TealScan User's Manual

Program Version 1.10
Last Updated: June 4, 2008

Table of Contents

Introduction

Description

Thank you for trying TealScan. TealScan is powerful system maintenance utility designed to keep your handheld device running smoothly and efficiently.   Used properly, TealScan can fix causes of potential crashes and problems, clean-away unused files and settings, and perform other useful operations with a suite of useful system tools.

Contents

This archive contains the following files:

Program files:

TEALSCAN.PRC	The TealScan program file
TEALSCAN_APPDB.PDB	The TealScan application signature database
TPSETUP.EXE	Windows easy-installer

Document files:

SCANDOC.PDF	This document in Adobe Acrobat (PDF) format
SCANDOC.HTM	This document in HTML format (sans images)
SCANDOC.PRC	This document in TealDoc format
REGISTER.HTM	TealPoint Registration form in HTML format
REGISTER.TXT	TealPoint Registration form in text format

Installing

Windows Install

Under Windows, run TPSETUP.EXE and follow the on-screen prompts

Manual Install

Use the Palm Install Tool ("Quick Install") to install the following two files:

- **TEALSCAN.PRC**
- **TEALSCAN_APPDB.PDB**.

The Palm Install Tool comes installed on your desktop computer as part of your original software package, and is accessible from the Palm Desktop program as an icon on the left hand side.

This document also comes as a Palm document file **SCANDOC.PRC**, which you can optionally install and view with our document reader TealDoc.

Terminology

This manual uses the following terminology:

buttons
> Rounded, rectangular areas on the Palm display screen that you can tap on with a stylus.

hardware buttons
> Physical pushbuttons on you device/phone case that you can depress with your finger

application buttons
> The row of two or four hardware buttons that are typically configured to launch frequently-used applications

5-way control
> The directional rocker switch located below the device display

silkscreen buttons
> Buttons located in a physical or virtual graffiti text entry area, if present

non-volatile memory
> A memory technology that does not lose data even after complete power loss. In modern PalmOS handhelds, NAND flash memory chips are used.

NVFS
> Palm's non-volatile file system, the part of PalmOS which uses a fixed block of normal RAM memory to speed up access to data stored in NAND flash memory.

DBCache
> The fixed block of normal RAM memory used by NVFS to speed up file access.

Chapter 1 – Quick Start

Keep your device stable, up-to-date, and running smoothly with TealScan, the comprehensive system utility for PalmOS handhelds. Divided in four separate screens, TealScan offers numerous tools to keep your handheld healthy and happy:

Screens
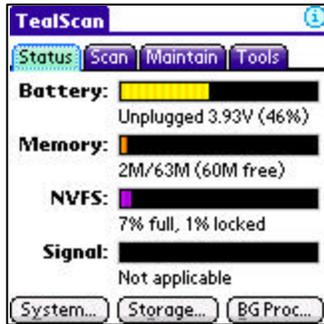
Status

Use the TealScan *Status Screen* to view a snapshot of your device's health or for detailed information about three vital components.

Scan

Use the TealScan *Scan Screen* to check your device for potential problems that can cause instability or other problems.

Maintain

Use the TealScan *Maintain Screen* to free memory and clean your device of temporary or unused data files and preference entries.

Tools

Use the TealScan *Tools Screen* to keep your software up to date or perform other useful operations or repairs.

Fixing Stability Issues

While applications can crash due to bugs, conflicts, and other problems, TealScan can detect and fix many of the systemic causes of seemingly "random" problems that occur, particularly on devices with non-volatile memory.

Here is an overview of suggested strategies and how to tackle them.
See the following chapters for detailed instructions on using each tool.

Unlocked/Unprotected Background Apps

Use the TealScan *Scan Screen* to find background apps that fail to lock their code resources or protect their program files properly. Running older apps with these problems are the primary cause of crashes on devices with non-volatile memory.

You can also monitor the NVFS graph on the *Status Screen* to watch for crashes that coincide with a full NVFS cache. If found, you can identify background apps using the *Background Process Status Screen* and manually lock files using the *Lock/unlock apps in memory* tool on the *Tools Screen*.

Lost Locked Records

Crashes can sometimes be caused by apps that forget to unlock records that they access. Monitor the locked percentage count on the NVFS graph of the *Status Screen*. If the count goes up unexpectedly after running a particular app, it may indicate an application bug that can cause crashes and lost data.

Stack Overflow

If a particular app crashes when certain background apps are enabled, that app may not request enough stack space for the background apps to run. Use the *Set Application Stack Space* tool to boost the amount requested by the app.

Saved Preferences

Use the *Monitor Saved Preferences* option on the *Maintain Screen* to prevent system settings from mysteriously being lost after a system reset, an unexplained problem that is known to occur on some devices.

Optimizing your Handheld

After several years, PalmOS devices tend to accumulate stray settings and files left over from old applications that have long since been removed. These take up space and can slow down your handheld. TealScan can help you clean your device with the following *Maintain Screen* tools.
See the following chapters for detailed instructions on using each tool.

