Index

Symbols

`:{=}`*n*
memory stride syntax, in DPEAC, 25
register stride syntax, in DPEAC, 24
`:mode`, stride marker, in DPEAC, 24
`(`*reg*`)`, memory indirection syntax, in DPEAC, 43
`(`*rIA*`)`, register indirection syntax, in DPEAC, 42
`[%`*rn*`]`, memory address syntax, in DPEAC, 29
`[`*n*`]`, register offset syntax, in DPEAC, 23
`*{=}`*n*, vector length syntax, in DPEAC, 42
`=always`, mask mode modifier option
in CDPEAC, 99
in DPEAC, 53
`=cond`, mask mode modifier option
in CDPEAC, 99
in DPEAC, 53
`=condalu`, mask mode modifier option
in CDPEAC, 99
in DPEAC, 53
`=condmem`, mask mode modifier option
in CDPEAC, 99
in DPEAC, 53
<
vector length modifier, in DPEAC, 42
VU selection modifier, in DPEAC, 26
`_i`
immediate format suffix, in CDPEAC, 86
memory indirection suffix, in CDPEAC, 90
register indirection suffix, in CDPEAC, 86, 90
`_s`
memory stride suffix, in CDPEAC, 68, 90
register stride suffix, in CDPEAC, 67, 90
`_u`
memory stride suffix, in CDPEAC, 68, 90
register stride suffix, in CDPEAC, 67, 90
`_u_s`
memory stride suffix, in CDPEAC, 68, 90
register stride suffix, in CDPEAC, 67, 90
`_v`, vector length suffix, in CDPEAC, 85, 90
`_vh`, vector length suffix, in CDPEAC, 85, 90
`_vhs`, vector length suffix, in CDPEAC, 85, 90
`_vs`, vector length suffix, in CDPEAC, 85, 90
`_x`, register offset suffix, in CDPEAC, 67, 90

A

accelerators, vector unit (VU), 3
accessor instructions, SPARC, in DPEAC, 58
accumulated context count
CDPEAC statement modifier, 101
DPEAC statement modifier, 55
VU feature, 17
`align`
CDPEAC statement modifier, 99
DPEAC statement modifier, 53
alignment guarantee
CDPEAC statement modifier, 99
DPEAC statement modifier, 53
`ALL_DPS`, VU selector
in CDPEAC, 69
in DPEAC, 26
`ALL_PHYS_NUM_DPS`, VU selector
in CDPEAC, 69
in DPEAC, 26
ALU status and contextualization, 15
`always`, mask mode modifier option
in CDPEAC, 99
in DPEAC, 53
argument macros, in CDPEAC, 65, 90

arithmetic instructions
in CDPEAC, 62, 71
in DPEAC, 19, 28
list of
for CDPEAC, 91
for DPEAC, 45
arithmetic mode register, VU control register, 13
arithmetic no-op instruction
for CDPEAC, 96
for DPEAC, 51
array descriptor, CMRTS, 178, 184
array geometry, CMRTS, 179, 185
array_geometry, CMRT_desc_t structure slot, 184
arrays in CMRTS, 178
arrays, passing, into C/DPEAC routines, 109
as assembler, 5, 169
as-expression, DPEAC syntax, 21
as-register, DPEAC syntax, 22
ASCII constants, DPEAC syntax, 21
asm statement, in the C language, 61
axis_descriptors, CMRTS machine geometry slot, 189
axis_length, CMRTS axis descriptor slot, 190

