2000 CDN Product Market Share and Forecast Report

January 2001

The HTRC Group, LLC
P.O. Box 2087
San Andreas, CA 95249
www.htrcgroup.com

About The HTRC Group, LLC

The High-Tech Resource Consulting Group focuses on advanced IP services and service provider networking, providing consulting, custom market research, and market research studies to service providers and product manufacturers.

Table of Contents

Table of Charts and Figurers

Introduction

The 2000 CDN Product Market Share and Forecast Report concentrates on supply-side and demand-side research. Supply-side research was conducted directly with the manufacturers of content delivery network (CDN) products. Demand-side research was conducted with providers of CDN services regarding current and future plans for CDN products. Information gathered from the 2000 Content Delivery Service Study was also used to determine growth and product demands for CDN providers. This market share report identifies the leading product manufacturers of CDN equipment for 2000. Included in this report are forecasts for 2000-2004 CDN product revenue resulting from shipments to service providers and enterprises.

Market Background

In 2000, the CDN market continued to heat up with service provider and product manufacturer activity in the form of mergers, acquisitions, and IPOs. New, unannounced start-ups are feverishly working on unique solutions for Web site content performance problems. Providers of CDN services, such as Surgient Networks, continue to raise funding without much difficulty.

The introduction of CDN products has been well received in the industry; merger and acquisition activity attest to their importance. Cisco's entry into the CDN market is forcing competitors to take a closer look at this market..

The growth of the Internet continues to blaze forward at an incredible rate. New Internet-based media types are continually developed and used by Web sites striving to differentiate. The total number of Web sites continues to increase at a staggering pace, fueled by the growing Internet economy. The growth rate of content on the Internet is significantly increasing as organizations around the world harness developing content types, such as streaming media and dynamic content. Performance, however, remains one of the leading Web site differentiations.

Web sites differentiate in two fundamental ways: content development and performance. CDNs, a new type of provider, emerged in the market uniquely defined by providing performance enhancement services to Web sites through an overlay network of CDN elements, strategically distributed throughout the Internet. The CDN market began in 1999 with the introduction of Akamai Technologies and Sandpiper Networks, both offering new technology and services that dramatically increase Web site performance. Both of these companies developed and deployed their own technology solution; they were the initial technology providers. Soon, however, product manufacturers began to emerge with product based CDN solutions, such as WebSpective, enabling facilities-based service providers to deliver CDN services.

Most CDN providers are offering on-demand streaming services and some live streaming services. Streaming over the Internet provides a challenging environment where performance enhancement services can provide a significant increase in the end user's experience. These services are complementary to CDN services, as they provide performance enhancement by delivering the streamed media from a distributed overlay network of servers, closer to end users.

Related Market Forecasts

According to the 2000 Content Delivery Service Study, service providers that offer CDN services are presented with a significant opportunity. Web sites will spend $97 million in subscriptions to CDN services in 2000, increasing to $2.2 billion in 2003. Content delivery services include services that intelligently distribute content globally on a network through strategically placed servers, which store and deliver content close to end users.

Performance streaming services provide broadband users with television-like quality in large or full screen windows. According the 2000 Content Delivery Service Study, the opportunity in performance streaming services includes numerous revenue models that enable service providers to differentiate and generate revenue. We estimate the opportunity for performance streaming services to grow from $337 million in 2001 to $1.7 billion in 2003. However, streaming media must deliver television-like quality in order to be widely accepted and adopted.

Market Demand

The use of content delivery network (CDN) services to increase Web site performance is steadily growing. According to the 1999 Content Delivery Service Study and the 2000 Content Delivery Service Study, study respondents indicated that planned use of CDN services increases from 8% in 1999 to 31% in 2001. The results from The 2000 Content Delivery Service Study indicate a strong growth in a largely untapped market, driving further CDN buildout for providers of CDN services. Service providers of all types plan to enter the CDN market to participate in the market opportunity. Following are basic definitions for the types of providers in the CDN service market:

- *Hybrid CDN providers* are a combination of facilities-based and multi-network. Hybrid-based CDN providers, such as Digital Island, deliver content from an owned and maintained facilities-based network, as well as other networks.

