

BSDPort hotspot shared changes, shared

Here are the proposed jdk8 hotspot/src/shared changes:

```
diff -r e6e7d76b2bd3 src/share/vm/adlc/adlc.hpp
--- a/src/share/vm/adlc/adlc.hpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/adlc/adlc.hpp      Mon Jul 25 17:04:06 2011 -0700
@@ -67,9 +67,9 @@
 #endif
 #endif // _WIN32

-#ifndef LINUX
+#if defined(LINUX) || defined(_ALLBSD_SOURCE)
 #include <inttypes.h>
-#endif // LINUX
+#endif // LINUX || _ALLBSD_SOURCE

 // Macros
 #define uint32 unsigned int
diff -r e6e7d76b2bd3 src/share/vm/cl/cl_globals.hpp
--- a/src/share/vm/cl/cl_globals.hpp  Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/cl/cl_globals.hpp  Mon Jul 25 17:04:06 2011 -0700
@@ -47,6 +47,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "cl_globals_windows.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "cl_globals_bsd.hpp"
+#endif

 //
 // Defines all global flags used by the client compiler.
diff -r e6e7d76b2bd3 src/share/vm/classfile/classLoader.cpp
--- a/src/share/vm/classfile/classLoader.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/classfile/classLoader.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -68,6 +68,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "os_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "os_bsd.inline.hpp"
+#endif

 // Entry points in zip.dll for loading zip/jar file entries
diff -r e6e7d76b2bd3 src/share/vm/classfile/javaClasses.cpp
--- a/src/share/vm/classfile/javaClasses.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/classfile/javaClasses.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -56,6 +56,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

 static bool find_field(instanceClass* ik,
                      Symbol* name_symbol, Symbol* signature_symbol,
@@ -110,7 +113,7 @@
 }
 nmethod* nm = method->code();
 if (WizardMode && nm != NULL) {
-   sprintf(buf + (int)strlen(buf), "(nmethod " PTR_FORMAT ")", (intptr_t)nm);
+   sprintf(buf + (int)strlen(buf), "(nmethod " INTPTR_FORMAT ")", (intptr_t)nm);
 }
 }
```

```

diff -r e6e7d76b2bd3 src/share/vm/code/stubs.hpp
--- a/src/share/vm/code/stubs.hpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/code/stubs.hpp      Mon Jul 25 17:04:06 2011 -0700
@@ -35,6 +35,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "os_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "os_bsd.inline.hpp"
+#endif

// The classes in this file provide a simple framework for the
// management of little pieces of machine code - or stubs -
diff -r e6e7d76b2bd3 src/share/vm/compiler/disassembler.hpp
--- a/src/share/vm/compiler/disassembler.hpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/compiler/disassembler.hpp      Mon Jul 25 17:04:06 2011 -0700
@@ -35,6 +35,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "os_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "os_bsd.inline.hpp"
+#endif

class decode_env;

diff -r e6e7d76b2bd3 src/share/vm/gc_implementation/concurrentMarkSweep/cmsAdaptiveSizePolicy.cpp
--- a/src/share/vm/gc_implementation/concurrentMarkSweep/cmsAdaptiveSizePolicy.cpp      Tue May 24 15:28:35
2011 -0700
+++ b/src/share/vm/gc_implementation/concurrentMarkSweep/cmsAdaptiveSizePolicy.cpp      Mon Jul 25 17:04:06
2011 -0700
@@ -37,6 +37,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "os_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "os_bsd.inline.hpp"
+#endif
elapsedTimer CMSAdaptiveSizePolicy::_concurrent_timer;
elapsedTimer CMSAdaptiveSizePolicy::_STW_timer;

diff -r e6e7d76b2bd3 src/share/vm/gc_implementation/concurrentMarkSweep/cmsCollectorPolicy.cpp
--- a/src/share/vm/gc_implementation/concurrentMarkSweep/cmsCollectorPolicy.cpp      Tue May 24 15:28:35 2011
-0700
+++ b/src/share/vm/gc_implementation/concurrentMarkSweep/cmsCollectorPolicy.cpp      Mon Jul 25 17:04:06 2011
-0700
@@ -50,6 +50,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

//
// ConcurrentMarkSweepPolicy methods
diff -r e6e7d76b2bd3 src/share/vm/gc_implementation/concurrentMarkSweep/concurrentMarkSweepThread.hpp
--- a/src/share/vm/gc_implementation/concurrentMarkSweep/concurrentMarkSweepThread.hpp      Tue May 24 15:28:
35 2011 -0700
+++ b/src/share/vm/gc_implementation/concurrentMarkSweep/concurrentMarkSweepThread.hpp      Mon Jul 25 17:04:
06 2011 -0700
@@ -36,6 +36,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

class ConcurrentMarkSweepGeneration;
class CMSCollector;

```

```

diff -r e6e7d76b2bd3 src/share/vm/gc_implementation/concurrentMarkSweep/freeBlockDictionary.cpp
--- a/src/share/vm/gc_implementation/concurrentMarkSweep/freeBlockDictionary.cpp      Tue May 24 15:28:35
2011 -0700
+++ b/src/share/vm/gc_implementation/concurrentMarkSweep/freeBlockDictionary.cpp      Mon Jul 25 17:04:06
2011 -0700
@@ -33,6 +33,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

 #ifndef PRODUCT
  Mutex* FreeBlockDictionary::par_lock() const {
diff -r e6e7d76b2bd3 src/share/vm/gc_implementation/g1/dirtyCardQueue.cpp
--- a/src/share/vm/gc_implementation/g1/dirtyCardQueue.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/gc_implementation/g1/dirtyCardQueue.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -39,6 +39,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

  bool DirtyCardQueue::apply_closure(CardTableEntryClosure* cl,
                                     bool consume,
diff -r e6e7d76b2bd3 src/share/vm/gc_implementation/g1/g1SATBCardTableModRefBS.cpp
--- a/src/share/vm/gc_implementation/g1/g1SATBCardTableModRefBS.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/gc_implementation/g1/g1SATBCardTableModRefBS.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -37,6 +37,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

  G1SATBCardTableModRefBS::G1SATBCardTableModRefBS(MemRegion whole_heap,
                                                     int max_covered_regions) :
diff -r e6e7d76b2bd3 src/share/vm/gc_implementation/g1/ptrQueue.cpp
--- a/src/share/vm/gc_implementation/g1/ptrQueue.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/gc_implementation/g1/ptrQueue.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -37,6 +37,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

  PtrQueue::PtrQueue(PtrQueueSet* qset, bool perm, bool active) :
    _qset(qset), _buf(NULL), _index(0), _active(active),
diff -r e6e7d76b2bd3 src/share/vm/gc_implementation/parallelScavenge/parMarkBitMap.cpp
--- a/src/share/vm/gc_implementation/parallelScavenge/parMarkBitMap.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/gc_implementation/parallelScavenge/parMarkBitMap.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -38,6 +38,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "os_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "os_bsd.inline.hpp"
+#endif

  bool
  ParMarkBitMap::initialize(MemRegion covered_region)
diff -r e6e7d76b2bd3 src/share/vm/gc_implementation/parallelScavenge/psVirtualspace.cpp
--- a/src/share/vm/gc_implementation/parallelScavenge/psVirtualspace.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/gc_implementation/parallelScavenge/psVirtualspace.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -35,6 +35,9 @@

```

```

#ifdef TARGET_OS_FAMILY_windows
#include "os_windows.inline.hpp"
#endif
#ifdef TARGET_OS_FAMILY_bsd
#include "os_bsd.inline.hpp"
#endif

// PSVirtualSpace

diff -r e6e7d76b2bd3 src/share/vm/gc_implementation/shared/mutableNUMASpace.cpp
--- a/src/share/vm/gc_implementation/shared/mutableNUMASpace.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/gc_implementation/shared/mutableNUMASpace.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -37,6 +37,9 @@
#ifdef TARGET_OS_FAMILY_windows
#include "thread_windows.inline.hpp"
#endif
#ifdef TARGET_OS_FAMILY_bsd
#include "thread_bsd.inline.hpp"
#endif

MutableNUMASpace::MutableNUMASpace(size_t alignment) : MutableSpace(alignment) {
diff -r e6e7d76b2bd3 src/share/vm/gc_interface/collectedHeap.cpp
--- a/src/share/vm/gc_interface/collectedHeap.cpp                  Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/gc_interface/collectedHeap.cpp                  Mon Jul 25 17:04:06 2011 -0700
@@ -39,6 +39,9 @@
#ifdef TARGET_OS_FAMILY_windows
#include "thread_windows.inline.hpp"
#endif
#ifdef TARGET_OS_FAMILY_bsd
#include "thread_bsd.inline.hpp"
#endif

#ifdef ASSERT
diff -r e6e7d76b2bd3 src/share/vm/gc_interface/collectedHeap.inline.hpp
--- a/src/share/vm/gc_interface/collectedHeap.inline.hpp          Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/gc_interface/collectedHeap.inline.hpp          Mon Jul 25 17:04:06 2011 -0700
@@ -43,6 +43,9 @@
#ifdef TARGET_OS_FAMILY_windows
#include "thread_windows.inline.hpp"
#endif
#ifdef TARGET_OS_FAMILY_bsd
#include "thread_bsd.inline.hpp"
#endif

// Inline allocation implementations.

diff -r e6e7d76b2bd3 src/share/vm/interpreter/abstractInterpreter.hpp
--- a/src/share/vm/interpreter/abstractInterpreter.hpp              Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/interpreter/abstractInterpreter.hpp              Mon Jul 25 17:04:06 2011 -0700
@@ -56,6 +56,9 @@
#ifdef TARGET_OS_FAMILY_windows
#include "thread_windows.inline.hpp"
#endif
#ifdef TARGET_OS_FAMILY_bsd
#include "thread_bsd.inline.hpp"
#endif

// This file contains the platform-independent parts
// of the abstract interpreter and the abstract interpreter generator.
diff -r e6e7d76b2bd3 src/share/vm/interpreter/bytecodeInterpreter.cpp
--- a/src/share/vm/interpreter/bytecodeInterpreter.cpp              Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/interpreter/bytecodeInterpreter.cpp              Mon Jul 25 17:04:06 2011 -0700
@@ -65,6 +65,12 @@
#ifdef TARGET_OS_ARCH_linux_ppc
#include "orderAccess_linux_ppc.inline.hpp"
#endif
#ifdef TARGET_OS_ARCH_bsd_x86
#include "orderAccess_bsd_x86.inline.hpp"
#endif

```

```

+#ifdef TARGET_OS_ARCH_bsd_zero
+# include "orderAccess_bsd_zero.inline.hpp"
+#endif

// no precompiled headers
diff -r e6e7d76b2bd3 src/share/vm/interpreter/bytecodeTracer.cpp
--- a/src/share/vm/interpreter/bytecodeTracer.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/interpreter/bytecodeTracer.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -92,7 +92,7 @@
    // the incoming method. We could lose a line of trace output.
    // This is acceptable in a debug-only feature.
    st->cr();
-   st->print("[%d] ", (int) Thread::current()->osthread()->thread_id());
+   st->print("[%ld] ", (long) Thread::current()->osthread()->thread_id());
    method->print_name(st);
    st->cr();
    _current_method = method();
@@ -106,7 +106,7 @@
    }
    _code = code;
    int bci = bcp - method->code_base();
-   st->print("[%d] ", (int) Thread::current()->osthread()->thread_id());
+   st->print("[%ld] ", (long) Thread::current()->osthread()->thread_id());
    if (Verbose) {
        st->print("%8d %4d " INTPTR_FORMAT " " INTPTR_FORMAT " %s",
            BytecodeCounter::counter_value(), bci, tos, tos2, Bytecodes::name(code));
diff -r e6e7d76b2bd3 src/share/vm/interpreter/interpreterRuntime.hpp
--- a/src/share/vm/interpreter/interpreterRuntime.hpp   Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/interpreter/interpreterRuntime.hpp   Mon Jul 25 17:04:06 2011 -0700
@@ -41,6 +41,9 @@
#ifdef TARGET_OS_FAMILY_windows
# include "thread_windows.inline.hpp"
#endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

// The InterpreterRuntime is called by the interpreter for everything
// that cannot/should not be dealt with in assembly and needs C support.
diff -r e6e7d76b2bd3 src/share/vm/interpreter/linkResolver.cpp
--- a/src/share/vm/interpreter/linkResolver.cpp        Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/interpreter/linkResolver.cpp        Mon Jul 25 17:04:06 2011 -0700
@@ -52,6 +52,9 @@
#ifdef TARGET_OS_FAMILY_windows
# include "thread_windows.inline.hpp"
#endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

//-----
// Implementation of FieldAccessInfo
diff -r e6e7d76b2bd3 src/share/vm/memory/allocation.cpp
--- a/src/share/vm/memory/allocation.cpp              Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/memory/allocation.cpp              Mon Jul 25 17:04:06 2011 -0700
@@ -39,6 +39,9 @@
#ifdef TARGET_OS_FAMILY_windows
# include "os_windows.inline.hpp"
#endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "os_bsd.inline.hpp"
+#endif

void* CHeapObj::operator new(size_t size){
    return (void *) AllocateHeap(size, "CHeapObj-new");
diff -r e6e7d76b2bd3 src/share/vm/memory/collectorPolicy.cpp
--- a/src/share/vm/memory/collectorPolicy.cpp        Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/memory/collectorPolicy.cpp        Mon Jul 25 17:04:06 2011 -0700

```

```

@@ -47,6 +47,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif
 #ifndef SERIALGC
 #include "gc_implementation/concurrentMarkSweep/cmsAdaptiveSizePolicy.hpp"
 #include "gc_implementation/concurrentMarkSweep/cmsGCAdaptivePolicyCounters.hpp"
diff -r e6e7d76b2bd3 src/share/vm/memory/defNewGeneration.cpp
--- a/src/share/vm/memory/defNewGeneration.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/memory/defNewGeneration.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -48,6 +48,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

//
// DefNewGeneration functions.
diff -r e6e7d76b2bd3 src/share/vm/memory/gcLocker.hpp
--- a/src/share/vm/memory/gcLocker.hpp             Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/memory/gcLocker.hpp             Mon Jul 25 17:04:06 2011 -0700
@@ -41,6 +41,10 @@
 # include "os_windows.inline.hpp"
 # include "thread_windows.inline.hpp"
 #endif
+ifdef TARGET_OS_FAMILY_bsd
+# include "os_bsd.inline.hpp"
+# include "thread_bsd.inline.hpp"
+#endif

// The direct lock/unlock calls do not force a collection if an unlock
// decrements the count to zero. Avoid calling these if at all possible.
diff -r e6e7d76b2bd3 src/share/vm/memory/genMarkSweep.cpp
--- a/src/share/vm/memory/genMarkSweep.cpp        Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/memory/genMarkSweep.cpp        Mon Jul 25 17:04:06 2011 -0700
@@ -55,6 +55,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

void GenMarkSweep::invoke_at_safeopoint(int level, ReferenceProcessor* rp,
    bool clear_all_softrefs) {
diff -r e6e7d76b2bd3 src/share/vm/memory/resourceArea.cpp
--- a/src/share/vm/memory/resourceArea.cpp         Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/memory/resourceArea.cpp         Mon Jul 25 17:04:06 2011 -0700
@@ -35,6 +35,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

//-----ResourceMark-----
debug_only(int ResourceArea::_warned;) // to suppress multiple warnings
diff -r e6e7d76b2bd3 src/share/vm/memory/resourceArea.hpp
--- a/src/share/vm/memory/resourceArea.hpp         Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/memory/resourceArea.hpp         Mon Jul 25 17:04:06 2011 -0700
@@ -35,6 +35,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+ifdef TARGET_OS_FAMILY_bsd

```

```

+# include "thread_bsd.inline.hpp"
+#endif

// The resource area holds temporary data structures in the VM.
// The actual allocation areas are thread local. Typical usage:
diff -r e6e7d76b2bd3 src/share/vm/memory/space.hpp
--- a/src/share/vm/memory/space.hpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/memory/space.hpp      Mon Jul 25 17:04:06 2011 -0700
@@ -44,6 +44,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "os_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "os_bsd.inline.hpp"
+#endif

// A space is an abstraction for the "storage units" backing
// up the generation abstraction. It includes specific
diff -r e6e7d76b2bd3 src/share/vm/memory/threadLocalAllocBuffer.cpp
--- a/src/share/vm/memory/threadLocalAllocBuffer.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/memory/threadLocalAllocBuffer.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -38,6 +38,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

// Thread-Local Edens support

diff -r e6e7d76b2bd3 src/share/vm/memory/universe.cpp
--- a/src/share/vm/memory/universe.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/memory/universe.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -89,6 +89,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif
 #ifndef SERIALGC
 #include "gc_implementation/concurrentMarkSweep/cmsAdaptiveSizePolicy.hpp"
 #include "gc_implementation/concurrentMarkSweep/cmsCollectorPolicy.hpp"
diff -r e6e7d76b2bd3 src/share/vm/oops/constantPoolKlass.cpp
--- a/src/share/vm/oops/constantPoolKlass.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/oops/constantPoolKlass.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -44,6 +44,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif
 #ifndef SERIALGC
 #include "gc_implementation/parNew/parOopClosures.inline.hpp"
 #include "gc_implementation/parallelScavenge/psPromotionManager.inline.hpp"
diff -r e6e7d76b2bd3 src/share/vm/oops/constantPoolOop.cpp
--- a/src/share/vm/oops/constantPoolOop.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/oops/constantPoolOop.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -1332,7 +1332,7 @@
 }
 case JVM_CONSTANT_Long: {
     u8 val = Bytes::get_Java_u8(bytes);
-    printf("long          " INT64_FORMAT, *(jlong *) &val);
+    printf("long          " INT64_FORMAT, (int64_t) *(jlong *) &val);
     ent_size = 8;
     idx++; // Long takes two cpool slots
     break;
diff -r e6e7d76b2bd3 src/share/vm/oops/instanceKlass.cpp
--- a/src/share/vm/oops/instanceKlass.cpp      Tue May 24 15:28:35 2011 -0700

```

```

+++ b/src/share/vm/oops/instanceKlass.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -60,6 +60,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif
 #ifndef SERIALGC
 #include "gc_implementation/g1/g1CollectedHeap.inline.hpp"
 #include "gc_implementation/g1/g1OopClosures.inline.hpp"
diff -r e6e7d76b2bd3 src/share/vm/oops/markOop.cpp
--- a/src/share/vm/oops/markOop.cpp           Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/oops/markOop.cpp           Mon Jul 25 17:04:06 2011 -0700
@@ -33,6 +33,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

    void markOopDesc::print_on(outputStream* st) const {
diff -r e6e7d76b2bd3 src/share/vm/oops/oop.cpp
--- a/src/share/vm/oops/oop.cpp               Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/oops/oop.cpp               Mon Jul 25 17:04:06 2011 -0700
@@ -36,6 +36,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

    bool always_do_update_barrier = false;

diff -r e6e7d76b2bd3 src/share/vm/oops/oopsHierarchy.cpp
--- a/src/share/vm/oops/oopsHierarchy.cpp     Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/oops/oopsHierarchy.cpp     Mon Jul 25 17:04:06 2011 -0700
@@ -37,6 +37,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

    #ifdef CHECK_UNHANDLED_OOPS

diff -r e6e7d76b2bd3 src/share/vm/opto/c2_globals.hpp
--- a/src/share/vm/opto/c2_globals.hpp        Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/opto/c2_globals.hpp        Mon Jul 25 17:04:06 2011 -0700
@@ -44,6 +44,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "c2_globals_windows.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "c2_globals_bsd.hpp"
+#endif

    //
    // Defines all globals flags used by the server compiler.
diff -r e6e7d76b2bd3 src/share/vm/prims/forte.cpp
--- a/src/share/vm/prims/forte.cpp           Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/prims/forte.cpp           Mon Jul 25 17:04:06 2011 -0700
@@ -640,6 +640,11 @@
 // Method to let libcollector know about a dynamically loaded function.
 // Because it is weakly bound, the calls become NOP's when the library
 // isn't present.
+#ifdef __APPLE__

```



```

+// XXXDARWIN: Link errors occur even when __attribute__((weak_import))
+// is added
+#define collector_func_load(x0,x1,x2,x3,x4,x5,x6) (0)
+#else
void collector_func_load(char* name,
                          void* null_argument_1,
                          void* null_argument_2,
@@ -650,6 +655,7 @@
#pragma weak collector_func_load
#define collector_func_load(x0,x1,x2,x3,x4,x5,x6) \
( collector_func_load ? collector_func_load(x0,x1,x2,x3,x4,x5,x6),0 : 0 )
+#endif // __APPLE__
#endif // !_WINDOWS

} // end extern "C"
diff -r e6e7d76b2bd3 src/share/vm/prims/jni.cpp
--- a/src/share/vm/prims/jni.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/prims/jni.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -91,6 +91,10 @@
# include "os_windows.inline.hpp"
# include "thread_windows.inline.hpp"
#endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "os_bsd.inline.hpp"
+# include "thread_bsd.inline.hpp"
+#endif

static jint CurrentVersion = JNI_VERSION_1_6;

diff -r e6e7d76b2bd3 src/share/vm/prims/jvm.cpp
--- a/src/share/vm/prims/jvm.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/prims/jvm.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -72,6 +72,9 @@
#ifdef TARGET_OS_FAMILY_windows
# include "jvm_windows.h"
#endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "jvm_bsd.h"
+#endif

#include <errno.h>

diff -r e6e7d76b2bd3 src/share/vm/prims/jvm.h
--- a/src/share/vm/prims/jvm.h        Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/prims/jvm.h        Mon Jul 25 17:04:06 2011 -0700
@@ -36,6 +36,9 @@
#ifdef TARGET_OS_FAMILY_windows
# include "jvm_windows.h"
#endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "jvm_bsd.h"
+#endif

#ifdef _JAVASOFT_JVM_H_
#define _JAVASOFT_JVM_H_
diff -r e6e7d76b2bd3 src/share/vm/prims/jvmtiEnv.cpp
--- a/src/share/vm/prims/jvmtiEnv.cpp Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/prims/jvmtiEnv.cpp Mon Jul 25 17:04:06 2011 -0700
@@ -68,6 +68,9 @@
#ifdef TARGET_OS_FAMILY_windows
# include "thread_windows.inline.hpp"
#endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

diff -r e6e7d76b2bd3 src/share/vm/prims/jvmtiImpl.cpp
--- a/src/share/vm/prims/jvmtiImpl.cpp Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/prims/jvmtiImpl.cpp Mon Jul 25 17:04:06 2011 -0700

```

```

@@ -54,6 +54,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

//
// class JvmtiAgentThread
diff -r e6e7d76b2bd3 src/share/vm/prims/nativeLookup.cpp
--- a/src/share/vm/prims/nativeLookup.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/prims/nativeLookup.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -49,6 +49,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "os_windows.inline.hpp"
 #endif
+ifdef TARGET_OS_FAMILY_bsd
+# include "os_bsd.inline.hpp"
+#endif

    static void mangle_name_on(outputStream* st, Symbol* name, int begin, int end) {
diff -r e6e7d76b2bd3 src/share/vm/runtime/arguments.cpp
--- a/src/share/vm/runtime/arguments.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/arguments.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -55,6 +55,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "os_windows.inline.hpp"
 #endif
+ifdef TARGET_OS_FAMILY_bsd
+# include "os_bsd.inline.hpp"
+#endif
 #ifndef SERIALGC
 #include "gc_implementation/concurrentMarkSweep/compactibleFreeListSpace.hpp"
 #endif
diff -r e6e7d76b2bd3 src/share/vm/runtime/atomic.cpp
--- a/src/share/vm/runtime/atomic.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/atomic.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -33,6 +33,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "os_windows.inline.hpp"
 #endif
+ifdef TARGET_OS_FAMILY_bsd
+# include "os_bsd.inline.hpp"
+#endif
 #ifdef TARGET_OS_ARCH_linux_x86
 # include "atomic_linux_x86.inline.hpp"
 #endif
@@ -51,6 +54,12 @@
 #ifdef TARGET_OS_ARCH_windows_x86
 # include "atomic_windows_x86.inline.hpp"
 #endif
+ifdef TARGET_OS_ARCH_bsd_x86
+# include "atomic_bsd_x86.inline.hpp"
+#endif
+ifdef TARGET_OS_ARCH_bsd_zero
+# include "atomic_bsd_zero.inline.hpp"
+#endif

    jbyte Atomic::cmpxchg(jbyte exchange_value, volatile jbyte* dest, jbyte compare_value) {
    assert(sizeof(jbyte) == 1, "assumption.");
diff -r e6e7d76b2bd3 src/share/vm/runtime/fprofiler.hpp
--- a/src/share/vm/runtime/fprofiler.hpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/fprofiler.hpp      Mon Jul 25 17:04:06 2011 -0700
@@ -35,6 +35,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"

```

```

+#endif

// a simple flat profiler for Java

diff -r e6e7d76b2bd3 src/share/vm/runtime/globals.hpp
--- a/src/share/vm/runtime/globals.hpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/globals.hpp      Mon Jul 25 17:04:06 2011 -0700
@@ -50,6 +50,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "globals_windows.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "globals_bsd.hpp"
+#endif
 #ifdef TARGET_OS_ARCH_linux_x86
 # include "globals_linux_x86.hpp"
 #endif
@@ -74,6 +77,12 @@
 #ifdef TARGET_OS_ARCH_linux_ppc
 # include "globals_linux_ppc.hpp"
 #endif
+#ifdef TARGET_OS_ARCH_bsd_x86
+# include "globals_bsd_x86.hpp"
+#endif
+#ifdef TARGET_OS_ARCH_bsd_zero
+# include "globals_bsd_zero.hpp"
+#endif
 #ifdef COMPILER1
 #ifdef TARGET_ARCH_x86
 # include "cl_globals_x86.hpp"
@@ -96,6 +105,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "cl_globals_windows.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "cl_globals_bsd.hpp"
+#endif
 #endif
 #ifdef COMPILER2
 #ifdef TARGET_ARCH_x86
@@ -116,6 +128,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "c2_globals_windows.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "c2_globals_bsd.hpp"
+#endif
 #endif
 #ifdef SHARK
 #ifdef TARGET_ARCH_zero
diff -r e6e7d76b2bd3 src/share/vm/runtime/handles.cpp
--- a/src/share/vm/runtime/handles.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/handles.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -38,6 +38,10 @@
 # include "os_windows.inline.hpp"
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "os_bsd.inline.hpp"
+# include "thread_bsd.inline.hpp"
+#endif

 #ifdef ASSERT
 oop* HandleArea::allocate_handle(oop obj) {
diff -r e6e7d76b2bd3 src/share/vm/runtime/handles.inline.hpp
--- a/src/share/vm/runtime/handles.inline.hpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/handles.inline.hpp      Mon Jul 25 17:04:06 2011 -0700
@@ -35,6 +35,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif

```

```

+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

// these inline functions are in a separate file to break an include cycle
// between Thread and Handle
diff -r e6e7d76b2bd3 src/share/vm/runtime/interfaceSupport.hpp
--- a/src/share/vm/runtime/interfaceSupport.hpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/interfaceSupport.hpp      Mon Jul 25 17:04:06 2011 -0700
@@ -44,6 +44,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

// Wrapper for all entry points to the virtual machine.
// The HandleMarkCleaner is a faster version of HandleMark.
@@ -115,6 +118,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "interfaceSupport_windows.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "interfaceSupport_bsd.hpp"
+#endif

};

diff -r e6e7d76b2bd3 src/share/vm/runtime/java.cpp
--- a/src/share/vm/runtime/java.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/java.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -85,6 +85,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif
 #ifndef SERIALGC
 #include "gc_implementation/concurrentMarkSweep/concurrentMarkSweepThread.hpp"
 #include "gc_implementation/parallelScavenge/psScavenge.hpp"
diff -r e6e7d76b2bd3 src/share/vm/runtime/javaCalls.cpp
--- a/src/share/vm/runtime/javaCalls.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/javaCalls.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -48,6 +48,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

// -----
// Implementation of JavaCallWrapper
diff -r e6e7d76b2bd3 src/share/vm/runtime/javaCalls.hpp
--- a/src/share/vm/runtime/javaCalls.hpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/javaCalls.hpp      Mon Jul 25 17:04:06 2011 -0700
@@ -54,6 +54,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

// A JavaCallWrapper is constructed before each JavaCall and destructed after the call.
// Its purpose is to allocate/deallocate a new handle block and to save/restore the last
diff -r e6e7d76b2bd3 src/share/vm/runtime/javaFrameAnchor.hpp
--- a/src/share/vm/runtime/javaFrameAnchor.hpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/javaFrameAnchor.hpp      Mon Jul 25 17:04:06 2011 -0700

```

```

@@ -50,6 +50,13 @@
 #ifdef TARGET_OS_ARCH_linux_ppc
 # include "orderAccess_linux_ppc.inline.hpp"
 #endif
+#ifdef TARGET_OS_ARCH_bsd_x86
+# include "orderAccess_bsd_x86.inline.hpp"
+#endif
+#ifdef TARGET_OS_ARCH_bsd_zero
+# include "orderAccess_bsd_zero.inline.hpp"
+#endif
+
+ //
+ // An object for encapsulating the machine/os dependent part of a JavaThread frame state
+ //
diff -r e6e7d76b2bd3 src/share/vm/runtime/jniHandles.cpp
--- a/src/share/vm/runtime/jniHandles.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/jniHandles.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -37,6 +37,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

JNIHandleBlock* JNIHandles::_global_handles = NULL;
diff -r e6e7d76b2bd3 src/share/vm/runtime/memprofiler.cpp
--- a/src/share/vm/runtime/memprofiler.cpp    Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/memprofiler.cpp    Mon Jul 25 17:04:06 2011 -0700
@@ -46,6 +46,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

#ifdef PRODUCT

diff -r e6e7d76b2bd3 src/share/vm/runtime/mutex.cpp
--- a/src/share/vm/runtime/mutex.cpp          Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/mutex.cpp          Mon Jul 25 17:04:06 2011 -0700
@@ -39,6 +39,10 @@
 # include "mutex_windows.inline.hpp"
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "mutex_bsd.inline.hpp"
+# include "thread_bsd.inline.hpp"
+#endif

// o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o-o
//
diff -r e6e7d76b2bd3 src/share/vm/runtime/mutexLocker.cpp
--- a/src/share/vm/runtime/mutexLocker.cpp    Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/mutexLocker.cpp    Mon Jul 25 17:04:06 2011 -0700
@@ -36,6 +36,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

// Mutexes used in the VM (see comment in mutexLocker.hpp):
//
diff -r e6e7d76b2bd3 src/share/vm/runtime/mutexLocker.hpp
--- a/src/share/vm/runtime/mutexLocker.hpp    Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/mutexLocker.hpp    Mon Jul 25 17:04:06 2011 -0700
@@ -36,6 +36,9 @@

```

```

#ifdef TARGET_OS_FAMILY_windows
# include "os_windows.inline.hpp"
#endif
#ifdef TARGET_OS_FAMILY_bsd
+# include "os_bsd.inline.hpp"
+#endif

// Mutexes used in the VM.

diff -r e6e7d76b2bd3 src/share/vm/runtime/objectMonitor.cpp
--- a/src/share/vm/runtime/objectMonitor.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/objectMonitor.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -50,6 +50,10 @@
# include "os_windows.inline.hpp"
# include "thread_windows.inline.hpp"
#endif
#ifdef TARGET_OS_FAMILY_bsd
+# include "os_bsd.inline.hpp"
+# include "thread_bsd.inline.hpp"
+#endif

#ifdef __GNUC__ && !defined(IA64)
// Need to inhibit inlining for older versions of GCC to avoid build-time failures
diff -r e6e7d76b2bd3 src/share/vm/runtime/os.cpp
--- a/src/share/vm/runtime/os.cpp                 Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/os.cpp                 Mon Jul 25 17:04:06 2011 -0700
@@ -60,6 +60,10 @@
# include "os_windows.inline.hpp"
# include "thread_windows.inline.hpp"
#endif
#ifdef TARGET_OS_FAMILY_bsd
+# include "os_bsd.inline.hpp"
+# include "thread_bsd.inline.hpp"
+#endif

# include <signal.h>

@@ -116,7 +120,11 @@
    assert(false, "Failed localtime_pd");
    return NULL;
}
#ifdef __ALLBSD_SOURCE
+ const time_t zone = (time_t) time_struct.tm_gmtoff;
#else
    const time_t zone = timezone;
#endif

// If daylight savings time is in effect,
// we are 1 hour East of our time zone
@@ -384,6 +392,13 @@
    if (_native_java_library == NULL) {
        vm_exit_during_initialization("Unable to load native library", ebuf);
    }
+
+
#ifdef __OpenBSD__
+ // Work-around OpenBSD's lack of $ORIGIN support by pre-loading libnet.so
+ // ignore errors
+ dll_build_name(buffer, sizeof(buffer), Arguments::get_dll_dir(), "net");
+ dll_load(buffer, ebuf, sizeof(ebuf));
#endif
}
static jboolean onLoaded = JNI_FALSE;
if (onLoaded) {
diff -r e6e7d76b2bd3 src/share/vm/runtime/os.hpp
--- a/src/share/vm/runtime/os.hpp                 Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/os.hpp                 Mon Jul 25 17:04:06 2011 -0700
@@ -30,6 +30,9 @@
#include "runtime/extendedPC.hpp"
#include "runtime/handles.hpp"
#include "utilities/top.hpp"
#ifdef TARGET_OS_FAMILY_bsd

```

```

+# include "jvm_bsd.h"
+#endif
#ifdef TARGET_OS_FAMILY_linux
# include "jvm_linux.h"
#endif
@@ -39,6 +42,9 @@
#ifdef TARGET_OS_FAMILY_windows
# include "jvm_windows.h"
#endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "jvm_bsd.h"
+#endif

// os defines the interface to operating system; this includes traditional
// OS services (time, I/O) as well as other functionality with system-
@@ -672,6 +678,9 @@
#ifdef TARGET_OS_FAMILY_windows
# include "os_windows.hpp"
#endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "os_bsd.hpp"
+#endif
#ifdef TARGET_OS_ARCH_linux_x86
# include "os_linux_x86.hpp"
#endif
@@ -696,6 +705,12 @@
#ifdef TARGET_OS_ARCH_linux_ppc
# include "os_linux_ppc.hpp"
#endif
+#ifdef TARGET_OS_ARCH_bsd_x86
+# include "os_bsd_x86.hpp"
+#endif
+#ifdef TARGET_OS_ARCH_bsd_zero
+# include "os_bsd_zero.hpp"
+#endif

// debugging support (mostly used by debug.cpp but also fatal error handler)
diff -r e6e7d76b2bd3 src/share/vm/runtime/osThread.hpp
--- a/src/share/vm/runtime/osThread.hpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/osThread.hpp      Mon Jul 25 17:04:06 2011 -0700
@@ -109,6 +109,9 @@
#ifdef TARGET_OS_FAMILY_windows
# include "osThread_windows.hpp"
#endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "osThread_bsd.hpp"
+#endif

};

diff -r e6e7d76b2bd3 src/share/vm/runtime/safepoint.cpp
--- a/src/share/vm/runtime/safepoint.cpp     Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/safepoint.cpp     Mon Jul 25 17:04:06 2011 -0700
@@ -78,6 +78,9 @@
#ifdef TARGET_OS_FAMILY_windows
# include "thread_windows.inline.hpp"
#endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif
#ifdef SERIALGC
#include "gc_implementation/concurrentMarkSweep/concurrentMarkSweepThread.hpp"
#include "gc_implementation/shared/concurrentGCThread.hpp"
diff -r e6e7d76b2bd3 src/share/vm/runtime/synchronizer.cpp
--- a/src/share/vm/runtime/synchronizer.cpp  Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/synchronizer.cpp  Mon Jul 25 17:04:06 2011 -0700
@@ -51,6 +51,10 @@
# include "os_windows.inline.hpp"
# include "thread_windows.inline.hpp"
#endif

```

```

+#ifdef TARGET_OS_FAMILY_bsd
+# include "os_bsd.inline.hpp"
+# include "thread_bsd.inline.hpp"
+#endif

    #if defined(__GNUC__) && !defined(IA64)
        // Need to inhibit inlining for older versions of GCC to avoid build-time failures
diff -r e6e7d76b2bd3 src/share/vm/runtime/task.cpp
--- a/src/share/vm/runtime/task.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/task.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -39,6 +39,10 @@
    # include "os_windows.inline.hpp"
    # include "thread_windows.inline.hpp"
    #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "os_bsd.inline.hpp"
+# include "thread_bsd.inline.hpp"
+#endif

    int PeriodicTask::_num_tasks = 0;
    PeriodicTask* PeriodicTask::_tasks[PeriodicTask::max_tasks];
diff -r e6e7d76b2bd3 src/share/vm/runtime/thread.cpp
--- a/src/share/vm/runtime/thread.cpp    Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/thread.cpp    Mon Jul 25 17:04:06 2011 -0700
@@ -89,6 +89,10 @@
    # include "os_windows.inline.hpp"
    # include "thread_windows.inline.hpp"
    #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "os_bsd.inline.hpp"
+# include "thread_bsd.inline.hpp"
+#endif
+#ifndef SERIALGC
    #include "gc_implementation/concurrentMarkSweep/concurrentMarkSweepThread.hpp"
    #include "gc_implementation/g1/concurrentMarkThread.inline.hpp"
diff -r e6e7d76b2bd3 src/share/vm/runtime/thread.hpp
--- a/src/share/vm/runtime/thread.hpp    Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/thread.hpp    Mon Jul 25 17:04:06 2011 -0700
@@ -1610,6 +1610,12 @@
    #ifdef TARGET_OS_ARCH_linux_ppc
    # include "thread_linux_ppc.hpp"
    #endif
+#ifdef TARGET_OS_ARCH_bsd_x86
+# include "thread_bsd_x86.hpp"
+#endif
+#ifdef TARGET_OS_ARCH_bsd_zero
+# include "thread_bsd_zero.hpp"
+#endif

    public:
diff -r e6e7d76b2bd3 src/share/vm/runtime/threadLocalStorage.cpp
--- a/src/share/vm/runtime/threadLocalStorage.cpp    Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/threadLocalStorage.cpp    Mon Jul 25 17:04:06 2011 -0700
@@ -36,6 +36,10 @@
    # include "os_windows.inline.hpp"
    # include "thread_windows.inline.hpp"
    #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "os_bsd.inline.hpp"
+# include "thread_bsd.inline.hpp"
+#endif

    // static member initialization
    int ThreadLocalStorage::_thread_index = -1;
diff -r e6e7d76b2bd3 src/share/vm/runtime/threadLocalStorage.hpp
--- a/src/share/vm/runtime/threadLocalStorage.hpp    Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/threadLocalStorage.hpp    Mon Jul 25 17:04:06 2011 -0700
@@ -68,6 +68,12 @@
    #ifdef TARGET_OS_ARCH_linux_ppc
    # include "threadLS_linux_ppc.hpp"

```



```

#endif
#ifdef TARGET_OS_ARCH_bsd_x86
#include "threadLS_bsd_x86.hpp"
#endif
#ifdef TARGET_OS_ARCH_bsd_zero
#include "threadLS_bsd_zero.hpp"
#endif

public:
diff -r e6e7d76b2bd3 src/share/vm/runtime/timer.cpp
--- a/src/share/vm/runtime/timer.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/timer.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -35,6 +35,9 @@
#ifdef TARGET_OS_FAMILY_windows
#include "os_windows.inline.hpp"
#endif
#ifdef TARGET_OS_FAMILY_bsd
#include "os_bsd.inline.hpp"
#endif

void elapsedTimer::add(elapsedTimer t) {
diff -r e6e7d76b2bd3 src/share/vm/runtime/virtualspace.cpp
--- a/src/share/vm/runtime/virtualspace.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/virtualspace.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -35,6 +35,9 @@
#ifdef TARGET_OS_FAMILY_windows
#include "os_windows.inline.hpp"
#endif
#ifdef TARGET_OS_FAMILY_bsd
#include "os_bsd.inline.hpp"
#endif

// ReservedSpace
diff -r e6e7d76b2bd3 src/share/vm/runtime/vmStructs.cpp
--- a/src/share/vm/runtime/vmStructs.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/vmStructs.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -125,6 +125,9 @@
#ifdef TARGET_OS_FAMILY_windows
#include "thread_windows.inline.hpp"
#endif
#ifdef TARGET_OS_FAMILY_bsd
#include "thread_bsd.inline.hpp"
#endif
#ifdef TARGET_OS_ARCH_linux_x86
#include "vmStructs_linux_x86.hpp"
#endif
@@ -149,6 +152,12 @@
#ifdef TARGET_OS_ARCH_linux_ppc
#include "vmStructs_linux_ppc.hpp"
#endif
#ifdef TARGET_OS_ARCH_bsd_x86
#include "vmStructs_bsd_x86.hpp"
#endif
#ifdef TARGET_OS_ARCH_bsd_zero
#include "vmStructs_bsd_zero.hpp"
#endif
#ifdef SERIALGC
#include "gc_implementation/concurrentMarkSweep/cmsPermGen.hpp"
#include "gc_implementation/concurrentMarkSweep/compactibleFreeListSpace.hpp"
diff -r e6e7d76b2bd3 src/share/vm/runtime/vmThread.cpp
--- a/src/share/vm/runtime/vmThread.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/vmThread.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -46,6 +46,9 @@
#ifdef TARGET_OS_FAMILY_windows
#include "thread_windows.inline.hpp"
#endif
#ifdef TARGET_OS_FAMILY_bsd
#include "thread_bsd.inline.hpp"

```

```

+##endif

HS_DTRACE_PROBE_DECL3(hotspot, vmops__request, char *, uintptr_t, int);
HS_DTRACE_PROBE_DECL3(hotspot, vmops__begin, char *, uintptr_t, int);
diff -r e6e7d76b2bd3 src/share/vm/runtime/vmThread.hpp
--- a/src/share/vm/runtime/vmThread.hpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/vmThread.hpp      Mon Jul 25 17:04:06 2011 -0700
@@ -36,6 +36,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+##ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+##endif

//
// Prioritized queue of VM operations.
diff -r e6e7d76b2bd3 src/share/vm/runtime/vm_operations.cpp
--- a/src/share/vm/runtime/vm_operations.cpp  Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/vm_operations.cpp  Mon Jul 25 17:04:06 2011 -0700
@@ -45,6 +45,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+##ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+##endif

#define VM_OP_NAME_INITIALIZE(name) #name,

diff -r e6e7d76b2bd3 src/share/vm/runtime/vm_version.cpp
--- a/src/share/vm/runtime/vm_version.cpp     Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/runtime/vm_version.cpp     Mon Jul 25 17:04:06 2011 -0700
@@ -166,7 +166,8 @@

#define OS      LINUX_ONLY("linux")           \
                WINDOWS_ONLY("windows")      \
- SOLARIS_ONLY("solaris")
+ SOLARIS_ONLY("solaris")           \
+ BSD_ONLY("bsd")

#ifdef ZERO
#define CPU      ZERO_LIBARCH
diff -r e6e7d76b2bd3 src/share/vm/utilities/accessFlags.cpp
--- a/src/share/vm/utilities/accessFlags.cpp  Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/utilities/accessFlags.cpp  Mon Jul 25 17:04:06 2011 -0700
@@ -34,6 +34,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "os_windows.inline.hpp"
 #endif
+##ifdef TARGET_OS_FAMILY_bsd
+# include "os_bsd.inline.hpp"
+##endif

void AccessFlags::atomic_set_bits(jint bits) {
diff -r e6e7d76b2bd3 src/share/vm/utilities/array.cpp
--- a/src/share/vm/utilities/array.cpp        Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/utilities/array.cpp        Mon Jul 25 17:04:06 2011 -0700
@@ -34,6 +34,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+##ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+##endif

#ifdef ASSERT
diff -r e6e7d76b2bd3 src/share/vm/utilities/bitMap.cpp
--- a/src/share/vm/utilities/bitMap.cpp       Tue May 24 15:28:35 2011 -0700

```

```

+++ b/src/share/vm/utilities/bitMap.cpp          Mon Jul 25 17:04:06 2011 -0700
@@ -35,6 +35,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "os_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "os_bsd.inline.hpp"
+#endif

  BitMap::BitMap(bm_word_t* map, idx_t size_in_bits) :
diff -r e6e7d76b2bd3 src/share/vm/utilities/debug.cpp
--- a/src/share/vm/utilities/debug.cpp          Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/utilities/debug.cpp          Mon Jul 25 17:04:06 2011 -0700
@@ -62,6 +62,10 @@
 # include "os_windows.inline.hpp"
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "os_bsd.inline.hpp"
+# include "thread_bsd.inline.hpp"
+#endif

 #ifndef ASSERT
 # ifdef _DEBUG
diff -r e6e7d76b2bd3 src/share/vm/utilities/elf.hpp
--- /dev/null          Thu Jan 01 00:00:00 1970 +0000
+++ b/src/share/vm/utilities/elf.hpp          Mon Jul 25 17:04:06 2011 -0700
@@ -0,0 +1,2605 @@
+/* This file defines standard ELF types, structures, and macros.
+ Copyright (C) 1995-2003,2004,2005,2006 Free Software Foundation, Inc.
+ This file is part of the GNU C Library.
+
+ The GNU C Library is free software; you can redistribute it and/or
+ modify it under the terms of the GNU Lesser General Public
+ License as published by the Free Software Foundation; either
+ version 2.1 of the License, or (at your option) any later version.
+
+ The GNU C Library is distributed in the hope that it will be useful,
+ but WITHOUT ANY WARRANTY; without even the implied warranty of
+ MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
+ Lesser General Public License for more details.
+
+ You should have received a copy of the GNU Lesser General Public
+ License along with the GNU C Library; if not, write to the Free
+ Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA
+ 02111-1307 USA. */
+#ifndef __ELF_HPP
+#define __ELF_HPP 1
+
+__BEGIN_DECLS
+
+/* Standard ELF types. */
+
+#include <stdint.h>
+
+/* Type for a 16-bit quantity. */
+typedef uint16_t Elf32_Half;
+typedef uint16_t Elf64_Half;
+
+/* Types for signed and unsigned 32-bit quantities. */
+typedef uint32_t Elf32_Word;
+typedef int32_t Elf32_Sword;
+typedef uint32_t Elf64_Word;
+typedef int32_t Elf64_Sword;
+
+/* Types for signed and unsigned 64-bit quantities. */
+typedef uint64_t Elf32_Xword;
+typedef int64_t Elf32_Sxword;
+typedef uint64_t Elf64_Xword;

```

```

+typedef          int64_t  Elf64_Sxword;
+
+/* Type of addresses. */
+typedef uint32_t  Elf32_Addr;
+typedef uint64_t  Elf64_Addr;
+
+/* Type of file offsets. */
+typedef uint32_t  Elf32_Off;
+typedef uint64_t  Elf64_Off;
+
+/* Type for section indices, which are 16-bit quantities. */
+typedef uint16_t  Elf32_Section;
+typedef uint16_t  Elf64_Section;
+
+/* Type for version symbol information. */
+typedef Elf32_Half Elf32_Versym;
+typedef Elf64_Half Elf64_Versym;
+
+
+/* The ELF file header. This appears at the start of every ELF file. */
+
+#define EI_NIDENT (16)
+
+typedef struct
+{
+  unsigned char    e_ident[EI_NIDENT];      /* Magic number and other info */
+  Elf32_Half       e_type;                   /* Object file type */
+  Elf32_Half       e_machine;                /* Architecture */
+  Elf32_Word       e_version;                /* Object file version */
+  Elf32_Addr       e_entry;                  /* Entry point virtual address */
+  Elf32_Off        e_phoff;                  /* Program header table file offset */
+  Elf32_Off        e_shoff;                  /* Section header table file offset */
+  Elf32_Word       e_flags;                  /* Processor-specific flags */
+  Elf32_Half       e_ehsize;                  /* ELF header size in bytes */
+  Elf32_Half       e_phentsize;              /* Program header table entry size */
+  Elf32_Half       e_phnum;                  /* Program header table entry count */
+  Elf32_Half       e_shentsize;              /* Section header table entry size */
+  Elf32_Half       e_shnum;                  /* Section header table entry count */
+  Elf32_Half       e_shstrndx;              /* Section header string table index */
+} Elf32_Ehdr;
+
+typedef struct
+{
+  unsigned char    e_ident[EI_NIDENT];      /* Magic number and other info */
+  Elf64_Half       e_type;                   /* Object file type */
+  Elf64_Half       e_machine;                /* Architecture */
+  Elf64_Word       e_version;                /* Object file version */
+  Elf64_Addr       e_entry;                  /* Entry point virtual address */
+  Elf64_Off        e_phoff;                  /* Program header table file offset */
+  Elf64_Off        e_shoff;                  /* Section header table file offset */
+  Elf64_Word       e_flags;                  /* Processor-specific flags */
+  Elf64_Half       e_ehsize;                  /* ELF header size in bytes */
+  Elf64_Half       e_phentsize;              /* Program header table entry size */
+  Elf64_Half       e_phnum;                  /* Program header table entry count */
+  Elf64_Half       e_shentsize;              /* Section header table entry size */
+  Elf64_Half       e_shnum;                  /* Section header table entry count */
+  Elf64_Half       e_shstrndx;              /* Section header string table index */
+} Elf64_Ehdr;
+
+/* Fields in the e_ident array. The EI_* macros are indices into the
+ array. The macros under each EI_* macro are the values the byte
+ may have. */
+
+#define EI_MAG0          0                    /* File identification byte 0 index */
+#define ELF_MAG0        0x7f                 /* Magic number byte 0 */
+
+#define EI_MAG1          1                    /* File identification byte 1 index */
+#define ELF_MAG1        'E'                 /* Magic number byte 1 */
+
+#define EI_MAG2          2                    /* File identification byte 2 index */
+#define ELF_MAG2        'L'                 /* Magic number byte 2 */

```

```

+
+#define EI_MAG3          3          /* File identification byte 3 index */
+#define ELF_MAG3        'F'        /* Magic number byte 3 */
+
+/* Conglomeration of the identification bytes, for easy testing as a word. */
+#define      ELF_MAG      "\177ELF"
+#define      SELF_MAG     4
+
+#define EI_CLASS        4          /* File class byte index */
+#define ELF_CLASSNONE   0          /* Invalid class */
+#define ELF_CLASS32     1          /* 32-bit objects */
+#define ELF_CLASS64     2          /* 64-bit objects */
+#define ELF_CLASSNUM    3
+
+#define EI_DATA         5          /* Data encoding byte index */
+#define ELFDATANONE     0          /* Invalid data encoding */
+#define ELFDATA2LSB     1          /* 2's complement, little endian */
+#define ELFDATA2MSB     2          /* 2's complement, big endian */
+#define ELFDATANUM      3
+
+#define EI_VERSION      6          /* File version byte index */
+/* Value must be EV_CURRENT */
+
+#define EI_OSABI        7          /* OS ABI identification */
+#define ELFOSABI_NONE   0          /* UNIX System V ABI */
+#define ELFOSABI_SYSV   0          /* Alias. */
+#define ELFOSABI_HPUX   1          /* HP-UX */
+#define ELFOSABI_NETBSD 2          /* NetBSD. */
+#define ELFOSABI_LINUX  3          /* Linux. */
+#define ELFOSABI_SOLARIS 6         /* Sun Solaris. */
+#define ELFOSABI_AIX     7          /* IBM AIX. */
+#define ELFOSABI_IRIX    8          /* SGI Irix. */
+#define ELFOSABI_FREEBSD 9         /* FreeBSD. */
+#define ELFOSABI_TRU64   10         /* Compaq TRU64 UNIX. */
+#define ELFOSABI_MODESTO 11        /* Novell Modesto. */
+#define ELFOSABI_OPENBSD 12        /* OpenBSD. */
+#define ELFOSABI_ARM     97         /* ARM */
+#define ELFOSABI_STANDALONE 255     /* Standalone (embedded) application */
+
+#define EI_ABIVERSION   8          /* ABI version */
+
+#define EI_PAD          9          /* Byte index of padding bytes */
+
+/* Legal values for e_type (object file type). */
+
+#define ET_NONE         0          /* No file type */
+#define ET_REL          1          /* Relocatable file */
+#define ET_EXEC         2          /* Executable file */
+#define ET_DYN          3          /* Shared object file */
+#define ET_CORE         4          /* Core file */
+#define      ET_NUM      5          /* Number of defined types */
+#define ET_LOOS         0xfe00     /* OS-specific range start */
+#define ET_HIOS         0xfeff     /* OS-specific range end */
+#define ET_LOPROC       0xff00     /* Processor-specific range start */
+#define ET_HIPROC       0xffff     /* Processor-specific range end */
+
+/* Legal values for e_machine (architecture). */
+
+#define EM_NONE         0          /* No machine */
+#define EM_M32          1          /* AT&T WE 32100 */
+#define EM_SPARC        2          /* SUN SPARC */
+#define EM_386          3          /* Intel 80386 */
+#define EM_68K          4          /* Motorola m68k family */
+#define EM_88K          5          /* Motorola m88k family */
+#define EM_860          7          /* Intel 80860 */
+#define EM_MIPS         8          /* MIPS R3000 big-endian */
+#define EM_S370         9          /* IBM System/370 */
+#define EM_MIPS_RS3_LE  10         /* MIPS R3000 little-endian */
+
+#define EM_PARISC       15         /* HPPA */
+#define EM_VPP500       17         /* Fujitsu VPP500 */