C

C variables, in CDPEAC instructions, 65
CDPEAC accessor instructions, list of, 102
CDPEAC argument macros, 65, 90
CDPEAC code, 62
CDPEAC header file, 7
CDPEAC instruction set, 6, 61
CDPEAC instructions, 70
list of, 89
CDPEAC join statement order, 64
CDPEAC procedure, 62
CDPEAC special instruction, 63
CDPEAC statement formats, 74
CDPEAC statement modifiers, 98
for conditionalization, 99
special modifiers, 100
CDPEAC subroutine, 106
in a C/DPEAC program, 108
CDPEAC syntax, 65
CDPEAC VU accessor instruction, 63
chain loading
in CDPEAC, 64
in DPEAC, 20
CM Run-Time System (CMRTS), 177
cm_location, CMRT_desc_t structure slot, 184
CM-5 assembly code, 4
CM-5 computing environment, 2
CM-5 hardware, 2
CM-5 networks, 2
CM-5 processing node, 3
CM-5 software layers, 4
CM-5 vector units (VUs), 1, 3, 9
CMCOM layer, of CMRTS, 177
CMCOM_axis_descriptor, CMRTS data structure, 190
CMCOM_machine_geometry_t, CMRTS data structure, 179, 188
CMCOM_pe_allocate_stack_space, CMRTS memory allocation function, 195
CMCOM_pe_get_stack_pointer, CMRTS memory allocation function, 195
CMCOM_pe_set_stack_pointer, CMRTS memory allocation function, 195
CMIP layer, of CMRTS, 177
CMPE_, prefix, of node interface functions, in C/DPEAC program, 108
CMRT layer, of CMRTS, 177
CMRT_allocate_heap_field, CMRTS memory allocation function, 194
CMRT_allocate_physical_heap_field, CMRTS memory allocation function, 193
CMRT_allocate_physical_stack_field, CMRTS memory allocation function, 193
CMRT_allocate_stack_field, CMRTS memory allocation function, 194

CMRT_array_geometry_t, CMRTS data type, 179, 185
CMRT_cm_location_t, CMRTS parallel memory location, 179
CMRT_deallocate_heap_field, CMRTS memory allocation function, 194
CMRT_deallocate_physical_heap_field, CMRTS memory allocation function, 193
CMRT_deallocate_physical_stack_through, CMRTS memory allocation function, 193
CMRT_deallocate_stack_field_through, CMRTS memory allocation function, 194
CMRT_desc_get_cm_location, CMRTS accessor function, 184
CMRT_desc_get_element_size, CMRTS accessor function, 184
CMRT_desc_get_geometry, CMRTS accessor function, 184
CMRT_desc_get_lower_bound, CMRTS accessor function, 187
CMRT_desc_get_number_of_elements, CMRTS accessor function, 187
CMRT_desc_get_rank, CMRTS accessor function, 187
CMRT_desc_get_subgrid_dimension, CMRTS accessor function, 192
CMRT_desc_get_subgrid_size, CMRTS accessor function, 189
CMRT_desc_get_upper_bound, CMRTS accessor function, 187
CMRT_desc_t, CMRTS array descriptor, 178, 184
code
  CDPEAC, 62
  DPEAC, 19
comments, DPEAC syntax, 21
comparison instructions, list of
  for CDPEAC, 93
  for DPEAC, 48
condalu, mask mode modifier option
  in CDPEAC, 99
  in DPEAC, 53
conditional instructions, list of, for DPEAC, 47, 93
conditionalization, 15
conditionalization bit sense
  CDPEAC statement modifier, 100
  DPEAC statement modifier, 54
conditionalization mode, 15
  CDPEAC statement modifier, 99
  DPEAC statement modifier, 53
conditionalization modifiers
  of CDPEAC statements, 99
  of DPEAC statements, 53
condmem, mask mode modifier option
  in CDPEAC, 99
  in DPEAC, 53
constant-expression, DPEAC syntax, 21
context bit, 15
context bit sense, 15
context count, VU feature, 17
contextualization, 15
Control Network, 2
control register constants, of VU registers, 18
control register region, 127, 128
control registers, VU, 13
  in CDPEAC, 66
  in DPEAC, 24
conversion instructions, list of
  for CDPEAC, 95
  for DPEAC, 49
current mode
  CDPEAC statement modifier, 98
  DPEAC statement modifier, 52
  vector mask shift mode, 16

