

DIGITAL PC

Remote Network Wake-up

Digital Equipment Corporation

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DIGITAL PC Remote Network Wake-up Guide

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Introduction

Congratulations on your purchase of a Digital PC.

Digital is committed to being your enterprise PC solution. To this end, we have provided a software tool to help manage remote network clients securely.

Remote Network Wake-up improves client manageability by allowing management applications to power up network-connected PCs from a remote site. Digital Remote Network Wake-up supports Magic Packet™ technology which is used to remotely wake up a “sleeping” PC on a network by sending a specific packet of information. To address the security risks inherent in this type of action, Digital also provides SecureON, an enhancement to this wake-up technology.

Digital’s SecureON application generates a password which is stored in the Network Interface Chip and required to remotely start a PC. If an unauthorized wake-up is attempted, it is logged in the Remote Network Wake-up software.



NOTE: The client application is included in Digital ClientWORKS, which is pre-installed on your Digital PC. The console management application is currently being distributed on Digital’s web site or BBS. The site address and BBS telephone number can be found at the end of this manual. For installation instructions, see the “Using Remote Network Wake-Up” chapter later in this manual.

Minimum System Requirements

Network clients may be running either Windows 95 or Windows NT 4.0. The console management application requires the Windows NT 4.0 operating system.

The console system *must* include the necessary hardware (for instance, a supported network interface chip) in order to use this capability. See your system documentation for Remote Network Wake-up compatibility.

Features and Benefits

Digital's Remote Network Wake-up application includes the following capabilities:

Feature	Benefit
Remote client wake-up extends Magic Packet™ technology.	Improved client manageability, allowing remote wake-up even if a client system is powered off.
Increased security with SecureON feature.	Flexibility to wake-up remote clients while still maintaining a secure network on standard operating systems.
Break-in count to keep track of unauthorized login attempts.	Allows the system administrator to be aware of repeated break-in attempts and to monitor activity to take action against further attempts.
Self-synchronizing password generation.	Increased security because the password is known only to the management application and is changed on each power-up cycle.

Audience

This manual is written for the Digital PC user and system administrator.

Distribution

This manual is distributed in Adobe Acrobat .PDF format. This .PDF format can be viewed with Adobe Acrobat Viewer (factory installed on your Digital PC) and printed, if necessary.

Overview

Introduction

SecureON is made up of two parts, one for the client and the other for the network server. In conjunction with the system BIOS, system hardware, and network interface chip (NIC), the software controls secure remote wake-up of clients on the network.

Client Application

On the client system, Digital's Remote Network Wake-up software is invisible to the user. This application accomplishes the following:

- Identifies the client to the Remote Network Wake-up application on the server.
- Generates the new password.
- Updates the NIC with each new password.

Server Application (Management Console)

The management application, SecureON Management Console, typically installed on a server, provides the controlling portion of the functionality.

- Provides a user interface to wake-up client systems.
- Supports multiple clients in the wake-up database.
- Stores system information, such as wake-up times and break-in attempts in a database.
- Manages both Magic Packet and SecureON network clients.

BIOS Settings

The wake-up mode allowing the server to remotely wake up the client is controlled by a BIOS setting in the client system. Setting this mode to one of three settings in the BIOS Setup determines if and how the server is able to wake up the client system remotely. The three possible settings are described below:

- **Magic Packet** - a wake-up packet is broadcast from the server to the client containing the MAC address repeated 16 times. This is not a secure method of remote wake-up.
- **SecureON** - a six byte password is automatically generated and added to the MAC address repetition. If the MAC address is correct, the next six bytes are compared to the previously stored password. If the MAC address and password match, the NIC is used to wake-up the system. If not, the NIC logs the event as a hostile break-in attempt.
- **None** - The remote wake-up capability is disabled and the server can not wake-up this client remotely.

Using the BIOS to set the wake-up mode prevents any other application software product from changing it.



NOTE: This BIOS setup option defaults to “None.”

Modifying the BIOS Settings

To modify the BIOS settings on the client system, follow the steps below:

1. Reboot the computer and enter Setup.
2. Highlight the “Advanced” menu.
3. Highlight “Remote Network Wake-up.”
4. Press the [+] key to select one of the available options.
5. Press [Esc] twice then [Enter] twice to exit the BIOS Setup utility and to reboot the computer so changes immediately take effect.

Using Remote Network Wake-Up

Installation

Installation is quick and simple. Follow the instructions below to install Remote Network software on either a client or server system.

Client

The client application is factory-installed on every Celebris FX-2. Program files can be found in the \CLIENTWORKS\LIVELINK\BIN directory on the hard disk drive.

Server (Console Management)

The server management application, SecureON Management Console, may be obtained from the Digital Web site or BBS. Follow these steps to install it on your hard drive (it is assumed that you have already downloaded the appropriate file from the Web site or BBS).

