CLOUD COMPUTING APPLICATIONS

PaaS Providers: Google App Engine

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Google App Engine (GAE)

- GAE was developed by Google in 2008 as a PaaS
- It supports multi-tenancy and offers automatic scaling for web applications
- It supports Python, Java, and Go

GAE Frameworks and Tools

- GAE supports Django web framework and the Grails web app framework
- GAE provides infrastructure tools that enable users to deploy code without worrying about infrastructure challenges such as deployment, failover, or scalability
- However, the GAE infrastructure limits the type of applications that can be run

GAE Security, Sandbox

- Applications run in a secure environment
- Isolates applications from hardware and operating system, and imposes security limitations
- For example, application code only runs in response to requests, and a request handler cannot spawn potentially malicious sub-processes after response has been sent

Storing GAE Data

- Users of GAE can use App Engine Datastore, Google Cloud SQL, and Google Cloud Storage

- Users can also harness Google’s database technology, such as Bigtable

GAE’s Use with Google Services

- Can take advantage of Google’s single sign on feature when users want to access their Gmail or Google docs
- Build Chrome and Android games on GAE
- Google Cloud Endpoints to use / access mobile services

Other Services Supported

- App engine Map Reduce
- Search API
- SSL support
- Page speed
- XMPP API
- Memcache API

Case Studies of GAE

- BugSense - An application error-reporting service, it used GAE to maintain logs of bugs in software and analyze them
- Ubisoft - Used GAE to build its first web-based game, “From Dust,” on Chrome browser
- Claritics - A small social analytics company of 15 employees, used to analyze game data sets

GAE is Great for Mobile

- Many cell phone apps use GAE for their backend, e.g., Ruzzle and Tap Zoo

- GAE's purpose – being able to scale up for small teams of developers – fits well