

STORY OF PHOENIX NEST

Yang Liu, Baidu Inc

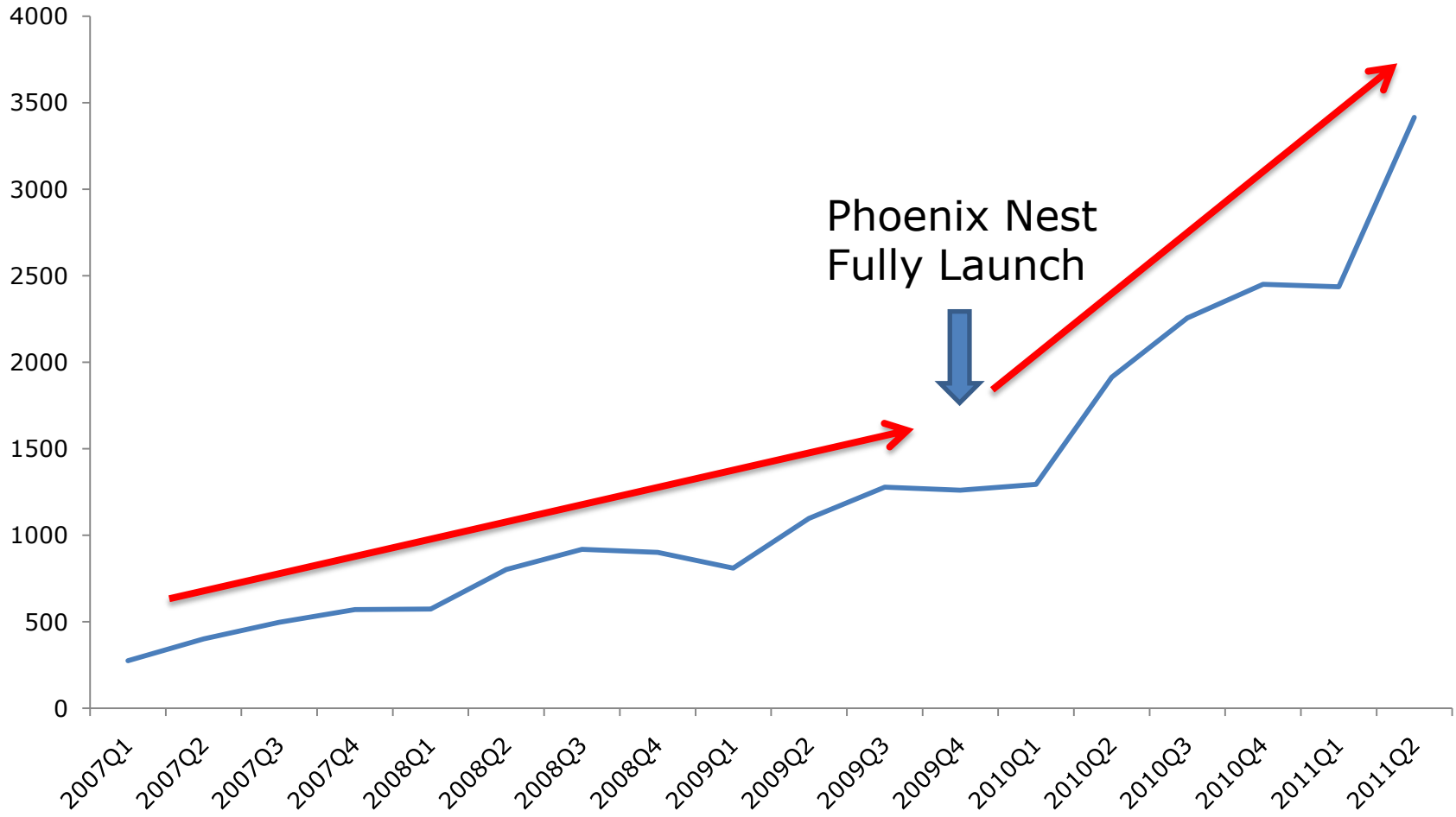


What is Phoenix Nest?

