Subject:    Specify bounds of arguments, but require/not require contiguity
From:       Van Snyder
Reference:  03-258r1, section 2.9.2.3

## 1 Number

2 TBD

## 3 Title

4 Specify bounds of arguments, but require/not require contiguity.

## 5 Submitted By

6 J3

## 7 Status

8 For consideration.

## 9 Basic Functionality

10 Specify bounds of arguments, but require/not require contiguity.

## 11 Rationale

12 Sometimes one wants to specify a bound of a dimension of a dummy argument, but not require elements
13 to be contiguous – so as not to trigger copy-in/copy-out argument passing. At other times one wants to
14 require contiguity, but still be able to use assumed extent.

## 15 Estimated Impact

16 Minor.

## 17 Detailed Specification

18 Allow a dimension specification of the form $[low\text{-}bound] : [high\text{-}bound] [ : [stride] ]$ for a dummy argument.
19 If the $stride$ does not appear but the final colon does, the actual argument need not be contiguous – even
20 if the $high\text{-}bound$ expression appears. If the $stride$ does appear, it shall be an initialization expression
21 with the value 1, and the corresponding actual argument shall be contiguous — perhaps automatically
22 so by the processor using copy-in/copy-out.

23 Examples:

```
subroutine S ( A, B, C )
  real :: A( :, : )
  real :: B( :size(a,1):, : ) ! Doesn't require contiguous elements
  real :: C( ::1, : )         ! Requires contiguous elements.
  ...
```

## 29 History