



HP Software Transition Kit (STK)

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Agenda



- STK Overview
- abiscanner Overview
- Q&A

What is STK?

The STK is a collection of **documentation** and **tools**, linked using hypertext, web-based technology to help developers get their software ported/transitioned from one version of:

HP-UX to a newer version of HP-UX

It helps developers with questions such as:

- Do I want a 32-bit or 64-bit version of my software?
- Can I qualify my software (for example, run a 10.x executable on HP-UX 11.x) or do I need to port (create a new HP-UX executable on my destination platform)?
- How can I transition my software to Itanium Processor Family (IPF), the new Intel and HP architecture?
- What new features does the latest HP-UX release offer, and how can I take advantage of them?

STK Users



STK Users:

1. General software developers looking at HP-UX
2. HP partner developers porting to HP-UX
3. HP technical resources working with partners
4. HP consultants working with HP-UX and new systems
5. HP internal developers

STK Coverage

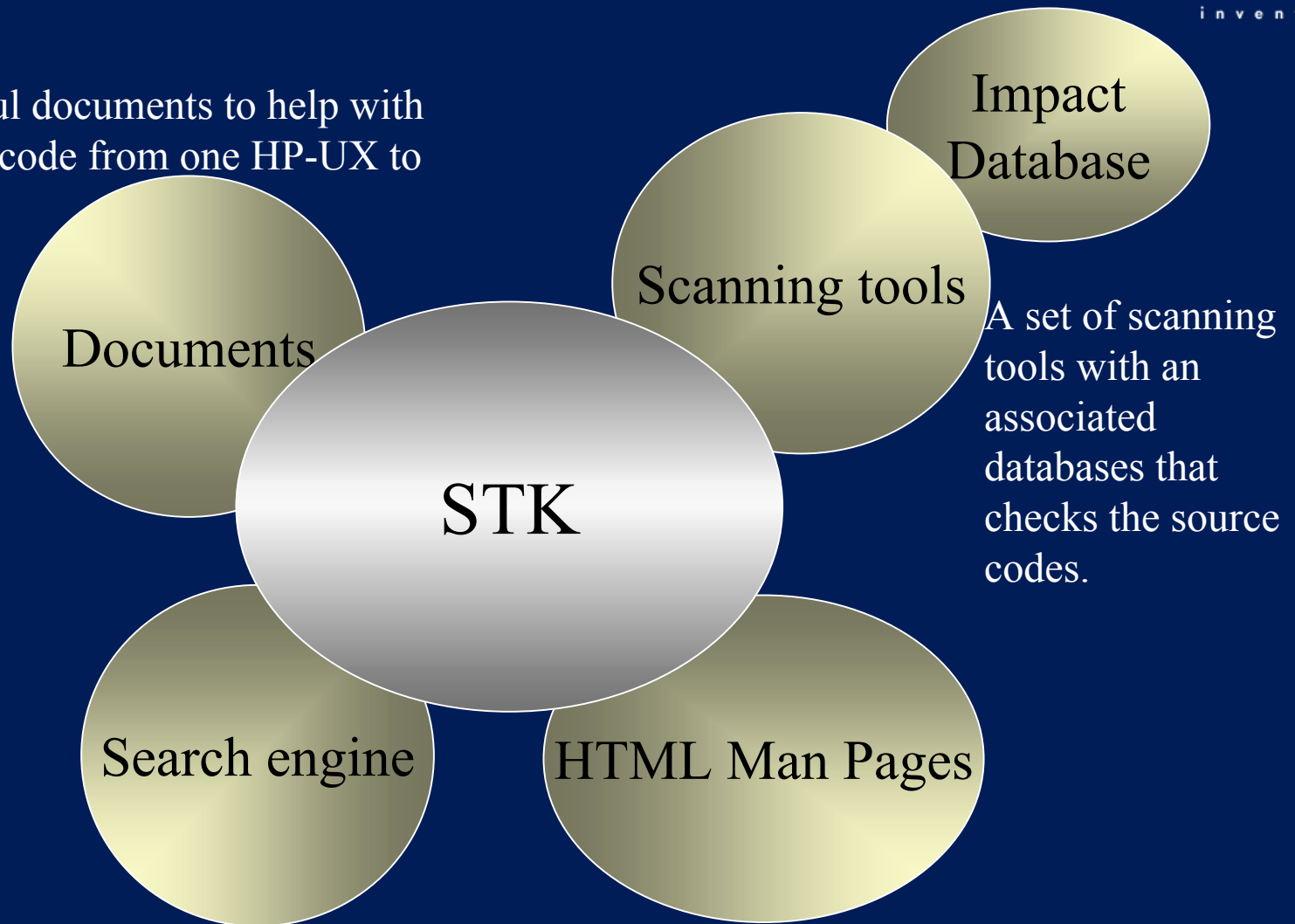


1. HP-UX to HP-UX transitions
 - A. HP-UX 10.x to 11.0
 - B. HP-UX 11.0 to 11i
 - C. HP-UX 11i to 11i v1.5
 - D. HP-UX 11i v1.5 to HP-UX 11i v1.6
 - E. HP-UX 11i v1.6 to HP-UX v2.0.

What does STK contain?



A set of useful documents to help with transitioning code from one HP-UX to another.



A search engine which searches the man pages, impact pages and documents.

HTML-ized man pages or links to HTML-ized man pages on docs.hp.com.