- Baidu's Online Marketing Professional Edition
- Fully launched on 2009/12/01
- To replace Baidu's online marketing classic edition

What is Phoenix Nest?

Total Revenue (Million RMB)



Source: baidu financial reports

Content

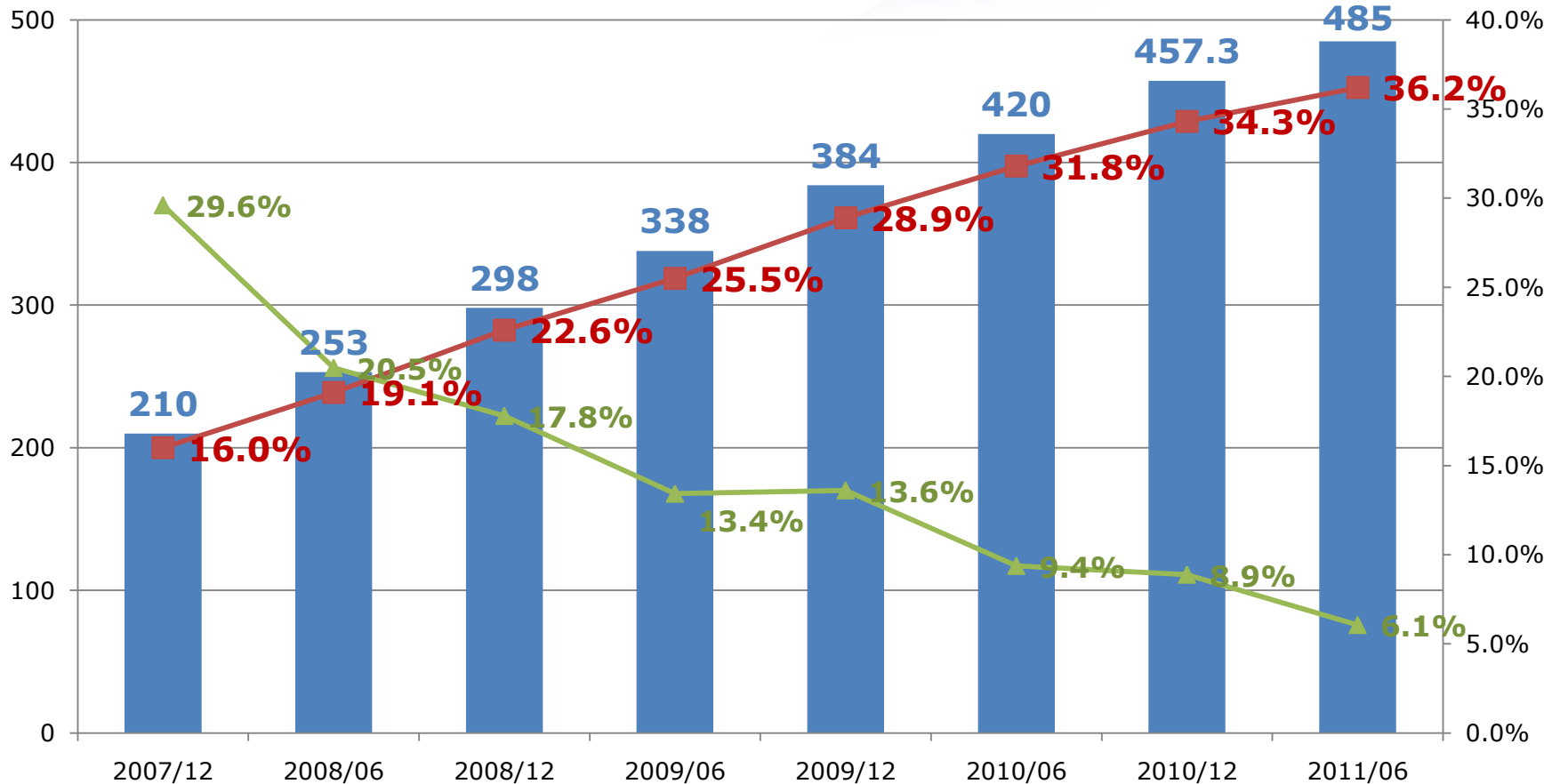
- 1 China Internet Market

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China Internet Market



Source: CNNIC

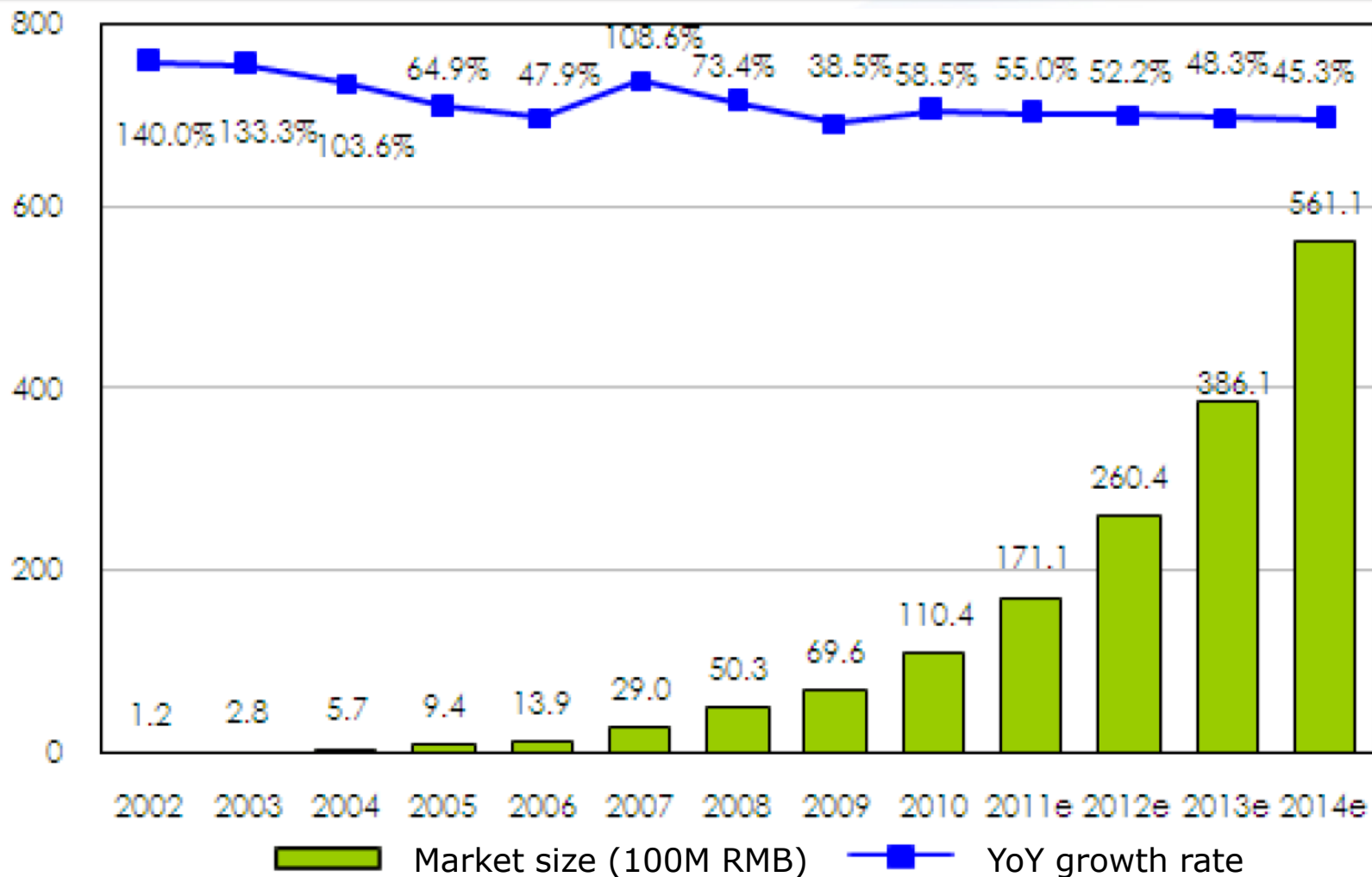
■ Internet user (Million)

