Ethernet Services in China

EXECUTIVE SUMMARY

As a carrier-delivered telecommunications service, Ethernet is generally perceived as appealing primarily to the most sophisticated purchasers in the world's developed economies. But evidence is growing that Ethernet's appeal is already cutting across those economic and geographic boundaries. The most compelling evidence of Ethernet's universal ascendancy is emerging from the world's largest telecommunications market: China.

In the West, China is viewed mainly as a market with vast and untapped potential. That perception is clearly an oversimplification. Amazingly, as of June 2004 China already had more broadband households (about 30 million) than any other nation. The number of broadband households in China doubled in the first six months of 2004 alone – a clear sign that China will only extend its numerical superiority in residential broadband services for years to come.

Just as China's consumer market is adopting broadband, business users are also eager to deploy advanced telecom services. This burgeoning demand is reflected in the level of activity among China's service providers rolling out new services. Much of that activity is centered on carrier-delivered Ethernet services.

Ethernet Services in China presents a groundbreaking and comprehensive view of the state of Ethernet service activity in the world's top telecom market. The cornerstone of this report is an exclusive survey of major carriers across China to gain insight into their current Ethernet service deployment strategies.

The report includes data on Ethernet services available in China from these service providers:

- China Telecommunications Corp. (China Telecom) (NYSE: CHA)
- China Unicom Ltd. (NYSE: CHU)
- China Mobile Telecommunications Corp.
- China Netcom Corp. Ltd. (NYSE: CN; Hong Kong: 0906)
- China TieTong Telecommunications Corp.
- Shanghai UnionNet Broadband Video Co. Ltd.
- Chengdu Tailong Communication Co. Ltd.
- Chongqing Changfeng Communication Co. Ltd. (Changfeng)
- FibrLink Communications Co. Ltd.
- Great Wall Broadband Network Service Co. Ltd.
The report also includes information on these six cable network operators:

- Hangzhou Cable Television
- Shenzhen CATV
- Zibo CATV
- Qingdao CATV
- Guandong CATV
- Gehua Youxian

The report includes complete breakouts of service offerings by carrier and by province. Information is presented graphically in detailed maps. In addition, the report includes exclusive access to a spreadsheet of survey results, enabling in-depth analysis of Ethernet service provider activities in China.

**Key Findings**

Key findings of the report include the following:

**China is confounding skeptics by forging ahead with deployment of services built around Ethernet.** All service providers responding to our survey indicated that they had already begun to roll out Ethernet services. The power of the Ethernet service label is evident in the attempt by wireless network operator China Mobile to position its 802.11 wireless LAN offering as an Ethernet service.

**China's service providers are aggressively using Ethernet to target the residential market – a strategy that has yet to catch on in Western markets.** Although China's carriers are offering the kinds of enterprise Ethernet services that are becoming popular elsewhere, they are making a strong commitment to delivering Ethernet to the residential market, including services that are typically associated with major cities in the most advanced Western economies. In fact, most of the providers surveyed indicated that they are offering high-speed Internet access via Ethernet to residential customers, while only three providers said they now offer Ethernet private line and private LAN services.

**Interest in broadband services in China is intense.** The number of broadband residences topped 30 million in June, a near-doubling in numbers in only six months. This means China is now the largest broadband services market in the world.

**Competition among China's Ethernet service providers is robust and reflects a mix of different service provider types.** Survey results point to growing competition to provide broadband services in China, involving not only the two major incumbent carriers – China Netcom and China Telecom – but also dedicated providers such as Great Wall Broadband, cable MSOs, and data networking specialists.

**For China's incumbent carriers, growing competition and substitution by mobile services of telephone service revenue means there is just as much interest in the future of the local access network as there is in the most developed economies.** To survive and prosper, China's incumbent carriers must convert users to higher-value packages based around broadband.

**FTTX is emerging as the primary broadband access technology in China's urban markets.** The emphasis on fiber-based access is not surprising, given that China's cities are dominated by large blocks of newer apartment buildings. Most Chinese cities also are well supplied with fiber in the core that can be extended out to these residential blocks.
Western vendors – led by Cisco Systems – are winning significant business from China’s Ethernet service providers. Seven carriers that participated in our survey disclosed the names of their leading technology vendors. Cisco Systems Inc. was named as a supplier by six of those seven carriers. The two Chinese majors, Huawei Technologies Co. Ltd. and ZTE Corp., earned four mentions each, as did Nortel Networks Ltd. Other Western vendors cited by service providers include Juniper Networks Inc., Lucent Technologies Inc., Foundry Networks Inc., IBM Corp., Motorola Inc., Riverstone Networks Inc., and Terayon Communication Systems Inc.

Report Scope and Structure

Ethernet Services in China is based on data provided directly by China’s leading telecom service providers via face-to-face and telephone interviews. Interviews were conducted in October 2004, providing up-to-the-minute information on this fast-growing and dynamic market sector.

Survey data and results are presented in two basic forms:

Downloadable database: Report buyers gain exclusive access to a spreadsheet containing a full database of survey results. The data provides details on China’s Ethernet service landscape that can be searched by carrier, region, or urban market.

Service deployment maps: The report includes detailed maps showing current Ethernet service deployments by China’s telecom carriers, as well as cross-carrier maps that plot out the levels of competition by region and city.

Excerpt 1: China Telecom’s Ethernet Service Reach
Other key features of the report include:

- An overview of China's current and projected telecom market, including an analysis of the key characteristics of Ethernet services now being offered in China.

- A general analysis of results from Heavy Reading's survey of China's Ethernet service providers, identifying and elaborating on unifying trends found in responses from the individual network operators.

- Specific details of Ethernet service rollouts for all participating service providers.

The report is essential reading for a wide range of industry participants, including the following:

- **Ethernet equipment suppliers**: Which network operators are pursuing Ethernet services most aggressively in China? Which types of services and which technologies and vendors are they choosing? What are the most aggressive emerging network operators, and how do your products mesh with their service deployment plans? Where are the best opportunities to break into this huge and fast-growing market?

- **Investors**: Which equipment makers and service providers are capturing market share in this important telecom industry sector? Which Western vendors are making the most impressive inroads into the China market? What are their realistic prospects for long-term growth?

**Ethernet Services in China** is published in PDF format. The downloadable database of survey results is delivered in Microsoft Excel spreadsheet format.