STK Documentation

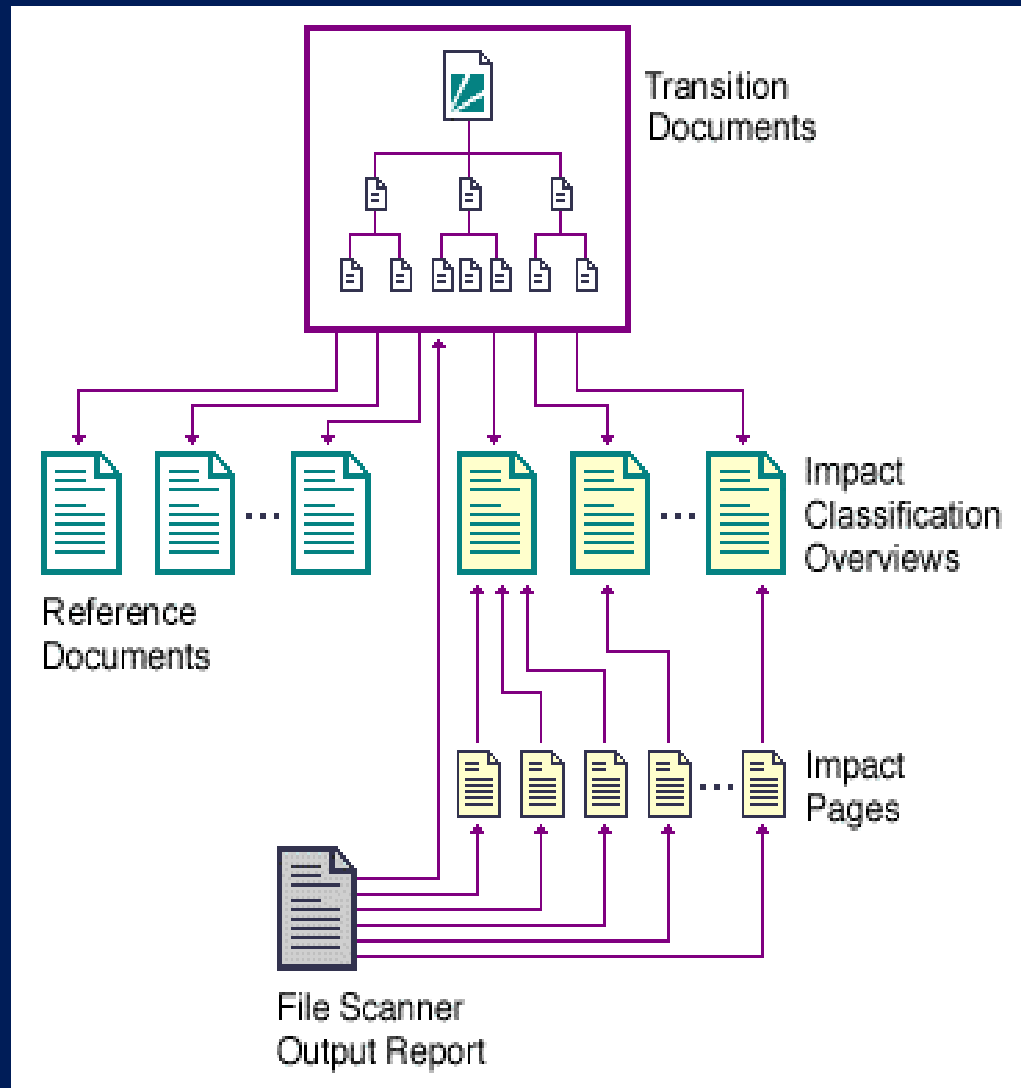


STK Documents

Mostly HTML based documents:

- Transition documents
- Reference documents
- Impact classification overview
- Impact pages
- File Scanner output report
- Partner documents

Also available in Japanese



Transition Documents



Describe procedures people should use to investigate, plan and perform the transition of their software:

- ✓ Source code transition
- ✓ Qualifying source code
- ✓ Porting to HP-UX destination platform
- ✓ How to update systems
- ✓ Using the filescanner tools
- ✓ Transitioning C programs to the 64 bit model
- ✓ HP-UX 64-bit compiler and linker changes
- ✓ HP-UX 64 bit porting concepts
- ✓ Understanding impacts

Reference Documents



A library of useful reference documents

64 -bit computing

ANSI C++ programming language

assembly language

binary compatibility

C programming language

COBOL programming language

file systems

Fortran programming language

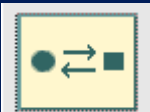
HP -UX operating system

internationalization

Impact Documents



Describe the API impacts that can occur in transitioning source code to the next version of HP-UX



32 - 64 bit interoperability impacts summary



64 - bit API impacts summary



binary compatibility impacts summary



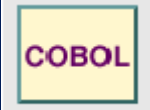
date impacts summary



HP aC++ and C compiler impacts summary



HP Fortran compiler impacts summary



HP Micro Focus COBOL 4.x compiler impacts summary



IPF architecture impacts summary

STK File Scanner



scansummary

- helps investigate or plan a transition
- reports **number and types** of API transition impacts in source files

scandetail

- helps perform a transition
- identifies **each instance** of an API transition impact in source files

STK File Scanner



Scan C, C++, Fortran, COBOL, scripts and
Makefiles

Scan for:

