

| Main Core (Assembly) | Invalidation | Monitor |
|--|--|---|
| 1: call malloc ;return pointer 0x12340000 in r1 | 1: rf_invalid[1] = false // true if dropped | 1: rf_metadata[1] = {r1, r1 + 0xf} // {base, bounds} of array |
| 2: add r2, r1, #8 | 2: if (rf_invalid[1]) { // drop monitoring } rf_invalid[2] = rf_invalid[1] | 2: rf_metadata[2] = rf_metadata[1] |
| 3a: mov r3, #1 | 3a: rf_invalid[3] = false | 3a: rf_metadata[3] = NULL |
| 3b: str r3, [r1, #12] ; store to 0x1234000c | 3b: if (rf_invalid[1] rf_invalid[3]) { // drop monitoring } mem_invalid[r1 + 12] = rf_invalid[3] | 3b: if (r1 + 12 < base(rf_metadata[1]) r1 + 12 > bound(rf_metadata[1])) { // raise error } mem_metadata[r1 + 12] = rf_metadata[3]; |
| 4: str r3, [r2, #12] ; store to 0x12340014 | 4: if (rf_invalid[2] rf_invalid[3]) { // drop monitoring } mem_invalid[r2 + 12] = rf_invalid[3] | 4: if (r2 + 12 < base(rf_metadata[2]) r2 + 12 > bound(rf_metadata[2])) { // raise error } mem_metadata[r2 + 12] = rf_metadata[3]; |