



SafeGuard User Manual

Table of Contents

Introduction.....	2
First Time Use.....	3
Installing SafeGuard	3
HotSync Method	3
OTA	3
SD Card Method	4
Configuring SafeGuard	5
Reset Loop of Death	5
What causes the Reset Loop of Death?.....	6
How to recover from the Reset Loop of Death?	6
SafeGuard Screen by Screen Descriptions	6
Portal Screen	7
Active Apps	7
Quarantined.....	7
Crash Log.....	7
Reset Log	7
App Usage Log	7
Device Info.....	7
License Key Management.....	7
Program Options	7
Remote Support	8
Active Apps Screen.....	8
Application list.....	8
Refresh Option	9
Sorting Views.....	9
Application Information View	10
Event Performance Log	12
Quarantined Screen	14
Quarantine Actions	15
Crash Log Screen.....	16
Crash Analysis – ScientificCalc Example	16
Crash Analysis – Crash App Example.....	19
Reset Log Screen	21
App History Screen.....	22
Device Info Screen.....	23

License Key Management Screen.....	23
Program Options Screen	24
SafeGaurd is___:.....	24
<i>Background Crash Monitors</i>	24
KEEP SD CARD MOUNTED	25
BACKUP SAFEGUARD FILES.....	25
RESET TIMEOUT QUESTION	26
APP HISTORY LIMIT.....	26
CHECK FOR UPDATES	26
Remote Support Screen.....	26
Appendix.....	28
Terms and Definitions.....	28
Crash	28
Creator ID	28
Soft Reset.....	28
Warm Reset.....	28
Hard Reset.....	28
3rd Party Application.....	28
PRC File.....	28
Foreground Application.....	28
Background Application	28
Events.....	29
Quarantine.....	29
Home Screen.....	29
Launcher Screen.....	29
OTA	29
Warnings and Tips	29
Backup Programs	29

Introduction

Unfortunately it is a fact that Treo and/or Centro devices crash and the majority of the time it is for unknown reasons. The other fact is 3rd party applications are the primary cause of these crashes. It is often a mystery, for the vast majority of users, why their device is crashing and nearly impossible for them to know how to fix the device once problems start. Even experienced users can not diagnose the error codes that are provided by the Palm operating system. SafeGuard was developed to solve these problems. First it simplifies the process so even first time users can understand. Second, advanced technology has been developed that goes farther than any application ever has in gathering detailed information about how applications behave. SafeGuard's Crash Detection Technology (CDT) understands the internals of the Palm operating system and gathers information about application behavior. This information gives SafeGuard the ability to detect and identify reasons for many types of device crashes. Even more impressive, SafeGuard uses the information it gathers to identify applications that cause crashes. Simply stated, SafeGuard will help increase the stability of your Treo or Centro.

First Time Use

Installing SafeGuard

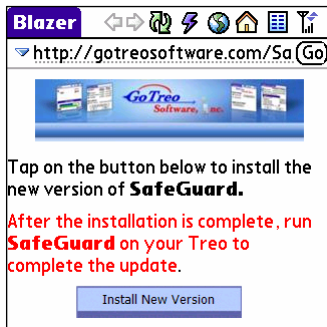
SafeGuard is a Palm application that consists of a single file. The filename is SafeGuardVx.yz.prc. The 'Vx.yz' is the version number for this copy of SafeGuard. The 'x' is the major version number and the 'yz' is the minor version number. This single file can be installed many ways. The most popular ways are described below.

HotSync Method

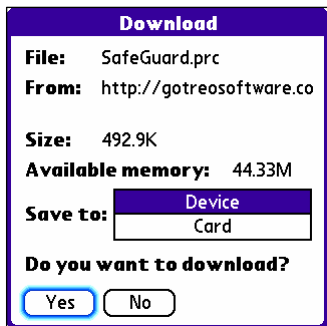
SafeGuard is installed like any other Palm application. It can be installed with the HotSync desktop application. Please see the HotSync user manual for instructions on using HotSync.

OTA

Over The Air installation is the easiest way to install applications on Treo/Centro devices. (NOTE: It requires you have access to the web from your device.) To use OTA, go to your device's HOME page and select the WEB application. Then type in this url: <http://GoTreoSoftware.com/SafeGuardDownload.html> and hit the GO button.



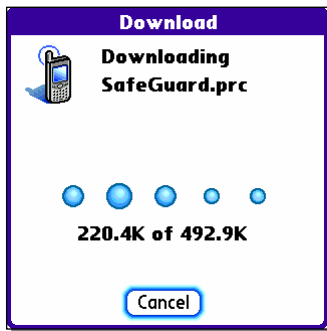
Tap on the INSTALL NEW VERSION button



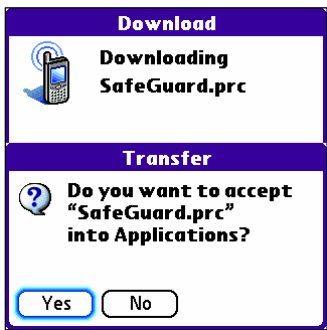
Select DEVICE and then tap on YES



Tap on SAVE AND OPEN



This is a status screen. Do NOTING on this screen



Select YES to install SafeGuard on your device



You will ONLY see this screen if you already have SafeGuard on your device.