■ Penetration rate

▲ half year growth rate

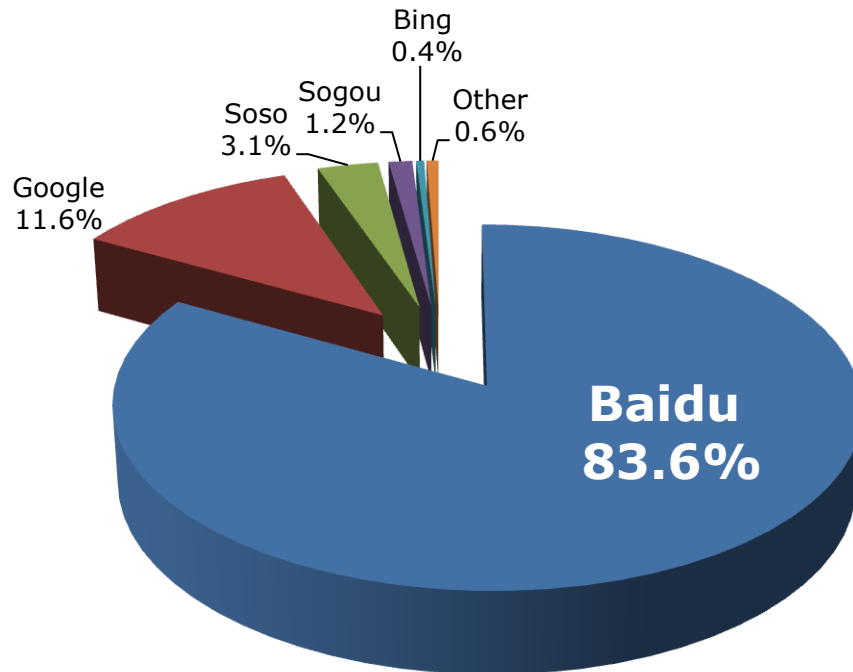
- Internet usage is still fast growing
- World largest internet user base
- Penetration rate is still low. (vs. US 77.3%, source: itu)

China Search Engine Market



US 2010 YoY growth rate: 20%

Baidu Overview



Source: iresearch 2011/1

Baidu covers 95% of Chinese internet user, serves billions of search request per day

- 2000, Baidu founded
- 2001, launch Baidu.com
- 2005, Baidu went public on Nasdaq
- 2005, Baidu became world largest Chinese web site
- 2008, Baidu enter Japan
- Today, ~50B market cap, top 5 internet company

