Brief

Assessment Methodology for Virtualization Maturity in China Market

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Abstract: Compared with U.S. and European markets, the Chinese virtualization market is still in a transition from "accepting" to "popularizing." As a result, measure indicators of the maturity of virtualization in U.S. and European markets usually exclude the influence of penetration to the maturity, which is not suitable for the Chinese market.

Evaluation Indicators of Virtualization Maturity

Compared with U.S. and European markets, the China virtualization market is still in a transition from "accepting" to "popularizing." As a result, measure indicators of the maturity of virtualization in U.S. and European markets usually exclude the influence of penetration to the maturity, which is not suitable for the China market. Therefore, two latitudes, six indicators are used by Sino-Bridges to assess the maturity of virtualization according to the current stage of development of virtualization in China.

The maturity of virtualization in China greatly varies in different industries. As the maturity of virtualization directly determines IT efficiency, the analysis to industry maturity of virtualization produces a reference and guiding significance for the users to assess how to improve competition through virtualization. Two latitudes, the virtualization penetration and virtual levels, a total of six indicators are used by Sino-Bridges to comprehensively assess the maturity of virtualization in China. The results show that industries like telecommunications &communications, financial services, and energy infrastructure are leading the maturity of virtualization in China (regardless of the fact that their virtualization penetration and virtual levels are all higher than that other industries), followed by government, and service industries. The industries with relatively lower virtual levels include manufacturing, broadcasting &media, research institutes, education &public utilities and medical & pharmaceutical industries.

Virtualization Penetration	Indicator 1 :The ratio of enterprises with virtualization deployment	Indicator 2: The ratio of enterprises with virtualization deployment for over 3 years	Indicator 3: The ratio enterprises with virtualized servers accounting for 20% of total servers
Virtualization Levels	Indicator 4: The ratio of virtualization of production applications	Indicator 5: The ratio of virtualization of production applications including business-critical loads	Indicator 6: The ratio of the density of over 10 virtual machines

Analysis Methods

1. According to the combined score of virtualization penetration in each industry, high, medium and low segments are divided.

2. According to the combined score of virtualization levels in each industry, high, medium and low segments are divided.

3. According to the combined score of the maturity of virtualization in each industry, high, medium and low segments are divided.

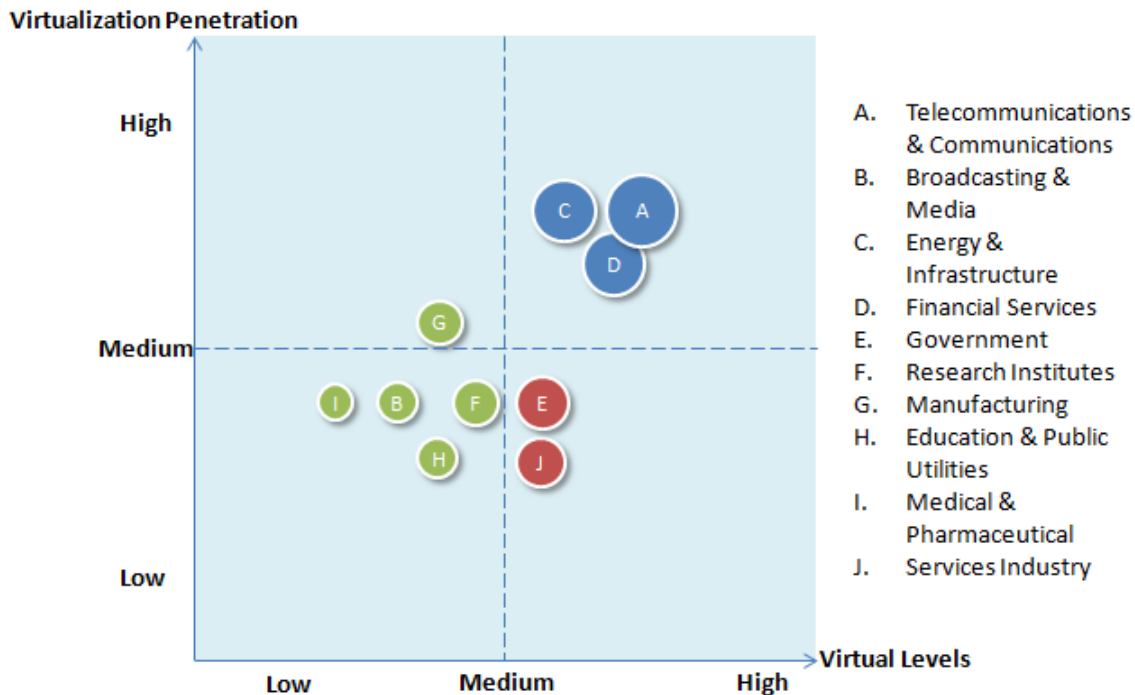|	Virtualization Penetration	Virtualization Levels	Maturity of Virtualization
Telecommunications& Communications	High	High	High
Broadcasting & Media	Low	Low	Low
Energy & Infrastructure	High	Medium	High
Financial Services	High	High	High
Government	Low	Medium	Medium
Research Institutes	Low	Medium	Low
Manufacturing	Medium	Low	Low
Education & Public Utilities	Low	Low	Low
Medical & Pharmaceutical	Low	Low	Low
Services Industry	Low	Medium	Medium

