Network Management & Optimization based on Application Layer
About Sangfor
SANGFOR PRODUCTS

Network Security

IAM
IPSec VPN
SSL VPN

Network Optimization

WAN Optimization
Application Delivery
APM
Branches

40
SANGFOR PRODUCTS

Network Security

IAM
IPSec VPN
SSL VPN

Network Optimization

WAN Optimization
Application Delivery
APM
Market Leader

<table>
<thead>
<tr>
<th>Service</th>
<th>Market Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>IAM</td>
<td>33.8%</td>
</tr>
<tr>
<td>NO.2</td>
<td>16.2%</td>
</tr>
<tr>
<td>VPN</td>
<td>30.5%</td>
</tr>
<tr>
<td>NO.2</td>
<td>12.1%</td>
</tr>
<tr>
<td>SSL VPN</td>
<td>34%</td>
</tr>
<tr>
<td>NO.2</td>
<td>25.9%</td>
</tr>
</tbody>
</table>
About SANGFOR

  - FROM Deloitte

- “A Legend of the Future – the Third China’s Leading Enterprises of Tomorrow” Award.
  - FROM Standard Chartered Bank

- “2009 Asia Pacific Emerging Vendor of the Year in the Network Security Market” Award.
  - FROM Frost & Sullivan
What’s out mission?
Help you

Manage your internal network

Optimize your external network
I. SANGFOR IAM

Internet Access Management
Challenges of layer 3 Firewall

- Invisible network
- Non work-related network behavior
- Inefficient bandwidth utilization
- Inappropriate network behavior & security

Visiting racialism/terrorism/porn websites

Worms  Porn
SANGFOR IAM Solution

Network visualization
 Enable network visualization and help to better manage your network;

Layer 7 application control
 Upgrade work efficiency; Avoid improper internet accesses;

Maximize Bandwidth Utilization
 Accelerate internet access speed by caching; Guarantee bandwidth for business-critical applications; Avoid bandwidth abusing;

Proxy & security
 Upgrade security level for your network.
SANGFOR IAM Solution

Visualization

Manage Your Network

Maximize Bandwidth Utilization

Proxy & Security

Deployment
Visualization

What’s going on in your network?

Deliver an accurate and clear traffic map for you with three steps

Identifying
Auditing
Reporting
Identification

Strongest identification capabilities to enable visualization

- **User identification**: Combines with LDAP, AD, Radius, and Proxy.

- **Website identification**: E-soft URL database (350 million);
  HTTPS identification;

- **Type of file identification**: Identify files by the content and features

- **Application identification**: DPI+DFI

- **P2P intelligent identification**
Auditing

Comprehensive and detailed auditing to enable visualization

- Traffic audit
- Website accessing record
- Monitor MSN/Skype
- Time audit
- Up/Downloaded file, other action
- Email/Web Mail/BBS
- Others

The internet accesses and outgoing massage are fully audited
Visualization

Comprehensive and detailed reporting to enable visualization

Data Center Content Search System

Latest record time searchable 2009-02-12 17:26:00, Total recorded content 524

All Webpage Mail Search by key words WebMail/BBS Chatting More>>

Content search management - Advanced search - Subject subscription

Data Center Home Page - Homepage of content search - Index status
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Print Export PDF file Automatically Mail
Layer 7 Application Control

Layer 7 application control to upgrade work efficiency, avoid information leakage, and enhance network security.
Maximize Bandwidth Utilization

- Caching combines with bandwidth management to maximize bandwidth utilization and accelerate internet access speed

- Proxy; Cache
- High hit rate
- High performance

- Bandwidth management
- Accurate identification
- Comprehensive and detailed flow controls
Proxy & Security

Multi-layer safe protection measures to ensure your network security

- Terminal security detection
- Blocking Risky Page
- Malicious Script and Plug-in Filtering
- Firewall;
- IPS;
- Gateway anti-virus;
- Anti-spam
- Proxy
- Anti-DOS
- Anti-ARP Spoofing

Intranet
LAN
File Servers
E-Mail
User

Internet
WAN
User
Deployment

Gateway; bridge; bypass; multi-bridges; active-standby; active-active
II. SANGFOR WANO
WAN Optimization
WAN Network Construction

Have you noticed the trends?

