



## Qihoo 360 turns to HPE Cloudline for massive cloud services

China's largest Internet security company accelerates its growth with HPE servers

### Objective

- Keep pace with rapid growth
- Improve price/performance ratios
- Contain IT costs

### Approach

- Deploy new HPE Cloudline systems
- Leverage HPE ProLiant DL160, DL380, and SL4500 servers

### IT Matters

- Enable rapid deployment of systems
- Increase energy efficiency
- Simplify management

### Business Matters

- Reduce energy and maintenance costs
- Maintain the availability of Internet services



Qihoo 360 Technology Co. Ltd. provides Internet and mobile security products and services to 500 million monthly active PC Internet users and more than 640 million mobile users in China. This fast-growing company, established in 2005, has built its business around HPE servers.

### Serving hundreds of millions of users

Qihoo 360 is a leading Internet company in China as measured by its active user base. Since its inception in 2005, the company has grown to serve 500 million monthly active PC Internet users and more than 640 million mobile users.<sup>1</sup> Its cloud-drive engine fields more than 70 billion user queries per day.

Recognizing security as a fundamental need of all Internet and mobile users, the company built its large user base by offering comprehensive, effective, and user-friendly Internet and mobile security products and services to protect users' computers and mobile devices against malware and malicious websites. Qihoo 360's products and services are supported by the company's advanced and robust cloud-based security technology.

<sup>1</sup> User numbers as of June 2014

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— Tan Xiao Sheng, Vice President and Chief Privacy Officer, Qihoo 360

Today, as it approaches its tenth year in business, Qihoo 360 is ranked as an industry leader across a wide range of measures. The company is a top three Internet company as measured by its user base in China, and is ranked as the:

- No. 1 provider of Internet and mobile security products and services in China
- No. 1 Android-based mobile distribution platform in China
- No. 2 Internet browsers in China
- No. 2 PC search engine in China<sup>2</sup>

To achieve rankings like these among the Internet elites of the world's most populous nation, Qihoo 360 requires enormous numbers of reliable, high-performing servers that can be deployed quickly and operated in a cost-effective manner. It found all of that and more in the Hewlett Packard Enterprise (HPE) portfolio.

### **Building a business on HPE servers**

Qihoo 360 has used HPE servers since launching its first services in 2005. In its early years, the company deployed HPE ProLiant DL380 and DL160 servers to power its security and search services. The company's

IT professionals liked the DL380 server for its 12 hard drives and good balance of storage and compute power. They liked the DL160 for its excellent density in a 1U format, which is ideal for a front-end web server and application server.

For its cloud storage business, Qihoo 360 chose the HPE ProLiant SL4500 server, which supports up to 60 hard drives. In particular, the company's IT professionals liked the SL4500 for its low cost-per-terabyte of storage, which is one of the keys to reducing operating expenses and increasing profitability in a cloud storage environment.

“Having servers with more hard drives will mean that it is possible for us to achieve an even lower storage cost per terabytes,” says Tan Xiao Sheng, vice president and chief privacy officer for Qihoo 360. “Servers like the HPE SL4500, which can accommodate 60 hard drives in one unit, will be really helpful to us in further controlling and lowering our storage costs.”

Today, as it prepares to expand its environment from 80,000 servers to 100,000 servers, Qihoo 360 has opted to deploy the new HPE Cloudline systems, a dedicated portfolio of open and basic platforms tailored to the unique deployment scale of service providers.

<sup>2</sup> Source for leadership statistics:  
Qihoo 360 Corporate Profile

## Servers built for service providers

The HPE Cloudline was created for companies like Qihoo 360—service providers who are looking to scale quickly and cost-effectively to keep pace with growth and the demand for additional infrastructure. Built without features that service providers don't need or want to pay for, HPE Cloudline systems can be delivered in as little as two weeks while providing savings of up to 20% in capital expenditures.

The Cloudline is simplified for easy integration into the service provider's existing environment—a world where simplicity and speed go hand in hand. Simplicity initiatives can help providers deliver services more than 48% faster, according to IDC.<sup>3</sup> Savings like these in service delivery time result from the reduced complexity and easier integration of servers that are shipped without additional or unnecessary features.

The HPE Cloudline server family, based on the latest Intel® Xeon® E5-2600v3 processors, stems from an HPE-Foxconn joint venture.

This partnership brings together the high-volume design and manufacturing expertise of Foxconn combined with the compute and service leadership of HPE to fundamentally change infrastructure economics.

## Adopting HPE Cloudline systems

For Qihoo 360's IT professionals, the family of HPE Cloudline servers has all the right stuff for a fast-growing cloud environment that is on the verge of adding 20,000 additional servers.

"This machine can actually provide us with better management capabilities, more customization possibilities, and a much higher price-performance ratio," Mr. Tan says. "We believe HPE Cloudline is the best solution for our cloud implementation."

In more specific terms, Mr. Tan sees four key reasons for moving ahead with HPE Cloudline systems:

- The servers are designed for rapid deployment and easy management and maintenance, thanks in part to an API that gives IT professionals direct control over the hardware.
- The HPE Cloudline offers an ideal mix of price-performance, high quality, and low maintenance cost.
- The servers are designed to be extremely energy-efficient—an important characteristic in a server farm that is approaching 100,000 systems.
- HPE offers custom design services to support Qihoo 360's energy-efficient data center project in western China.

<sup>3</sup> IDC, "Simplifying IT to Drive Better Business Outcomes and Improved ROI: Introducing the IT Complexity Index," June 2014

#### About Qihoo 360

Qihoo 360 Technology Co. Ltd. is a leading Internet company in China as measured by active user base. At the end of June 2014, the company had about 500 million monthly active PC Internet users and more than 640 million mobile users.

## Customer at a glance

#### Application

- Cloud-based Internet security and storage services
- Internet search services

#### Hardware

- HPE Cloudline systems
- HPE ProLiant DL160, DL380, and SL4500 servers

#### Software

- Homegrown server operations software
- CentOS 6.2

#### Services

- Partner Services

“We have had very rewarding partnerships with HPE in the past, and I sincerely hope that this partnership will continue in the future.”

— Tan Xiao Sheng, Vice President and Chief Privacy Officer, Qihoo 360

“Cloudline can actually provide a higher price-performance ratio as well as better customizability because it is jointly designed and manufactured by HPE and Foxconn in China,” Mr. Tan says. “Take our data center in western China, for example. We may make some changes to the power supply after it is put into use, which might require different configurations of our server racks. Because they are locally designed and manufactured, we expect Cloudline to have a faster response time and better customizability.”

## The right balance of reliability and price-performance

For service providers like Qihoo 360, server reliability is hugely important. But so is the ratio of price to performance. They need it all—high reliability and high performance at the right price. In Mr. Tan’s view, that’s what HPE delivers.

“Network disk operations are an essentially cost-intensive service,” he says. “The amount you charge each user for each terabyte of storage can determine how long your business will last. In this respect, I feel that HPE has stable storage solutions that have a high price-performance ratio, like the 12-hard-drive servers that we started out with and the 60-hard-drive machines that we are currently using.”

At the same time, system reliability is extremely important for a business that must have its services up and running 24 hours a day, 360 days a year.

“The failure rates have to be low enough, because if you have high failure rates, the consequences might be catastrophic—for example, if something happens when you’re doing data migration,” Mr. Tan says. “With regards to this, HPE has struck a very good balance between reliability and price-performance, which helps us lower the costs of operations for our network disks. I can then support more users at the same cost.”

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