

# THE GROWTH OF POSTGRES IN CHINA

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Moscow, Russia, 2016

# ABOUT ME

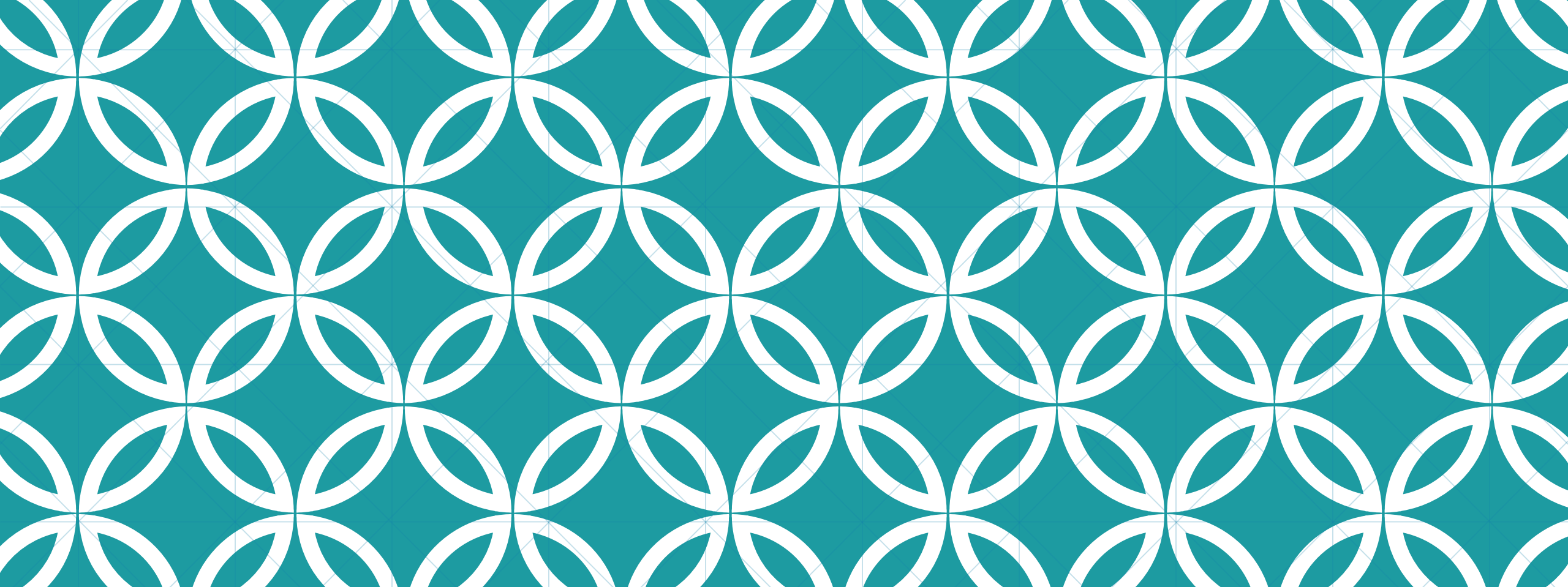
- Co-funder of China Postgres User Group
- Core member of Postgres-X2

South part of China, Guangzhou



# AGENDA

- The growth and the problem
- The new driving forces
- Postgres growth in mega users



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# THE GROWTH AND THE PROBLEM



# IT IS GROWING





# THE BOOM



# DRIVING FORCES : FOREIGN COMPANY

YAHOO!

