



ADMIN GUIDE

Administrator Guide for KBOX

Version 2.1

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Welcome to KBOX ownership!

Welcome to version 2.1 of the KBOX. This document is currently under revision given the significant scope of new features contained in version 2.1. If before that time you find an area which is under-documented or requires revision please contact our documentation team via support@kace.com

This administration guide is designed to help you install, configure, use, and maintain your KBOX network appliance. KACE is dedicated to customer success with our primary goal being your ability to quickly utilize your KBOX to save time and eliminate the tedious task of manual inventory, software, and desktop management.

If at any time, you experience a problem, or have a question regarding your KBOX, please contact one of our support representatives for assistance.

Support Contact:

KACE Technical Support
(888) 522-3638 for support select *option 2*
support@kace.com
<http://www.kace.com/support>

Company Contact:

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CHAPTER 1

Introduction

KBOX provides next generation software distribution management capabilities married with inventory management and workflow features that make KBOX the industry's only complete offering for desktop software management. Packaged as an easy-to-deploy application appliance, KBOX delivers all of the powerful features you would expect from a distribution management system and then some.

About this Guide

This administrator guide is designed to provide all of the information that you'll need to install configure and deploy the KBOX appliance. This guide is organized into the following top-level sections for your convenience:

- Basic Setup and Configuration
- KBOX Quick Start
 - Introduction to KBOX concepts
 - Preparing for deployment
 - Using KBOX
- Security Module
- Scripting Module
- Appendix A
- Appendix B



In addition, the symbol to the left denotes an item of interest. These include common configuration questions, specific KBOX behavior, or items that deserve particular attention.

Basic Setup and Configuration

This section covers basic KBOX setup and configuration. At the end of this section, we will verify the installation by walking through a simple set of inventory and deployment tests.

Packing List

When you receive the KBOX you should take the following steps to confirm that the unit is complete and undamaged by the shipping process:

1. Inspect Shipping Container:

Inspect the shipping material for excessive wear and tear from shipping. If you notice any packaging irregularity, please note it before opening the box. If you notice excessive damage, please report it to the carrier of record and to your KACE contact or representative.

2. Open the Cardboard Box:

Please open the cardboard shipping container and verify that the following items have been included with your order and are in good physical condition:

1	KBOX unit
1	Power cord
1	Orange networking crossover cable
1	Rail mounting kit
1	KBOX CD-ROM
1	Grey networking cable

Table 1-1: Contents of KBOX shipping package

3. Remove Unit from Packaging:

Remove the unit from the box and place it in the server location that you designate. **IMPORTANT:** the KBOX must be physically accessible by a person and another computer for the first installation procedure. Subsequently the KBOX can be remotely administered via the `http://` web portal.

Installing and Configuring KBOX

Follow the steps below to install and configure the KBOX. Once installed and configured, you should not have to complete this process again unless you are redeploying the KBOX to another environment.

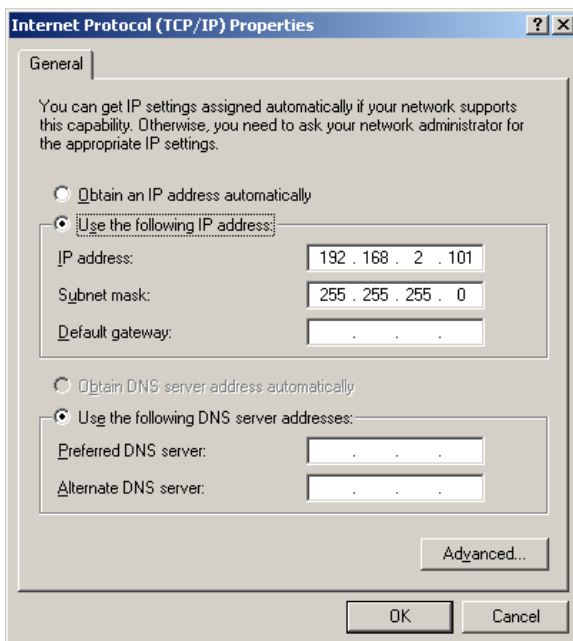
1. Setup Network Configuration:

KACE recommends that each KBOX maintain a fixed IP address in order to operate reliably. In order to set the IP address within the KBOX, please identify an IP address by speaking with your network administrator. **NOTE:** Once an IP address has been assigned for the KBOX, you must also configure DNS to route "KBOX" to that IP address. "KBOX" will be the network name used by default for the kbox client computers to be managed. If you do not have DNS routing capability, please contact KACE technical support at 888-522-3638.

Attach the orange crossover cable included with your KBOX to the left most Ethernet port on the back of the box (when viewed from the rear) and connect the power cord. Connect the other end of the orange cross over cable to the Ethernet port of a laptop or other PC located near the KBOX. Turn on both machines.

[NOTE: The KBOX will require 5 to 10 minutes to boot the first time only.]

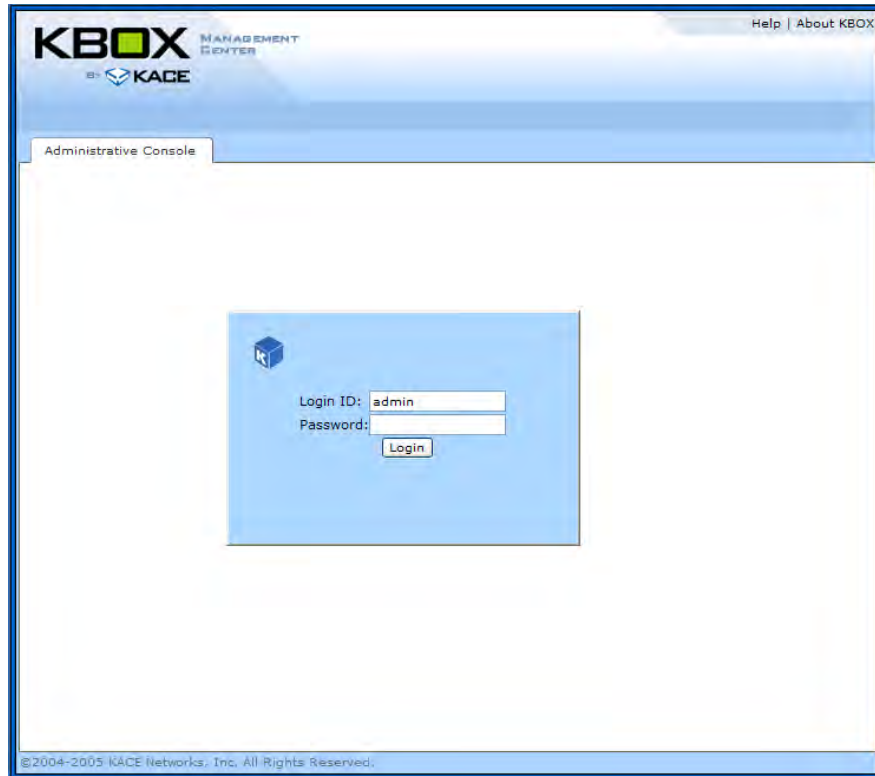
2. On the laptop (or other PC), you must temporarily configure your network settings so that you can connect to the KBOX. The IP configuration panel on the PC that you are using to connect to KBOX should mirror the following screenshot (make a note of your original settings so that you can reconfigure your machine after this procedure):



3. Once both machines are fully booted (the KBOX may require 2-3 minutes to reboot), open a web browser on the connected machine (not the KBOX) and type the following default IP address:
192.168.2.100/admin/

Optionally, you may attach a monitor to the KBOX in order to observe the boot progress – though this is not required.

Once this step is complete, you should see the following screen:



4. Enter the following credentials into the login panel:

Login ID: admin

Password: admin

5. Once you have successfully logged into the administrative console, familiarize yourself with the Server Settings tab. Initial configuration will require updating the settings under the Server Settings / Options menu. You may wish to verify Date & Time under Server Settings / Date & Time.
6. Second, select Server Settings / Network Settings. Then select "edit mode" at the bottom of the window. Configure the panel as follows:



WARNING: Make sure that you follow the bullet points listed below exactly and verify your entries before pressing "Save".

- KBOX Server Hostname = KBOX
(NOTE: if you cannot support DNS routing of this type and require an IP routing, contact KACE support at 888-522-3638)
- KBOX Web Server Name = KBOX
(NOTE: if you cannot support dns routing of this type and require an IP routing, contact KACE support at 888-522-3638)
- Static IP Address = your designated IP address
- Domain = your domain
- Subnet Mask = your subnet mask
- Default Gateway = your default gateway
- Primary/Secondary DNS = your DNS
- SMTP Server = Your mail server (for email alerts)
- Optional SSL Settings
- Contact KACE Support for configuration if required.

7. Connect KBOX to the Network:

Once step 1 is complete, the KBOX will reboot. At this time, disconnect the orange crossover cable from the back of the box. Connect the included Grey Ethernet cable to the left-most network port (closest to power supply) on the back of the KBOX and then connect the cable to a network router or hub on your network and then power up [NOTE: KBOX will require 1-2 minutes to power up].

Verifying KBOX Installation and Configuration

Verify this basic KBOX configuration by completing the following steps. NOTE: before completing these steps, you must have first configured the KBOX server using the Server Settings / Network tab.

If any of these steps fail, please review the procedures outlined in the prior section or contact KACE technical support:

1. Verify Administrator Access

From a computer on your network, type <http://KBOX/admin> (NOTE: if this fails, your domain name routing may not have propagated – you can try <http://defaultip/admin> where defaultip is the static IP address that you designated for this machine). You should see the administrative login page. Login to the administration page using the credentials noted above (i.e., admin/admin).

2. Verify End-user Portal Access

From a computer on your network, type the address that you assigned to the KBOX into a web browser (e.g., <http://KBOX/> or <http://defaultip/>). You should see the end-user portal login page. Login to the end-user portal page using the credentials noted above (i.e., admin/admin).

3. Verify KBOX Client Connection

Install the KBOX Client onto a computer on your network by double clicking on the KBOX Client installer (setup.exe within the .zip install file) located on the included KBOX CD. The KBOX Client (KBOXClient) may be downloaded from the end-user portal or may be retrieved from the KBOX CD-ROM included with your KBOX. Verify the installation by checking for the presence of KBOX in the "Add/Remove Programs" section of your control panel (you may also wish to verify that the KBOX Management Service is running via / start / control panel / administrative tools / services / standard(tab) / KBOX Management Service / right click properties).

Wait 120 seconds after the installation has completed and then complete the following steps. Log on to the administrator console as described in step 1 above. Under the tab Inventory/Computer Inventory, the machine name of the test client should be listed. Click on the machine name to verify that a complete inventory of that machine is now in the KBOX database.

- Automatic Deployment - In order to automatically deploy the KBOX Client we have a login script (below) as well as a Administrative utility which utilizes WMI to perform a remote install. The KBOX Administrative Utilities application is also included on the KBOX Client CD.

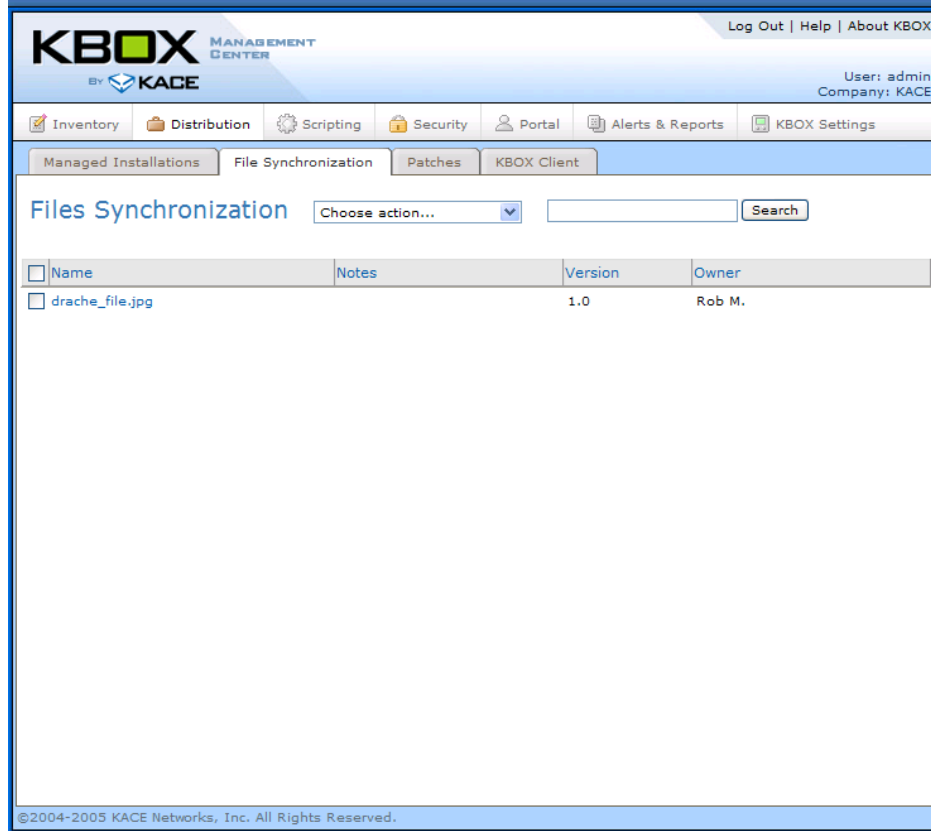
i.Example Login Script

```
-----  
@echo off  
if not exist "%windir%\microsoft.net" goto neednet  
echo .NET already installed.  
goto end  
:neednet  
start /wait \\hgapps\apps\KboxMSI\dotnetfx.exe /q:a /c:"install /l /q"  
:end  
if not exist "C:\Program Files\KACE\KBOX" goto needkbox  
echo KBOX Client already installed.  
goto end  
:needkbox  
\\hgapps\apps\KboxMSI\KBOXClientSetup.msi /qn  
:end  
-----
```

4. Verify Test Package Deployment

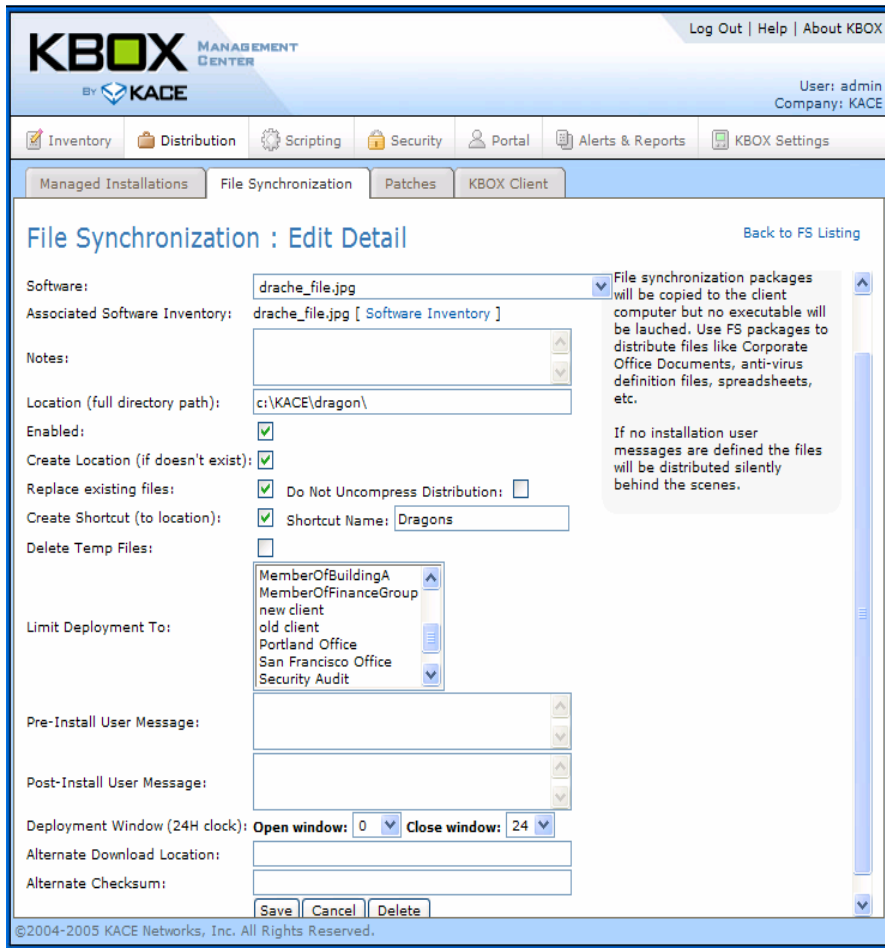
Follow this procedure to test a basic package deployment. For simplicity's sake, we will test basic file synchronization rather than a full application deployment (covered in the next section). First, open the administrative web interface (i.e., <http://KBOX/admin> or <http://defaultip/admin>). Log into the administrative home page using the default credentials (i.e., admin/admin). Once logged in, select /

distribution / file synchronization / as shown in the image below. If you do not see KBOX Pix, please create your own test download file by following the steps outlined in the footnote below.¹



1. To create a file synchronization package for this example, go to Inventory Management / Software Inventory and then select Choose Action / Add New Item. For testing purposes simply create a sample item – required fields include display name, operating system, and “Browse to file”. For example, create item “Picture”, select all operating systems and then browse to any sample .JPG file available on your machine.

5. Click on "drache_file" (which is a demo file for test purposes). You should now see a screen that looks something like the following image (if you do not see drache_file, continue below for further instructions):



If you do not see the drache_file package, you can create a new package for testing purposes – see the footnote below.²

6. If you do see drache_file, select "Enable" and then click "Save".

Typically, file synchronization occurs on a scheduled basis. It may take 30 minutes in order for the file to synchronize with the client – this setting is specified within the KBOX Settings / Client Options Tab. If you have verified your process, please contact KACE support at 1-888-522-3638 for technical support or contact your KACE representative directly.

2. To create a file synchronization package for this example, go to Inventory Management / Software Inventory and then select Choose Action / Add New Item. For testing purposes simply create a sample item – required fields include display name, operating system, and "Browse to file". For example, create item "Picture", select all operating systems and then browse to any sample .JPG file available on your machine.

KBOX Quick Start

The Quick Start section of the documentation is intended to review the complete KBOX workflow for total software management. In general, the administrative operation of the KBOX is intuitive and user friendly; however, a review of these Quick Start procedures will likely help new users avoid common pitfalls and internalize KBOX best practices for software management.

Introduction to KBOX Concepts

Overall, the KBOX workflow for total software management follows a simple set of steps: Inventory, Deploy, Message and Report. There are several key building blocks that are part of the KBOX vernacular and solution. Those building blocks include, but are not limited to:

Solution Components

The KBOX solution is comprised of four primary points of human interface.

- **The Box** - The KBOX itself is a high performance server including (depending on configuration) dual on-board Xeon processors, dual NIC controllers, 1 GB of memory (or more), 3 X 150 GB hard drives (or more) with on-board RAID I support and on-board nightly back up.
- **Administrator Console** - The administrator console is a web-based interface that systems administrators use to access and direct the functionality and capabilities within the KBOX. The administrator console supports five primary tasks: Inventory Management, Software Distribution, Portal, Alerts & Reports and, KBOX Settings. Depending on your KBOX configuration you may also have Scripting and Security tabs. These are an add-on package, for more information contact our sales team at sales@kace.com or via phone using 1-888-522-3638.
- **End-User Portal** - The end-user portal provides an innovative method for administrators to make software titles available to users on a self-service basis. The end-user portal is not intended to replace traditional push software distribution (as is handled by the administration console and the KBOXClient). However, the end-user portal provides an elegant repository for software titles that are not required by all users.
- **KBOXClient** - KBOXClient is the KBOX “agent” technology that sits on each desktop that the KBOX manages. The KBOXClient includes an application component that manages downloads, installations and desktop inventory. The KBOXClient also includes the KBOXClient Management Service that initiates scheduled tasks such as inventory or software update tasks.

Organizational Components

KACE Networks recognizes that a large part of IT management is tied into data management. As such, KBOX supports a flexible data model for managing Computers, Software, Users and License Keys. The KBOX includes the ability to auto-discover information via the KBOX Client or to interface with Active Directory or LDAP organizational units via KBOX Advanced Filtering capabilities. In addition to sorting and targeting, the KBOX offers advanced labeling capability that puts ad-hoc organizational capabilities in the

hands of the software administrator.

Software Deployment Components

KBOX supports several types of distribution packages including Managed Installations, File Synchronization and User Portal Packages.

- Managed Installations are configured by the administrator to run silently or in the forefront of the user's desktop view. Within a "Managed Installation Definition" the administrator may define install, uninstall or command line parameters.
- File Synchronization is similar to Managed Installation. However, File Synchronization is useful for digital content of information that needs to be placed on a users' machine without running an installer.
- User Portal Packages are earmarked by administrators for user self-service. Many KACE customers use the portal for handling occasional use applications, print drivers and so on.
- KBOX Client is a special tab in the interface for managing the KBOXClient Update Service whereby the KBOXClient can update itself.

Preparing for KBOX Production Deployment

Before you can begin inventorying and actively managing the software on your network, it is critical to properly configure the server and deploy KBOXClient agents on target desktops. This section covers server settings and the commonly used KB Client deployment approaches.

Server Settings Checklist

The test and verification procedures outlined on page 3 were designed to test the overall ability of the KBOX to communicate with remote client agents. The test did not cover finalizing the KBOX server settings. This section will familiarize you with the configuration options that your organization can exercise out of the box. The screenshot below provides an overview of the tabs available under Server Settings.



Many of the server settings panels are self-explanatory. The panels mentioned here warrant special consideration.

- **Authentication-** KBOX supports local or LDAP / Active Directory authentication for end-user login. The box ships with default setting to local. With these settings in play, users will need to be added to the box if you wish to enable the End-User Portal (i.e., Inventory Management / Desktop Users). Enable and configure external LDAP Authentication if you would like end-users to login using their network credentials stored in an Active Directory or LDAP Directory.
- **General -** This self-explanatory panel allows for date and time configuration, Company name as well as email options for the KBOX. **WARNING:** Changing the server time will require the web server to reinitialize. This may disrupt KBOX operation for 10 to 15 seconds. NTP server is not supported in this release.
- **Network Settings -** Network settings will vary depending on your network configuration. You will need to adjust these settings depending on your network configuration. **WARNING:** Changes in this configuration area will cause the machine to reboot – total reboot downtime should be 1 to 2 minutes

assuming that the changes result in a valid configuration.

- Hostname
- Static IP Address
- Domain
- Subnet Mask
- Default Gateway
- Primary DNS
- Secondary DNS
- SMTP Server

In addition this section contains settings that will permit you to enable SSL (Secure Sockets Layer) for your Agent to KBOX communications. To enable this capability, please contact KACE support at support@kace.com or 888-522-3638.

- Log - This tab contains server log information.
- Client Options - This area contains several key global options for the server configuration. KBOX ships with the following default settings:
 - Run Interval and Throttle configuration area:
 - Client-Server Communications Window:
These settings define a time window during which the KBOXClient is allowed to communicate with the KBOX appliance. This uses a 24-hour clock, so for example if we ONLY want the KBOXClient to connect between 1 PM and 3 AM, you would set this panel to Open Window (13) and Close Window (3).
- KBOX Client Run Interval:
This setting tells the KBOXClients how frequently to reconnect in hours. Each time a KBOXClient connects it will reset it's reconnect interval based on this setting. KBOX ships default as once per hour.

During the run interval, KBOXClient checks for new messages. It will also check for inventory, new installations and updates provided that the KBOX Client Inventory Interval triggers (see #3 below).
- KBOX Client Inventory Interval:
KBOXClient will check inventory and deploy qualified software on the frequency interval governed here.

NOTE: The Run Interval and Inventory Interval have a special relationship that imparts KBOX client behavior.

- Example 1: Run Interval .25 / Inventory Interval 3

In this example, the Client will check-in every 15 minutes, but only inventory every 3 hours. This is useful for the administrator who desires frequent windows in which to send a message.

- Example 2: Run Interval 3 / Inventory Interval 0

In this example, the Client will check-in every 3 hours, but inventory at each check-in. However, messages can only be broadcast every 3 hours.

- KBOX Client Package Download Throttle:

Packages will not be deployed on machines once the Package Download Throttle has been reached. For example, if the throttle is set to 100 and 100 clients are connected and receiving a deployment, the 101st client will be deferred until another connection point. Once one of the first 100 clients completes, another incoming client connection will be accepted. Default setting for KBOX = 100.

- Client "Splash Page Text":



The Client Package Download Throttle will take the total number of Clients divided by the number of minutes between the run interval, and load balance the clients using this schedule. Therefore, 30-clients checking in over a 30-minute interval would be balanced evenly over the 30-minute period in order to throttle one connection per minute.

This displays the text that is presented to the user during an update.

- Scripting Update Interval:

The default interval is every five minutes.

- Scripting Ping Interval:

The default interval is every 60 seconds.

- Scripting Log History:

By default, only the last 10 days are logged in history.

- Network Scan:

The KBOX provides the capability to scan your network for devices. This includes the ability to identify a device using a port scanner as well as SNMP test. The results from these tests are shown on the *Inventory / Network Scan tab*. In addition to specifying the subnet(s) to scan, you can also configure specific ports to monitor.

- Server Maintenance:

This panel enables KBOX Server updates that may be provided by KACE from time-to-time. Before updating this area, please verify that the upload files are provided by KACE and that you have read and

understand any corresponding documentation. Admin documentation for this feature will accompany each upgrade that is provided by KACE.

This section also provides functionality for restoring factory defaults or restoring from backup files. If you need assistance with this area, please contact KACE support at 888-522-3638 or support@kace.com.

■ **Shutdown:**

Since the KBOX servers is accessible only via the web interface, the shutdown and restart buttons activated in this panel provide the only means for cycling the server (other than physically turning off the power at the machine which is not recommended without using the shutdown button).

Deploying KBOX Clients

KBOXClient will be the last software title that you deploy the old fashioned way. The KBOXClient is the agent software that is required for taking inventory and deploying software to target desktops. Once the KBOXClient is successfully installed, it automatically contacts the KBOX and reports inventory before requesting its instructions with respect to updating software on the client machine (the agent automatically connects within 2-3 minutes of system boot whether or not a user actually logs in and at the scheduled interval specified in the KBOX. The KBOXClient is offered in two configurations:

- **KBOXClient with .NET Framework:**

This Setup.exe executes an install that includes the run-time .NET Framework which is required for KBOXClient. This adds considerable size to the installer (total size ~25 MB), so it is best to deploy this version only when you know that the .NET framework is not available on the target machine. In general, the .NET framework ships standard with Windows 2000 and later machines.

- **KBOXClient without .NET Framework:**

This setup.exe installs KBOXClient in a way that is perfect for machines where the .NET Framework has been previously installed. The installer is ~2 MB and, therefore, is easy to distribute via lower bandwidth networks.

KBOX customers have successfully deployed the KBOXClient using many different approaches. Three of these approaches are outlined below:

- **KBOX End-User Portal:**

One way to install the KBOXClient on your network is to point your users to the KBOX End-User Portal (<http://KBOX/> or <http://defaultip/>) Once a user logs in, they have access to the KBOXClient install files.

- **Email:**

An email notification may be sent to your users either containing the install file itself or pointing to the KBOX or other web location to retrieve the required installation file. Users can click on the link and install the appropriate file.

- **Log-in Script:**

Some companies use Log-in Scripts that provide a great mechanism for deploying KBOXClient and log-in time. If you use log-in scripts, simply post the appropriate .MSI file in an accessible directory and create the appropriate script for clients to retrieve the file at log-in time.