If see this screen answer YES.

SD Card Method

Alternatively, SafeGuard can be installed via an external memory if you have an SD Card and you have an SD Card reader on your PC. If you do have this set of equipment:

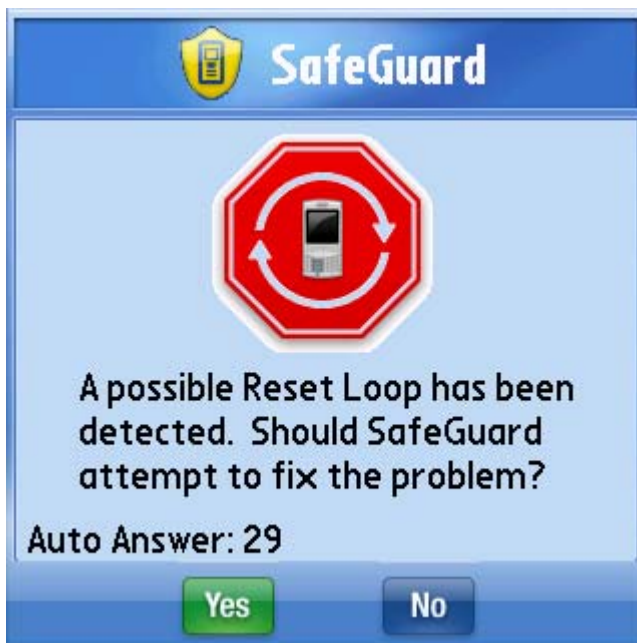
- 1) Use your PC to place a copy of SafeGuard in the /Palm/Launcher folder on the SD Card.
- 2) Take the SD Card and place it into your Treo/Centro device.
- 3) Press the HOME button on your device's keyboard

- 4) Press the MENU button on your device's keyboard
- 5) Select COPY from the menu selections
- 6) Change the COPY TO selection to PHONE
- 7) Find SafeGuard in the list of applications and select it with the pen or 5-way navigation
- 8) Press the COPY button
- 9) SafeGuard should now be installed in the main memory of your device

Configuring SafeGuard

At this point, you have SafeGuard installed in the main memory of your Treo/Centro device. To configure SafeGuard, simply press the HOME button on the Treo/Centro keyboard. Now find SafeGuard in the list of applications. Press the SafeGuard Icon to run SafeGuard. A configuration wizard will be displayed if this is the first time using SafeGuard. This wizard will walk you through the initial configuration of the application.

Reset Loop of Death



SafeGuard has built-in technology that detects a very special type of reset condition called the Reset Loop of Death. The symptom for this type of reset is complete loss of control for your device. Your device will continually display the Palm logo over and over again. The device will never completely startup before you see the Palm logo again.

What causes the Reset Loop of Death?

To explain how this condition happens, you first need to understand what happens when your device does a reset.

When your device is starting up after a reset, every application that is installed in main memory is sent a Palm event notification telling the application the device has been reset and is now starting up again. Each application can either ignore this event notification or it can perform startup processing. This processing can be anything the application needs to run properly. Well if the processing does cause a problem, a crash is very likely to happen. If a crash does happen, the device performs a reset and when the Palm event notification is again sent to this application. You got it! The device will reset again. This process will repeat itself over and over again – thus entering the Reset Loop of Death.

How to recover from the Reset Loop of Death?

Without SafeGuard, the typical solution for this problem was a hard reset! Very technical users could do a warm reset and manually determine the failing application and delete it. What has been most common is users PANIC! They think their device is broken and seek out a replacement device! But the problem returns once they restore from their backup.

Enter SafeGuard!

When SafeGuard detects the Reset Loop of Death, it will display the above screen telling you that a possible Reset Loop has been encountered on your device. You should almost always answer YES to the screen. When you answer yes, the following will happen:

- 1) SafeGuard will tell you that it is performing a soft reset. SafeGuard needs to do this to properly configure SafeGuard's technology.
- 2) SafeGuard will display a status screen after the reset telling you that it is "Waiting For Application(s) to Fail". SafeGuard will monitor each application as it performs its startup.
- 3) If an application fails during startup, the device will reset again. But this time, SafeGuard knows what application caused the reset. It will automatically Quarantine this application and the device should start normally.
- 4) Once the device completely starts up, SafeGuard will display the Quarantine Screen showing what application(s) it quarantined.

SafeGuard Screen by Screen Descriptions

Portal Screen



This is the main screen for SafeGuard and is the entry point for every function you will do in SafeGuard.

Active Apps – use this button to see all 3rd party applications that are installed on your device.

Quarantined – use this button to see all 3rd party applications that you have quarantined.

Crash Log – use this button to see a history of all crashes that have been identified on your device.

Reset Log – use this button to see a history of all soft resets that have been performed on this device.

App Usage Log – use this button to see a history of all applications that you have run in the foreground on this device.

Device Info – use this button to see details about your device itself.