- Mail
- News
- Sports
- Finance
- Autos
- Celebrity
- Shopping

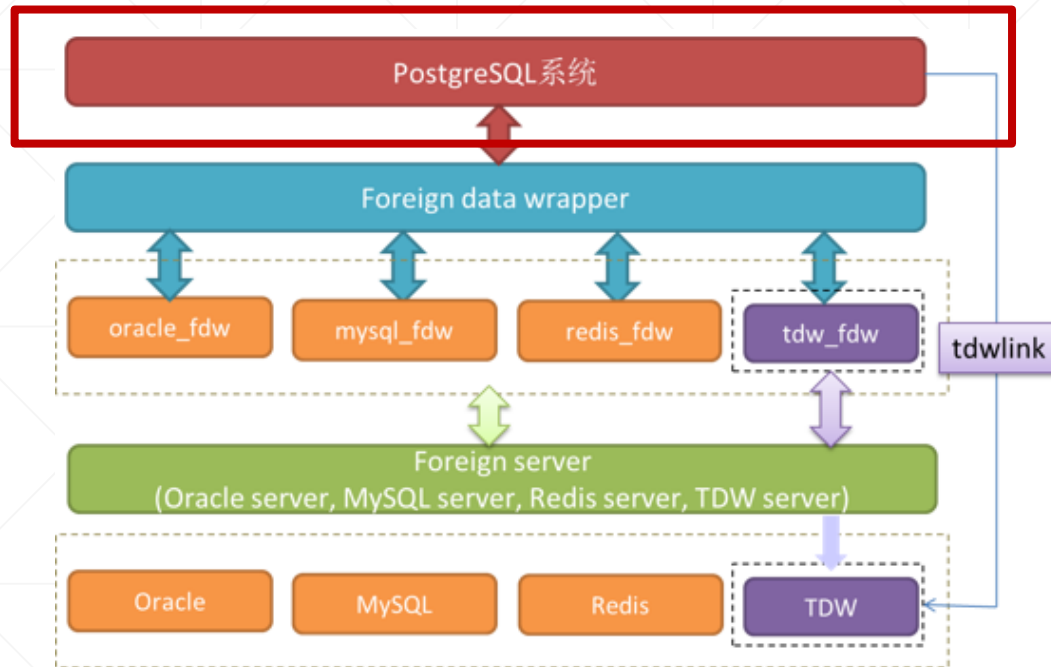


GROUPON®

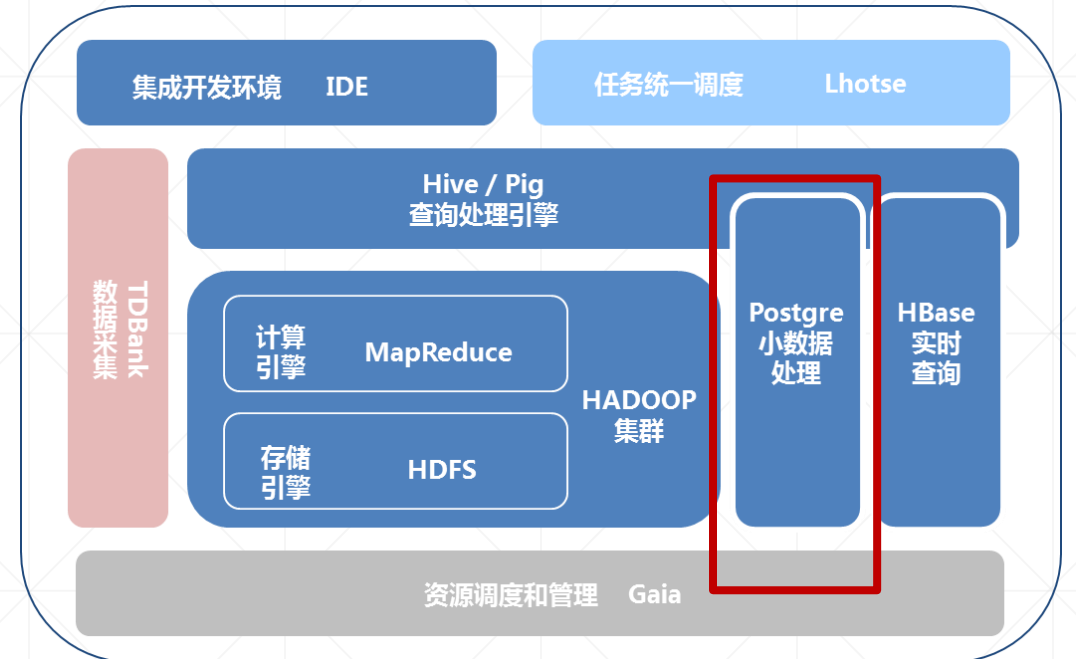
FUJITSU  
NEC

# DRIVING FORCES: BIG DATA

## Data Source interface



## Data mart

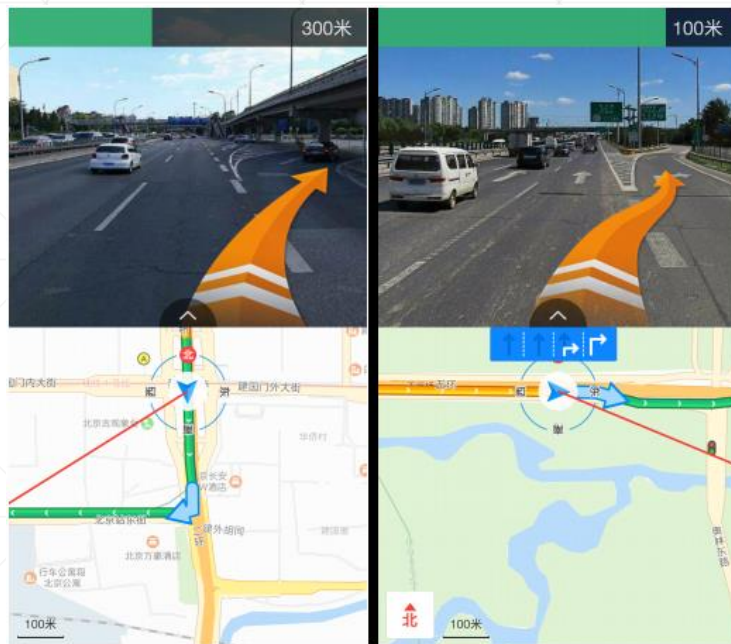


Tencent (the biggest internet company in China) is using Postgres for data mart in their big data system