Here is a sample Login Script which checks for the presence of Microsoft's .NET framework on the client machine, and installs the appropriate components in order to deploy the KBOX client.

```
-----  
@echo off  
if not exist "%windir%\microsoft.net" goto neednet  
echo .NET already installed.  
goto end  
:neednet  
start /wait \\location\KboxMSI\dotnetfx.exe /q:a /c:"install /l /q"  
:end
```

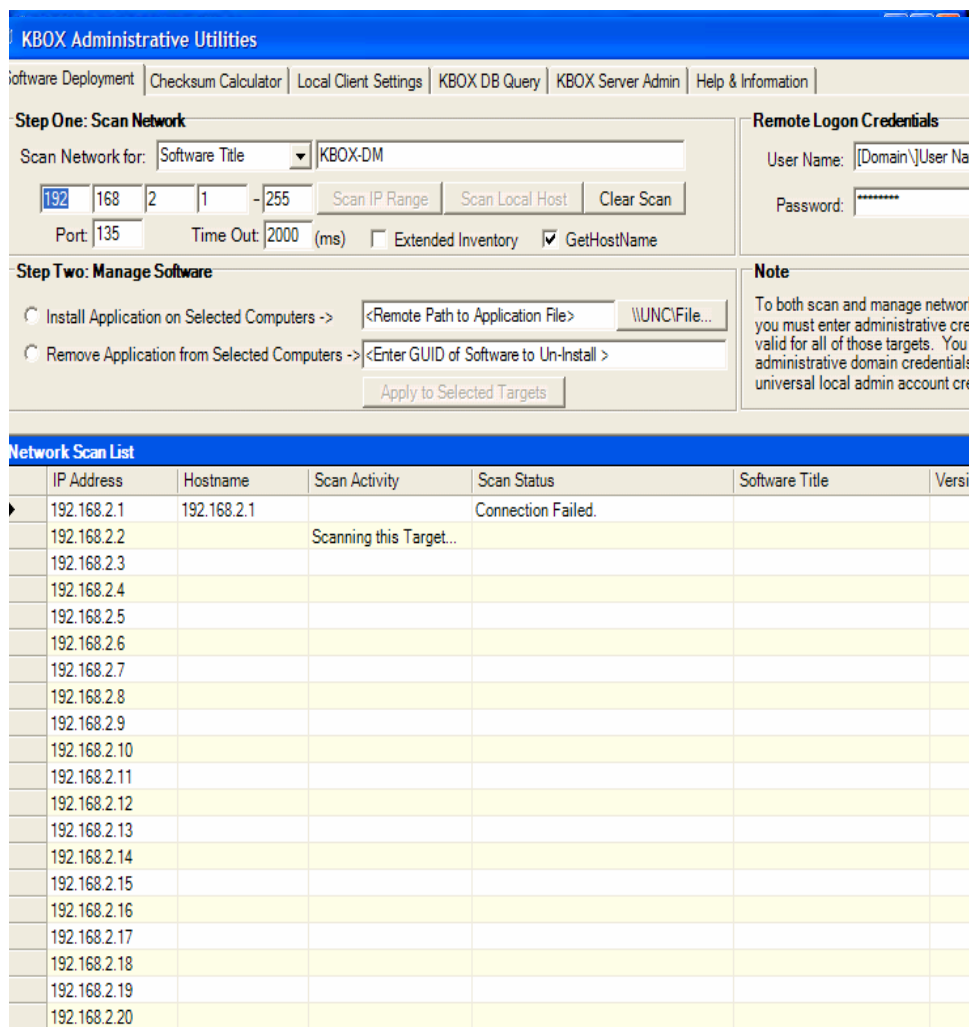
```

if not exist "C:\Program Files\KACE\KBOX" goto needkbox
echo KBOX Client already installed.
goto end
:needkbox
MsiExec.exe /qn /I* kbmsi.log /I \\location\KBOXClientSetup.msi ALLUSERS=2
:end
-----

```

■ Admin Utilities:

Perhaps the easiest way to deploy the client is by using the Administrative utilities included on the KBOX Client CD. This utility provides for a WMI remote installation using your administrative credentials. This deployment requires that the KBOX Client and .NET MSI's be available on an unsecured open share on your network. Our support team will help walk you through this process; however for advanced users here is a screenshot of the Admin utility.



Once the KBOXClient applications are installed on your network, they will automatically contact the server within 1 to 2 minutes following installation. At this reconnection point, the clients will complete the following tasks:

- Report client machine inventory

Retrieve schedule settings to determine frequency of reconnect for inventory, software deployment and messaging

- Once installed, KBOXClient will retrieve and install software that is scheduled for deployment to all KBOXClients or is scheduled for deployment to KBOXClients in a particular label (for which the target PC is a member).

NOTE: You may wish to label machines as they add themselves to the KBOX database. For example, you may create a label "Building A" and add all computers in Building A to that category. This will be useful for deploying packages and maintaining software over time so that you can deploy particular titles to the label "Building A".

When a new machine connects to the KBOX, an administrator must either add that PC to the desired Label categories or have put in place a label filtering screen that automatically places the machine into appropriate categories so that it receives distributions designated for that label. For a complete discussion of labeling machines and, if desired, corresponding Active Director or LDAP organizational unit interface, see "Advanced Deployment Concepts: Bind to LDAP/AD (Filter by Organizational Unit)," on page 41 .

CHAPTER 2

Using KBOX

This chapter will walk you through the basics of using a KBOX on a day-to-day basis.

- “Overview,” on page 20
- “Deploying Software,” on page 22
- “Deploying to the End-User Portal,” on page 35
- “Advanced Concepts,” on page 37
- “Alerts (Bulletin) and Email Alerts,” on page 48
- “Report Center,” on page 51

Overview

Overall, the KBOX workflow for total software management follows a simple set of steps: Inventory Management, Software Distribution, Portal, Alerts & Reports, and as add-on packages Scripting and Security.

NOTE: As a prerequisite to working through this section, the KBOX must be installed and configured properly and the KBOXClient must be deployed to all of your target machines as documented in the "Deploying to the End-User Portal," on page 35.

Taking Inventory

Inventory concepts are easily mastered within the KBOX appliance. There are two ways review and report on inventory (whether hardware or software inventory). The inventory data is collected automatically on a periodic basis (as configured by the administrator under the Server Settings Tab).

The screenshot shows the KBOX Management Center interface. At the top, there is a navigation bar with the KBOX logo and the text "MANAGEMENT CENTER BY KACE". On the right, there are links for "Log Out | Help | About KBOX" and user information: "User: admin" and "Company: KACE". Below the navigation bar, there are several tabs: "Inventory", "Distribution", "Scripting", "Security", "Portal", "Alerts & Reports", and "KBOX Settings". The "Inventory" tab is selected, and within it, the "Computers" sub-tab is active. The main content area is titled "Computer Search & Filter". It includes a search bar with a "Search" button and a "View by label..." dropdown menu. Below the search bar, there is a "Choose action..." dropdown and a message: "Found 37 Computers (limiting to first 100 [Show All])". The main part of the interface is a table with the following columns: "Computer Name [Labels]", "Description", "IP", and "Domain". The table contains 37 rows of data, each representing a computer. The first few rows are highlighted in yellow. The table footer shows the copyright notice: "©2004-2005 KACE Networks, Inc. All Rights Reserved."

Computer Name [Labels]	Description	IP	Domain
<input type="checkbox"/> MLS [old client]		192.168.2.12	KACE
<input type="checkbox"/> FROGMAN [Engmen, old client, Security Audit, ZombieNet]		192.168.2.92	KACE
<input type="checkbox"/> QA144 [old client, Security Audit]	QA	192.168.2.144	KACE
<input type="checkbox"/> MK9300 [Engmen, old client, Security Audit, ZombieNet]	Marty's Developer Laptop	192.168.2.53	KACE
<input type="checkbox"/> CRUNCHWRAP [old client, Security Audit]	ipso lorem nachos	192.168.2.34	KACE
<input type="checkbox"/> KACE9200-L [old client, Security Audit]	klobad dev machine	192.168.2.56	KACE
<input type="checkbox"/> QA14413:30:48:72:D5:83 [new client, Security Audit]	QA	192.168.2.144	KACE
<input type="checkbox"/> QA1441b:30:48:72:D5:83 [new client, Security Audit]	QA	192.168.2.144	KACE
<input type="checkbox"/> QA1441c:30:48:72:D5:83 [new client, Security Audit]	QA	192.168.2.144	KACE
<input type="checkbox"/> QA14402:30:48:72:D5:83 [new client, Security Audit]	QA	192.168.2.144	KACE
<input type="checkbox"/> QA14404:30:48:72:D5:83 [new client, Security Audit]	QA	192.168.2.144	KACE
<input type="checkbox"/> QA14416:30:48:72:D5:83 [new client, Security Audit]	QA	192.168.2.144	KACE
<input type="checkbox"/> QA14414:30:48:72:D5:83 [new client, Security Audit]	QA	192.168.2.144	KACE
<input type="checkbox"/> QA14408:30:48:72:D5:83 [new client, Security Audit]	QA	192.168.2.144	KACE
<input type="checkbox"/> QA1440a:30:48:72:D5:83 [new client, Security Audit]	QA	192.168.2.144	KACE
<input type="checkbox"/> QA14419:30:48:72:D5:83 [new client, Security Audit]	QA	192.168.2.144	KACE
<input type="checkbox"/> QA1441e:30:48:72:D5:83 [new client, Security Audit]	QA	192.168.2.144	KACE
<input type="checkbox"/> QA1440c:30:48:72:D5:83 [new client, Security Audit]	QA	192.168.2.144	KACE

Inventory Management Tab

Use the Inventory Management Tab within the administration portal for simple inventory tasks, for example:

- Software titles by machine
- List of software applications on machines that you manage
- List of machines with/without a particular software title
- List of machines with/without a physical configuration

Report Center

Use the Report Center Tab within the administration portal for more sophisticated inventory reporting and tabulation, for example:

- Sum the number of copies of a specific program
- Sum the number of programs from a specific vendor
- Sum the number of machines without a particular package
- Security compliance report

IP Tab (Computer Inventory)

For those familiar with previous versions of the KBOX the Computers tab within Inventory now has a blue icon near the IP address. This will initiate a Remote desktop connection to the target PC. This requires that remote desktop be enabled and configured, which is covered in subsequent sections.

NOTE: inventory in the reporting section will count all software titles installed on machines managed by KBOX. Therefore, in order to get an accurate inventory count, it is important to delete machines that have been removed from the network. Please do this on a periodic basis by visiting the Computers MIA tab within the Inventory section.

KBOX also supports the ability to create *Custom Data Fields* that can be retrieved from client desktops and servers. This capability is useful if you want to identify the current value of a registry entry or the date created of a local file or the version number of a DAT file. For a detailed explanation of this capability, please review "Custom Data Fields," on page 91.

Also, if you have an application that you know is present on a target machine, yet the KBOX has not identified it automatically, you may need to use a *Custom Inventory Rule* so that the KBOX can identify the item.

Deploying Software

This section reviews a number of different approaches to deploying software with a KBOX appliance. This section is broken into the following subsections for your convenience:

- Software Deployment Overview and Practices
- Basic Software Deployment and Updates
- Deploying to the End-User Portal
- Advanced Deployment Concepts
 - Labeling and Advanced Search
 - Filtering
 - Throttling and Timed Deployment
 - License Keys
 - Package Parameters

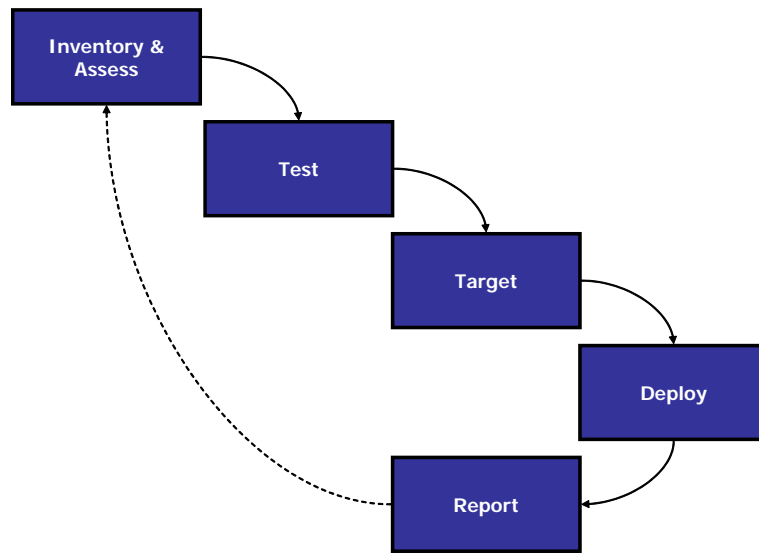
Software Deployment Overview and Practices

Automated software deployment is a two-edged sword. On one hand, it is a powerful way to maintain security and stability on your networked computers without a lot of expensive overhead. On the other hand, poor planning and inadequate testing can yield botched deployments and, in some cases, devastating results.

KACE has built several features into the KBOX that either prevent or warn against common mistakes. However, it is impossible to completely eliminate the potential for human error or the deployment of erroneous or problematic software titles and/or patches.

Accordingly, KACE recommends that customers follow a pre-defined set of procedures before deploying any software on their network. The following flow diagram represents a high level example of common procedures. The details and specifics associated with your company and your corresponding risk profile must be assessed by you and we suggest tailoring these basic principles to meet your needs. It is critically important to test package deployment scenarios prior to deploying the solution to a large group of client PCs.

Basic Deployment Procedure



Perhaps the most important concept in the deployment procedure is to test each deployment before rolling it out to a large number of users. KBOX verifies that a package is designated for a particular system, machine or operating system; however, it cannot assess the likelihood that a particular package will behave well with existing applications on the target machine. Therefore, we strongly suggest that you establish procedures for testing each piece of software before deploying it on your network.

One way to do this is to develop a test group of target machines. You can then deploy – via the KBOX – to the test group and verify compatibility with the operating system and other applications within your test group. See information in this section on Labeling for information about how to target a subset of machines for deployment.

Basic Software Deployment and Updates

Within KBOX there are three types of software distribution, they are: Managed Installations, File Synchronization and User Portal Packages. Follow the steps below to learn how to complete a basic managed installation or file synchronization.

1. Create an Inventory Item by selecting Inventory Management / Software within the KBOX Administrative Interface. Then either select the pull down “Add New Item” or click on the title of an existing software title that you would like to distribute or manage (e.g., Adobe Acrobat).

NOTE: It is critical that the Software Title defined within the Inventory Item exactly match the Display Name of the program once it is installed on a target machine. *In* order to guarantee that these names match we STRONGLY suggest that you use the steps outlined under *Taking Inventory* on page 20, in order to create your Inventory Item.

KBOX MANAGEMENT CENTER
By **KACE**

Log Out | Help | About KBOX

User: admin
Company: KACE

Inventory Distribution Scripting Security Portal Alerts & Reports KBOX Settings

Computers Software Network Scan Computers - MIA Labels

Software View by label... Search

Choose action... Found 100 Titles (limiting to first 100 [Show All])

<input type="checkbox"/>	Name	Version	Manufacturer
<input type="checkbox"/>	ActivePerl 5.8.7 Build 813	5.8.813	ActiveState
<input type="checkbox"/>	Adobe Photoshop 7.0.1	7.0.1	Adobe Systems, Inc.
<input type="checkbox"/>	drache_file.jpg [fsm]	1.0	Rob M.
<input type="checkbox"/>	Hotfix for Windows XP (KB8896344)	2	Microsoft Corporation
<input type="checkbox"/>	IE Version Information		
<input type="checkbox"/>	KBotsEngine.dll Version		
<input type="checkbox"/>	KBOX Client	2.0.1068	KACE
<input type="checkbox"/>	KBOX Documentation	2.0.0	KACE
<input type="checkbox"/>	KBOXClient.exe Version		
<input type="checkbox"/>	Microsoft Internet Explorer 6 SP1		
<input type="checkbox"/>	Microsoft Office Professional Edition 2003	11.0.6361.0	Microsoft Corporation
<input type="checkbox"/>	Microsoft Pinball Arcade Trial		
<input type="checkbox"/>	Mozilla Firefox	1.0.6	
<input type="checkbox"/>	Patch 839645 Windows Shell Could Allow Rem...		Microsoft Corporation
<input type="checkbox"/>	tada.wav		
<input type="checkbox"/>	3DM		
<input type="checkbox"/>	Abacast Client		
<input type="checkbox"/>	Ad-Aware SE Personal	1.06	Lavasoft
<input type="checkbox"/>	Adobe Acrobat - Reader 6.0.2 Update	6.0.2	Adobe Systems
<input type="checkbox"/>	Adobe Acrobat 5.0	5.0	Adobe Systems, Inc.
<input type="checkbox"/>	Adobe Acrobat 7.0.1 and Reader 7.0.1 Update	7.0.1	Adobe Systems

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2. Within the Inventory Item, complete the following fields and then click **Save** (Note: some or all of these may be pre-populated if an inventory item has been auto-discovered by the KBOXClient). Mandatory fields are marked "(required)".

Display Name (Software Table) (always required)	<p>Input the common name of the software title that you will be managing (e.g., Adobe Acrobat). This name MUST exactly match the the Display Name of the program once it is installed on a target machine. In order to guarantee that these names match we STRONGLY suggest that you use the steps outlined in "Taking Inventory," on page 20 in order to create your Inventory Item.</p> <p>NOTE: There cannot be more than one inventory item for a particular software title; however, each inventory item may have more than one deployment definition (allowing for a variety of deployment parameters and filtering options – see step 2 of this section for more information on deployment packages).</p>
Display Version (required for installation package)	Input the display version number of the software title (e.g., 5.2)
Version Number	Input the complete version number if different than the display version (e.g., 5.2.3231.a).
Publisher (Vendor) (required for installation package)	Input Vendor Name. For consistency and future reporting, verify that you are using a consistent vendor name (avoid varied entry for the same vendor such as "Adobe", "Adobe, Inc.", "Adobe Corp").
Vendor Contact	Input a telephone or web address for vendor contact information.
Vendor Comments	Input vendor comments, if desired.
Vendor Information Link	Input a link to vendor information.
Vendor Support Phone	Input a vendor support telephone number.
Product Information Link	Input a link to product information.
Product README File Location	Input a local directory (c:___) that will contain the README following install or input a UNC address or URL.
Product Un-Install Command	Input a product un-install command if known, for example: C:\WINDOWS\ISUNINST.EXE -f
Quiet Un-Install Command	Input a Quiet Un-Install Command if known and desired.
Special Notes	Input special notes if desired

Current File / Upload & Associate File (always required)	Upload associated .MSI, .ZIP, .EXE or other installation type. If uploading a file for file synchronization (not installation), the file type can be any format (e.g., .DOC, .PPT, .PDF). File size may not exceed 940 MB.
Custom Inventory ID (rule)	NOTE: Before sending any software to a remote client, KBOX verifies whether or not that file is present on the target machine. If it is detected, then it is not sent to the machine a second time. In some instances, installed programs do not register in add/remove programs or in standard areas of the registry. In such cases, KBOX may not be able to detect the presence of the application without additional information from the administrator and, therefore, KBOX may repeat the install each time the client connects.
Supported Operating Systems	Select operating systems supported. Use CTRL to select multiple items.

The KBOX inventory rules engine supports the following Expressions and APIs. These rules are entered on the Inventory Management/ Software Inventory/ Edit Software Detail page, in the "Custom Inventory ID (rule):" field.

File System Functions

The FileVersion and ProductVersion functions retrieve the information from the file described in the fullPath argument. This would match the values you would find by right clicking on the file in explorer and reviewing the Version tab.¹

- DirectoryExists(string dirName)
- FileExists(string fullPath)
- FileVersionEquals(string fullPath, string valueToTest)
- FileVersionLessThan(string fullPath, string valueToTest)
- FileVersionGreaterThan(string fullPath, string valueToTest)
- ProductVersionEquals(string fullPath, string valueToTest)
- ProductVersionLessThan(string fullPath, string valueToTest)

1. NOTE: Do not use Custom Data Field entries in the inventory rule line where the Software Inventory Definition is intended to be used for software deployment purposes. For more information "Custom Data Fields," on page 91.

■ ProductVersionGreaterThan(string fullPath, string valueToTest)

■ Registry Functions

- RegistryKeyExists(string absPath)
- RegistryValueEquals(string absPathToKey, string valueName, string valueToTest)
- RegistryValueLessThan(string absPathToKey, string valueName, string valueToTest)
- RegistryValueGreaterThan(string absPathToKey, string valueName, string valueToTest)

Example:

■ RegistryValueEquals(SOFTWARE\Microsoft\Internet Explorer\Version Vector,IE,6.000)

- Must have three values separated by commas
- commas are not allowed anywhere else in the string
- no quotes, single or double
- key must exist under LocalMachine, like the other tests
- failure to specify everything correctly will result in a the test evaluating to FALSE, and the install would proceed.
- All comparisons happen as strings, testing other registry value types may or may not work as you'd expect.
- White space will be trimmed from the front and back of each variable. ie all of these are the same.

■ RegistryValueEquals(SOFTWARE\Microsoft\Internet Explorer\Version Vector,IE,6.000)

■ RegistryValueEquals(SOFTWARE\Microsoft\Internet Explorer\Version Vector ,IE,6.000)

■ RegistryValueEquals(SOFTWARE\Microsoft\Internet Explorer\Version Vector,IE ,6.000)

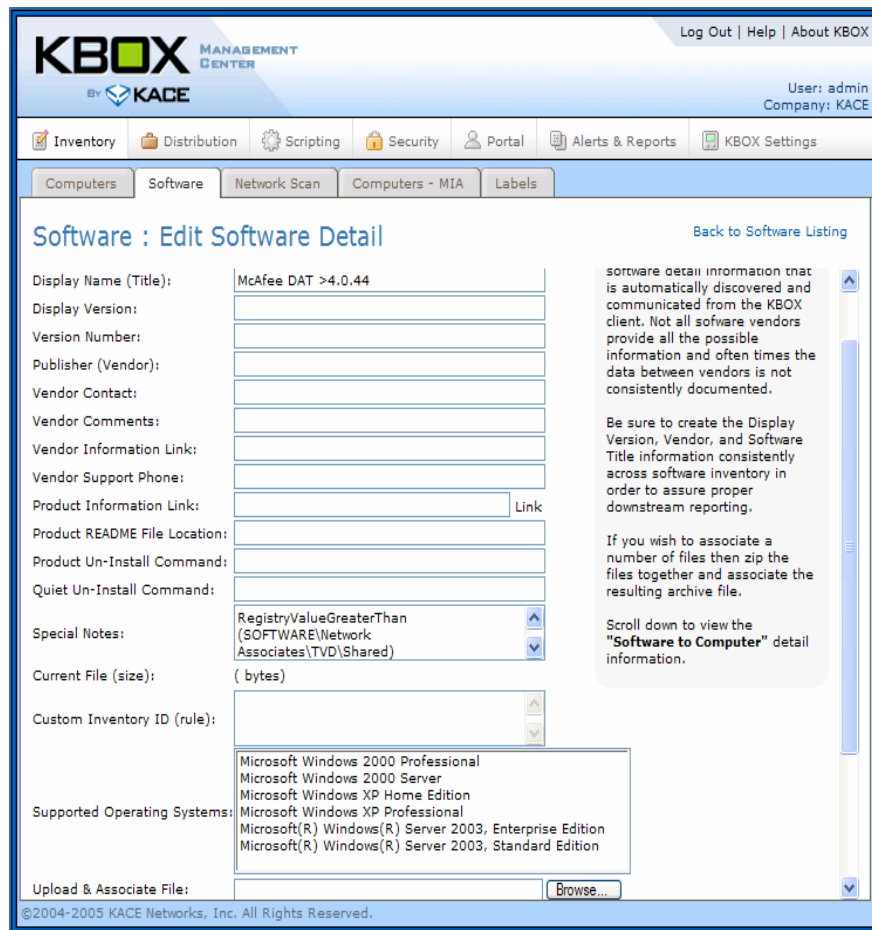
■ RegistryValueEquals(SOFTWARE\Microsoft\Internet Explorer\Version Vector, IE,6.000)

■ These are not the same and would be INVALID:

- RegistryValueEquals(SOFTWARE\Microsoft\Internet Explorer\Vers ion Vector,IE,6.000)
- RegistryValueEquals(SOFTWARE\Microsoft\Internet Explorer\Version Vector,IE,6.000)

These operators can be used in conjunction with “AND / OR”. The screenshot below illustrates a McAfee Anti-virus DAT file version detection. In the example listed, the custom inventory ID rule is:

- RegistryValueGreaterThan(SOFTWARE\Network Associates\TVD\Shared Components\VirusScan Engine\4.0.xx,szDatVersion,4.0.44)



- If the results of functions in the form described above evaluate to true, then it is assumed that the software is installed on the target machine, and there is **no** reason to install this package again. And, a corresponding copy of the software is counted in the KBOX database.
- Functions of the form *VersionGreaterThan and *VersionLessThan will attempt to do valid comparisons of version information. Only numeric versions can be compared. For example 1.2.3B would **not** compare correctly. The following would all behave normally:

- 1.2.3 < 1.2.4
- 1.2.3 < 2.4

- 1.2.3 > .9.1.9

- 1 < 1.5

- 1.0.0.0.5 < 1.1

- Functions of the form *Equals will be doing string comparisons, so the supplied valueToTest values must match exactly.

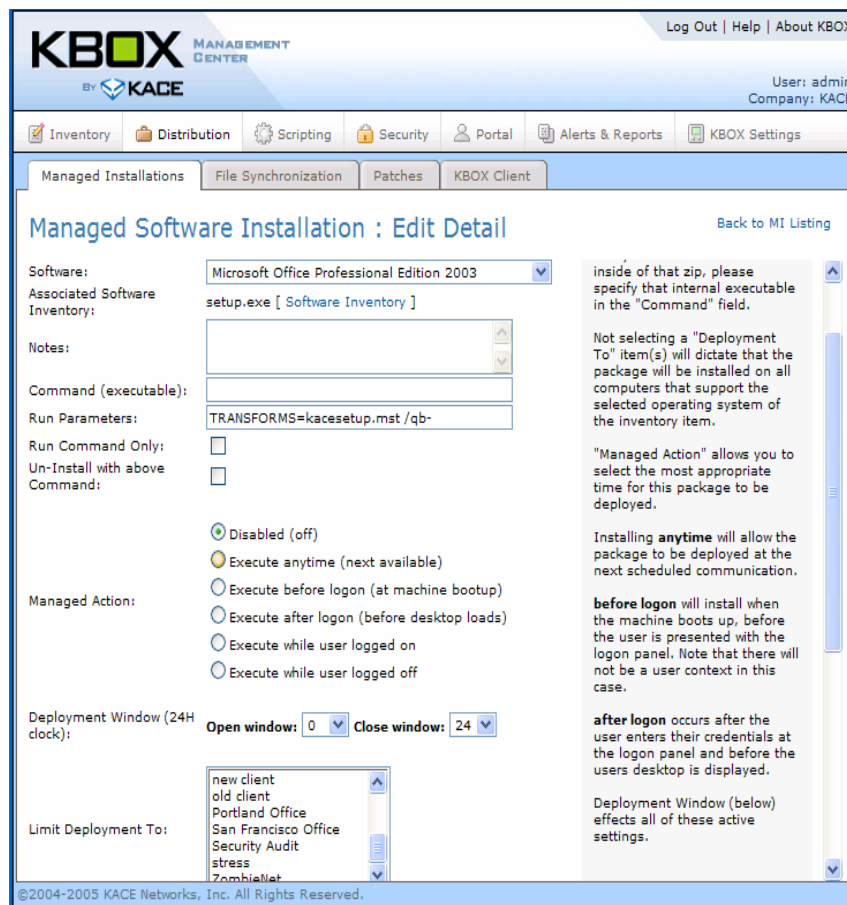
- "1.0" does not equal "1.0.0.0"

- ".9" does not equal "0.90"

- NOTE: If you would like to associate a License Key, see *License Information on page 117* .

3. Create a Deployment Definition for a managed installation by selecting Software Distribution / Managed Installation within the KBOX Administrative Interface (if you prefer a File Synchronization, skip to item #3 below).

4. Then select the pull down "Add New Item" and complete the following fields and then click **Save**:



Software (always required)	<p>Use the pull down to select the Inventory Item desired (created in Step 1 above)</p> <p>NOTE: You may create multiple Deployment Definitions for each Software Title. This is useful in situations where you want installation parameters (e.g., switches, deployment window, target label, filter) to vary by target deployment footprint. However, you may NOT have multiple Software Inventory Items with the same name (step 1 of this example).</p>
Associated Software Inventory File	<p>This field is auto-completed from the Inventory Item definition (see above).</p>
Command (Executable)	<p>In the event that the associated file (from step b) is a .ZIP file, then you MUST enter the program that you would like run within ZIP in order for the functions to work properly. For example, if the associated file is a .ZIP file containing many files and sub-directories required for installation and the file that you would want to execute is setup.exe in order to launch the installation process, then this line must include setup.exe as the target file (no path required). You may run a vbscript or BAT file from this command line as well; if such a file is associated with the definition, no path is required. If the file is located on the target machine in another directory, include the complete path (e.g., c:/___). Alternatively, you can run an MS-DOS command by calling cmd.exe in the executable line and placing parameters in the Parameters line (e.g., /c {command here})</p> <p>For example, if you're deploying a .ZIP file that contains setup.exe, getobject.dll and customapp.msi, then the "Executable" field must contain the name of the program you want to run once the .ZIP file is unpacked (e.g., setup.exe).</p>

Parameters	<p>Parameters are used to customize MSI or EXE installers that are designed to accept parameters (e.g., /restart, /quiet, /passive). You can determine whether or not your package supports parameters by either a) reviewing your vendor's documentation or b) from a DOS prompt, go to the directory containing the target file (e.g., flag.exe) and type /? (i.e., flag /?). /I is REQUIRED when using an .MSI for installation.</p> <p>You may also use this field to handle Microsoft Transforms or .MST file references. For more information on switches and parameters see "Package Deployment Guide," on page 94 .</p> <p>NOTE: if you are using parameters with .MSI files, it is suggested that your target machines all include the same version of Windows Installer available from Microsoft. Otherwise, some switches may not be active on older versions. The most up to date version of Windows Installer can be distributed to clients via the KBOX (See http://www.microsoft.com/downloads/details.aspx?familyid=5fbc5470-b259-4733-a914-a956122e08e8&displaylang=en for more information on msiexec). If you are using Windows Installer 3.0 or later, you can identify the supported parameters by going to start/run/ and then type msiexec. You should see a pop up which includes the supported parameters list.</p> <p>.MSI files require a /I when targeting an installation in all cases.</p>
Managed Action	Four radio buttons summarize the Managed Action alternatives
Disable	Disables the target package so that no new clients are targeted for deployment
Execute anytime	Enables the Managed Installation definition to execute an installation any time the KBOXClient connects to the KBOX.
Execute before logon (At machine bootup)	This will execute at machine bootup.
Execute after logon (before desktop loads)	This will load after the user session is initiated but before the user has access to the desktop.
Execute while user logged on	Enables the Managed Installation definition to execute an installation any time the KBOXClient connects while the user is logged on.
Execute while user logged off	Enables the Managed Installation definition to execute an installation any time the KBOXClient connects while the user is logged off.

