NeWS Datatype Extensions

Monitor, color, graphicsstate, and path are simple types. Canvas, cursor, event, process, environment, colormap, colormapentry, and visual are complex objects with key-values accessible as with dictionaries.

putValue **/Key** getValue

Canvas

— **/TopCanvas** canvas
— **/BottomCanvas** canvas|null
— **/CanvasAbove** canvas|null
— **/CanvasBelow** canvas|null
— **/TopChild** canvas|null
canvas|null **/Parent** canvas|null
boolean **/Transparent** boolean
boolean **/Mapped** boolean
boolean **/Retained** boolean
boolean **/SaveBehind** —
— **/Color** boolean
name **/EventsConsumed** name
— **/Interests** array
cursor **/Cursor** cursor|null
colormap **/Colormap** colormap
— **/Visual** visual
— **/VisualList** array
— **/OverrideRedirect** boolean
null|integer **/BorderWidth** null|integer
dict **/UserProps** dict
— **/XID** number
string **/SharedFile** string
— **/RowBytes** number
boolean **/Grabbed** boolean
— **/GrabToken** integer

Cursor

— **/CursorChar** integer
— **/CursorColor** object
— **/CursorFont** object
— **/MaskChar** integer
— **/MaskColor** object
— **/MaskFont** object

Visual

— **/Size** integer
— **/Class** integer
— **/BitsPerPixel** integer

Colormap

— **/Entries** array
— **/Free** number
boolean **/Installed** boolean
— **/Visual** object

Colormapentry

— **/Colormap** object
— **/Mask** integer
— **/Slot** integer

Process

null|dict **/$error** null|dict
dict **/errordict** dict
— **/DictionaryStack** array
— **/ErrorCode** name
integer **/ErrorDetailLevel** integer
— **/Execee** object
— **/ExecutionStack** array
— **/Interests** array
— **/OperandStack** array
— **/State** array
integer **/Priority** integer
name **/ProcessName** name
file **/Stdout** file
file **/Stderr** file
— **/SendContexts** array
— **/SendStack** array

Event

object **/Action** object
dict|array|canvas|null **/Canvas** dict|array|canvas|null
object **/ClientData** object
boolean **/Exclusivity** boolean
— **/Interest** event
— **/IsInterest** boolean
— **/IsPreChild** boolean
— **/IsQueued** boolean
— **/KeyState** array
object **/Name** object
number **/Priority** number
null|process **/Process** null|process
— **/Serial** number
number **/TimeStamp** number
number **/XLocation** number
number **/YLocation** number
xnumber ynumber **/Coordinates** xnumber ynumber

Environment

integer **/BellDuration** integer
number **/BellPitch** number
number **/BellPercent** number
number **/KeyClickPercent** number
integer **/Leds** integer
boolean **/AutoRepeat** boolean
number **/KeyRepeatTime** number
number **/KeyRepeatThresh** number
boolean **/MotionCompression** boolean
integer **/Threshold** integer
number **/AccelNumerator** number
number **/AccelDenominator** number

NeWS Operators by Type

Path Operators

dx dy **copyarea** —
— **currentpath** path
— **damagepath** —
— **emptypath** boolean
dx dy **eocopyarea** —
— **eocurrentpath** path
— **eoextenddamage** —
— **eoextenddamageall** —
— **extenddamage** —
— **extenddamageall** —
x y **pointinpath** boolean
path **setpath** —

Canvas Operators

w h bits matrix proc **buildimage** canvas
— **canvasesunderpath** array
null|xnum ynum **canvasesunderpoint** array
canvas **canvastobottom** —
canvas **canvastotop** —
— **clipcanvas** —
— **clipcanvaspath** —
string **createdevice** canvas
canvas **createoverlay** canvas
— **currentcanvas** canvas
— **eoclipcanvas** —
canvas **eoreshapecanvas** —
file|string **eowritecanvas** —
file|string **eowritescreen** —
canvas **getcanvaslocation** x y
— **getcanvashape** path
canvas **imagecanvas** —
boolean canvas **imagemaskcanvas** —
canvas x y **insertcanvasabove** —
canvas x y **insertcanvasbelow** —
x y|x y canvas **movecanvas** —
pcan|pcan visual cmap **newcanvas** ncan
file|string **readcanvas** canvas
canvas|canvas path width **reshapecanvas** —
canvas **setcanvas** —
file|string **writecanvas** —
file|string **writescreen** —