Clean Orphan Preferences

Finds and optionally removes preference entries that are not linked to a known application on the device

Clean Orphan Data Files

Finds and optionally removes data files that are not linked to a known application on the device

Chapter 2 – Status Screen
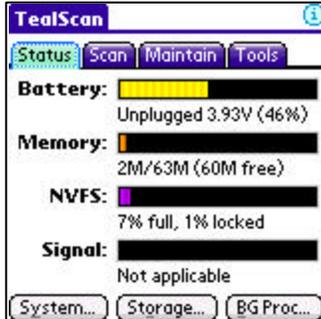
The TealScan *Status Screen* contains four real-time graphs for instant information and three buttons for getting detailed system details.

Graphs

Battery

Displays the current battery status, level, and voltage.

Memory

Displays the total, used, and free amount of main memory present on the device. The values listed here refer to storage memory used for files and applications, and does not include external SD cards or dynamic application working memory.

It is usually a good idea to leave a sizeable amount of free memory available. We recommend leaving a Megabyte or more free on newer devices as working space for apps and temporary storage for apps launched from external cards.

NVFS

On newer devices with non-volatile memory, the Palm Non-Volatile File System (NVFS) uses slow flash memory for all long-term storage. For speed, it keeps a copy of all files currently being used in a block of normal RAM memory known as the *DBCache*.

The DBCache starts off empty after a system reset. * Whenever PalmOS or applications access files, they are first loaded into the cache. When the file is no longer needed, it is left in the cache for quick access in the future. This is normal, and causes the cache to slowly fill up the longer a device is used. When the cache is completely full, PalmOS "flushes" it of any unused (unlocked) files to make space for new files.

* **NOTE:** Immediately after a normal system reset, PalmOS calls every app to notify it of the reset. This fills the DBCache with a copy of every app in memory.

The NVFS graph shows the total amount of memory in the DBCache, as well as how many files are stored or locked within it. Use this graph to watch for two potential problems:

DBCache-Flush Crashes

When the DBCache fills up and is flushed by PalmOS, any unlocked applications and data are copied back to flash memory and removed from the cache. This is not usually a problem, but can trigger crashes when running background applications that have not been properly updated to be NVFS-compatible.

Often, these problems occur with popup programs, drivers, or other apps with "background" functionality—that is—they can do something even when you are inside another app. If these apps do not properly lock themselves down, you will get random crashes that coincide with the DBCache filling up or when doing large data operations (such as backups) in other programs.

If your device occasionally crashes, watch the NVFS graph to see if the crashes coincide with the DBCache getting full. If so, you may have a background app that does not properly lock itself down. Try turning "off" or removing any suspect apps to fix the problem. If you find an incompatible app, look for an updated version or try using the TealScan "lock applications" tool to try to fix the problem. You can use the *BG Process* button (below) to identify background apps.

Locked-Record Crashes

A similar problem can occur when a buggy application leaves files locked after it is done with them. When this happens, the cache fills up with locked records, and PalmOS slowly runs out of usable space.

If your device occasionally crashes, watch the total percentage of locked memory displayed on the NVFS graph. This number should be relatively small (typically a few percent) and should not continually increase with normal use. Typically, it should only increase when enabling a feature in a program that needs to run "in the background" and it should go back to its previous value when disabling that feature.

If the locked memory percentage goes up significantly and unexpectedly after running a program, that program may have a bug that needs to be fixed.

Signal

Displays the current phone or wi-fi signal level, if applicable. The voicemail message count may also be displayed on phones that support querying voicemail through PalmOS.

Information Buttons

Select the following buttons for a detailed report: reports may be copied to a new memo or printed if *TealPrint* is installed.

System Info

System Information

Manuf.: Handspring
Model: Centro
CPU: Intel

PalmOS: v. 5.4.9 (5.49R121)
HotSync ID: (none)
Serial ID: SERIALNUMBER
Free RAM: 60.8M / 63.8M
Battery: 3.92V (45%)
                     warn: 3.80 crit: 3.75

[OK] [Copy to Memo] [Print]

Displays miscellaneous information about the current device, processor, operating system, and user profile.

Storage Info

Storage Information

Type: Non-Volatile (NVFS 2)

Heap Address: $030B0110
Heap Space: $017FFEF0

Total: 24527k
Free: 22573k (92%)
Used: 1955k in 3384 chunks
Largest: 30416
Locked: 350k in 71 chunks

[OK] [Copy to Memo] [Print]

Displays information about the memory storage heap used to store files.   On devices with non-volatile memory, the storage heap is the temporary storage area known as the DBCache. On older devices, the storage heap is the actual dynamic RAM used to store all files.

