

BSI Coverage for CodeSonar®

BSI is a software assurance initiative of the U.S. Department of Homeland Security. Among other things, they provide a set of C/C++ coding rules, with a focus on security. CodeSonar provides checks in support of most of these rules.

BSI IDs Detected by CodeSonar:

The following table lists the CodeSonar warning classes that are associated with individual BSI rules.

We have followed the naming scheme set out on the BSI website in referring to the rules. Some rules do not have unique names, and this ambiguity is reflected in the warning categories for warning classes. We have numbered duplicate rule names in the table below for clarity, but those numbers are not used elsewhere.

BSI ID	CodeSonar Mnemonic	CodeSonar Warning Class
access()	IO.RACE	File System Race Condition
acct()	IO.RACE	File System Race Condition
AddAccess-ACE	BADFUNC.ADDACCESSACE	Use of AddAccessAllowedAce
		Use of AddAccessDeniedAce
AfxLoadLibrary	BADFUNC.PATH.AFXLOADLIBRARY	Use of AfxLoadLibrary
	BADFUNC.PATH.COLOADLIBRARY	Use of CoLoadLibrary
AfxParseURL	BADFUNC.AFXPARSEURL	Use of AfxParseURL
au_to_path()	IO.RACE	File System Race Condition
basename()	IO.RACE	File System Race Condition
bcopy()	LANG.MEM.BO	Buffer Overrun
bind()	LANG.FUNCS.IRV	Ignored Return Value
BytesToUnicode	LANG.MEM.BO	Buffer Overrun
CanShareFolderW	IO.RACE	File System Race Condition
Catgets	LANG.MEM.BO	Buffer Overrun
	MISC.FMT	Format String
Catopen	BADFUNC.CATOPEN	Use of catopen
	IO.RACE	File System Race Condition
CHMOD	IO.RACE	File System Race Condition
CHOWN	IO.RACE	File System Race Condition
CHROOT-01	BADFUNC.CHROOT	Use of chroot
CHROOT-02	BADFUNC.CHROOT	Use of chroot
CHROOT-03	BADFUNC.CHROOT	Use of chroot
CHString(Format)	MISC.FMT	Format String
Copylist()	IO.RACE	File System Race Condition
CREAT	IO.RACE	File System Race Condition
CreateFile-01	BADFUNC.CREATEFILE	Use of CreateFile

CreateFile-02	BADFUNC.CREATEFILE	Use of CreateFile
CreateProcess-01	ALLOC.LEAK	Leak
CreateProcess-02	BADFUNC.CREATEPROCESS	Use of CreateProcess
CreateProcess-03	BADFUNC.CREATEPROCESS	Use of CreateProcess
CreateProcess-04	BADFUNC.CREATEPROCESS	Use of CreateProcess
CreateThread	BADFUNC.CREATETHREAD	Use of CreateThread
createUrlCacheEntry	LANG.MEM.BO	Buffer Overrun
CRYPT-01	BADFUNC.CRYPT	Use of crypt
CRYPT-02	BADFUNC.CRYPT	Use of crypt
CString(Format)	MISC.EMT	Format String
CUSERID	BADFUNC.CUSERID	Use of cuserid
Database Functions	IO.RACE	File System Race Condition
DIRNAME	IO.RACE	File System Race Condition
Dlopen()	IO.RACE	File System Race Condition
Exec	IO.RACE	File System Race Condition
Exec-SearchPath-01 Exec-SearchPath-02	BADFUNC.PATH._EXEC	Use of _exec
	BADFUNC.PATH._SPAWN	Use of _spawn
	BADFUNC.PATH.EXECLP	Use of execlp
	BADFUNC.PATH.EXECVP	Use of execvp
	BADFUNC.PATH.POPEN	Use of popen
	BADFUNC.PATH.SYSTEM	Use of system
Executable-Icon-Location	LANG.MEM.BO	Buffer Overrun
File Streams	IO.RACE	File System Race Condition
FindExecutableImage	LANG.MEM.BO	Buffer Overrun
FormatMessage	BADFUNC.FORMATMESSAGE	Use of FormatMessage
FREOPEN	IO.RACE	File System Race Condition
Ftw and Nftw	IO.RACE	File System Race Condition
GetAttr	IO.RACE	File System Race Condition
GETC	LANG.MEM.BO	Buffer Overrun
GetEnv	LANG.MEM.BO	Buffer Overrun
GetFileNameFromBrowse	LANG.MEM.BO	Buffer Overrun
GetFullPathName	LANG.MEM.BO	Buffer Overrun
GETHOST	ALLOC.UAF	Use After Free
GETLOGIN	BADFUNC.GETLOGIN	Use of getlogin
GetLongPathName	LANG.MEM.BO	Buffer Overrun
GETOPT	BANDFUNC.BO.GETOPT	Use of getopt
GETPASS	BADFUNC.BO.GETPASS	Use of getpass
GETS	BADFUNC.BO.GETS	Use of gets
GetTempFileName	BADFUNC.TEMP.GETTEMPFILENAME	Use of GetTempFileName
	LANG.MEM.BO	Buffer Overrun