Results of Survey Analysis

• The Leading Group Industries of Virtualization: Telecommunications & Communications, Energy& Infrastructure, Financial Services

• The Following Group Industries of Virtualization: Government, Services Industry

• The Lagging Group Industries of Virtualization: Medical &Pharmaceutical, Broadcasting& Media, Education& Public Utilities, Research Institutes, Manufacturing

The maturity of virtualization, virtualization penetration and virtual levels in different industries is shown in the quadrantal diagram below:

• Quadrant 1 (Leading Group), is characterized by high virtualization penetration, high virtual levels and balanced maturity of virtualization.

• Quadrant 2 (Following Group), is characterized by low virtualization penetration, higher virtual levels.

• Quadrant 3 (Lagging Group), is characterized by both low virtualization penetration and virtual levels.

Virtualization Penetration

Figure 1. The Quadrantal Diagram of Virtualization Penetration and Virtual Levels

A. Telecommunications & Communications
B. Broadcasting & Media
C. Energy & Infrastructure
D. Financial Services
E. Government
F. Research Institutes
G. Manufacturing
H. Education & Public Utilities
I. Medical & Pharmaceutical
J. Services Industry

Notes: Blue represents the leading group of the maturity of virtualization in China.
Red represents the following group of the maturity of virtualization in China.
Green represents the lagging group of the maturity of virtualization in China.
And the size of circles represents of maturity levels. The bigger the circle, the higher of virtualization maturity.

• The Leading Group of the Maturity of Virtualization: The comprehensive survey results based on the dimension of virtualization penetration and virtual levels show that the telecommunications &communications, finance and energy &infrastructure are the leading groups of the maturity of virtualization, which is specifically embodied by the following: The average virtualization deployment time is longer; the density of virtual machines is relatively higher; the application of virtualization to production environments including business-critical loads is of a higher ratio than other industries; the average ratio of server virtualization to the total servers is relatively higher; the ratio of virtualization deployment of more than 3 years is higher. The enterprises with higher virtual levels as the leaders of Chinese virtualization are making necessary preparations for the evolution from virtualization to private cloud.

• The Following Group of the Maturity of Virtualization: The government and service industry belong to the mid-range of the maturity of virtualization, typically characterized by the application of virtualization mostly in test and development, office software and quasi-production environments, and the low ratio of the application in production applications and business-critical loads.

• The Lagging Group of the Maturity of Virtualization: For the industries of primary virtual levels (medical & pharmaceutical, broadcasting &media, education & public utilities, research institutes, manufacturing and other industries), they are characterized by the application of virtualization mostly in test environments, and the low comprehensive index of virtualization penetration and virtual levels.

It is imperative to absorb virtualization into the IT strategic focus to rapidly improve the maturity of virtualization and accelerate the evolution process of virtualization for the improvement of IT efficiency through virtualization for Chinese enterprises.