BG Processes

BG Process Information

29) Ddsc   TelephonyInterfac...
                   (Callback)
30) DmTx   (Callback)
31) ExAs   PopSAM
32) ExAs   Interceptor
33) ExAs   AirSAM
34) HsBB   Contacts-PAdd
35) HsMS   Nexter
36) HsTL   Transparency-Hs...
                   (Callback)
37) HsTV   BtDunMgrLib

[OK] [Copy to Memo] [Print]

Displays information about all applications and system components registered for background notifications.

PalmOS normally runs only one application at a time. Under PalmOS 5, applications (popup programs, drivers, hacks, etc) that need to run code while another application is active must register for system notifications that launch the app in response to user input or special system events.

The background process list shows a list of active notifications and the apps that registered for them, if known. Notifications are listed by their 4-letter notification ID, which specifies the type of event that triggers the application launch. Notification IDs can include standard PalmOS events (see Appendix A) or those defined by third party applications.

NOTE: When the text "(Callback)" is listed next to a notification, it means that the app is called using a direct function pointer. This means PalmOS will not look for apps before launching them but will instead use a fixed memory address. This is important because apps using this notification method improperly can cause crashes if they aren't locked properly. See the next chapter for ways to detect and fix this problem.

Chapter 3 – Scan Screen

The TealScan *Scan Screen* contains tools to detect and fix common problems caused by corrupted data or unstable applications.

Finding Issues

To run scans, highlight the operations you wish to perform and select "Scan for Issues" to start a scan. A list of files with potential issues will be shown.

Fixing Issues

To fix or view more information on a particular file, highlight it and select *Info*. Select *Fix* on the following screen to attempt to repair the problem.

To automatically fix all issues of a particular type, highlight the bolded header for that issue type and select *Info*. Choose *Fix All* to fix all issues without individual confirmation for each file. **(New in 1.10)**

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Scan Operations

Corrupted Contacts

Scans the contacts database for entries that have been truncated or are followed by extra invalid data blocks (called "blobs"). These corrupted entries can cause data corruption or crashes when HotSyncing or running applications that use contact data.

Corrupted Memos

Scans the memos database for entries that are missing a null terminator. These corrupted entries can cause data corruption or crashes when HotSyncing or running applications that display or import memos. **(New in 1.10)**

Empty PIM records

Scans the PIM (calendar, contacts, tasks, and memos) databases for empty deleted records. Empty records contain no data and can be created by low memory conditions, bugs, or aborting newly-created records.

Left alone, empty records are mostly harmless but can cause card backup operations to fail because the PalmOS card database format does not support zero-size records. If any are found, select *Fix* to remove all zero-size records from the indicated database.

Unarchived PIM records

Scans the PIM (calendar, contacts, tasks, and memos) databases for records that have been marked for deletion but mistakenly have not also been marked for archival.

When a PIM record is deleted using the standard PIM applications, a copy is temporarily kept around for the next HotSync if the option to "archive" that record is selected. Normally, the saved copies are marked as both "deleted" and "dirty" (to be archived)., but sometimes the second flag does not get properly set.

When this happens these, records can cause the PalmOS Datamanager Patch to reportedly crash on earlier NVFS devices.

Since the Datamanager Patch is used by PalmOS to emulate the older PIM database format, removing these "deleted" records can sometimes fix crashes that occur when running third party PIM apps. To do this, select *Fix* if any unarchived records are found.

Duplicate PIM records

Scans the PIM (calendar, contacts, tasks, and memos) databases for duplicate records. These "dupe" records are usually caused by problems or bugs encountered during synchronization with Outlook or Palm Desktop. Select *Fix* to delete one of every duplicated pair.

Unprotected background apps

Scans for background apps that have registered for notifications using a direct callback pointer but have not protected their application database file. This is usually an indication of an app that is not compatible with non-volatile memory, and is a common cause of seemingly random crashes on devices running NVFS version 2 (PalmOS 5.49 or higher).

Select *Fix* to add the listed app to the list of TealScan *Locked Applications*, accessible under the *Tools Screen*.

Unlocked background resources

Scans for background apps that have registered for notifications using a direct callback pointer but have no locked code resources. This is usually an indication of an app that is not compatible with non-volatile memory, and is a common cause of seemingly random crashes on devices running any version of NVFS.

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Select *Fix* to add the listed app to the list of TealScan *Locked Applications*, accessible under the *Tools Screen*.

Chapter 4 – Maintain Screen

The TealScan **Maintain Screen** contains tools to find and optionally clean temporary and unused data off your handheld. Use it to free space and speed up your device. It also features a special tool to monitor and protect the *Saved Preferences* database, and a menu item to restore previously deleted files and settings.

Finding Cleanable Data

Highlight the tools you want to run and select "Run Selected Tasks" to scan for cleanable data.

Cleaning Data

Highlight an item and select "Info" to view more information about a result and optionally clean it.

To automatically clean all files/preferences of a particular type, highlight the bolded header for that issue type and select *Info*. Choose *Delete All* to fix all issues without individual confirmation for each file. **(New in 1.10)**

Maintain Operations

Clean Temporary Files

Scans memory for known temporary files, such as those created by aborted beaming attempts or the Nutshell application installer. Temporary files are usually safe to delete.