D

Data Network, 2
data register region, 127, 128
data registers, VU, 12
  in CDPEAC, 66
  in DPEAC, 23
data space, 126
  in VU memory, 11

data types
  of a CDPEAC instruction, 71
  of a DPEAC instruction, 28
depc
  CDPEAC statement modifier, 100
  DPEAC statement modifier, 54
descriptor, array, in CMRTS, 178, 184
doubleword, 12
doubleword alignment guarantee
  CDPEAC statement modifier, 99
  DPEAC statement modifier, 53
dp_alu_mode, VU control register, 13
DP_*n*, VU selector
  in CDPEAC, 69
  in DPEAC, 26
DP_PHYS_NUM_0_AND_1, VU selector
  in CDPEAC, 69
  in DPEAC, 26
DP_PHYS_NUM_2_AND_3, VU selector
  in CDPEAC, 69
  in DPEAC, 26
DP_PHYS_NUM_*n*, VU selector
  in CDPEAC, 69
  in DPEAC, 26
dp_status, VU control register, 13, 15
dp_status_enable, VU control register, 13, 15
dp_stride_memory
  default memory stride, 104
    in CDPEAC, 68
    in DPEAC, 25
  VU control register, 13
dp_stride_rs1
  default rS1 register stride, 104
    in CDPEAC, 67, 75
    in DPEAC, 24, 32
  VU control register, 13
dp_vector_length
  default vector length register, 104
    in CDPEAC, 70, 85
    in DPEAC, 27, 42
  VU control register, 13
dp_vector_mask
  vector mask register, 52, 98
  VU control register, 13, 15
dp_vector_mask_buffer, VU control register, 13, 17
dp_vector_mask_direction, VU control register, 13, 16
dp_vector_mask_mode, 53
  vector mask mode register, 99, 104
  VU control register, 13, 15
dpas assembler, 169
dpas assembler symbol, 170
dpas command line format, 169
dpas lexical directives, 170
dpas preprocessor, 169
dpas switches, 169
dpas, DPEAC assembler, 5
dpcc command line format, 171
dpcc compiler, 171
dpcc switches, 171
dpcc, CDPEAC compiler, 6
dpchgbk, register accessor instruction
  for CDPEAC, 102, 103
  for DPEAC, 56, 57
dpchgsp, register accessor instruction
  for CDPEAC, 102, 103
  for DPEAC, 56, 57
dpcleanup, CDPEAC special instruction, 104
DPEAC accessor instruction, 20
DPEAC accessor instructions, list of, 56
DPEAC and CDPEAC, using, 7
DPEAC code, 19
DPEAC header file, 7
DPEAC instruction set, 5, 19
DPEAC instructions, 19, 27
  list of, 45
DPEAC statement, 19
DPEAC statement formats, 31
DPEAC statement modifiers, 52
  for conditionalization, 53
  special modifiers, 54
DPEAC statement order, 20
DPEAC subroutine, 106
  in a C/DPEAC program, 108
DPEAC syntax, 21
dpentry, SPARC accessor instruction, in DPEAC, 58

dpget, register accessor instruction
for CDPEAC, 102
for DPEAC, 56
dpld, register accessor instruction
for CDPEAC, 102, 103
for DPEAC, 56, 57
dprd, register accessor instruction
for CDPEAC, 102
for DPEAC, 56
dpregs, SPARC accessor instruction, in DPEAC, 59
dpretn, SPARC accessor instruction, in DPEAC, 59
DPS_0_AND_1, VU selector
in CDPEAC, 69
in DPEAC, 26
DPS_2_AND_3, VU selector
in CDPEAC, 69
in DPEAC, 26
dpset, register accessor instruction
for CDPEAC, 102
for DPEAC, 56
dpsetup, CDPEAC special instruction, 104
dpst, register accessor instruction
for CDPEAC, 102, 103
for DPEAC, 56, 57
dpsync, register accessor instruction
for CDPEAC, 102, 103
for DPEAC, 56, 57
dpunset, SPARC accessor instruction, in DPEAC, 59
dpwrt, register accessor instruction
for CDPEAC, 102
for DPEAC, 56
dreg_i
CDPEAC register indirection macro, 86
register indirection macro, 90
dreg_s(), CDPEAC register stride macro, 67, 90
dreg_u(), CDPEAC register stride macro, 67, 90
dreg_u_s(), CDPEAC register stride macro, 67, 90
dreg_x(), CDPEAC register offset macro, 67, 90
dyadic arithmetic instructions
in CDPEAC, 71
in DPEAC, 28
list of
for CDPEAC, 92
for DPEAC, 46
dyadic comparison instructions, list of
for CDPEAC, 93
for DPEAC, 48
dyadic conditional instructions, list of
for CDPEAC, 93
for DPEAC, 47
dyadic conversion instructions, list of
for CDPEAC, 95
for DPEAC, 49
dyadic mult-op instructions, list of
for CDPEAC, 94
for DPEAC, 48

