

### Organization

Qihoo 360 is one of the largest internet security service providers in China

### Challenge

Qihoo 360 growth and expansion meant existing email backbone was no longer sufficient, and would become restrictive unless updated

- Existing workforce of 4,000 team members needed better email support
- Planned expansion to 10,000 employees mandated IT overhaul
- At least 2GB capacity per mailbox
- I/O latency of less than 20ms required
- To offer enough capacity, each email storage system was to have min 25TB available

### Solution

Infotrend EonStor DS S16F-R2851 high performance storage systems use an 8Gb/s Fibre Channel host interface and deliver flexible expansion with three JBODs per system

- 1 RAID + 3 JBOD per set deliver 38.4TB in storage
- High performance design offers 5.5MB/s read and 3.96MB/s write throughput,
- Robust backup provides disaster recovery and high availability

## EonStor DS storage systems and Microsoft Exchange Server optimization provide fast performance, big capacity, and high availability

Qihoo 360 is one of the top three internet security providers in China. Its services include internet access and security for a variety of platforms, with over 500 million customers on PC and more than 400 million users on mobile. Qihoo 360 is a publicly-traded company (NYSE: QIHU), and has gained much success thanks to products that are easy to use and frequently have well-featured free download versions that prove popular. As a business, Qihoo 360 has experienced major growth recently.

### Storage issues and overhaul demands

Embarking on rapid business expansion and company growth, Qihoo 360 found that its current email storage could no longer support even its existing workforce of 4,000 let alone the projected 10,000 team members the company was planning to have within three years. To enable such growth, Qihoo 360 wanted to have access to efficient communications and information sharing, as without these assets maintaining internal productivity and high customer service standards becomes increasingly challenging over the long term for a growing enterprise.

Based on its expansion plans, Qihoo 360 listed the below as prime requirements for its new email data center:

- Full Microsoft Exchange Server compatibility
- 8K IOPS per system in DAG (Database Availability Group) applications
- 25TB system capacity in RAID 5
- 10,000 mailboxes for each system, with at least 2GB capacity per mailbox
- I/O latency under 20ms
- Primary and backup data center functionalities integrated

### Infotrend high speed, high capacity, and high availability storage solutions

Qihoo 360 spent three months testing various storage solutions, and finally decided to use Infotrend EonStor DS S16F-R2851 systems. The company felt that Infotrend products offer better performance and also possess the capacity and expandability Qihoo 360 required. High availability and reliability were also determined to be advantages of Infotrend solutions.

**High performance:** testing showed Infotrend EonStor DS S16F-R2851 systems provide better performance than other suppliers. Tests used the JetStress evaluation tool with Microsoft Exchange Server, indicating the chosen EonStor DS systems produce over 10K IOPS with an I/O latency of less than 15ms.

**Higher capacity and expansion:** with enclosures, EonStor DS S16F-R2851 systems support up to 240 drives and 960TB

**High availability:** dual controller systems safeguard access to data and business continuity and prevent unexpected downtime

