

Simpler, Securer, Multi-Player, Multi-Platform, Multi-Network Game Development

For more information, visit www.itglobalsecure.com or www.secureplay.com

Introduction

Building computer games used to be simple. All it took was a good idea and a good programmer. Today, game development is a tremendous challenge. PCs, consoles, and handhelds need to be supported and multi-player and multi-network gaming is the rule, not the exception. And, as if these problems weren't enough, now games aren't just published and sold; subscription services, pay-for-play, massively multi-player, and a staggering range of business models all may need to be supported. SecurePlay doesn't solve all of these problems, but it does address several. SecurePlay:

- Simplifies multi-player, multi-network game development. SecurePlay provides a suite of basic game transaction APIs that provide a complete foundation for multi-player game play. Networking is transparent to the game developer.
- Secures multi-player games against cheating. Unfortunately, cheating has become a serious problem for multi-player games. SecurePlay provides a suite of cryptographic protocols to secure each game transaction. Security is hidden within the transaction APIs and transparent to the game developer.
- Simplifies multi-platform, multi-network game development. SecurePlay uses message-based coordination rather than object-based synchronization to connect platforms. This messaging system, entirely transparent to game developers, ensures that the right information gets to the proper location in a common, usable format. Additionally, the communications architecture is entirely open – substantially simplifying network development and integration.

Easy Integration

The SecurePlay API is a native, multi-player game interface. The main entities are games, players, communications services, and game transactions. Developers can use, wrap, or extend the core game transactions supplied by SecurePlay to implement any player or game action. Conceptually, there are three ways to handle multi-player, networked games: control communication, rules/action messaging, and data/object synchronization. SecurePlay's design is based on rules/action synchronization. The SecurePlay basic game transactions include:

- **Single Step Transaction** – a one-time, one-step action for all of the players.
- **Multi-Step Transaction** – a multi-step transaction including any or all of the players.
- **Secret Transaction** – a hidden activity that can be revealed (and verified) later.

- **Simultaneous Transaction** – an activity involving multiple players that together create a “game instant” action.
- **Shoe or Random Event Transaction** – the fair and verifiable generation of random events.

IT GlobalSecure has also added a new transaction type to protect real-time network games from timing attacks:

- **STROBE Transaction** – a securely, synchronized multi-step transaction.

Typical game activities (Move, Attack, Buy, Sell, Use) can all be expressed using these transactions for anything from a First Person Shooter to an ordinary card game.

Developers can also use the provided communications services directly or extend or replace them with their own to support any network environment. Anything from real-time socket connections to tunneling through http or email can be supported with minimal effort. Also, because the core messaging system is network independent, games can actually support different players using different networks and communications protocols to play a common game.

The result is a secure, highly scalable, message-based multi-player, multi-network system. Peer-to-peer, client-server, mesh, and massively multiplayer network architectures can be easily accommodated simply by using or customizing a communications service module. The message-based system also reduces bandwidth requirements and substantially improves scalability.

What’s the Catch

SecurePlay cannot work with every game. Game engines must be able to clearly separate deterministic Player and Game Actions from random or non-deterministic activities. Basically, if “replay” works in the game, then SecurePlay is probably a good fit.

The Bottom Line

For developers that are considering online projects, SecurePlay delivers simpler game development and secure game operations. Multi-player games can be hard to develop and even harder to protect. SecurePlay takes care of the networking, security, and multi-player details while freeing your game programmers to do what they do best – creating excellent games. Also, since SecurePlay is delivered with full source code, you can change anything you need to meet your specific requirements.

Develop Once, Secure Everywhere™

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