- *Facilities-based CDN providers* can directly resolve network problems if they occur. In order to deliver CDN services on a facilities-based network, the service provider's network should span a large

geographic area to distribute content to end users. Facilities-based CDN providers, which own data centers, can provide a single source for most or all Internet services and can bundle services such as colocation, access and content delivery services.
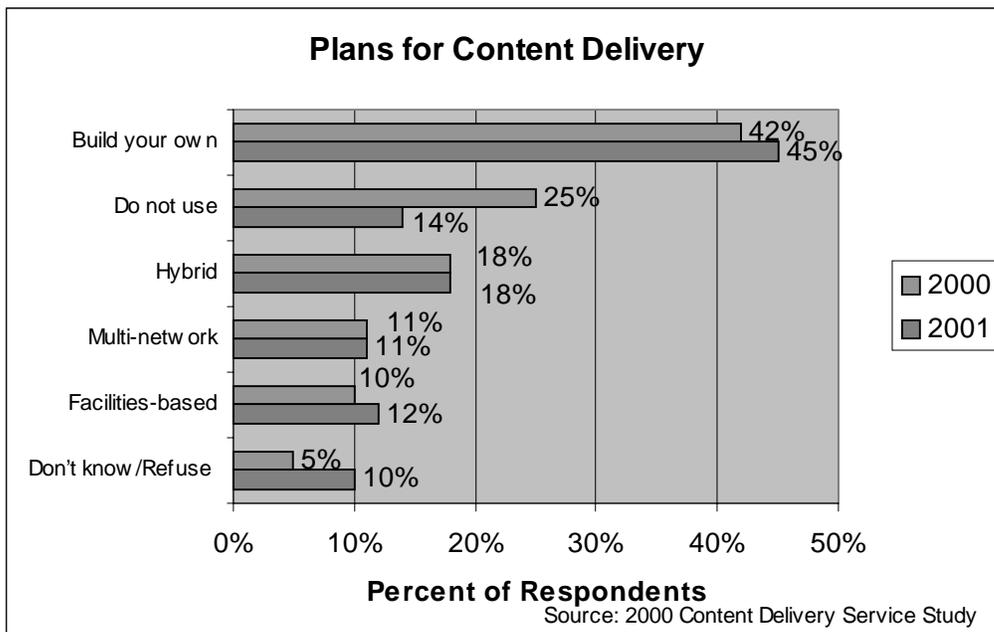
- *Multi-network CDN providers* place CDN servers in as many facilities-based service provider's networks as possible, targeting networks with many Internet access users. These CDN servers, such as those from Akamai and Speedera, comprise a network of many interconnected servers across multiple ISP backbones. Deploying content delivery servers in many individual networks adds resiliency to the multi-network CDN provider's overall service.

According to the 2000 Content Delivery Service Study, respondent plans to outsource content delivery services to multi-network, facilities-based, and hybrid-based content delivery providers show little overall growth. However, there is a significant increase from last year's study respondents. Eighteen percent of the respondents are using or plan to use a hybrid-based CDN provider this year and in 2001. Ten percent of the respondents are using or plan to use a facilities-based CDN provider this year, slightly increasing to 12% in 2001. Eleven percent of the respondents are using or plan to use a multi-network CDN provider this year and in 2001.

We believe that when Web site decision makers understand CDN technology and examine resources and planned growth, more will choose content delivery services.

The largest number of respondents from the 2000 Content Delivery Service Study plan to build a content delivery solution in-house and have a marginal 3% change from 42% in 2000 to 45% in 2001. Those respondents that plan to build their own CDN solution were asked which products they used and planned to use. The majority of the products named were content management tools and content development applications. The current buyer perception of deploying an in-house CDN solution involves content management rather than delivery or distribution. The target market clearly needs to be educated on CDN technology.

Chart 1: Plans for Content Delivery (n=100)

Plans for Content Delivery

Category	2000	2001
Build your own	42%	45%
Do not use	25%	14%
Hybrid	18%	18%
Multi-network	11%	11%
Facilities-based	10%	12%
Don't know/Refuse	5%	10%

Percent of Respondents

Source: 2000 Content Delivery Service Study

The lack of a single service provider type for content delivery services indicates that there is no preconceived barrier for service provider types entering the CDN market. Clearly there is room in the CDN market for multiple service provider types.

The Effect of CDN alliances

Two content peering alliances have emerged, the Content Bridge Alliance backed by Inktomi, and the Content Alliance backed by Cisco. The Content Bridge Alliance is focused on building a working business model among providers of CDN services for exchanging content. Participants of the Content Bridge Alliance are compensated for content that is "Delivered" on their network to end users.

Content Bridge is the first attempt at a working business model open to all types of service providers. Inktomi recently purchased part of Adero, Inc. for $23.5 million, and will take over the settlement, billing and reporting function of the Content Bridge Alliance. Inktomi continues to develop significant CDN expertise from their professional services unit needed to successfully operate settlement and billing services. Inktomi provides stability of billing and settlement functions, providing encouragement for the Content Bridge Alliance.

The focus of the Content Alliance, backed by Cisco, is to develop and ratify technology standards through the industry standards organizations such as the IEEE. Members participate and have influence on how the technology standards are developed. The development of ratified CDN standards will probably take 12 to 24 months.

Both alliances are beneficial to providers of CDN services. Content providers subscribe to CDN services in order to increase performance to end users. By participating in an alliance, providers can generate revenue from content peering partners by delivering content to end users attached to the providers network. Both CDN alliances will drive CDN product sales with providers of CDN services.

