broadcasts an ARP request onto the TCP/IP network. The host on the network that has the IP address in the request then replies with its physical hardware address.

Authenticity: Proof that the information came from the person or location that reportedly sent it. One example of authenticating software is through digital signatures.

Back Door: A deliberately planned security breach in a program. Back doors allow special access to a computer or program. Sometimes back doors can be exploited and allow a cracker unauthorized access to data.

BackOrifice: BackOrifice is a remote administration tool that allows a user to control a computer across a TCP/IP connection using a simple console or GUI application. BackOrifice is a potentially disastrous Trojan horse since it can provide the user unlimited access to a system.

Blue Screen of Death (BSoD): When a Windows NT based system encounters a serious error, the entire operating system halts and displays a screen with information regarding the error. The name comes from the blue color of the error screen.

Brute Force Hacking: A technique used to find passwords or encryption keys. Brute Force Hacking involves trying every possible combination of letters, numbers, etc. until the code is broken.

Camping Out: Staying in a "safe" place once a hacker has broken into a system. The term can be used with a physical location, electronic reference, or an entry point for future attacks.

CGI: **C**ommon **G**ateway **I**nterface. A standardized way for web servers to execute applications and use those applications for web site content. CGI applications can be written in many different languages, including C, Perl, Java, or Visual Basic.

CGI programs are the most common way for Web servers to interact dynamically with users. Many HTML pages that contain forms, for example, use a CGI program to process the form's data once it is submitted.

Hackers often attempt to exploit CGI applications since some programs can provide administrative level access to the web server.

Cipher Text: Text that has been scrambled or encrypted so that it cannot be read without deciphering it. *See* Encryption

Cookie: A string of characters saved by a web browser on the user's hard disk. Many web pages send cookies to track specific user information. Cookies can be used to retain information as the user browses a web site. For example, cookies are used to "remember" the items a shopper may have in a shopping cart.

Countermeasures: Techniques, programs, or other tools that can protect your computer against threats.

Cracker: Another term for hackers. Generally, the term cracker refers specifically to a person who maliciously attempts to break encryption, software locks, or network security.

Cracker Tools: Programs used to break into computers. Cracker tools are widely distributed on the Internet. They include *password crackers*, *Trojan Horse applications*, *viruses*, *war-dialers*, and *worms*.

Cracking: The act of breaking into computers. Cracking is a popular, growing subject on the Internet. Many sites are devoted to supplying crackers with programs that allow them to crack computers. Some of these programs contain dictionaries for guessing passwords. Others are used to break into phone lines (called phreaking).

Cryptoanalysis: The act of analyzing secure documents or systems that are protected with encryption for the purpose of breaking into the systems or exposing weaknesses.

Decryption: The act of restoring an encrypted file to its original, plain text state.

Denial of Service: Act of preventing customers, users, clients, or other machines from accessing data on a computer. Denial of service is usually accomplished by interrupting or overwhelming the computer with bad or excessive information requests.

DES: **D**ata **E**ncryption **S**tandard. An encryption algorithm developed by the US government. It allows the use of variable length keys.

Digital Signature: Digital code that authenticates whomever signed the document or software. E-mail, software, messages, and other electronic documents can be signed electronically so that they cannot be altered by anyone else. If someone alters a signed document, the signature is no longer valid. Digital signatures are created when someone generates a hash from a message, then encrypts and sends both the hash and the message to the intended recipient. The recipient decrypts the hash and original message, makes a new hash on the message itself, and compares the new hash with the old one. If the hashes are the same, the recipient knows that the message has not been changed. S*ee* Public Key Encryption.

DNS: **D**omain **N**ame **S**ystem (or **S**ervice). A database of domain names and their IP addresses. DNS is the primary naming system for many distributed networks, including the Internet.

Encryption: The act of substituting numbers and characters in a file so that the file is unreadable until it is decrypted. Encryption is usually done using a mathematical formula that determines how the file is decrypted.

Event: Information regarding a possible intrusion or security vulnerability reported to BlackICE. The term event is used to refer generically to anything reported to BlackICE.

Finger*:* A UNIX based user-management tool. Finger servers gather information about users logged on to the system and can report that information when queried.

Firewall: A hardware or software barrier that restricts access in and out of a network. Firewalls are most often used to separate an internal LAN or WAN from the Internet. *See* Gateway.