Clean Cache Files

Scans memory for known cache files, such as those created by web browsers or email applications. Cache files are designed to increase application speed and are usually safe to delete. However, they may contain data—such as cached web pages—that will have to be regenerated or reloaded the next time they are needed.

Clean a68k Shadow Files

On devices running PalmOS5 without NVFS, this tool finds the special 'a68k' files that PalmOS creates every time a new application is run. These helper files can be safely deleted to temporarily free memory, but they'll quickly be regenerated each time a new app is run.

Clean Orphan Preferences

PalmOS maintains a shared database called *Saved Preferences* that is used by applications to store settings and other information. Properly written applications store their data using the same 4-letter Creator-ID used by the application. PalmOS uses this ID to match up the preference entries with applications so it knows to delete them when the application is removed from the handheld.

Orphan Preference Entries are settings that cannot be positively linked to any apps or libraries on the device or SD card. They can indicate either left over data from old applications or data that is currently being used but from poorly written apps that use the wrong Creator-ID value for them.

If unused *Orphan Preference Entries* are allowed to accumulate, they can take up precious space and slow down your device. To prevent this from happening, run this tool

with a current copy of the *TealScan App Database*. TealScan will use the database to automatically recognize and filter out orphans known to be linked to apps on your handheld. What's left will be a list of *Orphan Preferences* that may be candidates for removal.

For each entry in the list, TealScan will use its database to identify which application created them, if possible.

To be safe, you should leave any preference entries that come up as "unknown." You can safely delete them only if

      1)   TealScan can identify the app that created it, and
      2)   You recognize this app as one you no longer need.

If you decide to be more aggressive in your trimming and mistakenly delete an entry, you can use the "Restore Cleaned Data" menu (below) to restore the preference entry.

HINT: An application's preference entries are only removed if it is deleted using the Palm application launcher. If it is deleted using a file manager or other program, the entries can be left as orphans. Applications run from an SD card can also leave orphans, as entries created by card-based apps are never deleted. Finally, applications that use the wrong Creator-ID for their settings will always leave orphan entries behind because PalmOS will think they belong to another app.

Clean Orphan Data Files

Orphan Data Files are files that cannot be linked to any apps or libraries on the device or SD card.   Like *Orphan Preference* entries, they can be left over from previously run applications or be the result of apps that are poorly designed and use the wrong Creator-ID for its files. You handle orphan data files in a similar way.

If unused *Orphan Data Files* are allowed to accumulate, they can take up precious space and slow down your device. To prevent this from happening, run this tool with a current copy of the *TealScan App Database*. TealScan will use the database to automatically recognize and filter out orphans link to apps on your handheld. What's left will be a list of orphan preferences that may be candidates for removal.

For each entry in the list, TealScan will use its database to identify which application created them, if possible. To be safe, you should leave any preference entries that come up as "unknown." You can safely delete them only if

> 1) TealScan can identify the app that created it, or
> 2) You recognize the associated app by filename, and
> 3) You recognize this app as one you no longer need

If you decide to be more aggressive in your trimming and mistakenly delete an entry, you can use the "Restore Cleaned Data" menu (below) to restore the file.

NOTE: Some applications purposely use a different Creator-ID for their data files, intending them to be used by multiple apps. If they are recognized by the TealScan database as a "shared" file, they will appear instead as a *Shared Data File* (below).

HINT: An application's data files are only removed if it is deleted using the Palm application launcher. If the app is deleted using a file manager or other program, the data files can be left behind. Applications run from an SD card will also leave orphans after the app is deleted. Lastly, applications that use the wrong Creator-ID for their data files will always leave orphans behind no matter how they are deleted.

Clean Shared Data Files

Shared Data Files are potential orphans that use a format known to be used by more than one app. For instance, icon formats linked to one app are sometimes adopted by other apps, even though the original app may or may not be present.

Common *Shared Data Files* include:

- Icons
- Fonts
- Maps
- Pictures
- Videos
- Sounds
- Documents
- Shared Code Libraries

Select the *Info* button to get more information on a shared data file and its typical use. If you are sure you do not need it, you can delete it.

Special Operations

Monitor and Auto-Restore Saved Preferences Database

On devices with non-volatile memory—and the PalmTX in particular—a common system problem can occur after a crash or system reset. Sometimes, for no explained reason, entries disappear from the *Saved Preferences* database. When this happens, applications to lose settings or forget that they've been registered.

When *Monitor and Auto-Restore Saved Preferences Database* is enabled, TealScan will monitor the Saved Preferences database and update a private backup copy whenever you switch applications.
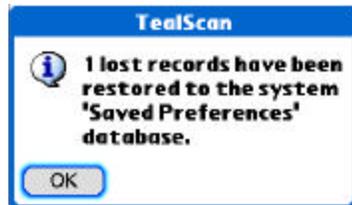
Later, when the handheld is reset, TealScan will check for lost entries. If any are found, TealScan will pop-up an information message and restore the entries from its backup copy.

