

File created: 27-Jul-90 07:54:13 {DSK}<usr>local>lde>loops>src>SYSTEM>LOOPS-PATCH.;2

changes to: (VARS LOOPS-PATCHCOMS)

previous date: 27-Jun-88 12:03:25 {DSK}<usr>local>lde>loops>src>SYSTEM>LOOPS-PATCH.;1

Read Table: XCL

Package: INTERLISP

Format: XCCS

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(RPAQQ **LOOPS-PATCHCOMS**
(

;;; Some simple optimizations missing from the compiler.

;;

;; Shift by a constant.

;; Unfortunately, these cause the compiler to generate spurious warning messages about "Unknown function IL:LLSH1 called from ..." It's not
;; often you come across a place where COMPILER-LET is really needed.

(VARIABLES XCL-USER::*IGNORE-SHIFT-BY-CONSTANT-OPTIMIZATION*)
(FUNCTIONS LRSH1 LRSH8 LLSH1 LLSH8)
(OPTIMIZERS (LRSH :OPTIMIZED-BY RIGHT-SHIFT-BY-CONSTANT)
 (LLSH :OPTIMIZED-BY LEFT-SHIFT-BY-CONSTANT))

;;

;;

;;; Some simple optimizations missing from the compiler.

;;

;; Shift by a constant.

;; Unfortunately, these cause the compiler to generate spurious warning messages about "Unknown function IL:LLSH1 called from ..." It's not often you
;; come across a place where COMPILER-LET is really needed.

(CL:DEFVAR **XCL-USER::*IGNORE-SHIFT-BY-CONSTANT-OPTIMIZATION*** NIL

"Marker used for informing the shift-by-constant optimizers that they are in the shift function, and should
not optimize.")

(CL:DEFUN **LRSH1** (XCL-USER::X)
 (CL:COMPILER-LET ((XCL-USER::*IGNORE-SHIFT-BY-CONSTANT-OPTIMIZATION* T))
 (LRSH XCL-USER::X 1)))

(CL:DEFUN **LRSH8** (XCL-USER::X)
 (CL:COMPILER-LET ((XCL-USER::*IGNORE-SHIFT-BY-CONSTANT-OPTIMIZATION* T))
 (LRSH XCL-USER::X 8)))

(CL:DEFUN **LLSH1** (XCL-USER::X)
 (CL:COMPILER-LET ((XCL-USER::*IGNORE-SHIFT-BY-CONSTANT-OPTIMIZATION* T))
 (LLSH XCL-USER::X 1)))

(CL:DEFUN **LLSH8** (XCL-USER::X)
 (CL:COMPILER-LET ((XCL-USER::*IGNORE-SHIFT-BY-CONSTANT-OPTIMIZATION* T))
 (LLSH XCL-USER::X 8)))

(DEFOPTIMIZER **LRSH** RIGHT-SHIFT-BY-CONSTANT
 (XCL-USER::X XCL-USER::N &ENVIRONMENT XCL-USER::ENV)
 (CL:IF (AND (CL:CONSTANTP XCL-USER::N)
 (NOT XCL-USER::*IGNORE-SHIFT-BY-CONSTANT-OPTIMIZATION*))
 (LET ((XCL-USER::SHIFT-FACTOR (CL:EVAL XCL-USER::N)))
 (COND
 ((NOT (CL:NUMBERP XCL-USER::SHIFT-FACTOR))
 (CL:ERROR "Non-numeric arg to ~S, ~S" 'LRSH XCL-USER::SHIFT-FACTOR))
 (= XCL-USER::SHIFT-FACTOR 0)
 XCL-USER::X
 (< XCL-USER::SHIFT-FACTOR 0)
 ` (LLSH ,XCL-USER::X ,(- XCL-USER::SHIFT-FACTOR)))
 (< XCL-USER::SHIFT-FACTOR 8)
 ` (LRSH (**LRSH1** ,XCL-USER::X
 , (CL:1- XCL-USER::SHIFT-FACTOR)))
 (T ` (LRSH (**LRSH8** ,XCL-USER::X
 , (- XCL-USER::SHIFT-FACTOR 8)))))
 'COMPILER:PASS))

(DEFOPTIMIZER **LLSH** LEFT-SHIFT-BY-CONSTANT

```

(XCL-USER::X XCL-USER::N &ENVIRONMENT XCL-USER::ENV)
(CL:IF (AND (CL:CONSTANTP XCL-USER::N)
            (NOT XCL-USER::*IGNORE-SHIFT-BY-CONSTANT-OPTIMIZATION*))
  (LET ((XCL-USER::SHIFT-FACTOR (CL:EVAL XCL-USER::N)))
    (COND
      ((NOT (CL:NUMBERP XCL-USER::SHIFT-FACTOR))
        (CL:ERROR "Non-numeric arg to ~S, ~S" 'LLSH XCL-USER::SHIFT-FACTOR))
      ((= XCL-USER::SHIFT-FACTOR 0)
        XCL-USER::X)
      ((< XCL-USER::SHIFT-FACTOR 0)
        `(LRSH ,XCL-USER::X ,(- XCL-USER::SHIFT-FACTOR)))
      ((< XCL-USER::SHIFT-FACTOR 8)
        `(LLSH (LLSH1 ,XCL-USER::X
                      , (CL:1- XCL-USER::SHIFT-FACTOR)))
          (T `(LLSH (LLSH8 ,XCL-USER::X
                          , (- XCL-USER::SHIFT-FACTOR 8)))))
      'COMPILER:PASS))

;;

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FUNCTION INDEX

LLSH11 LLSH81 LRSH11 LRSH81

LLSH INDEX

LEFT-SHIFT-BY-CONSTANT ..1 :OPTIMIZED-BY1

LRSH INDEX

:OPTIMIZED-BY1 RIGHT-SHIFT-BY-CONSTANT .1

VARIABLE INDEX

XCL-USER::*IGNORE-SHIFT-BY-CONSTANT-OPTIMIZATION* ...1
