Firebase
A next generation gaming platform

Summary

Cubeia Firebase offers an enterprise server solution for game development.

Cubeia and Cubeia Firebase provides a unified game platform with proven stability and scalability together with multiplayer expert knowledge.

Firebase offers you to:
- Lower your risks when developing online games
- Lower your costs when developing online games
- Lower your time to market for new products
- Increase your revenues with a high performance platform

Firebase can used for developing online games like:
- Poker
- Backgammon
- Mahjong
- Multiplayer Casinos
- Bingo
- Quizzes
- Board Games
- Chess
- Massive multiplayer communities
- And much more!

Firebase includes support and APIs for the following client technologies:
- Java
- C++
- Flash

Firebase distributed technology enables:
- Massive amount of concurrent players
- High quality of service

For more information, please contact us at **info@cubeia.com**, or visit **http://www.cubeia.com**.

Introduction

This is a short introduction to Cubeia Firebase, the next generation gaming platform. This summary is intended to give a quick taste of what Firebase is and what it has to offer. No technical knowledge is required.

On-line gambling has seen a tremendous growth during the last years. And it is still a fairly young market. Many of the software developing houses and the networks have started out from scratch, building everything they need from the bottom up. As a result, much of the software driving the current player base is still ad-hoc legacy solutions. Also, much of the new production is by tradition kept in-house – if nothing else, due to lack of viable enterprise options.

This is now about to change.

The Long Run

Today the world-wide revenue approximates twelve billion US dollars. And internet skill based gambling is projected to continue growing. In fact, forecasts indicate that global revenue will double within 5 years, primarily in emerging markets such as Asia.

It is also worth noticing that even in horizontally filled markets, such as the Scandinavian poker market for example, a vertical growth can be expected as the player base is getting older while still being supplied by new younger players. It has been shown in the traditional computer games industry that players don't stop playing just because they grow older. And currently there's no clear indication that they will.

So not only are there markets to capture and a projected growth, there's a long run ahead for the serious industry players as well. And there's still plenty of games left to be developed.

Enterprise Gaming

But the young industry makes it hard to develop new games. Time to market gets more and more important, player expectations have risen, operator demands have became increasingly strict, down-time and denial of service is no longer accepted etc. At the same time, more and more industry players on the market makes it harder then ever to requite experienced developers and team leaders for new projects.

We believe the internet skill based gambling industry is in for a change. There is a clear need for an enterprise solution for game developers. And as you no doubt have already guessed: We believe we're it.

What is Firebase?

Firebase is a game agnostic, high availability, scalable platform for multiplayer online games. It is developed by Cubeia Ltd[1] and was built from the start with the gaming industry in mind. It gives game developers a simple API[2] using event-driven messaging and libraries for point-to-point client to server communication.

Game Application Server

Firebase contains an API for server development in the programming language Java. It also offers small libraries in several languages, currently C++, Java and Flash, which transparently handles the network communication for the game.

Games are divided into two or more separate parts, the server code and the actual game client. The game client uses the Firebase client libraries to connect to a Firebase installation and the server code is packaged in a simple file format and deployed on a Firebase server.

Firebase in itself is game agnostic. In other words: almost any type of game can be developed and deployed using it. Multiple games can be deployed simultaneous on a single Firebase installation.

In addition, Firebase also contains ready made common functionality, for example login, seating, lobby data representation and distribution, and much more.

High Availability Platform

One of the main targets Firebase was set out to handle is the concept of high availability (HA). Even planned down time for small game networks are very costly and unplanned denial of service is no longer accepted, not to mention extremely expensive.

Firebase is built from scratch to be installed on large cluster. It also duplicates messages and data for redundancy. As a result you can start or stop single servers in the cluster without affecting game play, Firebase automatically adapts when servers are shut down or added to the cluster.

Scalable Backbone

As a consequence of the high availability design and automated adoption to cluster changes, Firebase scales extremely well. It can be run on anything from a single consumer grade laptop to a cluster of high-end multi-core servers. A Firebase cluster can even be upgraded without stopping the game play: just add a new server.

Summary

Firebase is a server platform for developing and running online games. It scales from small installations to extremely large, it is built to stand up to hard traffic and can be used for almost any type of game.

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1 http://www.cubeia.com
2 Application Programming Interface

Firebase Benefits

Firebase is targeted mainly towards new game development and we believe there are a number of very concrete and valuable benefits for anyone choosing to base their product upon it.

Time to Market

Using a ready-made platform cuts down time to market enormously. Even a non-generic small in-house server will take several man years to complete. Firebase enables game developers to concentrate on making games, the "server" part of the development have already been taken care of.

Development Risk

There is also a very real risk involved in developing a new server solution. It has been estimated that nine out of ten multiplayer game project are never completed. And it is reasonable to assume that much of those failures are because of the server development, not the actual games.

By using Firebase, the game transactions, data replication, topology distribution and adoption, system stability, network communication etc. is taken care of. The overall risk of the project is then much more dependent on the actual game, instead of non-functional requirements.

Scalability and High Availability

Firebase is built from ground up to be scalable and to provide high availability. Using Firebase the costs of operating scales with the revenue. Small installations can run on cheap "pizza box" hardware, whereas large multi-million dollar projects can be run on top of the line server clusters – Firebase handles them all.

Maintenance Costs

Costs for maintaining and refining non-functional requirements are extremely hard to calculate and project. When a company is developing everything in-house, what in effect happens is that the company becomes a platform developer shop as well as a game developer. Resources must be shared between functional, game specific, requirements, and non-functional platform requirements. And it is often hard to motivate the costs of such non-functional requirements.

For Cubeia Ltd however, developing Firebase is cost-effective and easy to motivate. By using Firebase, you are guaranteed a maintained and well supported platform at all times.

Knowledge

A side benefit of using Firebase is access to the Cubeia Ltd knowledge and industry network. The development team at Cubeia has long experience in the industry, with hands-on knowledge of everything from on-line casinos to established poker networks and skill-based gaming. By using Firebase, you'll get implicit access to all that knowledge and experience.