When this option is enabled, TealScan will also monitor any new preferences created by applications. If any orphan entries are created, TealScan will record this info and use it in future maintenance scans.

Restore Cleaned Data

Accessible from the main drop down menu, select this option to restore any data files or preference entries deleted during maintenance. You can select any files or preferences previously backed up to your SD card if the *Backup cleaned data to external card* Preference option was active at the time.

Chapter 5 – Tools Screen

The TealScan *Tools Screen* contains the following useful tools. Select a tool and press "Run Tool" to start the selected function.

Tools

Check for software updates
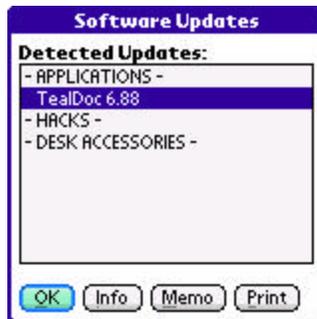
Use this tool to scan the *TealScan App Database* for any newer versions of installed applications.
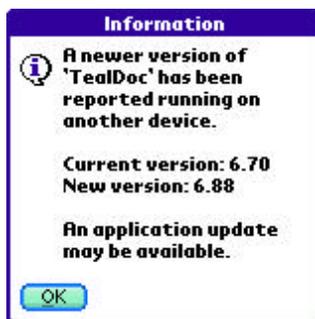
The database is updated based on data automatically uploaded from other customers. If a potential update is detected, it means that another TealScan user is running a newer version of an app on your device.

Clean for system version updates

Use this tool to check for system updates for your device. This tool only detects higher PalmOS version numbers running on your model handheld, and does differentiate between different phone variants created for cellular carriers.

Lock/unlock apps in memory
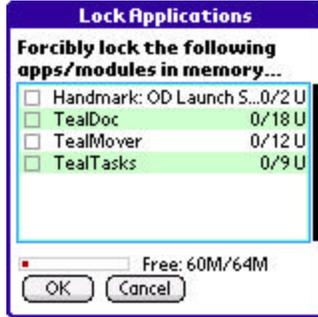
On devices with non-volatile memory, "mysterious" crashes often come apps that launch background processes without properly locking themselves down in memory.

Use this tool to manually lock suspect apps and fix any that may be unstable due to this problem. A list of all write-enabled apps will be shown, along with the number of locked code resources, total code resources, and whether the database file is protected (P) or not (U).

Adding an app on the locked applications list automatically protects the application database file and locks any application code resources.

NOTE: If you manually lock an app, you may later need to unlock it before updating or deleting it.

Replace contact area codes

Use this tool to change the area code of multiple contacts. Enter a 3-digit number to find and a new number to replace it with. If any matches are found, you can choose to replace it, leave it alone, or replace all matches in one step.

Selectively delete appointments
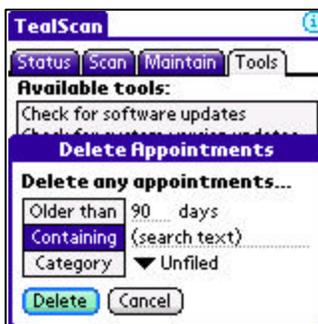
Use this tool to selectively delete multiple calendar appointments by end date (if specified), by text contained in the appointment itself, or by category (as supported in newer devices).

Selectively delete contacts

Use this tool to selectively delete multiple contacts based on category or text they contain.

Selectively delete memos

Use this tool to selectively delete multiple memos based on minimum size, maximum size, category, or on text contained within the memo itself.

Selectively delete tasks

Use this tool to selectively delete task entries based on due date (if specified) or by text contained in the task name.

Set application stack space

Use this tool to set the stack space requested by any write-enabled apps in main memory.

Under PalmOS, the current foreground program (typically the last app launched by icon) sets the current application stack size. This is a special block of memory used to store temporary variables and other information.

Popup utilities, text recognizers, security apps, phone drivers, and other background programs (any code that runs while inside another app) have to share whatever stack space is left over by the current foreground app. If the stack space runs out, the handheld will typically crash.
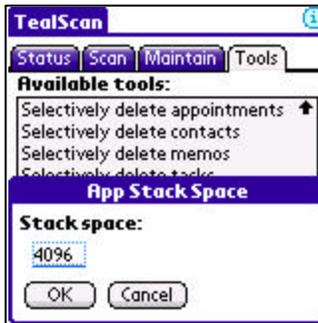
Because of this, it's important for all foreground applications to request more stack space than they need themselves, and for all background apps to use as little stack space as possible for maximum compatibility and stability. If an app does not request enough stack space, it may run fine by itself, but may trigger crashes or other problems when certain background apps are enabled.