Our Current Status



Company size

More than **10,000** employees



Revenue growth

~\$1.2 Billion in 2010; more than **100X** growth in 10 years



Market capitalization

~\$**50** billion market cap; the largest listed Chinese Company in the USA



Market performance

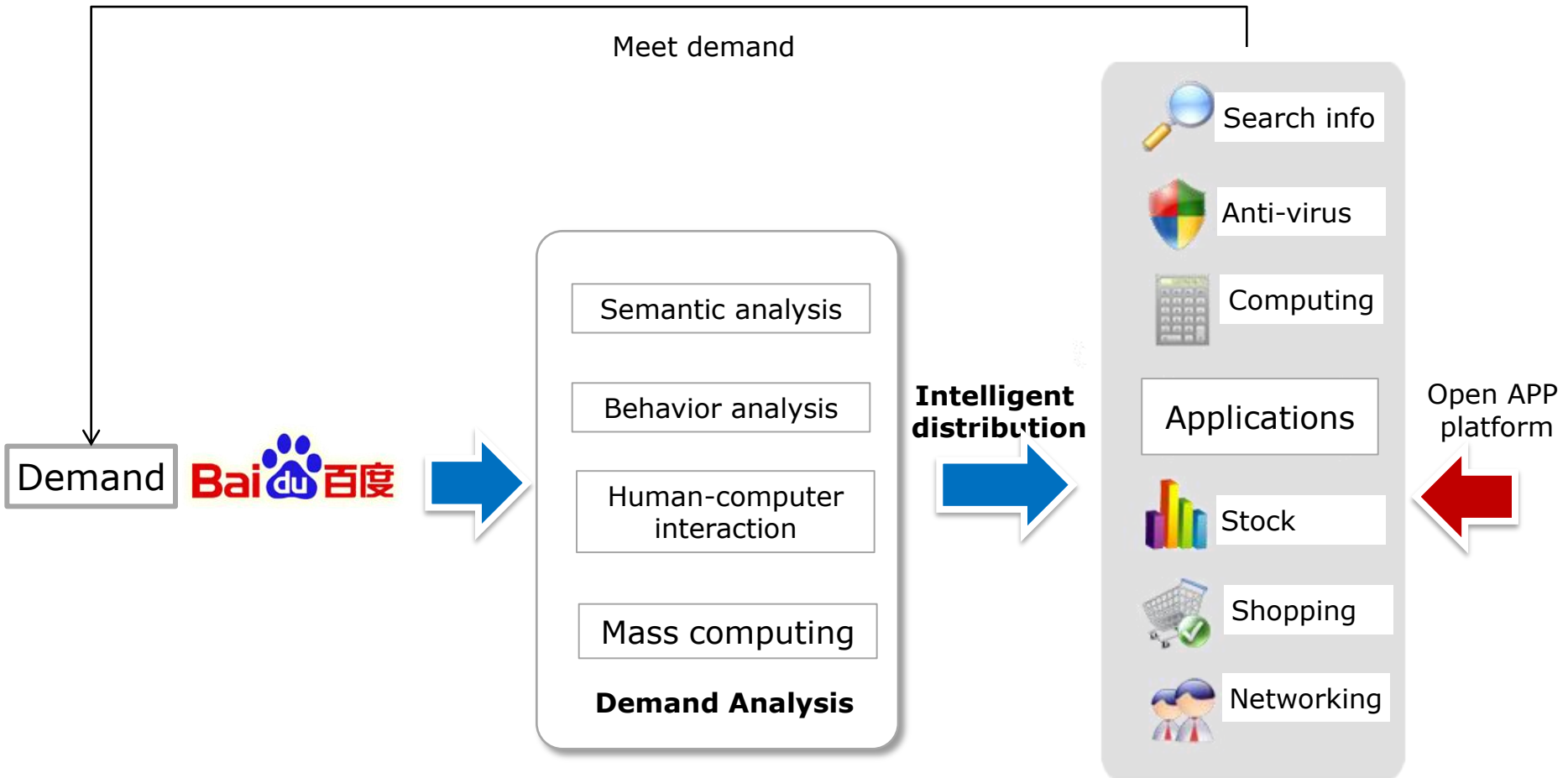
First Chinese Company to be listed on the NASDAQ Index -100;