GETEMPPATH	LANG.MEM.BO	Buffer Overrun
GETTEXT	LANG.MEM.BO	Buffer Overrun
GETWD	BADFUNC.BO.GETWD	Use of getwd
	LANG.FUNCS.IRV	Ignored Return Value
InitializeCriticalSection	ALLOC.LEAK	Leak
	ALLOC.DI	Double Initialization
Kerberos	IO.RACE	File System Race Condition
Kvm_open	IO.RACE	File System Race Condition
Link	IO.RACE	File System Race Condition
LoadLibrary	BADFUNC.PATH.LOADLIBRARY	Use of LoadLibrary
LoadModule	BADFUNC.LOADMODULE	Use of LoadModule
MALLOC-OVERFLOW	ALLOC.IOAS	Integer Overflow of Allocation Size
Mbstowcs	LANG.MEM.BO	Buffer Overrun
	MISC.MEM.NTERM	No Space for Null Terminator
MEMCOPY	LANG.MEM.BO	Buffer Overrun
MEMSET	BADFUNC.MEMSET	Use of memset
MetaRule (1)	LANG.MEM.BO	Buffer Overrun
MetaRule (2)	LANG.FUNCS.IRV	Ignored Return Value
MetaRule (3)	LANG.MEM.BO	Buffer Overrun
MetaRule (4)	LANG.MEM.BO	Buffer Overrun
MetaRule (5)	BADFUNC.RANDOM.RAND	Use of rand
	BADFUNC.RANDOM.RAND48	Use of rand48 Function
	BADFUNC.RANDOM.RANDOM	Use of random
MetaRule (6)	LANG.MEM.BO	Buffer Overrun
	MISC.FMT	Format String
MKDIR	IO.RACE	File System Race Condition
MKFIFO	IO.RACE	File System Race Condition
MKNOD	IO.RACE	File System Race Condition
Mkstemp	BADFUNC.TEMP.MKTEMP	Use of mktemp / Use of mkstemp
MKTEMP	BADFUNC.TEMP.MKTEMP	Use of mktemp / Use of mkstemp
Mount()	IO.RACE	File System Race Condition
MoveFile	BADFUNC.MOVEFILE	Use of MoveFile
Nlist	IO.RACE	File System Race Condition
OemToChar	BADFUNC.BO.OEMTOCHAR	Use of OemToAnsi
	BADFUNC.BO.OEMTOCHAR	Use of OemToChar
	LANG.MEM.BO	Buffer Overrun
OPEN	IO.RACE	File System Race Condition
OPENDIR	IO.RACE	File System Race Condition
PathAddBackslash	LANG.MEM.BO	Buffer Overrun
PathAddExtension	LANG.MEM.BO	Buffer Overrun

PathAppend	LANG.MEM.BO	Buffer Overrun
PathBuildRoot	LANG.MEM.BO	Buffer Overrun
PathCanonicalize	LANG.MEM.BO	Buffer Overrun
PathCleanupSpec	LANG.MEM.BO	Buffer Overrun
PathCombine	LANG.MEM.BO	Buffer Overrun
PathCommonPrefix	LANG.MEM.BO	Buffer Overrun
PATHCONF	IO.RACE	File System Race Condition
PathFindOnPat	LANG.MEM.BO	Buffer Overrun
PathGetShortPath	LANG.MEM.BO	Buffer Overrun
PathMakeUniqueName	IO.RACE	File System Race Condition
	MISC.PATHLENGTH	MAX_PATH Exceeded
PathQuoteSpaces	LANG.MEM.BO	Buffer Overrun
	MISC.PATHLENGTH	MAX_PATH Exceeded
PathRelativePathTo	LANG.MEM.BO	Buffer Overrun
PathRenameExtension	LANG.MEM.BO	Buffer Overrun
	MISC.PATHLENGTH	MAX_PATH Exceeded
PathResolve	LANG.MEM.BO	Buffer Overrun
QuerySecurityContextToken	LANG.FUNCS.IRV	Ignored Return Value
Readlink (1)	LANG.FUNCS.IRV	Ignored Return Value
Readlink (2)	IO.RACE	File System Race Condition
READ-OVERFLOW	LANG.MEM.BO	Buffer Overrun
REALLOC	ALLOC.UAF	Use After Free
REALPATH	BADFUNC.BO.REALPATH	Use of realpath
RecvMsg	LANG.MEM.BO	Buffer Overrun
	BADFUNC.BO.RECVMSG	Use of recvmsg
REMOVE	IO.RACE	File System Race Condition
RENAME	IO.RACE	File System Race Condition
RMDIR	IO.RACE	File System Race Condition
SCANDIR	IO.RACE	File System Race Condition
SCANF	LANG.MEM.BO	Buffer Overrun
	MISC.FMT	Format String
SetEntriesInAcl	LANG.FUNCS.IRV	Ignored Return Value
SetSecurityDescriptorDacl	MISC.NULLDACL	Null Security Descriptor
SetThreadToken	LANG.FUNCS.IRV	Ignored Return Value
SHCreateDirectory	IO.RACE	File System Race Condition
SHCreateProcessAsUserW	BADFUNC.PATH.SHCREATEPROCESSASUSERW	Use of SHCreateProcessAsUserW
ShellExecute	BADFUNC.PATH.SHELLEXECUTE	Use of ShellExecute
SHFileOperation	IO.RACE	File System Race Condition
SHGetFileInfo	IO.RACE	File System Race Condition
SHGetFolderPath	LANG.MEM.BO	Buffer Overrun
-SHGetNewLinkInfo	IO.RACE	File System Race Condition