License Key Management – use this button to manage your license key, see the version number of SafeGuard and to see how many days remain on your trial.

Program Options – use this button to adjust the configuration settings for SafeGuard.

Remote Support – use this button to send all of the information SafeGuard has collected to a remote support organization. This information will be used by a support organization to trouble shoot problems you are having with your device.

Active Apps Screen



Application list

This screen will list all of the 3rd party applications that are installed on your device. Each line will show information about each 3rd party application. The home screen icon, the application name, optional bell icon (🔔) and an optional running man icon (🏃). The bell icon (🔔) tells you this application has an alarm set for itself and the running man (🏃) tells you this application uses notification events. If the Running man icon is GREEN, this means the application is actively running by using one or more notifications. If the Running man icon is YELLOW, this means the application has used notifications in the past but is not currently running by using any notifications. If the Running man icon is RED, this means the application "may" not be properly locking its memory when it runs in the background. A RED status means this application may be very prone to causing crashes when it runs in the background. If you know this application is safe, there is a menu option in the Information Screen for this application to tell SafeGuard it is a safe application and to turn off the RED status. Each icon tells you this application runs in the background. It is important to know what applications run in the background since the vast majority of random crashes happen when applications run in the background. Background applications should always be the first place you look to solve device stability problems.



Application Actions

Tapping on an application or selecting an application with the 5-way navigation buttons will allow you to perform specific actions to the selected application.

Application Information will display a screen that contains detailed information about this particular application.

Quarantine Application will cause this application to be quarantined by SafeGuard. A quarantined application will no longer run in the background and it will no longer be able to be run from the Home screen and finally it will not run during the

startup process immediately following a soft reset. A quarantined application's data is not effected by this operation and a quarantined application can be easily restored to normal operation from SafeGuard's Quarantined screen.

Permanently Remove will permanently remove this application and all of its data from your device.

Run this Application will cause the selected application to be run just like you tapped on it in the Home screen. This option is useful to find out what this application does if you are not familiar with a particular application.

Refresh Option

The refresh option will cause SafeGuard to scan your device and rebuild its list of applications and the information about each application.

Sorting Views

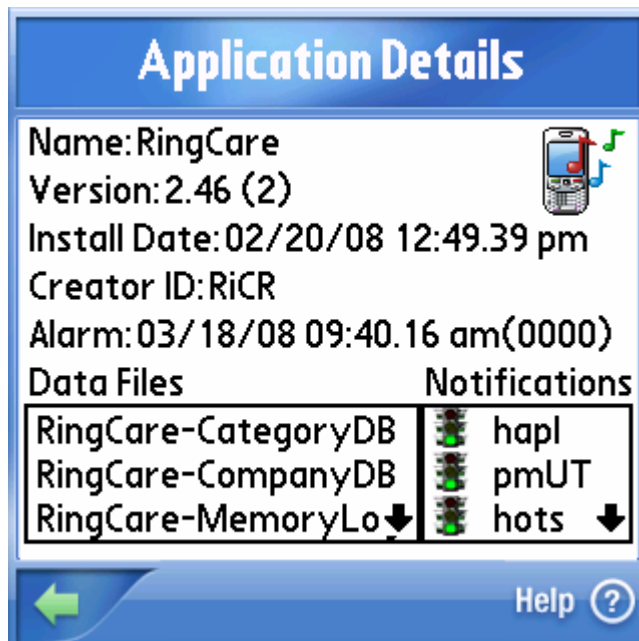
You can sort the list of applications 3 ways: Application Name, Installation Date and Running Applications.

In the App Name view, the applications are sorted by the name of the application. In this view you can type the first letter of any application on your device and SafeGuard will jump to the first application starting with that letter. This allows you to rapidly move through long lists of applications.

In the Installation Data view, the applications are sorted by their installation date in descending order with the most recently installed application at the top of the list. This view is useful when diagnosing problems with your device. For example, if your device suddenly starts crashing, the first place to look might be that last application you installed on your device. This view will show you the installation order. (NOTE: There is a bug in the Palm operating system that sometimes incorrectly sets the installation date. Once SafeGuard is installed, all future applications installed on your device should get the correct installation date.)

In the Running Applications view, applications that run in the background are at the top of the list. This view is particularly helpful to understand what applications run without you doing anything. The vast majority of device crashes will happen when these applications run in the background. But DO NOT think that running in the background is a bad thing! In fact, the ability for an application to run in the background is a GOOD thing and is probably one of the most powerful features of the Palm operating system. The problem is many applications are not coded properly and do not do things properly when they do run in the background. This is often the leading cause of your device crashing for no apparent reason.

Application Information View



This screen displays very specific information about the selected application. There is also a 'menu' selection available in this screen that allows you to mark an application as 'safe'. This option is useful if the application has a RED running man icon and you know this application is not harmful and thus should not be marked with a RED running man. To access this menu option, simply press the MENU button on your device's keyboard.

Application Name and Icon

Version number
Installation Date
Creator ID
Alarm
Data Files
Notifications

The Application name is the name displayed in the home screen and the Icon is also what is displayed in the home screen.