The alliances will have a direct impact on how streamed media is exchanged among peered providers. Participating in the Content Bridge Alliance requires that providers have equipment that is interoperable with alliance partners. Some providers may not want to participate in either alliance; however, they may require the capacity to do bilateral peering with selected network or content partners. The technology requirements, however, remain the same for standards and interoperability.

Methodology

The information gathered for the 2000 CDN Product Market Share and Forecast Report is the result of The HTRC Group's continued focus on the CDN market. The information used in the year 2000 market share is based on revenue from products shipped directly to providers of CDN services and enterprises building private CDNs. Compound annual growth rates (CAGR) are included in all forecasts.

The HTRC Group interviewed product manufacturers shipping CDN products to service provider and enterprise customers. Currently, not all vendors use accounting practices that break out enterprise vs. service provider CDN product shipments. We used extrapolation techniques based on primary and secondary market research and market factors to determine CDN product forecasts.

Market Definition

As with most popular emerging markets, terms used by vendors to describe their product solution are at times misrepresented. It would seem that the term CDN as an acronym has been widely used, consequently the definition of "Content Delivery Network" products may differ among vendors. For this report, we define CDN products as those used by providers of CDN services to deliver CDN services, as well as products sold to enterprises that are building private CDN solutions. CDN products include CDN management systems, tools for identifying content to be distributed through a CDN, caches, layer 4 through 7 switches, distributed streaming media solutions, and local and global load balancing solutions.

What's Included

Products counted for this report include the following:

- CDN management systems
- Tools for identifying content to be distributed through a CDN
- Caches sold to providers of CDN services and enterprises building a private CDN
- CDN products sold to satellite CDN service providers, such as Cidera
- Layer 4 through 7 switches sold to providers of CDN services and enterprises building a private CDN
- Distributed streaming media technology sold to providers of CDN services and enterprises building a private CDN
- Local and global load balancing solutions sold to providers of CDN services and enterprises building a private CDN

What's Not Included

The CDN market continues to grow while technology evolves to include multiple types of Web site content (e.g. dynamic content). For this study, we do not include the following revenue sources from vendors:

- Professional services
- Caches that do not function as part of a CDN
- Servers
- Switches that do not function as part of a CDN
- Local and global load balancing solutions that do not function as part of a CDN

Market Forecast

Web sites are a strategic advantage in today's markets, and most businesses are increasingly dependent on an online presence. The worldwide 2000 CDN Forecasts examine the opportunity for product manufacturers of CDN products. We used extrapolation techniques and market factors to estimate the market growth for CDN products. Following are significant market factors influencing our forecasts:

- The price of CDN products and services will decrease over time, driving adoption rates up

- CDN technology will expand to distribute more content types, including dynamic content

- Enterprises will deploy private CDNs to save bandwidth and increase performance for employees, creating greater efficiencies

- The use of streaming media in the enterprise grows from 50% in 2000 to 66% in 2001 (source: RBI October 2000)

- Training is the fastest growing application of streaming media in the enterprise, increasing from 20% in 2000 to 44% in 2001 (source: RBI October 2000)

- Internet expertise does not scale with demand; sites will outsource more IT functions over time

- New Internet access technology will drive more sophisticated high-bandwidth content, requiring performance enhancement services

- Facilities-based service providers will begin offering CDN services with content peering

- Content alliances will drive content peering interoperability and product shipments

- Most providers of CDN services will evaluate the least expensive solution that yields the highest acceptable performing solution

- Broadband Internet access drives increased bandwidth demand

- The number of new Web sites will increase at a slower rate between 2001 and 2003, as Internet infrastructure continues to develop around the world

- Web site traffic demand for bandwidth increases roughly 6.8 percent per month (source2000 Content Delivery Service Study)

- Adoption rates for CDN services were heavily influenced by current and future plans for CDN subscriptions

- Cost is the largest barrier to subscription to CDN services

2000 CDN Product Forecast

Some numbers in the forecasts may not add up due to rounding.