1. Create a new, temporary directory on your hard drive. Copy the downloaded file into that directory.
2. From Windows Start, select Run.
3. Type in the name of the file (designated upon download) or use the Browse button to locate the file and click OK.
4. The installation will extract the necessary files into "Disk1" and "Disk2" directories.
5. From Windows Control Panel, double-click Add/Remove Programs.
6. Following the Windows installation steps, select SETUP.EXE in the directory you have created.

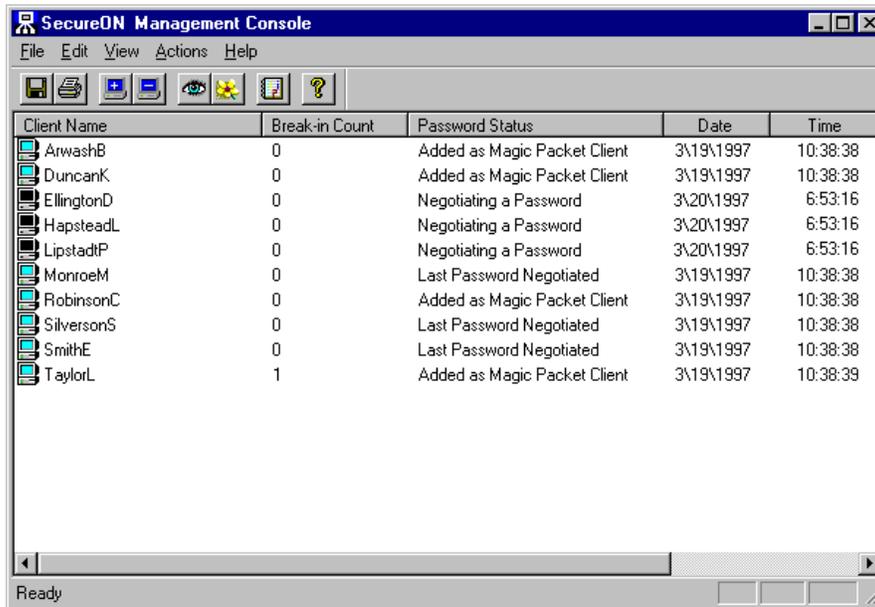
7. The installation of the Remote Network Wake-up Console Management application will begin. You'll be prompted for a destination directory. Click OK to accept the default, C:\CLIENTWORKS\SECUREON, or use the browse button to define a different destination.
8. When the installation is complete, a Remote Network Wake-up icon will be added to the Windows NT Administrative Tools program group.

When the Remote Network Management Console is launched for the first time, the SecureON Options screen will display, with the Network tab showing. The SecureON Server name defaults to the name of the local PC. If this is not accurate, please enter the correct server name and path if necessary. The server name is necessary to enable the console application to wake up clients on the network.

For additional information about this function, see the Network Options section later in this manual.

System Administrator User Interface

The remote wake-up capability is controlled from the management console as shown below. Both Magic Packet and SecureON clients are supported from this screen.



The screenshot shows the SecureON Management Console window. The title bar reads "SecureON Management Console". The menu bar includes "File", "Edit", "View", "Actions", and "Help". Below the menu bar is a toolbar with icons for file operations and help. The main area contains a table with the following data:

Client Name	Break-in Count	Password Status	Date	Time
ArwashB	0	Added as Magic Packet Client	3\19\1997	10:38:38
DuncanK	0	Added as Magic Packet Client	3\19\1997	10:38:38
EllingtonD	0	Negotiating a Password	3\20\1997	6:53:16
HapsteadL	0	Negotiating a Password	3\20\1997	6:53:16
LipstadtP	0	Negotiating a Password	3\20\1997	6:53:16
MonroeM	0	Last Password Negotiated	3\19\1997	10:38:38
RobinsonC	0	Added as Magic Packet Client	3\19\1997	10:38:38
SilversonS	0	Last Password Negotiated	3\19\1997	10:38:38
SmithE	0	Last Password Negotiated	3\19\1997	10:38:38
TaylorL	1	Added as Magic Packet Client	3\19\1997	10:38:39

The columns in the management console main screen present client information selected for the current view. The data displayed is as follows:

- **Computer Icon** - a black screen indicates that the client PC is Off; a blue screen indicates it is On.
- **Client Name** - the name assigned to the client PC on the network.

- **Break-in** - the number of break-in attempts which have been logged for this client.
- **Status** - the status of this client at the last Refresh or Wake-up action. This status can be one of the following:
 - * Added as Magic Packet Client - This system has been added to the current view as a client which will be wakened using the Magic Packet password.
 - * Last Password Negotiated - The password between client and console was last negotiated on the date and time shown.
 - * Last Wakeup Packet Sent - The last wakeup packet was transferred on the date and time shown.
 - * Negotiating Password... - This client is in the process of negotiating a new wakeup password and should display “Last Password Negotiated” soon.
 - * Password Negotiation Failed - The last password negotiation failed for some reason (network error, remote system powered down, etc.).
- **Date** - the date of the last action listed in the status column.
- **Time** - the time of the last action listed in the status column.

