Check\_alu\_op is called by:

Line 8429: Do\_check function, specifically at Line 8518, inside the following if statement:

if ([**class**](https://elixir.bootlin.com/linux/latest/C/ident/class) == [**BPF\_ALU**](https://elixir.bootlin.com/linux/latest/C/ident/BPF_ALU) || [**class**](https://elixir.bootlin.com/linux/latest/C/ident/class) == [**BPF\_ALU64**](https://elixir.bootlin.com/linux/latest/C/ident/BPF_ALU64)) {

err = [**check\_alu\_op**](https://elixir.bootlin.com/linux/latest/C/ident/check_alu_op)([**env**](https://elixir.bootlin.com/linux/latest/C/ident/env), [**insn**](https://elixir.bootlin.com/linux/latest/C/ident/insn));

if (err)

return err;

Pre Conditions have to be : class == bpf\_alu or class == bpf\_alu64

Post conditions refer to the value of err, most likely a 0 or a defined int value from errno-base.h

(<https://elixir.bootlin.com/linux/latest/source/include/uapi/asm-generic/errno-base.h>)

5849 Start Function

Main Branches:

* 5855: if ([**opcode**](https://elixir.bootlin.com/linux/latest/C/ident/opcode) == [**BPF\_END**](https://elixir.bootlin.com/linux/latest/C/ident/BPF_END) || [**opcode**](https://elixir.bootlin.com/linux/latest/C/ident/opcode) == [**BPF\_NEG**](https://elixir.bootlin.com/linux/latest/C/ident/BPF_NEG)) {
  + 5857: if ([**opcode**](https://elixir.bootlin.com/linux/latest/C/ident/opcode) == [**BPF\_NEG**](https://elixir.bootlin.com/linux/latest/C/ident/BPF_NEG)) {
    - Either return -EINVAL if some conditions are met
    - Or Goto Line 5873
  + 5863: opcode == bpf\_end
    - Either return -EINVAL if some conditions are met
    - Or Goto Line 5873
  + 5873: err = [**check\_reg\_arg**](https://elixir.bootlin.com/linux/latest/C/ident/check_reg_arg)([**env**](https://elixir.bootlin.com/linux/latest/C/ident/env), [**insn**](https://elixir.bootlin.com/linux/latest/C/ident/insn)->**[dst\_reg](https://elixir.bootlin.com/linux/latest/C/ident/dst_reg)**, [**SRC\_OP**](https://elixir.bootlin.com/linux/latest/C/ident/SRC_OP));
    - Preconditions: opcode = bpf neg/end, but above conditions not met
    - Post conditions: returns an int val, passed into line 5874
* 5888: } else if ([**opcode**](https://elixir.bootlin.com/linux/latest/C/ident/opcode) == [**BPF\_MOV**](https://elixir.bootlin.com/linux/latest/C/ident/BPF_MOV)) {
* 5956: } else if ([**opcode**](https://elixir.bootlin.com/linux/latest/C/ident/opcode) > [**BPF\_END**](https://elixir.bootlin.com/linux/latest/C/ident/BPF_END)) {
  + Return -EINVAL
* 5960: } else {
* 6007: return 0;

Ways to return from function:

1. Return EINVAL:
   1. 5861
   2. 5868
   3. 5893
   4. 5903
   5. 5958
   6. 5965
   7. 5974
   8. 5986
   9. 5995
2. Return err from check\_reg\_args (fn on line 1609)
   1. 5875
   2. 5886
   3. 5899
   4. 5910
   5. 5970
   6. 5981
   7. 6002
   8. Check\_reg\_args will return
      1. Einval
         1. 1620
      2. Eaccess
         1. 1629
         2. 1644
      3. 0
         1. 1633
         2. 1651
      4. Mark\_reg\_read
         1. 1638
3. Return EACCES
   1. 5880
4. Return adjust\_reg\_min\_Max\_vals
   1. 6004
5. Return 0
   1. 6007