Chart 2: 2000-2004 Product Forecast

2000 CDN Product Forecast
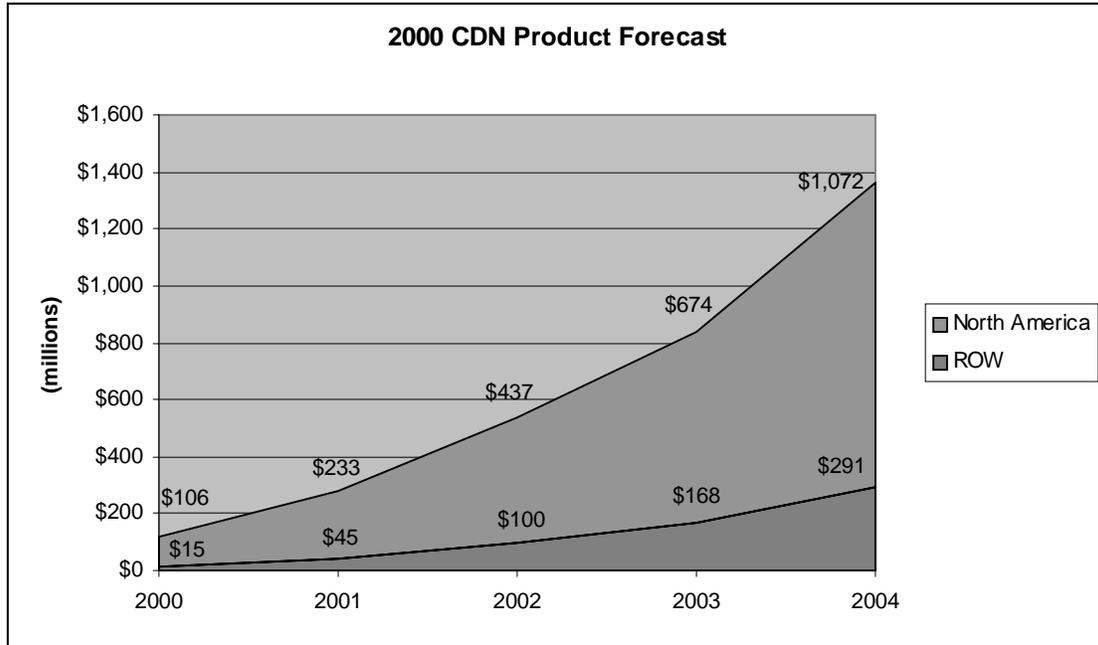
Table 1: 2000 CDN Product Forecast Details

	2000	2001	2002	2003	2004	CAGR
North America	$106	$233	$437	$674	$1,072	78.2%
ROW	$15	$45	$100	$168	$291	108.7%
Total	$122	$278	$537	$842	$1,363	82.9%

Chart 3: 2000-2004 CDN Product Forecast: Service Providers

2000 CDN Product Forecast: Service Providers
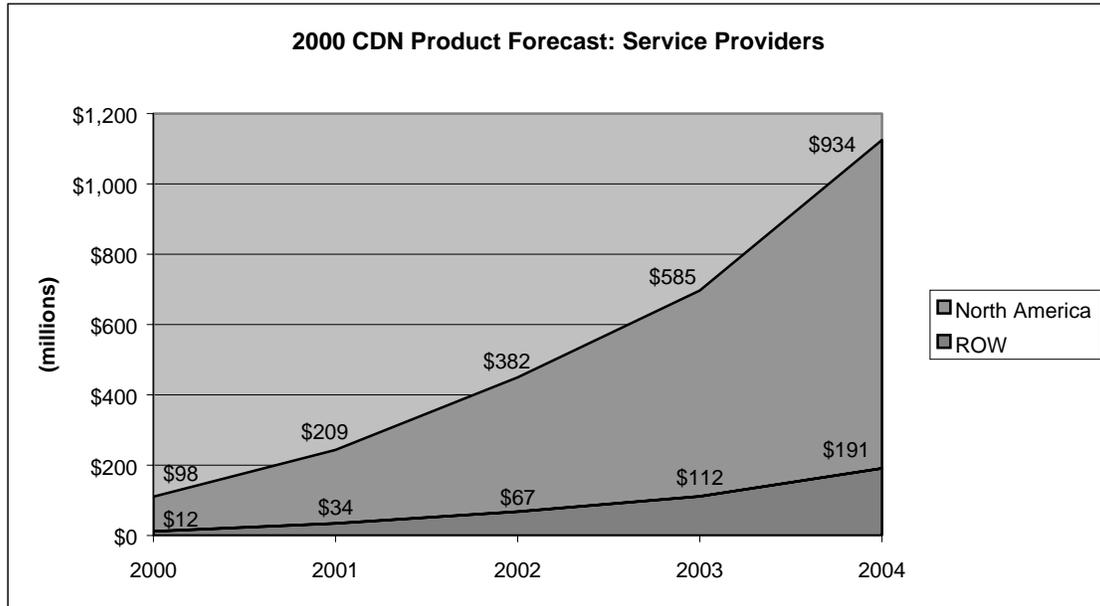
Table 2: 2000 CDN Product Forecast Details: Service Providers

	2000	2001	2002	2003	2004	CAGR
North America	$98	$209	$382	$585	$934	75.7%
ROW	$12	$34	$67	$112	$191	99.3%
Total	$110	$243	$450	$697	$1,125	78.8%

2000 CDN Product Forecast: Enterprise Segment

Chart 4: 2000-2004 CDN Product Forecast: Enterprise

2000 CDN Product Forecast: Enterprise

(The chart below shows stacked area data for North America and ROW, in millions of dollars, from 2000 to 2004.)