# DRIVING FORCES : GIS

Baidu's street view



Gaode's AutoNavi



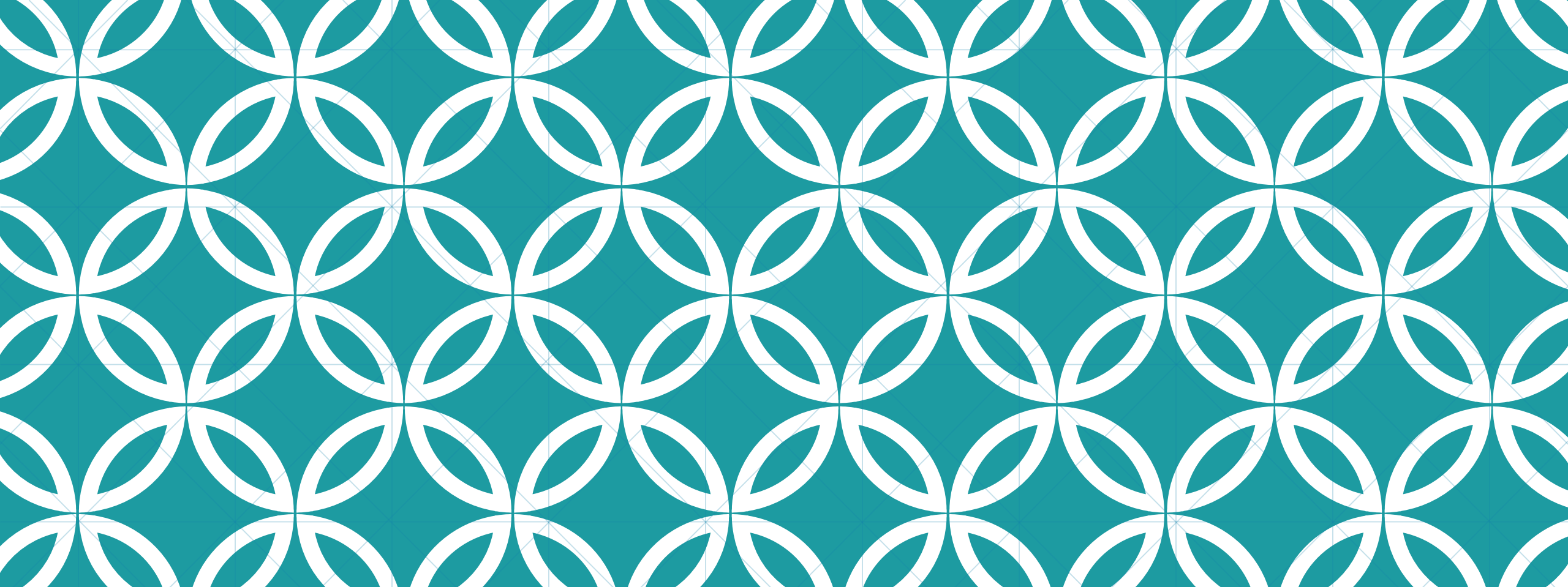
# DRIVING FORCES : ISV

ERP, CRM and other package soft wares

***Kingdee***

# THE PROBLEMS

- No big vertical enterprise users
- No Postgres company! Support business is low margin, and no dedicated Postgres Service Provider
- Growing is very slow



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# THE NEW DRIVING FORCES

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# THE NEW DRIVEN FACTORS

- **The practices of internet company**
  - Commodity hardware
  - Open source
  - Distributed or Sharding
  - Technology capability
- **Security concern**

# WHAT IS 'IOE'



**enterprises are addict to the IOE stack**

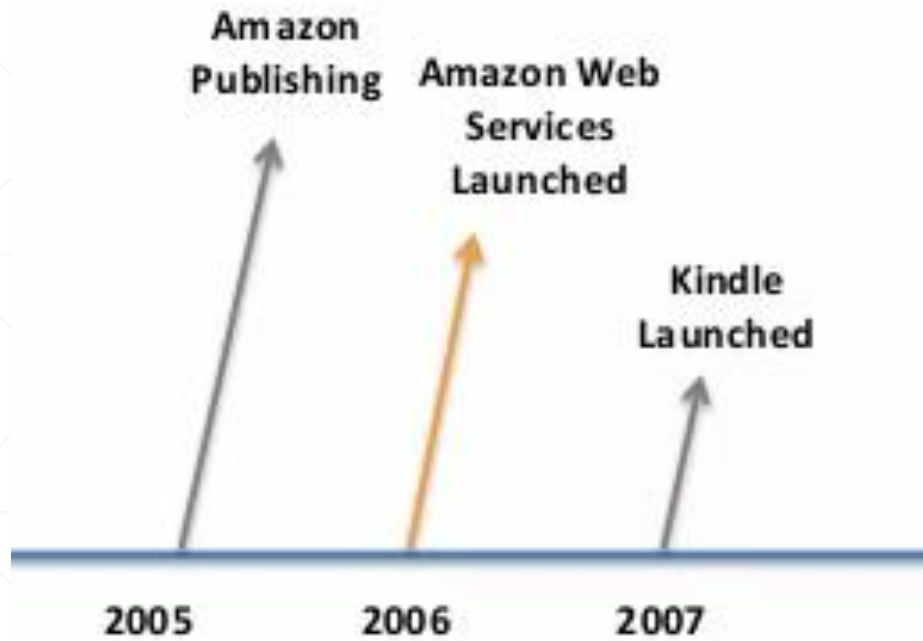
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Not scalable