If a particular foreground app becomes unstable when certain background apps are enabled, that foreground app may need its stack space boosted. Select it from the list of apps and choose *Change* to set a new stack size. The default system stack size is 4k (4096 bytes), so boosting the stack by 2000 bytes or so is usually effective if fixing stack-related problems.

Write new apps info to CSV

Use this tool to help keep the *TealScan Online App Database* up to date. It scans your device, recording any applications or program versions that are not found in the current database. It summarizes them in a CSV-format text file that it writes to your SD card.

To help, first download the latest *TealScan App Database*. Then run this tool and submit the file generated to TealPoint Online Support, who can incorporate its information into the online database.

Write heap info to Memo

This tool will write out information about the current storage heap header to a new memo. This tool is used primarily for internal debugging purposes, and should normally be run only if requested by TealPoint Online Support.

Updating the TealScan App Database
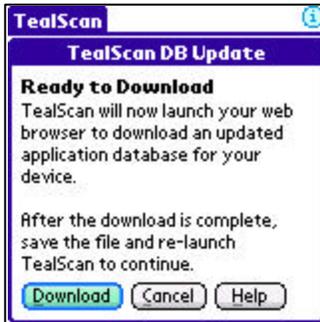
On handhelds with Internet access, select **Update TealScan Database** to download the most recent copy of the *TealScan App Database*. TealScan will launch the registered PalmOS web browser to download a new copy of the file.

Recommendations

The *TealScan App Database* is used by TealScan to:

- Detect current application versions and potential available updates
- Detect current PalmOS versions and potential available updates
- Match Creator-IDs to known files and applications
- Link orphan data files and preference entries to associated apps
- Identify known shared file types

An online copy of the *TealScan App Database* is constantly updated. Before performing maintenance and update operations, we recommend downloading a current copy of the database.

Manual Download

Alternatively, you can manually download the database from a PC or handheld web browser at: http://www.tealpoint.com/cgi-bin/tealscan/tealscanupdate.cgi/appdb.pdb

How the Database is Updated

TealScan users automatically keep the *TealScan App Database* up-to-date when they download it. The name, version, and Creator-ID of one or two apps on your handheld are anonymously uploaded as part of the download URL. Unlike other applications, our approach keeps the database free from errors associated with manual submissions, and allows to TealScan to detect application updates for any app no matter where the programs are distributed.

When downloading the database, the URL can get quite long, which occasionally causes problems with buggy web browsers. When this happens, turn on the *Use alternate download link* option in TealScan Preferences, which omits the update information and uses just the base URL above.

Chapter 6 – Settings and Options

The following options are available on the TealScan *Preferences* and *Custom Card Folders* menus.

Preference Options

Warn if TealScan database if older than xx days

When enabled, this option warns if the *TealScan App Database* needs updating before starting a scanning, maintenance, or update operation that uses the database.

Backup cleaned data to external card

When deleting files or preferences during a maintenance scan, turn on this option to backup all removed settings and files to an inserted SD card. Files will be written to the \PALM\TealScan\ folder, and can be restored using the *Restore Cleaned Data* menu.

Use alternate download link to work around buggy web browsers

Enable this option for web browsers that cannot handle the long download URL used to download the database. This option uses an alternate short URL that does not share information to help update the online database.

Browser

Use this option to force TealScan to use a specified application to download an updated database. The selected application must be a browser that supports the system *sysAppLaunchCmdGoToURL* launch code. **(New in 1.10)**

Signal Display

Use this option to switch the TealScan signal display from WiFi to Phone signal level, or to disable it altogether. By default, TealScan will search for a Phone signal and will display the WiFi level if no phone hardware is found. **(New in 1.10)**

On some devices, the PalmOS telephony library can take a few seconds to respond if no phone is attached. Use this option to turn off the phone scan if this occurs.

Fancy system fonts

This option enables stylish "thinline" fonts for the program interface and menus. Set this value to "All" to always use the new fonts, "None" to use standard PalmOS fonts, or "Auto" to use new fonts in everything except on-screen buttons.

Custom Card Folders

The PalmOS application launcher stores card-based files in the folder \PALM\Launcher\. By default, TealScan searches this folder for applications when trying to identify orphan data or software updates.

Some third party launchers, like *TealDesktop*, support storing apps in any folder on SD cards. When using one of these launchers, you can use the *Custom Card Folder Screen* to tell TealScan to search other folders for apps.