Market position

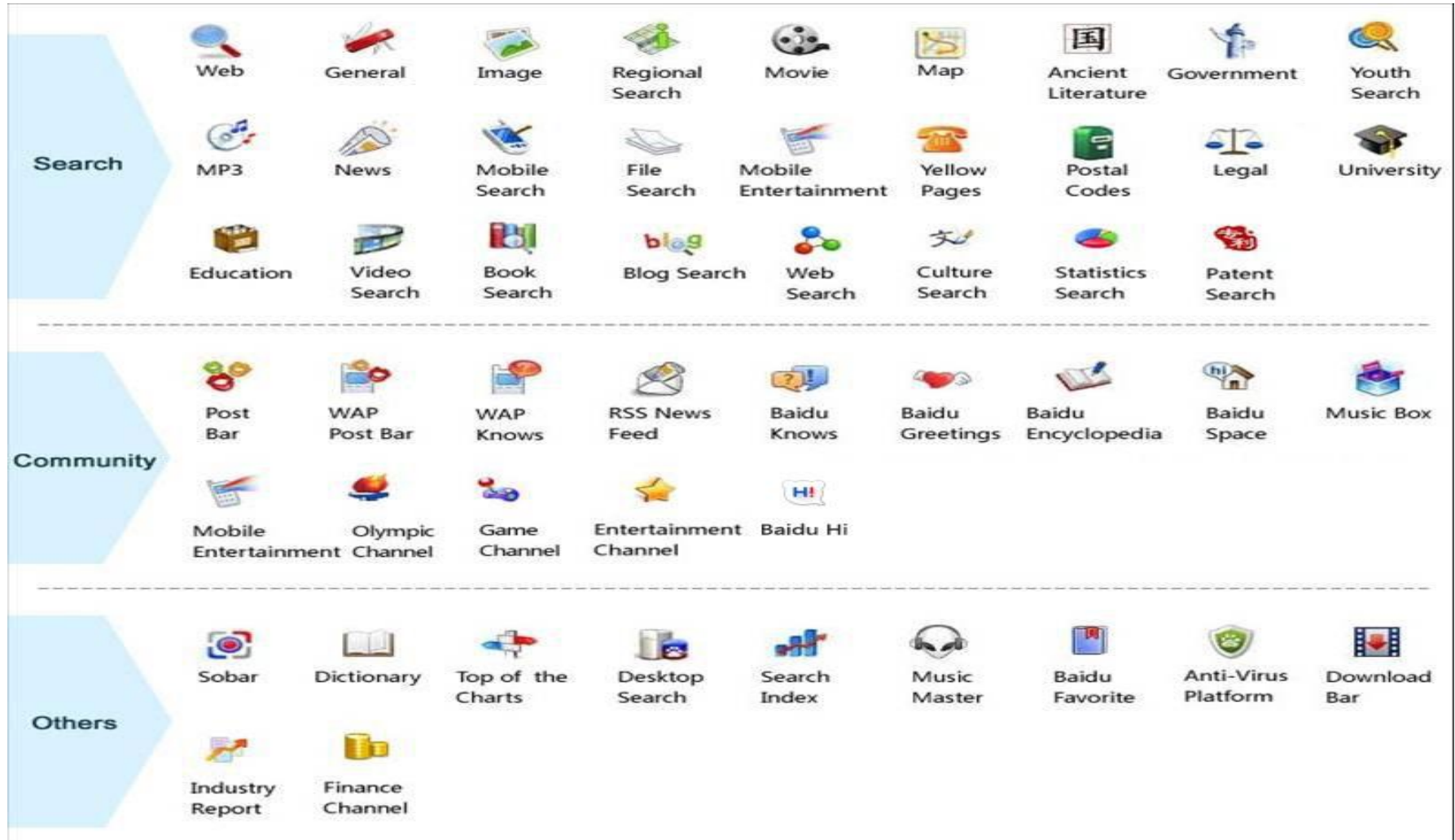
Largest Chinese Website, largest Chinese Search Engine in the world