```

```

#define EM_SPARC32PLUS      18          /* Sun's "v8plus" */
#define EM_960              19          /* Intel 80960 */
#define EM_PPC              20          /* PowerPC */
#define EM_PPC64            21          /* PowerPC 64-bit */
#define EM_S390             22          /* IBM S390 */
+
#define EM_V800             36          /* NEC V800 series */
#define EM_FR20             37          /* Fujitsu FR20 */
#define EM_RH32             38          /* TRW RH-32 */
#define EM_RCE              39          /* Motorola RCE */
#define EM_ARM              40          /* ARM */
#define EM_FAKE_ALPHA       41          /* Digital Alpha */
#define EM_SH               42          /* Hitachi SH */
#define EM_SPARCV9          43          /* SPARC v9 64-bit */
#define EM_TRICORE          44          /* Siemens Tricore */
#define EM_ARC              45          /* Argonaut RISC Core */
#define EM_H8_300           46          /* Hitachi H8/300 */
#define EM_H8_300H          47          /* Hitachi H8/300H */
#define EM_H8S              48          /* Hitachi H8S */
#define EM_H8_500           49          /* Hitachi H8/500 */
#define EM_IA_64            50          /* Intel Merced */
#define EM_MIPS_X           51          /* Stanford MIPS-X */
#define EM_COLDFIRE         52          /* Motorola Coldfire */
#define EM_68HC12           53          /* Motorola M68HC12 */
#define EM_MMA              54          /* Fujitsu MMA Multimedia Accelerator*/
#define EM_PCP              55          /* Siemens PCP */
#define EM_NCPU             56          /* Sony nCPU embeeded RISC */
#define EM_NDR1            57          /* Denso NDR1 microprocessor */
#define EM_STARCORE         58          /* Motorola Start*Core processor */
#define EM_ME16             59          /* Toyota ME16 processor */
#define EM_ST100            60          /* STMicroelectronic ST100 processor */
#define EM_TINYJ            61          /* Advanced Logic Corp. Tinyj emb.fam*/
#define EM_X86_64           62          /* AMD x86-64 architecture */
#define EM_PDSP             63          /* Sony DSP Processor */
+
#define EM_FX66             66          /* Siemens FX66 microcontroller */
#define EM_ST9PLUS          67          /* STMicroelectronics ST9+ 8/16 mc */
#define EM_ST7              68          /* STMicroelectronics ST7 8 bit mc */
#define EM_68HC16           69          /* Motorola MC68HC16 microcontroller */
#define EM_68HC11           70          /* Motorola MC68HC11 microcontroller */
#define EM_68HC08           71          /* Motorola MC68HC08 microcontroller */
#define EM_68HC05           72          /* Motorola MC68HC05 microcontroller */
#define EM_SVX              73          /* Silicon Graphics SVx */
#define EM_ST19             74          /* STMicroelectronics ST19 8 bit mc */
#define EM_VAX              75          /* Digital VAX */
#define EM_CRIS             76          /* Axis Communications 32-bit embedded processor */
#define EM_JAVELIN          77          /* Infineon Technologies 32-bit embedded processor */
#define EM_FIREPATH         78          /* Element 14 64-bit DSP Processor */
#define EM_ZSP              79          /* LSI Logic 16-bit DSP Processor */
#define EM_MMIX             80          /* Donald Knuth's educational 64-bit processor */
#define EM_HUANY            81          /* Harvard University machine-independent object files */
#define EM_PRISM            82          /* SiTera Prism */
#define EM_AVR              83          /* Atmel AVR 8-bit microcontroller */
#define EM_FR30             84          /* Fujitsu FR30 */
#define EM_D10V            85          /* Mitsubishi D10V */
#define EM_D30V            86          /* Mitsubishi D30V */
#define EM_V850            87          /* NEC v850 */
#define EM_M32R            88          /* Mitsubishi M32R */
#define EM_MN10300          89          /* Matsushita MN10300 */
#define EM_MN10200          90          /* Matsushita MN10200 */
#define EM_PJ               91          /* picoJava */
#define EM_OPENRISC         92          /* OpenRISC 32-bit embedded processor */
#define EM_ARC_A5           93          /* ARC Cores Tangent-A5 */
#define EM_XTENSA           94          /* Tensilica Xtensa Architecture */
#define EM_NUM              95
+
+/* If it is necessary to assign new unofficial EM_* values, please
+ pick large random numbers (0x8523, 0xa7f2, etc.) to minimize the
+ chances of collision with official or non-GNU unofficial values. */
+
#define EM_ALPHA            0x9026

```

```

+
+/* Legal values for e_version (version). */
+
+#define EV_NONE          0          /* Invalid ELF version */
+#define EV_CURRENT      1          /* Current version */
+#define EV_NUM          2
+
+/* Section header. */
+
+typedef struct
+{
+  Elf32_Word      sh_name;          /* Section name (string tbl index) */
+  Elf32_Word      sh_type;          /* Section type */
+  Elf32_Word      sh_flags;         /* Section flags */
+  Elf32_Addr      sh_addr;          /* Section virtual addr at execution */
+  Elf32_Off       sh_offset;        /* Section file offset */
+  Elf32_Word      sh_size;          /* Section size in bytes */
+  Elf32_Word      sh_link;          /* Link to another section */
+  Elf32_Word      sh_info;          /* Additional section information */
+  Elf32_Word      sh_addralign;     /* Section alignment */
+  Elf32_Word      sh_entsize;       /* Entry size if section holds table */
+} Elf32_Shdr;
+
+typedef struct
+{
+  Elf64_Word      sh_name;          /* Section name (string tbl index) */
+  Elf64_Word      sh_type;          /* Section type */
+  Elf64_Xword     sh_flags;         /* Section flags */
+  Elf64_Addr      sh_addr;          /* Section virtual addr at execution */
+  Elf64_Off       sh_offset;        /* Section file offset */
+  Elf64_Xword     sh_size;          /* Section size in bytes */
+  Elf64_Word      sh_link;          /* Link to another section */
+  Elf64_Word      sh_info;          /* Additional section information */
+  Elf64_Xword     sh_addralign;     /* Section alignment */
+  Elf64_Xword     sh_entsize;       /* Entry size if section holds table */
+} Elf64_Shdr;
+
+/* Special section indices. */
+
+#define SHN_UNDEF      0          /* Undefined section */
+#define SHN_LORESERVE  0xfff0     /* Start of reserved indices */
+#define SHN_LOPROC    0xfff0     /* Start of processor-specific */
+#define SHN_BEFORE    0xfff0     /* Order section before all others
+
+(Solaris). */
+#define SHN_AFTER     0xfff01     /* Order section after all others
+
+(Solaris). */
+#define SHN_HIPROC    0xff1f     /* End of processor-specific */
+#define SHN_LOOS      0xff20     /* Start of OS-specific */
+#define SHN_HIOS      0xff3f     /* End of OS-specific */
+#define SHN_ABS       0xffff1     /* Associated symbol is absolute */
+#define SHN_COMMON    0xffff2     /* Associated symbol is common */
+#define SHN_XINDEX    0xffff     /* Index is in extra table. */
+#define SHN_HIRESERVE 0xffff     /* End of reserved indices */
+
+/* Legal values for sh_type (section type). */
+
+#define SHT_NULL      0          /* Section header table entry unused */
+#define SHT_PROGBITS  1          /* Program data */
+#define SHT_SYMTAB    2          /* Symbol table */
+#define SHT_STRTAB    3          /* String table */
+#define SHT_RELA      4          /* Relocation entries with addends */
+#define SHT_HASH      5          /* Symbol hash table */
+#define SHT_DYNAMIC    6          /* Dynamic linking information */
+#define SHT_NOTE      7          /* Notes */
+#define SHT_NOBITS    8          /* Program space with no data (bss) */
+#define SHT_REL       9          /* Relocation entries, no addends */
+#define SHT_SHLIB     10         /* Reserved */
+#define SHT_DYNSYM    11         /* Dynamic linker symbol table */
+#define SHT_INIT_ARRAY 14         /* Array of constructors */
+#define SHT_FINI_ARRAY 15         /* Array of destructors */
+#define SHT_PREINIT_ARRAY 16     /* Array of pre-constructors */

```

```

#define SHT_GROUP          17          /* Section group */
#define SHT_SYMTAB_SHNDX  18          /* Extended section indexes */
#define SHT_NUM            19          /* Number of defined types. */
#define SHT_LOOS          0x60000000 /* Start OS-specific. */
#define SHT_GNU_HASH      0x6ffffff6 /* GNU-style hash table. */
#define SHT_GNU_LIBLIST   0x6ffffff7 /* Prelink library list */
#define SHT_CHECKSUM      0x6ffffff8 /* Checksum for DSO content. */
#define SHT_LOSUNW       0x6ffffffa /* Sun-specific low bound. */
#define SHT_SUNW_move     0x6ffffffa
#define SHT_SUNW_COMDAT   0x6ffffffb
#define SHT_SUNW_syminfo  0x6ffffffc
#define SHT_GNU_verdef    0x6ffffffd /* Version definition section. */
#define SHT_GNU_verneed  0x6ffffffe /* Version needs section. */
#define SHT_GNU_versym    0x6fffffff /* Version symbol table. */
#define SHT_HISUNW       0x6fffffff /* Sun-specific high bound. */
#define SHT_HIOS         0x6fffffff /* End OS-specific type */
#define SHT_LOPROC       0x70000000 /* Start of processor-specific */
#define SHT_HIPROC       0x7fffffff /* End of processor-specific */
#define SHT_LOUSER       0x80000000 /* Start of application-specific */
#define SHT_HIUSER       0x8fffffff /* End of application-specific */
+
+/* Legal values for sh_flags (section flags). */
+
#define SHF_WRITE         (1 << 0)    /* Writable */
#define SHF_ALLOC         (1 << 1)    /* Occupies memory during execution */
#define SHF_EXECINSTR    (1 << 2)    /* Executable */
#define SHF_MERGE        (1 << 4)    /* Might be merged */
#define SHF_STRINGS      (1 << 5)    /* Contains nul-terminated strings */
#define SHF_INFO_LINK    (1 << 6)    /* `sh_info' contains SHT index */
#define SHF_LINK_ORDER   (1 << 7)    /* Preserve order after combining */
#define SHF_OS_NONCONFORMING (1 << 8) /* Non-standard OS specific handling
+                                     required */
+
#define SHF_GROUP        (1 << 9)    /* Section is member of a group. */
#define SHF_TLS          (1 << 10)   /* Section hold thread-local data. */
#define SHF_MASKOS      0x0ff00000 /* OS-specific. */
#define SHF_MASKPROC    0xf0000000 /* Processor-specific */
#define SHF_ORDERED     (1 << 30)   /* Special ordering requirement
+                                     (Solaris). */
#define SHF_EXCLUDE     (1 << 31)   /* Section is excluded unless
+                                     referenced or allocated (Solaris).*/
+
+/* Section group handling. */
#define GRP_COMDAT       0x1         /* Mark group as COMDAT. */
+
+/* Symbol table entry. */
+
+typedef struct
+{
+  Elf32_Word      st_name;          /* Symbol name (string tbl index) */
+  Elf32_Addr      st_value;        /* Symbol value */
+  Elf32_Word      st_size;         /* Symbol size */
+  unsigned char   st_info;         /* Symbol type and binding */
+  unsigned char   st_other;        /* Symbol visibility */
+  Elf32_Section   st_shndx;        /* Section index */
+} Elf32_Sym;
+
+typedef struct
+{
+  Elf64_Word      st_name;          /* Symbol name (string tbl index) */
+  unsigned char   st_info;         /* Symbol type and binding */
+  unsigned char   st_other;        /* Symbol visibility */
+  Elf64_Section   st_shndx;        /* Section index */
+  Elf64_Addr      st_value;        /* Symbol value */
+  Elf64_Xword     st_size;         /* Symbol size */
+} Elf64_Sym;
+
+/* The syminfo section if available contains additional information about
+ every dynamic symbol. */
+
+typedef struct
+{

```



```

+ Elf32_Half si_boundto;          /* Direct bindings, symbol bound to */
+ Elf32_Half si_flags;           /* Per symbol flags */
+} Elf32_Syminfo;
+
+typedef struct
+{
+ Elf64_Half si_boundto;          /* Direct bindings, symbol bound to */
+ Elf64_Half si_flags;           /* Per symbol flags */
+} Elf64_Syminfo;
+
+/* Possible values for si_boundto. */
+#define SYMINFO_BT_SELF          0xffff /* Symbol bound to self */
+#define SYMINFO_BT_PARENT       0xffffe /* Symbol bound to parent */
+#define SYMINFO_BT_LOWRESERVE   0xff00 /* Beginning of reserved entries */
+
+/* Possible bitmasks for si_flags. */
+#define SYMINFO_FLG_DIRECT      0x0001 /* Direct bound symbol */
+#define SYMINFO_FLG_PASSTHRU   0x0002 /* Pass-thru symbol for translator */
+#define SYMINFO_FLG_COPY       0x0004 /* Symbol is a copy-reloc */
+#define SYMINFO_FLG_LAZYLOAD   0x0008 /* Symbol bound to object to be lazy
+                                     loaded */
+
+/* Syminfo version values. */
+#define SYMINFO_NONE           0
+#define SYMINFO_CURRENT        1
+#define SYMINFO_NUM            2
+
+
+/* How to extract and insert information held in the st_info field. */
+
+#define ELF32_ST_BIND(val)      (((unsigned char) (val)) >> 4)
+#define ELF32_ST_TYPE(val)     ((val) & 0xf)
+#define ELF32_ST_INFO(bind, type) (((bind) << 4) + ((type) & 0xf))
+
+/* Both Elf32_Sym and Elf64_Sym use the same one-byte st_info field. */
+#define ELF64_ST_BIND(val)     ELF32_ST_BIND (val)
+#define ELF64_ST_TYPE(val)     ELF32_ST_TYPE (val)
+#define ELF64_ST_INFO(bind, type) ELF32_ST_INFO ((bind), (type))
+
+/* Legal values for ST_BIND subfield of st_info (symbol binding). */
+
+#define STB_LOCAL              0 /* Local symbol */
+#define STB_GLOBAL             1 /* Global symbol */
+#define STB_WEAK               2 /* Weak symbol */
+#define STB_NUM                3 /* Number of defined types. */
+#define STB_LOOS              10 /* Start of OS-specific */
+#define STB_HIOS              12 /* End of OS-specific */
+#define STB_LOPROC            13 /* Start of processor-specific */
+#define STB_HIPROC            15 /* End of processor-specific */
+
+/* Legal values for ST_TYPE subfield of st_info (symbol type). */
+
+#define STT_NOTYPE             0 /* Symbol type is unspecified */
+#define STT_OBJECT             1 /* Symbol is a data object */
+#define STT_FUNC               2 /* Symbol is a code object */
+#define STT_SECTION            3 /* Symbol associated with a section */
+#define STT_FILE               4 /* Symbol's name is file name */
+#define STT_COMMON             5 /* Symbol is a common data object */
+#define STT_TLS                6 /* Symbol is thread-local data object*/
+#define STT_NUM                7 /* Number of defined types. */
+#define STT_LOOS              10 /* Start of OS-specific */
+#define STT_HIOS              12 /* End of OS-specific */
+#define STT_LOPROC            13 /* Start of processor-specific */
+#define STT_HIPROC            15 /* End of processor-specific */
+
+
+/* Symbol table indices are found in the hash buckets and chain table
+ of a symbol hash table section. This special index value indicates
+ the end of a chain, meaning no further symbols are found in that bucket. */
+
+#define STN_UNDEF              0 /* End of a chain. */
+

```

```

+
+/* How to extract and insert information held in the st_other field. */
+
+#define ELF32_ST_VISIBILITY(o)      ((o) & 0x03)
+
+/* For ELF64 the definitions are the same. */
+#define ELF64_ST_VISIBILITY(o)      ELF32_ST_VISIBILITY (o)
+
+/* Symbol visibility specification encoded in the st_other field. */
+#define STV_DEFAULT      0          /* Default symbol visibility rules */
+#define STV_INTERNAL     1          /* Processor specific hidden class */
+#define STV_HIDDEN       2          /* Sym unavailable in other modules */
+#define STV_PROTECTED    3          /* Not preemptible, not exported */
+
+
+/* Relocation table entry without addend (in section of type SHT_REL). */
+
+typedef struct
+{
+  Elf32_Addr      r_offset;          /* Address */
+  Elf32_Word      r_info;           /* Relocation type and symbol index */
+} Elf32_Rel;
+
+/* I have seen two different definitions of the Elf64_Rel and
+ Elf64_Rela structures, so we'll leave them out until Novell (or
+ whoever) gets their act together. */
+/* The following, at least, is used on Sparc v9, MIPS, and Alpha. */
+
+typedef struct
+{
+  Elf64_Addr      r_offset;          /* Address */
+  Elf64_Xword     r_info;           /* Relocation type and symbol index */
+} Elf64_Rel;
+
+/* Relocation table entry with addend (in section of type SHT_RELA). */
+
+typedef struct
+{
+  Elf32_Addr      r_offset;          /* Address */
+  Elf32_Word      r_info;           /* Relocation type and symbol index */
+  Elf32_Sword     r_addend;         /* Addend */
+} Elf32_Rela;
+
+typedef struct
+{
+  Elf64_Addr      r_offset;          /* Address */
+  Elf64_Xword     r_info;           /* Relocation type and symbol index */
+  Elf64_Sxword    r_addend;         /* Addend */
+} Elf64_Rela;
+
+/* How to extract and insert information held in the r_info field. */
+
+#define ELF32_R_SYM(val)            ((val) >> 8)
+#define ELF32_R_TYPE(val)          ((val) & 0xff)
+#define ELF32_R_INFO(sym, type)    (((sym) << 8) + ((type) & 0xff))
+
+#define ELF64_R_SYM(i)              ((i) >> 32)
+#define ELF64_R_TYPE(i)            ((i) & 0xffffffff)
+#define ELF64_R_INFO(sym,type)     (((Elf64_Xword) (sym)) << 32) + (type))
+
+/* Program segment header. */
+
+typedef struct
+{
+  Elf32_Word      p_type;           /* Segment type */
+  Elf32_Off       p_offset;         /* Segment file offset */
+  Elf32_Addr      p_vaddr;         /* Segment virtual address */
+  Elf32_Addr      p_paddr;         /* Segment physical address */
+  Elf32_Word      p_filesz;        /* Segment size in file */
+  Elf32_Word      p_memsz;         /* Segment size in memory */
+  Elf32_Word      p_flags;         /* Segment flags */

```

```

+ Elf32_Word      p_align;          /* Segment alignment */
+} Elf32_Phdr;
+
+typedef struct
+{
+ Elf64_Word      p_type;           /* Segment type */
+ Elf64_Word      p_flags;         /* Segment flags */
+ Elf64_Off       p_offset;        /* Segment file offset */
+ Elf64_Addr      p_vaddr;         /* Segment virtual address */
+ Elf64_Addr      p_paddr;        /* Segment physical address */
+ Elf64_Xword     p_filesz;        /* Segment size in file */
+ Elf64_Xword     p_memsz;        /* Segment size in memory */
+ Elf64_Xword     p_align;        /* Segment alignment */
+} Elf64_Phdr;
+
+/* Legal values for p_type (segment type). */
+
+#define PT_NULL 0 /* Program header table entry unused */
+#define PT_LOAD 1 /* Loadable program segment */
+#define PT_DYNAMIC 2 /* Dynamic linking information */
+#define PT_INTERP 3 /* Program interpreter */
+#define PT_NOTE 4 /* Auxiliary information */
+#define PT_SHLIB 5 /* Reserved */
+#define PT_PHDR 6 /* Entry for header table itself */
+#define PT_TLS 7 /* Thread-local storage segment */
+#define PT_NUM 8 /* Number of defined types */
+#define PT_LOOS 0x60000000 /* Start of OS-specific */
+#define PT_GNU_EH_FRAME 0x6474e550 /* GCC .eh_frame_hdr segment */
+#define PT_GNU_STACK 0x6474e551 /* Indicates stack executability */
+#define PT_GNU_RELRO 0x6474e552 /* Read-only after relocation */
+#define PT_LOSUNW 0x6ffffffa
+#define PT_SUNWBSS 0x6ffffffa /* Sun Specific segment */
+#define PT_SUNWSTACK 0x6ffffffb /* Stack segment */
+#define PT_HISUNW 0x6fffffff
+#define PT_HIOS 0x6fffffff /* End of OS-specific */
+#define PT_LOPROC 0x70000000 /* Start of processor-specific */
+#define PT_HIPROC 0x7fffffff /* End of processor-specific */
+
+/* Legal values for p_flags (segment flags). */
+
+#define PF_X (1 << 0) /* Segment is executable */
+#define PF_W (1 << 1) /* Segment is writable */
+#define PF_R (1 << 2) /* Segment is readable */
+#define PF_MASKOS 0x0ff00000 /* OS-specific */
+#define PF_MASKPROC 0xf0000000 /* Processor-specific */
+
+/* Legal values for note segment descriptor types for core files. */
+
+#define NT_PRSTATUS 1 /* Contains copy of prstatus struct */
+#define NT_FPREGSET 2 /* Contains copy of fpregset struct */
+#define NT_PRPSINFO 3 /* Contains copy of prpsinfo struct */
+#define NT_PRXREG 4 /* Contains copy of prxregset struct */
+#define NT_TASKSTRUCT 4 /* Contains copy of task structure */
+#define NT_PLATFORM 5 /* String from sysinfo(SI_PLATFORM) */
+#define NT_AUXV 6 /* Contains copy of auxv array */
+#define NT_GWINDOWS 7 /* Contains copy of gwindows struct */
+#define NT_ASRS 8 /* Contains copy of asrset struct */
+#define NT_PSTATUS 10 /* Contains copy of pstatus struct */
+#define NT_PSINFO 13 /* Contains copy of psinfo struct */
+#define NT_PRCRED 14 /* Contains copy of prcred struct */
+#define NT_UTSNAME 15 /* Contains copy of utsname struct */
+#define NT_LWPSTATUS 16 /* Contains copy of lwpstatus struct */
+#define NT_LWPSINFO 17 /* Contains copy of lwpinfo struct */
+#define NT_PRFPXREG 20 /* Contains copy of prfxregset struct */
+
+/* Legal values for the note segment descriptor types for object files. */
+
+#define NT_VERSION 1 /* Contains a version string. */
+
+/* Dynamic section entry. */

```

```

+
+typedef struct
+{
+  Elf32_Sword      d_tag;                /* Dynamic entry type */
+  union
+  {
+    Elf32_Word d_val;                    /* Integer value */
+    Elf32_Addr d_ptr;                    /* Address value */
+  } d_un;
+} Elf32_Dyn;
+
+typedef struct
+{
+  Elf64_Sxword     d_tag;                /* Dynamic entry type */
+  union
+  {
+    Elf64_Xword d_val;                    /* Integer value */
+    Elf64_Addr d_ptr;                    /* Address value */
+  } d_un;
+} Elf64_Dyn;
+
+/* Legal values for d_tag (dynamic entry type). */
+
+#define DT_NULL          0                /* Marks end of dynamic section */
+#define DT_NEEDED        1                /* Name of needed library */
+#define DT_PLTRELSZ      2                /* Size in bytes of PLT relocs */
+#define DT_PLTGOT        3                /* Processor defined value */
+#define DT_HASH          4                /* Address of symbol hash table */
+#define DT_STRTAB        5                /* Address of string table */
+#define DT_SYMTAB        6                /* Address of symbol table */
+#define DT_RELA          7                /* Address of Rela relocs */
+#define DT_RELASZ        8                /* Total size of Rela relocs */
+#define DT_RELAENT       9                /* Size of one Rela reloc */
+#define DT_STRSZ         10               /* Size of string table */
+#define DT_SYMENT        11               /* Size of one symbol table entry */
+#define DT_INIT          12               /* Address of init function */
+#define DT_FINI          13               /* Address of termination function */
+#define DT_SONAME        14               /* Name of shared object */
+#define DT_RPATH         15               /* Library search path (deprecated) */
+#define DT_SYMBOLIC      16               /* Start symbol search here */
+#define DT_REL           17               /* Address of Rel relocs */
+#define DT_RELSZ         18               /* Total size of Rel relocs */
+#define DT_RELENT        19               /* Size of one Rel reloc */
+#define DT_PLTREL        20               /* Type of reloc in PLT */
+#define DT_DEBUG         21               /* For debugging; unspecified */
+#define DT_TEXTREL       22               /* Reloc might modify .text */
+#define DT_JMPREL        23               /* Address of PLT relocs */
+#define DT_BIND_NOW      24               /* Process relocations of object */
+#define DT_INIT_ARRAY     25               /* Array with addresses of init fct */
+#define DT_FINI_ARRAY     26               /* Array with addresses of fini fct */
+#define DT_INIT_ARRAYSZ   27               /* Size in bytes of DT_INIT_ARRAY */
+#define DT_FINI_ARRAYSZ   28               /* Size in bytes of DT_FINI_ARRAY */
+#define DT_RUNPATH        29               /* Library search path */
+#define DT_FLAGS          30               /* Flags for the object being loaded */
+#define DT_ENCODING       32               /* Start of encoded range */
+#define DT_PREINIT_ARRAY  32               /* Array with addresses of preinit fct*/
+#define DT_PREINIT_ARRAYSZ 33              /* size in bytes of DT_PREINIT_ARRAY */
+#define DT_NUM            34               /* Number used */
+#define DT_LOOS           0x6000000d      /* Start of OS-specific */
+#define DT_HIOS           0x6ffff000      /* End of OS-specific */
+#define DT_LOPROC         0x70000000      /* Start of processor-specific */
+#define DT_HIPROC         0x7fffffff      /* End of processor-specific */
+#define DT_PROCNUM        DT_MIPS_NUM     /* Most used by any processor */
+
+/* DT_* entries which fall between DT_VALRNGHI & DT_VALRNGLO use the
+ Dyn.d_un.d_val field of the Elf*_Dyn structure. This follows Sun's
+ approach. */
+#define DT_VALRNGLO       0x6ffffd00
+#define DT_GNU_PRELINKED  0x6ffffdf5      /* Prelinking timestamp */
+#define DT_GNU_CONFLICTSZ 0x6ffffdf6      /* Size of conflict section */
+#define DT_GNU_LIBLISTSZ  0x6ffffdf7      /* Size of library list */