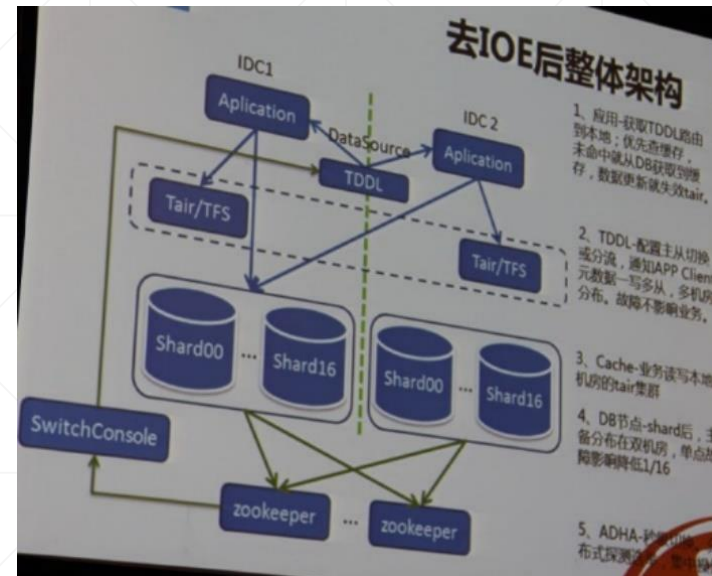
Not own any technology

# THE CLOUD STRATEGY OF ALIBABA

Alibaba Start Cloud service from 2008



From 2010 -2013 moved internal application to open technologies



# THE MARKETING CAMPAIGN OF ALIBABA

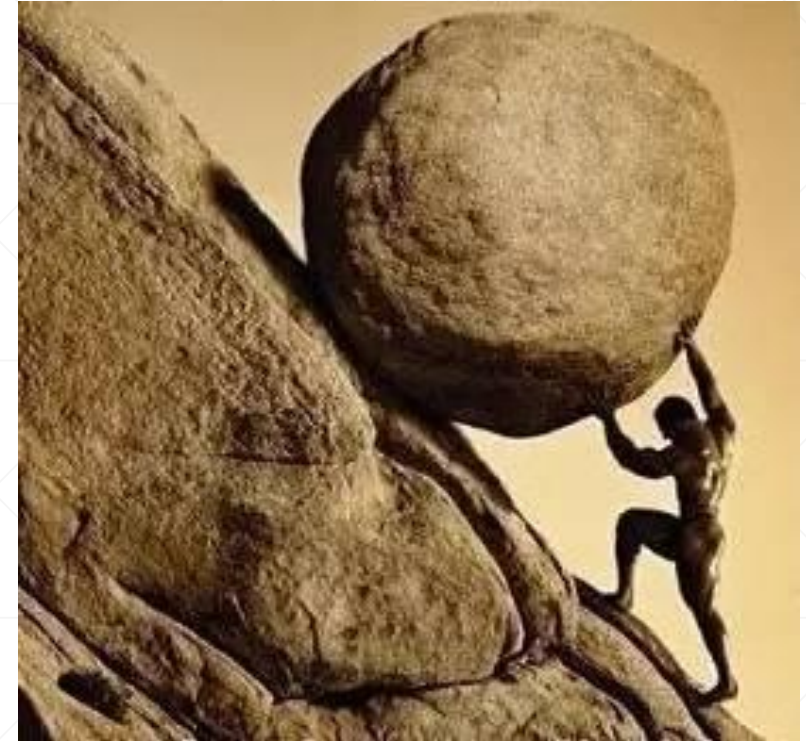
Promote cloud business by the 'IOE'-Less campaign in public market in 2013





# THE COMPELLING STORY

- The biggest promotion day in the planet
  - 15 Billion USD sales within one day in 2015.11.11
  - 188M payment transactions in one day
  - Transaction 140 K /per second
- Most of the banks have problems to handle the peak transactions request from Alibaba



# NO EXCUSE FOR ENTERPRISE CIO ANYMORE

It is dealing with money, it is mission critical

It is the largest scale online transaction

It is superior than traditional technology

# A BIG PSYCHOLOGY IMPACT

- Most of the banks were shocked
- Defeated by business and technology capability
- All of the CIO under a huge pressure from the business executive
- **Opensource is getting a serious evaluation by enterprise**



Change the mindset of the market is one of the most challenge task, but Alibaba made happen it in China