FTP: **F**ile **T**ransfer **P**rotocol. A common protocol used for exchanging files between two sites across a network. FTP is popular on the Internet because it allows for speedy transfer of large files between two systems. Like all networking protocols, it too has some significant vulnerabilities.

Gateway: A gateway is a system that provides access between two or more networks. Gateways are typically used to connect unlike networks together. A gateway can also serve as a firewall between two or more networks.

Hacker: Generally, a hacker is anyone who enjoys experimenting with technology, including computers and networks. Not all hackers are criminals breaking into systems. Many are legitimate users and hobbyists. Nevertheless, some are dedicated criminals or vandals. *See* Cracker.

HTTP: **H**yper **T**ext **T**ransfer **P**rotocol. The most common protocol used on the Internet. HTTP is the primary protocol used for web sites and web browsers. It is also prone to certain kinds of attacks.

ICMP: **I**nternet **C**ontrol **M**essage **P**rotocol. ICMP, an extension to the Internet Protocol (IP), supports packets containing error, control, and informational messages. The PING command, for example, uses ICMP to test an Internet connection.

Integrity: Proof that the data is the same as originally intended. Unauthorized software or people have not altered the original information.

Internet Worm: *See* Worm.

Intruder: Person or software interested in breaking computer security to access, modify, or damage data. *See* Cracker.

Intrusion: A network event where an unauthorized person or program attempts to gain access to systems or resources.

IP: **I**nternet **P**rotocol. Specifies the format of packets, also called *datagrams,* and the addressing scheme. Most networks combine IPs with a higher-level protocol called Transport Control Protocol (TCP), which establishes a virtual connection between a destination and a source. IP by itself is something like the postal system. It allows you to address a package and drop it in the system, but there's no direct link between you and the recipient. TCP/IP, on the other hand, establishes a connection between two hosts so that they can send messages back and forth for a period of time. Current IP standards use 4 numbers between 0 and 255 separated by periods to create a 32-bit numeric IP address such as `192.168.10.32`.

IRC: **I**nternet **R**elay **C**hat. IRC was developed in the late 1980s as a way for multiple users on a system to "chat" over the network. Today IRC is a very popular way to "talk" in real time with other people on the Internet. However, IRC is also one avenue hackers use to get information from you about your system and your company. Moreover, IRC sessions are prone to numerous attacks that, while not dangerous, can cause your system to crash.

Issue: One of the many types of intrusions or security vulnerabilities that BlackICE can identify. The term *issue* is often used interchangeably with the term *event.*

LAN: **L**ocal-**A**rea **N**etwork. LAN is a computer network that spans a relatively small area. One LAN connected via telephone lines or radio waves to other LANs over any distance create a WAN (a Wide-Area network).

Linux: A version of the UNIX operating system.

Logic Bomb: A virus that only activates itself when certain conditions are met. Logic bombs usually damage files or cause other serious problems when they are activated.

MAC Address: **M**edia **A**ccess **C**ontrol **Address**. A unique identification code used in all networked devices. The MAC address defines a specific network node at the hardware level and cannot be altered by any software.

Name Resolution: The allocation of an IP address to a host name. *See* DNS.

NetBIOS: **Net**work **B**asic **I**nput / **O**utput **S**ystem. NetBIOS is an extension of the DOS BIOS that enables a PC to connect to and communicate with a LAN (Local Area Network).

NetBEUI: **NetB**IOS **E**xtended **U**ser **I**nterface. NetBEUI is the primary protocol used by Windows for Workgroups to communicate with a LAN.

NAT: **N**etwork **A**ddress **T**ranslation. An Internet standard that enables LAN, WAN (Wide Area Network), and MAN networks to use extended IP addresses for internal use by adding an extra number to the IP address. This standard translates internal IP addresses into external IP addresses and vice versa. In doing so, it generates a type of firewall by hiding internal IP addresses.

Packet Filter: A filter used in firewalls that scans packets and decides whether to let them through.

Password Cracker: A program that uses a dictionary of words, phrases, names, etc. to guess a password.

Password encryption: A system of encrypting electronic files using a single key or password. Anyone who knows the password can decrypt the file.

Password Shadowing: The storage of a user's username and password in a network administrator database.

Penetration: Gaining access to computers or networks by bypassing security programs and passwords.