Appendix A – Standard BG Notifications

The following background notifications are defined and used by PalmOS, and are listed on the Background Process Info (BG Proc) screen:

'hots'	HotSync has started
'sync'	HotSync has finished
'tena'	The antenna has been raised (Palm VII only)
'rstf'	System reset is complete
'bozo'	A user has pressed 'Forgotten Password' button in Security
'ssch'	The system security state has changed
'time'	The current time has been changed
'slpq'	The device wants to go to sleep
'slp!'	The device is going to sleep
'worm'	The device is starting to power up
'lazy'	The device has finished powered up and the screen is on
'scrd'	The screen has changed color depth/format
'cbar'	The menu command bar is being requested
'cncp'	The Connection Panel settings have changed
'ecna'	Something has been plugged into the external connector
'ecnd'	Something has been unplugged from the external connector
'crdi'	An external card has been inserted
'crdo'	An external card has been ejected
'volm'	A new card volume is now available (mounted)
'volu'	A card volume is no longer available (unmounted)
hlpr'	A command is being sent to the Phone App

'pose'   PalmOS Internal use only

'locc'   The system locale (language) has changed

'retk'   The key buffer is full and a key was lost

'attn'   Alert user of something using attention manager

'dbs-'   A database has been deleted

'dbcr'   A database has been created

'dbmn'   A database has had properties changed

'dbdr'   A database has been opened for write

'unlk'   The device has been unlocked

'fone'   A command is being sent to the phone app or an external phone

'neti'   The network manager is calling registered applications

'-pdb'   A protected database is about to be removed

'irda'   An incoming IrDA frame is detected

'hpps'   A stroke has been made in the graffiti area

'hvch'   A virtual character stroke has been generated

'hede'   A system input event has been dequeued

'hidl'   The system is about to go to sleep from inactivity

'hapl'   A foreground application is about to launch

'hapq'   A foreground application has quit

'hipe'   The insertion point has been enabled in a text field

'hkbd'   The system keyboard dialog has been requested

'scrs'   The screen size has changed

'iaad'   The text input area is about to be drawn

'iapd'   The pen has been tapped in the text input area

'seld'   The current day has been changed

'gsid'   The input shift indicator is about to be drawn

Appendix B – Revision History

Version 1.10 – June 4, 2008

- Added option to "fix all" or "delete all" entries of a single type in scan operation by selecting "info" for the type's scan header
- Added new scan tool to search memo database for and optionally fix unterminated (corrupted) memos
- Added workaround for bug in TX to re-enable full screen mode icon in landscape mode after system mistakenly disables it
- Added ability/preference option to manually select an alternate web browser
- Added support for automatically exempting applications from unlocked/unprotected warnings due to unusual system hookup methods (e.g. TakePhone) if so listed in the online database
- Fixed to keep PalmOS from locking virtual grafitti area (DIA) open after rotating display

Version 1.00 – February 26, 2008

- Initial application release

Appendix C – Contact Info

TealScan by TealPoint Software
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TealPoint Software
454 Las Gallinas Ave #318
San Rafael, CA 94903-3618
We look forward to hearing from you.

Please visit us at www.tealpoint.com, or email us at contact@tealpoint.com.

Appendix D – Registering

Registering allows you to use the program past the 30 day expiration period and turns off registration reminders.

Currently, you may register by snail mail or online with a credit card and a secured server from the store where you downloaded the software. For the first option, send the following information on a sheet of paper separate from your payment.

- Product Name
- E-Mail Address (write clearly)
- HotSync User ID (Pilot Name Required for Passkey generation. It can be found on the main screen of the HotSync application on the Pilot as "Welcome _____" or in the corner on a PalmIII or higher)
- Check (drawn off a US Bank) or Money Order for ($19.95 US). No international checks or money orders please.

Appendix E – Products

Visit us online for our complete product line, including:

SHORTCIRCUIT (http://www.tealpoint.com/softshrt.htm)
A new twist on gameplay fused from your all time action puzzle favorite games, connect falling conduit pieces into explosive loops in this frantic race against the clock.

SUDOKUADDICT (http://www.tealpoint.com/softsudo.htm)
Sudoku Addict brings to your handheld the addictive worldwide puzzle craze that has displaced crossword puzzles in many newspapers in Great Britain and Japan.

TEALAGENT (http://www.tealpoint.com/softagnt.htm)
Get news, movie times, stock quotes, driving directions, web pages and more without need for a wireless connection. TealAgent fetches and formats web-based content for offline viewing.

TEALALIAS (http://www.tealpoint.com/softalia.htm)
Free up memory and make the most of external expansion cards. Placeholder 'Alias' shortcut files automatically find, load, and launch apps and data from external SD cards, increasing free main memory.

TEALAUTO (http://www.tealpoint.com/softauto.htm)
Track and graph automobile mileage, service, and expenses with TealAuto, the complete log book for your car or any vehicle. Extensive customization options and unmatched in features and functionality.

TEALBACKUP (http://www.tealpoint.com/softback.htm)
Backup your valuable data with TealBackup, supporting manual and automatic backups to SD/MMC/CF cards and Memory Stick, backups through HotSync, and optional compression and encryption.

TEALDESKTOP (http://www.tealpoint.com/softdesk.htm)
Launch applications with TealDesktop, the themed replacement for the standard system launcher screen with tabs, multiple card folders, drag and drop, and more

TEALDIET (http://www.tealpoint.com/softdiet.htm)
Shape up your life with TealDiet, the diet, exercise, and personal tracking application for mobile devices. Lose weight, build more muscle, and live healthier with TealDiet.