## High availability email storage data center

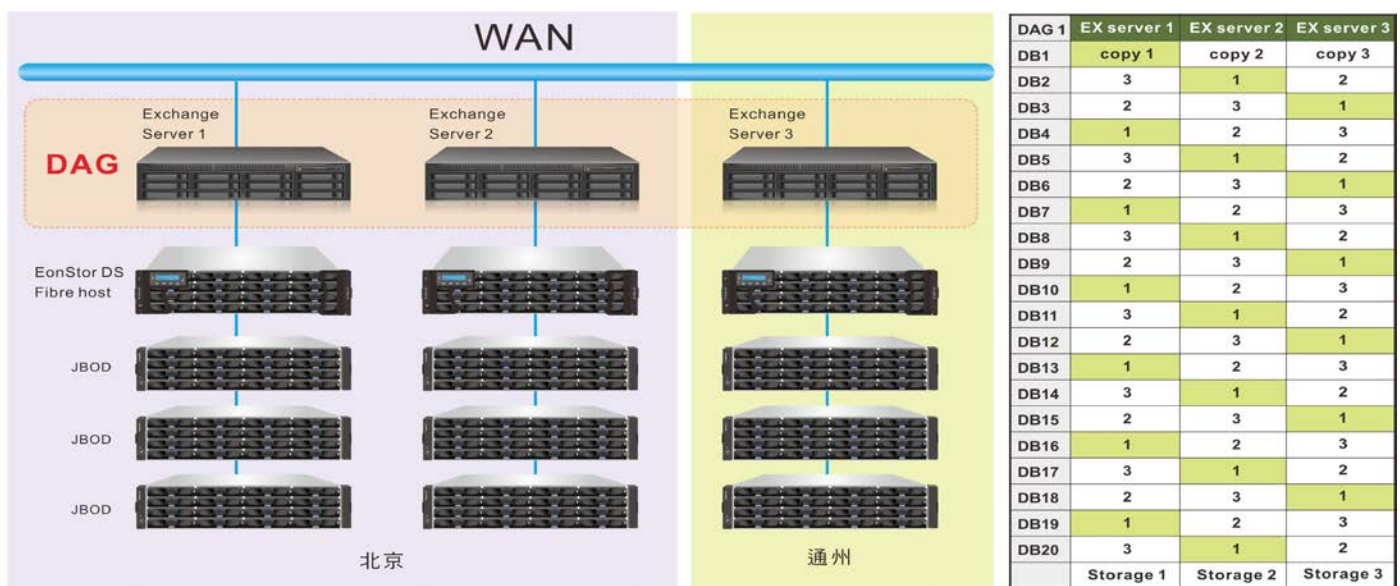
High efficiency was one of the leading requirements for the new data center, but not the only one as we've seen. Qihoo 360 also demanded high availability, reliability, and the implementation of primary and backup email storage in one infrastructure. To achieve this, Qihoo 360 purchased three EonStor DS S16F-R2851 RAID systems and nine expansion enclosures (JBOD). Each RAID system is paired with three JBODs (1R +3J) for a total three sets, or systems. As all three are identical, they can be easily used for local and remote replication. Qihoo thus succeeded in deploying three email storage systems that meet all of the above mentioned requirements.

## Deployment topology

Qihoo 360 placed two systems in central Beijing, and one as a remote backup in Tongzhou, located to the east of the city. The remote backup ensures Qihoo 360 can recover from unplanned downtime, benefitting from high availability to sustain business and service continuity and therefore mitigating potential losses to revenue and reputability.

### Qihoo 360 high availability infrastructure

### Email deployment



Each system (set) has 64 x 15K RPM SAS drives, arranged into four RAID groups: one RAID system and three JBODs. Each set can store five databases, for a total 20 databases. There are four spare drives per set, which serve as replacements should drive issues occur.

## New email storage data center satisfies Qihoo 360 requirements

Maintaining high efficiency and providing better services are the top priorities for Qihoo 360. With enhanced email and communication capabilities, the company can be more productive and more responsive to customers.

## About Qihoo 360

Qihoo 360 Technology Co. Ltd. (Qihoo 360) is a leading Internet platform company in China as measured by active user base. At the end of March 2012, it had about 411 million monthly active Internet users, according to iResearch. Recognizing security as a fundamental need of all Internet and mobile users, it had built the 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.

© 2014 Infortrend Technology, Inc. All rights reserved.  
 Any information provided herein is without warranties of any kind of and is subject to change without prior notice.  
 Infortrend, ESVA, SANWatch, and EonPath are registered trademarks of Infortrend Technology, Inc.

Infortrend logo is a trademark of Infortrend Technology, Inc.  
 All other names, brands, or services are trademarks or registered trademarks of their respective owners.



Asia Pacific  
Infortrend Technology, Inc.

Tel: +886-2-2226-0126  
E-mail: sales.ap@infortrend.com

Americas  
Infortrend Corporation

Tel: +1-408-988-5088  
E-mail: sales.us@infortrend.com

Europe (EMEA)  
Infortrend Europe Ltd.

Tel: +44-1256-305-220  
E-mail: sales.eu@infortrend.com

Germany  
Infortrend Deutschland GmbH

Tel: +49-89-2070-42650  
E-mail: sales.de@infortrend.com

China  
Infortrend Technology, Ltd.

Tel: +86-10-6310 6168  
E-mail: sales.cn@infortrend.com

Japan  
Infortrend Japan, Inc.

Tel: +81-3-5730-6551  
E-mail: sales.jp@infortrend.com