Appendix:

The Distribution of Survey Participators

Figure 2. Interviewees' Survey, by Enterprise Size

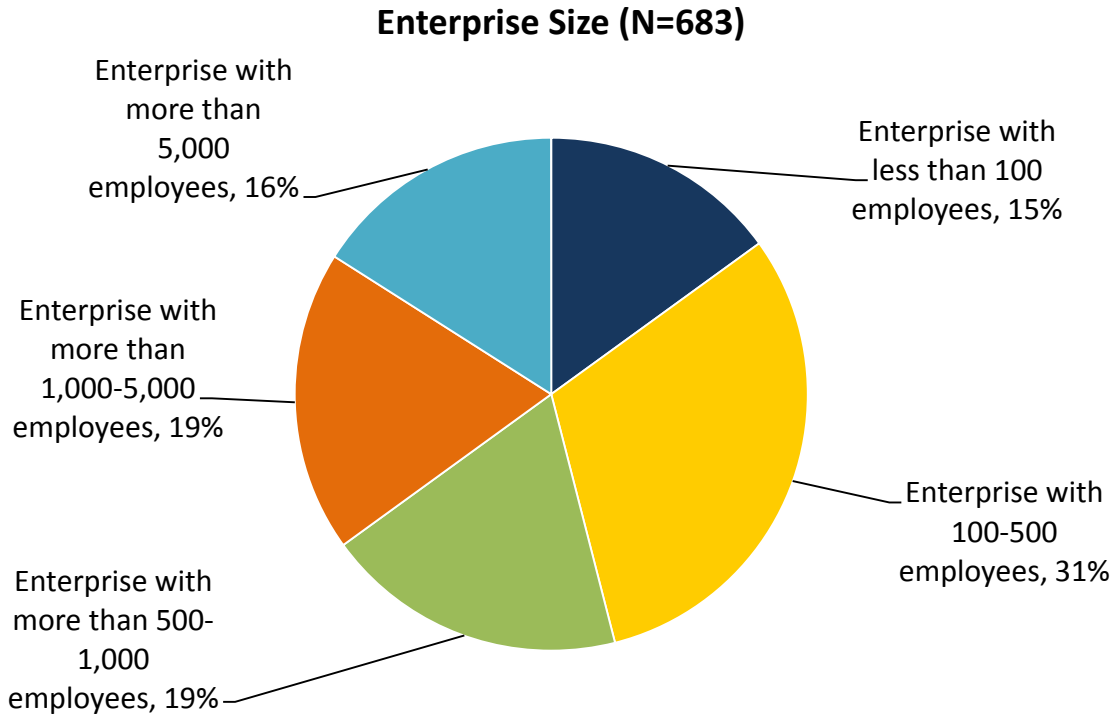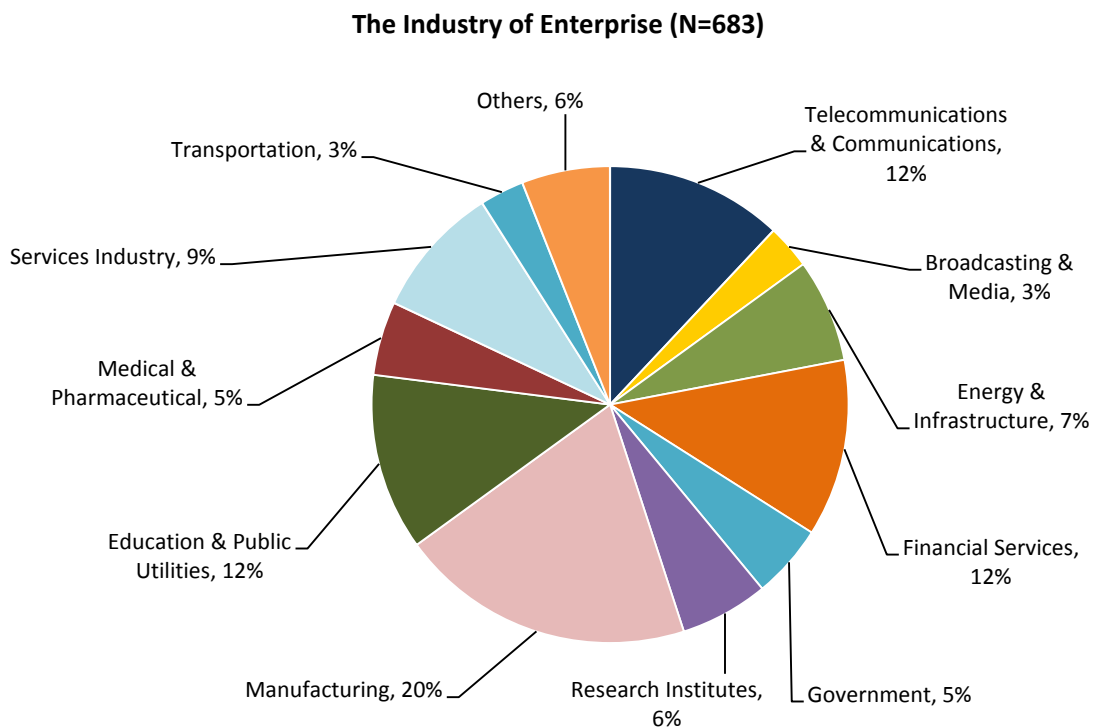## Enterprise Size (N=683)

