

```
-- file P3Defs.Mesa
-- last modified by Satterthwaite, May 19, 1978 8:58 PM
```

DIRECTORY

```
SymDefs: FROM "symdefs",
TableDefs: FROM "tabledefs",
TreeDefs: FROM "treedefs",
XrefJournalDefs: FROM "xrefjournaldefs";
```

P3Defs: DEFINITIONS =

```
BEGIN
```

```
OPEN TreeDefs, SymDefs;
```

```
P3Mark: BOOLEAN = TRUE;      -- mark in tree as set by pass 3
```

```
CircuitCheck: TYPE = SIGNAL [loopNode: TreeIndex] RETURNS [BOOLEAN];
```

```
CircuitSignal: TYPE = SIGNAL [loopNode: TreeIndex];
```

```
DeclNotify, IdNotify, StmtNotify: TableDefs.TableNotifier;
```

```
ExpANotify, ExpBNotify: TableDefs.TableNotifier;
```

```
-- exported by Pass3D
```

```
BumpCount: PROCEDURE [ISEIndex];
Bundling: PROCEDURE [CSEIndex] RETURNS [CARDINAL];
CanonicalType: PROCEDURE [CSEIndex] RETURNS [CSEIndex];
DeclItem: TreeScan;
DirectoryItem: TreeScan;
DirectoryScan: PROCEDURE [TreeLink] RETURNS [CARDINAL];
ExportId: TreeMap;
IdentifiedType: PROCEDURE [CSEIndex] RETURNS [BOOLEAN];
ImportItem: TreeScan;
Interval: PROCEDURE [TreeLink, CSEIndex, BOOLEAN];
MakeFrameRecord: PROCEDURE [TreeLink] RETURNS [CSEIndex];
MakeLongType: PROCEDURE [SEIndex, CSEIndex] RETURNS [CSEIndex];
MakePointerType: PROCEDURE [SEIndex, CSEIndex] RETURNS [CSEIndex];
OrderedType: PROCEDURE [SEIndex] RETURNS [BOOLEAN];
PopArgCtx: PROCEDURE [recordCSEIndex];
PushArgCtx: PROCEDURE [recordCSEIndex];
ResolveReference: PROCEDURE [ISEIndex];
Sharing: TreeScan;
TargetType: PROCEDURE [CSEIndex] RETURNS [CSEIndex];
TypeExp: TreeMap;
TypeForTree: PROCEDURE [TreeLink] RETURNS [SEIndex];
Unbundle: PROCEDURE [recordCSEIndex] RETURNS [CSEIndex];
UnionField: PROCEDURE [recordCSEIndex] RETURNS [ISEIndex];
VariantUnionType: PROCEDURE [SEIndex] RETURNS [CSEIndex];
XferBody: PROCEDURE [TreeLink] RETURNS [CBTIndex];
XferForFrame: PROCEDURE [CTXIndex] RETURNS [CSEIndex];
```

```
CheckExprLoop: CircuitCheck;
```

```
CheckTypeLoop: CircuitCheck;
```

```
LogExprLoop: CircuitSignal;
```

```
LogTypeLoop: CircuitSignal;
```

```
-- exported by Pass3I
```

```
IdInit: PROCEDURE [CARDINAL];
```

```
IdFinish: PROCEDURE;
```

```
ArrangeKeys: PROCEDURE [TreeLink, CTXIndex, PROCEDURE [ISEIndex] RETURNS [TreeLink]]
  RETURNS [CARDINAL];
```

```
CheckDirectoryIds: TreeScan;
```

```
CheckDisjoint: PROCEDURE [ctx1, ctx2: CTXIndex];
```

```
CloseBase: PROCEDURE [TreeLink, HTIndex];
```

```
CompleteRecord: PROCEDURE [recordCSEIndex];
```

```
CountTreeIds: TreeScan;
```

```
DefinedId: PROCEDURE [HTIndex, CSEIndex] RETURNS [BOOLEAN, ISEIndex];
```

```
Discrimination: PROCEDURE [TreeIndex, TreeMap];
```

```
FieldId: PROCEDURE [HTIndex, recordCSEIndex] RETURNS [CARDINAL, ISEIndex];
```

```
FindSe: PROCEDURE [HTIndex] RETURNS [symbol: ISEIndex, base: TreeLink, indirect: BOOLEAN];
```

```
GetDirectoryIds: TreeScan;
```

```
Id: PROCEDURE [HTIndex] RETURNS [TreeLink];
```

```
LambdaApply: PROCEDURE [t: TreeLink, formal, actual: ISEIndex] RETURNS [TreeLink];
```

```
OpenBase: PROCEDURE [TreeLink, HTIndex] RETURNS [TreeLink];
```

```
PopCtx: PROCEDURE;
```

```
PushCtx: PROCEDURE [CTXIndex];
RecordReference: PROCEDURE [ISEIndex, XrefJournalDefs.RefType];
ReplaceCtx: PROCEDURE [old, new: CTXIndex];
SearchCtxList: PROCEDURE [HTIndex, CTXIndex] RETURNS [BOOLEAN, ISEIndex];
TopCtx: PROCEDURE RETURNS [CTXIndex];
```

```
AmbiguousIdentifier: SIGNAL [sei: ISEIndex] RETURNS [ISEIndex];
UndeclaredIdentifier: SIGNAL [hti: HTIndex] RETURNS [ISEIndex];
```