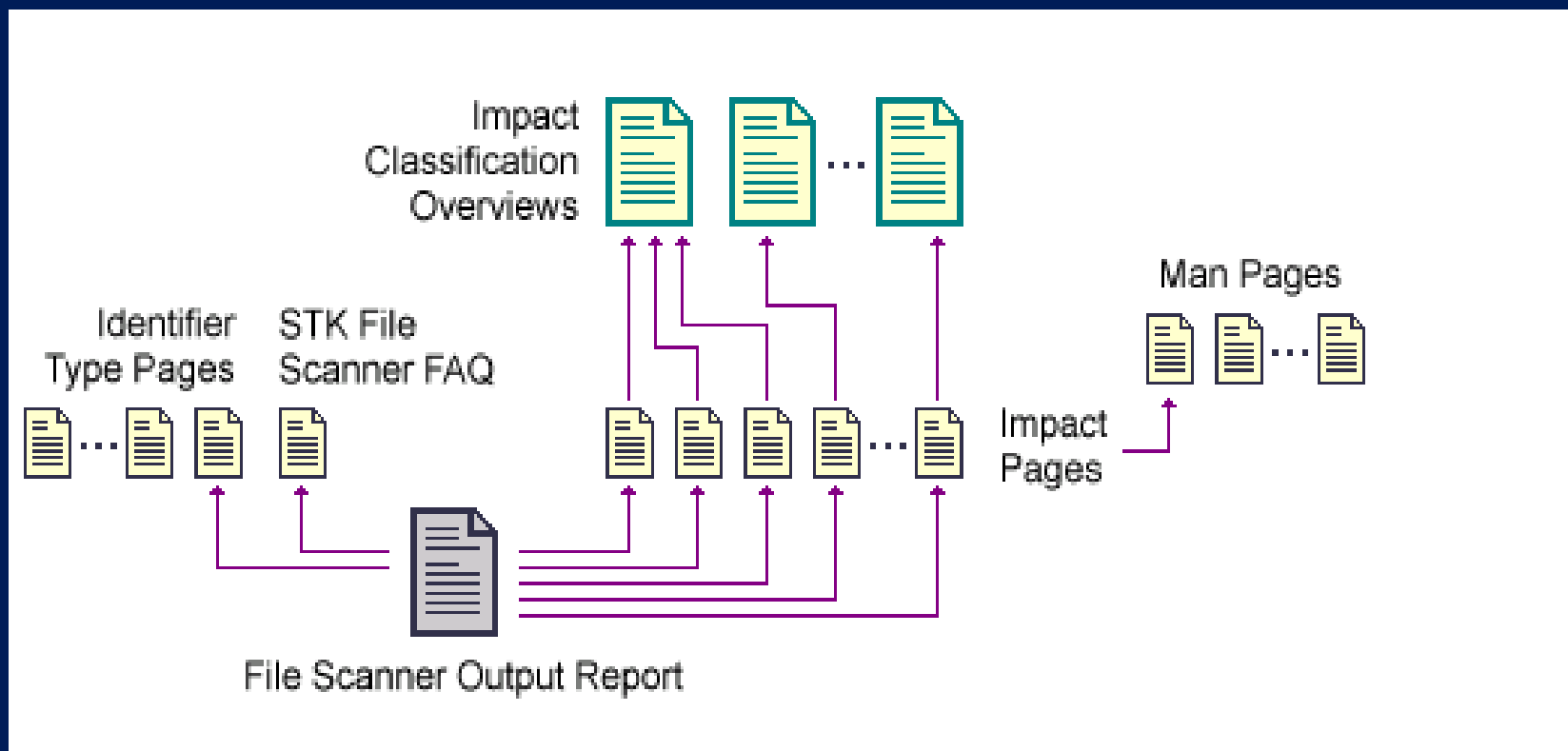
- functions
- commands
- macros
- structures and structure members
- header files
- language keywords
- libraries
- variables

Output formats

- html (default)
- text

STK File Scanner Report

The file scanners generate reports that provide links to detailed impact pages describing each impact and its solution. The impact pages in turn link to impact classification overviews and man reference pages, which provide additional background information.




Scansummary



sward's X desktop (rackem.zk3.dec.com:3)

Netscape: HP-UX STK 2.2 scansummary report

File Edit View Go Communicator Help



HP-UX STK 2.2
invent

Thu Mar 18 15:13:23 2004

[identifier type legend](#)
[options used](#)
[interpreting the output report](#)
[faq for scandetail and scansummary](#)

output format:

number of instances: (Identifier type) problem synopsis (synopsis ID)

28: **F** [printf - formatted I/O now converts IEEE infinity and NaN values \(NcWn222\)](#)
28: **F** [printf - 64-bit changes in formatted I/O \(CrCh447\)](#)
28: **F** [printf - floating hex support \(CrCh815\)](#)
19: **F** [strlen - new performance archive library \(NcEn669\)](#)
18: **F** [syslog - prototype has changed \(CrCh195\)](#)
12: **F** [strcpy - new performance archive library \(NcEn669\)](#)
11: **F** [strcmp - new performance archive library \(NcEn669\)](#)
10: **F** [malloc - new environment variables \(NcEn670\)](#)
10: **F** [malloc - new environment variables and defaults \(NcWn764\)](#)
9: **M** [sin_port - range of automatically assigned socket port numbers has changed \(NcWn547\)](#)
9: **S** [sockaddr_in - range of automatically assigned socket port numbers has changed \(NcWn547\)](#)
8: * **C** [file - new option prevents following symbolic links \(NcEn469\)](#)
7: * **C** [mail - not portable to some internationalized environments \(NcNs354\)](#)
6: **M** [pw_passwd - information may be incompatible with previous versions \(CrWn833\)](#)
6: **F** [time - may indicate code with a Year 2000 problem \(NcWn641\)](#)
5: * **C** [at - new option displays job contents \(NcEn463\)](#)
5: **F** [fatal - proprietary interfaces obsoleted \(CrOb418\)](#)
5: **F** [fprintf - formatted I/O now converts IEEE infinity and NaN values \(NcWn222\)](#)
5: **F** [fprintf - 64-bit changes in formatted I/O \(CrCh447\)](#)
5: **F** [setsockopt - X/Open Sockets parameters change type from size_t to socklen_t \(NcNs338\)](#)
5: **F** [setsockopt - function values bound by kernel values \(NcEn707\)](#)
5: **F** [signal - some behavior changes \(CrCh820\)](#)
5: **F** [sprintf - formatted I/O now converts IEEE infinity and NaN values \(NcWn222\)](#)
5: **F** [sprintf - new version eliminates risk of buffer overflow \(NcEn302\)](#)
5: **F** [sprintf - 64-bit changes in formatted I/O \(CrCh447\)](#)
5: **I** [time_t - may indicate code with a Year 2000 problem \(NcWn641\)](#)
4: **F** [ctime - may indicate code with a Year 2000 problem \(NcWn641\)](#)

100%

Scansummary +S CR



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Netscape: HP-UX STK 2.2 scansummary report

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[interpreting the output report](#)
[faq for scandetail and scansummary](#)

output format:

number of instances: (Identifier type) problem synopsis (synopsis ID)