5. Limit Deployment To:

If desired, select the Labeled organizational units that you would like to use for targeted deployment (see section on Labeling for more information). If you do not select a specific Label then all qualified

clients will receive. If you would like to limit deployment to an AD or LDAP Organizational Unit, please see *Advanced Deployment Concepts: Bind to LDAP/AD (Filter by Organizational Unit)* on page 41 .

Allow Snooze	Select this item if you would like to provide your users with an option to temporarily bypass this particular Deployment. The user will be prompted to either "Install" or "Snooze" when this package is activated for that user's machine. NOTE: If you allow snooze and your package deploys to machines that are logged off, the first user to login will then be presented with a snooze/continue panel. If you want to deploy to logged off machines with no user intervention, then we suggest isolating those machines with a label or filter and then deploying to those machines without snooze enabled.
Delete Downloaded Files	Select this box to instruct the installer to delete temp files when complete. NOTE: temp files may be useful for future uninstalls, but, generally, are not required.
Pre/Post Install User Message	If you wish to provide messages to users at install time, input them here. If not, leave them blank.
Deployment Window	The deployment window is set on a 24 hour clock. If you intend to use the deployment window, we strongly recommend setting the deployment must be longer (contain more hours) than the time
Alternate Download Location	This field is useful if you want KBOXClient to retrieve the source digital file from either a file share or an http web address. This field supports full UNC and HTTP paths. The syntax must include the fully qualified path (e.g., \\kace\corporateshare\setup.exe, http://www.kace.com/setup.exe)
Alternate Download Location	When using an alternate download location, for security reasons, KBOX requires the administrator to place an MD5 checksum of the target package in this field. Many inexpensive tools (such as iSide) are available to create these checksum values. You may use any tool to establish your checksum. For creating your MD5 hash, iSide at http://www.littlelite.net/iside/mainframe.html is a tool that is easy to use and is available via a 14-day free trial.
Alternate Checksum	If providing an alternate download location you may wish to enter a MD5 checksum value to validate the integrity of the executable. The checksum can also be created using the Checksum tab on the KBOX Administrative utilities found on the KBOX Client CD.

If you wish to create a File Synchronization instead of Managed Installation, complete these steps. Begin by selecting Software Distribution / File Synchronization within the KBOX Administrative Interface (if you prefer a Managed Installation, return to item #2 above).

Then select the pull down "Add New Item" and complete the following fields and the click **Save**:

KBOX MANAGEMENT CENTER
By KACE

Log Out | Help | About KBOX
User: admin
Company: KACE

Inventory | Distribution | Scripting | Security | Portal | Alerts & Reports | KBOX Settings

Managed Installations | File Synchronization | Patches | KBOX Client

File Synchronization : Edit Detail

[Back to FS Listing](#)

Software: drache_file.jpg

Associated Software Inventory: drache_file.jpg [Software Inventory]

Notes:

Location (full directory path): c:\KACE\dragon\

Enabled:

Create Location (if doesn't exist):

Replace existing files: Do Not Uncompress Distribution:

Create Shortcut (to location): Shortcut Name: Dragons

Delete Temp Files:

Limit Deployment To: MemberOfBuildingA, MemberOfFinanceGroup, new client, old client, Portland Office, San Francisco Office, Security Audit

Pre-Install User Message:

Post-Install User Message:

Deployment Window (24H clock): Open window: 0 Close window: 24

Alternate Download Location:

Alternate Checksum:

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File synchronization packages will be copied to the client computer but no executable will be launched. Use FS packages to distribute files like Corporate Office Documents, anti-virus definition files, spreadsheets, etc.

If no installation user messages are defined the files will be distributed silently behind the scenes.

Software (always required)	Use the pull down to select the Inventory Item desired (created in Step 1 above)
Notes	Input notes if desired.
Location	Enter the directory path on the target machine that you would like to use as a landing point for the file synchronization.
Enabled	Select the enable box if you wish to enable this synchronization when you save the definition.
Create Location (if it doesn't exist)	Select this box if you wish to create the designated directory if it does not exist.
Replace Existing Files	Select this box if you wish the KBOX to replace existing files of the same name with this package.
Do Not Uncompress Distribution	Select this box to skip the process of uncompressing .ZIP files on deployment.

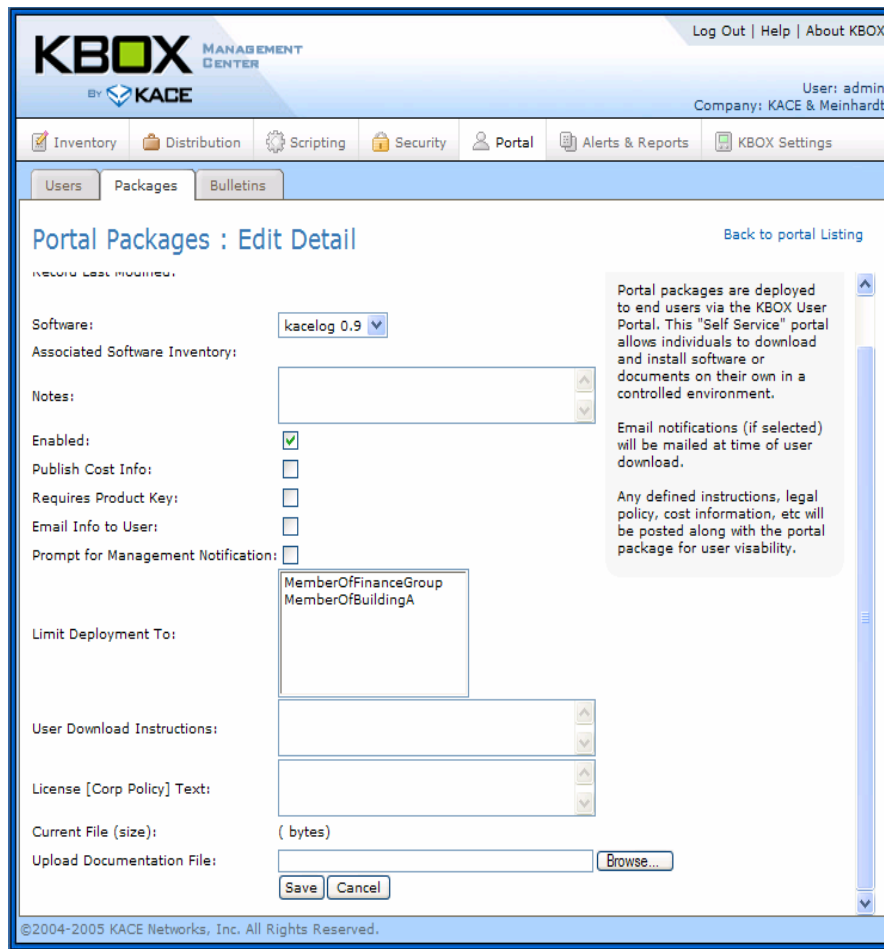
Create Shortcut (to location)	Select this box if you wish to create a desktop shortcut to this item on the target machine.
Delete Temp Files	Select this box to instruct the installer to delete temp files when complete
Limit Deployment To	If desired, select the Labeled organizational units that you would like to use for targeted deployment (see section on Labeling for more information). If you do not select a specific Label, the default will be "All". If you would like to limit deployment to an AD or LDAP Organizational Unit, please see "Advanced Deployment Concepts: Bind to LDAP/AD (Filter by Organizational Unit)," on page 41.
Pre/Post Install User Message	If you wish to provide messages to users at install time, input them here. If not, leave them blank.

6. Once you have created and enabled a Deployment Definition or File Synchronization Definition, your package will be distributed to eligible clients when they connect to the KBOX on their scheduled basis. To force a client to connect for testing purposes you may go to an eligible machine and double click on c:\program files\KACE\KBOX\KBOXClient.exe.

Deploying to the End-User Portal

The end-user portal provides self-service access to designated software titles to your user population. In order to designate a title for deployment to the end-user portal, complete the following steps:

1. Create an inventory item by following the steps in Basic Software Deployment and Updates – see “Basic Software Deployment and Updates,” on page 23.
2. Then, create the portal deployment package by clicking the Portal tab. (see below):



Software (always required)	Use the pull down to select the Inventory Item desired (created in Inventory Definition step above)
Notes	Input notes if desired
Enabled	Select the enable box if you wish to enable this synchronization when you save the definition
Publish Cost Info	Select this box if you wish to display cost information to the user prior to download (entered when creating the license key information).

Requires Product Key	Select this box if you wish the KBOX to deliver a product key to the user prior to installation.
Email Info to User	Select this box if you would like installation instructions and information to be emailed to the user prior to install
Prompt for Management Notification	Select this box if you want to require the end-user to enter manager email address for manager notification.
Limit Deployment To	If desired, select the Labeled organizational units that you would like to use for targeted deployment (see section on Labeling for more information). If you do not select a specific Label, the default will be "All". If you would like to limit deployment to an AD or LDAP Organizational Unit, please see Bind to LDAP/AD (Filter by Organizational Unit) on page "Advanced Deployment Concepts: Bind to LDAP/AD (Filter by Organizational Unit)," on page 41.
User Download Instructions and License Text	If you wish to provide messages Download Instructions and License Text, input them here. If not, leave them blank.
Upload Documentation File	Browse to a documentation file and upload if desired

3. Once you have created and enabled a Portal Package, your package will be distributed to the user portal and will be accessible for designated end-users when they log into the portal.

Advanced Concepts

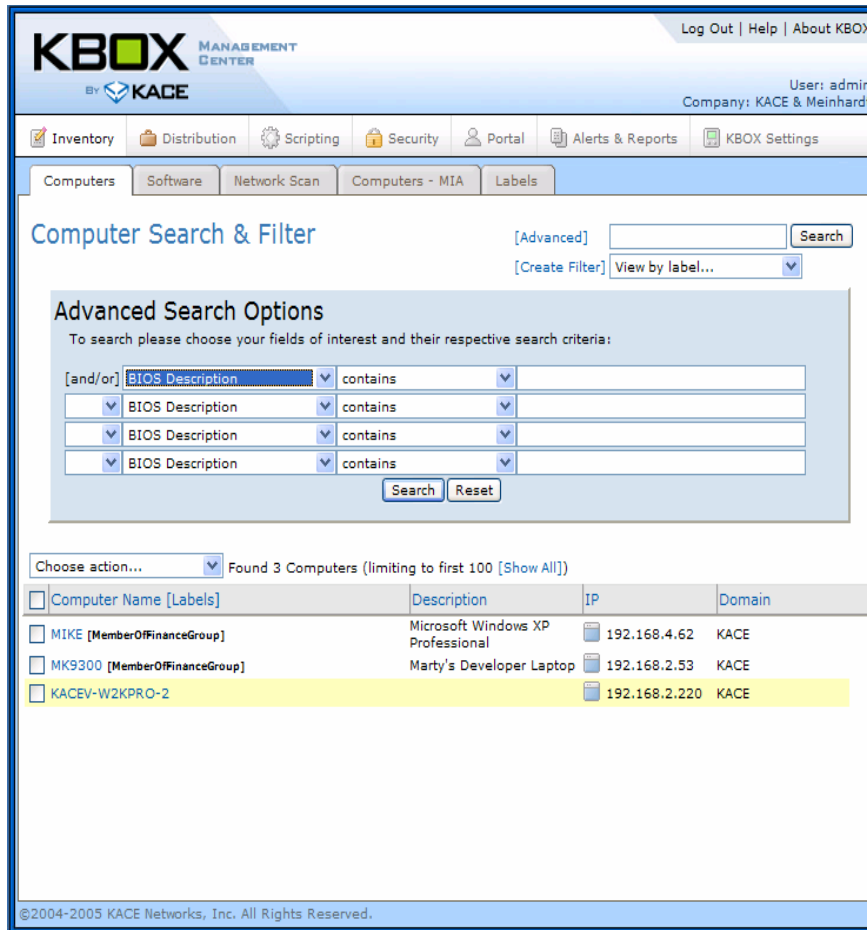
KBOX uses several advanced concepts for customizing deployment of scripts to your network. The following sections describe these concepts.

Advanced Deployment Concepts: Labeling and Advanced Search

The KBOX provides a multi-dimensional labeling capability that allows you to create target groups for deployment (e.g., building A, engineering machines, New York machines). Labels can be applied manually (utilizing search and advanced search capabilities) or labels can be auto-applied using Filtering capabilities.

The points below summarize basic labeling concepts by way of a step-by-step example. Filtering is described in the following section.

1. Define a label by selecting Report Center / Edit Labels / Choose Action (pull down) / Add New Item:
 - Enter label name, for example, "Windows XP Machines".
 - Enter notes, if desired, and press save.
2. Select Inventory Management / Computer Inventory within the administrative interface (e.g., KBOX/admin).
3. Select Advanced to the right of the Search button in the upper right-hand corner of the screen.



4. Select "OS Name" in the first line of the advanced search panel.
5. Select "contains" from the center pull down.
6. Type XP in the search field and click Search.
7. Select all records in the search return by clicking the box just below the Choose Action button.
8. Use the Choose Action pull down to Apply Label: Windows XP Machines.

The label Windows XP Machines will now remain a searchable criteria and a will be included as a deployment option when you create at deployment package. NOTE: new machines will not be automatically added to this label area unless you create a Filter (see the next section).

9. To remove a label, complete steps 5 through 8 above; however, in step 7, you will de-select, rather than select the entire list. And, in step 8, you will Remove Label: Windows XP Machines.



Advanced search contains several options such as contains, >, <, =, Match RegEx. These operators perform in a relatively straight forward manner. The two operators noted below warrant additional explanation.

Match RegEx allows for wildcard and other search expressions standard to PERL users. “%” functions as the wildcard (similar to * in the DOS world). For additional information about RegEx searching, visit <http://www.regular-expressions.info/> and/or <http://dev.mysql.com/doc/mysql/en/regexp.html>.

Bind to LDAP Query allows the KBOX to connect to and verify a variable to a LDAP or Active Directory. For example, an administrator could search “give me all machines where organizational unit = sales”. This capability is not active in the current product but is expected for Q1, 2005 release.

Advanced Deployment Concepts: Filtering

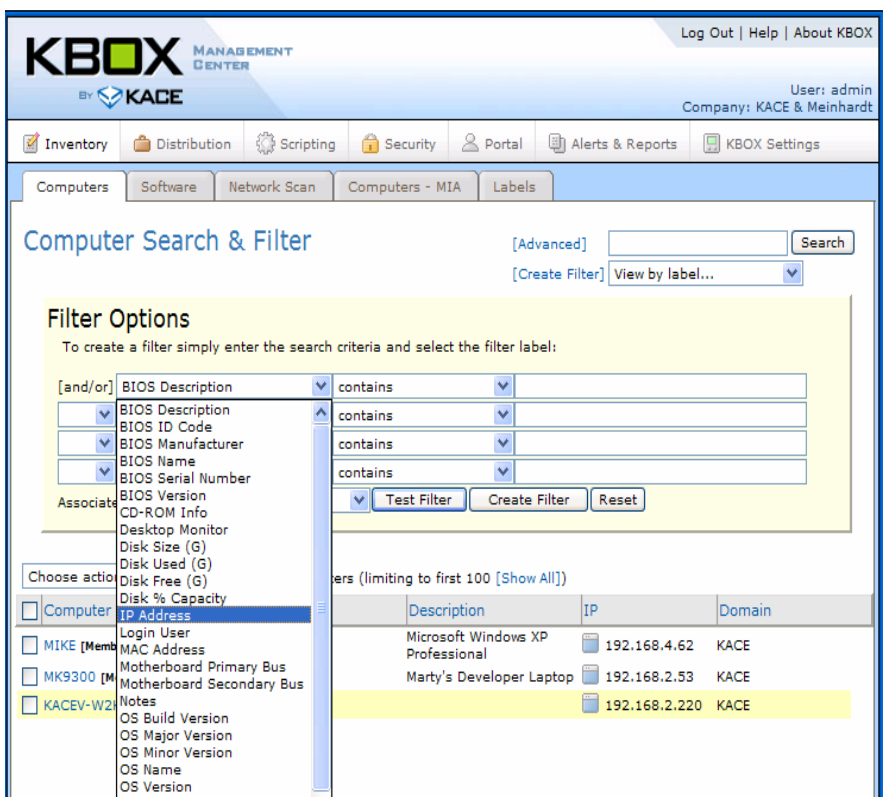
Filtering provides a way to automatically apply a label based on search criteria. Filters are applied based on whether or not a particular machine fits particular criteria at a particular time. To set a filter to apply to target machines on a dynamic basis, visit / Inventory Management / Computer Inventory / Create Filter. The table below lists some examples of filters that could be applied to a machine based on its inventory manifest:

Filter Examples	
Sample Label Name	Sample Condition
XP_Low_Disk	Windows XP Machine with less than 1 GB of free hard disk at last connection
XP_No_HF182374	Windows XP Machine without Hotfix 18237 installed at last connection
Building 3	Machine connecting to KBOX is detected in a specified IP range known to originate in building 3.
CN_sales	Computers connecting where computer name contains the letters “sales”.

Table 2-1: Filter Examples

Filters provide a great mechanism for maintaining up-to-date labeling schemes. The following numbered items provide a walk-through of how to configure a simple Filter.

1. Define a label by selecting Report Center / Edit Labels / Choose Action (pull down) / Add New Item:
 - Enter label name, for example, "CN_Sales".
 - Enter notes, if desired, and press save.
2. Select Inventory Management / Computer Inventory within the administrative interface (e.g., KBOX/ admin).
3. Select Create Filter to the right of the Search button in the upper right-hand corner of the screen.



4. Select "System Name" in the first line of the filtering panel.
5. Select "contains" from the center pull down.
6. Type sales in the search field.
7. Use the Associate to Label pull down to select CN_Sales

-
8. Click Create Filter. [Note: this filter will only trigger if a machine containing 'sales' in the computer name connects to KBOX.]

The label CN_Sales label will now remain a searchable criteria and will be included as a deployment option when you create a deployment package. NOTE: new machines WILL be automatically added to this label area when they connect to the KBOX and contain 'sales' in the computer name.

9. To remove a filter, visit Report Center / Edit Filters.
10. Try creating other filters using different search criteria. Remember, you must create a label name before creating the filter.

NOTE: Filtering contains several options such as contains, >, <, =, Match RegEx, Bind to LDAP Query. These operators perform in a relatively straight forward manner. The two operators noted below warrant additional explanation:

Match RegEx allows for wildcard and other search expressions standard to PERL users. "%" functions as the wildcard (similar to * in the DOS world). For additional information about RegEx searching, visit <http://www.regular-expressions.info/> and/or <http://dev.mysql.com/doc/mysql/en/regexp.html>. We have listed a few examples of how to apply RegEx in a Filter in the attached footnote for your convenience.²

Bind to LDAP Query is allowed the KBOX to connect to and verify a variable to a LDAP or Active Directory. For example, an administrator could search "filter all machines where organizational unit = sales". [NOTE: this feature is not enabled in this release, contact KACE for information about receiving an update that includes this capability.]

Advanced Deployment Concepts: Bind to LDAP/AD (Filter by Organizational Unit)

2. IP Address - matches REGEX:

192.168.2.*

Match anything starting with 192.168.2

192.168.2.(105|102|209)

match 192.168.2.

with the last three digits 105 or 102 or 209

(192.168.2.105|192.168.2.110)

match either of these two addresses

(([01]?[0-9][0-9]).([012]?[0-9][0-9]).([012]?[0-9][0-9]).([012]?[0-9][0-9])

This is the minimum length to completely specify an IP range

Although this really allows 000.000.000.000 through 199.299.299.299

192.168.2.([012]?[0-9][0-9])

match 192.168.2

either 0 or 1 or 2 or nothing as the first digit - '[012]?' part

anything 0-9 as the other two digits [0-9][0-9]

If you wish to filter computers based on an Organizational Unit found in LDAP or AD, you can set that up via the following tab in the interface / Report Center / LDAP Filters / Add New Item. Configure the LDAP query that binds to the OU of choice and assigns a dynamic label (you will have to specify your label names within the KBOX under / Report Center / Edit Labels).

You may bind to an LDAP query based on the following KBOX variables: Computer Name, Computer Description, Computer MAC, IP Address, User Name, Domain, User Domain. Follow the on screen instructions to configure (see sample below) or contact KACE support at 888-522-3638 for instructions on how to enable this feature.

KBOX MANAGEMENT CENTER
BY KACE

Log Out | Help | About KBOX
Log Out | Help | About KBOX

User: admin
Company: KACE & Meinhardt

Inventory Distribution Scripting Security Portal Alerts & Reports KBOX Settings

Reports Alerts Email Alerts Summary Info Filters **LDAP Filters** Scan Filters License Keys

LDAP Filter : Edit Detail

[Back to LDAP Filter Listing](#)

Record Created: Jan 23 2005 04:11:43 PM
Record Last Modified: Feb 06 2005 12:40:56 PM

Associated (target) Label Name: MemberOfBuildingA
Associated (target) Label Notes: SAMPLE: This is a target label for the LDAP Filter that checks computer members of Active Directory Groups. This EXAMPLE LABEL is associated to an LDAP Filter by default.

Enabled:

Server Hostname (or IP): 192.168.2.209
LDAP Port Number: 389

Search Base DN: CN=Computers,DC=kace,DC=com

Search Filter: (&(name=KBOX_COMPUTER_NAME)(memberOf=CN=BuildingA,DC=kace,DC=com))

LDAP Login: CN=Administrator,CN=Users,DC=kace,DC=com
LDAP Password (if required): *****

Save Cancel Delete

Test LDAP Filter...

LDAP Filter Notes

LDAP Filters allow the automatic labeling of machine records based on LDAP or Active Directory interaction. The search filter will be applied to the external server and should any entries be returned then automatic labeling results. During the filter processing, the KBOX will replace all "KBOX_" defined variables with their respective runtime values. Currently supported variables are:

- KBOX_COMPUTER_NAME
- KBOX_COMPUTER_DESCRIPTION
- KBOX_COMPUTER_MAC
- KBOX_COMPUTER_IP
- KBOX_USERNAME
- KBOX_USER_DOMAIN
- KBOX_DOMAINUSER

Should the external server require credentials for administrative login (aka non-anonymous login) please supply those conditions. If no LDAP user name is given then an anonymous bind will be attempted. Each LDAP filter may connect to a different LDAP/AD server.

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Advanced Deployment Concepts: Throttling and Timed Deployment

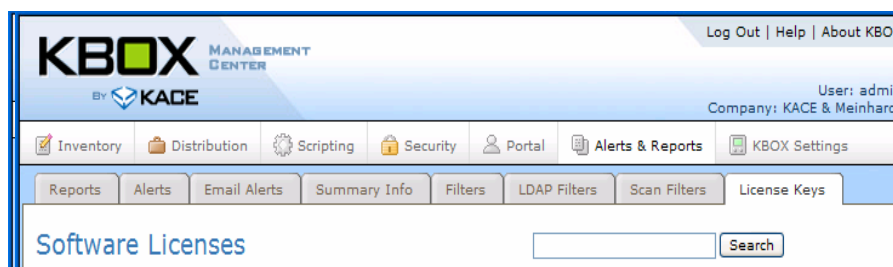
Throttling and timed-deployment are two mechanisms that can be used to control when a particular KBOX activity is executed on a remote client. See “Deploying Software,” on page 22 for more information about timed deployment and throttling.

Advanced Deployment Concepts: License Keys

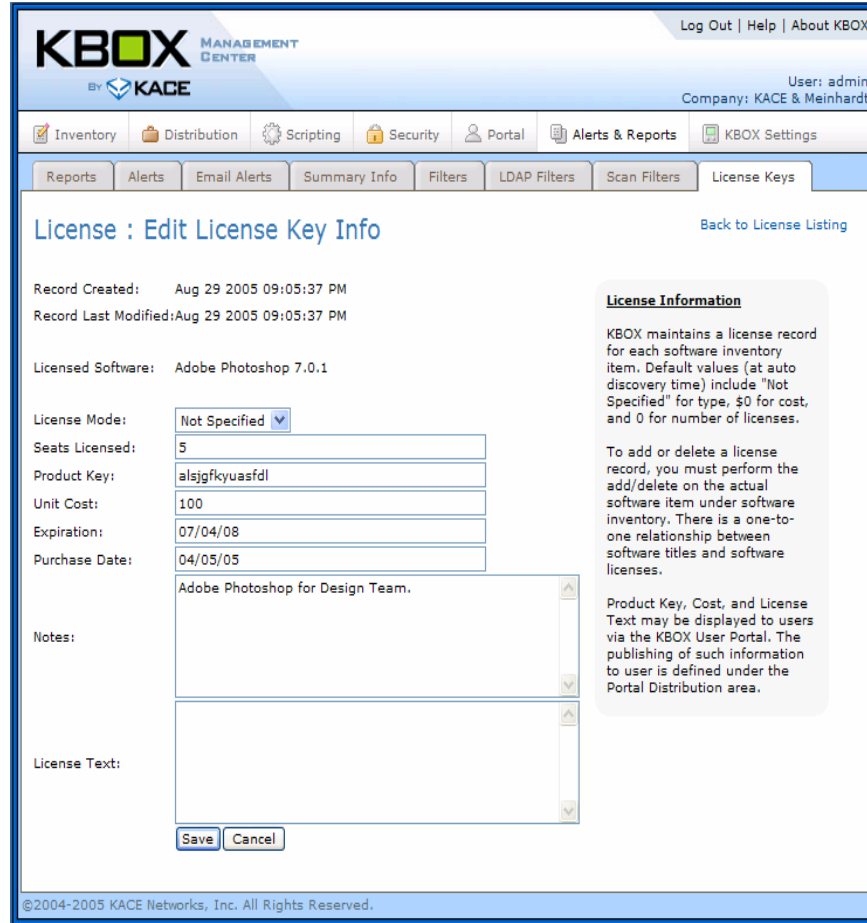
License keys can be associated with specific software titles and managed via the KBOX. License keys associated with this database are tracked and presented to users when downloading from the end-user portal. If you wish to pass license key information into an installer for purposes of a managed installation (e.g., pushing Office), you must utilize package-specific transforms. In the case of a Microsoft Office installation, you would use the Office Resource Kit to create an MST file that passes the appropriate license key and custom installation parameters into the installer.

The KBOX on-board license key management capability is most useful for portal deployment or for reconciling software license compliance in the reporting area. In order to configure the license key tracking mechanism, please complete the following steps.

1. First, select Alerts & Reports / License Keys from the Administrative Console and then select target file from within the License Keys tab.



2. Then select the Licensed Software and enter the licensing information and click Save.



Advanced Deployment Concepts: Package Parameters and Commands

KBOX allows packaged definitions to contain .MSI, .EXE, .ZIP and other file types for software deployment. A simple litmus test of the KBOX' ability to install a package is "Can this file be installed by an administrator on a local machine either by running a single file or BAT file or VBScript?" If so, the package can be installed remotely by KBOX. In order to simplify the distribution and installation process, the package definition can also contain parameters that are passed to the installer at run time on the local machine.

Parameters can be used to support custom installation settings. For example, the parameter may instruct the KBOXClient to install a program with specific install options configured (e.g., standard install, bypass auto-restart, run with IP address parameter). One way to identify which parameters are supported by your .MSI or other installer is follow the steps below (if these steps do not work, you may need to research the parameter options – if any – with the vendor in question):

1. Open an MS-DOS command prompt

-
2. Locate the directory containing the target installer (e.g., c:\...\adobe.exe)
 3. Type <sw title /?> (e.g., adobe /?)
 4. If parameters are supported for the package, they will often (but not always) appear on-screen (e.g., /quiet, /norestart)
 5. Use the parameter definitions identified to update your package definition

TIP: Some webs links are noted below that provide clues that may be useful in specifying the target parameters that you desire:

- Installshield Common .EXE Parameters:

http://documentation.installshield.com/robo/projects/helpplib/IHelpSetup_EXECmdLine.htm

<http://support.installshield.com/kb/view.asp?pcode=all&articleid=q105473>

- Installshield Common .MSI Parameters:

<http://documentation.installshield.com/robo/projects/helpplib/IHelpCmdLineMSI.htm>

<http://helpnet.installshield.com/robo/projects/helpplibdevstudio9/IHelpCmdLineMSI.htm>

<http://helpnet.installshield.com/Robo/BIN/>

http://helpnet.installshield.com/Robo/BIN/Robo_dll?mgr=agm&tpc=%2Frobo%2Fprojects%2FISXHelp%2FIHelpSetup_EXECmdLine.htm&wnd=InstallShieldLivingHelp%7CMain&agt=wsm&ctxid=search%2Fgsearch.asp

- Installshield Common Setup.exe Parameters:

http://helpnet.installshield.com/robo/projects/installshieldxhelpplib/IHelpSetup_EXECmdLine.htm

- Microsoft Windows Installer (MSIEXEC):

<http://www.microsoft.com/downloads/details.aspx?FamilyID=5fbc5470-b259-4733-a914-a956122e08e8&DisplayLang=en>

- Microsoft Command Line Switches:

http://msdn.microsoft.com/library/default.asp?url=/library/en-us/msi/setup/command_line_options.asp

http://msdn.microsoft.com/library/default.asp?url=/library/en-us/msi/setup/standard_installer_command_line_options.asp

NOTE: .MSI files require a /i switch when using other switches with an install.