SHGetPathFromIDList	LANG.MEM.BO	Buffer Overrun
SHILCreateFromPath	IO.RACE	File System Race Condition
SHIsFileAvailableOffline	IO.RACE	File System Race Condition
SHPathPrepareForWrite	IO.RACE	File System Race Condition
SHRegGetPath	LANG.MEM.BO	Buffer Overrun
SHValidateUNC	IO.RACE	File System Race Condition
SIGNAL-01	BADFUNC.SIGNAL	Use of signal
SIGNAL-02	BADFUNC.SETUID	Use of setuid
SNPRINTF	LANG.MEM.BO	Buffer Overrun
	MISC.FMT	Format String
SPRINTF	LANG.MEM.BO	Buffer Overrun
	MISC.FMT	Format String
STAT	IO.RACE	File System Race Condition
Statvfs()	IO.RACE	File System Race Condition
STRCAT	BADFUNC.BO.STRCAT	Use of strcat
	LANG.MEM.BO	Buffer Overrun
StrCatBuff	LANG.MEM.BO	Buffer Overrun
	MISC.MEM.NTERM	No Space For Null Terminator
StrCatChainW	BADFUNC.BO.STRCATCHAINW	Use of StrCatChainW
STRCMP	BADFUNC.BO.STRCMP	Use of strcmp
STRCPY	BADFUNC.BO.STRCPY	Use of strcpy
	LANG.MEM.BO	Buffer Overrun
STRECPY	LANG.MEM.BO	Buffer Overrun
StrFormat_	LANG.MEM.BO	Buffer Overrun
StringCch_W	LANG.MEM.BO	Buffer Overrun
STRLEN	BADFUNC.BO.STRLEN	Use of strlen
STRNCAT	MISC.MEM.SU	Unreasonable Size Argument
	MISC.MEM.SU	Unreasonable Size Argument
	MISC.MEM.NTERM	No Space For Null Terminator
	MISC.NOEFFECT	Function Call Has No Effect
	LANG.MEM.BO	Buffer Overrun
STRTRNS	LANG.MEM.BO	Buffer Overrun
	BADFUNC.BO.STRTRNS	Use of strtrns
Strxfrm, Wcsxfrm	LANG.MEM.BO	Buffer Overrun
Symlink	IO.RACE	File System Race Condition
SYSLOG-1	BADFUNC.BO.SYSLOG	Use of syslog
SYSLOG-2	MISC.FMT	Format String
T_Open	BADFUNC.T_OPEN	Use of t_open
TMPNAM-TMPFILE	BADFUNC.TEMP.TMPFILE	Use of tmpfile
	BADFUNC.TEMP.TMPNAM	Use of tmpnam

Truncate	BADFUNC.TEMP.TMPFILE	Use of tmpfile
	BADFUNC.TEMP.TMPNAM	Use of tmpnam
TTYNAME	BADFUNC.TTYNAME	Use of ttyname
UnicodeToBytes	LANG.MEM.BO	Buffer Overrun
Unlink	IO.RACE	File System Race Condition
Utime	IO.RACE	File System Race Condition
Utmpname	IO.RACE	File System Race Condition
VFORK	BADFUNC.VFORK	Use of vfork
WideCharToMultiByte	LANG.MEM.BO	Buffer Overrun
WinExec	BADFUNC.VFORK	Use of vfork
Wsprintf	MISC.FMT	Format String