

做遊戲學python

用python打造的遊戲雲

About me

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- Game programmer of IGS (鈇象電子)



Scalable Game Cloud for Mobile & Social Games

Game Cloud For...

- Save all game records
 - game progress
 - level, exp, energy, ...
 - virtual money



Hay Day - Supercell

Game Cloud For...

- Play from any device
 - PC
 - iPhone
 - iPad
 - Android
 - Windows Phone
 - ...



Puzzle & Dragons - GungHo

Game Cloud For...

- Social feature
 - invite friends
 - messages
 - gifts
- Competition
 - leaderboards
 - tournaments



Candy Crush Sage - King.com

Games on our platform

- Facebook games

- Airline Fantasy
- Billiard Ace

- Mobile games

- 極速摩托
- 美髮玩家 1&2
- Slots Paradise



Game Cloud Features

Login and Authentication

- Facebook account
- Auto generate ID from mobile hardware
- Allow concurrent access or not

Communication Manager

- HTTP-based communication
 - apache + php
 - wsgi
 - gevent + bottle
- Serialize/Deserialize messages
 - amf
 - json
 - ...

Communication Manager

- Message sequence check
 - Queue requests
- Dispatch message to game servers
 - RabbitMQ
 - Python Queue module
- Callback interface for client
 - Asynchronized
 - Synchoronzied

Game Database

- Usually interested in data of one player
- NoSQL database
 - Non-relational
 - Key-value documents
 - Easier to shard
- MongoDB
 - pymongo

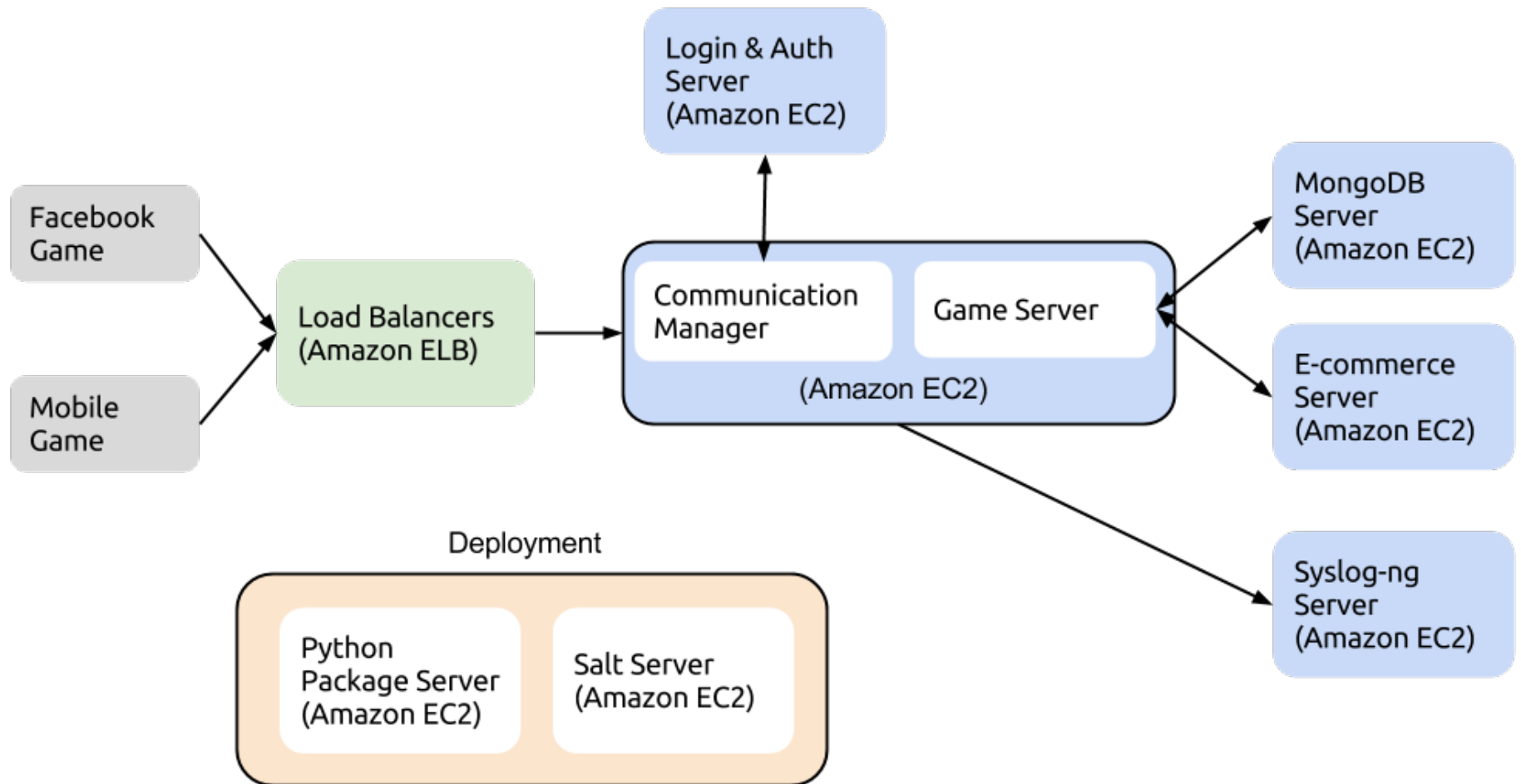
E-commerce Server

- Real money to virtual money
- Multiple currencies in game
- Admin interface for setting up item price
- Separate logs

Deployment

- git
- python package
- boto for AWS control
- salt
 - deploy commands
 - control commands

Architecture



Game Server Development

Eat your own dog food

Libraries

- Config loader
 - Consistent config rules
 - Environment check
- Log libraries
 - python logging
 - syslog-ng
- Database API wrapper

Environment

- VirtualBox
 - Local development environment
- Amazon EC2
 - Development
 - Feature test and verify
 - Testing
 - Version ready for release
 - Release

Development Process

- Scrum
 - agile
 - iterative
 - incremental
- Split user story to the fundamental
- Focus on the unknown problem
 - The best part of python

Finally... Life Saver

- unittest
- pdb
- cProfile
- ... and git

Thank you

- Q & A



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