Conversion and populate

For 2026-04-08 PUCK

Contact ackerleytng@google.com if you have questions/suggestions!

Populate LAUNCH_UPDATE/TDX_INIT

- Platform ioctl
  - set_memory_attributes(PRIVATE)
  - CoCo-specific instructions
- Alternative/current
  - Guest_memfd ioctl: set_memory_attributes(PRIVATE)
  - CoCo ioctl: CoCo-specific instructions

Platform ioctl option

- Will basically be the equivalent of two sequential syscalls within the kernel
- Need to do everything that conversion does
  - Check for elevated refcounts (and error out)
  - Huge pages: merge pages

Conversion ABI before populate

- set_memory_attributes(attr: PRIVATE, flags: PRESERVE)?
  - PRESERVE is only allowed for TDX and SNP before LAUNCH_FINISH
  - Further hardening: faulting before LAUNCH_FINISH = KVM_BUG_ON
    - Add the check further up the stack

- set_memory_attributes(attr: PRIVATE, flags: RESERVED)?
  - Internal third state, only populate can unset this state
- set_memory_attributes(attr: PRE_LAUNCH, flags: RESERVED)?
- set_memory_attributes(attr: RESERVED, flags: PRESERVE)?