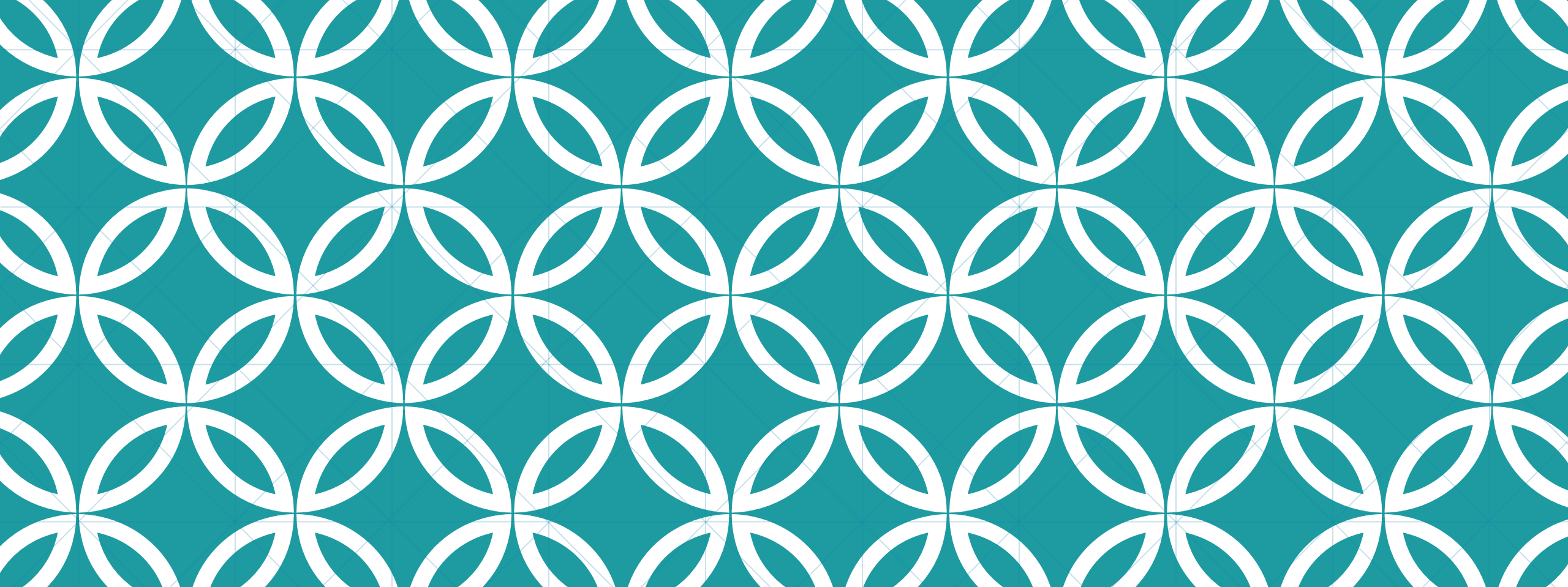


# THE FINAL PUSH



# A BIG CHANGE FOR THE WHOLE MARKET





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# GROWTH IN MEGA USERS

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# CASE#1: FINANCE

## NEW POLICIES TO TIGHTEN CYBERSECURITY



索引号: 717804719/2014-05527

主题分类: 法律法规

办文部门: 信科部

发文日期: 2014-09-03

公文名称: 关于应用安全可控信息技术加强银行业网络安全和信息化建设的指导

文号: 银监发[2014]39号

China Banking Regulatory Commission Issue the famous **No.39 rule of 2014**

*“Applying secure and controllable technology to enhance banking security”*

[http://www.cbrc.gov.cn/govView\\_115696B8621049099A0B880DAB133A33.html](http://www.cbrc.gov.cn/govView_115696B8621049099A0B880DAB133A33.html)



# “Controllable technology”

- *From 2015, with 15% annual increasing rate*
- *Reach to 75% by 2019*

# DIFFICULT TO CHANGE OVERNIGHT

- Large data volume
- High throughput
- Strict regulation

# THE PRACTICAL CHALLENGES

Homepage | Fri Apr 17, 2015 5:13am EDT

## China suspends bank-technology rules that sparked backlash

BEIJING | BY MICHAEL MARTINA AND GERRY SHIH

- not restricted to domestic company
- The rebranded products from foreign company
- Put source code as a record

# CASE#1: FINANCE

## THE LOCAL VENDOR: GBASE

- **IBM license Informix to General Data**
  - IBM license Informix source code to General Data
  - General Data can rebrand the product to sell in China market
- **Product Release**
  - June 2015

# CASE#1: FINANCE

## THE LOCAL VENDOR: INSPUR

K-DB is RDBMS for Inspur's mainframe K1, it is rebranded from Korean's TmaxSoft which providing full oracle compatibility



### TmaxSoft Starts its Full-fledged Expansion into the Asian Markets

Article on Pg. 10 of April 13th, 2015 Edition TmaxSoft to supply Tiberio and JEUS in Malaysia, beating out Oracle. Efforts to strengthen relationships with exclusive distributors and partners bear fruit, setting the stage for a full-fledged overseas expansion. TmaxSoft beat out Oracle and its database management system (DBMS) to become a key database provider...