Cursor Operators

— **currentcursorlocation** x y
canvas **getcanvascursor** font char char
cursor|null **grabcursor** —
char char font <font> **newcursor** cursor
x y **setcursorlocation** —

Colormap Operators

visual **createcolormap** colormap
colormap color **createcolorsegment** colormapentry
colormap int int **createcolorsegment** array
— **currentbackpixel** integer
— **currentpixel** integer
cmapseg integer **getcolor** color
cmapseg int color **putcolor** —
integer **setbackpixel** —
integer **setpixel** —

Color Operators

color **contrastswithcurrent** boolean
— **currentbackcolor** color
— **currentcolor** color
h s b **hsbcolor** color
r g b **rgbcolor** color
color **setcolor** —
color **setbackcolor** —

Process Operators

— **breakpoint** —
— **clearsendcontexts** —
process **continueprocess** —
— **createmonitor** monitor
— **currentprocess** process
— **currentshared** boolean
object name **defaulterroraction** —
proc **fork** process
— **geteventlogger** process
— **getprocesses** array
process | null **getprocessgroup** array
process **killprocess** —
process **killprocessgroup** —
monitor proc **monitor** —
monitor **monitorlocked** boolean
— **newprocessgroup** —
— **pause** —
string **runprogram** —
process **seteventlogger** —
— **suspendprocess** —
process **waitprocess** value

Event Operators

— **awaitevent** event
num **blockinputqueue** —
— **countinputqueue** num
— **createevent** event
event | event process **expressinterest** —
— **getmousetranslation** boolean
— **lasteventkeystate** array
— **lasteventtime** num
— **lasteventx** num
— **lasteventy** num
can can name name bool **postcrossings** —
event **recallevent** —
event **redistributeevent** —
event | event process **revokeinterest** —
event **sendevent** —
— **unblockinputqueue** —

File Operators

listenfile **acceptconnection** file
file **countfileinputtoken** integer
int | int file **getfileinputtoken** object
file **getsocketlocaladdress** string
file **getsocketpeername** string
object int <file> **setfileinputtoken** —
num **tagprint** —
object **typedprint** —
file object **writeobject** —

Mathematical Operators

num **arccos** num
num **arcsin** num
num **arctan** num
num num **max** num
num num **min** num
— **random** num

Keyboard and Mouse Operators

— **getkeyboardtranslation** num
— **getmousetranslation** boolean
— **keyboardtype** num
boolean **setkeyboardtranslation** —
boolean **setmousetranslation** —

Font Operators

— **currentfontmen** integer
font array | font name **encodefont** font
name1 **—** name2 ...
string **findfilefont** font
font **fontascent** integer
font **fontdescent** integer
font **fontheight** integer
integer **setfontmen** —

Miscellaneous Operators

boolean errorname **assert** —
— **beep** —
— **currentautobind** boolean
— **currentpacking** boolean
— **currentplanemask** integer
— **currentprintermatch** boolean
— **currentrasteropcode** num
— **currentstate** state
— **currenttime** num
string integer **getcard32** integer
string1 **getenv** string2
object **harden** object
— **localhostname** string
file **objectdump** —
objects int **packedarray** packedarray
object **packedarraytype** boolean
array **pathforallvec** —
string integer integer **putcard32** —
string1 string2 **putenv** —
object **refcnt** integer integer
object | object boolean **reffinder** —
name object | proc object **send** —
boolean **setautobind** —
boolean **setpacking** —
integer **setplanemask** —
boolean **setprintermatch** —
num **setrasteropcode** —
boolean **setshared** —
graphicsstate **setstate** —
object **soft** boolean
object **soften** object
object **truetype** name
dictionary key **undef** —
— **vmstatus** avail used size