I will introduce and describe our proposal for the ROC System architecture.

Next page, please.

This system architecture diagram is drawn according to the data flow. Here I want to focus on the gateway layer and database layer.

The gateway layer can help us control user access to data, Keep data safe and reliable, Ensure normal operation when the server is under attack, identify and filter out some malicious requests and so on.

In databases layer, We have five databases corresponding to our five modules. BTW, For the paper record, we will let our staff input data manually through the client for system manager. We use Distributed databases here. The servers can back up and restore each other and be deployed in multiple regions to prevent sudden network interruption. Applying different technologies (such as mysql, redis and so on) to different scenarios ensures the system's stable operation.

In gateway layer, Access Control System is used to control user access to data, and use Data encrypt and decrypt system to Keep data safe and reliable. Besides, Requests Flow Control System can help us Ensure normal operation when the server is under attack (e.g. DDoS). Data Security Analysis System can identify and filter out some malicious requests.

Mysql is used to implement ordinary business, Redis is stored in memory with particularly high performance, suitable for scenarios where more data is read, and less data is written, and it can also be used for concurrency control. Mongo can realize a large amount of data query, while Hbase has a powerful write performance suitable for a large amount of data writing.