Focus on Search: Box Computing

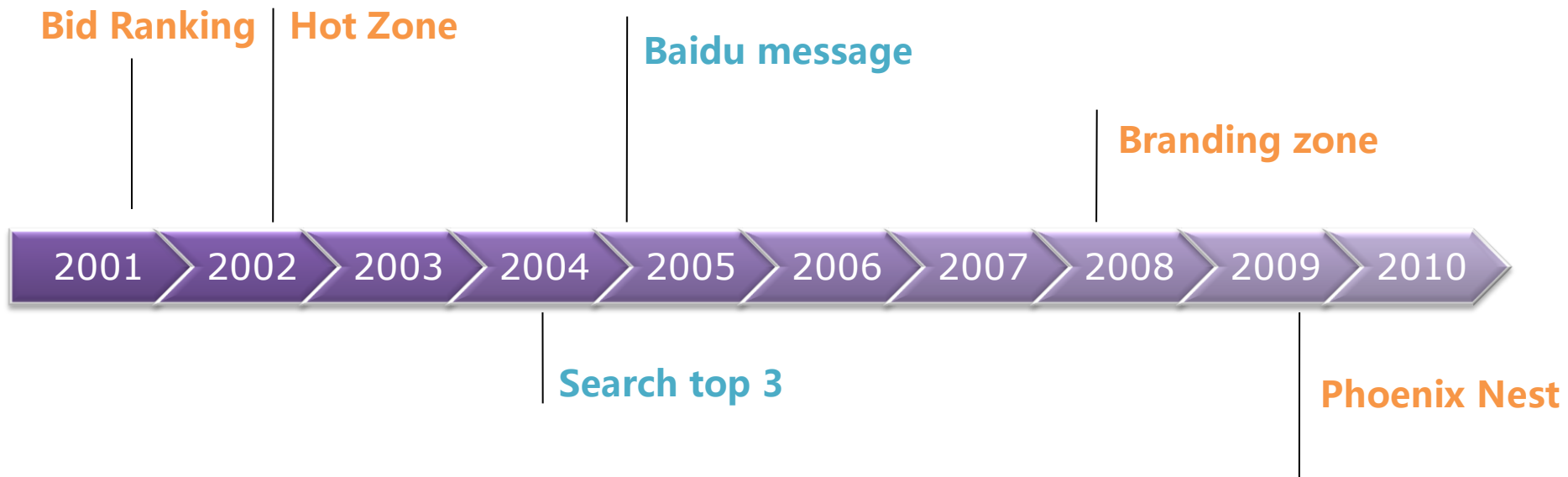


Box computing: Reading the Hearts of Users

Innovative and Diversified Products



History of Baidu's Online Marketing Products



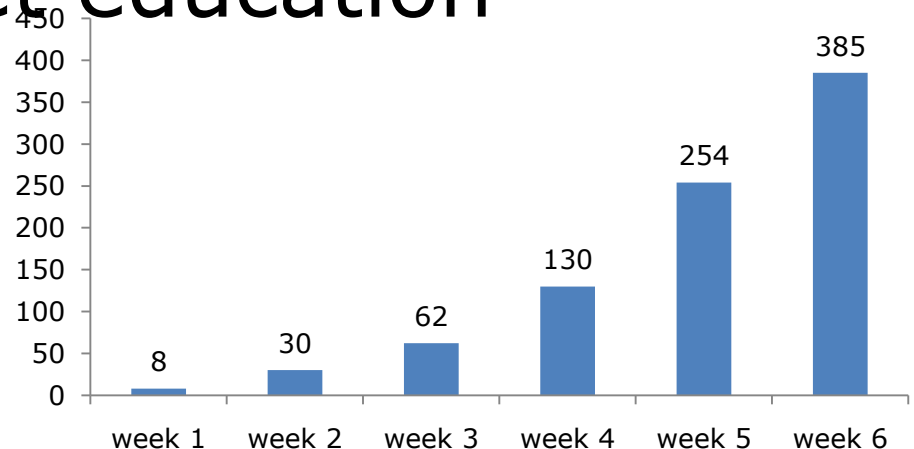
Search related only

Bid Ranking

- Launched in 2001/9
- Business Model Change
- Features
 - CPC
 - Open auction
 - Rank by bid
 - GSP
 - Minimum bid ¥ 0.10

Why It Works?

- Simplicity is important
 - Mechanism is simple to understand
 - Everything transparent
 - WYSIWYG
 - Very suitable for an immature market
- Growth & Market education



Hot Zone

- Launched in 2002



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火爆地带



Hot Zone

- Features
 - Show on right side
 - CPT (cost per time, yearly fee)
 - Baidu provided fixed price for each query and position, change yearly
- Why it works?
 - Simple
 - No hassle
 - Fixed budget
 - Has some branding value

Branding Zone

- Launched in 2008

The image shows a Baidu search result for '联想' (Lenovo). The search bar contains '联想' and the search button says '百度一下'. The search results are displayed in a grid format. The first result is for '联想中国' (Lenovo China), which includes a description of the company and a list of product series. The second result is for '联想ideapad Y330/Y430', which includes an image of the laptop and a description of its features. Annotations in orange boxes point to various elements of the search results:

- 联想中国**: Points to the brand name in the search results.
- 主标题**: Points to the main title of the search results.
- 品牌logo**: Points to the Lenovo logo in the search results.
- 描述**: Points to the description of the Lenovo company.
- 右侧擎天柱**: Points to the right side of the search results, specifically the product image.
- 栏目**: Points to the list of product series.