28: [F] [printf - 64-bit changes in formatted I/O \(CrCh447\)](#)
28: [F] [printf - floating hex support \(CrCh815\)](#)
18: [F] [syslog - prototype has changed \(CrCh195\)](#)
6: [M] [pw_passwd - information may be incompatible with previous versions \(CrWn833\)](#)
5: [F] [fatal - proprietary interfaces obsoleted \(CrOb418\)](#)
5: [F] [fprintf - 64-bit changes in formatted I/O \(CrCh447\)](#)
5: [F] [signal - some behavior changes \(CrCh820\)](#)
5: [F] [sprintf - 64-bit changes in formatted I/O \(CrCh447\)](#)
4: [F] [index - proprietary interfaces obsoleted \(CrOb418\)](#)
4: * [E] [login - PAM authentication added to commands \(CrCh604\)](#)
4: * [E] [login - New libc APIs and some changes to HP-UX commands \(CrCh852\)](#)
3: [F] [any - proprietary interfaces obsoleted \(CrOb418\)](#)
3: * [E] [ftp - authentication now uses Kerberos V5-1.0 API \(CrCh537\)](#)
3: [F] [getpwnam - now support NIS+; avoid linking with libc.a \(CrCh549\)](#)
3: [F] [strend - proprietary interfaces obsoleted \(CrOb418\)](#)
2: [F] [getwd - removed; replacement available in libc \(CrCh419\)](#)
2: [H] [in.h - IPv4 addresses always 32 bits \(CrCh449\)](#)
2: [F] [vprintf - 64-bit changes in formatted I/O \(CrCh447\)](#)
1: * [A] [LIST - legacy HP-C compiler deprecated \(CrCh805\)](#)
1: [E] [cc - ANSI C is now default compilation mode \(CrCh240\)](#)
1: [E] [cc - enum now defaults to unsigned for 64-bit \(CrCh576\)](#)
1: [E] [cc - bit fields now default to unsigned for 64-bit \(CrCh577\)](#)
1: [E] [cc - 11.0 optimization builds may lose backward compatibility \(CrCh681\)](#)
1: [E] [cc - questionable coding practices cause compiler error \(CrCh773\)](#)
1: [E] [cc - floating point to integer conversion may produce different results \(CrCh776\)](#)
1: [E] [cc - mismatched old-style functions without prototypes will not work correctly \(CrCh788\)](#)
1: [E] [cc - Changes to HP aC++/C Itanium Processor Family \(IPF\) compiler, version A.05.50 \(CrCh886\)](#)
1: [F] [gethostbyaddr - now support NIS+; avoid linking with libc.a \(CrCh549\)](#)
1: [S] [in_addr - IPv4 addresses always 32 bits \(CrCh449\)](#)
1: * [F] [pop - proprietary interfaces obsoleted \(CrOb418\)](#)
1: [F] [rename - proprietary interfaces obsoleted \(CrOb418\)](#)
1: [F] [sigblock - not available in 64-bit version \(CrOb406\)](#)
1: [F] [sigsetmask - not available in 64-bit version \(CrOb406\)](#)
1: [F] [sscanf - 64-bit changes in formatted I/O \(CrCh447\)](#)
1: * [F] [username - proprietary interfaces obsoleted \(CrOb418\)](#)
1: [F] [vsprintf - 64-bit changes in formatted I/O \(CrCh447\)](#)

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Impact statement



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hp-ux 11.00 critical impact:
***printf(), *scanf() – 64-bit changes in formatted I/O (CrCh447)**



problem description

Using 32-bit integer format specifiers with 64-bit integers and pointers may cause your applications to fail. This is a problem only if you recompile your application for 64-bit mode.

identifiers

[F](#)fprintf [F](#)scanf [F](#)vfprintf [F](#)vscanf
[F](#)fprintf [F](#)sprintf [F](#)vfscanf [F](#)vsprintf
[F](#)printf [F](#)sscanf [F](#)vprintf [F](#)vsscanf

old behavior

```
long i;  
...  
printf("i=%d &i=%d\n", i, &i);
```

see also

... Background information on 64-bit API impacts

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Legend



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Netscape: HP STK: 64-bit API Impacts Summary

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64-bit API impacts summary



There are three types of code changes needed to create a 64-bit version of your software from your 32-bit clean source code:

- convert from a 32-bit data model to a 64-bit data model
- use the new 64-bit APIs
- incorporate 64-bit features

32-bit and 64-bit UNIX computing use different data models. The data model used in 32-bit UNIX computing is called ILP32, meaning that *integers*, *longs* and *pointers* are all 32-bit data types. The data model used in 64-bit UNIX computing is called LP64, meaning that *longs* and *pointers* are 64-bit data types while *integers* remain as 32-bit data types. Some existing C and C++ code assumes that *integers*, *longs* and *pointers* are the same size. Because these assumptions are not true in LP64, some executables have defects when they are compiled for 64-bits.

Note
To include only 64-bit API impacts when running the `scansummary` and `scandetail` tools, use the option:

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Blank

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hp-ux 11.00 critical impact:
***printf(), *scanf() – 64-bit changes in formatted I/O (CrCh447)**



problem description

Using 32-bit integer format specifiers with 64-bit integers and pointers may cause your applications to fail. This is a problem only if you recompile your application for 64-bit mode.

identifiers

[fprintf](#) [scanf](#) [vfprintf](#) [vscanf](#)
[fscanf](#) [sprintf](#) [vfscanf](#) [vsprintf](#)
[printf](#) [sscanf](#) [vprintf](#) [vsscanf](#)

old behavior

```
long i;  
...  
printf("i=%d &i=%d\n", i, &i);
```

see also

... Background information on 64-bit API impacts

Identifier Type



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Netscape: HP STK Description of "F" Identifier Type

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identifier Types

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description of "F" identifier type

C/C++ functions or #define macros with arguments

When the identifier type appears on your output report, it indicates that the file scanner recognized the identifier it found as a C or C++ function, a pointer to a C or C++ function, or a #define macro with arguments.

likely cause of overreporting in C or C++ programs	recommendation
Most Common: The file scanners cannot recognize identifiers that are defined outside the scanned file. For example, an identifier declared in an include file rather than in the scanned file may be interpreted as a pointer to a C or C++ function. Another possibility: The file scanners may	Use <code>-I synopsisID</code> to exclude this impact. You can add this option to your <code>.scanrc</code> file.