Version number(s) are the version numbers assigned to this application. There can be 2 version numbers for an application. The first number is a text string that applications store internally and the second is the number assigned to the PRC. This last number is displayed in ().

Installation Date is the date this application was installed. If you see an invalid date, this is because of a bug in the Palm operating system that incorrectly assigns the installation date. SafeGuard fixes this bug for applications that are installed after SafeGuard is installed.

Creator ID is an internal representation of this application that the palm operating system uses to identify this application. This name should be unique. If this name is not unique on your device, the Palm operating system may have an issue finding this application.

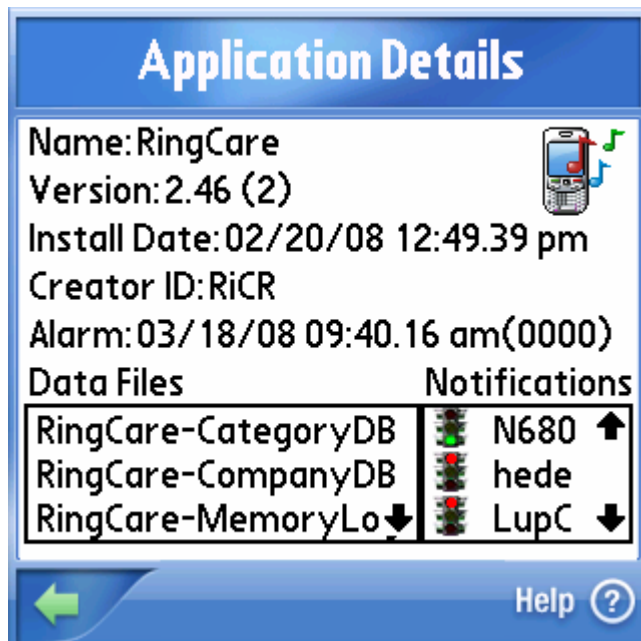
Alarm is the date and time this application will wake up on its own and run. If there is no value displayed by SafeGuard, this application does not have an alarm set. In () will be a number that is important to the application handling the alarm. If there are problems with this application, the support desk for this application will like to have this number.

Data Files is a list of the data files this application has created and uses.

Notifications is a list of events that cause this application to run in the background. If there are notifications listed in this area, each will have a stop light indicating if the application is actively using this event () or the application has used this event in the past but is not actively using it now (). Next to the stop light is the name of the notification. If you tap on the name of the notification, SafeGuard will give you the explanation of the notification. This view is a real time view and reflects an accurate and current view of the state of all 3rd party applications.

This view is particularly useful for not only diagnosing crashes but it also useful to understand any device performance problems. For example, any application that uses 'hede' notifications in the wrong way will severely impact the speed and performance of your device. 'hede' is a notification event that is sent by the Palm operating system everytime you touch a key on the keyboard. So this event gets generated all the time and each time it is sent, applications that use it will run in the background which will

consume a great deal of processing power. This view allows you to find applications that use this event notification.





For example, RingCare uses the 'hede' notification but only uses it when it absolutely needs to. This is indicated by the traffic light icon. Meaning RingCare uses 'hede' but it is not currently using that notification.

Event Performance Log

The Active Apps screen has a menu selection available that will display performance information for every event notification that has been used by 3rd party applications on your device.

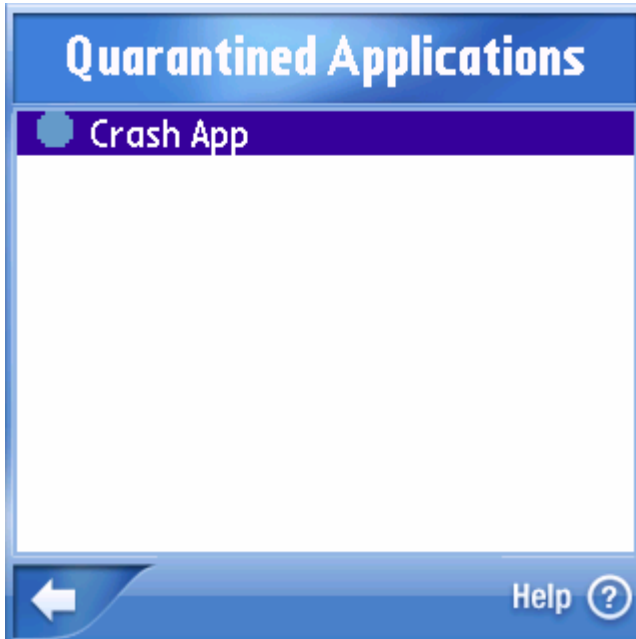


Event Performance Log				
Event	Performance		Count	
	(Last / Avg)			
volm	20	25	2	↑
neti	0	23	6	
hvch	10	16	453	
hede	0	7	6579	
hapl	230	262	16	
hapq	110	82	15	
btrd	60	60	2	
MIDT	10	6	156	↓

Help 

Each line displays the Event Notification, the last performance time, the average performance time and the number of times this event notification has been processed. Times are all measured in units where each 100 units equals 1 second. These times are reset to zero when you disable SafeGuard. Additionally, these values are only logged if you have the Palm Crash Monitor enabled in the Program Options screen. Tapping on an event notification will display a dialog window that explains what the event notification does when it is triggered.