E

effects of VU control registers, 14
element_size, CMRT_desc_t structure slot, 184
epc
CDPEAC statement modifier, 100
DPEAC statement modifier, 54
etrap, VU trap instruction, in DPEAC, 57
exchange
CDPEAC statement modifier, 101
DPEAC statement modifier, 55
expressions, DPEAC syntax, 21
extents, CMRTS array geometry slot, 186

F

file naming conventions, in C/DPEAC program, 107
flags, VU status register, 16

G

garbage data, in CMRTS arrays, 179
garbage_mask, CMRTS array geometry slot, 186
general-expression, DPEAC syntax, 21
geometries, CMRTS, 179

H

hazards, VU pipeline, 140
header file
  for CDPEAC, 7
  for DPEAC, 7
heap, in VU memory, 11, 126
host interface file, in C/DPEAC program, 107
host interface function, in a C/DPEAC program, 106, 108

I

i, immediate format suffix, in CDPEAC, 77, 90
immediate format
  in CDPEAC, 74, 77
  in DPEAC, 31, 34
instruction pipeline, 139
instruction space, 126
  in VU memory, 11
instruction suffixes, in CDPEAC, 64, 90
inverting, context bit sense, 15

J

join macro, in CDPEAC, 63, 89
join*n***()**, CDPEAC instruction joining macro, 64, 89

L

ldvm
  CDPEAC special instruction, 104
  vector mask instruction, in DPEAC, 58
load, SPARC accessor instruction, in DPEAC, 59
long format statement
  in CDPEAC, 74
  in DPEAC, 31
lower_bounds, CMRTS array geometry slot, 186

M

machine geometry, CMRTS, 179, 188
machine_geometry, CMRTS array geometry slot, 186
maddr
  CDPEAC statement modifier, 68, 98
  DPEAC statement modifier, 25, 52
main program file, in C/DPEAC program, 107
makefile, in C/DPEAC program, 107, 117
memory allocation
  in CMRTS, 193
  non-CMRTS, 196
memory argument, of a CDPEAC instruction, 72
memory correspondence, physical/virtual, 131
memory indirection
  in CDPEAC, 86
  in DPEAC, 43
memory instruction
  in CDPEAC, 72
  in DPEAC, 29
memory instructions
  in CDPEAC, 62
  in DPEAC, 19
  list of
    for CDPEAC, 97
    for DPEAC, 51
memory mapping, 125
memory maps, 133
memory no-op instruction
  for CDPEAC, 97
  for DPEAC, 51
memory operand
  CDPEAC statement modifier, 98
  DPEAC statement modifier, 52
  of a DPEAC instruction, 29

memory operand stride, VU control register, 13
memory operand syntax, in DPEAC, 29
memory stride default
  in CDPEAC, 68
  in DPEAC, 25
memory stride format
  in CDPEAC, 74, 79
  in DPEAC, 31, 36
memory stride indirection variant, of mode set format
  in CDPEAC, 83
  in DPEAC, 40
memory stride markers, in DPEAC, 25
memory striding
  in CDPEAC, 68
  in DPEAC, 25
mode, stride marker, in CDPEAC, 67
mode set format
  in CDPEAC, 74, 80
  in DPEAC, 31, 37
modifiers
  of a CDPEAC statement, 62, 73, 98
  of a DPEAC statement, 19, 30, 52
monadic arithmetic instructions
  in CDPEAC, 71
  in DPEAC, 28
  list of
    for CDPEAC, 91
    for DPEAC, 45
mult-op instructions, list of
  for CDPEAC, 94
  for DPEAC, 48

N

naming conventions, interface function, in C/DPEAC program, 108
naming conventions, source file, in C/DPEAC program, 107
Network Interface (NI), 3
no-op, arithmetic
  for CDPEAC, 96
  for DPEAC, 51
no-op, memory
  for CDPEAC, 97
  for DPEAC, 51
noalign
  CDPEAC statement modifier, 99
  DPEAC statement modifier, 53
node, 3
node interface file, in C/DPEAC program, 107
node interface function, 106
  in a C/DPEAC program, 108
noexchange
  CDPEAC statement modifier, 101
  DPEAC statement modifier, 55
nopad
  CDPEAC statement modifier, 98
  DPEAC statement modifier, 52
number_of_elements, CMRTS array geometry slot, 186
numbers, DPEAC syntax, 21