NOTE: The KBOX parameter line does not require the file name or msiexec syntax. The only required inputs are the /* inputs:

/qn /I (Correct)

msiexec /I <MSI_Package> /qn (Incorrect)



If you are using parameters with .MSI files, it is important that your target machines all include the same version of Windows Installer available from Microsoft. Otherwise, some switches may not be active on older versions. The most up to date version of Windows Installer can be distributed to clients via the KBOX. If you are using Windows Installer 3.0 or later, you can identify the supported parameters by going to start/run/ and then type msiexec. You should see a pop up which includes the supported parameters list.

For a list of standard .MSI switch parameters see page 63.

Advanced Deployment Concepts: Troubleshooting Deployment

There are several common problems that can lead to seemingly unexpected behavior for deployment packages. If you have set up deployment packages and notice that they are not delivered to the appropriate target machines or they are delivered multiple times to the same machine, please check the following:

1. Verify Display Name:

The display name within the Inventory Item (Inventory Management / Software Inventory / display name) must exactly match the display name that the program registers with the machine when it is installed on a client PC.

One way to guarantee that these match is to define the Inventory Item using the following steps:

- Install the desired software program on a test machine (for example, if creating an Adobe Acrobat inventory item, first install the desired version on a target test machine).
- Synchronize the KBOXClient by waiting the inventory interval (default is 30 minutes) or restart the KBOX Client service. This will create a base Inventory Item within the KBOX.
- From within the KBOX Administrative console, select (Inventory Management / Software Inventory / Display Name of the Adobe Product installed) and then upload the installation file (e.g., .MSI, .EXE) for the target program.

2. Verify Target Platform:

The Target Platform within the Inventory Item (Inventory Management / Software / Display Name) must exactly match the target machine's OS. Therefore, select all of the applicable operating systems and be sure to update the Inventory item as new operating systems become available on your network.

-
3. Verify Label:
The target PC must be associated with the label that is defined in the Deployment Definition (e.g., Distribution / Managed Installations / Display Name).
 4. Check ZIP file:
Verify that the ZIP file contains all required files and that the command line in the Managed Installation interface points to the appropriate file.
 5. Set Debug Level: It is possible to enable a debug switch on the KBOX Client. This is found by editing the LocalConfig.xml configuration file found in the default KBOX client installation directory of C:\Program Files\KACE\KBOX\. Debugging is enabled by setting the debug value to "1" from the default value of "0".

Here is an example: `<debug_level>1</debug_level>`

This will generate a file in the same directory named debuglog.log. This file will document interaction with the KBOX server as well as output the managed installs and commands to be run. Should an installation fail, it is possible to duplicate the issue using the same command found in the debuglog.log file and run locally on the client machine. If there are any errors they can be tested and investigated on the client machine.

Alerts (Bulletin) and Email Alerts

KBOX includes powerful functionality for delivering alerts and bulletins to users. Alerts are delivered to users via the KBOXClient. Bulletins are archived and published on the End-User Portal where they can be searched and accessed by end-users within your organization.

The following sequence describes how to create an Alert and deliver it to your users.

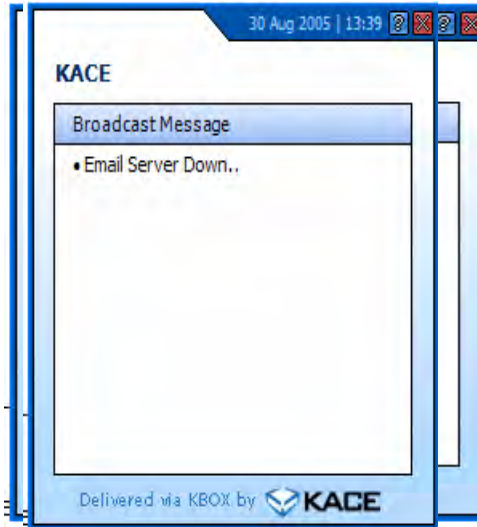
1. Select Alerts & Reports / Alerts within the Administrative Portal.
2. Select Choose Action / Add New Item.

The screenshot displays the 'Alerts : Edit Detail' interface in the KBOX Management Center. The top navigation bar includes 'Inventory', 'Distribution', 'Scripting', 'Security', 'Portal', 'Alerts & Reports', and 'KBOX Settings'. The 'Alerts & Reports' section is active, showing sub-tabs for 'Reports', 'Alerts', 'Email Alerts', 'Summary Info', 'Filters', 'LDAP Filters', 'Scan Filters', and 'License Keys'. The main content area shows the following details:

- Record Created:** Aug 30 2005, 01:43 PM
- Record Last Modified:**
- Message Expires:**
- Message Content:** The Mail Server will be down tonight.
- Keep Alive (# of hours):** 4
- Limit Broadcast To:** MemberOfBuildingA, MemberOfFinanceGroup

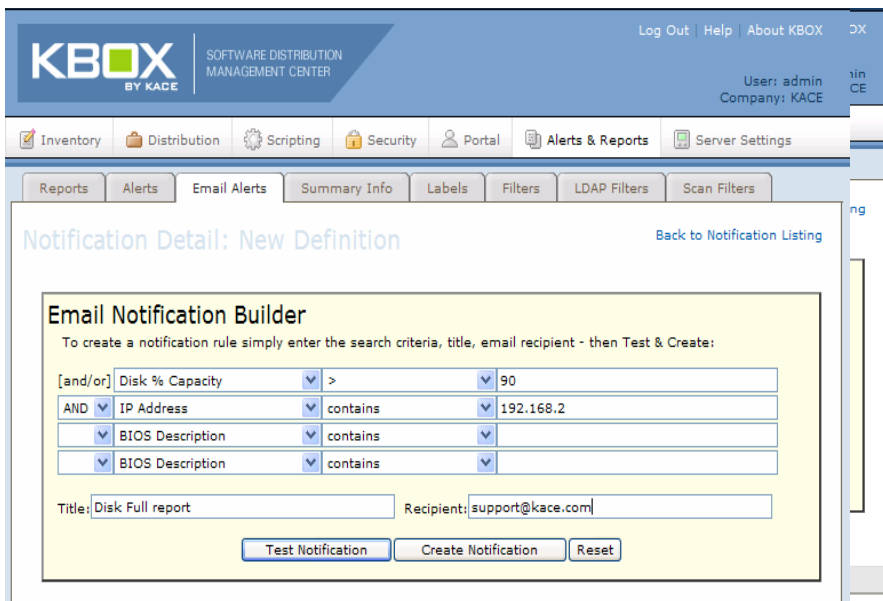
Buttons for 'Save' and 'Cancel' are located at the bottom of the form. A 'Message Notes' section on the right provides additional context: 'Broadcast messages are very useful for urgent information deployment to users. Often times email might not be the best way to broadcast urgent info. Messages will be broadcast to users until either the user's desktop has received the message or the keep alive time has expired. Broadcast messages will not interface with software distribution activities. Broadcasts may be limited or directed to only specific users and/or computers as identified by their labels.'

3. Enter test message content, select Keep Alive and Limit Broadcast To (if no label is selected for limited broadcast, broadcast will occur for all users connecting during the Keep Alive time window).
4. Test the message by forcing a KBOXClient to connect within a target group. In order to force synchronization now for test purposes, go to c:/program files/KACE/KBOX/KBOXClient.exe. Double click on KBOXClient.exe. If you followed the example above, the following screen shot should represent the view of your KBOXClient on your test machine.



In order to create a bulletin and publish it to the end-user portal, complete the following steps:

1. Select Alerts & Reports / Email Alerts within the Administrative Portal and select Add New Item in the drop down list:



2. Complete the desired fields per the following example and click **Save**.
3. Now, log into the user-portal to verify that the bulletin has been distributed to the portal. You can click on the title to view the Advisory.

IT administrators can also create IT alerts that notify IT managers when a particular filtering condition has been met by a machine on the network. For example, if a machine checks in with >95% of disk capacity

full, send admin@kace.com an email. Visit Alerts and Bulletins / Email Notifications to configure an email alert. The configuration steps are similar to those for configuring a standard filter.

Report Center

KBOX includes powerful functionality for viewing reports and generating new ones. Canned reports are included within the KBOX interface.

The reports tab includes the ability to: list of reports, run reports, edit reports, and create new reports. This requires SQL syntax, and the KBOX support team will walk you through report creation as well as the method to import a custom report. The scope of SQL capability goes beyond this document, however our support team is available to help with your custom reporting needs.

To run an existing report simply click the HTML or PDF option under the desired report name. If the KACE support team were to send you a new report, you have the ability to copy the report details provided into a new report including the SQL Select Statement and XML Report Layout settings.

For help customizing or for assistance developing your own customer reports, contact KACE support at support@kace.com or 888-522-3638.

CHAPTER 3

Security

- “Security Module Overview,” on page 54
- “OVAL Tests,” on page 55
- “OVAL reports,” on page 60
- “Creating security policies,” on page 62

Security Module Overview

Using the KBOX security module, you can ensure the health of your network by running vulnerability tests on the computers in your network, then, based on testing results, determine how to bring the computers back into compliance. You can customize security policies to enforce certain rules, schedule tests to run automatically, and run reports based on testing results.

The KBOX security module uses Open Vulnerability and Assessment Language (OVAL), an internationally recognized standard for detecting security vulnerabilities and configuration issues on computer systems. OVAL is compatible with the Common Vulnerabilities and Exposures (CVE) list, which provides common names used to describe known vulnerabilities and exposures.

The ability to describe vulnerabilities and exposures in a common language makes it easier to share security data with other CVE-compatible databases and tools.



Note that the OVAL tests available with your KBOX when it is first installed might be out of date. After installation, the KBOX will automatically check for updates nightly. You can see the current OVAL version on the KBOX Summary Info page (Alerts&Reports/Summary Info).

About OVAL and CVE

OVAL relies on definitions submitted by members of the security community on the Community Forum, by MITRE Corporation, or the by OVAL Board, to detect vulnerabilities on your network. OVAL uses the vulnerabilities on the CVE List as the basis for most of its definitions. CVE content is determined by the CVE Editorial Board, which is composed of experts from the international information security community.

Any new information about a vulnerability that is uncovered as a result of discussions on the Community Forum are sent to the CVE Initiative for possible addition to the list. For more information about CVE visit <http://cve.mitre.org>.

OVAL definitions pass through a series of phases before being released. Depending on where a definition is in this process, it will be likely be assigned a status of DRAFT, INTERIM, or ACCEPTED. Other possible values for status are Initial Submission and Deprecated. For more information about the stages of OVAL definitions, visit <http://oval.mitre.org/about/stages.html>.

Status	Description
Draft	Definitions with this status have been assigned an OVAL ID number and are under discussion on the Community Forum and by the OVAL Board.
Interim	Definitions with this status are under review by the OVAL Board and available for discussion on the Community Forum. Definitions are generally assigned this status for two weeks, unless further changes or discussion are required.
Accepted	Definitions with this status have passed the Interim stage and are posted on the OVAL Definition pages. All history of discussions surrounding Accepted definitions are linked from the OVAL definition.

Table 3-1: OVAL status definition descriptions

OVAL Tests

KBOX checks nightly for updates to the list of available OVAL definitions. Definitions are displayed on the OVAL Tests tab, along with their associated OVAL ID and CVE Number. Search for a specific OVAL test by operating system, vulnerability, or by OVAL ID or CVE Number.

To view the list of OVAL definitions, click the Security button, then select the OVAL Tests tab.

The screenshot shows the KBOX Management Center interface. At the top, there is a navigation bar with the KBOX logo and 'By KACE'. The user is logged in as 'admin' from 'KACE'. Below the navigation bar, there are several tabs: 'Inventory', 'Distribution', 'Scripting', 'Security', 'Help Desk', 'Alerts & Reports', and 'KBOX Settings'. The 'Security' tab is active, and within it, the 'OVAL Tests' sub-tab is selected. The main content area displays a table of OVAL tests. The table has three columns: 'OVALIDID', 'Description', and 'CVE Number'. The first row is highlighted in yellow. A search box is located at the top right of the table area. Three annotations with arrows point to specific parts of the interface: one points to a description in the table, another points to a column header, and the third points to the search box.

OVALIDID	Description	CVE Number
OVAL100107	Firefox before 1.0.5 and Mozilla before 1.7.9 allows a child frame to call...	CVE-2005-2266
OVAL100106	Unknown vulnerability in the PKINIT Protocol for Microsoft Windows 2000,...	CVE-2005-1982
OVAL100105	Unknown vulnerability in Microsoft Windows 2000 Server and Windows Server...	CVE-2005-1981
OVAL100104	Unknown vulnerability in the PKINIT Protocol for Microsoft Windows 2000,...	CVE-2005-1982
OVAL100103	Unknown vulnerability in Microsoft Windows 2000 Server and Windows Server...	CVE-2005-1981
OVAL100102	Unknown vulnerability in the PKINIT Protocol for Microsoft Windows 2000,...	CVE-2005-1982
OVAL100101	Unknown vulnerability in Microsoft Windows 2000 Server and Windows Server...	CVE-2005-1981
OVAL100100	Unknown vulnerability in the PKINIT Protocol for Microsoft Windows 2000,...	CVE-2005-1982
OVAL100099	Unknown vulnerability in Microsoft Windows 2000 Server and Windows Server...	CVE-2005-1981
OVAL100098	Unknown vulnerability in the PKINIT Protocol for Microsoft Windows 2000,...	CVE-2005-1982
OVAL100097	Unknown vulnerability in Microsoft Windows 2000 Server and Windows Server...	CVE-2005-1981
OVAL100096	Unknown vulnerability in the PKINIT Protocol for Microsoft Windows 2000,...	CVE-2005-1982
OVAL100095	Unknown vulnerability in Microsoft Windows 2000 Server and Windows Server...	CVE-2005-1981

Click the description to view definition details

Click a column header to sort definitions by OVALIDID, Description, or CVE Number

Search by operating system, vulnerability, or by OVAL or CVE ID.

Figure 3-2: OVAL Tests page

To view the details of a test, click the linked definition to view the Oval Test Detail page.

When OVAL tests are enabled, all of the available OVAL tests are run on the target machines.

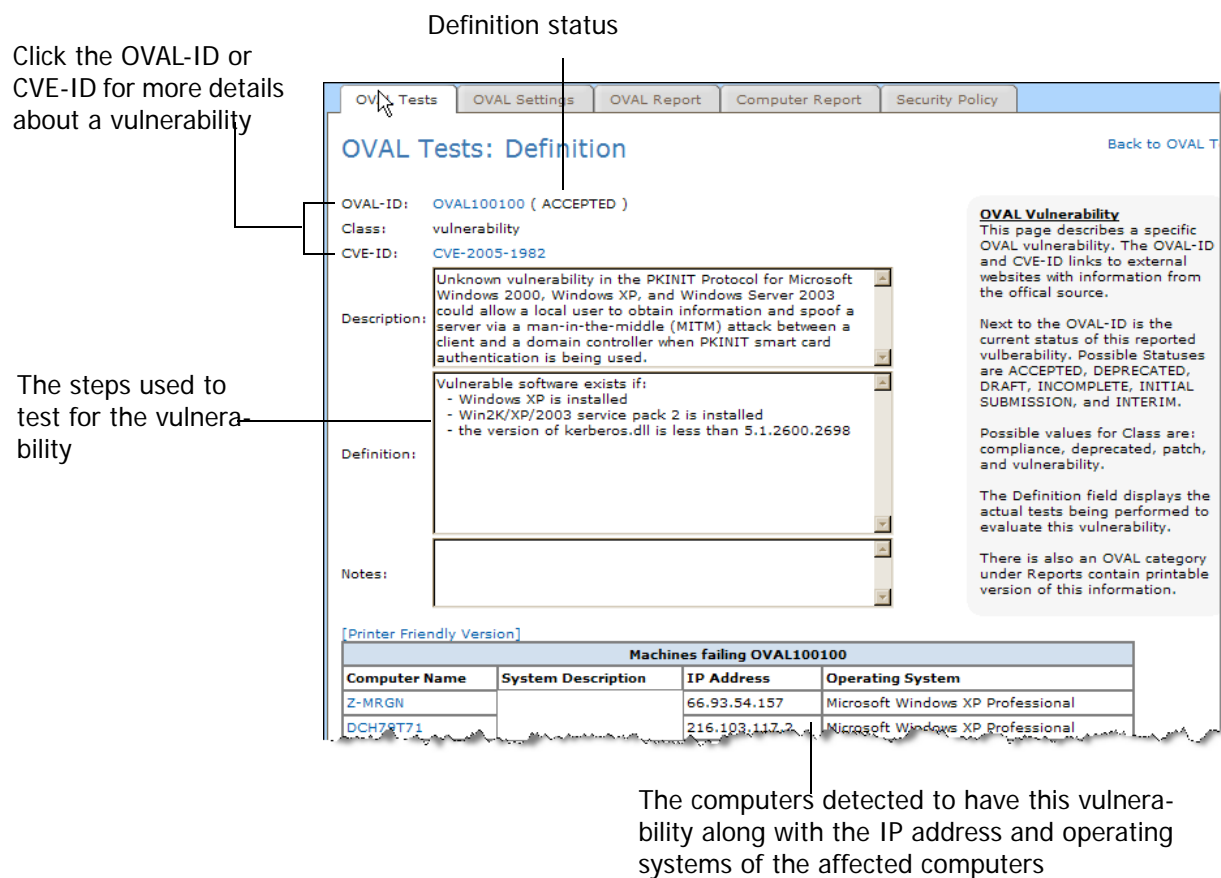


Figure 3-3: Oval Test Definition page

OVAL Test details do not indicate the severity of the vulnerability. Use your own judgement when determining whether to test your network for the presence of a particular vulnerability.

The table below contains an explanation of the fields found on the OVAL Tests Definition page.

Field	Description
OVAL-ID	Click the OVAL-ID to visit an external website with more details about the vulnerability. The status of the vulnerability follows the OVAL-ID. Possible values are DRAFT, INTERIM, or ACCEPTED.
Class	Indicates the nature of the vulnerability. Possible values are: compliance, deprecated, patch, and vulnerability.
CVE-ID	Click the CVE-ID to an external website for more details about the vulnerability.
Description	The common definition of the vulnerability as found on the CVE list.

Table 3-4: OVAL Test Definition page fields

Field	Description
Definition	Specifies the testing steps used to determine whether or not the vulnerability exists.
Notes	Provides additional information about the vulnerability, where available.

Table 3-4: OVAL Test Definition page fields

The table at the bottom of the page displays the list of computers in your network that contain this vulnerability. For convenience, a printer-friendly version of this data is available.

Running OVAL Tests

If you have OVAL tests enabled, KBOX will run the tests automatically whenever a new package becomes available, regardless of the schedule specified in OVAL Settings. Because OVAL Tests take up a considerable amount of memory and cpu, they will impact the performance of the target machines. Therefore, it is best to run OVAL Tests once a week, or once a month during off hours when your users are least likely to be inconvenienced.

For this reason, a good rule to follow is to only enable OVAL Tests when you want to run them. For example, if you wanted to schedule OVAL Tests to run on January 1st, you could disable them on January 2nd, and not enable them again until close to the time you want them to run. Any OVAL updates that are pulled down while the OVAL Tests are disabled will be stored on the KBOX and only pushed out to the target machines when enabled again.

If you are only running OVAL Tests periodically, or if there are only select machines whose OVAL Test results you are concerned about, you could assign a label to those machines and use the Run Now function to run OVAL Tests on those machines only. For more information about the Run Now feature, see "Using the Run Now function," on page 77.

Oval settings and schedule

KBOX checks for new OVAL definitions nightly, but you should expect new definitions weekly. The .zip file that contains the updates could be up to 2MB, so use caution when enabling OVAL Tests for the computers on your network, as the size of the package could impact the performance of users' machines, particularly those on dialup connections. OVAL Tests take between 5 and 20 minutes to run. To make minimize the disruption to your users, you may want to schedule OVAL to run once a month on a Saturday.

By default, OVAL is set to run on all machines, on all operating systems, and at 3AM.

To specify OVAL settings:

1. Click **Security**, then select the **OVAL Settings** tab.
2. In the Configuration area, specify the settings:

Enabled	OVAL will be run on the target machines. Only enabled OVAL Tests when you want to run them.
Allow Run While Disconnected	OVAL will run on the target machines, but test results will be stored on the target machine until they can be uploaded to the KBOX.

Allow Run While Logged Off	OVAL will run even if a user is not logged in. With this turned off, the script will only run when a user is logged into the machine.
----------------------------	---

3. In the Deployment area, select a label to limit deployment to or leave blank to deploy to all machines. Hold the CTRL key down and click to select more than one label.
4. In the Supported Operating Systems area, select the operating system to limit to: Hold the CTRL key down and click to select more than one operating system.
5. In the Scheduling area, specify the time and frequency for running OVAL:

Don't run on a schedule	Tests will run in combination with an event rather than on a specific date or at a specific time. Use this option in combination with one or more of the "Also" choices below. For example, use this option in conjunction with "Also Run at User Login" to run whenever the user logs in.
Run every n minutes/hours	Runs every month or only the selected month. If you choose this option, it's best to also specify whether you want the tests to run at Machine boot or at User Login.
Run every day/specific day at ...	Runs on the 1st, or 2nd, etc. of every month or only the selected month. If you choose this option, it's best to also specify whether you want the tests to run at Machine boot or at User Login.
Run on the nst of every month/specific month at...	Runs on the 1st, or 2nd, etc. of every month or only the selected month. If you choose this option, it's best to also specify whether you want the tests to run at Machine boot or at User Login.
Custom schedule	This option allows you to set an arbitrary schedule using standard cron format. For example, 1,2,3,5,20-25,30-35,59 23 31 12 * * means: On the last day of year, at 23:01, 23:02, 23:03, 23:05, 23:20, 23:21, 23:22, 23:23, 23:24, 23:25, 23:30, 23:31, 23:32, 23:33, 23:34, 23:35, 23:59. KBOX doesn't support the extended cron format.
Also Run Once at next Client Checkin	This option can be used in combination with any of the above radio button choices. Because this choice will run tests when the user's machine is in use, it is best to avoid this option, as it could impact the machine's performance.
Also Run at Machine Boot up	This option can be used in combination with any of the above radio button choices. Because this choice will run tests when the user's machine is in use, it is best to avoid this option, as it could impact the machine's performance.

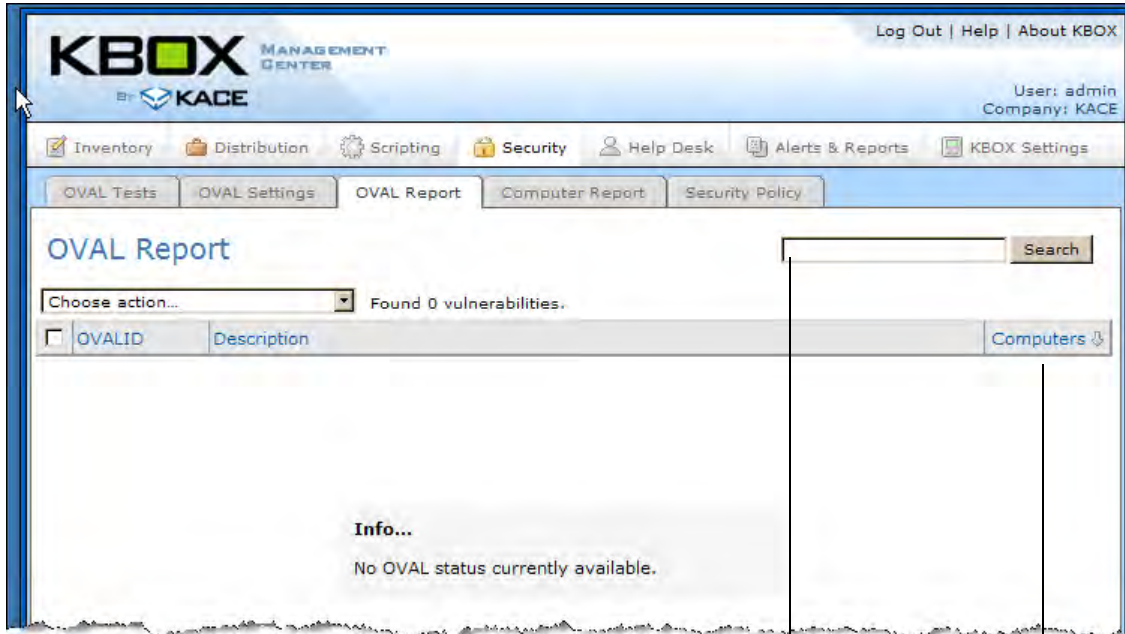
Also Run at User Login	This option can be used in combination with any of the above radio button choices. Because this choice will run tests when the user's machine is in use, it is best to avoid this option, as it could impact the machine's performance.
------------------------	---

6. To run the script immediately, click **Run Now**.

The Run Now button only runs tests on select machines. For more information about the Run Now feature, see "Using the Run Now function," on page 77.

OVAL reports

The OVAL Reports tab displays a list of computers on your network on which OVAL tests have been run. At a glance, you can see which OVAL Tests failed and the number of computers that failed each OVAL test.



Click test description to see which computers failed the test.

Search by OVALID, Description, operating system

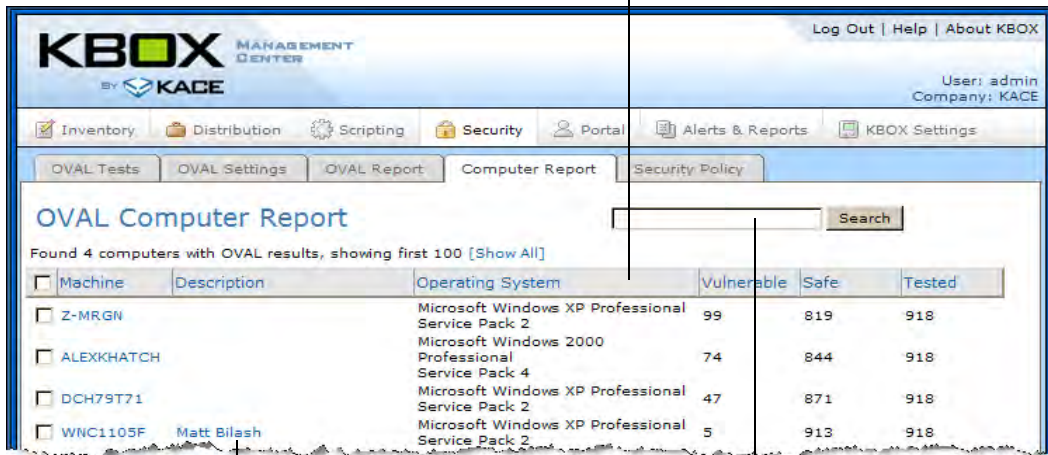
Indicates the number of computers who that OVAL test.

Figure 3-5: OVAL Report tab

From the test detail view, you can see all of the computers that failed that OVAL Test and you can assign a label to those machines so that you can patch them at a later time.

In addition, the Computer Reports tab, offers a list of machines with OVAL results, where you can view the details of tests run on specific computers. The label under the Machine column, is the KBOX inventory ID assigned by the Inventory module.

Click a column header to



Click to view computer details

Search by machine name, description, or operating system

Figure 3-6: OVAL Computer Report tab

For more information about any of the computers on the report, click the linked computer name to go to the computer's Inventory Detail page.

Creating security policies

The KBOX security module includes several wizards that can help you create security policies to manage the computers on your network. To view the list of available security policies you can create, click the **Security** button, then select the **Security Policy** tab. This section includes descriptions of the settings for each of the policies you can create.

After you click Save on one of the policy wizard screens, the Scripting tab will appear where you can specify when to run the script and which machines will be targeted. If you want to modify a script that was created using one of these wizards, you can either edit it using the wizard or you can open it up in the KBOX script editor. Opening the script in the regular KBOX script editor is a useful way to determine exactly what actions the script performs.

Enforce Internet Explorer Settings

This policy allows you to control users' Internet Explorer preferences. You can choose to control some preferences, while leaving others as user defined. Policy settings enforced by you will overwrite the users' corresponding Internet Explorer preferences. Because this script modifies user settings, you will need to schedule it to run when the user is logged in.