Critical and Links



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hp-ux 11.00 critical impact: syslog() – prototype has changed (CrCh195)



problem description

The return parameter in the prototype for the function `syslog` was changed from `int` to `void` for conformance to UNIX95 and beyond. This change was made as a defect fix. This change will cause a problem only if you are compiling with the compiler define `-D_XOPEN_SOURCE_EXTENDED` and attempt to use the return code.

identifiers

[syslog](#)

old behavior

```
extern int syslog(int, const char *, ...);
```

see also

- Background information on standards compliance impacts

solution description

Do not examine or store the return code from the `syslog` function.

new behavior

```
extern void syslog(int, const char *, ...);
```

see also

- [syslog\(3C\)](#), HP-UX 11.00 Version

problem summary

Manpage link



← [syncok\(3X\)](#) [system\(3S\)](#) →

syslog(3C)

[Description](#) [Application Usage](#)
[Errors](#) [Examples](#)
[Warnings](#) [Author](#)
[See Also](#)

NAME

syslog(), openlog(), closelog(), setlogmask() – control system log

SYNOPSIS

```
#include <syslog.h>

void syslog(int priority, const char *message, ...);

void openlog(const char *ident, int logopt, int facility);

void closelog(void);

int setlogmask(int maskpri);
```

Remarks

The ANSI C “, ... ” construct denotes a variable length argument list whose optional [or required] members are given in the associated comment (`/* */`).

DESCRIPTION

syslog() writes a message onto the system log maintained by `syslogd` (see [syslogd\(1M\)](#)). The message is tagged with *priority*. The *message* is similar to a [printf\(3S\)](#) format string except that `%m` is replaced by the error message associated with the current value of `errno`. A trailing newline is added if needed.

This message is read by `syslogd` and written to the system console, log files, selected users’ terminals, or forwarded to `syslogd` on another host as appropriate.

priority is encoded as the logical OR of a *level* and a *facility*. The *level* signifies the urgency of the message, and *facility* signifies the subsystem generating the message. *facility* can be encoded explicitly in *priority*, or a default *facility* can be set with `openlog()` (see below).


Non-Critical



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transition impacts


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hp-ux 11.00 non-critical impact:
*printf(), *scanf() – formatted I/O now converts IEEE infinity and NaN values (NcWn222)



problem description

The `printf` and `scanf` family of C library routines now convert the special values for infinity and not a number (NaN). If you are printing the special values for NaN and Infinity, you may have interoperability problems when mixing pre-11.00 applications and data files with 11.00 applications and data files.

For `printf` the conversion occurs as follows:

- The e, f, and g conversions will print `inf` for infinity and `nan` for both quiet and signaling NaNs.
- The E and G conversions will print `INF` for infinity and `NAN` for both quiet and signaling NaNs.
- There will be a new F conversion specifier that will be identical to the f conversion specifier except that it will print infinity and NaN as `inf` and `nan` respectively.

Code example (old)



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hp-ux 11.00 critical impact:
*printf(), *scanf() – 64-bit changes in formatted I/O (CrCh447)

problem description

Using 32-bit integer format specifiers with 64-bit integers and pointers may cause your applications to fail. This is a problem only if you recompile your application for 64-bit mode.

identifiers

[fprintf](#) [scanf](#) [vfprintf](#) [vscanf](#)
[fscanf](#) [sprintf](#) [vfscanf](#) [vsprintf](#)
[printf](#) [sscanf](#) [vprintf](#) [vsscanf](#)

old behavior

```
long i;  
...  
printf("i=%d &i=%d\n",i,&i);
```

Code example (new)



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see also

- Background information on **64 bit API** impacts

solution description

Prefix the format specifiers for long or pointer variables with a lowercase l, indicating "long", (that is, %d becomes %ld). Pointers should use the p format specifier when possible.

new behavior

```
long i;  
printf("i=%ld &i=%p\n",i,&i);
```

see also

- *printf(3S)*, HP-UX 11.00 Version
- *scanf(3S)*, HP-UX 11.00 Version
- *vprintf(3S)*, HP-UX 11.00 Version
- *vscanf(3S)*, HP-UX 11.00 Version

problem summary

classifications	source types	OS release	severity	type
64	C, C++	HP-UX	critical	changed

Pstat (1/2)



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hp-ux 11.00 critical impact: pstat() – returns fields that do not fit in 32-bit fields (CrCh422)



problem description

pstat provides a number of wrappers (pstat_*) and corresponding structures (struct pstat_*) to get information from the kernel. When running 32-bit applications on a 64-bit OS, in some cases, when a pstat_* wrapper function is invoked the call might fail and set errno to EOVERFLOW. The 64-bit version of the pstat functions will not return this error on a 64-bit system.

The following is a list of the fields that do not fit in the 32-bit field and will cause the 32-bit pstat functions to return EOVERFLOW:

```
struct pstat_status:
    long pstat_addr; /* address of process (in memory) */
    long pstat_wchan; /* state PS_SLEEP: value sleeping on */
    long pstat_maxrss; /* proc resident set size */

struct pstat_dynamic:
    long psd_vm; /* total virtual memory */
    long psd_avm; /* active virtual memory */

struct pstat_vm_status:
    long pstat_vaddr; /* virtual address */

struct pstat_shminfo:
    ulong_t psh_segsize; /* size of shm segment (bytes) */

struct pstat_fileinfo:
    off_t pstat_offset; /* offset into a file */

struct pstat_ipcinfo:
    long psi_shmmax; /* maximum shared memory segment size*/
```

Any 32-bit application that uses the above pstat structures and its corresponding wrapper will have an overflow situation if the kernel cannot fit the values in the 32-bit fields listed. If an overflow occurs, none of values in the structure can be trusted.

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pstat (2/2)



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IDENTIFIERS

<input type="checkbox"/> pspd_avm	<input type="checkbox"/> pst_maxrss	<input type="checkbox"/> pstat_getfile
<input type="checkbox"/> pspd_vm	<input type="checkbox"/> pst_shminfo	<input type="checkbox"/> pstat_getipc
<input type="checkbox"/> pspf_offset	<input type="checkbox"/> pst_status	<input type="checkbox"/> pstat_getproc
<input type="checkbox"/> psh_segsz	<input type="checkbox"/> pst_vaddr	<input type="checkbox"/> pstat_getprocvm
<input type="checkbox"/> psi_shmmax	<input type="checkbox"/> pst_vm_status	<input type="checkbox"/> pstat_getshm
<input type="checkbox"/> pst_addr	<input type="checkbox"/> pst_wchan	<input type="checkbox"/> PSTAT_IPCINFO
<input type="checkbox"/> pst_dynamic	<input type="checkbox"/> PSTAT_DYNAMIC	<input type="checkbox"/> PSTAT_PROC
<input type="checkbox"/> pst_fileinfo	<input type="checkbox"/> PSTAT_FILEINFO	<input type="checkbox"/> PSTAT_PROC_VM
<input type="checkbox"/> pst_ipcinfo	<input type="checkbox"/> pstat_getdynamic	<input type="checkbox"/> PSTAT_SHMINFO

see also

- Background information on [32-64 bit interoperability impacts](#)
- Background information on [binary compatibility impacts](#)
- [pstat\(2\)](#), HP-UX 10.20 version

solution description

When applications must support both a 32-bit and 64-bit, there are a number of alternatives available where pstat is involved:

(a) 32-bit applications that do not use any of the above pstat structures will continue to work correctly on a 64-bit system. Nothing needs to be done.