Phreaking: Breaking into phone or other communication systems. Phreaking sites on the Internet are popular among crackers and other criminals.

Ping: **P**acket **In**ternet **G**roper. PING is a utility to determine whether a specific IP address is accessible. It works by sending a packet to the specified address and waiting for a reply. PING is used primarily to troubleshoot Internet connections.

Ping Attack: An attack that slows down the network until it is unusable. The attacker sends a "ping" command to the network repeatedly to slow it down. *See also* Denial of Service.

Pirate: Someone who steals or distributes software without paying the legitimate owner for it. This category of computer criminal includes several different types of illegal activities:

- Making copies of software for others to use.
- Distributing pirated software over the Internet or a Bulletin Board System.
- Receiving or downloading illegal copies of software in any form.

Pirated Software: Software that has been illegally copied, or that is being used in violation of the software's licensing agreement. Pirated software is often distributed through pirate bulletin boards or on the Internet. In the Internet underground it is known as "Warez."

Plain Text: The opposite of Cipher Text, Plain Text is readable by anyone.

POP: **P**ost **O**ffice **P**rotocol. This is a common protocol used for retrieving mail messages.

Port: A connection point where a computer communicates with other devices. Computers have hardware ports such as parallel ports for printers or USB ports for digital cameras. Networks use virtual ports for assigning a communications channel that the computer can control. For example, when browsing the web, most HTTP based communications take place using the TCP port 80. When a computer needs to access a web site, it opens a channel on TCP port 80, sends the packets through that port and then receives them back. There are two types of ports, TCP and UDP. UDP is the same as a TCP port except it lacks the error checking mechanism that TCP uses. There are over 131,000 ports available for use in a TCP/IP environment (64K TCP, 64K UDP). Most of these ports are unused, unassigned, or restricted. Some are very common ports, such as port 80. Others are used exclusively for a brand of software. For example, Quake games use TCP port 26000 (and others) for network games.

When hackers break into a system they typically exploit ports that are either accidentally or purposefully opened. For example, one of the easiest ways to see if the Trojan application BackOrifice is installed on a computer is to scan for activity on TCP port 54320. This is the TCP port BackOrifice uses when communicating with other systems.

Promiscuous Packet Capture: Actively capturing packet information from a network. Most computers only collect packets specifically addressed to them. Promiscuous packet capture acquires all network traffic it can regardless of where the packets are addressed.

Protocol: A “language” for communicating on a network. Protocols are sets of standards or rules used to define, format, and transmit data across a network. There are many different protocols used on networks. For example, most web pages are transmitted using the HTTP protocol.

Proxy Server: A server that performs network operations in lieu of other systems on the network. Proxy Servers are most often used as parts of a firewall to mask the identity of users inside a corporate network yet still provide access to the Internet. When a user connects to a proxy server, via a web browser or other networked application, he submits commands to the proxy server. The server then submits those same commands to the Internet, yet without revealing any information about the system that originally requested the information. Proxy servers are an ideal way to also have all users on a corporate network channel through one point for all external communications. Proxy servers can be configured to block certain kinds of connections and stop some hacks.

Public Key Encryption: System of encrypting electronic files using a key pair. The key pair contains a public key used during encryption, and a corresponding private key used during decryption.

Reconnaissance: The finding and observation of potential targets for a cracker to attack.

Remote Procedure Call. RPC is a type of protocol that allows a program on one computer to execute a program on a server computer. Hackers looking to trigger applications remotely often exploit RPC.

Router: A device that connects two networks together. Routers monitor, direct, and filter information that passes between these networks. Because of their location, routers are a good place to install traffic or mail filters. Routers are also prone to attacks because they contain a great deal of information about a network.

SATAN: A UNIX program that gathers information on networks and stores it in databases. It is helpful in finding security flaws such as incorrect settings, software bugs and poor policy decisions. It shows network services that are running, the different types of hardware and software on the network, and other information. It was written to help users find security flaws in their network systems.

Severity: A visual and numerical value BlackICE assigns to all detected events and intruders. For more details see page COSSREF TO SEVERITY SECTION.

Shell: A command processor for a computer’s operating system. All computers must have some kind of shell for users to interact with the programs. Windows computers have a robust graphical shell whereas many UNIX systems use more rudimentary command-line shells. Operating systems often have numerous command shells that hackers can attempt to gain access to.