- WAN network has been the essential driving power for business expansion;
- Concentrated Data and Distributed Employees;

![Network Diagram]

Global company

Regional company

National company

Headquarters/DC

Switch

INTERNET

VPN channel

Private line

Switch

Branch

VPN channel
WAN Network Problems

- Redundant Data
- Network Congestion
- Limited Bandwidth
- Protocol Chattiness

Poor WAN network environment becomes an obstacle to your business expansion
Sangfor WAN Optimization

“Makes 1Mbps feel like 10 Mbps”
SANGFOR WANO Solution
SANGFOR WANO Solution

WANO make WAN into LAN:

- Data reduction
- Transmission optimization
- Application proxy
- Bandwidth management
Data Reduction

- 30 to 90 percent of data reduction
- Unique and excellent as it is byte caching
- Accelerate web resources as well as C/S applications
- Efficient LZO, GZIP Streaming compression
- Overall IP compression
Transmission Optimization

Flash-link

Unique technology to avoid the retransmission of lost packets

HTP

Unique technology to selectively retransmit the lost packets

TCP proxy

TCP proxy reduces unnecessary TCP chattiness

Web push

Web push makes the full use of the “remaining bandwidth”

Graph:

- Bandwidth 8M
- Bandwidth 2M
Application Proxy

- Exchange, cifs, SAP, sharepoint, ERP, backup, SMTP, POP3, FTP, http acceleration;

![Graph showing performance comparison of different applications and protocols.](image)
Bandwidth Management

- DPI technology and P2P intelligent identification to accurately identify business applications and Internet applications.
- Guarantee bandwidth of business critical application
- Professional bandwidth management module to provide more value
## Screenshots

### Acceleration Status

<table>
<thead>
<tr>
<th>System Status</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Service running time</td>
<td>0 day(s) 4 hour(s) 45 minute(s) 12 second(s)</td>
</tr>
<tr>
<td>CPU usage</td>
<td>0%</td>
</tr>
<tr>
<td>System speed</td>
<td>22B</td>
</tr>
<tr>
<td>Memory (free/total)</td>
<td>346.8 MB/498.3 MB</td>
</tr>
</tbody>
</table>

| Flow reduction rate           | 42.40%           |
| Flow before/after WANACC      | 110.3 MB/62.5 MB |
| Data cache (free/total)       | 111.5 GB/117.8 GB|
| Disk space (free/total)       | 129.5 GB/147.8 GB|

### Real-time Flow in 60 Seconds

- **Before WANACC**
  - Flow: 3B  Average flow: 1.4KB
- **After WANACC**
  - Flow: 11B  Average flow: 857B

### Real-time Connection in 60 Seconds

- **Acceleration**
  - Connection count: 69
- **Non-acceleration**
  - Connection count: 33