North America: $8, $24, $55, $88, $138
ROW: $3, $11, $32, $56, $100
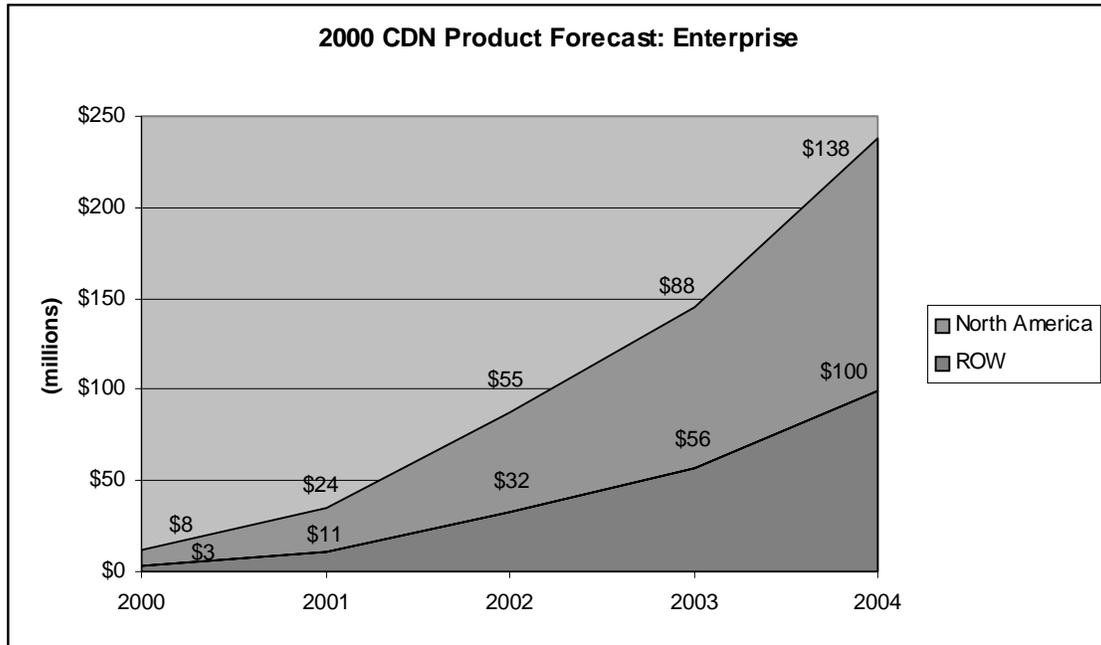
Table 3: 2000 CDN Product Forecast Details: Enterprise

	2000	2001	2002	2003	2004	CAGR
North America	$8	$24	$55	$88	$138	101.7%
ROW	$3	$11	$32	$56	$100	135.6%
Total	$12	$35	$87	$145	$238	112.9%

Product Manufacturer 2000 Market Share

The CDN Product Market is relatively new. We expect there will be several additional product manufacturers by next year. The chart 5 below shows the product manufacturer market share by revenue for year 2000. Inktomi is the market share leader with 43%, followed by CacheFlow with 20%, Infolibria with 16% and Cisco with 14%.

Chart 5: 2000 CDN Product Market Share

2000 CDN Product Market Share

Other*
7%

Cisco *
14%

Inktomi
43%

Infolibria
16%

CacheFlow
20%

Market Share Factors	
Inktomi ($52M)	We expect Inktomi to remain the market share leader over the next year. However, Inktomi will face increased competition from current and future product manufacturers. Inktomi's new role in the Content Bridge Alliance will provide stability for content peering settlement and billing. Inktomi's market share will continue to grow as providers join Content Bridge and demonstrate a successful content peering revenue model.
CacheFlow ($24M)	CacheFlow's market share will continue to grow in both the CDN service provider and enterprise segments. CacheFlow's product direction will drive price performance competition for CDN caches, and gain traction in the enterprise CDN market.
Infolibria ($20M)	Infolibria is successfully entrenched in the satellite CDN provider segment, and will continue growing with that segments success.
Cisco* ($17M)	We expect Cisco to increase CDN product market share by leveraging existing relationships with facilities-based providers—ISPs, Hosting providers, NSPs, IXCs, and CLECs—that begin to deploy CDN solutions. *Cisco currently does not break out revenue by CDN segment; consequently revenue from CDN products were estimated based on interviews with CDN providers and anecdotal information.
Other* ($9M)	*Other CDN product manufacturers include Network Appliance, Lucent, f5, and WebEver. New start-up companies are likely to emerge in this space. Network Appliance will increase market share with providers of CDN services; however, they will have growing success with enterprise CDNs. New product players, including WebEver, will introduce new technology differentiations and provide more competition in the CDN product space. *Network Appliance and f5 currently do not break out revenue by CDN segment; consequently, revenue from CDN products was estimated based on interviews with CDN providers and anecdotal information.