Details

August 20, 2015 / In the News / By hyejin



### TmaxSoft seeks to expand overseas sales

Source:

[http://www.koreatimes.co.kr/www/news/tech/2015/02/133\\_173080.html](http://www.koreatimes.co.kr/www/news/tech/2015/02/133_173080.html)  
(The Korea Times, 2015/02/05) TmaxSoft aims to attain bigger sales overseas than at home this year by setting up 30 more subsidiaries abroad and aggressively marketing its database management system Tiberio. It said it has set its overseas sales target at 120 billion won for this year. and



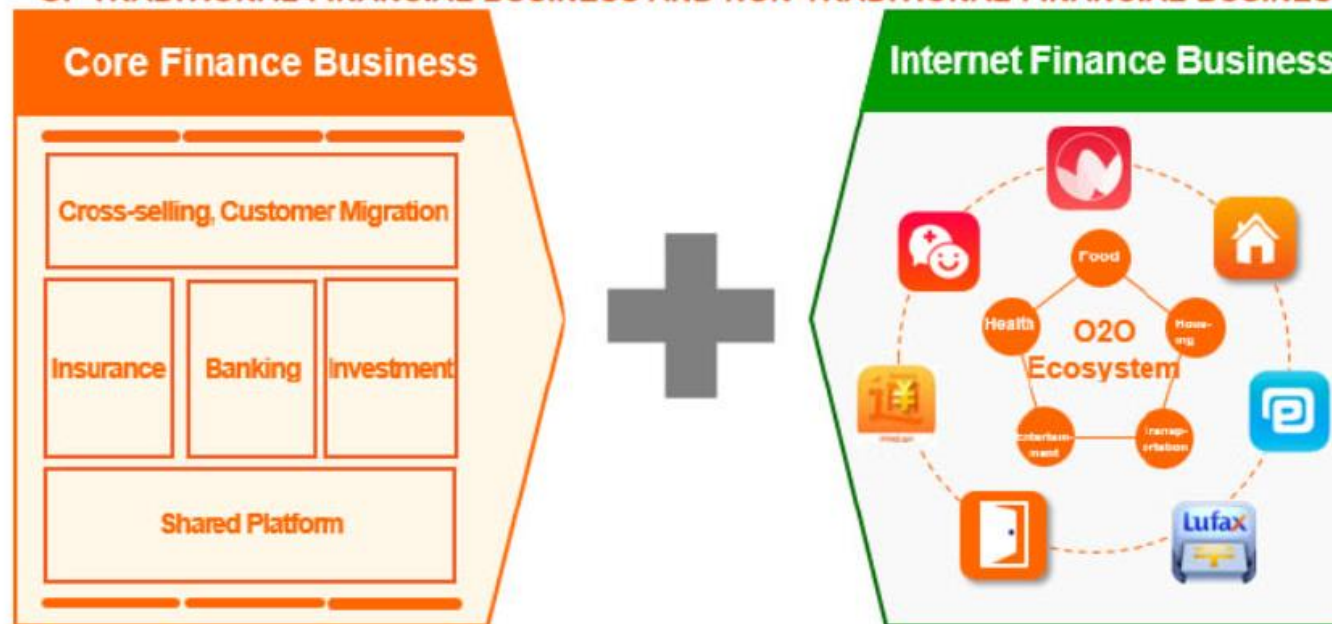


**Some companies are going to use Postgres**

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# CASE#1: FINANCE INSURANCE COMPANY: PINGAN

IN THE COMING DECADE, PING AN WILL IMPLEMENT THE SYNERGETIC DEVELOPMENT STRATEGIES OF TRADITIONAL FINANCIAL BUSINESS AND NON-TRADITIONAL FINANCIAL BUSINESS



# CASE#1: FINANCE

## MOTIVATIONS TO CHANGE DATABASE

- **Cost:** Database cost is a significant challenge
- **Internet Application:** Internet application is growing very quickly
- **Policy Regulation:** the regulation requires more controllable technologies

# CASE#1: FINANCE INSURANCE COMPANY: PINGAN

- Adopt MySQL from early 2013, found that mysql is good in internet application but not in enterprise application
- took part in the activities of PostgreSQL community in 2014, and start to adopt Postgres from 2015
- Provide DBaaS as Service in private cloud, providing both MySQL and PostgreSQL

# CASE#1: FINANCE DATABASE ROADMAP OF PINGAN

- Restrict the usage of commercial database, only the critical core system can use commercial databases
- New systems will use Postgres
- Setup dedicated team to select Oracle systems to be migrated to Postgres every year, and expanding to more systems gradually
- At the initial phase, move some of the systems to EnterpriseDB to reduce the complexity of the migration
- **In a long-term, Postgres will become the primary database in PingAN group.**