TEALDOC (http://www.tealpoint.com/softdoc.htm)
Read, edit, and browse documents, Doc files, eBooks and text files with TealDoc, the enhanced doc reader. Extensive display and customization options; TealDoc is unmatched in features and usability.

TEALECHO (http://www.tealpoint.com/softecho.htm)
Improve your Graffiti text input speed and accuracy, seeing what you write with TealEcho digital "ink". No more writing blind!

TEALGLANCE (http://www.tealpoint.com/softglnc.htm)
See the time, date, upcoming appointments and todo items at power-up with TealGlance. The TealGlance pop-up utility and key guard comes up when you power up, letting you see your day "at a glance."

TEALINFO (http://www.tealpoint.com/softinfo.htm)
Lookup postal rates, area codes, tip tables, schedules, airports, and info from hundreds of free TealInfo databases. Create you own mini-apps; a handheld reference library.

TEALLAUNCH (http://www.tealpoint.com/softlnch.htm)
Launch applications instantly with the TealLaunch pop-up launcher and button/stroke-mapping utility. Map applications to button presses and pen swipes so you can get to your apps quickly.

TEALLOCK (http://www.tealpoint.com/softlock.htm)
Secure and protect your handheld with TealLock, the automatic locking program with encryption and card support. TealLock has unmatched features and customization options for personal or corporate use.

TEALMAGNIFY (http://www.tealpoint.com/softlens.htm)
Save your eyesight with TealMagnify, an ever-ready magnifying glass that works with most any program. TealMagnify lets you enlarge the screen for those times the text is too small to read.

TEALMASTER (http://www.tealpoint.com/softmstr.htm)
Replace Hackmaster with TealMaster, the supercharged 100%-compatible system extensions manager. TealMaster adds enhanced stability, configuration and diagnostic features and PalmOS 5.0 hack emulation.

TEALMEAL (http://www.tealpoint.com/softmeal.htm)
Save and recall your favorite restaurants with TealMeal, the personal restaurant database. With TealMeal's handy sorting and selection options, never ask "where to eat" again.

TEALMEMBRAIN (http://www.tealpoint.com/softmemb.htm)
Stop crashes and monitor your memory use with TealMemBrain, the application stack stabilizer. TealMemBrain boosts your stack space on OS3 and OS4 handhelds, eliminating causes of system instability.

TEALMOVER (http://www.tealpoint.com/softmovr.htm)
Beam, delete, rename, and copy files with TealMover, the file management utility for SD/CF/MS cards. TealMover lets you see, move, modify, hex edit, and delete individual files.

TEALMOVIE (http://www.tealpoint.com/softmovi.htm)
Play and convert high-quality video and synchronized sound with the TealMovie multimedia system. TealMovie includes a handheld audio/movie player and a Windows AVI/MPEG/Quicktime converter program.

TEALNOTES (http://www.tealpoint.com/softnote.htm)
Insert freehand graphics anywhere with TealNotes "sticky notes" for Palm OS. TealNotes can be inserted into memos, to-do lists, address book entries--almost anywhere you currently have editable text.

TEALPAINT (http://www.tealpoint.com/softpnt.htm)
Paint, sketch, or draw with TealPaint, the all-in-one mobile graphics paint program and photo editor. Highlights include 25 tools, 32 patterns, 49 brushes, zoom, layers, undo, & JPEG/GIF/BMP support.

TEALPHONE (http://www.tealpoint.com/softphon.htm)
Supercharge the address book with TealPhone, the contacts replacement with superior interface
and options. Highlights include enhanced display, search, phone-dialing, groups, and linking.

TEALPRINT (http://www.tealpoint.com/softprnt.htm)
Print text and graphics to IR, serial, and Windows printers with TealPrint. With numerous
connection options, TealPrint, is the all-in-one text and graphic printing solution.

TEALSAFE (http://www.tealpoint.com/softsafe.htm)
Store your passwords, credit cards, PIN numbers, and bank accounts in the TealSafe data wallet.
With maximum security and encryption, TealSafe is a must for features and security.

TEALSCAN (http://www.tealpoint.com/softscan.htm)
Keep your device stable, up-to-date, and running smoothly with TealScan, the comprehensive
system utility for PalmOS handhelds

TEALSCRIPT (http://www.tealpoint.com/softscrp.htm)
TealScript adds Graffiti text input to Treo and Centro smart phones. For devices that already
support Graffiti, TealScript adds a trainable system that supports both multi-stroke and Graffiti-1.

TEALTRACKER (http://www.tealpoint.com/softtrac.htm)
Track time and expenses with a fast, easy to use interface that requires minimal effort. Generate
reports and export data to a spreadsheet. TealTracker is your personal time clock.

TEALTOOLS (http://www.tealpoint.com/softtool.htm)
Improve productivity with TealTools pop-up Palm Desk Accessories. TealTools includes a popup
calculator, clock/stopwatch, preferences panel, editing panel, memopad, and a file/backup
manager.

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