- Enterprise with more than 5,000 employees, 16%
- Enterprise with less than 100 employees, 15%
- Enterprise with more than 1,000-5,000 employees, 19%
- Enterprise with 100-500 employees, 31%
- Enterprise with more than 500-1,000 employees, 19%

Figure 3. Interviewees' Survey, by Industry

The Industry of Enterprise (N=683)

- Others, 6%
- Transportation, 3%
- Services Industry, 9%
- Medical & Pharmaceutical, 5%
- Education & Public Utilities, 12%
- Manufacturing, 20%
- Research Institutes, 6%
- Government, 5%
- Financial Services, 12%
- Energy & Infrastructure, 7%
- Broadcasting & Media, 3%
- Telecommunications & Communications, 12%

About Research

The Sino-Bridges Research and Consulting Meeting complete the following three main reports according to the research data:

- Chinese Virtualization Market and Technology Trends (Page 52)

- The Virtualization Value and Challenge for SMEs (Page 30)

- The Evolution Trends of IT Structure and Management (Page 30)

The 2013 Research Projects of Sino-Bridges Research and Consulting Ltd.

- First Quarter: Virtualization Market and Technology Trends

- Second Quarter: The Market and Technology Trends of IT Structure

- Third Quarter: The Market and Technology Trends of Cloud Computing

- Fourth Quarter: The Market and Technology Trends of Big Data

Combined with the survey reports above-mentioned, Sino-Bridges Research and Consulting Ltd. will release a series of Webinars in www.webinars-china.com platform. Please keep your focus and interest.

About Sino-Bridges Research and Consulting Ltd.

The Sino-Bridges Research and Consulting Ltd., established in 2006, is a company focusing on consulting and research in the field of data center, committed to provide forward-looking, reliable market and technology trends references, as well as an online learning and improving platform for IT manufacturers and IT professionals from a global perspective combined with survey data and market technology (www.webinars-china.com). Its main services and research fields are focused on data center-related technology, such as storage, server, network, client facilities, business intelligence and structure management software of data centers, etc. And its main research subjects include: virtualization, cloud, big data, data protection, IT structure and application trends, etc.

The analysts at Sino-Bridges Research and Consulting Ltd. Possess many years of accumulation of research and consultation of data center technology and markets in U.S. and Europeans well as in China. In addition, Sino-Bridges has tens of thousands of end-user data and research members, who can help thoroughly understand Chinese users' needs, challenges and problems by enhancing interaction with end users. The main service forms of Sino-Bridges Research and Consulting Ltd. include research reports, evaluations of products and usage, analysis reports and technology white papers, etc. During 2008~2012, the joint brand ESG-Sino (combining Sino-Bridges and ESG), one of the world's ten largest consulting companies, has provided technology and market consulting services in China. With offices in Seattle, U.S., Beijing, Wuhan, and other places, Sino-Bridges retains customers, such as IBM, Dell, HP, EMC, NetApp, etc., and domestic manufacturers like Huawei, Lenovo, Inspur, and UIT, etc.

For a main report of the survey results, please contact: contact@sino-bridges.com.

Analysts

Kim Wang is the founder of Sino-Bridges Research and Consulting Ltd. and a senior analyst. She has 23 years of international management and consulting experience in Europe, South Asia and North America, including 13 years of experience in data center. Kim has in-depth knowledge of storage, server, networking, clients and data center management software. In 2012, Kim gave more than 60 lectures on data center technology and market

trends(www.webinars-china.com, online and onsite) as the most influential analyst in the field of China providing credible reference for users in China from a global perspective to hasten the assessment and acceptance of new technologies in the Chinese market.

Mary Ma is a Sino-Bridges analyst. She joined Sino-Bridges Research and Consulting Ltd. in 2006 and began to perform investigations of data center, and evaluations of the planning and execution of various projects. Mary has led the completion of project planning of a number of surveys, the designing of surveys and in-depth interviews, evaluation of white papers, and the writing of survey reports. She has a good understanding of the data center technology segments.