To set the Internet Explorer settings policy:

1. Click **Enforce Internet Explorer Settings** on the Security Policy tab.
2. In the User Home Page area, select **Enforce User Home Page policy**.
3. Specify the URL to use as the home page.
4. In the Security area, select the **Enforce Internet Zone settings policy** check box, then choose the security level.
5. Select the **Enforce Local Intranet Zone settings policy** check box, then choose the security level.
6. Set the following options:
 - Include all local (intranet) sites not listed in other zones
 - Include all sites that bypass the proxy server
 - Include all network paths (UNCs)
7. Select the **Enforce Trusted Zone settings policy** check box, then choose the security level.
8. Select the **Enforce Zone Map** check box, then specify the IP addresses or ranges for the following zones:
 - Restricted sites
 - Locale Intranet sites
 - Trusted sites
9. Select the **Enforce Privacy settings policy** check box, then set the Cookie policy.
10. Select the **Enforce pop-up settings policy** check box, then set the following options:
 - Pop-up filter level
 - Web sites to allow

-
11. Click **Save**.

Enforce XP SP2 Firewall Settings

This policy enables you to enforce firewall settings on endpoint computers running Windows XP with Service Pack 2. It enables you to enforce different policies based on whether the endpoint computer has authenticated with a domain controller, or is accessing the network remotely, from home or through a wireless hotspot. If your endpoint computer has authenticated with a domain controller, it uses the Domain Policy; otherwise, it uses the Standard Policy, so you might want to configure it to impose tighter restrictions.

To set the XP SP2 Firewall settings policy:

1. Click **Enforce XP SP2 Firewall settings** on the Security Policy tab.
2. In either the Domain Policy or Standard Policy areas, indicate whether Firewall is **Enabled**, **Disabled**, or if **No Policy** is in effect.
3. Select or clear the **Enable logging** check box, then specify a location and name for the log file.
By default, the log is stored here: C:\Program Files\KACE\firewall.log
4. Select or clear the check boxes for the following settings:

Allow WMI traffic	Enables inbound TCP traffic on ports 135 and 445 to traverse the firewall. These ports are necessary for using remote administration tools such as the Microsoft Management Console (MMC) and Windows Management Instrumentation (WMI).
Allow Remote Desktop	Enables inbound TCP traffic on port 3389 to traverse the firewall. This port is required for the computer to receive Remote Desktop requests.
Allow file and printer sharing	Enables inbound TCP traffic on ports 139 and 445, and inbound UDP traffic on ports 137 and 138. These ports are required for the machine to act as a file or printer sharing server.
Allow Universal Plug-and-Play (UPnP)	Enables inbound TCP traffic on port 2869 and inbound UDP traffic on port 1900. These ports are required for the computer to receive message from Plug-and-Play network devices, such as routers with built-in firewalls.

5. To specify Inbound Port Exceptions, click **Add Port Exception**.
Inbound Port Exceptions enables additional ports to be opened in the firewall. These may be required for the computer to run other network services. An Inbound port exception is automatically added for port 52230 for the KACE Agent Listener, which is required to use the Run Now functionality.
6. Specify a **Name**, **Port**, **Protocol**, and source for the exception, then click **Save Changes**.

-
7. Click **Save** to save policy settings.

Enforce Disallowed Programs Settings

This policy allows you to quickly create a script that prevents certain programs from running on the endpoint machines. Once the resulting script is executed on a target machine these policies take effect only after the next reboot of that machine.



The script created as a result of this wizard will overwrite any disallowed program settings on the target machines.

To set the Disallowed Programs settings policy:

1. Click **Enforce Disallowed Programs Settings** on the Security Policy tab.
2. Specify a name for the policy.
3. Select or clear the **Disallow programs** check box.

When checked, all disallowed programs will be prevented from running. When unchecked, all programs will be allowed to run.

4. Add disallowed programs, then click **Save**.

To prevent Notepad from running, for example, enter notepad.exe.

Enforce McAfee AntiVirus Settings

This policy allows you to configure what McAfee VirusScan features are installed. This policy works with McAfee VirusScan version 8.0i and verifies that the software is installed with the configuration you specify here. It also confirms that the OnAccessScan (McShield) is running.

You will need to zip the McAfee VirusScan installation directory and upload it here. A Software Inventory item will be automatically created if it does not already exist.

To set the McAfee AntiVirus settings policy:

1. Click **Enforce McAfee AntiVirus Settings** on the Security Policy tab.
2. Click **Browse** to search for the McAfee executable files.
3. Use the User Interaction drop-down to specify how the installation should appear to your users.

For a description of the available options, refer to the McAfee documentation.

4. Select the McAfee AntiVirus features to install.

Press **CTRL** and click to select multiple features. To install the Alert Manager, use the McAfee tools to include the Alert Manager installation files in the deployment package. Please consult the McAfee documentation for specific information about the features available here.

5. Select or clear the following check boxes:
 - Enabled On Access Scanner
 - Lockdown Virus Scan Shortcuts
 - Preserve earlier version settings

- Remove other anti-virus software
6. Specify the location on the target machine where the following files will be installed:
 - McAfee installation
 - Alert Manager
 - SITELIST.XML
 - Desktop Firewall
 - EXTRA.DAT for the following installation files. This where McAfee will be installed on the target machines.
 7. Select the information you want to log.
Press **CTRL** and click to select multiple items.
 8. Specify a filename for the log.
 9. Enter any special arguments.
 10. Specify the reboot behavior.
 11. Specify the behavior following installation, then click **Save**.



After saving the policy, you will be taken to the Policy page where you will need to enable and set a schedule for this policy to take effect.

McAfee SuperDAT Updater

This policy allows you to build a script for applying McAfee SuperDAT or XDAT updates. There are several steps involved in creating this script:

- Specifying the update files and reboot behavior on the target machines.
- Selecting the software package(s) to push to target machines during update.
- Verifying network scan status.

To create the McAfee update script:

1. Click **McAfee SuperDAT Updater** on the Security Policy tab.
2. Select the **Computers** tab, then click **Browse** to search for the SDAT or XDAT file.
3. Set update options:

Install Silently	This option causes the update to be installed without showing UI on the target computers
Prompt for Reboot	Use this option to make the update prompt the user before rebooting. (Use with the "Install Silently" option.)
Reboot if Needed	This option causes the update to reboot the machine as needed. (If this options is not used, a silent installation will not reboot the machine.)

Force Update	Use this option to always update all file versions, even if the machine already appears to have the latest versions.
--------------	--

4. Click **Save**.

Enforce Symantec AntiVirus Settings

This policy allows you to configure what Symantec AntiVirus features are installed. It verifies that the software is installed with the configuration you specify here. For the Features list, Note that the SAVMain feature is required, but this wizard does not enforce that.



You will need to create a Software inventory item and upload the Symantec AntiVirus.msi file to be distributed.

To set the Symantec AntiVirus settings policy:

1. Click **Enforce Symantec AntiVirus Settings** on the Security Policy tab.
2. Specify the **Action** to perform.
 - Install
 - Uninstall
 - Repair missing files
 - Reinstall all files
3. Select the software package to use for this script.
4. Use the User Interaction drop-down to specify how the installation should appear to your users.
5. Specify the install directory.
6. Specify any additional switches.
7. Specify any additional properties.
8. Specify behavior after installation.
9. Select the information you want to log.
Press **CTRL** and click to select multiple items.
10. Specify a filename for the log.
11. Select a NETWORKTYPE from the Network Management drop-down.
12. Specify the server name, if required.
Set the AutoProtect setting.sn
13. Set the AutoProtect option.
14. Set the Disable SymProtect option.
15. Set the LiveUpdate behavior.

16. Select the features you want to install.

Press **CTRL** and click to select multiple items. For the Features list, Note that the SAVMain feature is required, but this wizard does not enforce that. Please consult the Symantec documentation for specific information about the options available here.

17. Click **Save**.

After clicking Save, you will be taken to the Policy page, where you will need to **enable** and set a **schedule** for this policy to take effect.



You can/should look at the script that is generated by this wizard to make sure it is doing what you expect. You can view the raw script by clicking **To edit the policy using this editor**, [click here](#) on the Script detail page.

Quarantine Policy

Use this wizard to create a script that you can use to quarantine computers that have failed OVAL tests for vulnerabilities. The script that is created as a result of this wizard is merely a template. Use the script editor to modify the template script and add whatever verification steps that are appropriate for your network to decide which computers to quarantine.

When a computer is under quarantine, all communication from it is blocked except for communication to the KBOX Server, therefore use care when performing this action. If you were to deploy this accidentally to all machines on your network, you could take your network down very quickly.

Once a user's machine is in quarantine, it cannot be unquarantined. The user will not be able to recover from this without you taking some action. Quarantined computers only have access to the KBOX Server in order to receive a Run Now event to lift the quarantine.

To set the Quarantine policy:

1. Click **Quarantine Policy** on the Security Policy tab.
2. Specify a Policy Name.

This field is optional. It could be helpful to assign a meaningful name that relates to the vulnerability so that you can lift the quarantine later once that vulnerability is resolved.

3. Leave the KBOX SERVER IP unchanged.
4. Specify the DNS Server IP address.
5. Modify the Message dialog text as desired.

This message is displayed to users prior to placing their computer in quarantine.

6. Click **Save**.

You will be taken to the Script Edit page, where you can modify the script settings as necessary. For instance, you will want to modify the Verify steps to determine the conditions under which you want the quarantine to take effect. For more information on scripting, see Chapter 4, "Scripting," starting on page 69.

Lift Quarantine Action

Assuming you have a machine that has been quarantined from the network using the KBOX Quarantine application, you can use this turn off the quarantine.

To set the Lift Quarantine Action policy:

1. Click **Lift Quarantine Action** on the Security Policy tab.
2. Select a label for the quarantined machines, or select the specific machine to unquarantine.
3. Enter data in the **Filter** field to help narrow your search.
4. Click the **Send Lift Quarantine Now** button.

If there are a lot of computers in quarantine, it will take some time for all of them to receive and process the request.

CHAPTER 4

Scripting

- “Scripting Module overview,” on page 70
- “Creating and editing scripts,” on page 71
- “Using the Run Now function,” on page 77
- “Searching client log files,” on page 80
- “Configuration Policies,” on page 82

Scripting Module overview

The KBOX Scripting module provides a way for you to easily and automatically perform a variety of tasks across your network through customized scripts that run when and where you want them to. You can automate tasks like installing software, checking antivirus status, changing registry settings, or configuring browser settings, by creating a custom script and then scheduling deployment to the endpoints on your network. Each script consists of Dependencies (where necessary), Rules, and Tasks.

Dependencies are supporting files that are needed for the script to run, such as executables, .zip files, etc. When creating your script, you will be prompted to upload any required dependencies.

Rules are tasks performed in a specified order on the target machine. Each task determines whether processing should continue or end at the end of each task.

Tasks are the individual steps being carried out by the script. In each script, you can have any number of tasks. Whether or not a task is executed is dependent upon the success or failure of the previous task and any rules for performing subsequent tasks.

There are two types of scripts you can create: policies and jobs. Policies are generally used to perform tasks that will be repeated, such as checking to see whether McAfee Antivirus is installed and working. Jobs are used to perform one-time tasks, such as uninstalling software or moving files.

Creating and editing scripts

There are three ways you can create scripts: by importing an existing script (in XML format), by making a copy of an existing script, or by creating a new script from scratch. You can perform these actions from the Scripts tab of the Scripting panel.

The process of creating scripts is an iterative one. After creating a script, it's a good idea to deploy the script to a limited number of machines (you can create a test label to do this) so that you can verify it is doing what you intend before deploying it to all of the machines on your network. It's good practice to leave a script disabled until after you have done all of your testing and you are ready to put the script into production.

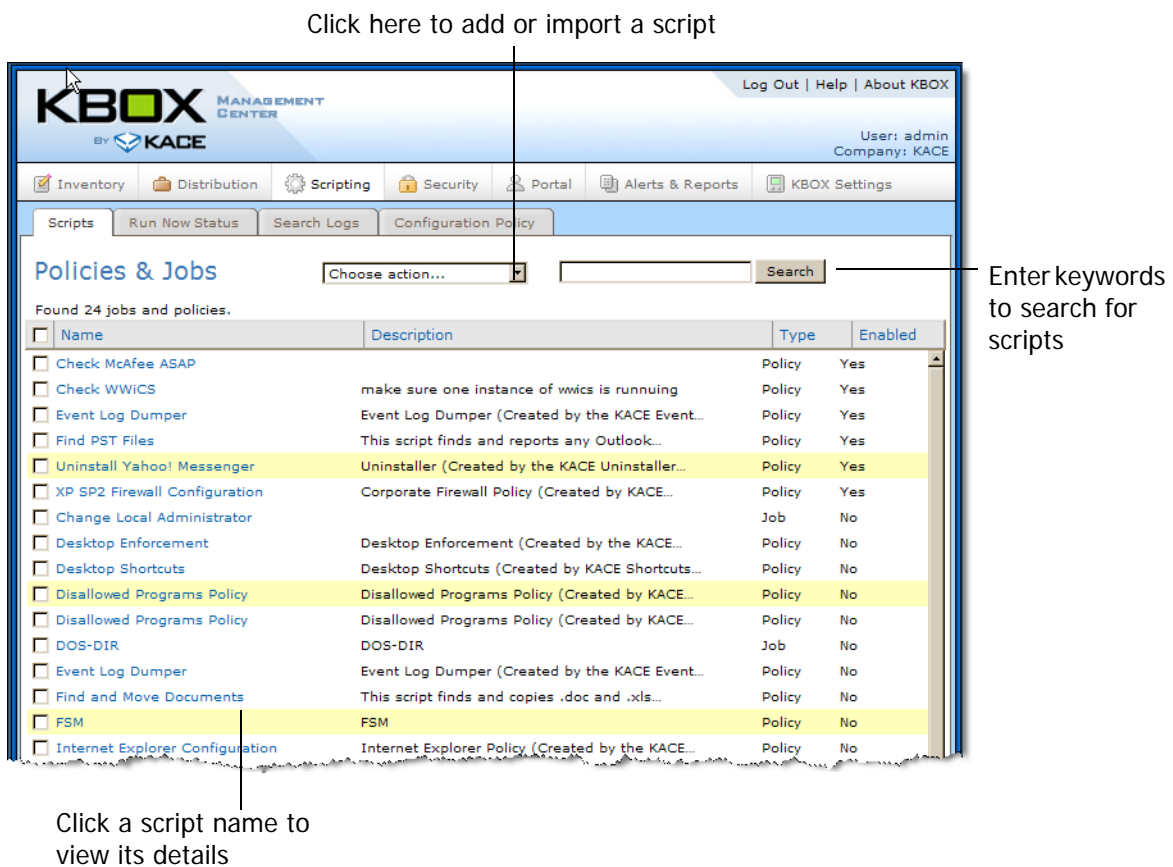


Figure 4-1: Scripts tab

Importing an existing script

If you prefer to create your script in an external XML editor, you can upload your finished script to KBOX. Be sure that the imported script conforms to the following structure:

- The root element `<kbots></kbots>` includes the URL of the Kace DTD
`"kbots xmlns="http://kace.com/Kbots.xsd">...</kbots>`

-
- One or more <kbot> elements.
 - Exactly one <config> element within each <kbot> element.
 - Exactly one <execute> element within each <config> element.
 - One or more <compliance> elements within each <kbot> element.

```
<?xml version="1.0" encoding="utf-8" ?>
<kbots xmlns="http://kace.com/Kbots.xsd">
<kbot>

<config name="" type="policy" id="0" version="" description="">

<execute disconnected="false" logged_off="false">
</execute>

</config>

<compliance>

</compliance>

</kbot>
</kbots>
```

Figure 4-2: Example of XML structure for KBOX script

If Figure 4-2, we see an example of a simple XML script. The <config> element corresponds to the Configuration section on the Policies & Jobs Edit Detail page and is where you will specify the name of the policy or job (optional), and the script type (policy or job). Within this element you also will indicate whether the script will run when the target machine is disconnected or logged off from KBOX.

Within the <compliance> element you will specify whether the script is enabled, and describe the specific tasks the script is to perform.



Tip: If you are creating a script that will perform some of the same tasks as an existing script, you may want to consider creating a copy of that existing script, then opening the copied script in XML editor view to better understand what is possible in the <compliance> element. For more information, see “Duplicating an existing script,” on page 73.

To import an existing script:

1. Click the **Scripting** button, then choose the **Scripts** tab.
2. From the Choose Action drop-down, select **Import from XML**.

The Policies & Jobs: Edit Detail page appears.

-
3. Paste the existing script into the space provided, then click **Save**.

Duplicating an existing script

If you have already created a script that performs many of the tasks required of your new script, the simplest way to begin is to make a copy of the current script, then modify the steps as required, and then upload any new dependency files.

To duplicate an existing script:

1. Click the **Scripting** button, then choose the **Scripts** tab.

2. Click the linked name of the script to open it for editing.

The Policies & Jobs: Edit Detail page appears.

3. Click the **Duplicate** button.

The Scripts tab appears, which includes a new script named "Copy of xxx", where "xxx" is the name of the copied script.

4. Click the linked name of the copied script to open it for editing.

Continue with step 3 under "Adding a script," on page 73.

Adding a script

If you are unable to create your new script by importing one from XML or by duplicating and modifying an existing script, you can build a new script from scratch.

Scripts are made up of one or more Tasks. Within each Task there are Verify and Remediation sections where you can further define the script behavior. If a section is left blank, it defaults to success. For example, if you leave the Verify section blank, it will end in On Success. The process flow of one task in a script is shown in Figure 4-3.

```
IF Verify THEN
    Success
ELSE IF Remediation THEN
    Remediation Success
ELSE
    Remediation Failure
```

Figure 4-3: Example of Task process flow

To add a script:

1. Click the **Scripting** button, then choose the **Scripts** tab.

2. From the Choose Action drop-down, select **Add New Item**.

The Policies & Jobs: Edit Detail page appears.

3. In the Configuration area, enter the requested details:

Name	Provide a meaningful name for the script to make it easier to distinguish from others listed on the Scripts tab.
Description	Describe briefly the actions the script will perform. Although this field is optional, like the Name field, it will help you to distinguish one script from another on the Scripts tab.
Type	Classify the script as either a Job or a Policy. Note that this distinction has no affect on how the script will run. It can help to differentiate those scripts that will run regularly (policies) from those that will run only once.
Status	Use this field to indicate whether the script is in development (Draft) or has been rolled out to your network (Production). Use Template if you are building a script that will be used as the basis for future scripts.
Enabled	Select this check box to run the script on the target machines. Do not enable until you are finished and want to run it. only enable on a test label before you enable on everything.
Allow Run While Disconnected	Select this option if you want to allow the script to run even if the target machine cannot contact the KBOX to report results. In such a case, results will be stored on the machine and uploaded to the KBOX until the next contact.
Allow Run While Logged Off	Select this option if you want to allow the script to run even if a user is not logged in. To run the script only when the user is logged into the machine, clear this option.

4. In the Deployment area, specify the machines on which the script will run.

By default, the script will run on all machines. To select more than one label, press CTRL and click to select a label. For more information about assigning labels to machines, see (x-ref).

5. In the Scheduling area, specify when and how often the script will run.

Don't Run on a Schedule	Tests will run in combination with an event rather than on a specific date or at a specific time. Use this option in combination with one or more of the "Also" choices below. For example, use this option in conjunction with "Also Run at User Login" to run whenever the user logs in.
Run Every n minutes/ hours	Runs every month or only the selected month. If you choose this option, it's best to also specify whether you want the tests to run at Machine boot or at User Login.
Run Every day/specific day at HH:MM AM/PM	Runs on the 1st, or 2nd, etc. of every month or only the selected month. If you choose this option, it's best to also specify whether you want the tests to run at Machine boot or at User Login.
Run on the nst of every month/specific month at HH:MM AM/PM	Runs on the 1st, or 2nd, etc. of every month or only the selected month. If you choose this option, it's best to also specify whether you want the tests to run at Machine boot or at User Login.
Custom Schedule	This option allows you to set an arbitrary schedule using standard cron format. For example, 1,2,3,5,20-25,30-35,59 23 31 12 * * means: On the last day of year, at 23:01, 23:02, 23:03, 23:05, 23:20, 23:21, 23:22, 23:23, 23:24, 23:25, 23:30, 23:31, 23:32, 23:33, 23:34, 23:35, 23:59. KBOX doesn't support the extended cron format.

In addition to the schedule, you can specify whether the script will run based on user behavior.

6. If desired, select additional scheduling options.

Also Run Once at next Client Checkin	This option runs the script once when new scripts are downloaded from the KBOX. The time interval for downloaded scripts is set in KBOX Settings->Client Options->Scripting Update Interval.
Also Run at Machine Boot Up	This option runs the script at machine boot time. Be aware that this will cause the machine to boot up slower than it might normal.
Also Run at User Login	This option runs the script after the user has entered their Windows login credentials.
Run Now	This option immediately pushes the script to all machines. Use this option with caution. For more information about the Run Now button, see "Using the Run Now function," on page 77.

7. In the Deployment area, specify the machines on which the script will run.


To select more than one label press CTRL and click multiple labels. If no label is selected, the script will run on all machines.

-
8. Under Supported Operating Systems, select an operating system on which the script will run.
If you selected a label as well, the script will only run on machines with that label if they are also running the supported operating system.
 9. Click **Add new dependency** to browse for and upload files required by the script.
Repeat step to add new dependencies as necessary.
 10. Under Job & Policy Rules, set the following options for Task 1. Click Add Task section to add a new task.

Attempts	The number of times the script will attempt to run. If the script fails, but remediation is successful, you may want to run the task again to confirm the remediation step. To do this, set the number of Attempts to 2 or more. If the Verify section fails, it will be run Attempts number of times.
On Failure	Select Break if you want the script to stop running upon failure; select Continue if you want the script to perform remediation steps upon failure.

11. In the Verify section, select one or more steps to perform.
See Appendix A, "Steps for Task sections," starting on page 110.
12. In the On Success and Remediation sections, select one or more steps to perform.
See Appendix A, "Adding steps to a Task," starting on page 109.
13. In the On Remediation Success and On Remediation Failure sections, select one or more steps to perform.
See Appendix A, "Adding steps to a Task," starting on page 109.



To remove a dependency, task, or step, click the trashcan icon  beside the item. This icon appears when your mouse hovers over an item.

Using the Run Now function

The Run Now function is available on the Policies & Jobs Edit Detail page and provides a way for you to run scripts on selected machines immediately without setting a schedule. You may want to use this function if you have machines on your network that you suspect are infected with a virus or other vulnerability which could compromise your entire network if not resolved right away. Run Now is useful for testing and debugging scripts on a specific machine or set of machines during development.

Because a script is deployed immediately when you click Run Now, use this feature cautiously, and do not deploy unless you are certain that you want to run the script on the target machines. Be sure to specify a label on which to run the script, otherwise it will deploy to all machines by default.

To use the Run Now function:

1. Click the Scripting button, then select the script you want to run.

The Policies & Jobs Edit Detail page appears.

2. Scroll to the bottom of the Scheduling section, then click **Run Now**.

When you click Run Now, the Run Now Status tab appears where you will see a new line item for the script.

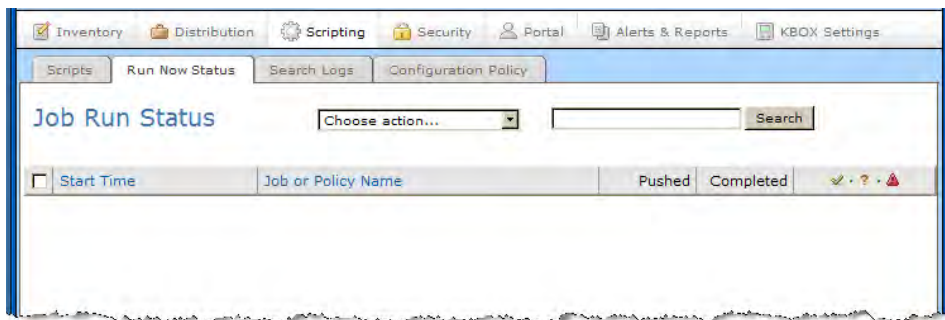


Figure 4-4: Run Now Status tab

The Pushed column indicates the number of machines on which the script is attempting to run. The Completed column indicates the number of machines that have finished running the script. The numbers in these columns increment accordingly as the script runs on all of the selected machines. The icons above the right-hand column provide further details of the script status.




Icon	Description
	The script completed successfully.
	The script is still being run, therefore its success or failure is unknown.
	An error occurred while running the script.

Table 4-5: Run Now Status tab icons

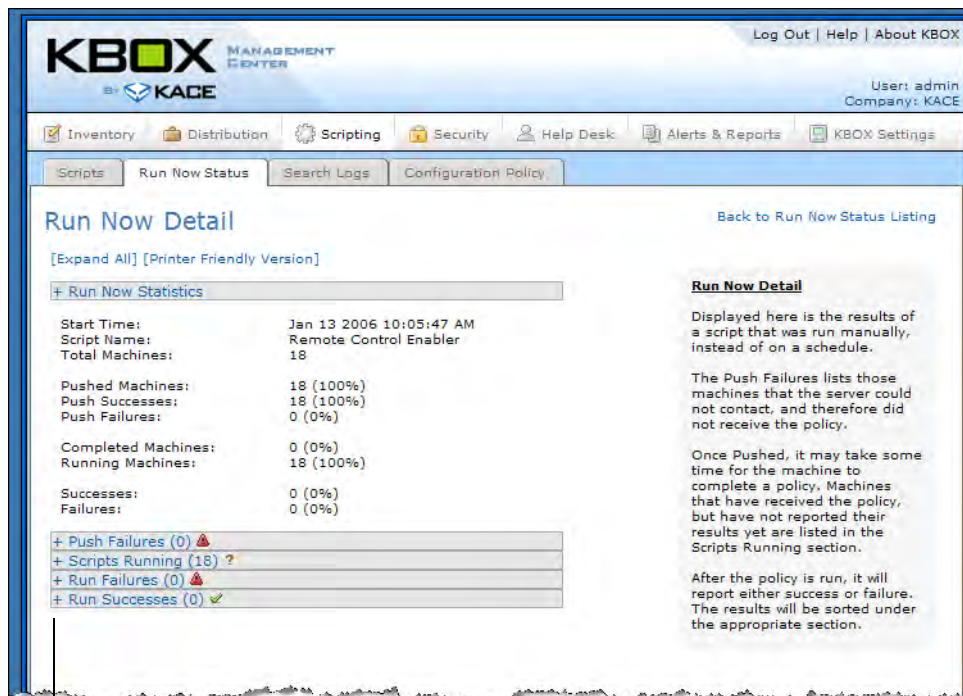
If there were errors in pushing the scripts to the selected machines, you can search the scripting logs to determine the cause of the error. For more information about searching logs, see “Searching client log files,” on page 80.



The Run Now function communicates over port 52230. One reason a script might fail to deploy is if firewall settings are blocking the KBOX client from listening on that port. Be sure that the KBOX Agent port exception is set in the Firewall Configuration Settings Wizard. For more information, see “Enforce XP SP2 Firewall Settings,” on page 63.

Run Now Detail page

For more information on a Run Now item, click the description to display the item's Run Now Detail page.



Click the plus (+) sign to expand or collapse a detail section

Figure 4-6: Run Now Detail page

The Run Now Detail page displays the results of a script that was run manually, instead of on a schedule.

The **Push Failures** section lists those machines that the server could not contact, and therefore did not receive the policy. Once Pushed, it may take some time for the machine to complete a policy. Machines that have received the policy, but have not reported their results yet are listed in the **Scripts Running** section.

After the policy is run, it will report either success or failure. The results will be sorted under the appropriate section.

Searching client log files

The Search Logs page allows you to search the client logs uploaded to the KBOX by the machines on your network.

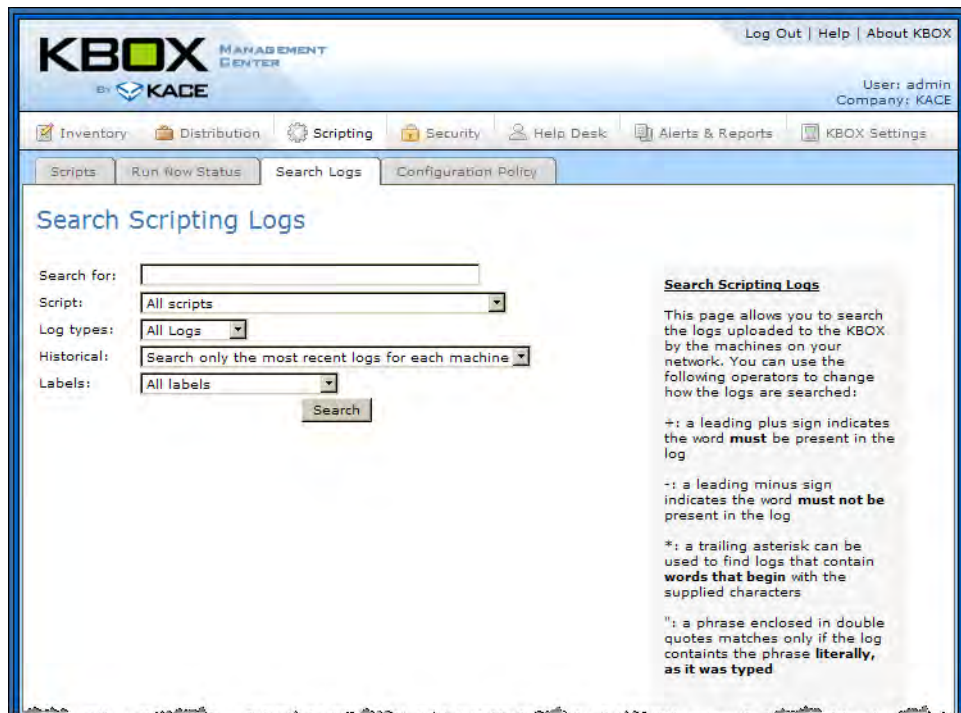


Figure 4-7: Search Logs tab

To search client logs:

1. Click the **Scripting** button, then select the **Search Logs** tab.
2. Enter the keywords to search for in the Search For field. You can use the following operators to change how the logs are searched:

Operator	Function
+	A leading plus sign indicates the word must be present in the log.
-	A leading minus sign indicates the word must not be present in the log.
*	A trailing asterisk can be used to find logs that contain words that begin with the supplied characters.
"	A phrase enclosed in double quotes matches only if the log contains the phrase exactly as typed.

