

Subject: Allow array constructors and concatenation on the LHS of intrinsic assignment
 From: Van Snyder
 Reference: 03-258r1, section 2.7

1 Number

2 TBD

3 Title

4 Allow array constructors and concatenation on the LHS of intrinsic assignment.

5 Submitted By

6 J3

7 Status

8 For consideration.

9 Basic Functionality

10 Allow array constructors and concatenation on the LHS of intrinsic assignment.

11 Rationale

12 It would occasionally be helpful if it were possible to put an array constructor on the left side of an
 13 intrinsic assignment, provided each *expr* that is an *ac-value* is allowed on the left side of an intrinsic
 14 assignment.

15 For example, if one needs to fill consecutive elements of an array *except for the middle one* with the
 16 results of a function, one could write

```
17   ( / ( a(i), i = 1, n/2-1 ), (a(i), i = n/2+1, n) / ) = bfunc ( x, y, z )
```

18 instead of

```
19   b(1:n-1) = bfunc ( x, y, z )
20   a(1:n/2-1) = b(1:n/2-1)
21   a(n/2+1:n) = b(n/2:n-1)
```

22 It would occasionally be helpful if it were possible to put a character expression involving concatenation
 23 on the left side of an intrinsic assignment, provided each operand of the *//* is allowed on the left side of
 24 an intrinsic assignment.

25 For example, one could write

```
26   a // b // c // d = x
```

27 instead of

```
28   a = x
29   b = x(len(a)+1:)
30   c = x(len(a)+len(b)+1:)
31   d = x(len(a)+len(b)+len(c)+1:)
```

32 It may be possible and reasonable to allow these things in input lists. I don't think it's reasonable to
 33 allow either of them in any other variable definition context.

34 These are both what are frequently called *scatter* operations.

35 If a distfix IF-THEN-ELSE operator (see that proposal) is provided, it could be allowed in variable
 36 definition contexts, provided its second and third operands are allowed, e.g.

1 allocate (a(n), stat = present(status) ? status : myStat)

2 **Estimated Impact**

3 Minor.

4 **Detailed Specification**

5 Allow to put an array constructor on the left side of an intrinsic assignment, provided each *expr* that is
6 an *ac-value* is allowed on the left side of an intrinsic assignment, and maybe in input lists.

7 Allow to put a character expression involving concatenation on the left side of an intrinsic assignment,
8 provided each operand of the *//* is allowed on the left side of an intrinsic assignment, and maybe in
9 input lists.

10 If a distfix IF-THEN-ELSE operator (see that proposal) is provided, allow it in variable definition
11 contexts, provided its second and third operands are allowed.

12 **History**