Quarantined Screen



This screen displays the applications that have been quarantined by SafeGuard. Quarantine is a SafeGuard term that means the application and its data are still on your device but are no longer able to respond to background notifications, run from the home screen or at device startup. Quarantining helps you diagnose application problems without having to completely remove applications and their data from your device. This also eliminates the need to do the tedious “hard reset and selective restore.” Now you simply quarantine individual apps until you find the one that may be causing conflicts.

Each line will show high-level information for each application: Launcher Icon and Name.

Quarantine Actions



Selecting any individual application with the pen or 5-way will display a list of options for the application: Application Information, Activate Application and Permanently Remove. Application Information will display detailed information about this application. Activate Application will restore this application and its data so it is once again shown in the home screen display and can be run normally again. Permanently Remove will completely remove this application and its associated data from your device.

Crash Log Screen



This screen displays the history of events that have caused your device to crash. This screen will also be displayed automatically after every crash that SafeGuard detects and logs.

Each line will show high-level information for each crash: Launcher Icon, Application Name, Date/time of the crash and an optional bell icon (🔔) or running man icon(🏃).

If there is no icon after the date/time, this more than likely means the crash was a result of the application YOU ran. If there is a running man icon (🏃) after the date, this indicates that a background application most likely caused the crash. And if there is a bell icon(🔔), this may mean that an application's alarm triggered and when the application answered the alarm, it caused a crash.

Selecting a particular crash will display more detailed information about this crash.

The CLEAR LOG button will empty the Crash Log.

Crash Analysis – ScientificCalc Example

The crash that is listed first in the above Crash Log indicates the crash happened on 3/17/08 at 2:17pm. ScientificCalc is listed as the application that was running at the time of the crash. The next step is to select this crash from the list by either tapping on the line or using the 5-way navigation to select the crash.

Crash Details

Date: 3/17/2008 2:17.17pm

Cause: SafeGuard Crash Details

Name: ScientificCalc

Last Run: ScientificCalc

Device Status: ON Radio: ON

Background: Phone Event: 4

←
Why did it Crash?
Help ?

Crash Details – ScientificCalc

This details screen indicates that the Palm operating system did not detect or log this crash. We can tell this by the cause: SafeGuard Crash Details means that no data was logged by the Palm operating system. We also see that the last running program was ScientificCalc. Next we can see that the device was turned ON and that the Phone's radio was also turned ON. The key data for this crash is the Background data. SafeGuard determined the crash happened while the device was processing a Phone Event! The event number that was being processed was event number 4. Now we are getting somewhere! We know that ScientificCalc does not do

anything with the phone so we can immediately rule out ScientificCalc as the cause of the crash! Now we can let SafeGuard determine the cause for us. By pressing the WHY DID IT CRASH button, SafeGuard will decipher this information for us.

What Caused the Crash?

App Name/Reason	Confidence
Phone Application(s) Crash happened during: Radio Power Change	HIGH

←
Help ?

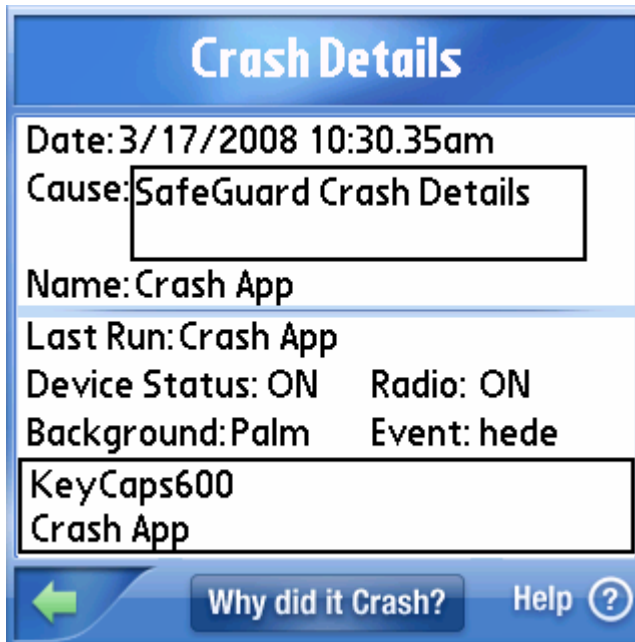
SafeGuard tells us that the device crashed because an application on this device was processing the RADIO POWER CHANGE Phone Event and caused the crash. This means that the phone's radio was being turned on or off at the time of the crash. At this point, we know to look for applications that use the phone and start eliminating them

from our device until the problem is resolved. We can use SafeGuard's Quarantine feature to temporarily remove these applications.

Crash Analysis – Crash App Example

The crash that is listed first in the above Crash Log indicates the crash happened on 3/17/08 at 10:30am. Crash App is listed as the application that was running at the time of the crash. The next step is to select this crash from the list by either tapping on the line or using the 5-way navigation to select the crash.