The information shown in this screen will change each time the current view is refreshed, a wake-up command is sent, or a new client is added.

Icons

Eight icons control the most frequently used features of the SecureON management console.



Save - saves the current view to a file.



Print - prints the current view to the printer.



Add Clients - adds a new client to the current view.



Delete Clients - deletes a client from the current view.



Wake Clients - when clicked, attempts to wake up selected clients.



Refresh - refreshes the client list to show current status.



Event Viewer - launches Windows NT Event Viewer to view log.



Help - displays current version information.

Menu Commands

All features of the Remote Network Wake-up application are controlled from the following menu choices.

File

- **Save** - This command saves the current view to a text file.
- **Save As** - Use this command to save the current view with a new filename.
- **Print** - Use this command to print the current view to the printer.
- **Print Preview** - This command allows you to view what will be printed on your screen.
- **Print Setup** - Use this command to adjust your printer settings using the Windows Print Setup screen.
- **Exit** - This commands closes SecureON Management Console and exits.

Edit

- **Select All** - This command will select all clients in the current view.
- **Add** - Use this command to add a client to the current view.
- **Delete** - Use this command to delete a client from the current view.

View

- **Large Buttons** - Use this command to enlarge the icon buttons which can then be moved as a toolbar to another area on your screen.
- **Toolbar** - Use this command to toggle the toolbar from hidden to viewable.
- **Status Bar** - Use this command to toggle the status bar at the bottom of the display from hidden to viewable.
- **Options** - This choice allows you to specify options for the NT log and the server connection.

Actions

- **Wake Up** - This choice will attempt to turn on the selected client(s).
- **Refresh** - This command refreshes the status of all viewable clients.
- **Run Event Viewer** - This command launches the NT Event Viewer.

Help

- **About SecureON** - This command displays current version information for SecureON Management Console.

To add a client to the current view

1. Click  (or select Add from the Edit menu).
2. Fill in the Client Name and Client MAC Address and click OK.
3. The client system will now be listed in the current view.

To remove a client from the current view

1. Select the client you wish to remove.
2. Click  (or select Delete from the Edit menu).
3. The client will be removed from the current view.

To wake up a client

1. From the current view, select a client by clicking the mouse on it. Multiple clients may be selected by holding down the [Ctrl] key while clicking on all the clients to be chosen.
2. Click  (or select Wakeup from the Actions menu).
3. The management application will verify that the client system is off and will attempt to turn it on, if necessary. Password negotiation will be attempted and if clear, the client will be powered on. The computer icon to the left of the client name will display a blue screen when power-on has been successful.
4. If a client is unable to be powered on, the network administrator should research the problem to determine the cause.

To refresh the view

1. From the current view, click on  (or select Refresh from the Actions menu).
2. The management application will check the clients in the current view and update their status if it has changed since the last refresh.

Setting Options

There are two options which can be set from the Options menu choice: Event Viewer/Logging options and Network options. These settings can be modified as shown below.

Event Viewer/Logging Options

The SecureON Management Console allows the system administrator to choose whether or not logging should be enabled and what information to log.

1. From the menu, select View, then Options. The following screen will display.



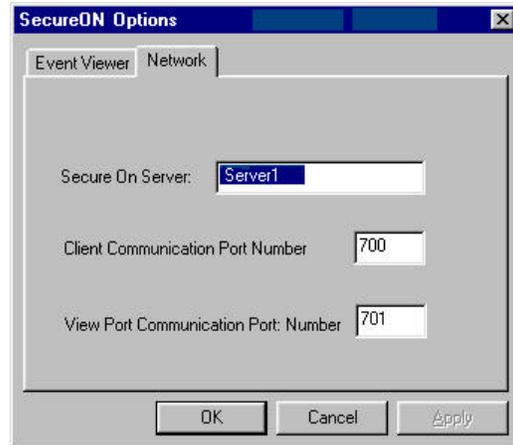
2. If you want to enable logging of data, check off the first selection by clicking in the box to the left of "Enable Logging."
3. If you want to log errors, click in the box to the left of "Log Errors."

4. If you want to log successful wake-ups, click in the box to the left of “Log Success.”
5. When the options are set as you wish, click on OK to save the changes.

Network Options

The network options must be set to enable communication between the client and the server through the SecureON Management Console.

1. From the main menu, select View and then Options. The following screen will display.



2. Fill in the server name in the first field.
3. Fill in the Client Communication Port Number in the second field.
4. Fill in the View Port Communication Port Number in the third field.
5. When the options are set as you wish, click on OK to save the changes.

Latest Product Information and Updates

For any last minute information on Remote Network Wake-up, please refer to the README.TXT files located on your Digital PC or accompanying CD-ROM.

To download the latest version and updates of the program, visit Digital's web site or call the Digital BBS.

Internet: <http://www.windows.digital.com>

BBS: (508) 496-8800