O

off_chip_length, CMRTS axis descriptor slot, 192
off_chip_mask, CMRTS axis descriptor slot, 192
off_chip_positions, CMRTS axis descriptor slot, 192
one-source (monadic) instructions
  in CDPEAC, 71
  in DPEAC, 28
one-source (monadic) instructions, list of
  for CDPEAC, 91
  for DPEAC, 45
operators, arithmetic, DPEAC syntax, 21

P

pad
  CDPEAC statement modifier, 98
  DPEAC statement modifier, 52

padding
CDPEAC statement modifier, 98
DPEAC statement modifier, 52
parallel heap, 126
in VU memory, 11
parallel memory allocation
in CMRTS, 193
non-CMRTS, 196
parallel stack, 126
in VU memory, 11
partition, 2
partition manager (PM), 2
passing arrays, into C/DPEAC routines, 109
physical memory mapping, 125
physical memory regions, 125
physical/virtual memory correspondence, 131
pipeline hazards, 140
pipeline overlap, 140
pipeline stages, 139
pipelining, 139
population count
CDPEAC statement modifier, 100
DPEAC statement modifier, 54
VU feature, 17
population count variant, of mode set format
in CDPEAC, 83
in DPEAC, 40
power_of_two, CMRTS axis descriptor slot, 190
procedure, DPEAC, 62
processing elements, 180
processing node, 3
processor, RISC, 3
product_subgrid_lengths, CMRTS machine geometry slot, 189

R

rank
CMRTS array geometry slot, 186
CMRTS machine geometry slot, 188
rD, register argument, 27, 70
register arguments, in CDPEAC, 70
register file, VU, 12
register offsets
in CDPEAC, 67, 90
in DPEAC, 23
register operands, in DPEAC, 27
register restrictions
SPARC, in DPEAC, 22
VU
in CDPEAC, 66
in DPEAC, 23
register stride format
in CDPEAC, 74, 78
in DPEAC, 31, 35
register stride indirection
in CDPEAC, 86, 90
in DPEAC, 42
register stride indirection variant, of mode set format
in CDPEAC, 82
in DPEAC, 39
register stride markers, in DPEAC, 24
register striding
default, of vector instructions
in CDPEAC, 71
in DPEAC, 28
in CDPEAC, 90
in DPEAC, 24
restrictions, *rS2* argument, in CDPEAC, 71
restrictions, *rS2* operand, in DPEAC, 28
rIA, register argument, 27, 70
RISC processor (CPU), 3
rLS, register argument, 27, 70
R*nn*, VU data register
in CDPEAC, 66
in DPEAC, 23
rotate mode
CDPEAC statement modifier, 98
DPEAC statement modifier, 52
vector mask shift mode, 16
rotation mode of vector mask
CDPEAC statement modifier, 98
DPEAC statement modifier, 52
routine, DPEAC, 19
rS1, register argument, 27, 70

rS1 argument, in CDPEAC short statement format, 75
rS1 operand, in DPEAC short statement format, 32
rS1 register operand stride, VU control register, 13
rS1 stride restriction
  in CDPEAC, 67
  in DPEAC, 24
rs1 stride variant, of mode set format
  in CDPEAC, 81, 82
  in DPEAC, 38, 39
rS2, register argument, 27, 70
rS2 argument restrictions, in CDPEAC, 71
rS2 operand restrictions, in DPEAC, 28
Run-Time System (CMRTS), 177