```

```

#define DT_CHECKSUM      0x6ffffdf8
#define DT_PLTPADSZ     0x6ffffdf9
#define DT_MOVEENT      0x6ffffdfa
#define DT_MOVESZ       0x6ffffdfb
#define DT_FEATURE_1    0x6ffffdfc      /* Feature selection (DTF_*). */
#define DT_POSFLAG_1    0x6ffffdfd      /* Flags for DT_* entries, effecting
+                                     the following DT_* entry. */
#define DT_SYMINSZ      0x6ffffdfe      /* Size of syminfo table (in bytes) */
#define DT_SYMINENT     0x6ffffdff      /* Entry size of syminfo */
#define DT_VALRNGHI     0x6ffffdff
#define DT_VALTAGIDX(tag) (DT_VALRNGHI - (tag)) /* Reverse order! */
#define DT_VALNUM 12
+
+/* DT_* entries which fall between DT_ADDRRNGHI & DT_ADDRRNGLO use the
+ Dyn.d_un.d_ptr field of the Elf*_Dyn structure.
+
+ If any adjustment is made to the ELF object after it has been
+ built these entries will need to be adjusted. */
#define DT_ADDRRNGLO    0x6ffffe00
#define DT_GNU_HASH     0x6ffffef5      /* GNU-style hash table. */
#define DT_TLSDESC_PLT  0x6ffffef6
#define DT_TLSDESC_GOT  0x6ffffef7
#define DT_GNU_CONFLICT 0x6ffffef8      /* Start of conflict section */
#define DT_GNU_LIBLIST  0x6ffffef9      /* Library list */
#define DT_CONFIG        0x6ffffefa      /* Configuration information. */
#define DT_DEPAUDIT      0x6ffffefb      /* Dependency auditing. */
#define DT_AUDIT         0x6ffffefc      /* Object auditing. */
#define DT_PLTPAD       0x6ffffefd      /* PLT padding. */
#define DT_MOVETAB       0x6ffffefe      /* Move table. */
#define DT_SYMINFO       0x6ffffeff      /* Syminfo table. */
#define DT_ADDRRNGHI    0x6ffffeff
#define DT_ADDRTAGIDX(tag) (DT_ADDRRNGHI - (tag)) /* Reverse order! */
#define DT_ADDRNUM 11
+
+/* The versioning entry types. The next are defined as part of the
+ GNU extension. */
#define DT_VERSYM        0x6fffff00
+
#define DT_RELACOUNT     0x6fffff09
#define DT_RELCOUNT     0x6fffff0a
+
+/* These were chosen by Sun. */
#define DT_FLAGS_1       0x6fffff0b      /* State flags, see DF_1_* below. */
#define DT_VERDEF        0x6fffff0c      /* Address of version definition
+                                     table */
#define DT_VERDEFNUM     0x6fffff0d      /* Number of version definitions */
#define DT_VERNEED       0x6fffff0e      /* Address of table with needed
+                                     versions */
#define DT_VERNEEDNUM    0x6fffff0f      /* Number of needed versions */
#define DT_VERSIONTAGIDX(tag) (DT_VERNEEDNUM - (tag)) /* Reverse order! */
#define DT_VERSIONTAGNUM 16
+
+/* Sun added these machine-independent extensions in the "processor-specific"
+ range. Be compatible. */
#define DT_AUXILIARY     0x7fffffff      /* Shared object to load before self */
#define DT_FILTER        0x7fffffff      /* Shared object to get values from */
#define DT_EXTRATAGIDX(tag) ((Elf32_Word)-((Elf32_Sword) (tag) <<1>>1)-1)
#define DT_EXTRANUM      3
+
+/* Values of `d_un.d_val' in the DT_FLAGS entry. */
#define DF_ORIGIN        0x00000001      /* Object may use DF_ORIGIN */
#define DF_SYMBOLIC      0x00000002      /* Symbol resolutions starts here */
#define DF_TEXTREL       0x00000004      /* Object contains text relocations */
#define DF_BIND_NOW      0x00000008      /* No lazy binding for this object */
#define DF_STATIC_TLS    0x00000010      /* Module uses the static TLS model */
+
+/* State flags selectable in the `d_un.d_val' element of the DT_FLAGS_1
+ entry in the dynamic section. */
#define DF_1_NOW         0x00000001      /* Set RTLD_NOW for this object. */
#define DF_1_GLOBAL      0x00000002      /* Set RTLD_GLOBAL for this object. */
#define DF_1_GROUP       0x00000004      /* Set RTLD_GROUP for this object. */

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#define DF_1_NODELETE          0x00000008      /* Set RTLD_NODELETE for this object.*/
#define DF_1_LOADFLTR         0x00000010      /* Trigger filtee loading at runtime.*/
#define DF_1_INITFIRST        0x00000020      /* Set RTLD_INITFIRST for this object*/
#define DF_1_NOOPEN           0x00000040      /* Set RTLD_NOOPEN for this object. */
#define DF_1_ORIGIN           0x00000080      /* $ORIGIN must be handled. */
#define DF_1_DIRECT           0x00000100      /* Direct binding enabled. */
#define DF_1_TRANS            0x00000200
#define DF_1_INTERPOSE        0x00000400      /* Object is used to interpose. */
#define DF_1_NODEFLIB         0x00000800      /* Ignore default lib search path. */
#define DF_1_NODUMP           0x00001000      /* Object can't be dldump'ed. */
#define DF_1_CONFALT          0x00002000      /* Configuration alternative created.*/
#define DF_1_ENDFILTEE        0x00004000      /* Filtee terminates filters search. */
#define DF_1_DISPRELDNE       0x00008000      /* Disp reloc applied at build time. */
#define DF_1_DISPRELPND       0x00010000      /* Disp reloc applied at run-time. */
+
+/* Flags for the feature selection in DT_FEATURE_1. */
#define DTF_1_PARINIT         0x00000001
#define DTF_1_CONFEXP        0x00000002
+
+/* Flags in the DT_POSFLAG_1 entry effecting only the next DT_* entry. */
#define DF_PL_LAZYLOAD        0x00000001      /* Lazyload following object. */
#define DF_PL_GROUPPERM       0x00000002      /* Symbols from next object are not
+
+                                     generally available. */
+
+/* Version definition sections. */
+
+typedef struct
+{
+  Elf32_Half      vd_version;      /* Version revision */
+  Elf32_Half      vd_flags;        /* Version information */
+  Elf32_Half      vd_ndx;          /* Version Index */
+  Elf32_Half      vd_cnt;          /* Number of associated aux entries */
+  Elf32_Word      vd_hash;         /* Version name hash value */
+  Elf32_Word      vd_aux;          /* Offset in bytes to verdaux array */
+  Elf32_Word      vd_next;         /* Offset in bytes to next verdef
+
+                                     entry */
+} Elf32_Verdef;
+
+typedef struct
+{
+  Elf64_Half      vd_version;      /* Version revision */
+  Elf64_Half      vd_flags;        /* Version information */
+  Elf64_Half      vd_ndx;          /* Version Index */
+  Elf64_Half      vd_cnt;          /* Number of associated aux entries */
+  Elf64_Word      vd_hash;         /* Version name hash value */
+  Elf64_Word      vd_aux;          /* Offset in bytes to verdaux array */
+  Elf64_Word      vd_next;         /* Offset in bytes to next verdef
+
+                                     entry */
+} Elf64_Verdef;
+
+/* Legal values for vd_version (version revision). */
#define VER_DEF_NONE          0          /* No version */
#define VER_DEF_CURRENT       1          /* Current version */
#define VER_DEF_NUM           2          /* Given version number */
+
+/* Legal values for vd_flags (version information flags). */
#define VER_FLG_BASE          0x1       /* Version definition of file itself */
#define VER_FLG_WEAK          0x2       /* Weak version identifier */
+
+/* Versym symbol index values. */
#define VER_NDX_LOCAL         0          /* Symbol is local. */
#define VER_NDX_GLOBAL        1          /* Symbol is global. */
#define VER_NDX_LORESERVE     0xff00    /* Beginning of reserved entries. */
#define VER_NDX_ELIMINATE     0xff01    /* Symbol is to be eliminated. */
+
+/* Auxialary version information. */
+
+typedef struct
+{
+  Elf32_Word      vda_name;        /* Version or dependency names */

```

```

+ Elf32_Word      vda_next;          /* Offset in bytes to next verdaux
+                                          entry */
+} Elf32_Verdaux;
+
+typedef struct
+{
+ Elf64_Word      vda_name;          /* Version or dependency names */
+ Elf64_Word      vda_next;          /* Offset in bytes to next verdaux
+                                          entry */
+} Elf64_Verdaux;
+
+
+/* Version dependency section. */
+
+typedef struct
+{
+ Elf32_Half      vn_version;        /* Version of structure */
+ Elf32_Half      vn_cnt;            /* Number of associated aux entries */
+ Elf32_Word      vn_file;           /* Offset of filename for this
+                                          dependency */
+ Elf32_Word      vn_aux;            /* Offset in bytes to vernaux array */
+ Elf32_Word      vn_next;           /* Offset in bytes to next verneed
+                                          entry */
+} Elf32_Verneed;
+
+typedef struct
+{
+ Elf64_Half      vn_version;        /* Version of structure */
+ Elf64_Half      vn_cnt;            /* Number of associated aux entries */
+ Elf64_Word      vn_file;           /* Offset of filename for this
+                                          dependency */
+ Elf64_Word      vn_aux;            /* Offset in bytes to vernaux array */
+ Elf64_Word      vn_next;           /* Offset in bytes to next verneed
+                                          entry */
+} Elf64_Verneed;
+
+
+/* Legal values for vn_version (version revision). */
+#define VER_NEED_NONE      0          /* No version */
+#define VER_NEED_CURRENT  1          /* Current version */
+#define VER_NEED_NUM      2          /* Given version number */
+
+/* Auxiliary needed version information. */
+
+typedef struct
+{
+ Elf32_Word      vna_hash;          /* Hash value of dependency name */
+ Elf32_Half      vna_flags;         /* Dependency specific information */
+ Elf32_Half      vna_other;         /* Unused */
+ Elf32_Word      vna_name;          /* Dependency name string offset */
+ Elf32_Word      vna_next;          /* Offset in bytes to next vernaux
+                                          entry */
+} Elf32_Vernaux;
+
+typedef struct
+{
+ Elf64_Word      vna_hash;          /* Hash value of dependency name */
+ Elf64_Half      vna_flags;         /* Dependency specific information */
+ Elf64_Half      vna_other;         /* Unused */
+ Elf64_Word      vna_name;          /* Dependency name string offset */
+ Elf64_Word      vna_next;          /* Offset in bytes to next vernaux
+                                          entry */
+} Elf64_Vernaux;
+
+
+/* Legal values for vna_flags. */
+#define VER_FLG_WEAK      0x2        /* Weak version identifier */
+
+
+/* Auxiliary vector. */
+

```

```

+/* This vector is normally only used by the program interpreter. The
+ usual definition in an ABI supplement uses the name auxv_t. The
+ vector is not usually defined in a standard <elf.h> file, but it
+ can't hurt. We rename it to avoid conflicts. The sizes of these
+ types are an arrangement between the exec server and the program
+ interpreter, so we don't fully specify them here. */
+
+typedef struct
+{
+  uint32_t a_type;          /* Entry type */
+  union
+  {
+    uint32_t a_val;        /* Integer value */
+    /* We use to have pointer elements added here. We cannot do that,
+    though, since it does not work when using 32-bit definitions
+    on 64-bit platforms and vice versa. */
+  } a_un;
+} Elf32_auxv_t;
+
+typedef struct
+{
+  uint64_t a_type;          /* Entry type */
+  union
+  {
+    uint64_t a_val;        /* Integer value */
+    /* We use to have pointer elements added here. We cannot do that,
+    though, since it does not work when using 32-bit definitions
+    on 64-bit platforms and vice versa. */
+  } a_un;
+} Elf64_auxv_t;
+
+/* Legal values for a_type (entry type). */
+
+#define AT_NULL          0          /* End of vector */
+#define AT_IGNORE        1          /* Entry should be ignored */
+#define AT_EXECFD        2          /* File descriptor of program */
+#define AT_PHDR          3          /* Program headers for program */
+#define AT_PHENT          4          /* Size of program header entry */
+#define AT_PHNUM          5          /* Number of program headers */
+#define AT_PAGESZ        6          /* System page size */
+#define AT_BASE          7          /* Base address of interpreter */
+#define AT_FLAGS          8          /* Flags */
+#define AT_ENTRY          9          /* Entry point of program */
+#define AT_NOTELF        10         /* Program is not ELF */
+#define AT_UID           11         /* Real uid */
+#define AT_EUID          12         /* Effective uid */
+#define AT_GID           13         /* Real gid */
+#define AT_EGID          14         /* Effective gid */
+#define AT_CLKTCK        17         /* Frequency of times() */
+
+/* Some more special a_type values describing the hardware. */
+#define AT_PLATFORM      15         /* String identifying platform. */
+#define AT_HWCAP         16         /* Machine dependent hints about
+processor capabilities. */
+
+/* This entry gives some information about the FPU initialization
+performed by the kernel. */
+#define AT_FPUCW         18         /* Used FPU control word. */
+
+/* Cache block sizes. */
+#define AT_DCACHEBSIZE  19         /* Data cache block size. */
+#define AT_ICACHEBSIZE  20         /* Instruction cache block size. */
+#define AT_UCACHEBSIZE  21         /* Unified cache block size. */
+
+/* A special ignored value for PPC, used by the kernel to control the
+interpretation of the AUXV. Must be > 16. */
+#define AT_IGNOREPPC    22         /* Entry should be ignored. */
+
+#define AT_SECURE        23         /* Boolean, was exec setuid-like? */
+
+/* Pointer to the global system page used for system calls and other

```



```

+ nice things. */
+#define AT_SYSINFO      32
+#define AT_SYSINFO_EHDR 33
+
+/* Shapes of the caches. Bits 0-3 contains associativity; bits 4-7 contains
+ log2 of line size; mask those to get cache size. */
+#define AT_L1I_CACHESHAPE 34
+#define AT_L1D_CACHESHAPE 35
+#define AT_L2_CACHESHAPE 36
+#define AT_L3_CACHESHAPE 37
+
+/* Note section contents. Each entry in the note section begins with
+ a header of a fixed form. */
+
+typedef struct
+{
+ Elf32_Word n_namesz;           /* Length of the note's name. */
+ Elf32_Word n_descsz;          /* Length of the note's descriptor. */
+ Elf32_Word n_type;            /* Type of the note. */
+} Elf32_Nhdr;
+
+typedef struct
+{
+ Elf64_Word n_namesz;           /* Length of the note's name. */
+ Elf64_Word n_descsz;          /* Length of the note's descriptor. */
+ Elf64_Word n_type;            /* Type of the note. */
+} Elf64_Nhdr;
+
+/* Known names of notes. */
+
+/* Solaris entries in the note section have this name. */
+#define ELF_NOTE_SOLARIS      "SUNW Solaris"
+
+/* Note entries for GNU systems have this name. */
+#define ELF_NOTE_GNU          "GNU"
+
+/* Defined types of notes for Solaris. */
+
+/* Value of descriptor (one word) is desired pagesize for the binary. */
+#define ELF_NOTE_PAGESIZE_HINT 1
+
+/* Defined note types for GNU systems. */
+
+/* ABI information. The descriptor consists of words:
+ word 0: OS descriptor
+ word 1: major version of the ABI
+ word 2: minor version of the ABI
+ word 3: subminor version of the ABI
+*/
+#define ELF_NOTE_ABI          1
+
+/* Known OSes. These value can appear in word 0 of an ELF_NOTE_ABI
+ note section entry. */
+#define ELF_NOTE_OS_LINUX     0
+#define ELF_NOTE_OS_GNU       1
+#define ELF_NOTE_OS_SOLARIS2  2
+#define ELF_NOTE_OS_FREEBSD   3
+
+/* Move records. */
+typedef struct
+{
+ Elf32_Xword m_value;          /* Symbol value. */
+ Elf32_Word m_info;            /* Size and index. */
+ Elf32_Word m_poffset;         /* Symbol offset. */
+ Elf32_Half m_repeat;          /* Repeat count. */
+ Elf32_Half m_stride;          /* Stride info. */
+} Elf32_Move;
+

```

```

+typedef struct
+{
+ Elf64_Xword m_value;          /* Symbol value. */
+ Elf64_Xword m_info;          /* Size and index. */
+ Elf64_Xword m_poffset;      /* Symbol offset. */
+ Elf64_Half m_repeat;        /* Repeat count. */
+ Elf64_Half m_stride;        /* Stride info. */
+} Elf64_Move;
+
+/* Macro to construct move records. */
+#define ELF32_M_SYM(info)      ((info) >> 8)
+#define ELF32_M_SIZE(info)    ((unsigned char) (info))
+#define ELF32_M_INFO(sym, size)  (((sym) << 8) + (unsigned char) (size))
+
+#define ELF64_M_SYM(info)      ELF32_M_SYM (info)
+#define ELF64_M_SIZE(info)    ELF32_M_SIZE (info)
+#define ELF64_M_INFO(sym, size)  ELF32_M_INFO (sym, size)
+
+
+/* Motorola 68k specific definitions. */
+
+/* Values for Elf32_Ehdr.e_flags. */
+#define EF_CPU32              0x00810000
+
+/* m68k relocs. */
+
+#define R_68K_NONE            0          /* No reloc */
+#define R_68K_32              1          /* Direct 32 bit */
+#define R_68K_16              2          /* Direct 16 bit */
+#define R_68K_8               3          /* Direct 8 bit */
+#define R_68K_PC32            4          /* PC relative 32 bit */
+#define R_68K_PC16            5          /* PC relative 16 bit */
+#define R_68K_PC8             6          /* PC relative 8 bit */
+#define R_68K_GOT32           7          /* 32 bit PC relative GOT entry */
+#define R_68K_GOT16           8          /* 16 bit PC relative GOT entry */
+#define R_68K_GOT8            9          /* 8 bit PC relative GOT entry */
+#define R_68K_GOT32O          10         /* 32 bit GOT offset */
+#define R_68K_GOT16O          11         /* 16 bit GOT offset */
+#define R_68K_GOT8O           12         /* 8 bit GOT offset */
+#define R_68K_PLT32           13         /* 32 bit PC relative PLT address */
+#define R_68K_PLT16           14         /* 16 bit PC relative PLT address */
+#define R_68K_PLT8            15         /* 8 bit PC relative PLT address */
+#define R_68K_PLT32O          16         /* 32 bit PLT offset */
+#define R_68K_PLT16O          17         /* 16 bit PLT offset */
+#define R_68K_PLT8O           18         /* 8 bit PLT offset */
+#define R_68K_COPY            19         /* Copy symbol at runtime */
+#define R_68K_GLOB_DAT        20         /* Create GOT entry */
+#define R_68K_JMP_SLOT        21         /* Create PLT entry */
+#define R_68K_RELATIVE        22         /* Adjust by program base */
+/* Keep this the last entry. */
+#define R_68K_NUM              23
+
+
+/* Intel 80386 specific definitions. */
+
+/* i386 relocs. */
+
+#define R_386_NONE            0          /* No reloc */
+#define R_386_32              1          /* Direct 32 bit */
+#define R_386_PC32            2          /* PC relative 32 bit */
+#define R_386_GOT32           3          /* 32 bit GOT entry */
+#define R_386_PLT32           4          /* 32 bit PLT address */
+#define R_386_COPY            5          /* Copy symbol at runtime */
+#define R_386_GLOB_DAT        6          /* Create GOT entry */
+#define R_386_JMP_SLOT        7          /* Create PLT entry */
+#define R_386_RELATIVE        8          /* Adjust by program base */
+#define R_386_GOTOFF          9          /* 32 bit offset to GOT */
+#define R_386_GOTPC           10         /* 32 bit PC relative offset to GOT */
+#define R_386_32PLT           11         /* 32 bit PLT address */
+#define R_386_TLS_TPOFF       14         /* Offset in static TLS block */
+#define R_386_TLS_IE           15         /* Address of GOT entry for static TLS
+block offset */

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```

#define R_386_TLS_GOTIE          16          /* GOT entry for static TLS block
+                                offset */
#define R_386_TLS_LE            17          /* Offset relative to static TLS
+                                block */
#define R_386_TLS_GD            18          /* Direct 32 bit for GNU version of
+                                general dynamic thread local data */
#define R_386_TLS_LDM           19          /* Direct 32 bit for GNU version of
+                                local dynamic thread local data
+                                in LE code */
#define R_386_16                20
#define R_386_PC16              21
#define R_386_8                 22
#define R_386_PC8               23
#define R_386_TLS_GD_32         24          /* Direct 32 bit for general dynamic
+                                thread local data */
#define R_386_TLS_GD_PUSH       25          /* Tag for pushl in GD TLS code */
#define R_386_TLS_GD_CALL       26          /* Relocation for call to
+                                __tls_get_addr() */
#define R_386_TLS_GD_POP        27          /* Tag for popl in GD TLS code */
#define R_386_TLS_LDM_32        28          /* Direct 32 bit for local dynamic
+                                thread local data in LE code */
#define R_386_TLS_LDM_PUSH       29          /* Tag for pushl in LDM TLS code */
#define R_386_TLS_LDM_CALL       30          /* Relocation for call to
+                                __tls_get_addr() in LDM code */
#define R_386_TLS_LDM_POP        31          /* Tag for popl in LDM TLS code */
#define R_386_TLS_LDO_32        32          /* Offset relative to TLS block */
#define R_386_TLS_IE_32         33          /* GOT entry for negated static TLS
+                                block offset */
#define R_386_TLS_LE_32         34          /* Negated offset relative to static
+                                TLS block */
#define R_386_TLS_DTPOFF32      35          /* ID of module containing symbol */
#define R_386_TLS_TPOFF32       36          /* Offset in TLS block */
#define R_386_TLS_TPOFF32       37          /* Negated offset in static TLS block */
+/* Keep this the last entry. */
#define R_386_NUM                38
+
+/* SUN SPARC specific definitions. */
+
+/* Legal values for ST_TYPE subfield of st_info (symbol type). */
+
+#define STT_SPARC_REGISTER      13          /* Global register reserved to app. */
+
+/* Values for Elf64_Ehdr.e_flags. */
+
+#define EF_SPARCV9_MM           3
+#define EF_SPARCV9_TSO          0
+#define EF_SPARCV9_PSO          1
+#define EF_SPARCV9_RMO          2
+#define EF_SPARC_LEDATA         0x800000 /* little endian data */
+#define EF_SPARC_EXT_MASK       0xFFFFF0
+#define EF_SPARC_32PLUS         0x000100 /* generic V8+ features */
+#define EF_SPARC_SUN_US1        0x000200 /* Sun UltraSPARC1 extensions */
+#define EF_SPARC_HAL_R1         0x000400 /* HAL R1 extensions */
+#define EF_SPARC_SUN_US3        0x000800 /* Sun UltraSPARCIII extensions */
+
+/* SPARC relocs. */
+
+#define R_SPARC_NONE            0          /* No reloc */
+#define R_SPARC_8               1          /* Direct 8 bit */
+#define R_SPARC_16              2          /* Direct 16 bit */
+#define R_SPARC_32              3          /* Direct 32 bit */
+#define R_SPARC_DISP8           4          /* PC relative 8 bit */
+#define R_SPARC_DISP16          5          /* PC relative 16 bit */
+#define R_SPARC_DISP32          6          /* PC relative 32 bit */
+#define R_SPARC_WDISP30          7          /* PC relative 30 bit shifted */
+#define R_SPARC_WDISP22          8          /* PC relative 22 bit shifted */
+#define R_SPARC_HI22            9          /* High 22 bit */
+#define R_SPARC_22             10         /* Direct 22 bit */
+#define R_SPARC_13             11         /* Direct 13 bit */
+#define R_SPARC_LO10           12         /* Truncated 10 bit */
+#define R_SPARC_GOT10          13         /* Truncated 10 bit GOT entry */

```

```

#define R_SPARC_GOT13          14      /* 13 bit GOT entry */
#define R_SPARC_GOT22          15      /* 22 bit GOT entry shifted */
#define R_SPARC_PC10           16      /* PC relative 10 bit truncated */
#define R_SPARC_PC22           17      /* PC relative 22 bit shifted */
#define R_SPARC_WPLT30         18      /* 30 bit PC relative PLT address */
#define R_SPARC_COPY           19      /* Copy symbol at runtime */
#define R_SPARC_GLOB_DAT       20      /* Create GOT entry */
#define R_SPARC_JMP_SLOT       21      /* Create PLT entry */
#define R_SPARC_RELATIVE       22      /* Adjust by program base */
#define R_SPARC_UA32           23      /* Direct 32 bit unaligned */
+
+/* Additional Sparc64 relocs. */
+
#define R_SPARC_PLT32           24      /* Direct 32 bit ref to PLT entry */
#define R_SPARC_HIPLT22        25      /* High 22 bit PLT entry */
#define R_SPARC_LOPLT10        26      /* Truncated 10 bit PLT entry */
#define R_SPARC_PCPLT32        27      /* PC rel 32 bit ref to PLT entry */
#define R_SPARC_PCPLT22        28      /* PC rel high 22 bit PLT entry */
#define R_SPARC_PCPLT10        29      /* PC rel trunc 10 bit PLT entry */
#define R_SPARC_10             30      /* Direct 10 bit */
#define R_SPARC_11             31      /* Direct 11 bit */
#define R_SPARC_64             32      /* Direct 64 bit */
#define R_SPARC_OLO10         33      /* 10bit with secondary 13bit addend */
#define R_SPARC_HH22          34      /* Top 22 bits of direct 64 bit */
#define R_SPARC_HM10          35      /* High middle 10 bits of ... */
#define R_SPARC_LM22          36      /* Low middle 22 bits of ... */
#define R_SPARC_PC_HH22        37      /* Top 22 bits of pc rel 64 bit */
#define R_SPARC_PC_HM10        38      /* High middle 10 bit of ... */
#define R_SPARC_PC_LM22        39      /* Low miggles 22 bits of ... */
#define R_SPARC_WDISP16        40      /* PC relative 16 bit shifted */
#define R_SPARC_WDISP19        41      /* PC relative 19 bit shifted */
#define R_SPARC_7              43      /* Direct 7 bit */
#define R_SPARC_5              44      /* Direct 5 bit */
#define R_SPARC_6              45      /* Direct 6 bit */
#define R_SPARC_DISP64         46      /* PC relative 64 bit */
#define R_SPARC_PLT64          47      /* Direct 64 bit ref to PLT entry */
#define R_SPARC_HIX22          48      /* High 22 bit complemented */
#define R_SPARC_LOX10          49      /* Truncated 11 bit complemented */
#define R_SPARC_H44            50      /* Direct high 12 of 44 bit */
#define R_SPARC_M44            51      /* Direct mid 22 of 44 bit */
#define R_SPARC_L44            52      /* Direct low 10 of 44 bit */
#define R_SPARC_REGISTER       53      /* Global register usage */
#define R_SPARC_UA64           54      /* Direct 64 bit unaligned */
#define R_SPARC_UA16           55      /* Direct 16 bit unaligned */
#define R_SPARC_TLS_GD_HI22    56
#define R_SPARC_TLS_GD_LO10    57
#define R_SPARC_TLS_GD_ADD     58
#define R_SPARC_TLS_GD_CALL    59
#define R_SPARC_TLS_LDM_HI22   60
#define R_SPARC_TLS_LDM_LO10   61
#define R_SPARC_TLS_LDM_ADD    62
#define R_SPARC_TLS_LDM_CALL   63
#define R_SPARC_TLS_LDO_HIX22  64
#define R_SPARC_TLS_LDO_LOX10  65
#define R_SPARC_TLS_LDO_ADD    66
#define R_SPARC_TLS_IE_HI22    67
#define R_SPARC_TLS_IE_LO10    68
#define R_SPARC_TLS_IE_LD      69
#define R_SPARC_TLS_IE_LDX     70
#define R_SPARC_TLS_IE_ADD     71
#define R_SPARC_TLS_LE_HIX22   72
#define R_SPARC_TLS_LE_LOX10   73
#define R_SPARC_TLS_DTPMOD32   74
#define R_SPARC_TLS_DTPMOD64   75
#define R_SPARC_TLS_DTPOFF32   76
#define R_SPARC_TLS_DTPOFF64   77
#define R_SPARC_TLS_TPOFF32    78
#define R_SPARC_TLS_TPOFF64    79
+/* Keep this the last entry. */
#define R_SPARC_NUM            80
+

