# 2024-12-31 Trace分析

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```
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空白
```

# 测试环境

本次Trace的绝对时间数据有问题,并不是标准测试环境的消耗时间. 本次只看时间占Tick百分比. (% of Root: **EngineTick**)

- 机器人玩家: 0
- 场景: Atlantis
- BTC Count: 461

### WorldTick

### NavigationSystem

- 总览: 整体占比偏小. 低优先级处理,可先处理更大块严重的问题
- 占比: 0.71%
- 问题: Trace不完整, 具体里面干了什么并不知道

UNavigationSystemV1\_Tick (2.2 ms)

UNavigationSystemV1\_Tick % of Parient: 0.77% UMorld\_Tick % of Parient: 0.77% UMorld\_Tick for Group Conflict for C

### RVOWorldSubSystem

- 总览: 需要占用一定的时间. 内部执行的Trace有部分未知的异常数据, 猜测可能是避障的复杂环境不一样导致的. 可以新增Trace确认下看是否有优化的空间.
- 占比: 2.47%
- 问题: Trace不完整. 漏掉了部分异常的Trace.
- FScc | FSccRVOSimulator\_Tick\_FindNavEdge (64 μs)
  Alec | Alec | AlecastRavMe |
  AR | Ale

#### **ProcessLevel-1**

- 总览: 主要的Tick逻辑环节
- 占比: 89.18%
- 问题:



#### **StartFrame**

- 总览: 主Tick环节的帧首,有挺大的固定消耗
- 占比: 5.4%
- 问题: Trace内容不完整

```
Queue all of the ticks for a frame

形参: World — - World currently ticking

DeltaSeconds — - time in seconds since last tick

TickType — - type of tick (viewports only, time only, etc)

— virtual void StartFrame(UWorld* InWorld, float DeltaSeconds, ELevelTick TickType, const TArray<ULevel*>& LevelSTOTick) = 0;

ProcessLevel (270.7 ms)

StartFrame (16.4 ms)
```

#### RunTickGroup

#### **PrePhysics**

- 概览: 执行物理前的Tick组, 占比时间为最大头的, 主要执行AbilitySystemComponent\_Advance
   & Movement相关内容
- 占比: 54%
- Callees



MoveComponent

```
FActorComponentTickFunction::ExecuteTick (2.3 µs)

FActorComponentTickFunction::ExecuteTick (2.2 µs)

PrimitiveComponent_MoveComponentImpl (2 µs)

USceneComponent_UpdateComponentToWorldWithParent (1.6 µs)

USc USceneComponent_PropagateTransformUpdate (1.4 µs)
```

• AlController\_SetControlRotation

```
AAIController_SetControlRotation (800 ns)

USceneComponent_SetRelativeLocationAndRotation (600 ns)

USceneCompo

USceneComponent_MoveComponentImpl (400 ns)

USceneCompo

USceneCompo
```

• SkinnedMeshComponent

```
FActorComponentTickFunction::ExecuteTick (3.5 µs)

FActorComponentTickFunction::ExecuteTickHelper (3.5 µs)

USkinnedMeshComponent_TickComponent (3.2 µs)

USkeletalMeshComponent_TickPose (2.8 µs)

USkeletalMeshComponent_TickAnimation (1.5 µs)
```

• CharacterMovementComponent

```
| Materian Content (Rt 3p) | Materian Content (Rt 3p) | Material Content (R
```

• AbilitySystemComponent\_Advance

```
| Scientific Companies | Compa
```

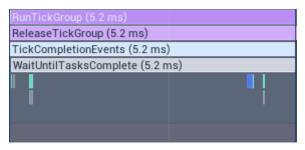
ABuildingPawn\_Tick

ABuildingPawn\_Tick (19.2 µs)
USocAbilitySystemComponent\_A

#### **StartPhysics**

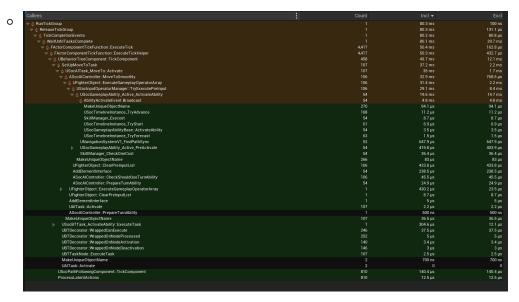
- 概览: 开始物理的Tick组, 占比较小
- 占比: 1.71%
- 问题: Trace不全, 只能看到零星的Chaos的Trace\

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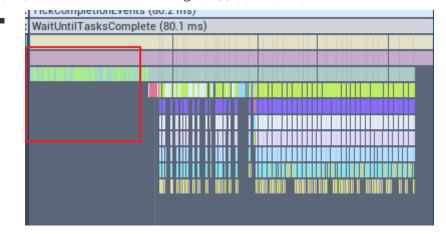


#### **DuringPhysics**

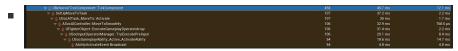
- 概览:物理执行Tick组
- 占比:26.22%
- Callees



。 前未知领域,零星看到一些PathFollowing的内容. 占比大概三分之一



- BehaviorTreeComponent
  - 在未发生战斗情况下,大部分消耗来自于Move时调用到转身GA. 技能内部最大的地方为一个全局的技能激活事件



。 后未知领域, 占比稍小, 只能看到有ActorComponentTick, 看不到任何信息



#### **EndPhysics**

• 占比: 0.17%

#### **PostPhysics**

• 占比: 0.01%

#### **PostUpdateWork**

• 占比: 0%

#### LastDemotable

• 占比: 0%

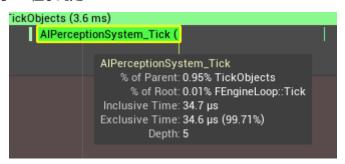
#### **TimerManagerTick**

• 占比: 0.02%

#### World TickObjects Tick

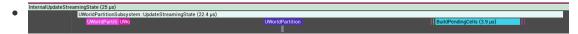
- 概览: 大部分自己实现TickableObject的对象. Trace不完整
- 占比: 1.19%
  - o AI感知系统的Tick位于此处

0



#### **UpdateStreamingState**

• 占比: 0.01%



#### NetBroadcastTick

- 占比: 0%
- 没有客户端机器人

# **GameEngineTick**

### ULogicSystem\_TickComponent

- 总览: 业务逻辑的Tick入口, 调用各个Components的Tick
- 占比: 3.41%
- 问题:
- Trace信息不准确,大部ComponentTick没有Trace
- Mospicitystem, FolkComponent (14.3 ms)

  | Mospicitystem, FolkComponent, Update (19.3 ms) |
  | UllimanComponent, Update (19.4 ps) |
  | UllimanComponent, Update (19.4 ps) |
  | UllimanComponent, Update (19.4 ps) |
  | Vimicroponent, Update (19.4 ps) |
  |
- 在LogicSystemTick前有一个LogicSystem\_EndTickComponent的调用,是在WorldTickEnd中调用的. LogicSystem的Tick是划分在了GameEngineTick整体比WorldTick靠后. 原因可能是USocContext作为EngineSubSystem,实现TickableObject时不方便返回World,或本身就不应依赖World.



# 空白

• 帧尾有一片空白

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