# CASE#1: FINANCE

## PINGAN IS ONE OF THE MOST ACTIVE POSTGRES USERS

**It already has 30+ systems using PostgreSQL in 2015**



The keynote presentation of PINGAN in Postgres China Conference 2015

# CASE #2: ELECTRIC POWER INDUSTRY

## STATE GRID CORPORATION OF CHINA

Rank	Company	Country	Industry	Revenue in USD
1	Walmart	 United States	Retail	\$485.7 billion
2	Sinopec	 China	Petroleum	\$446.8 billion
3	Royal Dutch Shell	 Netherlands  United Kingdom†	Petroleum	\$431.3 billion
4	China National Petroleum Corporation	 China	Petroleum	\$428.6 billion
5	ExxonMobil	 United States	Petroleum	\$382.6 billion
6	BP	 United Kingdom	Petroleum	\$358.7 billion
7	State Grid Corporation of China	 China	Power	\$339.4 billion
8	Volkswagen	 Germany	Automobiles	\$268.6 billion
9	Toyota	 Japan	Automobiles	\$247.7 billion
10	Glencore	 Switzerland  United Kingdom	Commodities	\$221.0 billion

The largest public utility in the world , 95% of the databases are oracle

# CASE #1: ELECTRIC POWER INDUSTRY

## THE DATABASE ROADMAP OF STATE GRID



- Decided to use OPENSOURCE database in the long-term roadmap
- **Postgres will be one of the strategic database in State Grid**
- Controllable database will reach 40% by the end of 2017
- Controllable database will reach 80% by the end of 2020

# CASE #1: ELECTRIC POWER INDUSTRY

## THE ADOPTION OF POSTGRES

	编号	系统	替换数据库
Cloud testing platform	1	信息系统云测试平台建设实施	Oracle -> PostgreSQL
Patches management system	2	漏洞及安全补丁管理体系	直接使用PostgreSQL
	3	职工书屋信息化管理系统	直接使用PostgreSQL
Energy management system	4	能源管理系统	MySQL -> PostgreSQL
	5	集体企业管控平台	Oracle -> PostgreSQL
Marketing Archive management	6	营销档案管理系统	Oracle -> PostgreSQL
	7	配网能效管理系统	Oracle -> PostgreSQL
Power usage collecting system	8	用电信息采集	Oracle -> PostgreSQL
Big data platform	9	国网大数平台	直接使用PostgreSQL

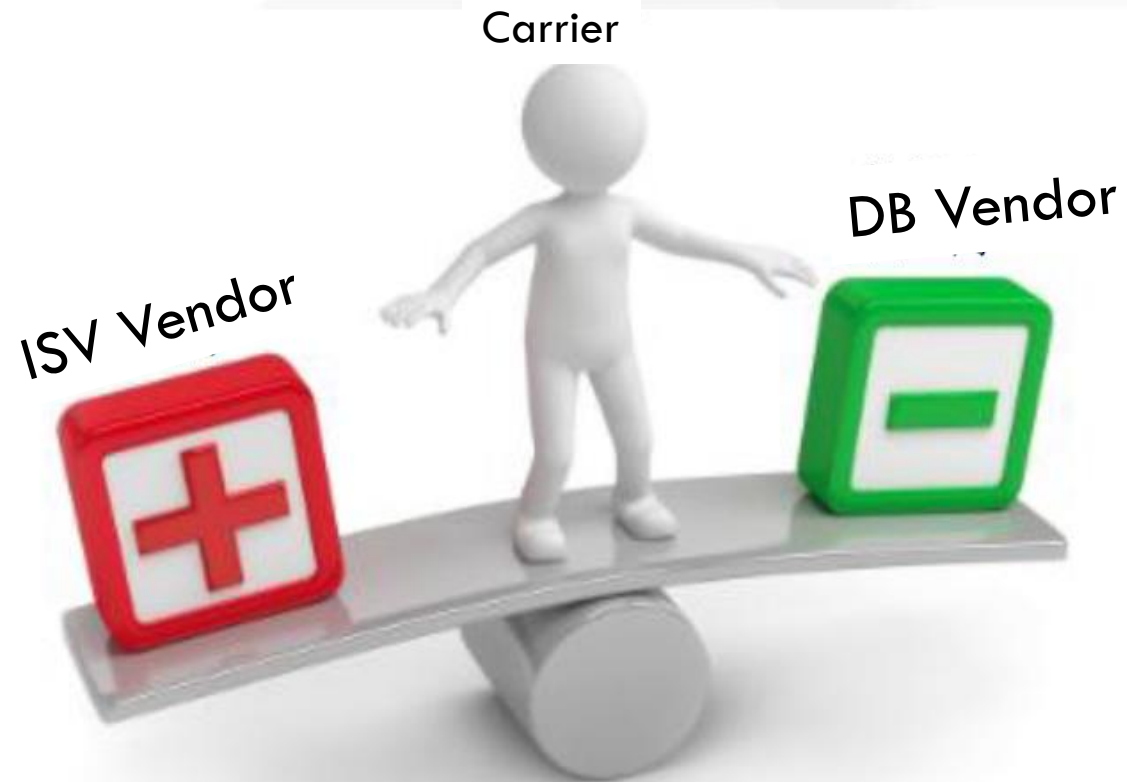
# CASE#2: TELECOM

## NEW MOTIVATION OF CHINA MOBILE

- Business motivation
    - need a scalable, flexible, distributed, open architecture to support dynamic business
  - Technology capability
    - Has the capability internally on the technologies
  - Cost
    - Reduce the cost by open hardware and opensource database
  - Policy
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# CASE#2: TELECOM CHINA MOBILE: WHY OPENSOURCE