```

```

+/* For Sparc64, legal values for d_tag of Elf64_Dyn. */
+
+#define DT_SPARC_REGISTER 0x70000001
+#define DT_SPARC_NUM      2
+
+/* Bits present in AT_HWCAP on SPARC. */
+
+#define HWCAP_SPARC_FLUSH      1      /* The CPU supports flush insn. */
+#define HWCAP_SPARC_STBAR     2
+#define HWCAP_SPARC_SWAP      4
+#define HWCAP_SPARC_MULDIV    8
+#define HWCAP_SPARC_V9        16     /* The CPU is v9, so v8plus is ok. */
+#define HWCAP_SPARC_ULTRA3    32
+#define HWCAP_SPARC_BLKINIT   64     /* Sun4v with block-init/load-twin. */
+
+/* MIPS R3000 specific definitions. */
+
+/* Legal values for e_flags field of Elf32_Ehdr. */
+
+#define EF_MIPS_NOREORDER     1      /* A .noreorder directive was used */
+#define EF_MIPS_PIC           2      /* Contains PIC code */
+#define EF_MIPS_CPIC         4      /* Uses PIC calling sequence */
+#define EF_MIPS_XGOT         8
+#define EF_MIPS_64BIT_WHIRL  16
+#define EF_MIPS_ABI2         32
+#define EF_MIPS_ABI_ON32     64
+#define EF_MIPS_ARCH         0xf0000000 /* MIPS architecture level */
+
+/* Legal values for MIPS architecture level. */
+
+#define EF_MIPS_ARCH_1        0x00000000 /* -mips1 code. */
+#define EF_MIPS_ARCH_2        0x10000000 /* -mips2 code. */
+#define EF_MIPS_ARCH_3        0x20000000 /* -mips3 code. */
+#define EF_MIPS_ARCH_4        0x30000000 /* -mips4 code. */
+#define EF_MIPS_ARCH_5        0x40000000 /* -mips5 code. */
+#define EF_MIPS_ARCH_32       0x60000000 /* MIPS32 code. */
+#define EF_MIPS_ARCH_64       0x70000000 /* MIPS64 code. */
+
+/* The following are non-official names and should not be used. */
+
+#define E_MIPS_ARCH_1         0x00000000 /* -mips1 code. */
+#define E_MIPS_ARCH_2         0x10000000 /* -mips2 code. */
+#define E_MIPS_ARCH_3         0x20000000 /* -mips3 code. */
+#define E_MIPS_ARCH_4         0x30000000 /* -mips4 code. */
+#define E_MIPS_ARCH_5         0x40000000 /* -mips5 code. */
+#define E_MIPS_ARCH_32        0x60000000 /* MIPS32 code. */
+#define E_MIPS_ARCH_64        0x70000000 /* MIPS64 code. */
+
+/* Special section indices. */
+
+#define SHN_MIPS_ACOMMON      0xff00 /* Allocated common symbols */
+#define SHN_MIPS_TEXT         0xff01 /* Allocated test symbols. */
+#define SHN_MIPS_DATA         0xff02 /* Allocated data symbols. */
+#define SHN_MIPS_SCOMMON     0xff03 /* Small common symbols */
+#define SHN_MIPS_SUNDEFINED  0xff04 /* Small undefined symbols */
+
+/* Legal values for sh_type field of Elf32_Shdr. */
+
+#define SHT_MIPS_LIBLIST      0x70000000 /* Shared objects used in link */
+#define SHT_MIPS_MSYM         0x70000001
+#define SHT_MIPS_CONFLICT     0x70000002 /* Conflicting symbols */
+#define SHT_MIPS_GPTAB        0x70000003 /* Global data area sizes */
+#define SHT_MIPS_UCODE        0x70000004 /* Reserved for SGI/MIPS compilers */
+#define SHT_MIPS_DEBUG        0x70000005 /* MIPS ECOFF debugging information */
+#define SHT_MIPS_REGINFO      0x70000006 /* Register usage information */
+#define SHT_MIPS_PACKAGE      0x70000007
+#define SHT_MIPS_PACKSYM      0x70000008
+#define SHT_MIPS_RELD         0x70000009
+#define SHT_MIPS_IFACE        0x7000000b
+#define SHT_MIPS_CONTENT      0x7000000c
+#define SHT_MIPS_OPTIONS      0x7000000d /* Miscellaneous options. */

```

```

#define SHT_MIPS_SHDR                0x70000010
#define SHT_MIPS_FDESC               0x70000011
#define SHT_MIPS_EXTSYM              0x70000012
#define SHT_MIPS_DENSE               0x70000013
#define SHT_MIPS_PDESC               0x70000014
#define SHT_MIPS_LOCSYM              0x70000015
#define SHT_MIPS_AUXSYM              0x70000016
#define SHT_MIPS_OPTSYM              0x70000017
#define SHT_MIPS_LOCSTR              0x70000018
#define SHT_MIPS_LINE                 0x70000019
#define SHT_MIPS_RFDESC               0x7000001a
#define SHT_MIPS_DELTASYM             0x7000001b
#define SHT_MIPS_DELTAINST           0x7000001c
#define SHT_MIPS_DELTACLASS           0x7000001d
#define SHT_MIPS_DWARF               0x7000001e /* DWARF debugging information. */
#define SHT_MIPS_DELTADECL           0x7000001f
#define SHT_MIPS_SYMBOL_LIB           0x70000020
#define SHT_MIPS_EVENTS               0x70000021 /* Event section. */
#define SHT_MIPS_TRANSLATE            0x70000022
#define SHT_MIPS_PIXIE               0x70000023
#define SHT_MIPS_XLATE               0x70000024
#define SHT_MIPS_XLATE_DEBUG          0x70000025
#define SHT_MIPS_WHIRL               0x70000026
#define SHT_MIPS_EH_REGION            0x70000027
#define SHT_MIPS_XLATE_OLD            0x70000028
#define SHT_MIPS_PDR_EXCEPTION        0x70000029
+
+/* Legal values for sh_flags field of Elf32_Shdr. */
+
#define SHF_MIPS_GPREL                0x10000000 /* Must be part of global data area */
#define SHF_MIPS_MERGE                0x20000000
#define SHF_MIPS_ADDR                 0x40000000
#define SHF_MIPS_STRINGS              0x80000000
#define SHF_MIPS_NOSTRIP              0x08000000
#define SHF_MIPS_LOCAL                0x04000000
#define SHF_MIPS_NAMES                0x02000000
#define SHF_MIPS_NODUPE               0x01000000
+
+
+/* Symbol tables. */
+
+/* MIPS specific values for `st_other'. */
#define STO_MIPS_DEFAULT               0x0
#define STO_MIPS_INTERNAL              0x1
#define STO_MIPS_HIDDEN                0x2
#define STO_MIPS_PROTECTED             0x3
#define STO_MIPS_SC_ALIGN_UNUSED      0xff
+
+/* MIPS specific values for `st_info'. */
#define STB_MIPS_SPLIT_COMMON          13
+
+/* Entries found in sections of type SHT_MIPS_GPTAB. */
+
+typedef union
+{
+  struct
+  {
+    Elf32_Word gt_current_g_value; /* -G value used for compilation */
+    Elf32_Word gt_unused;          /* Not used */
+  } gt_header; /* First entry in section */
+  struct
+  {
+    Elf32_Word gt_g_value; /* If this value were used for -G */
+    Elf32_Word gt_bytes; /* This many bytes would be used */
+  } gt_entry; /* Subsequent entries in section */
+} Elf32_gptab;
+
+/* Entry found in sections of type SHT_MIPS_REGINFO. */
+
+typedef struct
+{

```

```

+ Elf32_Word      ri_gprmask;          /* General registers used */
+ Elf32_Word      ri_cprmask[4];      /* Coprocessor registers used */
+ Elf32_Sword     ri_gp_value;        /* $gp register value */
+} Elf32_RegInfo;
+
+/* Entries found in sections of type SHT_MIPS_OPTIONS. */
+
+typedef struct
+{
+ unsigned char kind;                  /* Determines interpretation of the
+                                     variable part of descriptor. */
+ unsigned char size;                  /* Size of descriptor, including header. */
+ Elf32_Section section;              /* Section header index of section affected,
+                                     0 for global options. */
+ Elf32_Word info;                    /* Kind-specific information. */
+} Elf_Options;
+
+/* Values for `kind' field in Elf_Options. */
+
+#define ODK_NULL          0          /* Undefined. */
+#define ODK_REGINFO       1          /* Register usage information. */
+#define ODK_EXCEPTIONS    2          /* Exception processing options. */
+#define ODK_PAD           3          /* Section padding options. */
+#define ODK_HWPATCH       4          /* Hardware workarounds performed */
+#define ODK_FILL          5          /* record the fill value used by the linker. */
+#define ODK_TAGS          6          /* reserve space for desktop tools to write. */
+#define ODK_HWAND         7          /* HW workarounds. 'AND' bits when merging. */
+#define ODK_HWOR          8          /* HW workarounds. 'OR' bits when merging. */
+
+/* Values for `info' in Elf_Options for ODK_EXCEPTIONS entries. */
+
+#define OEX_FPU_MIN       0x1f       /* FPE's which MUST be enabled. */
+#define OEX_FPU_MAX       0x1f00     /* FPE's which MAY be enabled. */
+#define OEX_PAGE0        0x10000     /* page zero must be mapped. */
+#define OEX_SMM           0x20000     /* Force sequential memory mode? */
+#define OEX_FPDEBUG       0x40000     /* Force floating point debug mode? */
+#define OEX_PRECISEFP     OEX_FPDEBUG
+#define OEX_DISMISS       0x80000     /* Dismiss invalid address faults? */
+
+#define OEX_FPU_INVALID   0x10
+#define OEX_FPU_DIV0      0x08
+#define OEX_FPU_OFLO     0x04
+#define OEX_FPU_UFLO     0x02
+#define OEX_FPU_INEX     0x01
+
+/* Masks for `info' in Elf_Options for an ODK_HWPATCH entry. */
+
+#define OHW_R4KEOP        0x1        /* R4000 end-of-page patch. */
+#define OHW_R8KPFETCH     0x2        /* may need R8000 prefetch patch. */
+#define OHW_R5KEOP        0x4        /* R5000 end-of-page patch. */
+#define OHW_R5KCVTL       0x8        /* R5000 cvt.[ds].l bug. clean=1. */
+
+#define OPAD_PREFIX       0x1
+#define OPAD_POSTFIX      0x2
+#define OPAD_SYMBOL       0x4
+
+/* Entry found in `.options' section. */
+
+typedef struct
+{
+ Elf32_Word hwp_flags1;              /* Extra flags. */
+ Elf32_Word hwp_flags2;              /* Extra flags. */
+} Elf_Options_Hw;
+
+/* Masks for `info' in ElfOptions for ODK_HWAND and ODK_HWOR entries. */
+
+#define OHWA0_R4KEOP_CHECKED 0x00000001
+#define OHWA1_R4KEOP_CLEAN  0x00000002
+
+/* MIPS relocs. */
+

```

```

#define R_MIPS_NONE          0          /* No reloc */
#define R_MIPS_16           1          /* Direct 16 bit */
#define R_MIPS_32           2          /* Direct 32 bit */
#define R_MIPS_REL32       3          /* PC relative 32 bit */
#define R_MIPS_26           4          /* Direct 26 bit shifted */
#define R_MIPS_HI16        5          /* High 16 bit */
#define R_MIPS_LO16        6          /* Low 16 bit */
#define R_MIPS_GPREL16     7          /* GP relative 16 bit */
#define R_MIPS_LITERAL     8          /* 16 bit literal entry */
#define R_MIPS_GOT16       9          /* 16 bit GOT entry */
#define R_MIPS_PC16        10         /* PC relative 16 bit */
#define R_MIPS_CALL16      11         /* 16 bit GOT entry for function */
#define R_MIPS_GPREL32     12         /* GP relative 32 bit */
+
#define R_MIPS_SHIFT5      16
#define R_MIPS_SHIFT6      17
#define R_MIPS_64          18
#define R_MIPS_GOT_DISP    19
#define R_MIPS_GOT_PAGE    20
#define R_MIPS_GOT_OFST    21
#define R_MIPS_GOT_HI16    22
#define R_MIPS_GOT_LO16    23
#define R_MIPS_SUB         24
#define R_MIPS_INSERT_A    25
#define R_MIPS_INSERT_B    26
#define R_MIPS_DELETE      27
#define R_MIPS_HIGHER      28
#define R_MIPS_HIGHEST     29
#define R_MIPS_CALL_HI16   30
#define R_MIPS_CALL_LO16   31
#define R_MIPS_SCN_DISP    32
#define R_MIPS_REL16       33
#define R_MIPS_ADD_IMMEDIATE 34
#define R_MIPS_PJUMP       35
#define R_MIPS_RELGOT      36
#define R_MIPS_JALR        37
#define R_MIPS_TLS_DTPMOD32 38      /* Module number 32 bit */
#define R_MIPS_TLS_DTPREL32 39      /* Module-relative offset 32 bit */
#define R_MIPS_TLS_DTPMOD64 40      /* Module number 64 bit */
#define R_MIPS_TLS_DTPREL64 41      /* Module-relative offset 64 bit */
#define R_MIPS_TLS_GD       42      /* 16 bit GOT offset for GD */
#define R_MIPS_TLS_LDM       43      /* 16 bit GOT offset for LDM */
#define R_MIPS_TLS_DTPREL_HI16 44      /* Module-relative offset, high 16 bits */
#define R_MIPS_TLS_DTPREL_LO16 45      /* Module-relative offset, low 16 bits */
#define R_MIPS_TLS_GOTTREL   46      /* 16 bit GOT offset for IE */
#define R_MIPS_TLS_TPREL32   47      /* TP-relative offset, 32 bit */
#define R_MIPS_TLS_TPREL64   48      /* TP-relative offset, 64 bit */
#define R_MIPS_TLS_TPREL_HI16 49      /* TP-relative offset, high 16 bits */
#define R_MIPS_TLS_TPREL_LO16 50      /* TP-relative offset, low 16 bits */
+/* Keep this the last entry. */
#define R_MIPS_NUM          51
+
+/* Legal values for p_type field of Elf32_Phdr. */
+
#define PT_MIPS_REGINFO     0x70000000 /* Register usage information */
#define PT_MIPS_RTPROC      0x70000001 /* Runtime procedure table. */
#define PT_MIPS_OPTIONS     0x70000002
+
+/* Special program header types. */
+
#define PF_MIPS_LOCAL       0x10000000
+
+/* Legal values for d_tag field of Elf32_Dyn. */
+
#define DT_MIPS_RLD_VERSION 0x70000001 /* Runtime linker interface version */
#define DT_MIPS_TIME_STAMP 0x70000002 /* Timestamp */
#define DT_MIPS_ICHECKSUM  0x70000003 /* Checksum */
#define DT_MIPS_IVERSION   0x70000004 /* Version string (string tbl index) */
#define DT_MIPS_FLAGS       0x70000005 /* Flags */
#define DT_MIPS_BASE_ADDRESS 0x70000006 /* Base address */
#define DT_MIPS_MSYP        0x70000007

```



```

#define DT_MIPS_CONFLICT      0x70000008      /* Address of CONFLICT section */
#define DT_MIPS_LIBLIST       0x70000009      /* Address of LIBLIST section */
#define DT_MIPS_LOCAL_GOTNO   0x7000000a      /* Number of local GOT entries */
#define DT_MIPS_CONFLICTNO   0x7000000b      /* Number of CONFLICT entries */
#define DT_MIPS_LIBLISTNO    0x70000010      /* Number of LIBLIST entries */
#define DT_MIPS_SYMTABNO     0x70000011      /* Number of DYNSYM entries */
#define DT_MIPS_UNREFEXTNO   0x70000012      /* First external DYNSYM */
#define DT_MIPS_GOTSYM       0x70000013      /* First GOT entry in DYNSYM */
#define DT_MIPS_HIPAGENO     0x70000014      /* Number of GOT page table entries */
#define DT_MIPS_RLD_MAP      0x70000016      /* Address of run time loader map. */
#define DT_MIPS_DELTA_CLASS   0x70000017      /* Delta C++ class definition. */
#define DT_MIPS_DELTA_CLASS_NO 0x70000018 /* Number of entries in
+
DT_MIPS_DELTA_CLASS. */
#define DT_MIPS_DELTA_INSTANCE 0x70000019 /* Delta C++ class instances. */
#define DT_MIPS_DELTA_INSTANCE_NO 0x7000001a /* Number of entries in
+
DT_MIPS_DELTA_INSTANCE. */
#define DT_MIPS_DELTA_RELOC   0x7000001b /* Delta relocations. */
#define DT_MIPS_DELTA_RELOC_NO 0x7000001c /* Number of entries in
+
DT_MIPS_DELTA_RELOC. */
#define DT_MIPS_DELTA_SYM     0x7000001d /* Delta symbols that Delta
+
relocations refer to. */
#define DT_MIPS_DELTA_SYM_NO 0x7000001e /* Number of entries in
+
DT_MIPS_DELTA_SYM. */
#define DT_MIPS_DELTA_CLASSSYM 0x70000020 /* Delta symbols that hold the
+
class declaration. */
#define DT_MIPS_DELTA_CLASSSYM_NO 0x70000021 /* Number of entries in
+
DT_MIPS_DELTA_CLASSSYM. */
#define DT_MIPS_CXX_FLAGS    0x70000022 /* Flags indicating for C++ flavor. */
#define DT_MIPS_PIXIE_INIT   0x70000023
#define DT_MIPS_SYMBOL_LIB   0x70000024
#define DT_MIPS_LOCALPAGE_GOTIDX 0x70000025
#define DT_MIPS_LOCAL_GOTIDX 0x70000026
#define DT_MIPS_HIDDEN_GOTIDX 0x70000027
#define DT_MIPS_PROTECTED_GOTIDX 0x70000028
#define DT_MIPS_OPTIONS      0x70000029 /* Address of .options. */
#define DT_MIPS_INTERFACE    0x7000002a /* Address of .interface. */
#define DT_MIPS_DYNSTR_ALIGN 0x7000002b
#define DT_MIPS_INTERFACE_SIZE 0x7000002c /* Size of the .interface section. */
#define DT_MIPS_RLD_TEXT_RESOLVE_ADDR 0x7000002d /* Address of rld_text_resolve
+
function stored in GOT. */
#define DT_MIPS_PERF_SUFFIX  0x7000002e /* Default suffix of dso to be added
+
by rld on dlopen() calls. */
#define DT_MIPS_COMPACT_SIZE 0x7000002f /* (O32)Size of compact rel section. */
#define DT_MIPS_GP_VALUE     0x70000030 /* GP value for aux GOTs. */
#define DT_MIPS_AUX_DYNAMIC  0x70000031 /* Address of aux .dynamic. */
#define DT_MIPS_NUM          0x32
+
+/* Legal values for DT_MIPS_FLAGS Elf32_Dyn entry. */
+
#define RHF_NONE              0                /* No flags */
#define RHF_QUICKSTART        (1 << 0)        /* Use quickstart */
#define RHF_NOTPOT            (1 << 1)        /* Hash size not power of 2 */
#define RHF_NO_LIBRARY_REPLACEMENT (1 << 2)    /* Ignore LD_LIBRARY_PATH */
#define RHF_NO_MOVE           (1 << 3)
#define RHF_SGI_ONLY          (1 << 4)
#define RHF_GUARANTEE_INIT    (1 << 5)
#define RHF_DELTA_C_PLUS_PLUS (1 << 6)
#define RHF_GUARANTEE_START_INIT (1 << 7)
#define RHF_PIXIE             (1 << 8)
#define RHF_DEFAULT_DELAY_LOAD (1 << 9)
#define RHF_REQUICKSTART      (1 << 10)
#define RHF_REQUICKSTARTED    (1 << 11)
#define RHF_CORD              (1 << 12)
#define RHF_NO_UNRES_UNDEF    (1 << 13)
#define RHF_RLD_ORDER_SAFE    (1 << 14)
+
+/* Entries found in sections of type SHT_MIPS_LIBLIST. */
+
+typedef struct
+{
+  Elf32_Word l_name;          /* Name (string table index) */

```

```

+ Elf32_Word l_time_stamp;      /* Timestamp */
+ Elf32_Word l_checksum;       /* Checksum */
+ Elf32_Word l_version;        /* Interface version */
+ Elf32_Word l_flags;          /* Flags */
+} Elf32_Lib;
+
+typedef struct
+{
+ Elf64_Word l_name;            /* Name (string table index) */
+ Elf64_Word l_time_stamp;     /* Timestamp */
+ Elf64_Word l_checksum;       /* Checksum */
+ Elf64_Word l_version;        /* Interface version */
+ Elf64_Word l_flags;          /* Flags */
+} Elf64_Lib;
+
+
+/* Legal values for l_flags. */
+
+#define LL_NONE                0
+#define LL_EXACT_MATCH         (1 << 0)      /* Require exact match */
+#define LL_IGNORE_INT_VER     (1 << 1)      /* Ignore interface version */
+#define LL_REQUIRE_MINOR      (1 << 2)
+#define LL_EXPORTS            (1 << 3)
+#define LL_DELAY_LOAD         (1 << 4)
+#define LL_DELTA              (1 << 5)
+
+/* Entries found in sections of type SHT_MIPS_CONFLICT. */
+
+typedef Elf32_Addr Elf32_Conflict;
+
+
+/* HPPA specific definitions. */
+
+/* Legal values for e_flags field of Elf32_Ehdr. */
+
+#define EF_PARISC_TRAPNIL      0x00010000 /* Trap nil pointer dereference. */
+#define EF_PARISC_EXT          0x00020000 /* Program uses arch. extensions. */
+#define EF_PARISC_LSB         0x00040000 /* Program expects little endian. */
+#define EF_PARISC_WIDE        0x00080000 /* Program expects wide mode. */
+#define EF_PARISC_NO_KABP     0x00100000 /* No kernel assisted branch
+prediction. */
+#define EF_PARISC_LAZYSWAP    0x00400000 /* Allow lazy swapping. */
+#define EF_PARISC_ARCH        0x0000ffff /* Architecture version. */
+
+/* Defined values for `e_flags & EF_PARISC_ARCH' are: */
+
+#define EFA_PARISC_1_0        0x020b /* PA-RISC 1.0 big-endian. */
+#define EFA_PARISC_1_1        0x0210 /* PA-RISC 1.1 big-endian. */
+#define EFA_PARISC_2_0        0x0214 /* PA-RISC 2.0 big-endian. */
+
+/* Additional section indices. */
+
+#define SHN_PARISC_ANSI_COMMON 0xff00      /* Section for tentatively declared
+symbols in ANSI C. */
+#define SHN_PARISC_HUGE_COMMON 0xff01     /* Common blocks in huge model. */
+
+/* Legal values for sh_type field of Elf32_Shdr. */
+
+#define SHT_PARISC_EXT        0x70000000 /* Contains product specific ext. */
+#define SHT_PARISC_UNWIND    0x70000001 /* Unwind information. */
+#define SHT_PARISC_DOC       0x70000002 /* Debug info for optimized code. */
+
+/* Legal values for sh_flags field of Elf32_Shdr. */
+
+#define SHF_PARISC_SHORT     0x20000000 /* Section with short addressing. */
+#define SHF_PARISC_HUGE     0x40000000 /* Section far from gp. */
+#define SHF_PARISC_SBP      0x80000000 /* Static branch prediction code. */
+
+/* Legal values for ST_TYPE subfield of st_info (symbol type). */
+
+#define STT_PARISC_MILLICODE 13           /* Millicode function entry point. */