S

scalar instruction variant, of mode set format, in DPEAC, 41
scalar instructions
  in CDPEAC, 70
  in DPEAC, 27
scalar registers
  in CDPEAC, 66
  in DPEAC, 23
scalar(), CDPEAC register stride macro, 67, 90
scalar/vector agreement
  in CDPEAC, 70
  in DPEAC, 27
sD, register argument, 27, 70
set_mem_stride(), CDPEAC special instruction macro, 104
set_rs1_stride(), CDPEAC special instruction macro, 104
set_vector_length(), CDPEAC special instruction macro, 104
set_vector_length_and_rs1_stride(), CDPEAC special instruction macro, 104
set_vector_length_and_rs1_stride_and_vmmode(), CDPEAC special instruction, 104
set_vector_length_and_vmmode(), CDPEAC special instruction macro, 104
set_vmmode(), CDPEAC special instruction macro, 104
short format statement
  in CDPEAC, 74, 75
  in DPEAC, 31, 32
sIA, register argument, 27, 70
single-/doubleword performance, in DPEAC, 72
single-/doubleword performance, in DPEAC, 29
singleword, 12
sLS, register argument, 27, 70
S*nn*, VU scalar data register
  in CDPEAC, 66
  in DPEAC, 23
SPARC, processor, in CM-5 nodes, 3
SPARC accessor instructions, in DPEAC, 58
SPARC **as** assembler, 5, 169
SPARC assembly code, 19
SPARC register restrictions, in DPEAC, 22
SPARC registers, DPEAC syntax, 22
special modifier variant, of mode set format
  in CDPEAC, 84
  in DPEAC, 41
special modifiers
  of CDPEAC statements, 100
  of DPEAC statements, 54
sS1, register argument, 27, 70
sS2, register argument, 27, 70
stack, in VU memory, 11, 126
stages of VU pipeline, 139
statement formats
  in CDPEAC, 74
  in DPEAC, 31
statement modifiers
  in CDPEAC, 62, 73
  in DPEAC, 19, 30
statement order
  in CDPEAC, 64
  in DPEAC, 20

statements
in CDPEAC, 62
in DPEAC, 19
status bit rotation mode
CDPEAC statement modifier, 98
DPEAC statement modifier, 52
status bits, from VU arithmetic operations, 16
status enable register, VU control register, 13, 15
status flags, in VU status register, 16
status register, VU control register, 13, 15
stride, of vector registers, 12
stride macro, for register arguments in CDPEAC, 67
stride marker, in DPEAC, 24
stride restriction, *rS1* register
in CDPEAC, 67
in DPEAC, 24
striding, of VU operations, 9
stvm
CDPEAC special instruction, 104
vector mask instruction, in DPEAC, 58
subgrid, in CMRTS arrays, 182
subgrid_axis_increment, CMRTS axis descriptor slot, 191
subgrid_bits_length, CMRTS axis descriptor slot, 192
subgrid_bits_mask, CMRTS axis descriptor slot, 192
subgrid_bits_position, CMRTS axis descriptor slot, 192
subgrid_length, CMRTS axis descriptor slot, 190
subgrid_orthogonal_length, CMRTS axis descriptor slot, 191
subgrid_outer_count, CMRTS axis descriptor slot, 191
subgrid_outer_increment, CMRTS axis descriptor slot, 191
subroutine code file, in C/DPEAC program, 107
suffixes, instruction, in CDPEAC, 90
supported operators, in DPEAC expression syntax, 21
symbolic constants, for VU virtual memory regions, 129
syntax
CDPEAC, 65
DPEAC, 21

T

three-source (triadic) instructions
in CDPEAC, 71
in DPEAC, 28
three-argument mult-op instructions, list of
for CDPEAC, 96
for DPEAC, 50
total_off_chip_length, CMRTS machine geometry slot, 188
trap, VU trap instruction, in DPEAC, 57
triadic arithmetic instructions
in CDPEAC, 71
in DPEAC, 28
triadic instructions, list of
for CDPEAC, 96
for DPEAC, 50
triadic mult-op instructions, list of
for CDPEAC, 96
for DPEAC, 50
triadic *rLS* register restriction
in CDPEAC, 71
in DPEAC, 28, 29
two-source (dyadic) instructions
in CDPEAC, 71
in DPEAC, 28
two-argument mult-op instructions, list of
for CDPEAC, 94
for DPEAC, 48
two-source (dyadic) instructions, list of
for CDPEAC, 92
for DPEAC, 46
type abbreviations, for CDPEAC type argument, 89
type argument, of a CDPEAC instruction, 71