Shoulder Surfing: Looking over someone's shoulder to see the numbers they dial on a phone, or the information they enter into a computer.

SMB: **S**erver **M**essage **B**lock. SMB is a message format used by DOS and Windows to share files, directories and devices. NetBIOS is based on the SMB format, and many network products use SMB. These SMB-based networks include LAN Manager, Windows for Workgroups, Windows NT, and LAN Server. There are also a number of products that use SMB to enable file sharing among different operating system platforms. A product called *Samba,* for example, enables UNIX and Windows machines to share directories and files.

SMTP: **S**imple **M**ail **T**ransfer **P**rotocol. SMTP is a protocol for sending e-mail messages between servers. Most e-mail systems that send mail over the Internet use SMTP to send messages from one server to another; the messages can then be retrieved with an e-mail client. In addition, SMTP is generally used to send messages from a mail client to a mail server.

SNMP: **S**imple **N**etwork **M**anagement **P**rotocol. SNMP is a set of protocols for managing complex networks. The first versions of SNMP were developed in the early 80s. SNMP works by sending messages, called *protocol data units (PDUs)*, to different parts of a network. SNMP-compliant devices, called *agents,* store data about themselves in Management Information Bases (MIBs) and return this data to the SNMP requesters.

Snooping: Passively watching a network for information that could be used to a hacker's advantage, such as passwords. Usually done while Camping Out.

SOCKS: A protocol that handles TCP traffic through proxy servers. SOCKS acts like a simple firewall because it checks incoming and outgoing packets and hides the IP addresses of client applications.

SPAM: Unwanted e-mail, usually in the form of advertisements.

Spoofing: To forge something, such as an IP address. IP Spoofing is a common way for hackers to hide their location and identity.

SSL: **S**ecured **S**ocket **L**ayer. Technology that allows you to send information that only the server can read. SSL allows servers and browsers to encrypt data as they communicate with each other. This makes it very difficult for third parties to understand the communications.

System Port: TCP and UDP ports 1 to 1024. These ports are reserved for operating system functions and other established networking protocols. For example, most web browsers use TCP port 80. *See* Application Port.

TCP: **T**ransmission **C**ontrol **P**rotocol. TCP is one of the main protocols in TCP/IP networks. Whereas the IP protocol deals only with packets, TCP enables two hosts to establish a connection and exchange streams of data. TCP guarantees delivery of data and also guarantees that packets will be delivered in the same order in which they were sent.

Telnet: A program that connects a computer to a server on a network. It allows a user to control some server functions and to communicate with other servers on the network. Telnet sessions generally require a valid username and password. Hackers commonly use Telnet to hack into corporate network systems.

Tempest: Illegal interception of data from computers and video signals.

Trojan or **Trojan Horse**: Like the fabled gift to the residents of Troy, a Trojan Horse is an application designed to look innocuous. Yet, when you run the program it installs a virus or memory resident application that can steal passwords, corrupt data, or provide hackers a back door into your computer. Trojan applications are particularly dangerous since they can often run exactly as expected without showing any visible signs of intrusion.

UDP: **U**ser **D**atagram **P**rotocol. UDP is a connectionless protocol that, like TCP, runs on top of IP networks. Unlike TCP/IP, UDP/IP provides very few error recovery services, offering instead a direct way to send and receive datagrams (packets) over an IP network. UDP is used primarily for broadcasting messages over a network.

UNIX: A widely used operating system in large networks.

VPN: **V**irtual **P**rivate **N**etwork. These networks use public connections (such as the Internet) to transfer information. That information is usually encrypted for security purposes.

Vulnerability: Point where a system can be attacked.

War Dialer: A program that automatically dials phone numbers looking for computers on the other end. They catalog numbers so that hackers can call back and try to break in.

Warez: A term that describes Pirated Software on the Internet. Warez include cracked games or other programs that software pirates distribute on the Internet.

Whois: An Internet utility that can gather information about an IP or DNS address. Whois servers are an excellent way to track down the origin of a hacker's transmissions.

Wire Tapping: Connecting to a network and monitoring all traffic. Most wire tapping features can only monitor the traffic on their subnet.

Worm: A program that seeks access into other computers. Once a worm penetrates another computer it continues seeking access to other areas. Worms are often equipped with dictionary-based password crackers and other cracker tools that enable them to penetrate more systems. Worms often steal or vandalize computer data.

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