```

```

+
+#define STT_HP_OPAQUE          (STT_LOOS + 0x1)
+#define STT_HP_STUB           (STT_LOOS + 0x2)
+
+/* HPPA relocs. */
+
+#define R_PARISC_NONE          0          /* No reloc. */
+#define R_PARISC_DIR32         1          /* Direct 32-bit reference. */
+#define R_PARISC_DIR21L        2          /* Left 21 bits of eff. address. */
+#define R_PARISC_DIR17R        3          /* Right 17 bits of eff. address. */
+#define R_PARISC_DIR17F        4          /* 17 bits of eff. address. */
+#define R_PARISC_DIR14R        6          /* Right 14 bits of eff. address. */
+#define R_PARISC_PCREL32       9          /* 32-bit rel. address. */
+#define R_PARISC_PCREL21L      10         /* Left 21 bits of rel. address. */
+#define R_PARISC_PCREL17R      11         /* Right 17 bits of rel. address. */
+#define R_PARISC_PCREL17F      12         /* 17 bits of rel. address. */
+#define R_PARISC_PCREL14R      14         /* Right 14 bits of rel. address. */
+#define R_PARISC_DPREL21L      18         /* Left 21 bits of rel. address. */
+#define R_PARISC_DPREL14R      22         /* Right 14 bits of rel. address. */
+#define R_PARISC_GPREL21L      26         /* GP-relative, left 21 bits. */
+#define R_PARISC_GPREL14R      30         /* GP-relative, right 14 bits. */
+#define R_PARISC_LTOFF21L      34         /* LT-relative, left 21 bits. */
+#define R_PARISC_LTOFF14R      38         /* LT-relative, right 14 bits. */
+#define R_PARISC_SECREL32      41         /* 32 bits section rel. address. */
+#define R_PARISC_SEGBASE       48         /* No relocation, set segment base. */
+#define R_PARISC_SEGREL32      49         /* 32 bits segment rel. address. */
+#define R_PARISC_PLTOFF21L     50         /* PLT rel. address, left 21 bits. */
+#define R_PARISC_PLTOFF14R     54         /* PLT rel. address, right 14 bits. */
+#define R_PARISC_LTOFF_FPTR32  57         /* 32 bits LT-rel. function pointer. */
+#define R_PARISC_LTOFF_FPTR21L 58         /* LT-rel. fct ptr, left 21 bits. */
+#define R_PARISC_LTOFF_FPTR14R 62         /* LT-rel. fct ptr, right 14 bits. */
+#define R_PARISC_FPTR64        64         /* 64 bits function address. */
+#define R_PARISC_PLABEL32      65         /* 32 bits function address. */
+#define R_PARISC_PCREL64       72         /* 64 bits PC-rel. address. */
+#define R_PARISC_PCREL22F      74         /* 22 bits PC-rel. address. */
+#define R_PARISC_PCREL14WR     75         /* PC-rel. address, right 14 bits. */
+#define R_PARISC_PCREL14DR     76         /* PC rel. address, right 14 bits. */
+#define R_PARISC_PCREL16F      77         /* 16 bits PC-rel. address. */
+#define R_PARISC_PCREL16WF     78         /* 16 bits PC-rel. address. */
+#define R_PARISC_PCREL16DF     79         /* 16 bits PC-rel. address. */
+#define R_PARISC_DIR64         80         /* 64 bits of eff. address. */
+#define R_PARISC_DIR14WR      83         /* 14 bits of eff. address. */
+#define R_PARISC_DIR14DR      84         /* 14 bits of eff. address. */
+#define R_PARISC_DIR16F       85         /* 16 bits of eff. address. */
+#define R_PARISC_DIR16WF      86         /* 16 bits of eff. address. */
+#define R_PARISC_DIR16DF      87         /* 16 bits of eff. address. */
+#define R_PARISC_GPREL64      88         /* 64 bits of GP-rel. address. */
+#define R_PARISC_GPREL14WR    91         /* GP-rel. address, right 14 bits. */
+#define R_PARISC_GPREL14DR    92         /* GP-rel. address, right 14 bits. */
+#define R_PARISC_GPREL16F     93         /* 16 bits GP-rel. address. */
+#define R_PARISC_GPREL16WF    94         /* 16 bits GP-rel. address. */
+#define R_PARISC_GPREL16DF    95         /* 16 bits GP-rel. address. */
+#define R_PARISC_LTOFF64     96         /* 64 bits LT-rel. address. */
+#define R_PARISC_LTOFF14WR    99         /* LT-rel. address, right 14 bits. */
+#define R_PARISC_LTOFF14DR   100        /* LT-rel. address, right 14 bits. */
+#define R_PARISC_LTOFF16F    101        /* 16 bits LT-rel. address. */
+#define R_PARISC_LTOFF16WF   102        /* 16 bits LT-rel. address. */
+#define R_PARISC_LTOFF16DF   103        /* 16 bits LT-rel. address. */
+#define R_PARISC_SECREL64    104        /* 64 bits section rel. address. */
+#define R_PARISC_SEGREL64    112        /* 64 bits segment rel. address. */
+#define R_PARISC_PLTOFF14WR  115        /* PLT-rel. address, right 14 bits. */
+#define R_PARISC_PLTOFF14DR  116        /* PLT-rel. address, right 14 bits. */
+#define R_PARISC_PLTOFF16F   117        /* 16 bits LT-rel. address. */
+#define R_PARISC_PLTOFF16WF  118        /* 16 bits PLT-rel. address. */
+#define R_PARISC_PLTOFF16DF  119        /* 16 bits PLT-rel. address. */
+#define R_PARISC_LTOFF_FPTR64 120        /* 64 bits LT-rel. function ptr. */
+#define R_PARISC_LTOFF_FPTR14WR 123     /* LT-rel. fct. ptr., right 14 bits. */
+#define R_PARISC_LTOFF_FPTR14DR 124     /* LT-rel. fct. ptr., right 14 bits. */
+#define R_PARISC_LTOFF_FPTR16F 125     /* 16 bits LT-rel. function ptr. */
+#define R_PARISC_LTOFF_FPTR16WF 126     /* 16 bits LT-rel. function ptr. */
+#define R_PARISC_LTOFF_FPTR16DF 127     /* 16 bits LT-rel. function ptr. */

```

```

#define R_PARISC_LORESERVE      128
#define R_PARISC_COPY          128      /* Copy relocation. */
#define R_PARISC_IPLT          129      /* Dynamic reloc, imported PLT */
#define R_PARISC_EPLT          130      /* Dynamic reloc, exported PLT */
#define R_PARISC_TPREL32       153      /* 32 bits TP-rel. address. */
#define R_PARISC_TPREL21L      154      /* TP-rel. address, left 21 bits. */
#define R_PARISC_TPREL14R      158      /* TP-rel. address, right 14 bits. */
#define R_PARISC_LTOFF_TP21L   162      /* LT-TP-rel. address, left 21 bits. */
#define R_PARISC_LTOFF_TP14R   166      /* LT-TP-rel. address, right 14 bits.*/
#define R_PARISC_LTOFF_TP14F   167      /* 14 bits LT-TP-rel. address. */
#define R_PARISC_TPREL64       216      /* 64 bits TP-rel. address. */
#define R_PARISC_TPREL14WR     219      /* TP-rel. address, right 14 bits. */
#define R_PARISC_TPREL14DR     220      /* TP-rel. address, right 14 bits. */
#define R_PARISC_TPREL16F      221      /* 16 bits TP-rel. address. */
#define R_PARISC_LTOFF_TP16WF  222      /* 16 bits TP-rel. address. */
#define R_PARISC_TPREL16DF     223      /* 16 bits TP-rel. address. */
#define R_PARISC_LTOFF_TP64     224      /* 64 bits LT-TP-rel. address. */
#define R_PARISC_LTOFF_TP14WR  227      /* LT-TP-rel. address, right 14 bits.*/
#define R_PARISC_LTOFF_TP14DR  228      /* LT-TP-rel. address, right 14 bits.*/
#define R_PARISC_LTOFF_TP16F   229      /* 16 bits LT-TP-rel. address. */
#define R_PARISC_LTOFF_TP16WF  230      /* 16 bits LT-TP-rel. address. */
#define R_PARISC_LTOFF_TP16DF  231      /* 16 bits LT-TP-rel. address. */
#define R_PARISC_HIRESERVE     255
+
+/* Legal values for p_type field of Elf32_Phdr/Elf64_Phdr. */
+
#define PT_HP_TLS              (PT_LOOS + 0x0)
#define PT_HP_CORE_NONE       (PT_LOOS + 0x1)
#define PT_HP_CORE_VERSION    (PT_LOOS + 0x2)
#define PT_HP_CORE_KERNEL     (PT_LOOS + 0x3)
#define PT_HP_CORE_COMM       (PT_LOOS + 0x4)
#define PT_HP_CORE_PROC       (PT_LOOS + 0x5)
#define PT_HP_CORE_LOADABLE   (PT_LOOS + 0x6)
#define PT_HP_CORE_STACK      (PT_LOOS + 0x7)
#define PT_HP_CORE_SHM        (PT_LOOS + 0x8)
#define PT_HP_CORE_MMF        (PT_LOOS + 0x9)
#define PT_HP_PARALLEL        (PT_LOOS + 0x10)
#define PT_HP_FASTBIND        (PT_LOOS + 0x11)
#define PT_HP_OPT_ANNOT        (PT_LOOS + 0x12)
#define PT_HP_HSL_ANNOT        (PT_LOOS + 0x13)
#define PT_HP_STACK           (PT_LOOS + 0x14)
+
#define PT_PARISC_ARCHEXT     0x70000000
#define PT_PARISC_UNWIND      0x70000001
+
+/* Legal values for p_flags field of Elf32_Phdr/Elf64_Phdr. */
+
#define PF_PARISC_SBP          0x08000000
+
#define PF_HP_PAGE_SIZE       0x00100000
#define PF_HP_FAR_SHARED      0x00200000
#define PF_HP_NEAR_SHARED    0x00400000
#define PF_HP_CODE            0x01000000
#define PF_HP_MODIFY          0x02000000
#define PF_HP_LAZYSWAP        0x04000000
#define PF_HP_SBP             0x08000000
+
+
+/* Alpha specific definitions. */
+
+/* Legal values for e_flags field of Elf64_Ehdr. */
+
#define EF_ALPHA_32BIT         1          /* All addresses must be < 2GB. */
#define EF_ALPHA_CANRELAX     2          /* Relocations for relaxing exist. */
+
+/* Legal values for sh_type field of Elf64_Shdr. */
+
+/* These two are primerily concerned with ECOFF debugging info. */
#define SHT_ALPHA_DEBUG        0x70000001
#define SHT_ALPHA_REGINFO     0x70000002
+

```

```

+/* Legal values for sh_flags field of Elf64_Shdr. */
+
+#define SHF_ALPHA_GPREL          0x10000000
+
+/* Legal values for st_other field of Elf64_Sym. */
+#define STO_ALPHA_NOPV          0x80      /* No PV required. */
+#define STO_ALPHA_STD_GLOAD     0x88      /* PV only used for initial ldgp. */
+
+/* Alpha relocs. */
+
+#define R_ALPHA_NONE            0          /* No reloc */
+#define R_ALPHA_REFLONG        1          /* Direct 32 bit */
+#define R_ALPHA_REFQUAD        2          /* Direct 64 bit */
+#define R_ALPHA_GPREL32        3          /* GP relative 32 bit */
+#define R_ALPHA_LITERAL        4          /* GP relative 16 bit w/optimization */
+#define R_ALPHA_LITUSE         5          /* Optimization hint for LITERAL */
+#define R_ALPHA_GPDISP         6          /* Add displacement to GP */
+#define R_ALPHA_BRADDR         7          /* PC+4 relative 23 bit shifted */
+#define R_ALPHA_HINT           8          /* PC+4 relative 16 bit shifted */
+#define R_ALPHA_SREL16         9          /* PC relative 16 bit */
+#define R_ALPHA_SREL32         10         /* PC relative 32 bit */
+#define R_ALPHA_SREL64         11         /* PC relative 64 bit */
+#define R_ALPHA_GPRELHIGH      17         /* GP relative 32 bit, high 16 bits */
+#define R_ALPHA_GPRELLOW      18         /* GP relative 32 bit, low 16 bits */
+#define R_ALPHA_GPREL16       19         /* GP relative 16 bit */
+#define R_ALPHA_COPY           24         /* Copy symbol at runtime */
+#define R_ALPHA_GLOB_DAT       25         /* Create GOT entry */
+#define R_ALPHA_JMP_SLOT       26         /* Create PLT entry */
+#define R_ALPHA_RELATIVE       27         /* Adjust by program base */
+#define R_ALPHA_TLS_GD_HI      28
+#define R_ALPHA_TLSGD          29
+#define R_ALPHA_TLS_LDM        30
+#define R_ALPHA_DTPMOD64       31
+#define R_ALPHA_GOTDTPREL      32
+#define R_ALPHA_DTPREL64       33
+#define R_ALPHA_DTPRELHI       34
+#define R_ALPHA_DTPRELLO       35
+#define R_ALPHA_DTPREL16       36
+#define R_ALPHA_GOTDTPREL      37
+#define R_ALPHA_TPREL64        38
+#define R_ALPHA_TPRELHI        39
+#define R_ALPHA_TPRELLO        40
+#define R_ALPHA_TPREL16        41
+/* Keep this the last entry. */
+#define R_ALPHA_NUM            46
+
+/* Magic values of the LITUSE relocation addend. */
+#define LITUSE_ALPHA_ADDR      0
+#define LITUSE_ALPHA_BASE      1
+#define LITUSE_ALPHA_BYTOFF    2
+#define LITUSE_ALPHA_JSR       3
+#define LITUSE_ALPHA_TLS_GD     4
+#define LITUSE_ALPHA_TLS_LDM   5
+
+/* Legal values for d_tag of Elf64_Dyn. */
+#define DT_ALPHA_PLTRO          (DT_LOPROC + 0)
+#define DT_ALPHA_NUM            1
+
+/* PowerPC specific declarations */
+
+/* Values for Elf32/64_Ehdr.e_flags. */
+#define EF_PPC_EMB              0x80000000 /* PowerPC embedded flag */
+
+/* Cygnus local bits below */
+#define EF_PPC_RELOCATABLE      0x00010000 /* PowerPC -mrelocatable flag*/
+#define EF_PPC_RELOCATABLE_LIB 0x00008000 /* PowerPC -mrelocatable-lib
+                                         flag */
+
+/* PowerPC relocations defined by the ABIs */
+#define R_PPC_NONE              0
+#define R_PPC_ADDR32            1          /* 32bit absolute address */

```

```

#define R_PPC_ADDR24          2          /* 26bit address, 2 bits ignored. */
#define R_PPC_ADDR16         3          /* 16bit absolute address */
#define R_PPC_ADDR16_LO      4          /* lower 16bit of absolute address */
#define R_PPC_ADDR16_HI      5          /* high 16bit of absolute address */
#define R_PPC_ADDR16_HA      6          /* adjusted high 16bit */
#define R_PPC_ADDR14         7          /* 16bit address, 2 bits ignored */
#define R_PPC_ADDR14_BRTAKEN 8
#define R_PPC_ADDR14_BRNTAKEN 9
#define R_PPC_REL24          10         /* PC relative 26 bit */
#define R_PPC_REL14         11         /* PC relative 16 bit */
#define R_PPC_REL14_BRTAKEN 12
#define R_PPC_REL14_BRNTAKEN 13
#define R_PPC_GOT16          14
#define R_PPC_GOT16_LO      15
#define R_PPC_GOT16_HI      16
#define R_PPC_GOT16_HA      17
#define R_PPC_PLTREL24       18
#define R_PPC_COPY           19
#define R_PPC_GLOB_DAT       20
#define R_PPC_JMP_SLOT       21
#define R_PPC_RELATIVE       22
#define R_PPC_LOCAL24PC      23
#define R_PPC_UADDR32        24
#define R_PPC_UADDR16        25
#define R_PPC_REL32          26
#define R_PPC_PLT32          27
#define R_PPC_PLTREL32       28
#define R_PPC_PLT16_LO      29
#define R_PPC_PLT16_HI      30
#define R_PPC_PLT16_HA      31
#define R_PPC_SDAREL16       32
#define R_PPC_SECTOFF        33
#define R_PPC_SECTOFF_LO    34
#define R_PPC_SECTOFF_HI    35
#define R_PPC_SECTOFF_HA    36
+
+/* PowerPC relocations defined for the TLS access ABI. */
#define R_PPC_TLS             67 /* none      (sym+add)@tls */
#define R_PPC_DTPMOD32        68 /* word32   (sym+add)@dtpmod */
#define R_PPC_TPREL16         69 /* half16*  (sym+add)@tprel */
#define R_PPC_TPREL16_LO     70 /* half16   (sym+add)<at:var at:name="tprel" />l */
#define R_PPC_TPREL16_HI     71 /* half16   (sym+add)<at:var at:name="tprel" />h */
#define R_PPC_TPREL16_HA     72 /* half16   (sym+add)<at:var at:name="tprel" />ha */
#define R_PPC_TPREL32        73 /* word32   (sym+add)@tprel */
#define R_PPC_DTPREL16       74 /* half16*  (sym+add)@dtprel */
#define R_PPC_DTPREL16_LO   75 /* half16   (sym+add)<at:var at:name="dtprel" />l */
#define R_PPC_DTPREL16_HI   76 /* half16   (sym+add)<at:var at:name="dtprel" />h */
#define R_PPC_DTPREL16_HA   77 /* half16   (sym+add)<at:var at:name="dtprel" />ha */
#define R_PPC_DTPREL32      78 /* word32   (sym+add)@dtprel */
#define R_PPC_GOT_TLSD16    79 /* half16*  (sym+add)<at:var at:name="got" />tlsgd */
#define R_PPC_GOT_TLSD16_LO 80 /* half16   (sym+add)<at:var at:name="got" />tlsgd@l */
#define R_PPC_GOT_TLSD16_HI 81 /* half16   (sym+add)<at:var at:name="got" />tlsgd@h */
#define R_PPC_GOT_TLSD16_HA 82 /* half16   (sym+add)<at:var at:name="got" />tlsgd@ha */
#define R_PPC_GOT_TLSLD16   83 /* half16*  (sym+add)<at:var at:name="got" />tlsld */
#define R_PPC_GOT_TLSLD16_LO 84 /* half16   (sym+add)<at:var at:name="got" />tlsld@l */
#define R_PPC_GOT_TLSLD16_HI 85 /* half16   (sym+add)<at:var at:name="got" />tlsld@h */
#define R_PPC_GOT_TLSLD16_HA 86 /* half16   (sym+add)<at:var at:name="got" />tlsld@ha */
#define R_PPC_GOT_TPREL16   87 /* half16*  (sym+add)<at:var at:name="got" />tprel */
#define R_PPC_GOT_TPREL16_LO 88 /* half16   (sym+add)<at:var at:name="got" />tprel@l */
#define R_PPC_GOT_TPREL16_HI 89 /* half16   (sym+add)<at:var at:name="got" />tprel@h */
#define R_PPC_GOT_TPREL16_HA 90 /* half16   (sym+add)<at:var at:name="got" />tprel@ha */
#define R_PPC_GOT_DTPREL16  91 /* half16*  (sym+add)<at:var at:name="got" />dtprel */
#define R_PPC_GOT_DTPREL16_LO 92 /* half16*  (sym+add)<at:var at:name="got" />dtprel@l */
#define R_PPC_GOT_DTPREL16_HI 93 /* half16*  (sym+add)<at:var at:name="got" />dtprel@h */
#define R_PPC_GOT_DTPREL16_HA 94 /* half16*  (sym+add)<at:var at:name="got" />dtprel@ha */
+
+/* Keep this the last entry. */
#define R_PPC_NUM             95
+
+/* The remaining relocs are from the Embedded ELF ABI, and are not
+   in the SVR4 ELF ABI. */

```

```

#define R_PPC_EMB_NADDR32      101
#define R_PPC_EMB_NADDR16     102
#define R_PPC_EMB_NADDR16_LO  103
#define R_PPC_EMB_NADDR16_HI  104
#define R_PPC_EMB_NADDR16_HA  105
#define R_PPC_EMB_SDAI16     106
#define R_PPC_EMB_SDA2I16    107
#define R_PPC_EMB_SDA2REL    108
#define R_PPC_EMB_SDA21      109      /* 16 bit offset in SDA */
#define R_PPC_EMB_MRKREF     110
#define R_PPC_EMB_RELSEC16   111
#define R_PPC_EMB_RELST_LO   112
#define R_PPC_EMB_RELST_HI   113
#define R_PPC_EMB_RELST_HA   114
#define R_PPC_EMB_BIT_FLD    115
#define R_PPC_EMB_RELSDA     116      /* 16 bit relative offset in SDA */
+
+/* Diab tool relocations. */
#define R_PPC_DIAB_SDA21_LO   180      /* like EMB_SDA21, but lower 16 bit */
#define R_PPC_DIAB_SDA21_HI   181      /* like EMB_SDA21, but high 16 bit */
#define R_PPC_DIAB_SDA21_HA   182      /* like EMB_SDA21, adjusted high 16 */
#define R_PPC_DIAB_RELSDA_LO  183      /* like EMB_RELSDA, but lower 16 bit */
#define R_PPC_DIAB_RELSDA_HI  184      /* like EMB_RELSDA, but high 16 bit */
#define R_PPC_DIAB_RELSDA_HA  185      /* like EMB_RELSDA, adjusted high 16 */
+
+/* GNU relocs used in PIC code sequences. */
#define R_PPC_REL16           249      /* word32 (sym-.) */
#define R_PPC_REL16_LO        250      /* half16 (sym-.)@l */
#define R_PPC_REL16_HI        251      /* half16 (sym-.)@h */
#define R_PPC_REL16_HA        252      /* half16 (sym-.)@ha */
+
+/* This is a phony reloc to handle any old fashioned TOC16 references
+ that may still be in object files. */
#define R_PPC_TOC16           255
+
+/* PowerPC specific values for the Dyn d_tag field. */
#define DT_PPC_GOT             (DT_LOPROC + 0)
#define DT_PPC_NUM             1
+
+/* PowerPC64 relocations defined by the ABIs */
#define R_PPC64_NONE           R_PPC_NONE
#define R_PPC64_ADDR32         R_PPC_ADDR32 /* 32bit absolute address */
#define R_PPC64_ADDR24         R_PPC_ADDR24 /* 26bit address, word aligned */
#define R_PPC64_ADDR16         R_PPC_ADDR16 /* 16bit absolute address */
#define R_PPC64_ADDR16_LO      R_PPC_ADDR16_LO /* lower 16bits of address */
#define R_PPC64_ADDR16_HI      R_PPC_ADDR16_HI /* high 16bits of address. */
#define R_PPC64_ADDR16_HA      R_PPC_ADDR16_HA /* adjusted high 16bits. */
#define R_PPC64_ADDR14         R_PPC_ADDR14 /* 16bit address, word aligned */
#define R_PPC64_ADDR14_BRTAKEN R_PPC_ADDR14_BRTAKEN
#define R_PPC64_ADDR14_BRNTAKEN R_PPC_ADDR14_BRNTAKEN
#define R_PPC64_REL24          R_PPC_REL24 /* PC-rel. 26 bit, word aligned */
#define R_PPC64_REL14          R_PPC_REL14 /* PC relative 16 bit */
#define R_PPC64_REL14_BRTAKEN  R_PPC_REL14_BRTAKEN
#define R_PPC64_REL14_BRNTAKEN R_PPC_REL14_BRNTAKEN
#define R_PPC64_GOT16          R_PPC_GOT16
#define R_PPC64_GOT16_LO       R_PPC_GOT16_LO
#define R_PPC64_GOT16_HI       R_PPC_GOT16_HI
#define R_PPC64_GOT16_HA       R_PPC_GOT16_HA
+
#define R_PPC64_COPY           R_PPC_COPY
#define R_PPC64_GLOB_DAT       R_PPC_GLOB_DAT
#define R_PPC64_JMP_SLOT       R_PPC_JMP_SLOT
#define R_PPC64_RELATIVE       R_PPC_RELATIVE
+
#define R_PPC64_UADDR32        R_PPC_UADDR32
#define R_PPC64_UADDR16        R_PPC_UADDR16
#define R_PPC64_REL32          R_PPC_REL32
#define R_PPC64_PLT32          R_PPC_PLT32
#define R_PPC64_PLTREL32       R_PPC_PLTREL32
#define R_PPC64_PLT16_LO       R_PPC_PLT16_LO
#define R_PPC64_PLT16_HI       R_PPC_PLT16_HI