(b) The 32-bit application can use the 64-bit version of the pstat wrappers, by specifying the compiler flag `-D_PSTAT64`. When this compiler flag is used, the pstat functions alone become 64-bit interfaces.

Issues related to migrating an application to using the 64-bit pstat interface on a 32-bit system are:

- An application using wrappers like pstat_getstatus will continue to use the same call in its source, regardless of whether the application is 32-bit or 64-bit. This is true for the names of the various structures and fields too.
- A 32-bit application built using strict ANSI (`-Aa`) cannot use the 64-bit pstat on a 32-bit system. It must use extended ANSI (`-Ae`). 64-bit data type `long long` is not available in strict ANSI mode.
- Variables that get assigned the values in the fields should be changed from `int`, `long` to `int64_t`.
- The `printf` format for printing the fields need to be changed from `%d`, `%ld`, `%d`, `%ld`, `%d`, `%ld`, `%d`, `%ld`.

Enhancements impact



scandetail



sward's X desktop (rackem.zk3.dec.com:3)

Netscape: HP-UX STK 2.2 scandetail report

File Edit View Go Communicator Help

output format:

file name:line number: (Identifier type) problem synopsis (synopsis ID)

ftpd.c:75: [H] [socket.h - X/Open Sockets parameters change type from size_t to soc](#)

ftpd.c:75: [H] [socket.h - sendfile\(\) added for POSIX.1c support \(NcEn569\)](#)

ftpd.c:80: [H] [in.h - IPv4 addresses always 32 bits \(CrCh449\)](#)

ftpd.c:91: [H] [signal.h - sigwait\(\) added for POSIX.1c support \(NcEn567\)](#)

ftpd.c:105: [H] [varargs.h - deprecated by standards \(NcNs393\)](#)

ftpd.c:122: * [F] [sys_errlist - some system libraries and APIs deprecated \(NcWn724\)](#)

ftpd.c:132: [F] [malloc - new environment variables and defaults \(NcWn764\)](#)

ftpd.c:132: [F] [malloc - new environment variables \(NcEn670\)](#)

ftpd.c:134: [S] [sockaddr_in - range of automatically assigned socket port numbers](#)

ftpd.c:135: [S] [sockaddr_in - range of automatically assigned socket port numbers](#)

ftpd.c:136: [S] [sockaddr_in - range of automatically assigned socket port numbers](#)

ftpd.c:137: [S] [sockaddr_in - range of automatically assigned socket port numbers](#)

ftpd.c:138: [S] [sockaddr_in - range of automatically assigned socket port numbers](#)

ftpd.c:141: [I] [jmp_buf - Non-standard usage may not be portable \(NcNs634\)](#)

ftpd.c:202: [F] [signal - some behavior changes \(CrCh820\)](#)

ftpd.c:227: [F] [setlocale - new locale provided to enable support of GB18030 \(NcEn](#)

ftpd.c:227: [F] [setlocale - Euro-enabled Greek locales provided in HP-UX 11i v1.6](#)

ftpd.c:227: [F] [setlocale - new locale provided to support HKSCS in HP-UX 11i v1.6](#)

ftpd.c:227: [F] [setlocale - locale and codeset changes \(NcEn323\)](#)

ftpd.c:235: [F] [getpeername - X/Open Sockets parameters change type from size_t to](#)

ftpd.c:236: [F] [syslog - prototype has changed \(CrCh195\)](#)

ftpd.c:240: [F] [getsockname - X/Open Sockets parameters change type from size_t to](#)

ftpd.c:241: [F] [syslog - prototype has changed \(CrCh195\)](#)

ftpd.c:246: [F] [setsockopt - function values bound by kernel values \(NcEn707\)](#)

ftpd.c:246: [F] [setsockopt - X/Open Sockets parameters change type from size_t to](#)

ftpd.c:247: [F] [syslog - prototype has changed \(CrCh195\)](#)

ftpd.c:250: [M] [sin_port - range of automatically assigned socket port numbers has](#)

ftpd.c:250: [M] [sin_port - range of automatically assigned socket port numbers has](#)

ftpd.c:252: * [C] [ftpd - new features \(NcEn824\)](#)

ftpd.c:252: * [C] [ftpd - now supports Pluggable Authentication Module \(PAM\) \(NcEn535](#)

ftpd.c:252: * [C] [ftpd - new version \(NcEn663\)](#)

ftpd.c:260: [F] [strlen - new performance archive library \(NcEn669\)](#)

ftpd.c:263: [F] [getopt - XPG4 messaging support \(NcEn333\)](#)

100% | http://devresource.hp.com/STK/impacts/i547.html

March 25, 2004

Scandetail with -s synopsis



```
sward's X desktop (rackem.zk3.dec.com:3)
Netscape: HP-UX STK 2.2 scandetail report
File Edit View Go Communicator Help
problem severity/problem type Impacts
synopsis (synopsis ID)
file name:line number: (Identifier type) identifier

critical obsolete Impacts
BSD signal mask interfaces - not available in 64-bit version (CrOb406)
popen.c:167: [F] sigblock
popen.c:169: [F] sigsetmask
libPW.a - proprietary interfaces obsoleted (CrOb418)
glob.c:187: [F] any
glob.c:572: [F] any
glob.c:600: [F] any
ftpd.c:1093: [F] fatal
glob.c:649: [F] fatal
glob.c:662: [F] fatal
ftpd.c:487: [F] index
ftpd.c:1172: [F] index
popen.c:104: * [F] pop
ftpd.c:1256: [F] rename
glob.c:72: [F] strend
glob.c:184: [F] strend
glob.c:669: [F] strend

critical changed Impacts
syslog() - prototype has changed (CrCh195)
ftpd.c:236: [F] syslog
ftpd.c:241: [F] syslog
ftpd.c:247: [F] syslog
ftpd.c:316: [F] syslog
ftpd.c:321: [F] syslog
ftpd.c:326: [F] syslog
ftpd.c:352: [F] syslog
ftpd.c:458: [F] syslog
ftpd.c:536: [F] syslog
ftpd.c:584: [F] syslog
ftpd.c:593: [F] syslog
ftpd.c:758: [F] syslog
```