Table 4-8: Available search operators

3. To search only in logs uploaded by a particular script, choose the script name.

-
4. Choose the log type to search in.
 5. In the Historical field, choose whether to search in only the most recent logs, or in all logs.
 6. To search only in logs uploaded by clients in a particular label group, choose the label.
 7. Click **Search**.

Configuration Policies

The Configuration Policy page displays a list of wizards you can use to create policies that manage various aspects of the computers on your network.

To access the list of available Configuration Policy wizards, click the Scripting button, then select the Configuration Policy tab.

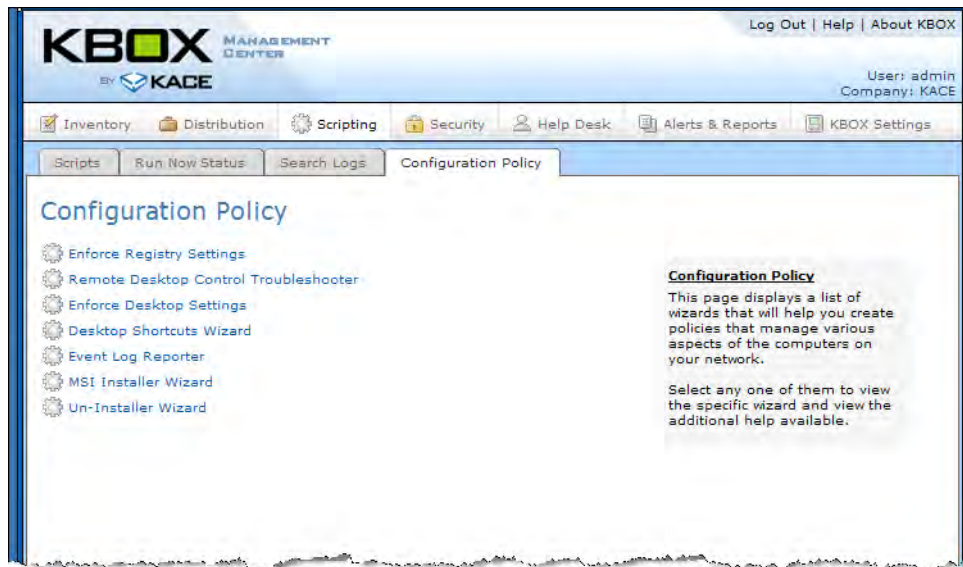


Figure 4-9: Configuration Policy tab

Available wizards include:

- Enforce Registry Settings
- Remote Desktop Control Troubleshooter
- Enforce Desktop Settings
- Desktop Shortcuts Wizard
- Event Log Reporter
- MSI Installer Wizard
- Un-Installer Wizard

For details about a specific configuration wizard, refer to one of the following sections.

Enforce Registry Settings

This wizard allows you to quickly create scripts that enforce particular registry settings. Use regedit.exe to locate and export the values from the registry that you are interested in. Open the .reg file with notepad.exe and copy/paste the text into the field here.

After you click Save, a new script will be created that will check that the values in the registry file match the values found on the target machines. Any values that are missing or incorrect will be replaced.

Remote Desktop Control Troubleshooter

This wizard creates a troubleshooting script for the KBOX Remote Control functionality. The script that this page generates will test the following things:

- **Terminal Services:** To access a Windows XP Professional machine using Remote Desktop, Terminal Services must be running. This script will verify that this is the case;
- **Firewall Configuration:** If the Windows XP SP2 Firewall is running on the machine, several different configurations may be affecting whether the Remote Desktop requests are being blocked by the firewall.

To troubleshoot remote behavior:

1. Click the **Scripting** button, then select the **Configuration Policy** tab.
2. Select **Remote Desktop Control Troubleshooter**.
3. Under Firewall Configuration, specify the desired settings.
4. Click **Save**.

Enforce Desktop Settings

This wizard lets you build policies that affect the user's desktop wallpaper. The Wallpaper bitmap file is distributed to each machine affected by the policy. This file must be in the Bitmap (.bmp) format.

To create a policy to enforce Desktop Settings:

1. Click the Scripting button, then select the Configuration Policy tab.
2. Select **Enforce Desktop Settings**.
3. Select the **Use wallpaper** check box to enforce this setting.
4. Upload the .bmp file to use for the wallpaper.
5. Specify a position for the wallpaper, then click **Save**.

Desktop Shortcuts Wizard

This wizard allows you to quickly create scripts that add shortcuts to users' Desktop, Start Menu, or QuickLaunch bar. Create an internet shortcut and can put a URL to the target with no parameters and working shortcut.

To create scripts to add shortcuts:

1. Click the Scripting button, then select the Configuration Policy tab.
2. Select **Desktop Shortcuts Wizard**.
3. Click **Add Shortcut**.
4. Specify the shortcut details.

Name	The text label that will appear below or beside the shortcut.
Target	The application or file that is lunched when the shortcut is clicked, e.g., Program.exe.

Parameters	Any command line parameters, e.g. /S /IP=123.4
WorkingDir:	WorkingDir, changes current working directory, e.g., C:\Windows\Temp
Location	Where the shortcut will appear. Options include Desktop, Quick Launch, and Start Menu.

5. Click **Save Changes**.

Click Add Shortcut to add more shortcuts. To edit or delete a shortcut, hover over a shortcut and click the Trashcan icon that appears.

Event Log Reporter

This wizard creates a script that queries the Windows Event Log and uploads the results to the KBOX.

To create an Event Log query:

1. Click the Scripting button, then select the Configuration Policy tab.
2. Select **Event Log Reporter**
3. Specify query details.

Output filename	The name of the log file created by the script.
Log file	The type of log you want to query. Options include Application, System, and Security.
Event Type	The type of event you want to query. Options include Information, Warning, Error.
Source Name	Use this field to restrict the query to events from a specific source.

4. Click **Save**.

MSI Installer Wizard

This wizard helps you set the basic command line arguments for running MSI based installers. See the MSI Command Line documentation for full details.

To create the MSI Installer policy:

1. Click the Scripting button, then select the Configuration Policy tab.
2. Select **MSI Installer Wizard**.
Select an task from the Action drop-down.
3. From the Software drop-down, select the application you want to install, uninstall, or modify.
4. Specify the MSI filename.
5. Use the User Interaction drop-down to specify how the installation should appear to your users.
For a description of the available options, refer to the MSI documentation.
6. Specify the installation directory.
7. Include any additional installer switches.

Additional Switches will be inserted between the msiexec.exe and the /i foo.msi arguments.

-
8. Include any additional properties.

Additional Properties will be inserted at the end of the command line.

For example: `msiexec.exe /s1 /switch2 /i patch123.msi TARGETDIR=C:\patcher PROP=A PROP2=B`

9. In the Feature List field, enter the features to install.

Features should be separated by commas.

10. Select the **Store Config per machine** check box.

11. Select the behavior after installation.

- Delete installer file and unzipped files
- Delete installer file, leave unzipped files
- Leave installer file, delete unzipped files
- Leave installer file and unzipped files

12. Select the restart behavior.

- No restart after installation
- Prompts user for restart
- Always restart after installation

13. Select the type(s) of installer messages to log.

Press CTRL and click to select multiple message types.

14. Specify the name of the log file.

15. Click **Save**.

The Policy page appears. You will need to enable and set a schedule for this policy to take affect. You can/should look at the script that is generated by this wizard to make sure it doing what you expect. You can view the raw script by clicking the 'To edit the policy using this editor, click here.' link on the Script detail page.

Un-Installer Wizard

This wizard allows you to quickly build a script to uninstall a software package. The resulting script can perform three actions: Execute an uninstall command; Kill a process; and Delete a directory.

To create an uninstaller script:

1. Click the Scripting button, then select the Configuration Policy tab.

2. Select **Un-Installer Wizard**.

3. In the **Job Name** field, enter a name for the script.

4. Select the software item to uninstall.

The wizard will attempt to fill in the correct uninstall command. Verify that the values are correct.

5. To have a process killed before executing the uninstall command, enter the full name of the process in the **Kill Process** field. (For example: `notepad.exe`)

-
6. To have a directory deleted after executing the uninstall command, enter the full name of the directory in the **Delete Directory** field here. (For example: C:\Program Files\An Example App\).
 7. Click **Save**.

CHAPTER 5

Tips, Tricks and FAQ

This section contains miscellaneous tips and tricks that may be useful when administering a KBOX

- “Distribution Package Tips,” on page 88
- “Package Deployment Guide,” on page 94

Distribution Package Tips

Distribution packages (whether for managed installation, file synchronization or user portal packages) CANNOT be created until a digital file is associated with an Inventory Item. This rule applies even if you are:

- Redirecting the KBOXClient to retrieve the digital asset (e.g., .exe, .msi) from an alternate download location.
- Sending a Command down to the target machines rather than an installation or digital file

In cases such as items mentioned above, you may upload a dummy digital file as a placeholder as long as the checksum entered in the Distribution Package definition matches the checksum of the file on the UNC / DFS / HTTP redirection path. Checksums must comply with the MD5 hash specification. You may use any tool to establish your checksum. For creating your MD5 hash, iSide at <http://www.littlelite.net/iside/mainframe.html> is a tool that is easy to use and is available via a 14-day free trial. There are others that will work equally well.

Many to One

You may create many different Distribution Definitions that key off of the same Inventory Item; however, the reverse is not true. You may NOT create multiple Inventory Items. The reason that you may want to create multiple Distribution Package Definitions is that you may want to provide different parameters, labels, deployment definitions and so on depending on your target group.

Display Name

The display name of the Inventory Item must EXACTLY match the name that the software program registers in Add/Remove programs. Otherwise, KBOX may attempt to deploy the package repeatedly even though it is already there.

In order to guarantee that the Inventory Item display name exactly matches is to first install the desired package on a target machine and then take an automatic inventory of that machine using the KBOX. The newly installed package should appear in the inventory list. You may then associate a digital file and create one or more deployment packages.

Target Platform and Label

The Distribution will not deploy to a target desktop unless the Inventory Item is designated to the target operating system (for example, if the Inventory Item is defined for Windows XP Professional only, it will not deploy on Windows 2000).

Also, the Deployment Package will not deploy if it is designated for a target label for which the target machine is not a member (for example, if the Deployment Package is set to deploy to a Label called "Office A", it will not deploy to any machines that are not in "Office A").

Activation

Deployment packages – when defined – defaults to “Disabled”. In order to activate the package, you must select either Install / Uninstall / Run Command.

UNC / DFS / HTTP Alternate Location

KBOX supports software distribution from remote file stores. In other words, the KBOXClient can retrieve digital installation files from remote file stores (as opposed to the KBOX Server) – including UNC addresses, DFS sources or an HTTP location.

In order to activate this capability, the administrator must enter an Alternate Checksum (MD5) that matches the MD5 checksum on the remote file share (for security purposes). You may use any tool to establish your checksum. For creating your MD5 hash, iSide at <http://www.littlelite.net/iside/mainframe.html> is a tool that is easy to use and is available via a 14-day free trial. There are others that will work equally well.

If no checksum is entered, then the digital asset on the file share must exactly match the digital asset associated with the Deployment Package on the KBOX. Also, the path must exactly match the appropriate target path including the complete file name (e.g., [\\fileserver_one\software\adobe.exe](#)). And, the user’s machine must have access to the location without username or password obstruction.

NOTE: if an alternate download location is entered and the agent fails to reach the alternate (for any reason), then no package will be deployed (in other words, files on the KBOX are not used as a backup to the alternate download location).

Command Deployment and Policy Management

KBOX Deployment Package Definitions can Install, Uninstall or Run Command. If Run Command is activated then, rather than installing a package, the KBOXClient will run whatever command is entered into the field “Command”. This Run Command capability allows for the KBOXClient to run any file either in the package being deployed or on the target machine. Using a BAT file, for example, KBOX can run any DOS Prompt Command when the KBOXClient connects to KBOX. This capability is extremely powerful for policy management and other configuration activities.

.ZIP Deployment

KBOX Client will automatically run deployment packages with .MSI and .EXE extensions. However, KBOX also provides a capability for administrators to Zip many files together and direct the KBOX to unpack the Zip and run a specific file within. If you intend to deploy a .ZIP file, you must place the name of the file that you would like to run within the .Zip in the Command (Executable) field within the Deployment Package (e.g., runthis.exe)

Run Parameters

Administrators may run switches or parameters with particular deployment packages (e.g., /q, /r, -p). To do so, you must place the preferred parameters on the Run Parameters line in the Deployment Package Definition. For MST files, the syntax would be, for example, TRANSFORMS=customsetup.mst /qb- or TRANSFORMS=\\share_server\transforms\customsetup.mst /qb- . NOTE, the maximum field length is 256 characters. If your path requires more than that number of characters, please point to a BAT file on the command line that contains the appropriate path and command. Also, if your Parameters file path includes spaces (e.g., [\\kace_share\demo_files\share these files\setup.bat](#)), then you will need to include double quotes around the path (e.g., "[\\kace_share\demo_files\share these files\setup.bat](#)").

Software Title

The display name of the Inventory Item must EXACTLY match the name that the software program registers in Add/Remove programs. Otherwise, KBOX may attempt to deploy the package repeatedly even though it is already there.

In order to guarantee that the Inventory Item display name exactly matches is to first install the desired package on a target machine and then take an automatic inventory of that machine using the KBOX. The newly installed package should appear in the inventory list. You may then associate a digital file and create one or more deployment packages.

One to Many

You may create many different Distribution Definitions that key off of the same Inventory Item; however, the reverse is not true. You may NOT create multiple Inventory Items. The reason that you may want to create multiple Distribution Package Definitions is that you may want to provide different parameters, labels, deployment definitions and so on depending on your target group.

Digital Asset

Distribution packages (whether for managed installation, file synchronization or user portal packages) CANNOT be created until a digital file is associated with an Inventory Item. This rule applies even if you are:

- Redirecting the KBOXClient to retrieve the digital asset (e.g., .exe, .msi) from an alternate download location
- Sending a Command down to the target machines rather than an installation or digital file

In cases such as items 1 and 2 above, you may upload a dummy digital file as a placeholder as long as the checksum entered in the Distribution Package definition matches the checksum of the file on the UNC / DFS / HTTP redirection path. Checksums must comply with the MD5 hash specification. You may use any tool to establish your checksum. For creating your MD5 hash, iSide at <http://www.littlelite.net/iside/mainframe.html> is a tool that is easy to use and is available via a 14-day free trial. There are others that will work equally well.

Custom Data Fields

Custom data fields may be created in order to read information from a target machine and report it in the Machine Inventory manifest. This is useful for reading and reporting on information in the registry and elsewhere on the target machine. For example, DAT file version number from the registry, file created date, file publisher or other data.

In order to set up a Custom Data Field, select Inventory Management / Software Inventory and then select "Choose Action" / Add New Item. In order to create the Custom Data Field, simply input a Display Name (Title) and, in the Custom Inventory ID (rule) area, enter the appropriate Data Field syntax in keeping with the information noted below:

■ Return Registry Value:

```
RegistryValueReturn(string absPathToKey, string valueName, string valueType)_
```

Three valueTypes are supported "TEXT", "NUMBER", and "DATE". These values determine what kind of sorting/searching you can do. Note that NUMBER is specifically an integer value._

Example

```
RegistryValueReturn(HKEY_LOCAL_MACHINE\SOFTWARE\McAfee.com\Virusscan Online,SourceDisk, TEXT)
```

■ File Information Return:

```
FileInfoReturn(string fullPath, string attributeToRetrieve, string valueType)
```

Three valueTypes are supported "TEXT", "NUMBER", and "DATE". These values determine what kind of sorting/searching you can do. Note that NUMBER is specifically an integer value.

The following list of supported attributes can be retrieved from the FileInfoReport() function.

- Comments
- CompanyName
- FileBuildPart
- FileDescription
- FileMajorPart
- FileMinorPart
- FileName
- FilePrivatePart
- FileVersion
- InternalName
- IsDebug
- IsPatched
- IsPreRelease
- IsPrivateBuild

-
- IsSpecialBuild
 - Language
 - LegalCopyright
 - LegalTrademarks
 - OriginalFilename
 - PrivateBuild
 - ProductBuildPart
 - ProductMajorPart
 - ProductMinorPart
 - ProductName
 - ProductPrivatePart
 - ProductVersion
 - SpecialBuild
 - CreatedDate
 - ModifiedDate
 - AccessedDate

Examples:

- FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, Comments,TEXT)
- FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, CompanyName,TEXT)
- FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, FileBuildPart,NUMBER)
- FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, FileDescription,TEXT)
- FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, FileMajorPart,NUMBER)
- FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, FileMinorPart,NUMBER)
- FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, FileName,TEXT)
- FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, FilePrivatePart,NUMBER)
- FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, FileVersion,TEXT)
- FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, InternalName,TEXT)
- FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, IsDebug,TEXT)
- FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, IsPatched,TEXT)
- FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, IsPreRelease,TEXT)
- FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, IsPrivateBuild,TEXT)
- FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, IsSpecialBuild,TEXT)
- FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, Language,TEXT)
- FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, LegalCopyright,TEXT)
- FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, LegalTrademarks,TEXT)
- FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, OriginalFilename,TEXT)
- FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, PrivateBuild,TEXT)

-
- FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, ProductBuildPart,NUMBER)
 - FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, ProductMajorPart,NUMBER)
 - FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, ProductMinorPart,NUMBER)
 - FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, ProductName,TEXT)
 - FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, ProductPrivatePart,NUMBER)
 - FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, ProductVersion,TEXT)
 - FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, SpecialBuild,TEXT)
 - FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, CreatedDate,DATE)
 - FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, ModifiedDate,DATE)
 - FileInfoReturn(C:\Program Files\Internet Explorer\iexplore.exe, AccessedDate,DATE)

■ Deleting Items:

Deleting an Inventory Item will cause all corresponding Deployment Packages to be deleted as well.

■ OS Support:

The Inventory Item definition contains a field for OS support. The list is pre-populated with most popular operating systems. However, over time, we expect Microsoft and others to introduce new operating systems. These new operating systems will be automatically added to the pick list as machines on your network check in with the KBOX server. However, it is important to recognize that packages will not be deployed to a specific desktop unless the corresponding inventory item has the proper operating system selected. For example, if you wish to target a Windows XP Professional machine, the pick list within the Inventory Item must have Windows XP selected.

Package Deployment Guide

This section contains information on common package deployment options:

Standard MSI Example

.MSI files offer a convenient, self-contained way to deploy software on windows-based machines. If you have an .MSI that requires no special transformation or customization, the deployment is simple. First, install the .MSI on a QA machine. Wait long enough to allow the KBOXClient to connect to the KBOX from that machine in order to create a software inventory item. Go to Inventory / Software and click on the title of the Inventory Item that you wish to distribute. You should see a screen that resembles the following:

KBOX MANAGEMENT CENTER
By KACE

Log Out | Help | About KBOX
User: admin
Company: KACE & Meinhardt

Inventory Distribution Scripting Security Portal Alerts & Reports KBOX Settings

Computers Software Network Scan Computers - MIA Labels

Software : Edit Software Detail

[Back to Software Listing](#)

Record Created: Aug 29 2005 09:05:37 PM
Record Last Modified: Aug 29 2005 09:05:37 PM

Display Name (Title):
Display Version:
Version Number:
Publisher (Vendor):
Vendor Contact:
Vendor Comments:
Vendor Information Link:
Vendor Support Phone:
Product Information Link: [Link](#)
Product README File Location:
Product Un-Install Command:
Quiet Un-Install Command:
Special Notes:
Current File (size): (0 bytes)
Custom Inventory ID (rule):
Supported Operating Systems:

Inventory Notes
The fields here represent the software detail information that is automatically discovered and communicated from the KBOX client. Not all software vendors provide all the possible information and often times the data between vendors is not consistently documented.

Be sure to create the Display Version, Vendor, and Software Title information consistently across software inventory in order to assure proper downstream reporting.

If you wish to associate a number of files then zip the files together and associate the resulting archive file.

Scroll down to view the "Software to Computer" detail information.

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Now browse to the associated .MSI file and upload it to the KBOX by clicking Save. Before saving the definition, be sure to select the appropriate target operating systems.

Now, select Software / Managed Installations / Choose Action / Add New. Use the pull-down to select the appropriate Software Inventory Item and click save to activate the package.

.MSI installation files often have custom runtime variables, however .MSI files often adhere to the following best practice options as defined by Microsoft. (Taken from article Q197147 in the Microsoft Knowledge Base).

Switch	Definition
/q	Quiet mode - Skips all user prompts
/q:u	User Quiet mode - Shows some dialog boxes
/q:a	Admin Quiet mode - Does not show any dialog boxes
/t:path	Extracts the files to the specified path
/c	Extract only - Extracts the files without installing them
/c:path	Change location of Setup file - Specifies the path to the Setup file if it is different from the default path
/r:n	Never restart - Do not restart the computer even if it is necessary to complete the installation
/r:i	Restart if necessary - Automatically restart the computer if it is necessary to complete installation
/r:a	Always restart - Always restart the computer after installation
/r:s	Silent restart - Automatically restart the computer without prompting the user
/n:v	No version checking - Install the program over any previous version

Table 5-1: Runtime variables for MSI files

Standard EXE Example

The standard EXE example is identical to the MSI example noted immediately above with one exception. /I is not required in the "run parameters" line when using a .EXE.

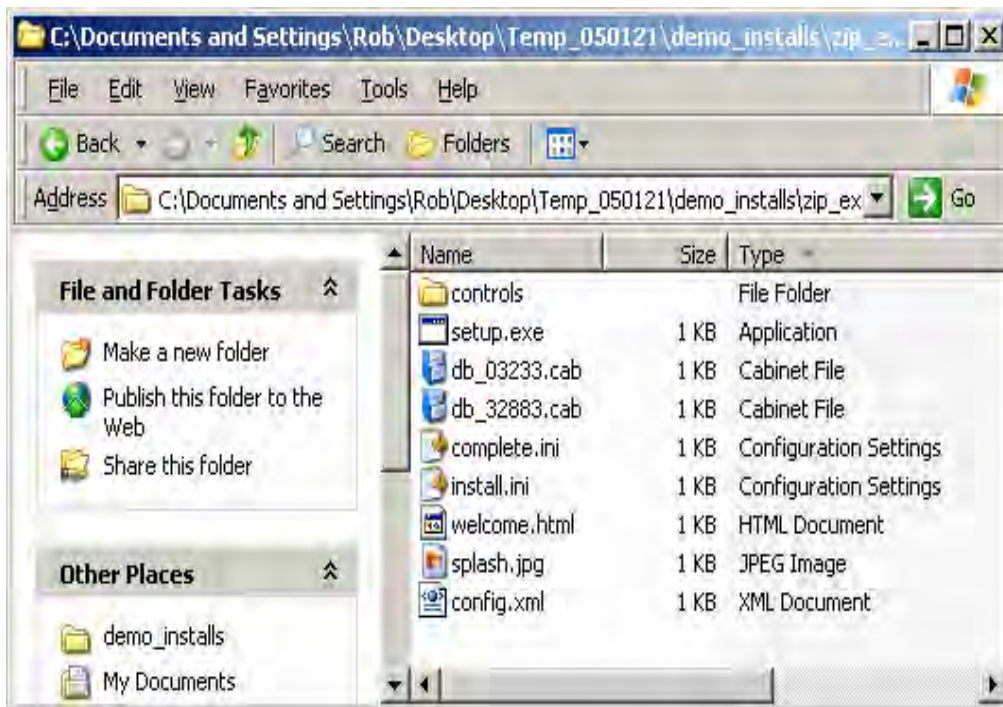
When using an EXE it is often helpful to identify switch parameters for a quiet or silent installation. These can often be identified by running the exe from a DOS prompt using the /?

Standard ZIP Example

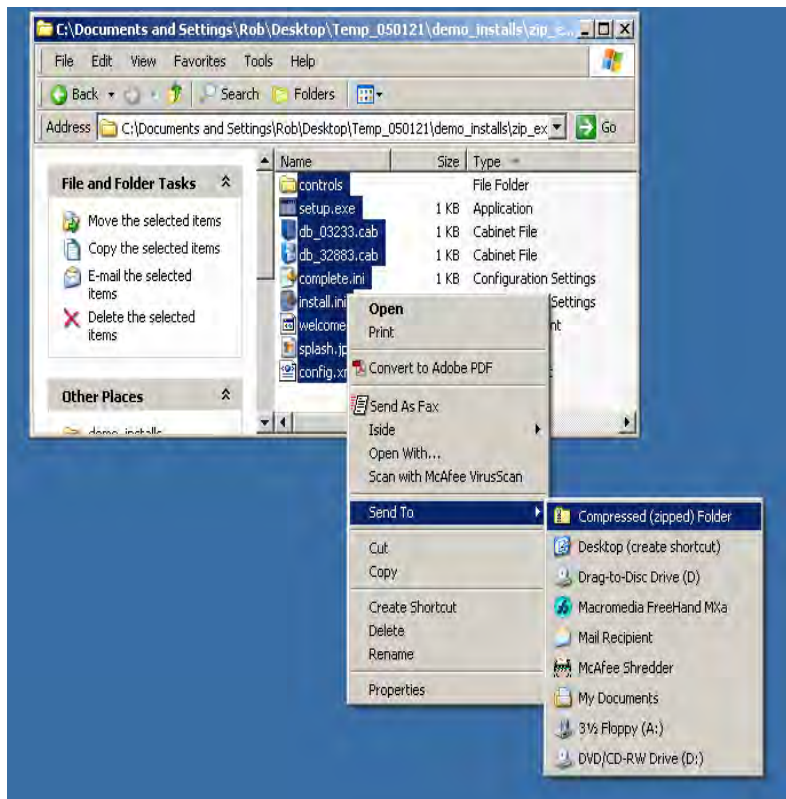
ZIP file deployment is a convenient way to package software for deployment when more than one file are required in order to deploy a particular software title (e.g., setup.exe plus required configuration and data files). For example, if you have a CD-Rom containing a group of files required to install a particular application, you can ZIP them all together and upload them to the KBOX for deployment.

Follow the sample steps below in order to achieve a standard zip file deployment.