```

```

#define R_PPC64_PLT16_HA      R_PPC_PLT16_HA
+
#define R_PPC64_SECTOFF      R_PPC_SECTOFF
#define R_PPC64_SECTOFF_LO   R_PPC_SECTOFF_LO
#define R_PPC64_SECTOFF_HI   R_PPC_SECTOFF_HI
#define R_PPC64_SECTOFF_HA   R_PPC_SECTOFF_HA
#define R_PPC64_ADDR30       37 /* word30 (S + A - P) >> 2 */
#define R_PPC64_ADDR64       38 /* doubleword64 S + A */
#define R_PPC64_ADDR16_HIGHER 39 /* half16 #higher(S + A) */
#define R_PPC64_ADDR16_HIGHERA 40 /* half16 #highera(S + A) */
#define R_PPC64_ADDR16_HIGHEST 41 /* half16 #highest(S + A) */
#define R_PPC64_ADDR16_HIGHESTA 42 /* half16 #highesta(S + A) */
#define R_PPC64_UADDR64      43 /* doubleword64 S + A */
#define R_PPC64_REL64        44 /* doubleword64 S + A - P */
#define R_PPC64_PLT64        45 /* doubleword64 L + A */
#define R_PPC64_PLTREL64     46 /* doubleword64 L + A - P */
#define R_PPC64_TOC16        47 /* half16* S + A - .TOC */
#define R_PPC64_TOC16_LO     48 /* half16 #lo(S + A - .TOC) */
#define R_PPC64_TOC16_HI     49 /* half16 #hi(S + A - .TOC) */
#define R_PPC64_TOC16_HA     50 /* half16 #ha(S + A - .TOC) */
#define R_PPC64_TOC          51 /* doubleword64 .TOC */
#define R_PPC64_PLTGOT16     52 /* half16* M + A */
#define R_PPC64_PLTGOT16_LO  53 /* half16 #lo(M + A) */
#define R_PPC64_PLTGOT16_HI  54 /* half16 #hi(M + A) */
#define R_PPC64_PLTGOT16_HA  55 /* half16 #ha(M + A) */
+
#define R_PPC64_ADDR16_DS    56 /* half16ds* (S + A) >> 2 */
#define R_PPC64_ADDR16_LO_DS 57 /* half16ds #lo(S + A) >> 2 */
#define R_PPC64_GOT16_DS    58 /* half16ds* (G + A) >> 2 */
#define R_PPC64_GOT16_LO_DS 59 /* half16ds #lo(G + A) >> 2 */
#define R_PPC64_PLT16_LO_DS 60 /* half16ds #lo(L + A) >> 2 */
#define R_PPC64_SECTOFF_DS  61 /* half16ds* (R + A) >> 2 */
#define R_PPC64_SECTOFF_LO_DS 62 /* half16ds #lo(R + A) >> 2 */
#define R_PPC64_TOC16_DS    63 /* half16ds* (S + A - .TOC) >> 2 */
#define R_PPC64_TOC16_LO_DS 64 /* half16ds #lo(S + A - .TOC) >> 2 */
#define R_PPC64_PLTGOT16_DS 65 /* half16ds* (M + A) >> 2 */
#define R_PPC64_PLTGOT16_LO_DS 66 /* half16ds #lo(M + A) >> 2 */
+
/* PowerPC64 relocations defined for the TLS access ABI. */
#define R_PPC64_TLS          67 /* none (sym+add)@tls */
#define R_PPC64_DTPMOD64    68 /* doubleword64 (sym+add)@dtpmod */
#define R_PPC64_TPREL16     69 /* half16* (sym+add)@tprel */
#define R_PPC64_TPREL16_LO  70 /* half16 (sym+add)<at:var at:name="tprel" />l */
#define R_PPC64_TPREL16_HI  71 /* half16 (sym+add)<at:var at:name="tprel" />h */
#define R_PPC64_TPREL16_HA  72 /* half16 (sym+add)<at:var at:name="tprel" />ha */
#define R_PPC64_TPREL64     73 /* doubleword64 (sym+add)@tprel */
#define R_PPC64_DTPREL16    74 /* half16* (sym+add)@dtprel */
#define R_PPC64_DTPREL16_LO 75 /* half16 (sym+add)<at:var at:name="dtprel" />l */
#define R_PPC64_DTPREL16_HI 76 /* half16 (sym+add)<at:var at:name="dtprel" />h */
#define R_PPC64_DTPREL16_HA 77 /* half16 (sym+add)<at:var at:name="dtprel" />ha */
#define R_PPC64_DTPREL64    78 /* doubleword64 (sym+add)@dtprel */
#define R_PPC64_GOT_TLSD16  79 /* half16* (sym+add)<at:var at:name="got" />tlsgd */
#define R_PPC64_GOT_TLSD16_LO 80 /* half16 (sym+add)<at:var at:name="got" />tlsgd@l */
#define R_PPC64_GOT_TLSD16_HI 81 /* half16 (sym+add)<at:var at:name="got" />tlsgd@h */
#define R_PPC64_GOT_TLSD16_HA 82 /* half16 (sym+add)<at:var at:name="got" />tlsgd@ha */
#define R_PPC64_GOT_TLSD16  83 /* half16* (sym+add)<at:var at:name="got" />tlslid */
#define R_PPC64_GOT_TLSD16_LO 84 /* half16 (sym+add)<at:var at:name="got" />tlslid@l */
#define R_PPC64_GOT_TLSD16_HI 85 /* half16 (sym+add)<at:var at:name="got" />tlslid@h */
#define R_PPC64_GOT_TLSD16_HA 86 /* half16 (sym+add)<at:var at:name="got" />tlslid@ha */
#define R_PPC64_GOT_TPREL16_DS 87 /* half16ds* (sym+add)<at:var at:name="got" />tprel */
#define R_PPC64_GOT_TPREL16_LO_DS 88 /* half16ds (sym+add)<at:var at:name="got" />tprel@l */
#define R_PPC64_GOT_TPREL16_HI 89 /* half16 (sym+add)<at:var at:name="got" />tprel@h */
#define R_PPC64_GOT_TPREL16_HA 90 /* half16 (sym+add)<at:var at:name="got" />tprel@ha */
#define R_PPC64_GOT_DTPREL16_DS 91 /* half16ds* (sym+add)<at:var at:name="got" />dtprel */
#define R_PPC64_GOT_DTPREL16_LO_DS 92 /* half16ds (sym+add)<at:var at:name="got" />dtprel@l */
#define R_PPC64_GOT_DTPREL16_HI 93 /* half16 (sym+add)<at:var at:name="got" />dtprel@h */
#define R_PPC64_GOT_DTPREL16_HA 94 /* half16 (sym+add)<at:var at:name="got" />dtprel@ha */
#define R_PPC64_TPREL16_DS  95 /* half16ds* (sym+add)@tprel */
#define R_PPC64_TPREL16_LO_DS 96 /* half16ds (sym+add)<at:var at:name="tprel" />l */
#define R_PPC64_TPREL16_HIGHER 97 /* half16 (sym+add)<at:var at:name="tprel" />higher */
#define R_PPC64_TPREL16_HIGHERA 98 /* half16 (sym+add)<at:var at:name="tprel" />highera */

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#define R_PPC64_TPREL16_HIGHEST      99 /* half16      (sym+add)<at:var at:name="tprel" />highest */
#define R_PPC64_TPREL16_HIGHESTA    100 /* half16      (sym+add)<at:var at:name="tprel" />highesta */
#define R_PPC64_DTPREL16_DS         101 /* half16ds* (sym+add)@dtprel */
#define R_PPC64_DTPREL16_LO_DS      102 /* half16ds   (sym+add)<at:var at:name="dtprel" />l */
#define R_PPC64_DTPREL16_HIGHER     103 /* half16     (sym+add)<at:var at:name="dtprel" />higher */
#define R_PPC64_DTPREL16_HIGHERA    104 /* half16     (sym+add)<at:var at:name="dtprel" />highera */
#define R_PPC64_DTPREL16_HIGHEST    105 /* half16     (sym+add)<at:var at:name="dtprel" />highest */
#define R_PPC64_DTPREL16_HIGHESTA   106 /* half16     (sym+add)<at:var at:name="dtprel" />highesta */
+
+/* Keep this the last entry. */
#define R_PPC64_NUM                  107
+
+/* PowerPC64 specific values for the Dyn d_tag field. */
#define DT_PPC64_GLINK              (DT_LOPROC + 0)
#define DT_PPC64_OPD                 (DT_LOPROC + 1)
#define DT_PPC64_OPDSZ               (DT_LOPROC + 2)
#define DT_PPC64_NUM                 3
+
+
+/* ARM specific declarations */
+
+/* Processor specific flags for the ELF header e_flags field. */
#define EF_ARM_RELEXEC               0x01
#define EF_ARM_HASENTRY              0x02
#define EF_ARM_INTERWORK             0x04
#define EF_ARM_APCS_26               0x08
#define EF_ARM_APCS_FLOAT            0x10
#define EF_ARM_PIC                   0x20
#define EF_ARM_ALIGN8                0x40 /* 8-bit structure alignment is in use */
#define EF_ARM_NEW_ABI               0x80
#define EF_ARM_OLD_ABI               0x100
+
+/* Other constants defined in the ARM ELF spec. version B-01. */
+/* NB. These conflict with values defined above. */
#define EF_ARM_SYMSARESORTED         0x04
#define EF_ARM_DYNSYMSUSESEGIDX      0x08
#define EF_ARM_MAPSYMSFIRST         0x10
#define EF_ARM_EABIMASK              0xFF000000
+
#define EF_ARM_EABI_VERSION(flags) ((flags) & EF_ARM_EABIMASK)
#define EF_ARM_EABI_UNKNOWN          0x00000000
#define EF_ARM_EABI_VER1             0x01000000
#define EF_ARM_EABI_VER2             0x02000000
+
+/* Additional symbol types for Thumb */
#define STT_ARM_TFUNC                0xd
+
+/* ARM-specific values for sh_flags */
#define SHF_ARM_ENTRYSECT             0x10000000 /* Section contains an entry point */
#define SHF_ARM_COMDEF                0x80000000 /* Section may be multiply defined
in the input to a link step */
+
+
+/* ARM-specific program header flags */
#define PF_ARM_SB                     0x10000000 /* Segment contains the location
addressed by the static base */
+
+
+/* Processor specific values for the Phdr p_type field. */
#define PT_ARM_EXIDX                  0x70000001 /* .ARM.exidx segment */
+
+/* ARM relocs. */
+
#define R_ARM_NONE                     0 /* No reloc */
#define R_ARM_PC24                    1 /* PC relative 26 bit branch */
#define R_ARM_ABS32                   2 /* Direct 32 bit */
#define R_ARM_REL32                   3 /* PC relative 32 bit */
#define R_ARM_PCL3                    4
#define R_ARM_ABS16                   5 /* Direct 16 bit */
#define R_ARM_ABS12                   6 /* Direct 12 bit */
#define R_ARM_THM_ABS5                7
#define R_ARM_ABS8                    8 /* Direct 8 bit */
#define R_ARM_SBREL32                 9

```

```

#define R_ARM_THM_PC22          10
#define R_ARM_THM_PC8           11
#define R_ARM_AMP_VCALL9        12
#define R_ARM_SWI24             13
#define R_ARM_THM_SWI8          14
#define R_ARM_XPC25             15
#define R_ARM_THM_XPC22         16
#define R_ARM_TLS_DTPMOD32      17      /* ID of module containing symbol */
#define R_ARM_TLS_DTPOFF32     18      /* Offset in TLS block */
#define R_ARM_TLS_TPOFF32      19      /* Offset in static TLS block */
#define R_ARM_COPY              20      /* Copy symbol at runtime */
#define R_ARM_GLOB_DAT          21      /* Create GOT entry */
#define R_ARM_JUMP_SLOT        22      /* Create PLT entry */
#define R_ARM_RELATIVE          23      /* Adjust by program base */
#define R_ARM_GOTOFF            24      /* 32 bit offset to GOT */
#define R_ARM_GOTPC             25      /* 32 bit PC relative offset to GOT */
#define R_ARM_GOT32            26      /* 32 bit GOT entry */
#define R_ARM_PLT32            27      /* 32 bit PLT address */
#define R_ARM_ALU_PCREL_7_0     32
#define R_ARM_ALU_PCREL_15_8    33
#define R_ARM_ALU_PCREL_23_15   34
#define R_ARM_LDR_SBREL_11_0    35
#define R_ARM_ALU_SBREL_19_12   36
#define R_ARM_ALU_SBREL_27_20   37
#define R_ARM_GNU_VTENTRY       100
#define R_ARM_GNU_VTINHERIT     101
#define R_ARM_THM_PC11         102      /* thumb unconditional branch */
#define R_ARM_THM_PC9          103      /* thumb conditional branch */
#define R_ARM_TLS_GD32         104      /* PC-rel 32 bit for global dynamic
+ thread local data */
#define R_ARM_TLS_LDM32        105      /* PC-rel 32 bit for local dynamic
+ thread local data */
#define R_ARM_TLS_LDO32        106      /* 32 bit offset relative to TLS
+ block */
#define R_ARM_TLS_IE32         107      /* PC-rel 32 bit for GOT entry of
+ static TLS block offset */
#define R_ARM_TLS_LE32         108      /* 32 bit offset relative to static
+ TLS block */
#define R_ARM_RXPC25           249
#define R_ARM_RSBREL32         250
#define R_ARM_THM_RPC22        251
#define R_ARM_RREL32           252
#define R_ARM_RABS22           253
#define R_ARM_RPC24            254
#define R_ARM_RBASE            255
+/* Keep this the last entry. */
#define R_ARM_NUM              256
+
+/* IA-64 specific declarations. */
+
+/* Processor specific flags for the Ehdr e_flags field. */
#define EF_IA_64_MASKOS        0x0000000f /* os-specific flags */
#define EF_IA_64_ABI64        0x00000010 /* 64-bit ABI */
#define EF_IA_64_ARCH         0xff000000 /* arch. version mask */
+
+/* Processor specific values for the Phdr p_type field. */
#define PT_IA_64_ARCHEXT      (PT_LOPROC + 0) /* arch extension bits */
#define PT_IA_64_UNWIND      (PT_LOPROC + 1) /* ia64 unwind bits */
#define PT_IA_64_HP_OPT_ANOT (PT_LOOS + 0x12)
#define PT_IA_64_HP_HSL_ANOT (PT_LOOS + 0x13)
#define PT_IA_64_HP_STACK    (PT_LOOS + 0x14)
+
+/* Processor specific flags for the Phdr p_flags field. */
#define PF_IA_64_NORECOV     0x80000000 /* spec insns w/o recovery */
+
+/* Processor specific values for the Shdr sh_type field. */
#define SHT_IA_64_EXT        (SHT_LOPROC + 0) /* extension bits */
#define SHT_IA_64_UNWIND    (SHT_LOPROC + 1) /* unwind bits */
+
+/* Processor specific flags for the Shdr sh_flags field. */
#define SHF_IA_64_SHORT      0x10000000 /* section near gp */

```

```

#define SHF_IA_64_NORECOV      0x20000000      /* spec insns w/o recovery */
+
+/* Processor specific values for the Dyn d_tag field. */
#define DT_IA_64_PLT_RESERVE   (DT_LOPROC + 0)
#define DT_IA_64_NUM          1
+
+/* IA-64 relocations. */
#define R_IA64_NONE            0x00            /* none */
#define R_IA64_IMM14          0x21            /* symbol + addend, add imm14 */
#define R_IA64_IMM22          0x22            /* symbol + addend, add imm22 */
#define R_IA64_IMM64          0x23            /* symbol + addend, mov imm64 */
#define R_IA64_DIR32MSB       0x24            /* symbol + addend, data4 MSB */
#define R_IA64_DIR32LSB       0x25            /* symbol + addend, data4 LSB */
#define R_IA64_DIR64MSB       0x26            /* symbol + addend, data8 MSB */
#define R_IA64_DIR64LSB       0x27            /* symbol + addend, data8 LSB */
#define R_IA64_GPREL22        0x2a            /* @gprel(sym + add), add imm22 */
#define R_IA64_GPREL64I       0x2b            /* @gprel(sym + add), mov imm64 */
#define R_IA64_GPREL32MSB     0x2c            /* @gprel(sym + add), data4 MSB */
#define R_IA64_GPREL32LSB     0x2d            /* @gprel(sym + add), data4 LSB */
#define R_IA64_GPREL64MSB     0x2e            /* @gprel(sym + add), data8 MSB */
#define R_IA64_GPREL64LSB     0x2f            /* @gprel(sym + add), data8 LSB */
#define R_IA64_LTOFF22        0x32            /* @ltoff(sym + add), add imm22 */
#define R_IA64_LTOFF64I       0x33            /* @ltoff(sym + add), mov imm64 */
#define R_IA64_PLTOFF22       0x3a            /* @pltoff(sym + add), add imm22 */
#define R_IA64_PLTOFF64I       0x3b            /* @pltoff(sym + add), mov imm64 */
#define R_IA64_PLTOFF64MSB     0x3e            /* @pltoff(sym + add), data8 MSB */
#define R_IA64_PLTOFF64LSB     0x3f            /* @pltoff(sym + add), data8 LSB */
#define R_IA64_FPTR64I        0x43            /* @fptr(sym + add), mov imm64 */
#define R_IA64_FPTR32MSB      0x44            /* @fptr(sym + add), data4 MSB */
#define R_IA64_FPTR32LSB      0x45            /* @fptr(sym + add), data4 LSB */
#define R_IA64_FPTR64MSB      0x46            /* @fptr(sym + add), data8 MSB */
#define R_IA64_FPTR64LSB      0x47            /* @fptr(sym + add), data8 LSB */
#define R_IA64_PCREL60B        0x48            /* @pcrel(sym + add), brl */
#define R_IA64_PCREL21B       0x49            /* @pcrel(sym + add), ptb, call */
#define R_IA64_PCREL21M       0x4a            /* @pcrel(sym + add), chk.s */
#define R_IA64_PCREL21F       0x4b            /* @pcrel(sym + add), fchkf */
#define R_IA64_PCREL32MSB     0x4c            /* @pcrel(sym + add), data4 MSB */
#define R_IA64_PCREL32LSB     0x4d            /* @pcrel(sym + add), data4 LSB */
#define R_IA64_PCREL64MSB     0x4e            /* @pcrel(sym + add), data8 MSB */
#define R_IA64_PCREL64LSB     0x4f            /* @pcrel(sym + add), data8 LSB */
#define R_IA64_LTOFF_FPTR22    0x52            /* <at:var at:name="ltoff(" />fptr(s+a)), imm22 */
#define R_IA64_LTOFF_FPTR64I   0x53            /* <at:var at:name="ltoff(" />fptr(s+a)), imm64 */
#define R_IA64_LTOFF_FPTR32MSB 0x54            /* <at:var at:name="ltoff(" />fptr(s+a)), data4 MSB */
#define R_IA64_LTOFF_FPTR32LSB 0x55            /* <at:var at:name="ltoff(" />fptr(s+a)), data4 LSB */
#define R_IA64_LTOFF_FPTR64MSB 0x56            /* <at:var at:name="ltoff(" />fptr(s+a)), data8 MSB */
#define R_IA64_LTOFF_FPTR64LSB 0x57            /* <at:var at:name="ltoff(" />fptr(s+a)), data8 LSB */
#define R_IA64_SEGREL32MSB     0x5c            /* @segrel(sym + add), data4 MSB */
#define R_IA64_SEGREL32LSB     0x5d            /* @segrel(sym + add), data4 LSB */
#define R_IA64_SEGREL64MSB     0x5e            /* @segrel(sym + add), data8 MSB */
#define R_IA64_SEGREL64LSB     0x5f            /* @segrel(sym + add), data8 LSB */
#define R_IA64_SECREL32MSB     0x64            /* @secrel(sym + add), data4 MSB */
#define R_IA64_SECREL32LSB     0x65            /* @secrel(sym + add), data4 LSB */
#define R_IA64_SECREL64MSB     0x66            /* @secrel(sym + add), data8 MSB */
#define R_IA64_SECREL64LSB     0x67            /* @secrel(sym + add), data8 LSB */
#define R_IA64_REL32MSB        0x6c            /* data 4 + REL */
#define R_IA64_REL32LSB        0x6d            /* data 4 + REL */
#define R_IA64_REL64MSB        0x6e            /* data 8 + REL */
#define R_IA64_REL64LSB        0x6f            /* data 8 + REL */
#define R_IA64_LTV32MSB        0x74            /* symbol + addend, data4 MSB */
#define R_IA64_LTV32LSB        0x75            /* symbol + addend, data4 LSB */
#define R_IA64_LTV64MSB        0x76            /* symbol + addend, data8 MSB */
#define R_IA64_LTV64LSB        0x77            /* symbol + addend, data8 LSB */
#define R_IA64_PCREL21BI       0x79            /* @pcrel(sym + add), 21bit inst */
#define R_IA64_PCREL22         0x7a            /* @pcrel(sym + add), 22bit inst */
#define R_IA64_PCREL64I        0x7b            /* @pcrel(sym + add), 64bit inst */
#define R_IA64_IPLTMSB         0x80            /* dynamic reloc, imported PLT, MSB */
#define R_IA64_IPLTLSB         0x81            /* dynamic reloc, imported PLT, LSB */
#define R_IA64_COPY            0x84            /* copy relocation */
#define R_IA64_SUB              0x85            /* Addend and symbol difference */
#define R_IA64_LTOFF22X        0x86            /* LTOFF22, relaxable. */
#define R_IA64_LDXMOV          0x87            /* Use of LTOFF22X. */

```

```

#define R_IA64_TPREL14          0x91      /* @tprel(sym + add), imm14 */
#define R_IA64_TPREL22          0x92      /* @tprel(sym + add), imm22 */
#define R_IA64_TPREL64I        0x93      /* @tprel(sym + add), imm64 */
#define R_IA64_TPREL64MSB      0x96      /* @tprel(sym + add), data8 MSB */
#define R_IA64_TPREL64LSB      0x97      /* @tprel(sym + add), data8 LSB */
#define R_IA64_LTOFF_TPREL22    0x9a      /* <at:var at:name="ltoff(" />tprel(s+a)), imm2 */
#define R_IA64_DTPMOD64MSB     0xa6      /* @dtpmod(sym + add), data8 MSB */
#define R_IA64_DTPMOD64LSB     0xa7      /* @dtpmod(sym + add), data8 LSB */
#define R_IA64_LTOFF_DTPMOD22   0xaa      /* <at:var at:name="ltoff(" />dtpmod(sym + add)), imm22 */
#define R_IA64_DTPREL14        0xb1      /* @dtprel(sym + add), imm14 */
#define R_IA64_DTPREL22        0xb2      /* @dtprel(sym + add), imm22 */
#define R_IA64_DTPREL64I       0xb3      /* @dtprel(sym + add), imm64 */
#define R_IA64_DTPREL32MSB     0xb4      /* @dtprel(sym + add), data4 MSB */
#define R_IA64_DTPREL32LSB     0xb5      /* @dtprel(sym + add), data4 LSB */
#define R_IA64_DTPREL64MSB     0xb6      /* @dtprel(sym + add), data8 MSB */
#define R_IA64_DTPREL64LSB     0xb7      /* @dtprel(sym + add), data8 LSB */
#define R_IA64_LTOFF_DTPREL22   0xba      /* <at:var at:name="ltoff(" />dtprel(s+a)), imm22 */
+
+/* SH specific declarations */
+
+/* SH relocs. */
#define R_SH_NONE                0
#define R_SH_DIR32                1
#define R_SH_REL32                2
#define R_SH_DIR8WPN              3
#define R_SH_IND12W              4
#define R_SH_DIR8WPL              5
#define R_SH_DIR8WPZ              6
#define R_SH_DIR8BP               7
#define R_SH_DIR8W                8
#define R_SH_DIR8L                9
#define R_SH_SWITCH16             25
#define R_SH_SWITCH32             26
#define R_SH_USES                  27
#define R_SH_COUNT                 28
#define R_SH_ALIGN                 29
#define R_SH_CODE                  30
#define R_SH_DATA                  31
#define R_SH_LABEL                 32
#define R_SH_SWITCH8              33
#define R_SH_GNU_VTINHERIT        34
#define R_SH_GNU_VTENTRY         35
#define R_SH_TLS_GD_32            144
#define R_SH_TLS_LD_32            145
#define R_SH_TLS_LDO_32           146
#define R_SH_TLS_IE_32            147
#define R_SH_TLS_LE_32            148
#define R_SH_TLS_DTPMOD32         149
#define R_SH_TLS_DTPOFF32         150
#define R_SH_TLS_TPOFF32         151
#define R_SH_GOT32                160
#define R_SH_PLT32                161
#define R_SH_COPY                  162
#define R_SH_GLOB_DAT              163
#define R_SH_JMP_SLOT              164
#define R_SH_RELATIVE              165
#define R_SH_GOTOFF                166
#define R_SH_GOTPC                 167
+/* Keep this the last entry. */
#define R_SH_NUM                    256
+
+/* Additional s390 relocs */
+
#define R_390_NONE                0      /* No reloc. */
#define R_390_8                    1      /* Direct 8 bit. */
#define R_390_12                   2      /* Direct 12 bit. */
#define R_390_16                   3      /* Direct 16 bit. */
#define R_390_32                   4      /* Direct 32 bit. */
#define R_390_PC32                 5      /* PC relative 32 bit. */
#define R_390_GOT12                6      /* 12 bit GOT offset. */
#define R_390_GOT32                7      /* 32 bit GOT offset. */

```

```

#define R_390_PLT32      8      /* 32 bit PC relative PLT address. */
#define R_390_COPY      9      /* Copy symbol at runtime. */
#define R_390_GLOB_DAT  10     /* Create GOT entry. */
#define R_390_JMP_SLOT  11     /* Create JMP entry. */
#define R_390_RELATIVE  12     /* Adjust by program base. */
#define R_390_GOTOFF32  13     /* 32 bit offset to GOT. */
#define R_390_GOTPC     14     /* 32 bit PC relative offset to GOT. */
#define R_390_GOT16     15     /* 16 bit GOT offset. */
#define R_390_PC16      16     /* PC relative 16 bit. */
#define R_390_PC16DBL   17     /* PC relative 16 bit shifted by 1. */
#define R_390_PLT16DBL  18     /* 16 bit PC rel. PLT shifted by 1. */
#define R_390_PC32DBL   19     /* PC relative 32 bit shifted by 1. */
#define R_390_PLT32DBL  20     /* 32 bit PC rel. PLT shifted by 1. */
#define R_390_GOTPCDBL  21     /* 32 bit GOTPC rel. GOT shifted by 1. */
#define R_390_64        22     /* Direct 64 bit. */
#define R_390_PC64      23     /* PC relative 64 bit. */
#define R_390_GOT64     24     /* 64 bit GOT offset. */
#define R_390_PLT64     25     /* 64 bit PC relative PLT address. */
#define R_390_GOTENT    26     /* 32 bit PC rel. to GOT entry >> 1. */
#define R_390_GOTOFF16  27     /* 16 bit offset to GOT. */
#define R_390_GOTOFF64  28     /* 64 bit offset to GOT. */
#define R_390_GOTPLT12  29     /* 12 bit offset to jump slot. */
#define R_390_GOTPLT16  30     /* 16 bit offset to jump slot. */
#define R_390_GOTPLT32  31     /* 32 bit offset to jump slot. */
#define R_390_GOTPLT64  32     /* 64 bit offset to jump slot. */
#define R_390_GOTPLTENT  33     /* 32 bit rel. offset to jump slot. */
#define R_390_PLTOFF16  34     /* 16 bit offset from GOT to PLT. */
#define R_390_PLTOFF32  35     /* 32 bit offset from GOT to PLT. */
#define R_390_PLTOFF64  36     /* 16 bit offset from GOT to PLT. */
#define R_390_TLS_LOAD  37     /* Tag for load insns in TLS code. */
#define R_390_TLS_GDCALL 38     /* Tag for function call in general
+ dynamic TLS code. */
#define R_390_TLS_LDCALL 39     /* Tag for function call in local
+ dynamic TLS code. */
#define R_390_TLS_GD32  40     /* Direct 32 bit for general dynamic
+ thread local data. */
#define R_390_TLS_GD64  41     /* Direct 64 bit for general dynamic
+ thread local data. */
#define R_390_TLS_GOTIE12 42     /* 12 bit GOT offset for static TLS
+ block offset. */
#define R_390_TLS_GOTIE32 43     /* 32 bit GOT offset for static TLS
+ block offset. */
#define R_390_TLS_GOTIE64 44     /* 64 bit GOT offset for static TLS
+ block offset. */
#define R_390_TLS_LDM32  45     /* Direct 32 bit for local dynamic
+ thread local data in LE code. */
#define R_390_TLS_LDM64  46     /* Direct 64 bit for local dynamic
+ thread local data in LE code. */
#define R_390_TLS_IE32   47     /* 32 bit address of GOT entry for
+ negated static TLS block offset. */
#define R_390_TLS_IE64   48     /* 64 bit address of GOT entry for
+ negated static TLS block offset. */
#define R_390_TLS_IEENT  49     /* 32 bit rel. offset to GOT entry for
+ negated static TLS block offset. */
#define R_390_TLS_LE32   50     /* 32 bit negated offset relative to
+ static TLS block. */
#define R_390_TLS_LE64   51     /* 64 bit negated offset relative to
+ static TLS block. */
#define R_390_TLS_LDO32  52     /* 32 bit offset relative to TLS
+ block. */
#define R_390_TLS_LDO64  53     /* 64 bit offset relative to TLS
+ block. */
#define R_390_TLS_DTPOFF 54     /* ID of module containing symbol. */
#define R_390_TLS_TPOFF  55     /* Offset in TLS block. */
#define R_390_TLS_TPOFF  56     /* Negated offset in static TLS
+ block. */
#define R_390_20        57     /* Direct 20 bit. */
#define R_390_GOT20     58     /* 20 bit GOT offset. */
#define R_390_GOTPLT20  59     /* 20 bit offset to jump slot. */
#define R_390_TLS_GOTIE20 60     /* 20 bit GOT offset for static TLS
+ block offset. */