Scandetail with editor



sward's X desktop (rackem.zk3.dec.com:3)

Netscape: HP-UX STK 2.2 scandetail report

File Edit View Go Communicator Help

ftpd.c:246: [F] setsockopt - X/Open Sockets parameters change type from size_t to socklen_t (NcNs338)
ftpd.c:247: [F] syslog - prototype has changed (CrCh195)
ftpd.c:250: [M] sin_port - range of automatically assigned socket port numbers has changed (NcWn547)
ftpd.c:250: [M] sin_port - range of automatically assigned socket port numbers has changed (NcWn547)
ftpd.c:252: * [C] ftpd - new features (NcEn824)
ftpd.c:252: * [C] ftpd - now supports Pluggable Authentication Module (PAM) (NcEn535)
ftpd.c:252: * [C] ftpd - new vers...
ftpd.c:260: [F] strlen - new per...
ftpd.c:263: [F] getopt - XPG4 me...
ftpd.c:291: [F] strlen - new per...
ftpd.c:295: [F] strlen - new per...
ftpd.c:296: [F] sscanf - 64-bit...
ftpd.c:296: [F] sscanf - format...
ftpd.c:298: [F] fprintf - 64-bit...
ftpd.c:298: [F] fprintf - format...
ftpd.c:305: [F] fprintf - 64-bit...
ftpd.c:305: [F] fprintf - format...
ftpd.c:313: [F] signal - some be...
ftpd.c:314: [F] signal - some be...
ftpd.c:315: [F] signal - some be...
ftpd.c:316: [F] syslog - prototy...
ftpd.c:320: [F] setsockopt - fur...
ftpd.c:320: [F] setsockopt - X/O...
ftpd.c:321: [F] syslog - prototy...
ftpd.c:326: [F] syslog - prototy...
ftpd.c:352: [F] syslog - prototy...
ftpd.c:365: [F] malloc - new env...
ftpd.c:365: [F] malloc - new env...
ftpd.c:365: [F] strlen - new per...
ftpd.c:372: [F] strcpy - new per...
ftpd.c:389: [F] getpwnam - now s...
ftpd.c:393: [M] pw_passwd - info...
ftpd.c:400: [M] pw_passwd - information may be incompatible with previous versions (CrWn833)
ftpd.c:400: [M] pw_passwd - information may be incompatible with previous versions (CrWn833)
ftpd.c:437: [F] strcmp - new performance archive library (NcEn669)
ftpd.c:437: * [C] ftp - new features (NcEn824)
ftpd.c:437: * [C] ftp - SIS is not available (NcWn730)
ftpd.c:437: * [C] ftp - authentication now uses Kerberos V5-1.0 API (CrCh537)
ftpd.c:437: * [C] ftp - now supports Pluggable Authentication Module (PAM) (NcEn535)
ftpd.c:437: [F] strcmp - new performance archive library (NcEn669)
ftpd.c:438: * [C] ftp - new features (NcEn824)
ftpd.c:438: * [C] ftp - SIS is not available (NcWn730)
ftpd.c:438: * [C] ftp - authentication now uses Kerberos V5-1.0 API (CrCh537)
ftpd.c:438: * [C] ftp - now supports Pluggable Authentication Module (PAM) (NcEn535)
ftpd.c:440: * [C] ftp - new features (NcEn824)
ftpd.c:440: * [C] ftp - SIS is not available (NcWn730)
ftpd.c:440: * [C] ftp - authentication now uses Kerberos V5-1.0 API (CrCh537)
ftpd.c:440: * [C] ftp - now supports Pluggable Authentication Module (PAM) (NcEn535)

```
static char ttyline[20];  
  
/*  
 * Helper function for sgetpwnam().  
 */  
char *  
sgetsave(s)  
{  
    char *s;  
  
    char *new = malloc((unsigned) strlen(s) + 1);  
  
    if (new == NULL) {  
        perror_reply(421, MSGSTR(MALLOCERR, "Local resource failure: mal  
loc"));  
        dologout(1);  
        /* NOTREACHED */  
    }  
    (void) strcpy(new, s);  
    return (new);  
}  
  
/*  
ftpd/ftpd.c" 1615 lines, 37600 characters
```