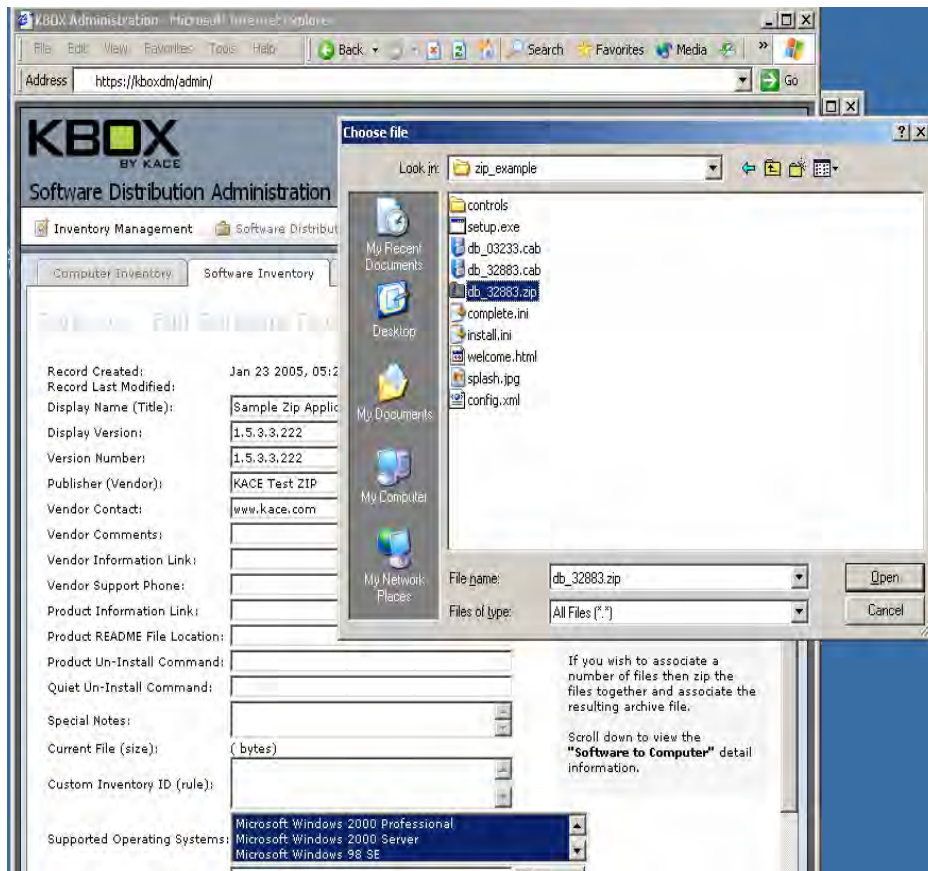
First, identify the directory containing the complete set of desired setup/install files:



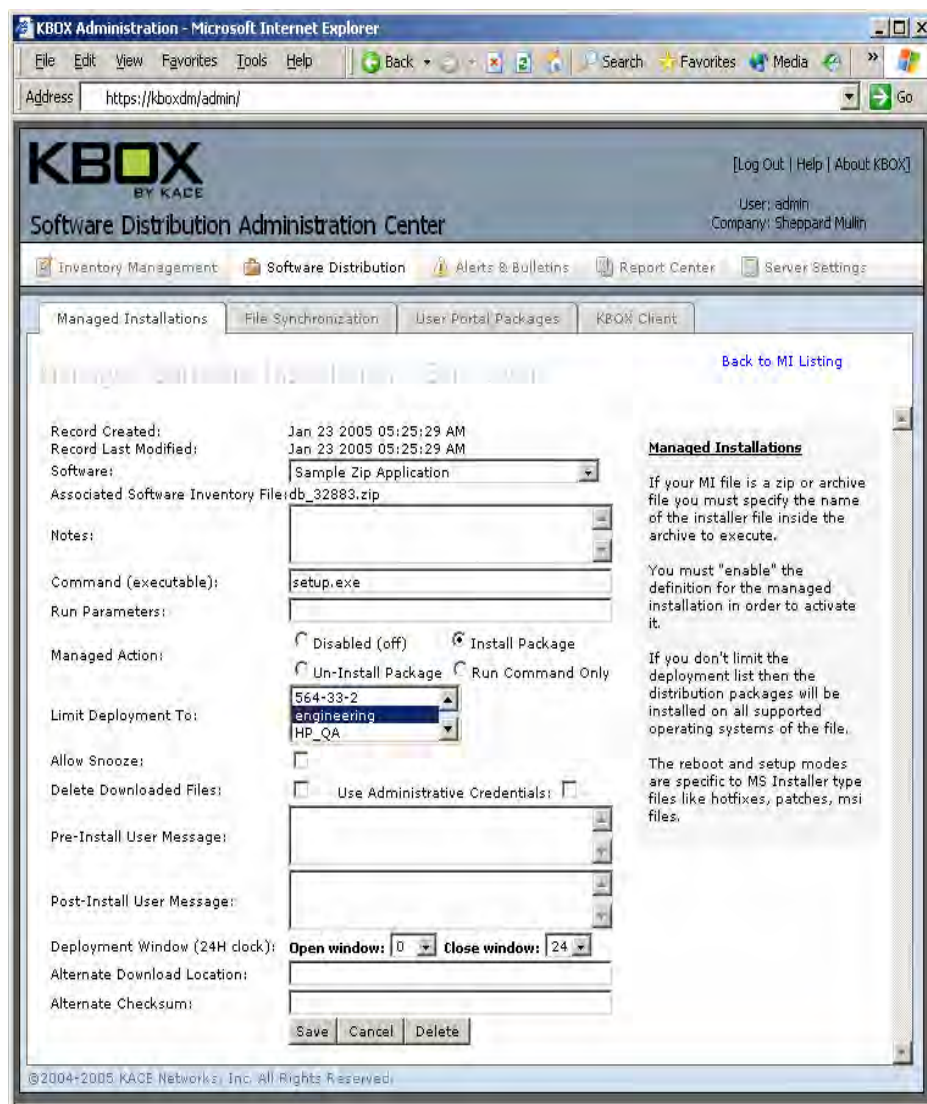
Next, use native Microsoft ZIP capability or WinZip (recommended for ZIPs > 100 MB).



Next, create an inventory item for the target deployment either by manually creating it within the KBOX Admin Console or by installing this package on a client machine that regularly connects with the KBOX. Once you have identified the appropriate Inventory Item, associate the zip file by uploading it to the server:



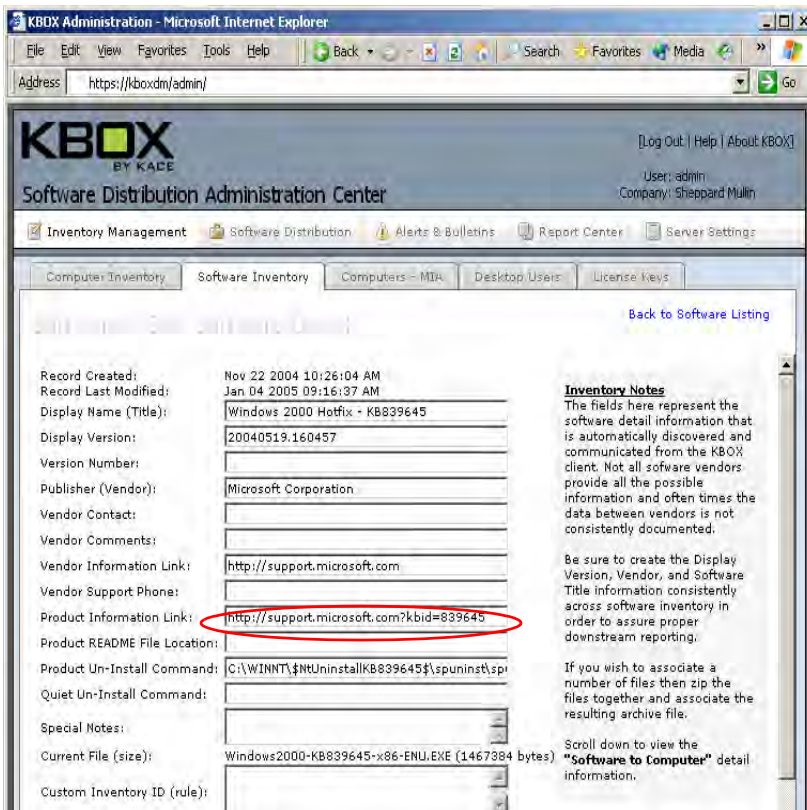
Next, click save on the Software Inventory screen and proceed to Software Distribution / Managed Installations. Configure the deployment package as configured on the following screenshot.



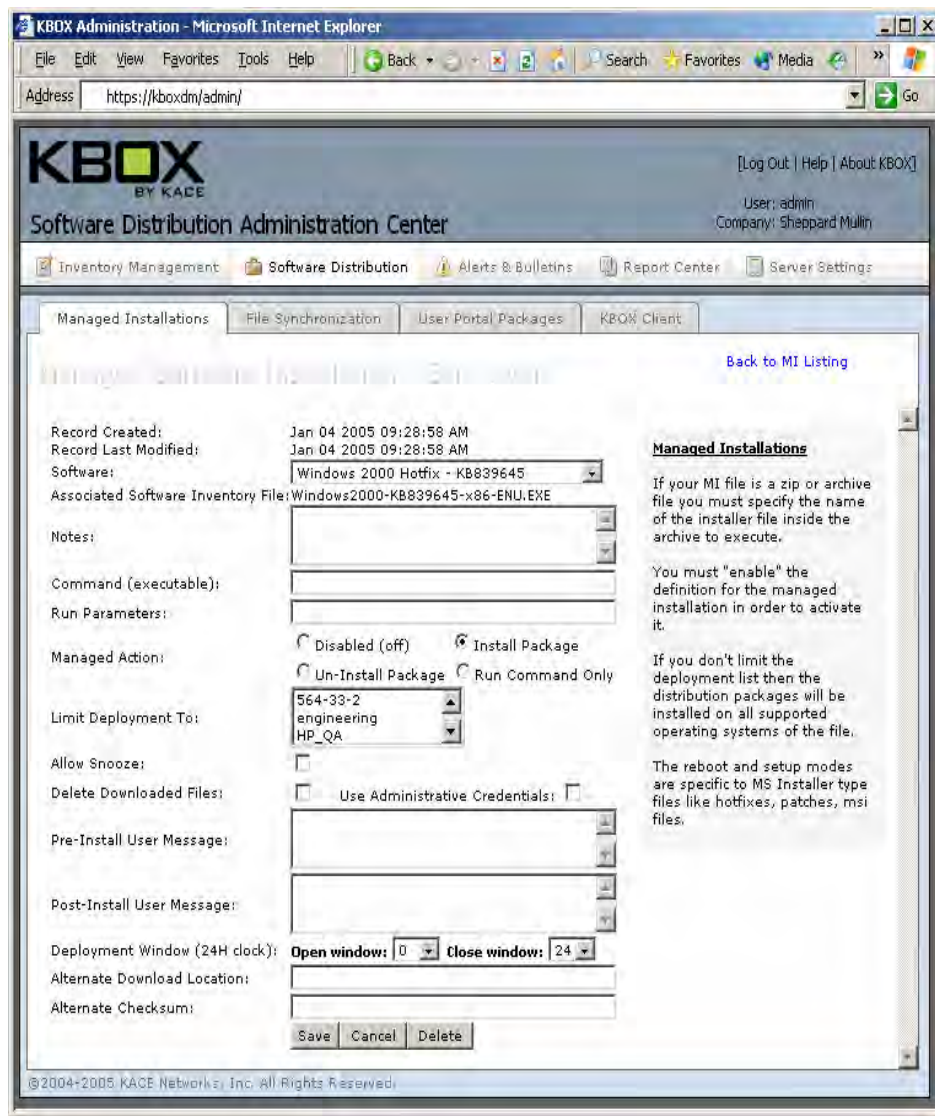
Standard Hotfix Example

One approach to deploying and managing hotfixes on your network is to maintain a QA machine for each target platform that you are supporting (e.g., Windows 2000, Windows XP). Load the desired hotfixes on the target platforms and QA existing applications to ensure compatibility. You may also wish to subscribe to Microsoft's weekly email newsletter highlighting newly available patches and hotfixes.

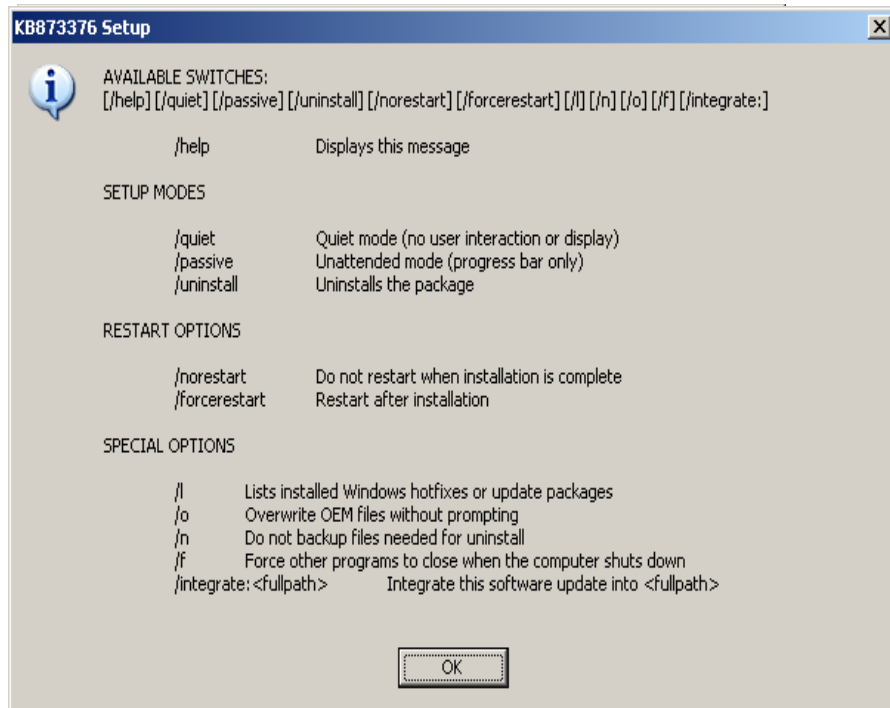
First, identify the target Software Inventory item that represents the desired hotfix in Inventory Management / Software Inventory and click on the title. Then browse to the associated hotfix installation .EXE (note, KBOX provides you with a link to the relevant download page on Microsoft's site in the Software Inventory definition as noted below in red):



Visit the Microsoft Link to locate the associated file and then upload it into the KBOX Software definition area as shown above. Then visit Software Distribution / Managed Installations to configure your deployment package:



Most Microsoft hotfixes support the following switches that can be delivered via the “run parameters” setting in the screenshot above:



Custom IE Deployment/Upgrade

Internet Explorer deployments can be customized for your company's environment. In order to customize the IE deployment you will need to leverage Microsoft's IE Administrator Kit (IEAK). Visit the following Microsoft Link for information on how to configure your custom IE configuration:

<http://www.microsoft.com/resources/documentation/ie/6/all/reskit/en-us/default.mspx>

IE does not register its version number in the same way that other applications do on a computer – it is, for all intensive purposes, registered as part of the OS itself. That said, there are indicators of IE's version within the registry. Therefore, in order to properly detect whether or not a particular version of IE is present on a computer, you will need to set up a Custom Inventory rule inside the Software Inventory definition. Otherwise, KBOX will continue to attempt an IE install repeatedly even if it is successful (because it doesn't detect the presence of the required version when the agent examines the target machine).

Another example that may require a custom inventory rule would be identifying the version number of an AntiVirus DAT file. This version number registers in the registry but is not apparent when reviewing the software version number (e.g., McAfee, Norton)

For instructions on how to set the Custom Inventory ID Rule, contact KACE support and support@kace.com or 888-522-3638.

Customer Office Deployment/Upgrade

Office deployments and upgrades can be customized for your company's environment. In order to customize the Office deployment you will need to leverage Microsoft's Office Resource Kit (ORK). Visit the

following Microsoft Link for information on how to configure your custom Office configuration:

<http://office.microsoft.com/en-us/FX011417911033.aspx>

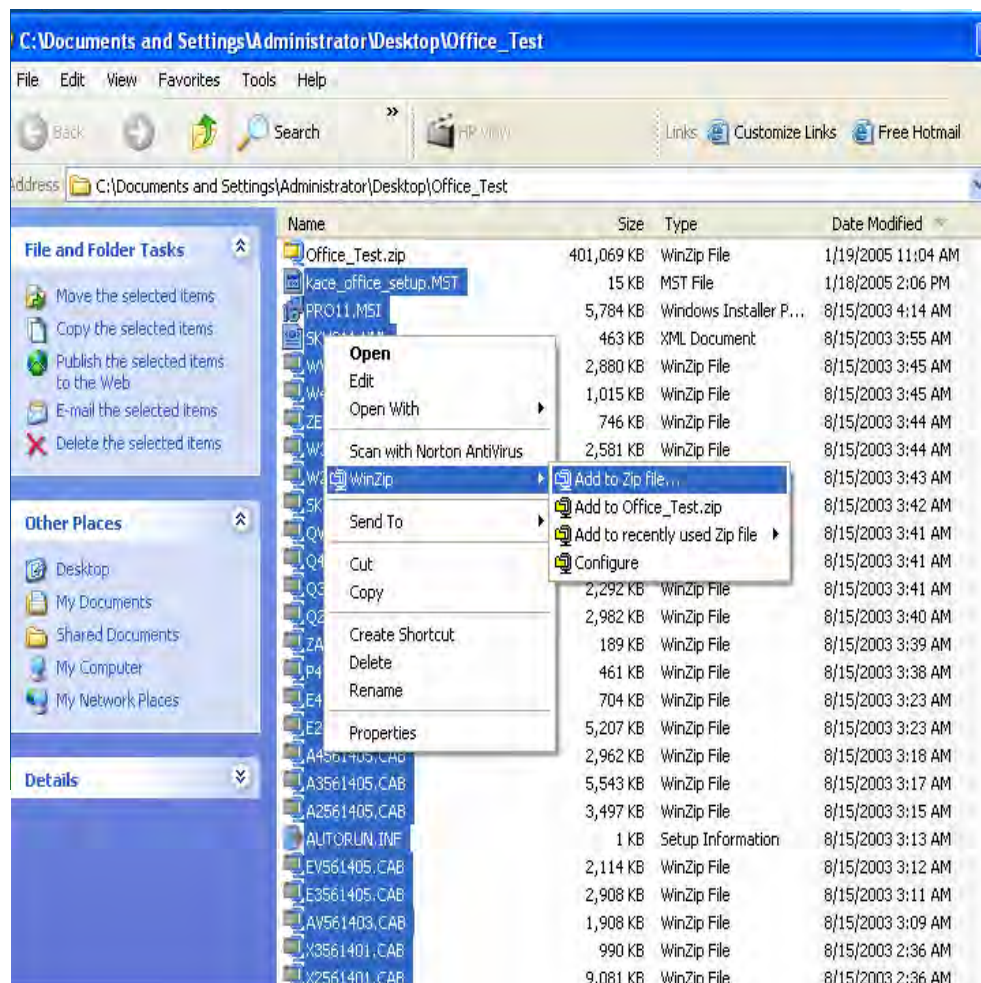
<http://office.microsoft.com/en-us/assistance/HA011401761033.aspx>

<http://download.microsoft.com/download/0/e/d/0eda9ae6-f5c9-44be-98c7-ccc3016a296a/ork.exe>

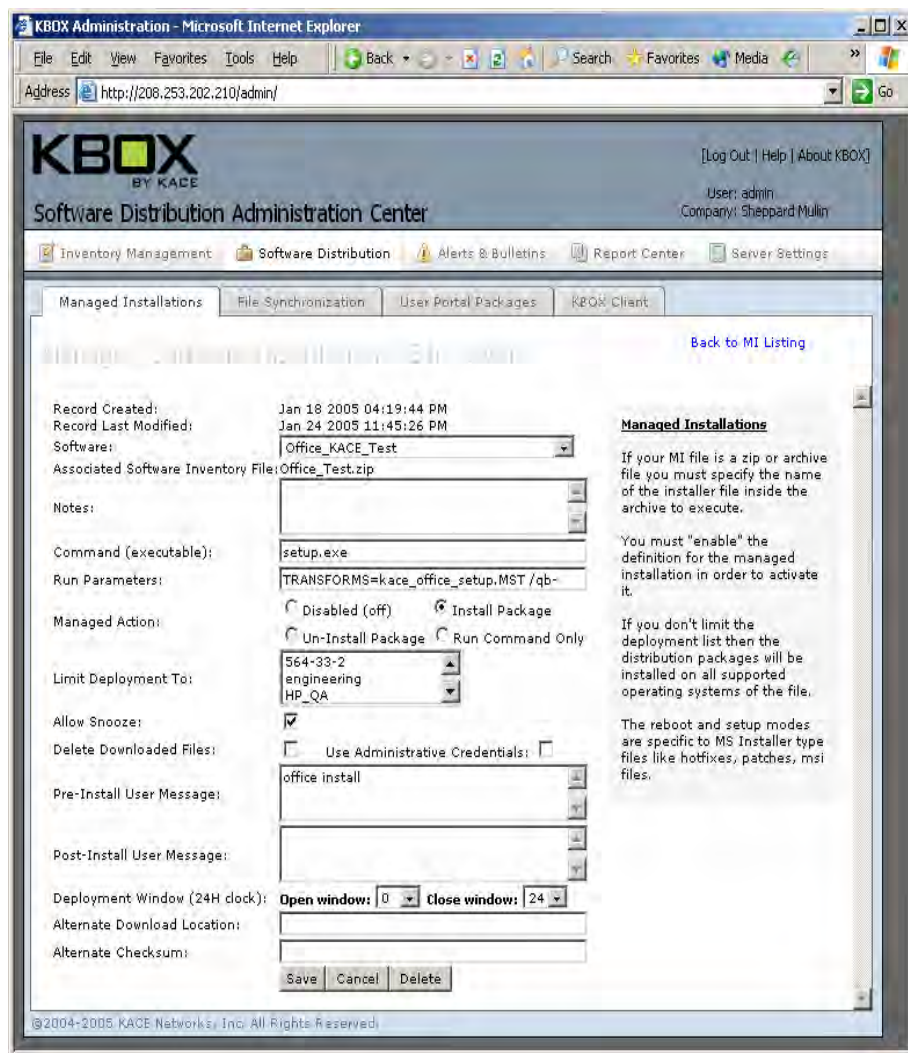
Once you have successfully configured your .MST file (the file that ORK generates with your custom settings) you can use WinZip to zip all of the Office install files and the .MST file into a directory (NOTE: the Zip capability native to Windows will not work for a directory this large). See the screen shot below for the WinZip example:

IMPORTANT NOTE:

Use Winzip (www.winzip.com) for zipping over 75 MB. The ZIP utility included in Windows XP does not reliably zip large files/directories.



Once Zipped, you can upload the file Office_Test.zip the KBOX software inventory item for Office. The managed installation definition for this deployment would resemble the following:



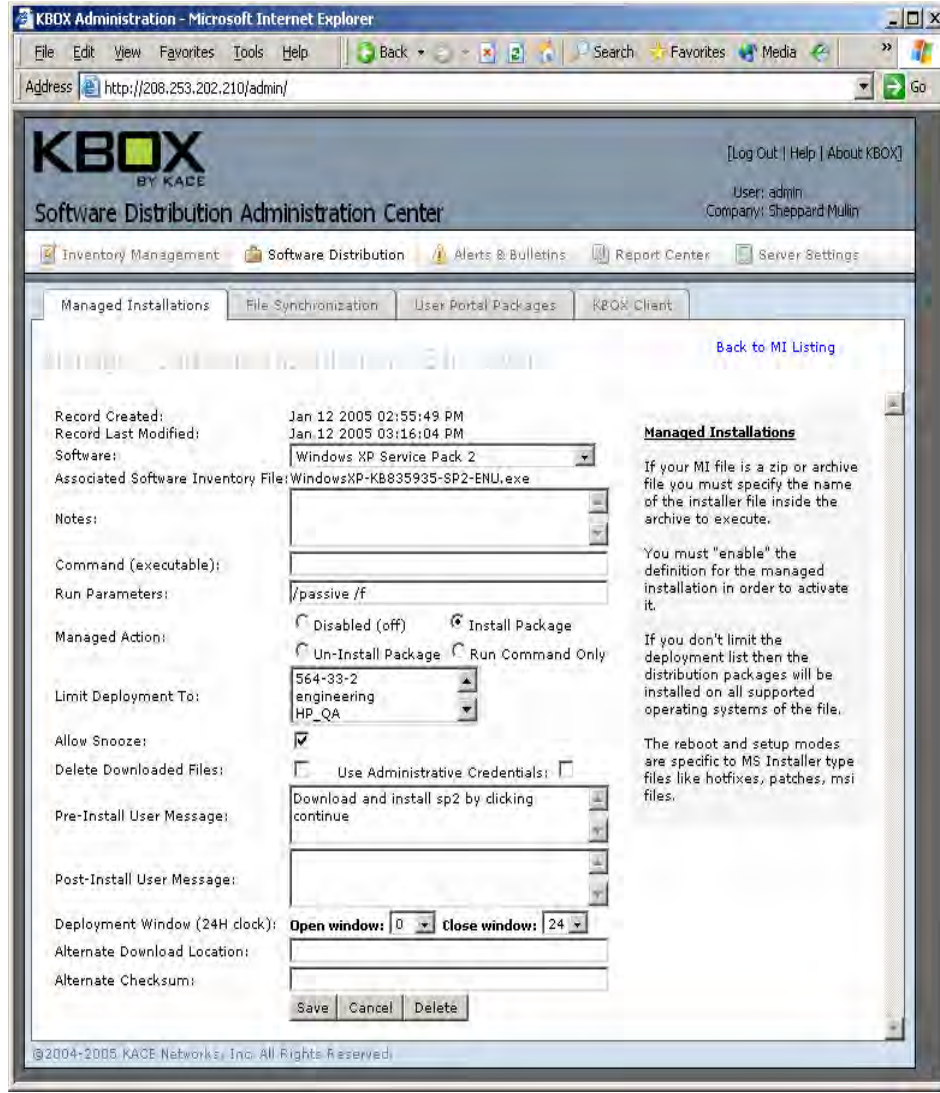
XP Service Pack 2 Upgrade Example

Microsoft Service Packs and other large installations often come in two versions. One version is the Express Install which utilizes a small installer package to bootstrap the installation. This tiny installer package will typically call on a remote web server for additional files or information to complete the install. Another version is often referred to as the Network Install. Most often, you should select the Network Install version which contains all of the files that are required for the installation in a single installation file. Search Microsoft's site for the Network Install or Administrators Instructions or Downloads for IT Administrators.

For SP2, visit <http://www.microsoft.com/downloads/details.aspx?FamilyID=049c9dbe-3b8e-4f30-8245-9e368d3cdb5a&displaylang=en>.