The search results for '联想' include:

- 联想中国**: 联想是一家极富创新性的国际化的科技公司，由联想及原IBM个人电脑事业部所组成。作为全球个人电脑市场的领导企业，联想从事开发、制造最为领先的笔记本电脑、家用台式、商用台式及服务器存储、外设数码等产品，并提供优质专业的服务。
www.lenovo.com.cn 2008-11 - 品牌推广
- ideapad笔记本系列**: 多彩时尚、轻小便捷，上网随时随地，乐行其道，询800-828-2008
- Thinkpad笔记本系列**: 尖端科技、贴心设计、稳定品质，帮助知识工作者将思考付诸实践！
- 成长型企业商用电脑：企业成长的强大IT动力**: 联想扬天新品问世，现在预订即有机会享受7.5折惊喜优惠！
- 联想昭阳K43笔记本，无惧任何意外冲击**: K43笔记本 双重硬盘防护系统，让您畅放商务海洋！询800-828-2008

The search results for '联想ideapad Y330/Y430' include:

- 联想ideapad Y330/Y430**: 联想ideapad Y330/Y430笔记本采用英特尔® 迅驰® 2 处理器技术

Branding Zone

- Features
 - Only when: query == brand name
 - Only sell to brand name owner
 - Very customizable creative
 - CPT, Customized deal
- Why it works?
 - Meet branding advertiser's needs
 - Better user experience

Other Tries: Search top 3

- A very short-lived product
- Features
 - CPT
 - Left side top 3 position
- Why it doesn't work?
 - Conflicts with bid ranking
 - Best position need an auction mechanism

Other Tries: Baidu Message

- A romantic product
- Features
 - CPT
 - Fixed price
 - Search people name, send love message
- Why it doesn't work?
 - Risk, Privacy
 - Too small usage
 - ...



Problems of Bid Ranking and Patches

- High Bid \neq High Quality (bad user experience)
 - Attempt to introduce Quality Score
- High Bid \neq High Revenue
- Traffic Utilization is Low
 - Keyword Recommendation
 - Expanded match
- Auction Pressure is Low
 - Reserved Price

Patches don't work, need revolution

Phoenix Nest: Ramp Up

2008
Planning &
development

2008/10
Beta test

2009/04
Open to
customer

2009/12
All customer
migrate to
Phoenix
Nest,
replace bid
ranking and
hot zone

2010
All internal
algorithm
migrate

Phoenix Nest Features

	Bid Rank	Phoenix Nest
Bid	CPC	CPC
Auction	Open auction	Closed auction
Ranking	Bid	Bid * Q (more complicated)
Pricing	GSP	GSP
Targeting	Exact match	Exact match, Phrase match, Expanded match, Negative keyword
Left side disabling	Slot number and rule	Slot number and Quality based disabling
Tools and Report	Minimum	Keyword recommendation, Quality score lamp, Bid suggestion, More report, ...

After Launch Effect: The Good

- Average bid raise
 - More obvious on low competition keywords
- Bid is more stable
- Optimization operations increase
- CTR become the driving force of CPM growth
- Relevance (by human eval) increase significantly

After Launch Effect: The “Bad”

- More complex system, harder to understand
 - customers depend more on customer service and SEM companies

What's Next

- Phoenix Nest opened a huge door for new technologies
- Areas we are working on
 - CTR Prediction
 - Ad selection and relevance model
 - Keyword recommendation
 - Mechanism design
 - Utility modeling
 - Ads classification
 - Experiment infrastructure
 - Anti spam
 -

What's Next

- Research Directions
 - Machine learning
 - Information retrieval
 - Data warehouse and data mining
 - Game theory and mechanism design
 - Economy

We are hiring ☺

Thank You!

Contact: yangliu@baidu.com