Crash Details – Crash App



Crash Details

Date: 3/17/2008 10:30.35am

Cause: SafeGuard Crash Details

Name: Crash App

Last Run: Crash App

Device Status: ON Radio: ON

Background: Palm Event: hede


KeyCaps600

Crash App

Why did it Crash? Help ?

This details screen is a result of the second line of the above Crash Log screen. This crash shows that the crash happened on 3/17/2008 at 10:30am. The cause tells us that the Palm operating system did not log this crash but rather SafeGuard's CDT did detect and log this crash. The last running application was Crash App. This information may not always be accurate – especially if the crash was a result of a background application. Next we can see that the device was turned ON and that the Phone's radio was also turned ON. The key data for this crash is the Background data. SafeGuard determined the crash

happened while the device was processing a Palm Event! The event that was being processed was an 'hede' event. Now we are getting somewhere! In the box below, SafeGuard has listed every 3rd party application on your device that was actively using the 'hede' Palm event when the crash happened! Now we can let SafeGuard determine the cause for us. By pressing the WHY DID IT CRASH button, SafeGuard will decipher this information for us.

What Caused the Crash?	
App Name/Reason	Confidence
Crash App KeyCaps600	HIGH MEDIUM
 Help ?	

SafeGuard has determined that the Crash App application had the greatest potential of causing this crash. So we can immediately use SafeGuard's Quarantine feature to quarantine the Crash App application. If we no longer get any crashing, we will know SafeGuard was correct and we can report this crash information, with SafeGuard's REMOTE SUPPORT feature, to the makers of this application so they can fix their product!

Reset Log Screen



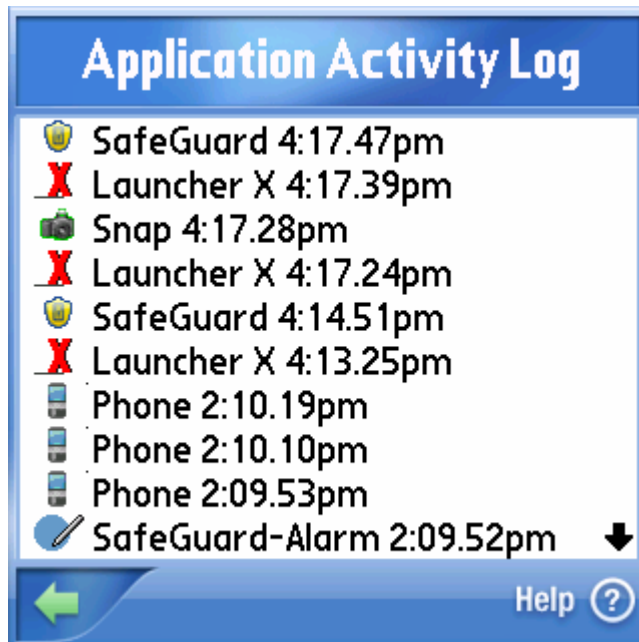
This screen displays the history of resets on your device.

Each line will show high-level information for each reset: Launcher Icon, Application Name, Date/time of the reset. The application that is displayed is the name of the application that was running in the foreground immediately before the reset.

This screen will always log resets even if there is also a crash. But not all resets are crashes, so there will be entries in the reset log that are not in the crash log. A reset can be caused by simply hitting the reset button on some models of Treo's and by taking the battery out of most Treo and Centro devices. Resets can also be caused by your battery going dead. But there are some crashes that are only logged as resets. In these cases the reason for the crash was not detected by either the Palm operating system or by SafeGuard's advanced crash detection technology. But this information is good to have since you can many times use the last running application as a starting point to diagnose the reason for the crash.

The CLEAR LOG button will empty the Reset Log.

App History Screen



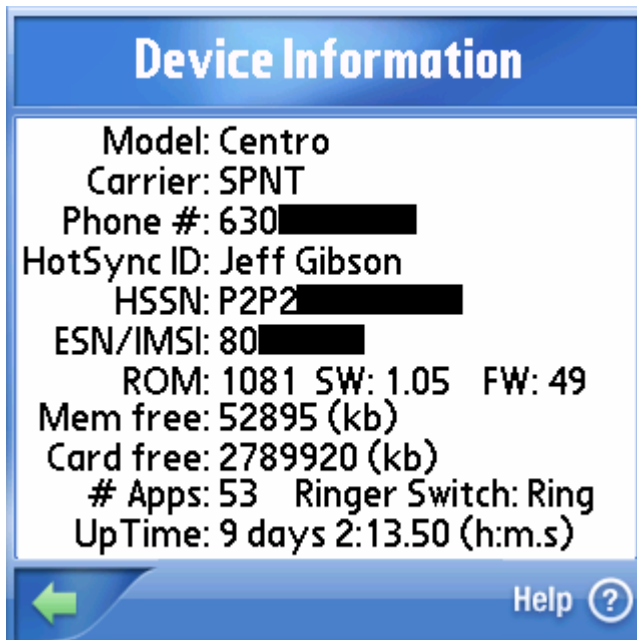
This screen displays the usage pattern for applications on your device.

