INT = Internal

CB = Callback

NetworkRunner

Awake

RegisterNetworkCallbacks() INT

All Unity FixedUpdate() callbacks

If PhysicsEngine == None:

PhysX/Box2D AutoSimulate

Fusion Update Loop

RegisterNetworkCallbacks() INT

IBeforeUpdate()

ONLY IF the SceneManager is busy
AND SceneLoadSpawnMode.Queued (configurable in the NetworkProjectConfig)

Process Spawn Queue

ISpawned & Spawned() called on new Spawns CB

IPredictedSpawnBehaviour.PredictedSpawnSpawned() CB

Get Incoming Network Updates

Resimulation Loop

Only for Clients in SharedMode or HostMode

IBeforeClientSidePredictionReset() CB

State restored to most current Server Snapshot

IBeforeAllTicks(resimulation = true, ticks) CB

For each resimulation tick:

Update Remote Prefabs

Create Remote Prefabs

Destroy Remote Prefabs

Player Join/Leave

IOnPlayerJoined() CB

IOnPlayerLeft() CB

Resimulation Tick

IBeforeTick() CB

RPCs are executed

FixedUpdateNetwork
aka FUN() for short

FUN() on NetworkBehaviours and SimulationBehaviours

Network Physics
If PhysicsEngine != None

IBeforePhysicsStep() CB

Network Physics Step

IAfterPhysicsStep() CB

Lag Compensation

IBeforeHitboxRegistration() CB

Hitbox Manager Execution

IAfterTick() CB

IAfterAllTicks(resimulation = true, ticks) CB

IPredictedSpawnBehaviour.PredictedSpawnFailed() CB

IAfterClientSidePredictionReset() CB

Forward Loop

IBeforeAllTicks(resimulation = false, tick count) CB

For each forward tick:

Copy Snapshot from previous

IBeforeCopyPreviousState() CB

Previous State Snapshot copied to new Snapshot. It is only called between ticks N-1 and N where N is the last current forward tick

Update Remote Prefabs

Only in SharedMode

Create Remote Prefabs

Destroy Remote Prefabs

Player Join/Leave

IPlayerJoined() CB

IPlayerLeft() CB

Forward Tick

IBeforeTick() CB

RPCs are executed

IOnTick() CB

FixedUpdateNetwork
aka FUN() for short

FUN() on NetworkBehaviours and SimulationBehaviours

Network Physics
If PhysicsEngine != None

IBeforePhysicsStep() CB

Network Physics Step

IAfterPhysicsStep() CB

Lag Compensation

IBeforeHitboxRegistration() CB

Hitbox Manager Execution

IPredictedSpawnBehaviour.PredictedSpawnUpdate() CB

IAfterTick() CB

IAfterAllTicks(resimulation = false, tickcount) CB

IPredictedSpawnBehaviour.PredictedSpawnFailed() CB

OnChanged() Callbacks

IAfterUpdate() CB

If Shutdown requested during FixedUpdateNetwork()

Shutdown Handling

RegisterNetworkCallbacks() INT

ShutdownNativeSocket() INT

INetworkRunnerCallbacks.OnShutdown() CB

Release all objects

DisconnectFromCloud() INT

Exit Fusion Update Loop

All Unity MonoBehaviour.Update() Callbacks

Fusion Render Loop

All Render() callbacks CB

IPredictedSpawnBehaviour.PredictedSpawnRender() CB

If Shutdown requested during Render Loop:

Shutdown Handling

RegisterNetworkCallbacks() INT

ShutdownNativeSocket() INT

INetworkRunnerCallbacks.OnShutdown() CB

Release all objects

DisconnectFromCloud() INT

Exit Fusion Update Loop

All MonoBehaviour.LateUpdate()