Company Profiles

CacheFlow, Inc.

CacheFlow is focused on content-smart networking - a layer of infrastructure for accelerating, delivering, and managing static, streaming and dynamic content. CacheFlow's appliances and content delivery technologies enable enterprises, service providers and content providers to deliver content. Founded in 1996, CacheFlow shipped its first product in 1998. It is headquartered in Sunnyvale, California and employs over 500 people.

Markets and Customers

CacheFlow appliances locally store and serve Internet content most often requested by users, while monitoring the source of that content for changes. CacheFlow develops networking solutions for Enterprises, Service Providers and E-commerce businesses. CacheFlow's solutions deliver content by removing network and server bottlenecks that impede content flow.

- E-commerce solutions - provides customers with an online experience and minimizes the load on the site's servers, networks, and firewalls

- Enterprise solutions - increases employee productivity, reduces bandwidth costs, manages content access policies, and offloads network management resources

- Service Provider solutions - reduces Web response times for subscribers, improves bandwidth utilization, and allows content acceleration and management services to be offered

CacheFlow offers Internet caching appliances, from the entry-level to the high-end. Solutions are sized according to the amount of cached content and the volume of network traffic. The CacheFlow appliance line ranges from 4GB to 243GB of capacity, and scales from T1 to OC-3 levels of bandwidth.

Financials

Fiscal Year - Net Sales	Millions
2001, Second Quarter, ending 10/31/00	$32.5
2001, First Quarter, ending 7/31/00	$22.4
2000, Fourth Quarter, ending 4/30/00	$12.8
2000, Third Quarter, ending 1/31/00	$8.0

CDN-Related Acquisitions

Entera

October 10, 2000 - Based in Fremont, California, Entera is a provider of standards-based streaming content distribution and management technologies. The combined company offerings will allow service providers and enterprises to utilize live and on-demand Internet streaming video and audio content. Customers will be able to build dedicated content delivery networks for streaming. By integrating Entera technologies, CacheFlow will provide its customers with support for streaming media services and streaming content management from the content provider to the content consumer.

Springbank Networks

June 6, 2000 - Privately-held Springbank Networks, Palo Alto, CA. Springbank's hardware technology offers the delivery of a caching architecture that combines the strengths of custom silicon with core optimization for streaming, HTTP and other web protocols. Its technology is designed to accelerate access to both static and dynamic objects. Springbank optimizes caching throughput and performance by integrating software and hardware together to deliver networking infrastructure devices.

Cisco Systems, Inc.

Cisco Systems is a provider of networking solutions for the Internet. Cisco offers a range of hardware products used to form information networks or give people access to those networks. Cisco also provides network services and networked applications, network design and implementation, and technical support and professional services to maintain and optimize network operations. Since shipping its first product in 1986 and becoming a public company in 1990, Cisco's annual revenues have increased from $69 million in that year to $18.9 billion in fiscal 2000. Cisco sells its products in approximately 115 countries through a direct sales force, distributors, value-added resellers and system integrators. Cisco has headquarters in San Jose, CA. It also has major operations in Research Triangle Park, NC, and Chelmsford, MA.

Cisco Content Delivery Networks (CDNs) delivers video, rich audio, and large graphics and other high bandwidth files. The five components of a Cisco CDN are Content Distribution and Management, Content Routing, Content Switching, Content Edge Delivery, and Intelligent Network Services.

Content Distribution and Management offers global/centralized provisioning, real time monitoring, fresh content assurance, and a self organizing distribution network. Products include Content Distribution Manager Products such as CDM 4670, CDM 4650, and CDM 4630.

Content Routing offers scalability, routing the most proximate content, and adaptive routing around failures and congestion. Products include Content Router Products such as the CR 4450, CR 4400, WebNS 4.0, and Distributed Director.

Content Switching offers flash crowd protection, optimal handling for non-cacheable, e-commerce transaction assurance, and core distribution capabilities. Products include Content Switch Products such as the CSS 11000, Local Director, Catalyst 4840G, and Catalyst 6500.

Content Edge Delivery offers high-performance content delivery for POPs, integrated caching for transparent insertion into the network, and full scalable range product with common architecture. Products include Content Engine Products such as the CE 7320 and the CE 507/560/590.

Intelligent Network Services offers leverage of existing network infrastructure, QoS, Security, Multicasting, and VPNs. Products include Network Service Products such as the Cisco IOS.

Cisco Target Markets

- Enterprises - Large organization with complex networking needs, usually spanning multiple locations and types of computer systems. Enterprise customers include corporations, government agencies, utilities and educational institutions.

- Service Providers - Companies that provide information services including telecommunication carriers, Internet Service Providers, cable companies, and wireless communication providers.