Each line will show high-level information for each application you used: Launcher Icon, Application Name, Date/time .

The list is sorted in descending order meaning the last application that was run is at the top of the list.

The number of entries in this list is controlled by a configuration parameter in the Phone Options screen.

Device Info Screen



This screen contains many helpful details about your device. Many of these details may be asked of you when you talk to support departments.

The last entry in this screen shows the length of time your device has been running without a reset or crash!

License Key Management Screen



This screen shows that status of your copy of SafeGuard. The image on the left shows that SafeGuard is still in its trial period and it has 3 days of trial remaining. From this point, SafeGuard can be purchased by pressing the BUY button. If the product has already been purchased and you have a valid license key, simply enter it in the box. If

you do not yet have a key or your existing key no longer works, simply tap on the NEW KEY button and follow the instructions to obtain a new license key.

The image on the right shows a fully registered version of SafeGuard.

At the lower portion of the screen, you will see the version number of the installed copy of SafeGuard.

Program Options Screen



This screen contains important SafeGuard configuration options.

SafeGaurd is___: Indicates the high-level status for SafeGuard. Possible values are ON, REBOOT, WORKING... or OFF. ON means that SafeGuard is running and doing its job. REBOOT means that you have made a configuration change that requires you to perform a soft reset before SafeGuard will function properly. WORKING.... means that you have turned SafeGuard OFF and SafeGuard is taking some time processing your request. Once the request has been processed, OFF will indicate that SafeGuard is no longer running or collecting any data.

Background Crash Monitors

These monitors are SafeGuard's CDT (Crash Detection Technology) that will detect and report specific crash details.

PALM - this crash monitor will detect crashes that involve Palm notification events. Any application that is installed in the main memory of your device can run in the

background by listening for Palm notification events. Notification Events are things like beginning a HotSync or typing a letter on the keyboard or running an application. There are more than 50 of these events. Most random and unexplained crashes are related to applications that run in the background by listening to these event notifications. SafeGuard knows what applications use these events and it knows when these events happen. SafeGuard's technology detects when a crash happens during any specific event notification. This information is then used to isolate the crash reason with the applications that were running at the time of the crash. This is great information to have and it isolates problem applications very quickly! There are times when this feature will slow down devices. Specifically, applications that use the HEDE event notification, will cause SafeGuard to cause the device to be slower than normal.

PHONE - this crash monitor will detect crashes that happen when applications crash when they are processing phone event notifications. Because of limitations in the device, SafeGuard can not identify what applications run based on phone events. But SafeGuard can tell you what phone event notification was running when the device crashed. This is great information to supply to support organizations once the offending application is discovered. So at this point, you will have to manually identify what applications you have installed that use the phone. Applications like ringtone managers, text messaging applications, IM applications, etc are great places to start.

ALARM - this crash monitor will detect crashes that happen when applications crash when they are responding to Alarms they set for themselves. Since SafeGuard can not track an application while it processes its alarm, it is impossible for SafeGuard to know if the application finished processing its alarm successfully or if it crashed processing its alarm. But correlation can be made based on the time the alarm was triggered and comparing this time to the time of the crash. Based on this information, SafeGuard can identify possible crash behavior to specific applications based on the time their alarms were triggered.

KEEP SD CARD MOUNTED - this feature will try and keep SD Cards always available. There is a bug in the Palm operating system that can cause SD Cards to look as if they are no longer in the device when in fact they are still plugged into the device. This feature will try and stop this bug and always keep the SD Card available. This software feature is more advanced than what is in applications like Card Keeper. Unless you want the alarm function of knowing when the card is unmounted, you may want to discard that application these other types of applications.

BACKUP SAFEGUARD FILES - this feature will backup all important SafeGuard files to your SD Card every time you exit SafeGuard. Then after a Hard Reset, SafeGuard will restore all of its data the first time you run SafeGuard after the Hard Reset. This is helpful because SafeGuard does not permit its files to be backed up by a

HotSync operation. This option will only work if you have an external memory card (SD Card) in your device.

RESET TIMEOUT QUESTION - this option sets the waiting period, in seconds, for reset loop detection. If a reset loop is detected on your device, SafeGuard will automatically jump into action and attempt to detect the cause of the crash condition and recover your device. Prior to actually doing any work, SafeGuard prompts the user with a splash screen and asks permission to detect and repair your device. If you do not answer this question within the allotted waiting period, SafeGuard assumes a YES answer and continues with the recovery process.

APP HISTORY LIMIT: this option controls the number of entries that are saved in the Application History screen. Once this limit is reached, the oldest entry is discarded and the new entry is saved.

CHECK FOR UPDATES: this option will connect to the internet (if you have this service) to check to see if there is a newer version of SafeGuard available. If there is, you will be provided with a location where you can obtain the new version. To properly install the update, you should first turn OFF your existing version of SafeGuard. Then download the new version from the internet and install it on your device. Once the new version is installed on the device, turn the new version of SafeGuard ON and follow any prompts displayed by SafeGuard.

