Photon.Deterministic.DeterministicSessionConfig Class Reference

Parameterize internals of the Deterministic simulation and plugin (the Quantum server component). More...

Public Attributes

Boolean	AggressiveSendMode = false If the server should skip buffering and perform aggressive input sends, only suitable for games with less or equal 4 players. More...
Boolean	ChecksumCrossPlatformDeterminism = false If Quantum should skip performing rollbacks and re-predict when it's not needed to retain determinism. Not used in lockstep mode. Mutually exclusive with the _BW_COMPAT_ExposeVerifiedStatusInsideSimulation setting. More...
Int32	ChecksumInterval = 60 How often we should send checksums of the frame state to the server for verification (useful during development, set to zero for release). Defined in frames. More...
Int32	InputDelayMax = 60 The maximum input offset a player can have. More...
Int32	InputDelayMin = 0 The minimum input offset a player can have. More...
Int32	InputDelayPingStart = 100 At what ping value that Quantum starts applying input offset. Defined in milliseconds. More...
Int32	InputFixedSize Fixed input size. More...
Boolean	InputFixedSizeEnabled If the input data has a fixed byte length, enabling this saves bandwidth. More...
Int32	InputHardTolerance = 8 How many frames the server will wait until it expires a frame and replaces all non-received inputs with repeated inputs or null's and sends it out to all players. More...
Int32	InputRedundancy = 3 How much staggering the Quantum client should apply to redundant input resends. 1 = Wait one frame, 2 = Wait two frames, etc. More...
Int32	InputRepeatMaxDistance = 10

	How many frames Quantum will scan for repeatable inputs. 5 = Scan five frames forward and backwards, 10 = Scan ten frames, etc. More...
Boolean	LockstepSimulation = false Runs the quantum simulation in lockstep mode, where no rollbacks are performed. s recommended to set input InputDelayMin to at least 10 and _BW_COMPAT_InputPacking to 1. More...
Int32	MinOffsetCorrectionDiff = 1 How many frames the current local input delay must diff to the current requested offset for Quantum to update the local input offset. Defined in frames. More...
Int32	MinTimeCorrectionFrames = 1 How much the local client time must differ with the server time when a time correction package is received for the client to adjust it's local clock. Defined in frames. More...
Int32	PlayerCount Player count the simulation is initialized for. More...
Int32	RollbackWindow = 60 How many frames are kept in the local ring buffer on each client. Controls how much Quantum can predict into the future. Not used in lockstep mode. More...
Int32	SessionStartTimeout = 1 How long the Quantum server will wait for the room to become full until it forces a start of the Quantum session. Defined in seconds. More...
Int32	TimeCorrectionRate = 4 How many times per second the server will send out time correction packages to make sure every clients time is synchronized. More...
Int32	TimeScaleMin = 100 The smallest timescale that can be applied by the server. Defined in percent. More...
Int32	TimeScalePingMax = 300 The ping value that the server will reach the 'Time Scale Minimum' value at, i.e. be at its slowest setting. Defined in milliseconds. More...
Int32	TimeScalePingMin = 100 The ping value that the server will start lowering the time scale towards 'Time Scale Minimum'. Defined in milliseconds. More...
Int32	UpdateFPS = 60 How many ticks per second Quantum should execute. More...

Detailed Description

Parameterize internals of the Deterministic simulation and plugin (the Quantum server component).

This config file will be synchronized between all clients of one session. Though each player starts its own simulation locally with his own version of the DeterministicConfig the server will distribute the config file instance of the first player that joined the plugin.

Member Data Documentation

◆ PlayerCount

Int32 Photon.Deterministic.DeterministicSessionConfig.PlayerCount

Player count the simulation is initialized for.

◆ ChecksumCrossPlatformDeterminism

Boolean Photon.Deterministic.DeterministicSessionConfig.ChecksumCrossPlatformDeterminism = false

If Quantum should skip performing rollbacks and re-predict when it's not needed to retain determinism. Not used in lockstep mode. Mutually exclusive with the _BW_COMPAT_ExposeVerifiedStatusInsideSimulation setting.

This allows Quantum frame checksumming to be deterministic across different runtime platforms, however it comes with quite a cost and should only be used during debugging.