-- exported by Pass3S

```
BodyList: PROCEDURE [firstBti: BTIndex];
Case: PROCEDURE [TreeIndex, TreeMap];
CatchPhrase: PROCEDURE [TreeLink] RETURNS [unwindCaught: BOOLEAN];
Fork: PROCEDURE [TreeIndex, CSEIndex] RETURNS [TreeLink];
Join: PROCEDURE [TreeIndex] RETURNS [TreeLink];
New: PROCEDURE [TreeIndex, CSEIndex] RETURNS [TreeLink];
Range: PROCEDURE [TreeLink, CSEIndex] RETURNS [TreeLink];
Signal: PROCEDURE [TreeIndex] RETURNS [TreeLink];
Start: PROCEDURE [TreeIndex] RETURNS [TreeLink];
```

-- exported by Pass3Xa

```
Addr: PROCEDURE [TreeIndex, CSEIndex];
Apply: PROCEDURE [TreeIndex, CSEIndex, BOOLEAN];
Assignment: PROCEDURE [TreeIndex];
BumpFieldRefs: PROCEDURE [recordCSEIndex];
DescOp: PROCEDURE [TreeIndex, CSEIndex];
Dot: PROCEDURE [TreeIndex];
Extract: PROCEDURE [TreeIndex];
LongPath: PROCEDURE [TreeLink] RETURNS [BOOLEAN];
MatchFields: PROCEDURE [recordCSEIndex, TreeLink, BOOLEAN] RETURNS [TreeLink];
OperandInternal: PROCEDURE [TreeLink] RETURNS [BOOLEAN];
OperandLhs: PROCEDURE [TreeLink] RETURNS [BOOLEAN];
UpArrow: PROCEDURE [TreeIndex];
```

-- exported by Pass3Xb

```
ExpInit: PROCEDURE;

Exp: PROCEDURE [TreeLink, CSEIndex] RETURNS [TreeLink];
ForceType: PROCEDURE [TreeLink, CSEIndex] RETURNS [TreeLink];
OperandType: PROCEDURE [TreeLink] RETURNS [CSEIndex];
RConst: PROCEDURE RETURNS [BOOLEAN];
Rhs: PROCEDURE [TreeLink, CSEIndex] RETURNS [TreeLink];
RPop: PROCEDURE;
RPush: PROCEDURE [CSEIndex, BOOLEAN];
RType: PROCEDURE RETURNS [CSEIndex];
TreeStringValue: PROCEDURE [TreeLink] RETURNS [STRING];
VoidExp: TreeMap;
```

-- the global frames

```
Pass3D, Pass3I, Pass3S, Pass3Xa, Pass3Xb: PROGRAM;
```

```
END.
```