Remote Support Screen

The image shows a screenshot of a software interface titled "Support Information". It features three text input fields: "Name", "Your Email Address:", and "Support Email Address:". Each field has a horizontal line for text entry. At the bottom right of the input area is a small black upward-pointing arrow icon. The bottom of the screen has a blue navigation bar with three buttons: a back arrow, a "Send" button, and a "Help" button with a question mark icon.

This screen will allow you to communicate all of the data that is collected by SafeGaurd to a remote support organization. The information is sent via the internet to a secure website at GoTreo Software. From there, a secure web link is sent to the remote support organization. This web link is username and password protected. This information will

allow remote support organizations to be very proficient in diagnosing problems you may be having with your device and the software installed on your device. No application data is sent in this process!

NAME: enter your complete name in this location. Once you enter this information, SafeGuard will store this information for future use.

YOUR EMAIL ADDRESS: enter your email address in this location. This is the email address the remote support location will use to communicate with you during the problem resolution. Once you enter this information, SafeGuard will store this information for future use.

SUPPORT EMAIL ADDRESS: enter the email address for the remote support desk in this location. The weblink to access your device details will be available from this link.

SEND: press this button to send the support details to the remote support organization.

Appendix

Terms and Definitions

Crash – Happens when an application does something that the Palm operating system can not recover from. As a result the device will perform a complete restart of the operating system.

Creator ID – a 4 letter name that the Palm operating system uses to uniquely identify an application and its data files. Creator ID's are supposed to be unique and no two applications are supposed to share this id name. If they do, the application with the greatest numerical version number is the primary application that the Palm operating system will talk to.

Soft Reset – a normal restart of the Palm operating system that allows applications to run and maintains all device data. Is performed by either hitting the reset button, removing and reinstalling the battery or an application that causes a crash.

Warm Reset – a special restart of the Palm operating system that does not allow applications to perform their startup tasks. This type of reset is useful when your device has experienced the Reset Loop of Death. To perform this reset: 1) Remove the battery, 2) Press and hold the 5-way UP navigation button, 3) Replace the battery, 4) Continue to hold the 5-way UP button until the device is fully booted, 5) Once booted, you may release the 5-way UP button.

Hard Reset – this type of reset will erase all data on the device. This reset restores the Palm operating system and all of its internal files.

3rd Party Application – Any application installed on the device that was not on the device as it was delivered from Palm.

PRC File – This is another name for an application.

Foreground Application – An application that YOU run from the Home screen. Examples, pressing the calendar button runs the calendar application in the foreground and tapping on the Task application in the Home page runs the task application in the foreground.

Background Application – An application that runs itself based on events that happen on your device. Examples, an incoming call is an event that would cause a ringtone manager application to run all by itself. Turning on your device generates an event that causes applications like key guards to run by themselves. Applications can even set alarms that run the application at specific times of the day.

Events – cause applications to run in the background. Events are generated by the operating system and sent to applications.

Notification – is a specific kind of background event. This kind of event is generated by the Palm operating system. Examples, turning on your device, inserting an SD Card and pressing buttons on your keyboard all generate a notification. There are about 50 standard notifications and 3rd party applications can even create their own notifications.

Phone Notification – is a special purpose type of notification event that is very specific to the phone portion of your device. Examples, an incoming call, an outgoing call, call waiting and 3 way calling are all events that generate phone notifications.

Alarm – is a special purpose type of notification event that is based on time. Applications can set alarms with the operating system. When these alarms go off, the Palm operating system will run the application in the background.

Quarantine – is a method for temporarily removing an application from your device without actually removing the application or any of its data. Quarantine stops the application from responding to any operating system Event and also prevents the application from being run from the Home screen.

Home Screen – the screen used to list all applications on your device. This is where you select an application to run.

Launcher Screen – same as the HOME screen.

OTA – stands for *Over The Air*. This is a method for installing applications on your device via the internet using your Treo/Centro's browser. SafeGuard can be installing in this manner by using the url: <http://GoTreoSoftware.com/SafeGuardDownload.html>

Warnings and Tips

Backup Programs

If you are using 3rd party backup programs like Resco Backup, BackupMan, NVbackup, or others to backup your device's information to your SD Card, please read the rest of this section. If you are using HotSync, you just need to install a new version of SafeGuard and if you have an SD Card, all of SafeGuard's data will be restored automatically the first time you run SafeGuard.

The first thing you must do is allow SafeGuard to backup its own information. This is an option in the Program Options screen. Next, you need to EXCLUDE all SafeGuard files

from being backed up and/or restored by your 3rd Party backup application. This process varies by product so please consult the owners manual for your backup application.

With the backup option enabled in the Program Options screen, SafeGuard backs up and restores its own files when needed. If you allow 3rd party programs to restore SafeGuard files, SafeGuard data will be lost. Specifically, crash logs, reset logs, application execution logs and any quarantined information will be lost.

To restore SafeGuard and all of its data, simply restore your device per the instructions for your backup program (excluding all SafeGuard files). Then install a new version of SafeGuard from the GoTreo Software product page. Following the installation, run the new version of SafeGuard from the device's home page. SafeGuard will see the new installation and recover all of its data from the location on the SD Card where it saves this information. This process is completely automatic and you do not need to do anything.