FT & FTCpt using vMotion code

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Interaction between FT & vMotion

- Setting up secondary
  - FT uses vMotion
  - FTCPT uses XvMotion
- Migration of primary
  - Support: vMotion
  - Not supported: FSR, DiskOnly, SvMotion, XvMotion
- Migration of secondary
  - Same as primary.

FT communication mechanism

- FTCPT: FTCpt_*

- FT: StateLogger_*

- Migrate events

- VmkStateLoggerBridge (FT)

Setting up secondary - start

- Migrate_To/Migrate_From → Migrate_FTCheck
  - Migrate_FTCheck: Sync config file, other pre-mig checks
- Migrate_PowerOn
  - Skip initializing swap file
  - Skip migration.vmxDisabled flag in MigrateSetPowerOnDisabled
  - Set equivalent of leaveSourceDisks
  - Setting leaveDestinationDisks not needed because migration succeeds.
- CheckpointConfigure() & MigrateDoSuspend()
  - set cptd->usageMode = CPT_USAGE_MIGRATE_FT??

Setting up secondary – src complete

- FTCpt_MigrateSourceSucceeded
    - Vmotion_MigrationSucceeded() post msg to call Migrate_ResumeVM.
    - MIGRATE_VMKMSG_SET_SUCCESS_AND_RESUME_SRC
    - No Migrate_Cleanup or SvMotion_Cleanup called since source resumes.

Setting up secondary – dst complete

- FTCpt_MigrateDestSucceeded
  - FTCpt_LatePowerOn → FTCptWaitForFailover
  - VmotionDVSMigrationSucceeded: Leave dvs port as shadow on destination after success
  - Migrate_CleanupAtPowerOn cleans up dest migration state (Migrate_Cleanup & SVMotion_Cleanup). Is called from VMX_ReportPoweredOn() in normal case.

```c
7579 int
7580 VMotion_Init(void)
7581 {
7582     VMK_ReturnStatus status;
7583     extern ModuleID migrateModuleID;
7584
7585     /*
7586      * XXX Remove if we ever separate this into its own module.
7587      */
7588     vmotionModuleID = migrateModuleID;
7589
7590     status = Migrate_RegisterTypeFunctions(MIGRATE_TYPE_VMOTION,
7591                                            &vmotionFns, <-------
7592                                            "VMotion",
7593                                            moduleModVersion);
7594     if (status != VMK_OK) {
7595         return -1;
7596     }
7597
7598     status = Migrate_RegisterTypeFunctions(MIGRATE_TYPE_FT,
7599                                            &vmotionFns, <-------
7600                                            "FT",
7601                                            moduleModVersion);
7602     if (status != VMK_OK) {
7603        Migrate_UnregisterTypeFunctions(MIGRATE_TYPE_VMOTION);
7604         return -1;
7605     }
7606
7607     status = Migrate_RegisterTypeFunctions(MIGRATE_TYPE_FTCPT,
7608                                            &vmotionFns, <-------
7609                                            "FTCpt",
7610                                            moduleModVersion);
7611     if (status != VMK_OK) {
7612        Migrate_UnregisterTypeFunctions(MIGRATE_TYPE_VMOTION);
7613         return -1;
7614     }
7615
7616     return 0;
7617 }
7618
```

Migration of Secondary VM

- UP-FT:
  - Secondary VM is an independent VM so vMotion of secondary is straight-forward.

- FTCPT:
  - Secondary VM is not really a powered ON VM and so cannot take events.
  - Stun/Unstun during migration is done on primary to be able to take effect on secondary.