- Commercial- Companies with a need for data networks of their own, as well as connection to the Internet and/or to business partners.

Financials

Net Sales (in millions, year ending 7/29/00): $18,928

Area	Millions
Americas	$12,924
Europe, Middle East, Africa (EMEA)	$4,770
Asia Pacific	$1,705
Japan	$935
Sales Adjustment	($1,406)
Fiscal Year	Billions
2001, First Quarter, ending 10/00	$6.52
2000, Fourth Quarter, ending 7/00	$5.72
2000, Third Quarter, ending 4/00	$4.92
2000, Second Quarter, ending 1/00	$4.35
2000, First Quarter, ending 10/99	$3.88

CDN-Related Acquisitions

Tasmania Network Systems, Inc.
October 26, 1999 - Tasmania is a developer of network caching software technology. This acquisition allows Cisco to offer its service provider and enterprise customers edge content networking services, including content-aware network caching. Network caching technology accelerates content delivery and overall network performance by localizing traffic patterns. It uses the intelligence of the network to move frequently accessed content closer to the user, increasing the effectiveness and performance of data networks.

SightPath, Inc.

March 29, 2000 -- SightPath is a provider of appliances for creating intelligent CDNs. Cisco is acquiring SightPath to offer its customers the ability to create CDNs using existing Internet and Intranet infrastructure.

ArrowPoint Communications, Inc.

May 5, 2000 -- ArrowPoint Communications is a provider of content switches that optimize the delivery of web content. ArrowPoint's products will provide a level of intelligence that will enable ISPs, Web hosting companies and other customers to create a fast, reliable Web experience, and its services can direct traffic based on information such as the content being requested and the frequency of the content request.

Netiverse, Ltd.

July 7, 2000 -- Netiverse is a provider of content acceleration technology that enhances the performance and functionality of networking devices. This acquisition allows Cisco to offer its customers added performance capabilities for meeting the demands of distributing web content and managing large amounts of Internet traffic. Netiverse's technology was developed specifically for use across multiple product lines.

Infolibria, Inc.

InfoLibria is an Internet infrastructure provider for content distribution and delivery. InfoLibria's solutions enable service providers and carriers to deliver and manage the broadband and streaming media applications over the Internet. Service providers and carriers can create revenue streams from value-added content services.

InfoLibria is a privately held company founded in 1997 by CEO Ian Yates and researchers from Boston University, where the foundation for their technology was originally developed. They are headquartered in Waltham, Massachusetts, with offices in Bridgewater, New Jersey and the UK.

InfoLibria develops a suite of products that enables service providers to manage the distribution and delivery of content, to create additional services and to reduce overall costs. InfoLibria's Internet content management and delivery products enable the Internet to deliver quality content fast and efficiently. The company's products also enable Internet service providers to deliver content-based, value-added services to their customers - both users and content providers. InfoLibria's product suite includes:

- *Content Commander* is a set of application tools that offers flexibility in the management of content retrieval, distribution and tracking.

- *MediaMall* stores multimedia content close to users, off the Internet backbone, making it possible for users to access video and audio.

- *DynaCache* is a network caching application system that allows service providers to selectively and automatically store popular Web content outside the core of the network, close to users.

Inktomi Corporation

Founded in 1996, Foster City, CA based Inktomi develops and markets applications for the Internet infrastructure, enabling end users to find information and access it. Inktomi's software is designed for use by global enterprises, media companies and service providers in the Internet access, backbone, broadband, hosting and content markets.

Products

Traffic Server is a large-scale commercial network cache designed to reduce congestion over the Internet and increase overall network efficiency. This software solution is designed to scale beyond a terabyte of data.

Content Delivery Suite is an integrated software solution for content distribution, delivery and management.

Inktomi Media technology delivers the distribution and management capabilities needed to build reliable Internet broadcasting businesses, reach targeted audiences of different sizes at different locations, and monitor, measure and analyze the audience and manage network performance.

Financials

Fiscal Year	Total Products - Millions	Network Products Business* - Millions
2000, Fourth Quarter, ending 9/30/00	$78.6	$56.1
2000, Third Quarter, ending 6/30/00	$61.5	$43.1
2000, Second Quarter, ending 3/31/00	$47.3	$30.8
2000, First Quarter, ending 12/31/99	$36.1	$22.1

* Inktomi's Network Products business consist of Traffic Server, Content Delivery Suite, Media Products and associated.

CDN-Related Acquisitions

FastForward Networks

September 13, 2000 -- Based in San Francisco, Calif., FastForward Networks has developed a scalable software technology for the distribution and management of live broadcasting over the Internet. The acquisition will allow Inktomi to target the Internet broadcast market. Inktomi's infrastructure

technology combined with the FastForward Networks' Internet broadcasting software platform will enable network service providers to build business models based on Internet broadcasting.