```

```

+/* Keep this the last entry. */
+#define R_390_NUM          61
+
+
+/* CRIS relocations. */
+#define R_CRIS_NONE        0
+#define R_CRIS_8           1
+#define R_CRIS_16          2
+#define R_CRIS_32          3
+#define R_CRIS_8_PCREL     4
+#define R_CRIS_16_PCREL    5
+#define R_CRIS_32_PCREL    6
+#define R_CRIS_GNU_VTINHERIT 7
+#define R_CRIS_GNU_VTENTRY  8
+#define R_CRIS_COPY        9
+#define R_CRIS_GLOB_DAT    10
+#define R_CRIS_JUMP_SLOT   11
+#define R_CRIS_RELATIVE    12
+#define R_CRIS_16_GOT      13
+#define R_CRIS_32_GOT      14
+#define R_CRIS_16_GOTPLT   15
+#define R_CRIS_32_GOTPLT   16
+#define R_CRIS_32_GOTREL   17
+#define R_CRIS_32_PLT_GOTREL 18
+#define R_CRIS_32_PLT_PCREL 19
+
+#define R_CRIS_NUM          20
+
+
+/* AMD x86-64 relocations. */
+#define R_X86_64_NONE      0      /* No reloc */
+#define R_X86_64_64        1      /* Direct 64 bit */
+#define R_X86_64_PC32      2      /* PC relative 32 bit signed */
+#define R_X86_64_GOT32     3      /* 32 bit GOT entry */
+#define R_X86_64_PLT32     4      /* 32 bit PLT address */
+#define R_X86_64_COPY      5      /* Copy symbol at runtime */
+#define R_X86_64_GLOB_DAT  6      /* Create GOT entry */
+#define R_X86_64_JUMP_SLOT 7      /* Create PLT entry */
+#define R_X86_64_RELATIVE  8      /* Adjust by program base */
+#define R_X86_64_GOTPCREL  9      /* 32 bit signed PC relative
+                                offset to GOT */
+
+#define R_X86_64_32        10     /* Direct 32 bit zero extended */
+#define R_X86_64_32S      11     /* Direct 32 bit sign extended */
+#define R_X86_64_16       12     /* Direct 16 bit zero extended */
+#define R_X86_64_PC16     13     /* 16 bit sign extended pc relative */
+#define R_X86_64_8        14     /* Direct 8 bit sign extended */
+#define R_X86_64_PC8      15     /* 8 bit sign extended pc relative */
+#define R_X86_64_DTPMOD64 16     /* ID of module containing symbol */
+#define R_X86_64_DTPOFF64 17     /* Offset in module's TLS block */
+#define R_X86_64_TPOFF64  18     /* Offset in initial TLS block */
+#define R_X86_64_TLSGD    19     /* 32 bit signed PC relative offset
+                                to two GOT entries for GD symbol */
+#define R_X86_64_TLSLD    20     /* 32 bit signed PC relative offset
+                                to two GOT entries for LD symbol */
+#define R_X86_64_DTPOFF32 21     /* Offset in TLS block */
+#define R_X86_64_GOTTPOFF 22     /* 32 bit signed PC relative offset
+                                to GOT entry for IE symbol */
+#define R_X86_64_TPOFF32  23     /* Offset in initial TLS block */
+
+#define R_X86_64_NUM      24
+
+
+/* AM33 relocations. */
+#define R_MN10300_NONE    0      /* No reloc. */
+#define R_MN10300_32      1      /* Direct 32 bit. */
+#define R_MN10300_16      2      /* Direct 16 bit. */
+#define R_MN10300_8       3      /* Direct 8 bit. */
+#define R_MN10300_PCREL32 4      /* PC-relative 32-bit. */
+#define R_MN10300_PCREL16 5      /* PC-relative 16-bit signed. */
+#define R_MN10300_PCREL8  6      /* PC-relative 8-bit signed. */
+#define R_MN10300_GNU_VTINHERIT 7 /* Ancient C++ vtable garbage... */

```

```

#define R_MN10300_GNU_VTENTRY      8      /* ... collection annotation. */
#define R_MN10300_24                9      /* Direct 24 bit. */
#define R_MN10300_GOTPC32          10     /* 32-bit PCrel offset to GOT. */
#define R_MN10300_GOTPC16          11     /* 16-bit PCrel offset to GOT. */
#define R_MN10300_GOTOFF32         12     /* 32-bit offset from GOT. */
#define R_MN10300_GOTOFF24         13     /* 24-bit offset from GOT. */
#define R_MN10300_GOTOFF16         14     /* 16-bit offset from GOT. */
#define R_MN10300_PLT32            15     /* 32-bit PCrel to PLT entry. */
#define R_MN10300_PLT16            16     /* 16-bit PCrel to PLT entry. */
#define R_MN10300_GOT32            17     /* 32-bit offset to GOT entry. */
#define R_MN10300_GOT24            18     /* 24-bit offset to GOT entry. */
#define R_MN10300_GOT16            19     /* 16-bit offset to GOT entry. */
#define R_MN10300_COPY             20     /* Copy symbol at runtime. */
#define R_MN10300_GLOB_DAT         21     /* Create GOT entry. */
#define R_MN10300_JMP_SLOT         22     /* Create PLT entry. */
#define R_MN10300_RELATIVE         23     /* Adjust by program base. */
+
#define R_MN10300_NUM              24
+
+
+/* M32R relocs. */
#define R_M32R_NONE                 0      /* No reloc. */
#define R_M32R_16                   1      /* Direct 16 bit. */
#define R_M32R_32                   2      /* Direct 32 bit. */
#define R_M32R_24                   3      /* Direct 24 bit. */
#define R_M32R_10_PCREL             4      /* PC relative 10 bit shifted. */
#define R_M32R_18_PCREL             5      /* PC relative 18 bit shifted. */
#define R_M32R_26_PCREL             6      /* PC relative 26 bit shifted. */
#define R_M32R_HI16_ULO            7      /* High 16 bit with unsigned low. */
#define R_M32R_HI16_SLO            8      /* High 16 bit with signed low. */
#define R_M32R_LO16                9      /* Low 16 bit. */
#define R_M32R_SDA16               10     /* 16 bit offset in SDA. */
#define R_M32R_GNU_VTINHERIT       11
#define R_M32R_GNU_VTENTRY         12
+/* M32R relocs use SHT_RELA. */
#define R_M32R_16_RELA              33     /* Direct 16 bit. */
#define R_M32R_32_RELA              34     /* Direct 32 bit. */
#define R_M32R_24_RELA              35     /* Direct 24 bit. */
#define R_M32R_10_PCREL_RELA        36     /* PC relative 10 bit shifted. */
#define R_M32R_18_PCREL_RELA        37     /* PC relative 18 bit shifted. */
#define R_M32R_26_PCREL_RELA        38     /* PC relative 26 bit shifted. */
#define R_M32R_HI16_ULO_RELA        39     /* High 16 bit with unsigned low */
#define R_M32R_HI16_SLO_RELA        40     /* High 16 bit with signed low */
#define R_M32R_LO16_RELA            41     /* Low 16 bit */
#define R_M32R_SDA16_RELA           42     /* 16 bit offset in SDA */
#define R_M32R_RELA_GNU_VTINHERIT  43
#define R_M32R_RELA_GNU_VTENTRY     44
#define R_M32R_REL32                45     /* PC relative 32 bit. */
+
#define R_M32R_GOT24                48     /* 24 bit GOT entry */
#define R_M32R_26_PLTREL            49     /* 26 bit PC relative to PLT shifted */
#define R_M32R_COPY                 50     /* Copy symbol at runtime */
#define R_M32R_GLOB_DAT             51     /* Create GOT entry */
#define R_M32R_JMP_SLOT             52     /* Create PLT entry */
#define R_M32R_RELATIVE             53     /* Adjust by program base */
#define R_M32R_GOTOFF               54     /* 24 bit offset to GOT */
#define R_M32R_GOTPC24             55     /* 24 bit PC relative offset to GOT */
#define R_M32R_GOT16_HI_ULO         56     /* High 16 bit GOT entry with unsigned
+
low */
#define R_M32R_GOT16_HI_SLO         57     /* High 16 bit GOT entry with signed
+
low */
#define R_M32R_GOT16_LO             58     /* Low 16 bit GOT entry */
#define R_M32R_GOTPC_HI_ULO         59     /* High 16 bit PC relative offset to
+
GOT with unsigned low */
#define R_M32R_GOTPC_HI_SLO         60     /* High 16 bit PC relative offset to
+
GOT with signed low */
#define R_M32R_GOTPC_LO             61     /* Low 16 bit PC relative offset to
+
GOT */
#define R_M32R_GOTOFF_HI_ULO        62     /* High 16 bit offset to GOT
+
with unsigned low */
#define R_M32R_GOTOFF_HI_SLO        63     /* High 16 bit offset to GOT

```

```

+
+               with signed low */
+#define R_M32R_GOTOFF_LO      64      /* Low 16 bit offset to GOT */
+#define R_M32R_NUM           256     /* Keep this the last entry. */
+
+__END_DECLS
+
+#endif          /* elf.h */
diff -r e6e7d76b2bd3 src/share/vm/utilities/elfFile.hpp
--- a/src/share/vm/utilities/elfFile.hpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/utilities/elfFile.hpp      Mon Jul 25 17:04:06 2011 -0700
@@ -27,7 +27,13 @@

#ifdef _WINDOWS

#ifdef __APPLE__
#include "elf.hpp"
#elif defined(__OpenBSD__)
#include <sys/exec_elf.h>
#else
#include <elf.h>
#endif
#include <stdio.h>

#ifdef _LP64
@@ -41,7 +47,9 @@
typedef Elf64_Shdr      Elf_Shdr;
typedef Elf64_Sym      Elf_Sym;

#if !defined(_ALLBSD_SOURCE) || defined(__APPLE__)
#define ELF_ST_TYPE ELF64_ST_TYPE
#endif

#else

@@ -55,8 +63,10 @@
typedef Elf32_Shdr      Elf_Shdr;
typedef Elf32_Sym      Elf_Sym;

#if !defined(_ALLBSD_SOURCE) || defined(__APPLE__)
#define ELF_ST_TYPE ELF32_ST_TYPE
#endif

#include "globalDefinitions.hpp"
#include "memory/allocation.hpp"
diff -r e6e7d76b2bd3 src/share/vm/utilities/events.cpp
--- a/src/share/vm/utilities/events.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/utilities/events.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -38,6 +38,9 @@
#ifdef TARGET_OS_FAMILY_windows
#include "thread_windows.inline.hpp"
#endif
#ifdef TARGET_OS_FAMILY_bsd
#include "thread_bsd.inline.hpp"
#endif

#ifdef PRODUCT
diff -r e6e7d76b2bd3 src/share/vm/utilities/exceptions.cpp
--- a/src/share/vm/utilities/exceptions.cpp  Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/utilities/exceptions.cpp  Mon Jul 25 17:04:06 2011 -0700
@@ -42,6 +42,9 @@
#ifdef TARGET_OS_FAMILY_windows
#include "thread_windows.inline.hpp"
#endif
#ifdef TARGET_OS_FAMILY_bsd
#include "thread_bsd.inline.hpp"
#endif

// Implementation of ThreadShadow

```



```

diff -r e6e7d76b2bd3 src/share/vm/utilities/globalDefinitions.hpp
--- a/src/share/vm/utilities/globalDefinitions.hpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/utilities/globalDefinitions.hpp      Mon Jul 25 17:04:06 2011 -0700
@@ -25,6 +25,8 @@
 #ifndef SHARE_VM_UTILITIES_GLOBALDEFINITIONS_HPP
 #define SHARE_VM_UTILITIES_GLOBALDEFINITIONS_HPP

+#define __STDC_FORMAT_MACROS
+
+ #ifdef TARGET_COMPILER_gcc
+ # include "utilities/globalDefinitions_gcc.hpp"
+ #endif
@@ -37,6 +39,8 @@

 #include "utilities/macros.hpp"

+#include <inttypes.h>
+
 // This file holds all globally used constants & types, class (forward)
 // declarations and a few frequently used utility functions.

@@ -1188,20 +1192,20 @@
 #define BOOL_TO_STR(_b_) ((_b_) ? "true" : "false")

 // Format 32-bit quantities.
-#define INT32_FORMAT "%d"
-#define UINT32_FORMAT "%u"
+#define INT32_FORMAT "%i" PRIi32
+#define UINT32_FORMAT "%u" PRIu32
 #define INT32_FORMAT_W(width) "%i" #width "d"
 #define UINT32_FORMAT_W(width) "%u" #width "u"

-#define PTR32_FORMAT "0x%08x"
+#define PTR32_FORMAT "0x%08" PRIx32

 // Format 64-bit quantities.
-#define INT64_FORMAT "%i" FORMAT64_MODIFIER "d"
-#define UINT64_FORMAT "%u" FORMAT64_MODIFIER "u"
-#define PTR64_FORMAT "0x%016" FORMAT64_MODIFIER "x"
+#define INT64_FORMAT "%i" PRIi64
+#define UINT64_FORMAT "%u" PRIu64
+#define PTR64_FORMAT "0x%016" PRIx64

-#define INT64_FORMAT_W(width) "%i" #width FORMAT64_MODIFIER "d"
-#define UINT64_FORMAT_W(width) "%u" #width FORMAT64_MODIFIER "u"
+#define INT64_FORMAT_W(width) "%i" #width PRIi64
+#define UINT64_FORMAT_W(width) "%u" #width PRIu64

 // Format macros that allow the field width to be specified. The width must be
 // a string literal (e.g., "8") or a macro that evaluates to one.
@@ -1226,19 +1230,17 @@
 // using "%x".
 #ifdef _LP64
 #define PTR_FORMAT PTR64_FORMAT
-#define UINTX_FORMAT UINT64_FORMAT
-#define INTX_FORMAT INT64_FORMAT
 #define SIZE_FORMAT UINT64_FORMAT
 #define SSIZE_FORMAT INT64_FORMAT
 #else // !_LP64
 #define PTR_FORMAT PTR32_FORMAT
-#define UINTX_FORMAT UINT32_FORMAT
-#define INTX_FORMAT INT32_FORMAT
 #define SIZE_FORMAT UINT32_FORMAT
 #define SSIZE_FORMAT INT32_FORMAT
 #endif // !_LP64
+#define UINTX_FORMAT "%i" PRIuPTR
+#define INTX_FORMAT "%i" PRIiPTR

-#define INTPTR_FORMAT PTR_FORMAT
+#define INTPTR_FORMAT "%i" PRIiPTR

```

```

// Enable zap-a-lot if in debug version.

diff -r e6e7d76b2bd3 src/share/vm/utilities/globalDefinitions_gcc.hpp
--- a/src/share/vm/utilities/globalDefinitions_gcc.hpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/utilities/globalDefinitions_gcc.hpp      Mon Jul 25 17:04:06 2011 -0700
@@ -76,15 +76,28 @@
 # include <sys/procfs.h>
 # endif

-#ifndef LINUX
+#if defined(LINUX) || defined(_ALLBSD_SOURCE)
 #ifndef __STDC_LIMIT_MACROS
 #define __STDC_LIMIT_MACROS
 #endif // __STDC_LIMIT_MACROS
 #include <inttypes.h>
 #include <signal.h>
+#ifndef __OpenBSD__
 #include <ucontext.h>
+#endif
+#ifndef __APPLE__
+ #include <AvailabilityMacros.h>
+ #if (MAC_OS_X_VERSION_MAX_ALLOWED <= MAC_OS_X_VERSION_10_4)
+ // Mac OS X 10.4 defines EFL_AC and EFL_ID,
+ // which conflict with hotspot variable names.
+ //
+ // This has been fixed in Mac OS X 10.5.
+ #undef EFL_AC
+ #undef EFL_ID
+ #endif
+#endif
 #include <sys/time.h>
-#endif // LINUX
+#endif // LINUX || _ALLBSD_SOURCE

// 4810578: varargs unsafe on 32-bit integer/64-bit pointer architectures
// When __cplusplus is defined, NULL is defined as 0 (32-bit constant) in
@@ -120,7 +133,7 @@
// pointer is stored as integer value. On some platforms, sizeof(intptr_t) >
// sizeof(void*), so here we want something which is integer type, but has the
// same size as a pointer.
-#ifndef LINUX
+#ifndef __GNUC__
 #ifdef _LP64
 #define NULL_WORD 0L
 #else
@@ -132,7 +145,7 @@
 #define NULL_WORD NULL
 #endif

-#ifndef LINUX
+#if !defined(LINUX) && !defined(_ALLBSD_SOURCE)
// Compiler-specific primitive types
typedef unsigned short uint16_t;
 #ifndef _UINT32_T
@@ -152,7 +165,7 @@
// prior definition of intptr_t, and add "&& !defined(XXX)" above.
 #endif // _SYS_INT_TYPES_H

-#endif // !LINUX
+#endif // !LINUX && !_ALLBSD_SOURCE

// Additional Java basic types

@@ -244,7 +257,9 @@
 inline int g_isnan(float f) { return isnand(f); }
 #endif
 inline int g_isnan(double f) { return isnand(f); }
-#elif LINUX
+#elif defined(__APPLE__)
+inline int g_isnan(double f) { return isnan(f); }
+#elif defined(LINUX) || defined(_ALLBSD_SOURCE)

```

```

inline int g_isnan(float f) { return isnanf(f); }
inline int g_isnan(double f) { return isnan(f); }
#else
diff -r e6e7d76b2bd3 src/share/vm/utilities/growableArray.cpp
--- a/src/share/vm/utilities/growableArray.cpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/utilities/growableArray.cpp      Mon Jul 25 17:04:06 2011 -0700
@@ -34,6 +34,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 #include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+#include "thread_bsd.inline.hpp"
+#endif
#ifdef ASSERT
void GenericGrowableArray::set_nesting() {
    if (on_stack()) {
diff -r e6e7d76b2bd3 src/share/vm/utilities/histogram.hpp
--- a/src/share/vm/utilities/histogram.hpp          Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/utilities/histogram.hpp          Mon Jul 25 17:04:06 2011 -0700
@@ -37,6 +37,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 #include "os_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+#include "os_bsd.inline.hpp"
+#endif

// This class provides a framework for collecting various statistics.
// The current implementation is oriented towards counting invocations
diff -r e6e7d76b2bd3 src/share/vm/utilities/macros.hpp
--- a/src/share/vm/utilities/macros.hpp              Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/utilities/macros.hpp              Mon Jul 25 17:04:06 2011 -0700
@@ -161,6 +161,14 @@
 #define NOT_WINDOWS(code) code
 #endif

+#if defined(__FreeBSD__) || defined(__NetBSD__) || defined(__OpenBSD__) || defined(__APPLE__)
+#define BSD_ONLY(code) code
+#define NOT_BSD(code)
+#else
+#define BSD_ONLY(code)
+#define NOT_BSD(code) code
+#endif
+
 #ifdef _WIN64
 #define WIN64_ONLY(code) code
 #define NOT_WIN64(code)
diff -r e6e7d76b2bd3 src/share/vm/utilities/ostream.cpp
--- a/src/share/vm/utilities/ostream.cpp            Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/utilities/ostream.cpp            Mon Jul 25 17:04:06 2011 -0700
@@ -39,6 +39,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 #include "os_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+#include "os_bsd.inline.hpp"
+#endif

extern "C" void jio_print(const char* s); // Declaration of jvm method

@@ -909,7 +912,7 @@

#ifdef PRODUCT

-#if defined(SOLARIS) || defined(LINUX)
+#if defined(SOLARIS) || defined(LINUX) || defined(_ALLBSD_SOURCE)
#include <sys/types.h>
#include <sys/socket.h>
#include <netinet/in.h>
diff -r e6e7d76b2bd3 src/share/vm/utilities/preserveException.hpp
--- a/src/share/vm/utilities/preserveException.hpp  Tue May 24 15:28:35 2011 -0700

```

```

+++ b/src/share/vm/utilities/preserveException.hpp          Mon Jul 25 17:04:06 2011 -0700
@@ -35,6 +35,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

 // This file provides more support for exception handling; see also exceptions.hpp
 class PreserveExceptionMark {
diff -r e6e7d76b2bd3 src/share/vm/utilities/taskqueue.cpp
--- a/src/share/vm/utilities/taskqueue.cpp                Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/utilities/taskqueue.cpp                Mon Jul 25 17:04:06 2011 -0700
@@ -37,6 +37,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

 #ifdef TRACESPINNING
 uint ParallelTaskTerminator::_total_yields = 0;
diff -r e6e7d76b2bd3 src/share/vm/utilities/taskqueue.hpp
--- a/src/share/vm/utilities/taskqueue.hpp                Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/utilities/taskqueue.hpp                Mon Jul 25 17:04:06 2011 -0700
@@ -53,6 +53,12 @@
 #ifdef TARGET_OS_ARCH_linux_ppc
 # include "orderAccess_linux_ppc.inline.hpp"
 #endif
+#ifdef TARGET_OS_ARCH_bsd_x86
+# include "orderAccess_bsd_x86.inline.hpp"
+#endif
+#ifdef TARGET_OS_ARCH_bsd_zero
+# include "orderAccess_bsd_zero.inline.hpp"
+#endif

 // Simple TaskQueue stats that are collected by default in debug builds.

diff -r e6e7d76b2bd3 src/share/vm/utilities/vmError.cpp
--- a/src/share/vm/utilities/vmError.cpp                  Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/utilities/vmError.cpp                  Mon Jul 25 17:04:06 2011 -0700
@@ -45,13 +45,18 @@
 "JAVA_HOME", "JRE_HOME", "JAVA_TOOL_OPTIONS", "_JAVA_OPTIONS", "CLASSPATH",
 "JAVA_COMPILER", "PATH", "USERNAME",

- // Env variables that are defined on Solaris/Linux
+ // Env variables that are defined on Solaris/Linux/BSD
 "LD_LIBRARY_PATH", "LD_PRELOAD", "SHELL", "DISPLAY",
 "HOSTTYPE", "OSTYPE", "ARCH", "MACHTYPE",

 // defined on Linux
 "LD_ASSUME_KERNEL", "_JAVA_SR_SIGNAL",

+ // defined on Darwin
+ "DYLD_LIBRARY_PATH", "DYLD_FALLBACK_LIBRARY_PATH",
+ "DYLD_FRAMEWORK_PATH", "DYLD_FALLBACK_FRAMEWORK_PATH",
+ "DYLD_INSERT_LIBRARIES",
+
 // defined on Windows
 "OS", "PROCESSOR_IDENTIFIER", "_ALT_JAVA_HOME_DIR",

@@ -958,7 +963,7 @@
 const char* ptr = OnError;
 while ((cmd = next_OnError_command(buffer, sizeof(buffer), &ptr)) != NULL){
 out.print_raw ("# Executing ");
-#if defined(LINUX)
+#if defined(LINUX) || defined(_ALLBSD_SOURCE)
 out.print_raw ("/bin/sh -c ");
 #elif defined(SOLARIS)

```

```

        out.print_raw ("/usr/bin/sh -c ");
diff -r e6e7d76b2bd3 src/share/vm/utilities/workgroup.hpp
--- a/src/share/vm/utilities/workgroup.hpp      Tue May 24 15:28:35 2011 -0700
+++ b/src/share/vm/utilities/workgroup.hpp      Mon Jul 25 17:04:06 2011 -0700
@@ -35,6 +35,9 @@
 #ifdef TARGET_OS_FAMILY_windows
 # include "thread_windows.inline.hpp"
 #endif
+#ifdef TARGET_OS_FAMILY_bsd
+# include "thread_bsd.inline.hpp"
+#endif

// Task class hierarchy:
// AbstractGangTask
diff -r e6e7d76b2bd3 test/Makefile
--- a/test/Makefile          Tue May 24 15:28:35 2011 -0700
+++ b/test/Makefile          Mon Jul 25 17:04:06 2011 -0700
@@ -44,6 +44,22 @@
     ARCH = i586
     endif
 endif
+ifeq ($(OSNAME), Darwin)
+ PLATFORM = bsd
+ SLASH_JAVA = /java
+ ARCH = $(shell uname -m)
+ ifeq ($(ARCH), i386)
+     ARCH = i586
+ endif
+endif
+ifeq ($(findstring BSD,$(OSNAME)), BSD)
+ PLATFORM = bsd
+ SLASH_JAVA = /java
+ ARCH = $(shell uname -m)
+ ifeq ($(ARCH), i386)
+     ARCH = i586
+ endif
+endif
+ifeq ($(OSNAME), Windows_NT)
+ PLATFORM = windows
+ SLASH_JAVA = J:
@@ -143,7 +159,7 @@
 endif

# Expect JPRT to set TESTDIRS to the jtreg test dirs
-JTREG_TESTDIRS = demo/jvmti/gctest demo/jvmti/hprof
+JTREG_TESTDIRS = compiler
+ifdef TESTDIRS
+     JTREG_TESTDIRS = $(TESTDIRS)
+endif
diff -r e6e7d76b2bd3 test/jprt.config
--- a/test/jprt.config       Tue May 24 15:28:35 2011 -0700
+++ b/test/jprt.config       Mon Jul 25 17:04:06 2011 -0700
@@ -75,8 +75,8 @@

# Uses 'uname -s', but only expect SunOS or Linux, assume Windows otherwise.
osname=`uname -s`
-if [ "${osname}" = SunOS ] ; then
-
+case "${osname}" in
+ SunOS )
+     # SOLARIS: Sparc or X86
+     osarch=`uname -p`
+     if [ "${osarch}" = sparc ] ; then
@@ -100,9 +100,9 @@

# File creation mask
umask 002
+ ;;

-elif [ "${osname}" = Linux ] ; then
-

```

```

+ Linux | Darwin )
  # Add basic paths
  path4sdk=/usr/bin:/bin:/usr/sbin:/sbin

@@ -111,9 +111,31 @@
  fileMustExist "${make}" make

  umask 002
+ ;;

-else
+ FreeBSD | OpenBSD )
+ # Add basic paths
+ path4sdk=/usr/bin:/bin:/usr/sbin:/sbin

+ # Find GNU make
+ make=/usr/local/bin/gmake
+ fileMustExist "${make}" make
+
+ umask 002
+ ;;
+
+ NetBSD )
+ # Add basic paths
+ path4sdk=/usr/bin:/bin:/usr/sbin:/sbin
+
+ # Find GNU make
+ make=/usr/pkg/bin/gmake
+ fileMustExist "${make}" make
+
+ umask 002
+ ;;
+
+ * )
  # Windows: Differs on CYGWIN vs. MKS.

  # We need to determine if we are running a CYGWIN shell or an MKS shell
@@ -154,8 +176,8 @@
  if [ "${unix_toolset}" = CYGWIN ] ; then
    path4sdk="`/usr/bin/cygpath -p ${path4sdk}`"
  fi
-
-fi
+ ;;
+esac

# Export PATH setting
PATH="${path4sdk}"
diff -r e6e7d76b2bd3 test/runtime/6929067/Test6929067.sh
--- a/test/runtime/6929067/Test6929067.sh      Tue May 24 15:28:35 2011 -0700
+++ b/test/runtime/6929067/Test6929067.sh      Mon Jul 25 17:04:06 2011 -0700
@@ -29,7 +29,7 @@
  PS=";"
  FS="/"
  ;;
- SunOS | Windows_* )
+ SunOS | Windows_* | *BSD)
  NULL=NUL
  PS=";"
  FS="\\"

```