

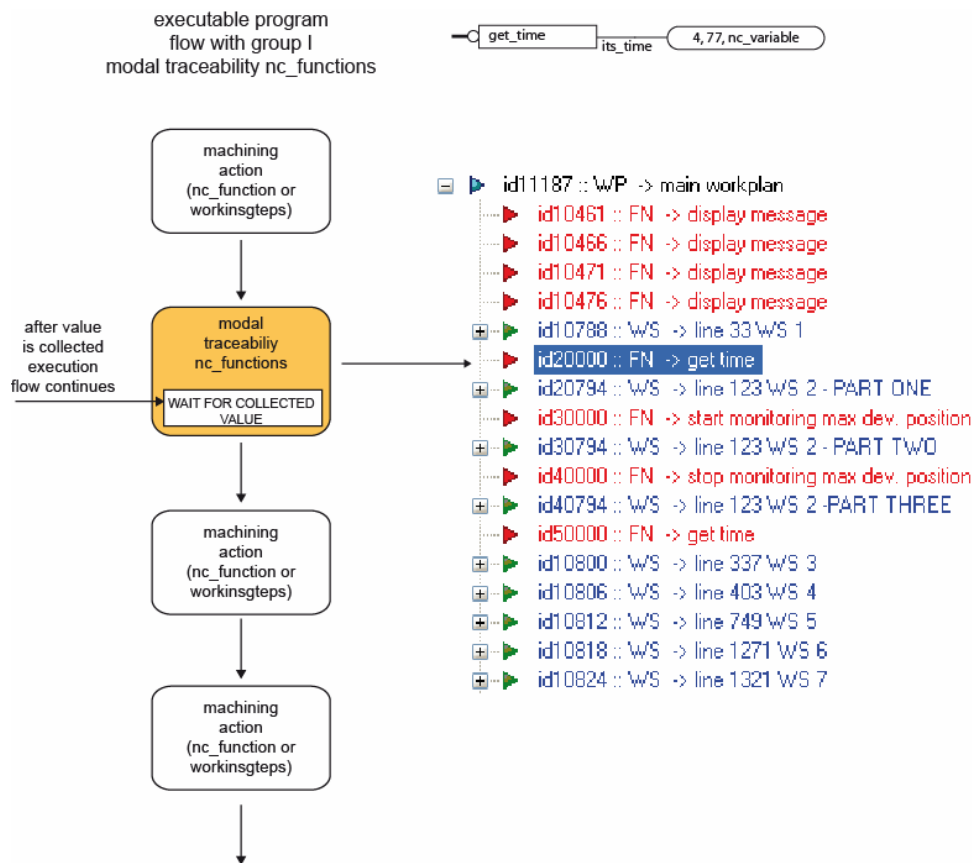
Traceability Comments. (11/30/2007)

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1. Detailed Explanation of Group I/II/III traceability nc_functions.

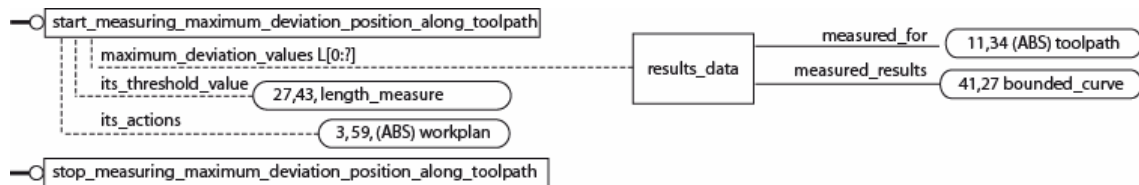
- a. **Group I** nc_functions: Just insert them in the executable structure, get a SINGLE value, and “update” an AP-238 nc_variable (or log the value and the workingstep to a file).



- b. **Group II/III** nc_functions: ARM model includes OPTIONAL Attributes, and depending on the presence or not of this attributes, the function is a group II or group III function.

The main difference between GROUP II and GROUP III functions, is that GROUP II functions are thought to COLLECT/LOG data, while GROUP III extend GROUP II functionality to test a specified “condition” and perform some actions depending on the tested condition (and data storage/logging is also optional).

ARM model example for “get_maximum_deviation_position_along_toolpath”:



This is the generic model, where:

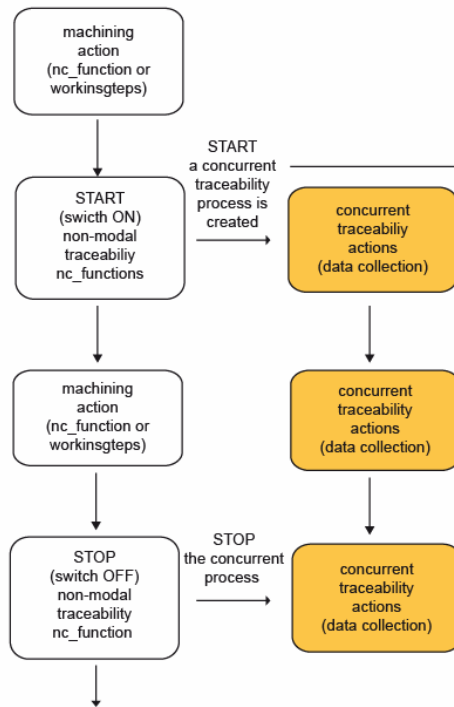
maximum_deviation_values L[0:?] is used to store in AP-238 a bounded curve, series of collected values (per toolpath and following the same parametrization as the corresponding workingstep toolpath).

its_threshold_value is used **only if** nc_function acts as a group III function to specify a threshold value for the comparing/triggering condition.

its_actions is an alternative workplan (a series of actions) to be done in case the specified condition is fulfilled (just for group III).

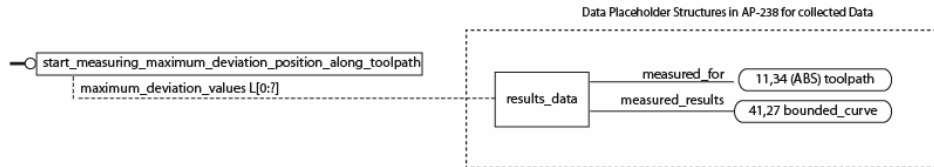
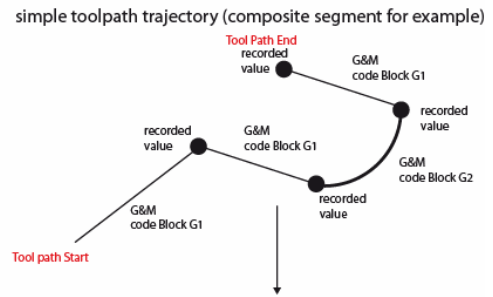
Example for GROUP II function use...

executable program
 flow with group II
 non-modal traceability nc_functions



```

  id11187 :: WP -> main workplan
  id10461 :: FN -> display message
  id10466 :: FN -> display message
  id10471 :: FN -> display message
  id10476 :: FN -> display message
  id10788 :: WS -> line 33 WS 1
  id20000 :: FN -> get time
  id20794 :: WS -> line 123 WS 2 - PART ONE
  id30000 :: FN -> start monitoring max dev. position
  id30794 :: WS -> line 123 WS 2 - PART TWO
  id40000 :: FN -> stop monitoring max dev. position
  id40794 :: WS -> line 123 WS 2 - PART THREE
  id50000 :: FN -> get time
  id10800 :: WS -> line 337 WS 3
  id10806 :: WS -> line 403 WS 4
  
```



Example for GROUP III function use...

executable program
 flow with group III
 non-modal traceability nc_functions