Content Bridge Alliance

Formed in August 2000, Content Bridge is an alliance of technology and network service providers formed to enable cross-network content distribution and speed the delivery of content from the point of origin to end users. Current members include: Adero, Inc., Alteon WebSystems, Apogee Networks, Compaq Computer Corporation, Digital Island, Inc., Exodus Communications Inc., Genuity Inc., Hewlett-Packard Company, Inktomi Corp., Intel Corporation, Madge.web N.V., Mirror Image Internet Inc., Portal Software, Inc., StorageNetworks, Inc., Sun Microsystems and Vignette Corp.

Acquisition of Adero's Billing, Settlement, and Traffic Reporting Business Assets

January 5, 2001 -- Inktomi Corp. acquired various business assets of Adero relating to billing, settlement and traffic reporting and has licensed other related technologies from Adero. With this transaction Inktomi assumes the role of operator for Content Bridge alliance services. The addition of Adero's billing and settlement technologies to Inktomi's Internet infrastructure software enables content peering between multiple service provider networks. Content peering provides scalable delivery of rich content from content providers, across multiple networks, to content consumers at the point of Internet access. Inktomi will facilitate content delivery and updates across all member networks and provide centralized billing and settlement services for cross-network transactions.

Network Appliance, Inc.

Network Appliance, Inc., a provider of network file storage and content delivery, has been providing data access solutions since 1992, and is a member of both the S&P 500 and NASDAQ 100 index. The company offers a "network appliance," an extension of the industry trend toward dedicated, specialized products that perform a single function. NetApp storage and content delivery platforms (filers and NetCache appliances) are coupled with content distribution and reporting software. This solution offers data management from the back-end data center to the edge of the network. The Network Appliance product portfolio utilizes the company's data access software, known as the Data ONTAP operating system, as well as standards-compliant hardware.

Financials

Fiscal Year	Millions
2001, Second Quarter, ending 10/27/00	$260.8
2001, First Quarter, ending 7/31/00	$231.2
2000, Fourth Quarter, ending 4/28/00	$200.0
2000, Third Quarter, ending 1/28/00	$151.3

CDN-Related Acquisitions

WebManage Technologies, Inc.

September 5, 2000 -- Network Appliance, Inc., a provider of network-attached data access and content management solutions acquired privately-held WebManage Technologies, Inc. of Chelmsford, Mass., a developer of content management, distribution, and analysis software solutions. WebManage develops software that distributes content between various points on the Internet and enables organizations to plan, manage, and deliver Internet/intranet services.

F5 Networks, Inc

F5 Networks is a provider of Internet Traffic and Content Management (iTCM). Their suite of products provides an end-to-end solution for managing Internet content and traffic. Their products address bandwidth congestion and the availability and speed of mission-critical Internet servers and applications, including web publishing, content delivery, e-commerce, caching, and firewalls. Their products monitor and manage an organization's geographically dispersed servers and direct traffic to the server best able to handle a user's request. Founded in 1996, the company is headquartered in Seattle, Washington with more than 500 employees, and has offices throughout North America, Europe and Asia Pacific. They shipped their first product in July 1997.

Products

F5 has five products that manages traffic and content to servers and devices in a way that maximizes availability and throughput.

- *BIG-IP Controller* - optimizes server availability and performance, and sits between the network and server array. It monitors each server for service and application availability/performance, and routes incoming queries to an available server. BIG-IP allows network managers to use a variety of load-balancing algorithms to tune performance and availability.

- *3-DNS Controller* - communicates with each server on a regular basis, keeping track of key performance attributes. Then, when a request comes in, 3-DNS routes the request to an available site.

- *EDGE-FX Cache* - is an Internet cache that stores frequently-requested data at points on the computer network, making web objects available to Internet users, improving user response times, and increasing network efficiency by reducing the physical distance that information must travel to reach Internet users.

- *GLOBAL-SITE Controller* - it automatically and securely pushes new content to globally distributed servers ensuring that they have the most current information.

- *SEE-IT Network Manager* - centralizes network operations into a single location for traffic control and allows administrators to take steps to guarantee the performance of their sites.

Financials

Fiscal Year	Millions
2001, First Quarter, ending 12/00	Not available
2000, Fourth Quarter, ending 9/00	$36.6
2000, Third Quarter, ending 6/00	$29.2
2000, Second Quarter, ending 3/00	$23.6
2000, First Quarter, ending 12/99	$19.2

Conclusion

Considering the growing number of Web sites and the challenges they face in offering fast, reliable performance, demand for cost-effective CDN products and services is expected to grow dramatically over the next 4 years. CDN products enable service providers and enterprises to build an overlay network of CDN elements, used to deliver content closer to end users.

The CDN product market will continue to grow at a rapid pace with new technology product manufacturers, and speed will continue to be a differentiating factor.