# CASE#2: TELECOM CHINA MOBILE: WHY POSTGRES



Oracle

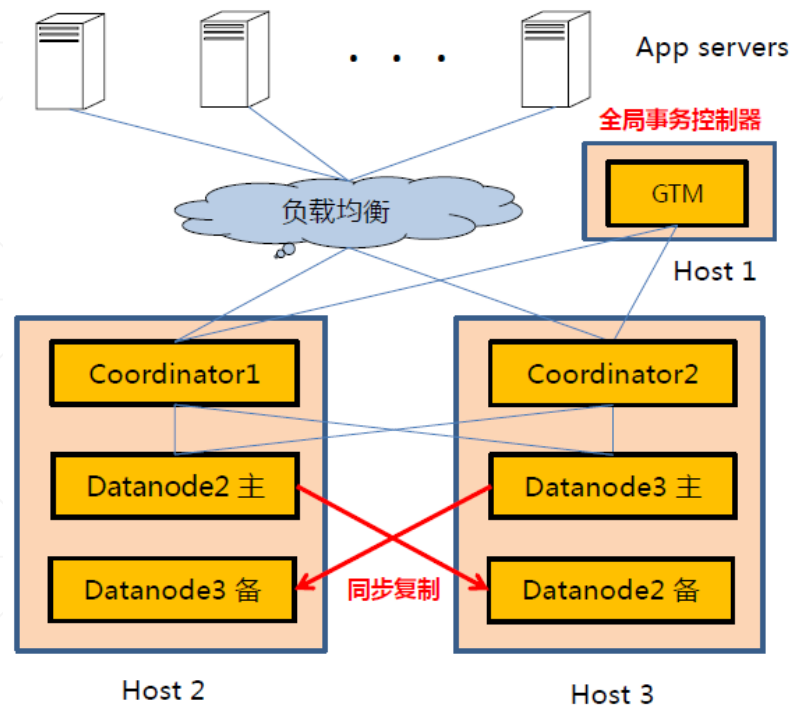
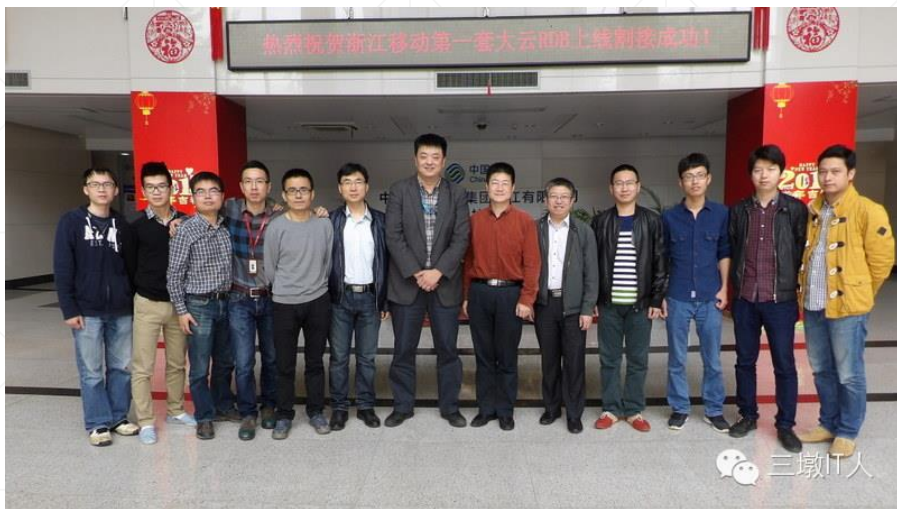
Postgres

MySQL

# CASE#2: TELECOM CHINA MOBILE: AN ACTIVE SHIFT TO PC SERVER

- **PC Server as a strategy** : In 2014, make a plan to move their business support system including CRM\BOSS\BASS to X86 PC server ;
- **CRM**: Mini computer TO X86 architecture server
- **BOSS**: Applications TO X86 PC server; **data layer TO distributed in-memory database**
- **Analytic**: MPP database
- **Opensource Database**: Already move part of their systems to opensource database, and by 2015 start to move some core systems to opensource database

# CASE#2: TELECOM CHINA MOBILE: POSTGRES DEPLOYMENT



# THE CLOUD: ALIBABA RDS





# SUMMARY

- Internet companies pose a big challenge to Enterprise companies
- Security problem make government to have regulation on infrastructure technologies
- A lot of vertical sectors have a adopt Postgres as a long-term strategy
- It is still in early stage, it still need to go in the core of mission critical system.



**Thank you  
Q&A**

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