U

`upper_bounds`, CMRTS array geometry slot, 186
using DPEAC and CDPEAC, 7

V

variables, in CDPEAC instructions, 65
vD, register argument, 27, 70
vector instructions
  in CDPEAC, 70
  in DPEAC, 27
vector length
  in CDPEAC, 70
  in DPEAC, 27
vector length instruction suffixes, of mode set format, in CDPEAC, 85
vector length modifier, of mode set format, in DPEAC, 42
vector length padding
  CDPEAC statement modifier, 98
  DPEAC statement modifier, 52
vector length register, VU control register, 13
vector mask and conditionalization, 15
vector mask bit sense
  CDPEAC statement modifier, 100
  DPEAC statement modifier, 54
vector mask buffer, VU control register, 17
vector mask conditionalization mode, VU control register, 13
vector mask copy buffer, VU control register, 13
vector mask copy mode
  CDPEAC statement modifier, 100
  DPEAC statement modifier, 54
vector mask instructions, in DPEAC, 58
vector mask mode
  CDPEAC statement modifier, 99
  DPEAC statement modifier, 53
vector mask mode register, VU control register, 15
vector mask register, VU control register, 13, 15
vector mask rotation mode
  CDPEAC statement modifier, 98
  DPEAC statement modifier, 52
vector mask shift direction, VU control register, 13, 16
vector mask status bits, 16
vector registers
  in CDPEAC, 66
  in DPEAC, 23
  VU, 12
vector stride
  in CDPEAC, 70
  in DPEAC, 27
vector unit (VU) accelerators, 3, 9
vector unit registers
  in CDPEAC, 66
  in DPEAC, 23
vIA, register argument, 27, 70
virtual memory mapping, 127
virtual memory regions, 128
virtual memory symbolic constants, 129
vLS, register argument, 27, 70
`vmcount`
  CDPEAC statement modifier, 101
  DPEAC statement modifier, 55
`vmcurrent`
  CDPEAC statement modifier, 98
  DPEAC statement modifier, 52
`vminvert`
  CDPEAC statement modifier, 100
  DPEAC statement modifier, 54
`vmmode`
  CDPEAC statement modifier, 99
  DPEAC statement modifier, 53
`vmnew`
  CDPEAC statement modifier, 100
  DPEAC statement modifier, 54
`vmnop`
  CDPEAC statement modifier, 100
  DPEAC statement modifier, 54
`vmold`
  CDPEAC statement modifier, 100
  DPEAC statement modifier, 54

vmrotate
CDPEAC statement modifier, 98
DPEAC statement modifier, 52
vmtrue
CDPEAC statement modifier, 100
DPEAC statement modifier, 54
V*nn*, VU vector data register
in CDPEAC, 66
in DPEAC, 23
vS1, register argument, 27, 70
vS2, register argument, 27, 70
VU chips, 10
VU control register constants, 18
VU control register region, 127, 128
VU control registers, 13
effects of, 14
in CDPEAC, 66
in DPEAC, 24
VU data register region, 127, 128
VU data registers, 12
in CDPEAC, 66
in DPEAC, 23
VU data space, 126
VU instruction, in CDPEAC, 62
VU instruction pipeline, 139
VU instruction space, 126
VU instructions, 3
VU memory layout, 10
VU memory mapping, 10, 125
VU memory maps, 133
VU memory regions, 10
VU memory spaces, 126
VU memory stride markers, in DPEAC, 24
VU memory striding, in CDPEAC, 68
VU on-chip data swapping
CDPEAC statement modifier, 101
DPEAC statement modifier, 55
VU physical memory mapping, 125
VU physical memory regions, 125
VU physical/virtual memory correspondence, 131
VU pipelining, 139
VU register accessor instructions, list of
for CDPEAC, 102
for DPEAC, 56
VU register file, 12
VU register restrictions
in CDPEAC, 66
in DPEAC, 23
VU register spaces, 127
VU register stride macros, in CDPEAC, 67
VU register stride markers, in DPEAC, 24
VU registers, 12
VU selection
in CDPEAC, 68
in CDPEAC accessor instructions, 69
in DPEAC, 25
in DPEAC accessor instructions, 26
VU selectors
in CDPEAC, 69
in DPEAC, 26
VU status flags, in VU status register, 16
VU striding, 9
VU trap instructions, in DPEAC, 57
VU vector registers, 12
VU virtual memory mapping, 127
VU virtual memory regions, 128
VU virtual memory symbolic constants, 129