[Graphs and charts showing flow and connection statistics]
<table>
<thead>
<tr>
<th>No.</th>
<th>Source IP</th>
<th>Destination IP</th>
<th>Application type</th>
<th>Flow before/after WAN ACC</th>
<th>Speed</th>
<th>Reduction rate</th>
<th>Proxy</th>
<th>Algorithm</th>
<th>Creation time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10.209.88.90:1739</td>
<td>10.209.33.77:1080</td>
<td>DMS</td>
<td>14.6KB/4.5KB</td>
<td>0.00B/s</td>
<td>60.35%</td>
<td>top</td>
<td>cache,lzo</td>
<td>Tuesday, March 16, 2010 1:32:02 PM</td>
</tr>
<tr>
<td>2</td>
<td>10.209.88.83:1304</td>
<td>10.209.33.77:1080</td>
<td>DMS</td>
<td>186.1KB/24KB</td>
<td>0.00B/s</td>
<td>82.31%</td>
<td>top</td>
<td>cache,lzo</td>
<td>Tuesday, March 16, 2010 1:43:36 PM</td>
</tr>
<tr>
<td>3</td>
<td>10.209.88.83:1396</td>
<td>10.209.33.201:4000</td>
<td>All applications</td>
<td>2.2KB/2.2KB</td>
<td>0.00B/s</td>
<td>0.00%</td>
<td>top</td>
<td>cache,lzo</td>
<td>Tuesday, March 16, 2010 1:43:36 PM</td>
</tr>
<tr>
<td>4</td>
<td>10.209.88.83:1416</td>
<td>10.209.33.77:1080</td>
<td>DMS</td>
<td>47.7KB/2.4KB</td>
<td>0.00B/s</td>
<td>94.83%</td>
<td>top</td>
<td>cache,lzo</td>
<td>Tuesday, March 16, 2010 1:44:19 PM</td>
</tr>
<tr>
<td>5</td>
<td>10.209.88.83:111:1325</td>
<td>10.209.33.203:20482</td>
<td>exchange</td>
<td>558.5KB/520.9KB</td>
<td>11.00B/s</td>
<td>0.02%</td>
<td>exchange</td>
<td>cache,lzo</td>
<td>Tuesday, March 16, 2010 1:52:28 PM</td>
</tr>
<tr>
<td>6</td>
<td>10.209.88.87:1423</td>
<td>10.209.33.88:5222</td>
<td>All applications</td>
<td>158.9KB/165.4KB</td>
<td>3.00B/s</td>
<td>0.00%</td>
<td>top</td>
<td>cache,lzo</td>
<td>Tuesday, March 16, 2010 2:06:45 PM</td>
</tr>
<tr>
<td>7</td>
<td>10.209.88.53:1709</td>
<td>10.209.33.77:1080</td>
<td>DMS</td>
<td>23.1KB/7.3KB</td>
<td>0.00B/s</td>
<td>68.13%</td>
<td>top</td>
<td>cache,lzo</td>
<td>Tuesday, March 16, 2010 2:18:38 PM</td>
</tr>
<tr>
<td>8</td>
<td>10.209.88.72:2253</td>
<td>10.209.33.201:4000</td>
<td>All applications</td>
<td>2.3KB/2.1KB</td>
<td>0.00B/s</td>
<td>6.97%</td>
<td>top</td>
<td>cache,lzo</td>
<td>Tuesday, March 16, 2010 2:20:52 PM</td>
</tr>
<tr>
<td>9</td>
<td>10.209.88.93:2324</td>
<td>10.209.33.203:20482</td>
<td>exchange</td>
<td>846KB/550.6KB</td>
<td>8.00B/s</td>
<td>34.92%</td>
<td>exchange</td>
<td>cache,lzo</td>
<td>Tuesday, March 16, 2010 2:29:08 PM</td>
</tr>
<tr>
<td>10</td>
<td>10.209.88.64:1776</td>
<td>10.209.33.203:20482</td>
<td>exchange</td>
<td>2.1MB/1MB</td>
<td>364.00B/s</td>
<td>48.03%</td>
<td>exchange</td>
<td>cache,lzo</td>
<td>Tuesday, March 16, 2010 2:31:20 PM</td>
</tr>
<tr>
<td>11</td>
<td>10.209.88.78:1403</td>
<td>10.209.33.201:4000</td>
<td>All applications</td>
<td>4.7KB/3.1KB</td>
<td>0.00B/s</td>
<td>33.29%</td>
<td>top</td>
<td>cache,lzo</td>
<td>Tuesday, March 16, 2010 2:48:24 PM</td>
</tr>
<tr>
<td>12</td>
<td>10.209.88.62:1543</td>
<td>10.209.33.77:1080</td>
<td>DMS</td>
<td>35.5KB/4.4KB</td>
<td>0.00B/s</td>
<td>87.68%</td>
<td>top</td>
<td>cache,lzo</td>
<td>Tuesday, March 16, 2010 2:56:49 PM</td>
</tr>
<tr>
<td>13</td>
<td>10.209.88.100:2281</td>
<td>10.209.33.203:20482</td>
<td>exchange</td>
<td>226.8KB/99.2KB</td>
<td>72.00B/s</td>
<td>58.10%</td>
<td>exchange</td>
<td>cache,lzo</td>
<td>Tuesday, March 16, 2010 3:08:47 PM</td>
</tr>
<tr>
<td>14</td>
<td>10.209.88.83:1506</td>
<td>10.209.33.88:5222</td>
<td>All applications</td>
<td>180.1KB/186.3KB</td>
<td>8.00B/s</td>
<td>0.00%</td>
<td>top</td>
<td>cache,lzo</td>
<td>Tuesday, March 16, 2010 3:09:04 PM</td>
</tr>
<tr>
<td>15</td>
<td>10.209.88.38:1962</td>
<td>10.209.33.203:20482</td>
<td>exchange</td>
<td>303.9KB/242.9KB</td>
<td>40.00B/s</td>
<td>20.61%</td>
<td>exchange</td>
<td>cache,lzo</td>
<td>Tuesday, March 16, 2010</td>
</tr>
</tbody>
</table>
Advantages
High ROI

- Average recovery period is less than 1 year;
- Powerful functions with reasonable price;
- Built-in IPSEC VPN;
- Portable accelerator;
- Built-in Bandwidth Management module;

Investment:
- Sangfor
- WANO
- Construction

Return:
- Benefit
- Efficiency
- Fast

Bandwidth Cost Work efficiency Telecommuting
Case Studies
Our Customers

More than 18,000 customers worldwide
THANK YOU