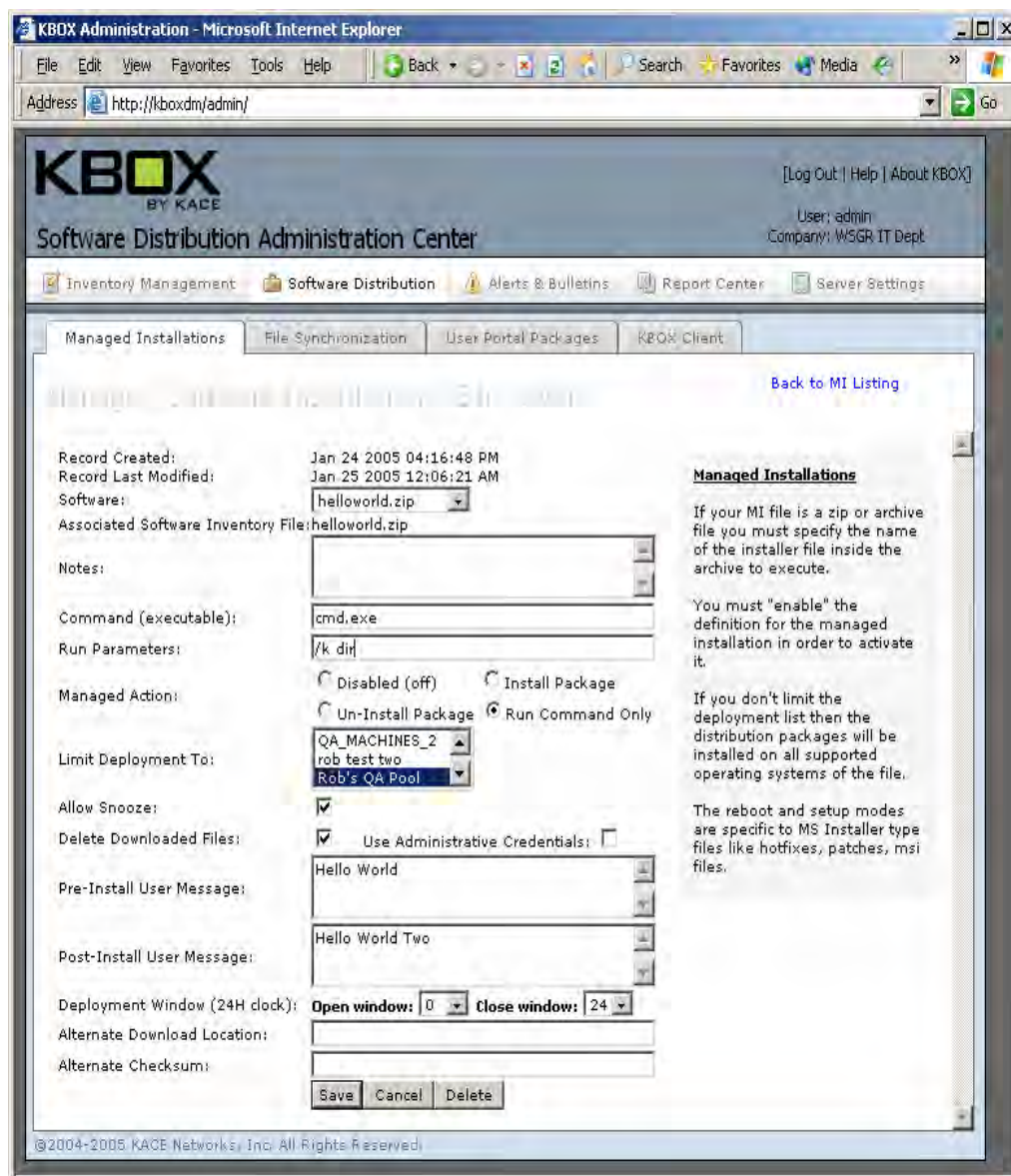
Create a software definition for SP2 and a corresponding managed installation definition configured as

follows:

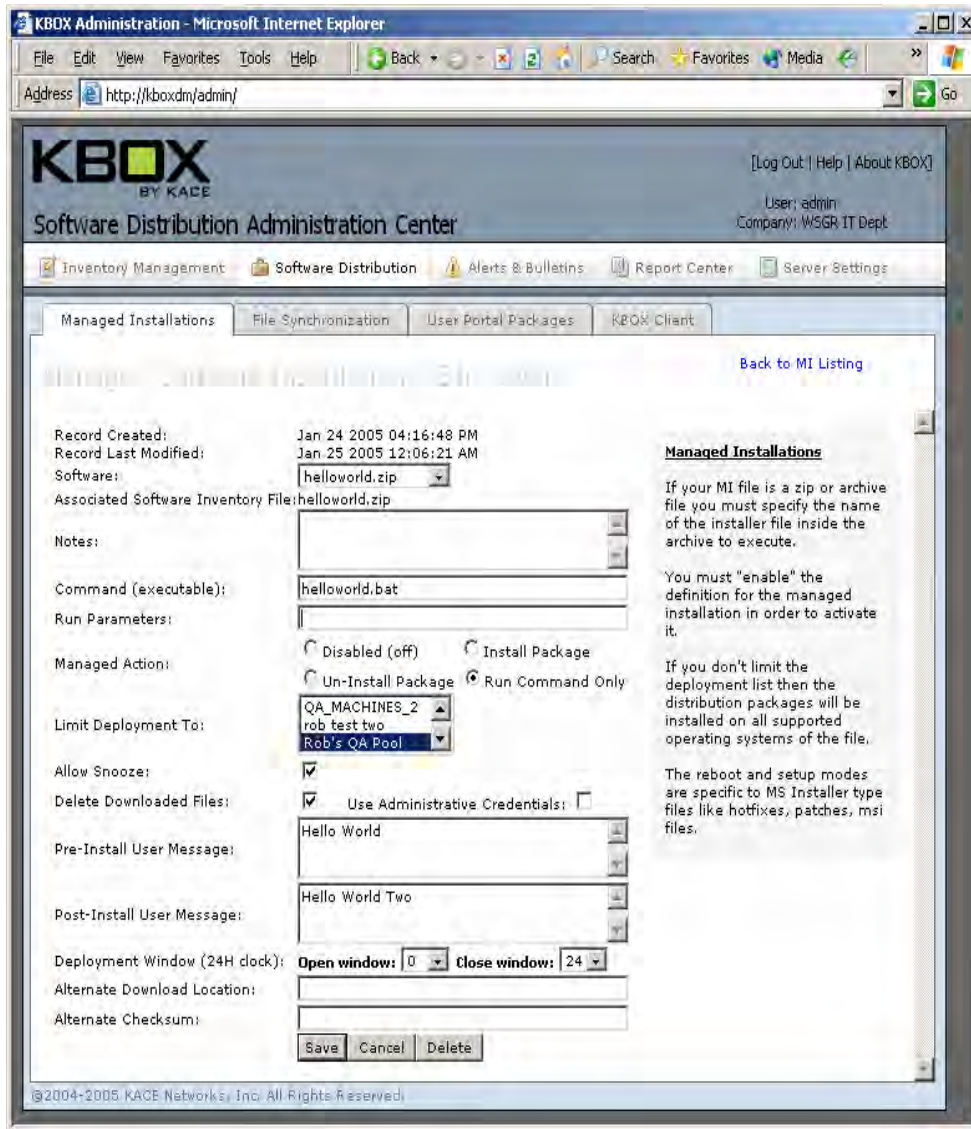


Command and BAT File Deployment Examples

KBOX can deploy both commands and BAT files. To deploy a command without executing it within a BAT file, create an inventory item (real or dummy) and an associated Managed Installation definition containing your commands. See the following simple example for displaying DIR on a remote machine:



You may also use KBOX to deploy a BAT file containing an extensive series of commands. See the following example for a simple BAT file deployment (which KBOX will deploy and run locally):



CHAPTER A

Adding steps to a Task

This appendix includes steps for tasks of a script. The steps listed here are available on the Scripting tab. For more information, see “Scripting,” on page 69.

- “Steps for Task sections,” on page 110

Steps for Task sections

Refer to the following table when adding steps to a Policy or Job Task.

The Column headings V, OS, R, ORS, and ORF indicate whether a particular step is available in the corresponding Task sections: Verify, On Success, Remediation, On Remediation Success, and On Remediation Failure.

Step	Explanation	V	OS	R	ORS	ORF
Always Fail		X		X		
Call a Custom DLL Function	Call function "%{procName}" from "%{path}\%{file}"	X	X	X		
Create a Custom DLL Object	Create object "%{className}" from "%{path}\%{file}"	X	X	X		
Create a message window	Create a message window named "%{name}" with title "%{title}", message "%{message}" and timeout "%{timeout}" seconds.	X	X	X	X	X
Destroy a message window	Destroy the message window named "%{name}".	X	X	X	X	X
Kill a process	Kill the process "%{name}".	X	X	X	X	X
Launch a program	Launch "%{path}\%{program}" with params "%{parms}".	X	X	X	X	X
Run a batch file	Run the batch file "%{_fake_name}" with params "%{parms}". Note: In this step, you do not need to upload the batch file. You create the batch file by pasting the script in the space provided.	X	X	X		
Log file information	Log "%{attrib}" from "%{path}\%{file}"			X	X	X
Log message	Log "%{message}" to "%{type}"			X		
Log a registry value	Log "%{key}!%{name}".			X		
Install a software package	Install "%{name}" with arguments "%{install_cmd}". Note: This step requires you to choose from a list of software packages already uploaded using the functionality in the Inventory/Software tab. For more information, see "Taking Inventory," on page 20.		X	X		
Search the file system	Search for "%{name}" in "%{startingDirectory}" on "%{drives}" and "%{action}".	X				

Table A-1 : Steps for Tasks in Policy & Job scripts

Step	Explanation	V	OS	R	ORS	ORF
Unzip a file	Unzip "%{path}\%{file}" to "%{target}".	X		X	X	X
Update message window text	Set the text in the message window named "%{name}" to "%{text}".	X		X	X	X
Update Policy and Job schedule	Update policy and job schedule from KBOX	X				
Upload client logs	Upload client logs to KBOX	X		X	X	X
Upload a file	Upload "%{path}\%{file}" to the server.		X	X		
Verify a directory exists	Verify that the directory "%{path}" exists.	X				
Verify a file exists	Verify that the file "%{path}\%{file}" exists.	X				
Verify a file version is exactly	Verify that the file "%{path}\%{file}" has version "%{expectedValue}".	X				
Verify a file version is greater than or equal to...	Verify that the file "%{path}\%{file}" has version greater than or equal to "%{expectedValue}"	X				
Verify a file version is greater than	Verify that the file "%{path}\%{file}" has version greater than "%{expectedValue}".	X				
Verify a file version is less than or equal to	Verify that the file "%{path}\%{file}" has version less than or equal to "%{expected-Value}"	X				
Verify a file version is less than	Verify that the file "%{path}\%{file}" has version less than "%{expectedValue}".	X				
Verify a file version is not	Verify that the file "%{path}\%{file}" does not have version "%{expectedValue}".	X				
Verify a file was modified since	Verify that the file "%{path}\%{file}" was modified since "%{expectedValue}".	X				
Verify a process is not running	Verify the process "%{name}" is not running.	X				
Verify a process is running	Verify the process "%{name}" is running.	X				
Verify a product version is exactly..	Verify that the product "%{path}\%{file}" has version "%{expectedValue}"	X				
Verify a product version is greater than or equal to...	Verify that the product "%{path}\%{file}" has version greater than or equal to "%{expected-Value}"	X				

Table A-1 : Steps for Tasks in Policy & Job scripts

Step	Explanation	V	OS	R	ORS	ORF
Verify a product version is greater than	Verify that the product "%{path}\%{file}" has version greater than "%{expectedValue}".	X				
Verify a product version is less than or equal to	Verify that the product "%{path}\%{file}" has version less than or equal to "%{expectedValue}"	X				
Verify a product version is less than	Verify that the product "%{path}\%{file}" has version less than "%{expectedValue}".	X				
Verify a product version is not	Verify that the product "%{path}\%{file}" does not have version "%{expectedValue}"	X				
Verify a registry key does not exist	Verify that "%{key}" does not exist.	X				
Delete a registry key	Delete "%{key}" from the registry.		X	X		
Delete a registry value	Delete "%{key}!\%{name}" from the registry.		X	X		
Set a registry key	Set "%{key}".	X	X			
Set a registry value	Set "%{key}!\%{name}" to "%{newValue}".	X	X			
Stop a service	Stop service "%{name}"			X		
Restart a service	Restart service "%{name}"			X		
Start a service	Restart service "%{name}"			X		
Verify a registry key exists	Verify that "%{key}" exists.	X				
Verify a registry key's subkey count is exactly	Verify that "%{key}" has exactly "%{expectedValue}" subkeys.	X				
Verify a registry key's subkey count is greater than or equal to	Verify that "%{key}" has greater than or equal to "%{expectedValue}" subkeys.	X				
Verify a registry key's subkey count is greater than	Verify that "%{key}" has greater than "%{expectedValue}" subkeys.	X				
Verify a registry key's subkey count is less than or equal to	Verify that "%{key}" has less than or equal to "%{expectedValue}" subkeys.	X				
Verify a registry key's subkey count is less than	Verify that "%{key}" has less than "%{expectedValue}" subkeys.	X				

Table A-1 : Steps for Tasks in Policy & Job scripts

Step	Explanation	V	OS	R	ORS	ORF
Verify a registry key's subkey count is not	Verify that "%{key}" does not have exactly "%{expectedValue}" subkeys.	X				
Verify a registry key's value count is exactly	Verify that "%{key}" has exactly "%{expectedValue}" values.	X				
Verify a registry key's value count is greater than or equal to	Verify that "%{key}" has greater than or equal to "%{expectedValue}" values.	X				
Verify a registry key's value count is greater than	Verify that "%{key}" has greater than "%{expectedValue}" values.	X				
Verify a registry key's value count is less than or equal to	Verify that "%{key}" has less than or equal to "%{expectedValue}" values.	X				
Verify a registry key's value count is less than	Verify that "%{key}" has less than "%{expectedValue}" values.	X				
Verify a registry key's value count is not	Verify that "%{key}" does not have exactly "%{expectedValue}" values.	X				
Verify a registry pattern doesn't match	Verify that "%{key}!%{name}=%{expectedValue}" doesn't match.	X				
Verify a registry pattern matches	Verify that "%{key}!%{name}=%{expectedValue}" matches.	X				
Verify a registry value does not exist	Verify that "%{key}!%{name}" does not exist	X				
Verify a registry value exists	Verify that "%{key}!%{name}" exists	X				
Verify a registry value is exactly	Verify that "%{key}!%{name}" is equal to "%{expectedValue}"	X				
Verify a registry value is greater than or equal to	Verify that "%{key}!%{name}" is greater than or equal to "%{expectedValue}"	X				
Verify a registry value is greater than	Verify that "%{key}!%{name}" is greater than "%{expectedValue}"	X				
Verify a registry value is less than or equal to	Verify that "%{key}!%{name}" is less than or equal to "%{expectedValue}"	X				

Table A-1 : Steps for Tasks in Policy & Job scripts

Step	Explanation	V	OS	R	ORS	ORF
Verify a registry value is less than	Verify that "%{key}!%{name}" is less than "%{expectedValue}"	X				
Verify a registry value is not	Verify that "%{key}!%{name}" is not equal to "%{expectedValue}"	X				
Verify a service exists	Verify the service "%{name}" exists	X				
Verify a service is running	Verify the service "%{name}" is running	X				

Table A-1 : Steps for Tasks in Policy & Job scripts

CHAPTER B

Warranty, Licensing, and Support

- “Warranty and Support Information,” on page 116
- “Third Party Software Notice,” on page 121

Warranty and Support Information

KACE reserves the right to modify the warranty and support information at any time. The written and signed sales agreement between KACE and its customers will take priority over this written notice which reflects standard terms in place as of October 11, 2004.

The following standard terms and conditions apply to KBOX support and warranty. In the event that KACE and the customer have agreed – in writing – to alternative terms and conditions, then those alternate terms and conditions will take priority over the following:

Customer Acceptance

All sales are made F.O.B. point of shipment at KACE 's designated manufacturing facility, and KACE 's title to the Products (except for Software) and the risk of loss of or damage to the Products ordered by the Customer will pass to Customer at time of KACE 's delivery of Products to the carrier. The carrier shall be deemed Customer's agent, and any claims for damages in shipment must be filed with the carrier. KACE is authorized to designate a carrier pursuant to KACE's standard shipping practices unless otherwise specified in writing by Customer. All Products shall automatically be deemed accepted upon receipt by Customer. Customer must provide written notice to KACE within thirty (30) days of delivery in the event that Products do not conform to the quotation made by KACE.

Hardware Warranty

KACE will repair or replace defective hardware for a period of one year from the date of customer acceptance. KACE will use reasonable commercial means to repair or replace failed hardware within 48 hours (excluding weekends and holidays) of reported failure. In addition, customers who elect the Paid Support option (outlined in section 4) will be entitled to an extended hardware warranty covering the hardware for the duration of the paid support contract.

KBOX Return Policy

KACE offers a 45 day satisfaction guarantee for qualified customers. The return policy allows the customer to return the unit for any reason during that time period for a full refund.

Paid Support Conditions

Support and maintenance is provided free of charge for 30 days from the date Customer Acceptance. In addition, KACE offers free hardware repair/replace warranty for hardware failures within the first year of purchase. Thereafter support and maintenance must be purchased.

Paid support and maintenance includes the following:

- Telephone and on-line support for one named customer seat provided from 8:30 am to 5:00 pm PST.
- Software upgrades and updates at the point release level, not major releases (that is, 1.x to 1.y would be covered; x.0 to y.0 would not be covered)

-
- Hardware repair, replace as long as the customer maintains a paid support position with KACE

License Information

For license information for this product, please consult the signed agreement between KACE and your organization. In the absence of such agreement, the following terms apply (updated 10/11/2004):

In consideration of the mutual covenants contained herein, the parties agree as follows:

1. **General.** This Product Sales Agreement ("Agreement") shall apply to all quotations made and products shipped by Kace Networks, Inc. ("Products") to Customer. Customer's acceptance of such quotations or Product shipments is expressly limited to the terms and conditions of this Agreement. Any additional or different terms or conditions in any communication by Customer (whether in a purchase order or otherwise) are hereby rejected and shall be null and void, irrespective of the means of Customer's acceptance. Any failure by Kace Networks, Inc. ("Kace ") to object to any additional or different provisions proposed by Customer shall not constitute a waiver of these terms and conditions, nor constitute acceptance of any such Customer's terms and conditions.

All orders or contracts must be approved and accepted by Kace at its home office at 2091 North Shoreline Blvd., Mountain View, CA 94043. This Agreement shall be applicable whether or not they are attached to or enclosed with the Products. Kace may deliver Products in partial shipments and such partial shipments may be invoiced individually. Customer may cancel submitted purchase orders only with the prior written consent of Kace.

2. **Prices/Taxes.** All prices are exclusive of shipping, insurance and installation charges, all of which are Customer's sole responsibility. All prices are exclusive of all sales, use, excise, value added, withholding and other taxes, and all customs duties and tariffs now or hereafter claimed or imposed by any governmental authority upon the sale of Products. Any such charges will be added to the price or subsequently invoiced to the Customer. In the event Kace is required to pay any such tax, duty or charge, Customer will promptly reimburse Kace.
3. **Payment/Financing.** Kace will determine Customer's credit terms on a per-order basis and such terms are subject to a credit review and approval by Kace in its sole discretion. The amount of credit may be changed or credit withdrawn by Kace at anytime in its sole discretion. All payments shall be made in U.S. Dollars net thirty (30) days from the date of invoice unless otherwise stated by Kace in writing. Any amounts not paid when due will accrue interest at the rate of 1 1/2% per month, or the maximum amount allowed by law, if lower. In the event that any payment is more than thirty (30) days late, Kace shall have the right to suspend performance until all payments are made current. Customer shall pay for all costs (including reasonable attorneys' fees) incurred by Kace in connection with the collection of late payments. Each accepted purchase order is a separate, independent transaction, and Customer has no right of set-off against other purchase orders or other transactions with Kace. Customer hereby grants Kace a security interest in the Products in the amount of the unpaid balance of the purchase price until paid in full. Kace may file a financing statement for such security interest and Customer shall sign any such statements or other documentation necessary to perfect Kace 's security interest.
4. **Software License.** (a) "Software" means Kace's computer program Products, in object code format, including without limitation firmware, delivered hereunder, whether incorporated in the hardware Products or delivered separately, and whether or not there is a separate charge therefor. The term "Software" shall also include any other new features, functionality or enhancements to the Software provided to Customer. All references to the "purchase," "sale" of or "selling" Software shall mean the granting of a license to use such Software. (b) Subject to the terms and conditions of this Agreement, Kace hereby grants Customer a non-exclusive, non-transferable, non-sublicensable license to use the Software (in object code form only) solely in accordance with the accompanying documentation for the internal business purposes of Customer. (c) Except as expressly provided in this Agreement, The

license set forth above does not include any rights to and Customer shall not **(i)** reproduce, modify, translate or create any derivative work of all or any portion of the Products, **(ii)** sell, rent, lease, loan, provide, distribute or otherwise transfer all or any portion of the Software, **(iii)** reverse engineer, reverse assemble or otherwise attempt to gain access to the source code of all or any portion of the Products, **(iv)** use the Software for third-party training, commercial timesharing or service bureau use (provided, however, the foregoing shall not be deemed to restrict Customer from using the Product in accordance with the documentation to provide services), **(v)** remove, alter, cover or obfuscate any copyright notices, trademark notices or other proprietary rights notices placed or embedded on or in the Products, **(vi)** unbundle any component of the Products, or **(vii)** cause or permit any third party to do any of the foregoing. **(d)** If Customer is a European Union resident, Customer acknowledges that information necessary to achieve interoperability of the Software with other programs is available upon request. **(e)** Customer acknowledges that the Software contains or is provided with copyrighted software of Kace 's suppliers as identified in associated documentation or other printed materials ("Third Party Software") which are obtained under a license from such suppliers. Customer's use of any Third Party Software shall be subject to and Customer shall comply with the applicable restrictions and other terms and conditions set forth in such documentation or printed materials.

- 5. Title/Risk of Loss/Acceptance.** All sales are made F.O.B. point of shipment at Kace's designated manufacturing facility, and Kace 's title to the Products (except for Software) and the risk of loss of or damage to the Products ordered by the Customer will pass to Customer at time of Kace 's delivery of Products to the carrier. The carrier shall be deemed Customer's agent, and any claims for damages in shipment must be filed with the carrier. Kace is authorized to designate a carrier pursuant to Kace's standard shipping practices unless otherwise specified in writing by Customer. All Products shall automatically be deemed accepted upon receipt by Customer. Customer must provide written notice to Kace within thirty (30) days of delivery in the event that Products do not conform to the quotation made by Kace.
- 6. Intellectual Property Rights.** Title to and ownership of the Software and any associated documentation, and any improved, updated, modified or additional parts thereof, and all copyright, patent, trade secret, trademark and other intellectual property rights embodied in the Products, shall at all times remain the property of Kace or Kace 's licensors. All suggestions or feedback provided by Customer or its employees or agents to Kace with respect to the Products shall be Kace's property and deemed confidential information of Kace.
- 7. Force Majeure.** Shipping dates are approximate and may be delayed absent prompt receipt from Customer of all necessary information. Kace shall not be responsible for any failure to perform or delay attributable in whole or in part to any cause beyond its reasonable control, including but not limited to Acts of God, government actions, war, civil disturbance, insurrection, sabotage, labor shortages or disputes, failure or delay in delivery by Kace's suppliers or subcontractors, transportation difficulties, shortage of energy, raw materials or equipment, or Customer's fault or negligence. In the event of any such delay the date of delivery shall, at the request of Kace, be deferred for a period equal to the time lost by reason of the delay.
- 8. Indemnity. (a)** Kace shall defend Customer against any third party action alleging that the Products infringes any valid U.S. patent or copyright, and Kace shall pay all settlements entered into, and all final judgments and costs (including reasonable attorneys' fees) awarded against Customer in connection with such action. If any Product, or parts thereof, becomes, or in Kace 's opinion may become, the subject of an infringement claim, Kace may, at its option, **(i)** procure for Customer the right to continue using such Products, **(ii)** modify or replace such Products with substantially equivalent noninfringing products, or **(iii)** require the return of such Products and refund to Customer a pro-rata portion of the purchase price of such Products based on a three-year straight line amortization of the purchase price. **(b)** Kace shall have no indemnification obligations with respect to any third party action alleging that **(i)** the use of any Products, or any part thereof, in combination with products not supplied by Kace, or **(ii)** any service or other process utilizing any Products, or any part thereof, infringes any third party

intellectual property right, and in such event Customer shall defend Kace, and its officers, directors and employees, against any such action, and Customer shall pay all settlements entered into, and all final judgments and costs (including reasonable attorneys' fees) awarded against such party in connection with such action. **(c)** Each party's indemnification obligations shall be subject to the indemnified party **(i)** notifying the indemnifying party promptly in writing of such action, **(ii)** giving the indemnifying party exclusive control and authority over the defense or settlement of such action, **(iii)** not entering into any settlement or compromise of any such action without the indemnifying party's prior written consent and **(iv)** providing all reasonable assistance to the indemnifying party (provided that the indemnifying party reimburses the indemnified party for its out-of-pocket expenses incurred in providing such assistance). **(d)** THIS SECTION 8 STATES THE ENTIRE LIABILITY OF KACE FOR ANY INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS.

- 9. 9. Limited Warranty and Disclaimer.** Kace shall warranty for the Products for 45 days from acceptance by the Customer (in accordance with Section 5) and such warranty shall be Kace 's sole and exclusivity liability hereunder. Notwithstanding anything herein or otherwise to the contrary, Kace makes no warranty with respect to any third party hardware or software products provided under this Agreement. Customer's sole remedy with respect to such third party products shall be pursuant to the original licensor's warranty, if any, to Customer, to the extent permitted by the original licensor. EXCEPT FOR ANY EXPRESS LIMITED WARRANTIES FROM KACE SET FORTH HEREIN OR IN SUCH DOCUMENTATION, THE PRODUCTS ARE PROVIDED "AS IS", AND KACE AND ITS SUPPLIERS MAKE NO WARRANTY, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, WITH RESPECT TO PRODUCTS OR ANY PART THEREOF, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT, OR THOSE ARISING FROM COURSE OF PERFORMANCE, DEALING, USAGE OR TRADE. NEITHER KACE NOR ANY OF ITS SUPPLIERS WARRANT THAT THE PRODUCTS OR ANY PART THEREOF WILL MEET CUSTOMER'S REQUIREMENTS OR BE UNINTERRUPTED, OR ERROR-FREE, OR THAT ANY ERRORS IN THE PRODUCTS WILL BE CORRECTED. SOME STATES/JURISDICTIONS DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES SO THE ABOVE EXCLUSIONS MAY NOT APPLY TO CUSTOMER. KACE 'S LIMITED WARRANTY GIVES CUSTOMER SPECIFIC LEGAL RIGHTS. CUSTOMER MAY ALSO HAVE OTHER RIGHTS, WHICH VARY FROM STATE/ JURISDICTION TO STATE/JURISDICTION.
- 10. Confidentiality.** "Confidential Information" means any oral, written, graphic or machine-readable information disclosed by Kace that is designated in writing to be confidential or proprietary or should be reasonably understood to be confidential. Customer agrees to: (a) refrain from using Confidential Information except as necessary to exercise its rights herein and (b) use best efforts preserve and protect the confidentiality of the Confidential Information. Notwithstanding the foregoing, Confidential Information shall not include information: (i) already publicly known; (ii) otherwise known to Customer through no wrongful conduct, or (iii) to the extent required to be disclosed by law or court order.
- 11. Limitation of Liability.** IN NO EVENT SHALL KACE OR ITS SUPPLIERS BE LIABLE TO CUSTOMER OR ANY THIRD PARTY FOR COSTS OF PROCUREMENT OF SUBSTITUTE PRODUCTS OR SERVICES, LOST PROFITS, DATA OR BUSINESS, OR FOR ANY INDIRECT, SPECIAL, INCIDENTAL, EXEMPLARY OR CONSEQUENTIAL DAMAGES OF ANY KIND ARISING OUT OF OR IN CONNECTION WITH THIS AGREEMENT, HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY (WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY OR OTHERWISE). KACE 'S TOTAL AND CUMULATIVE LIABILITY ARISING OUT OF OR IN CONNECTION WITH ANY PRODUCTS PURCHASED BY CUSTOMER HEREUNDER SHALL IN NO EVENT EXCEED THE PURCHASE PRICE PAID BY CUSTOMER FOR SUCH PRODUCTS. THE KACE OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, AND NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF ANY LIMITED REMEDY.
- 12. Termination.** If either party breaches a material provision of this Agreement and fails to cure such breach within thirty (30) days after receiving written notice of the breach, the non-breaching party shall have the right to terminate this Agreement at any time. Customer's breach of a payment obligation

constitutes a default the date the payment is due and Kace shall have the right to terminate this Agreement immediately. Either party may terminate this Agreement, effective immediately upon written notice, if the other party becomes the subject of a voluntary or involuntary petition in bankruptcy or any proceeding relating to insolvency, receivership, liquidation or composition for the benefit of creditors. In the event that a party terminates this Agreement pursuant to this Section, **(i)** the terms and conditions of this Agreement shall apply to all Products shipped prior to the date of termination of this Agreement, and **(ii)** orders for Products which have not been shipped as of the date of termination may be terminated at the option of the party terminating this Agreement.

- 13. Export Control.** Customer acknowledges and agrees that the Products provided under this Agreement may be subject to restrictions and controls imposed by the United States Export Administration Act and the regulations thereunder. Customer warrants that it will not export or re-export any Products provided under this Agreement into any country in violation of such controls or any other laws, rules or regulations of any country, state or jurisdiction.
- 14. Government Restricted Rights.** As defined in FAR section 2.101, DFAR section 252.227-7014(a)(1) and DFAR section 252.227-7014(a)(5) or otherwise, the Software and associated documentation are "commercial items," "commercial computer software" and/or "commercial computer software documentation." Consistent with DFAR section 227.7202, FAR section 12.212 and other sections, any use, modification, reproduction, release, performance, display, disclosure or distribution thereof by or for the U.S. Government shall be governed solely by the terms of this Agreement and shall be prohibited except to the extent expressly permitted by the terms of this Agreement.
- 15. Miscellaneous.** This Agreement is governed and interpreted in accordance with the laws of the State of California, U.S.A. without reference to conflicts of laws principles and excluding the United Nations Convention on Contracts for the Sale of Goods. The parties consent to the exclusive jurisdiction of, and venue in, Santa Clara County, California, U.S.A. Customer shall not transfer, assign or delegate this Agreement or any rights or obligations hereunder, whether voluntarily, by operation of law or otherwise, without the prior written consent of Kace (except as expressly set forth in Section 4(f)). Kace may assign this Agreement to any successor by way of merger, acquisition or sale of all or substantially all of assets relating to this Agreement. Kace or any successor may assign all or part of the right to payments under this Agreement. Any assignment or transfer of this Agreement made in contravention of the terms hereof shall be null and void. Subject to the foregoing, the terms and conditions of this Agreement shall be binding upon and inure to the benefit of the parties to it and their respective heirs, successors, assigns and legal representatives. This Agreement constitutes the entire agreement between the parties with respect to the subject matter hereof, and merges all prior negotiations and drafts of the parties with regard thereto. No modification, addition or deletion, or waiver of any of the terms and conditions of this Agreement shall be binding on Kace unless made in a non-preprinted agreement clearly understood by both parties to be a modification or waiver, and signed by a duly authorized representative of Kace. If any of the provisions of this Agreement is held by a court of competent jurisdiction to be invalid or unenforceable under any applicable statute or rule of law, such provision shall, to that extent, be deemed omitted. All notices permitted or required under this Agreement shall be in writing and shall be delivered in person or mailed by first class, registered or certified mail, postage prepaid.

Third Party Software Notice

KBOX^{DM} is licensed per the accompanying Third Party License Agreements in addition to the KBOX license noted above. KBOX includes software redistributed under license from the following vendors. In addition, KBOX contains paid licenses to MySQL and RLib that have been purchased and embedded within KBOX by KACE. Copyright 2004, KACE Networks, Inc. and other copyrights.

- Apache
- FreeBSD
- PHP
- Sendmail
- #ZipLib

Apache

This product (KBOX^{DM}) includes software developed by The Apache Software Foundation (<http://www.apache.org/>). Apache License Version 2.0, January 2004 <http://www.apache.org/licenses/>

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1. Definitions. "License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document. "Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License. "Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means **(i)** the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or **(ii)** ownership of fifty percent (50%) or more of the outstanding shares, or **(iii)** beneficial ownership of such entity. "You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files. "Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types. "Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof. "Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

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CHAPTER B