Useful links



<http://devresource.hp.com/STK>

For STK on HP-UX

http://devresource.hp.com/STK_ja_JP.SJIS For Japanese

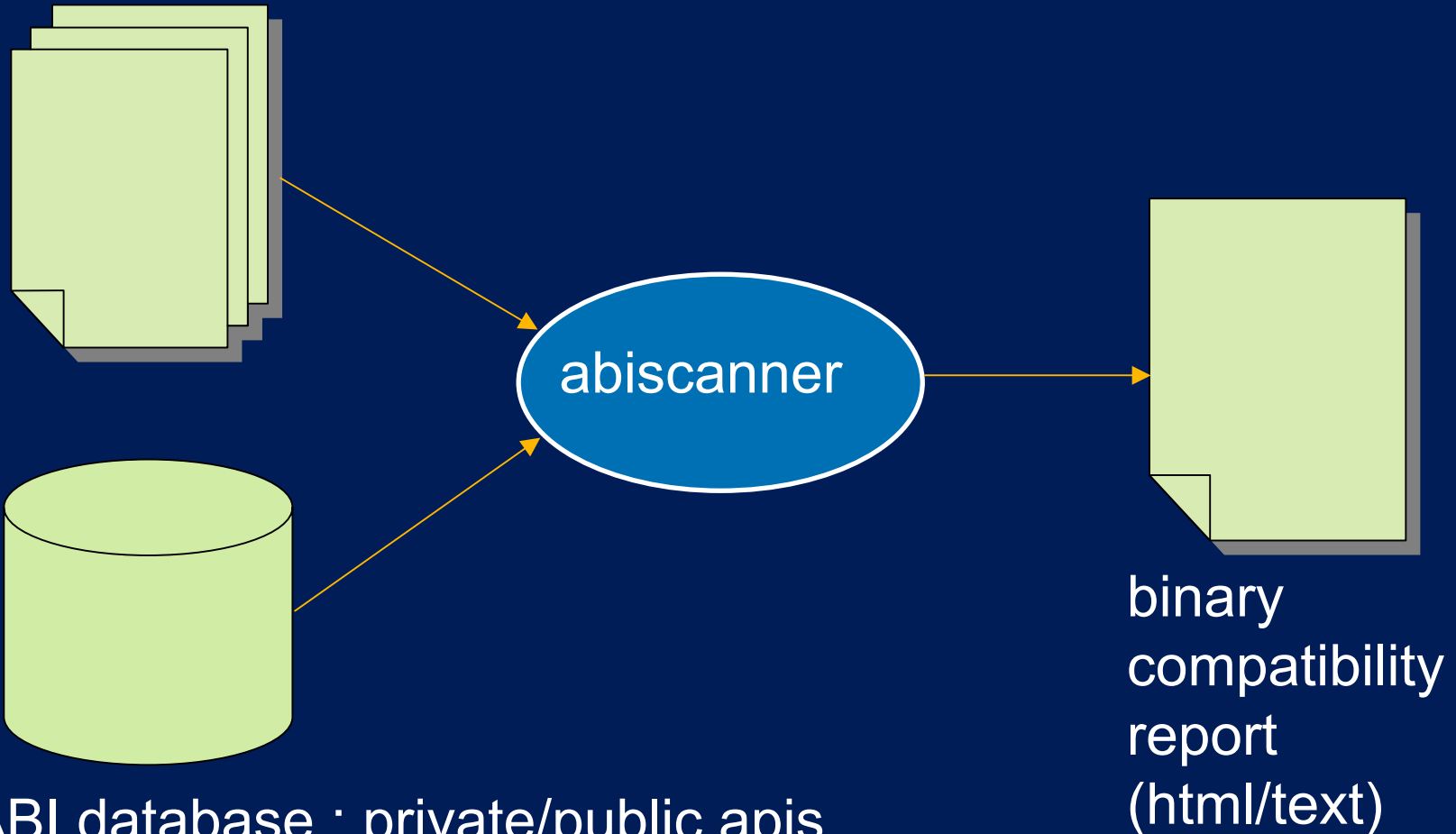
abiscanner - overview



- A binary compatibility identification tool which reports whether a given target is compatible for a given platform
 - Scans all targets, which can be dynamically linked executables, libraries or object files
 - Reports the use of private Application Binary Interfaces (ABIs), for each target.
- Runs off a database defining the private/public ABIs (currently supports 11.0 to 11i).
- The scanner understands ELF and SOM formats
- Supported platforms : IA, PA
- Works on stripped binaries too

abiscanner – how it works

Target files : executables, libraries, object files



ABI database : private/public apis

binary
compatibility
report
(html/text)

abiscanner – how it works

- Scan the target binaries/executables/libraries
- Get the list of libraries that were linked with the target executables and scan them
- Get the APIs imported by the target
- Foreach API, get the library providing that API (API/library mapping)
- Check the abi database to see if the API is listed and its classification(private/public /obsolete/..)
- Generate a report for all the APIs found

abiscanner : Sample report



```
hpadl694:>abiscanner -o text -xl /usr/bin/login /usr/bin/ftp
```

```
/usr/bin/login:
```

```
Private /usr/lib/libnsl.1 key_setnet
```

```
Private /usr/lib/libpam.1 pam_get_username
```

```
/usr/bin/ftp:
```

```
Unidentified <null>      _LHcrPIVK
```

```
Unidentified <null>      _piY32JQN
```

```
/usr/bin/login (SOM Executable,PA-Risc 1.1,32-Bit):
```

```
Libraries:
```

```
[ 0] System      /usr/lib/libpam.1 PA-Risc 1.1, 32-Bit
```

```
[ 1] System      /usr/lib/libsec.2 PA-Risc 1.1, 32-Bit
```

```
[ 2] System      /usr/lib/libnsl.1 PA-Risc 1.1, 32-Bit
```

```
[ 3] System      /usr/lib/libc.2   PA-Risc 1.1, 32-Bit
```

```
/usr/bin/ftp (SOM Executable,PA-Risc 1.1,32-Bit):
```

```
Libraries:
```

```
[ 0] System      /usr/lib/libsis.sl PA-Risc 1.1, 32-Bit
```

```
[ 1] System      /usr/lib/libc.2   PA-Risc 1.1, 32-Bit
```

abiscanner – classifications



ABIs are classified into different categories and are reported accordingly.

Current categories are :

- **Public** : supported and documented
- **Private** : undocumented and unsupported ABIs provided by HP-UX system libraries
- **Compatible private** : undocumented and unsupported but stable across versions
- **Obsolete** : will be unsupported in future

abiscanner : Limitations



abiscanner **cannot** determine whether your application will work or not. It can only cross-reference interfaces in your application against the officially supported public/ private API list.

So ...

- If a component of your application has **passed**, then no uses of private interfaces were detected in that component. **This does not mean that your application will work!** It simply indicates that the component uses approved interfaces and passes the scanner criteria of the guarantee.
- If a component of your application has **failed**, then uses of private interfaces were detected in that component. **This does not mean that your application will not work!** It simply indicates that that component of the application uses private interfaces that are not supported by HP. The failing component should be tested.

abiscanner Links



Home :

<http://devresource.hp.com/STK/>

Quick Start:

<http://devresource.hp.com/STK/hpux11i/quickstart.html>

FAQs :

<http://devresource.hp.com/STK/hpux11i/abiscannerFaq.html>

FAQs :

Reference :

<http://devresource.hp.com/STK/hpux11i/abiscannerRef.html>

Reference :



i n v e n t