

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

ISpawnd & Spawnd() called on new Spawns CB

IPredictedSpawnBehaviour.PredictedSpawnSpawnd() CB

Get Incoming Network Updates

Resimulation Loop

Only for Clients in ServerMode and 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 Behaviours ordered before Physics

Network Physics
If PhysicsEngine != None

IBeforePhysicsStep() CB

Network Physics Step

IAfterPhysicsStep() CB

FUN() on Behaviours ordered after Physics

By default, Behaviours are arbitrarily ordered before or after the Network Physics Step.

It is possible to explicitly order individual Behaviours by using the [OrderedBefore] and [OrderedAfter] class attributes and specifying the type of Physics NetworkPhysics2D or NetworkPhysics3D

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 Behaviours ordered before Physics

Network Physics
If PhysicsEngine != None

IBeforePhysicsStep() CB

Network Physics Step

IAfterPhysicsStep() CB

FUN() on Behaviours ordered after Physics

By default, Behaviours are arbitrarily ordered before or after the Network Physics Step.

It is possible to explicitly order individual Behaviours by using the [OrderedAfter] class attributes and specifying the type of Physics NetworkPhysics2D or NetworkPhysics3D

IPredictedSpawnBehaviour.PredictedSpawnUpdate() CB

IAfterTick() CB

IAfterAllTicks(resimulation = false, tickcount) CB

IPredictedSpawnBehaviour.PredictedSpawnFailed() CB

OnChanged() Callbacks

Interest Management

Area Of Interest Updated

ISimulationEnter() CB

ISimulationExit() CB

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()