◆ LockstepSimulation

Boolean Photon.Deterministic.DeterministicSessionConfig.LockstepSimulation = false

Runs the quantum simulation in lockstep mode, where no rollbacks are performed. s recommended to set input InputDelayMin to at least 10 and _BW_COMPAT_InputPacking to 1.

◆ AggressiveSendMode

Boolean Photon.Deterministic.DeterministicSessionConfig.AggressiveSendMode = false

If the server should skip buffering and perform aggressive input sends, only suitable for games with less or equal 4 players.

◆ UpdateFPS

Int32 Photon.Deterministic.DeterministicSessionConfig.UpdateFPS = 60

How many ticks per second Quantum should execute.

◆ ChecksumInterval

Int32 Photon.Deterministic.DeterministicSessionConfig.ChecksumInterval = 60

How often we should send checksums of the frame state to the server for verification (useful during development, set to zero for release). Defined in frames.

◆ RollbackWindow

Int32 Photon.Deterministic.DeterministicSessionConfig.RollbackWindow = 60

How many frames are kept in the local ring buffer on each client. Controls how much Quantum can predict into the future. Not used in lockstep mode.

◆ InputHardTolerance

Int32 Photon.Deterministic.DeterministicSessionConfig.InputHardTolerance = 8

How many frames the server will wait until it expires a frame and replaces all non-received inputs with repeated inputs or null's and sends it out to all players.

◆ InputRedundancy

Int32 Photon.Deterministic.DeterministicSessionConfig.InputRedundancy = 3

How much staggering the Quantum client should apply to redundant input resends. 1 = Wait one frame, 2 = Wait two frames, etc.

◆ InputRepeatMaxDistance

Int32 Photon.Deterministic.DeterministicSessionConfig.InputRepeatMaxDistance = 10

How many frames Quantum will scan for repeatable inputs. 5 = Scan five frames forward and backwards, 10 = Scan ten frames, etc.

◆ SessionStartTimeout

Int32 Photon.Deterministic.DeterministicSessionConfig.SessionStartTimeout = 1

How long the Quantum server will wait for the room to become full until it forces a start of the Quantum session. Defined in seconds.

◆ TimeCorrectionRate

Int32 Photon.Deterministic.DeterministicSessionConfig.TimeCorrectionRate = 4

How many times per second the server will send out time correction packages to make sure every clients time is synchronized.

◆ MinTimeCorrectionFrames

Int32 Photon.Deterministic.DeterministicSessionConfig.MinTimeCorrectionFrames = 1

How much the local client time must differ with the server time when a time correction package is received for the client to adjust it's local clock. Defined in frames.

◆ MinOffsetCorrectionDiff

Int32 Photon.Deterministic.DeterministicSessionConfig.MinOffsetCorrectionDiff = 1

How many frames the current local input delay must diff to the current requested offset for Quantum to update the local input offset. Defined in frames.

◆ TimeScaleMin

Int32 Photon.Deterministic.DeterministicSessionConfig.TimeScaleMin = 100

The smallest timescale that can be applied by the server. Defined in percent.

◆ TimeScalePingMin

Int32 Photon.Deterministic.DeterministicSessionConfig.TimeScalePingMin = 100

The ping value that the server will start lowering the time scale towards 'Time Scale Minimum'. Defined in milliseconds.

◆ TimeScalePingMax

Int32 Photon.Deterministic.DeterministicSessionConfig.TimeScalePingMax = 300

The ping value that the server will reach the 'Time Scale Minimum' value at, i.e. be at its slowest setting. Defined in milliseconds.

◆ InputDelayMin

Int32 Photon.Deterministic.DeterministicSessionConfig.InputDelayMin = 0

The minimum input offset a player can have.

◆ InputDelayMax

Int32 Photon.Deterministic.DeterministicSessionConfig.InputDelayMax = 60

The maximum input offset a player can have.

◆ InputDelayPingStart

Int32 Photon.Deterministic.DeterministicSessionConfig.InputDelayPingStart = 100

At what ping value that Quantum starts applying input offset. Defined in milliseconds.

◆ InputFixedSizeEnabled

Boolean Photon.Deterministic.DeterministicSessionConfig.InputFixedSizeEnabled

If the input data has a fixed byte length, enabling this saves bandwidth.

◆ InputFixedSize

Int32 Photon.Deterministic.DeterministicSessionConfig.InputFixedSize

Fixed input size.