

# Sooner Information Network

2002 Traffic and Service Analysis



*Spring, Summer, and Fall Academic Sessions*  
January – December, 2002



## Monthly Traffic Summary (January – December, 2002)

During the year of 2002, the SIN web site went through one major face-lift and one minor optimization enhancement. The major change occurred during the Spring Semester: February 14, 2002 to be exact. On this date, the primary SIN site was moved from SIN 3 to the all-new SIN II. In terms of traffic to the site, the new design increased both total number of hits and data transferred significantly. While logs are incomplete from this time period, the data that was obtained showed a major increase in total requests after the new design was unveiled.

The beginning of the Fall semester came in with a bang on August 26, 2002. SIN experienced its greatest one-day traffic of all-time on this day, recording slightly over 1.2 million raw hits on 58,000 page views from 12,000 unique visits. While the numbers for this extraordinary first day were impossible to sustain throughout the semester, *SIN has seen approximately a 50% increase in average daily traffic this semester compared to the Spring Semester and accounts for over half of the entire year's traffic, all in a 5 month net period* (with the majority of the traffic coming in the four months of classes during the Fall).

Overall, SIN has experienced significant growth in almost all parts of the site in the Fall semester. The Virtual Market service has seen a large increase in users, primarily due to the widespread popularity of OU Football and Ticket reselling. Other seasoned services, such as the Calendar, Test Files, and Off-Campus Jobs sections have all remained at the top of their specific categories throughout this semester.

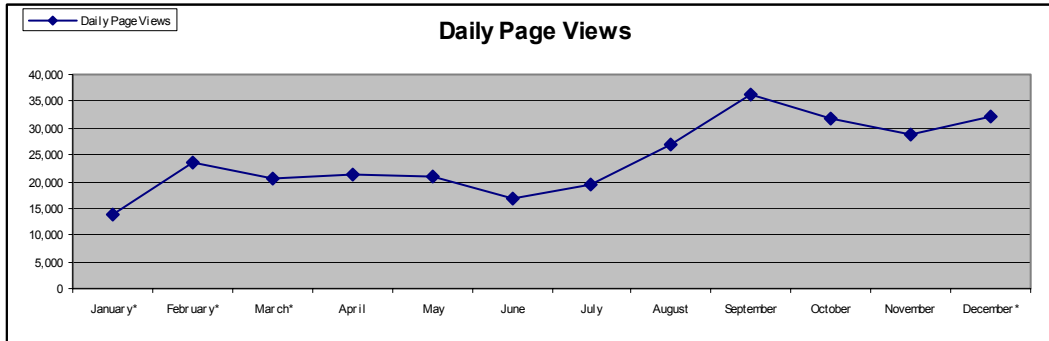
The data represented in the following chart is a general summary of how SIN has performed, in terms of number of users, data transferred, and requests made to the server over the past twelve months. Data for January, February, March, and the last half of December had to be estimated, due to a lack of log availability from these time periods.

For the year, sin.ou.edu has had approximately 8.5 million page views from 2.2 million visits and 600,000 unique sites. This calculates out to be approximately 24,000 page views per day and 6,200 visits (a visit is a 'user session', which is denoted by a user returning to the site after not visiting for at least fifteen minutes. If a user closes their browser, and returns to the site after five minutes, they are still on the same 'visit'). In terms of 'Just how much traffic was there': The site experienced approximately 177 million raw hits and 356 Gigabytes of data transfers during the 12 month period. Almost 80 million files were requested as well.

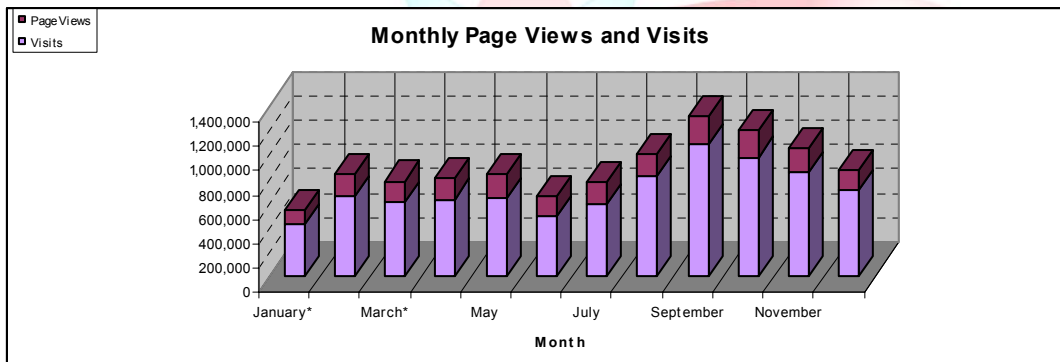
Month	Daily Avg				Monthly Totals					
	Raw Hits	Files	Page V	Visits	Sites	Kbytes	Visits	Page Views	Files	Raw Hits
January*	360,976	160,433	13,884	3,901	36,497	19,798,170	120,941	430,395	4,973,453	11,190,270
February*	593,234	272,440	23,576	6,625	55,979	30,366,624	185,500	660,144	7,628,330	17,163,744
March*	535,130	237,835	20,581	5,785	52,371	29,499,679	173,544	617,458	7,135,070	16,053,908
April	555,999	246,680	21,383	6,010	42,470	30,648,166	180,301	641,497	7,400,405	16,679,972
May	452,356	217,615	20,851	6,527	66,456	27,544,878	202,354	646,390	6,746,067	14,023,059
June	312,279	159,002	16,854	5,226	56,266	20,215,659	156,794	505,649	4,770,066	9,368,379
July	341,965	181,791	19,284	6,091	66,784	24,247,021	188,847	597,822	5,635,550	10,600,936
August	566,933	258,559	26,933	5,549	61,769	35,710,339	172,024	834,929	8,015,356	17,574,948
September	647,633	261,976	36,365	7,637	49,857	44,730,508	229,121	1,090,967	7,859,306	19,429,004
October	581,128	244,025	31,891	7,365	46,767	42,808,100	228,340	988,641	7,564,792	18,014,997
November	494,899	211,688	28,693	6,639	43,659	37,170,076	199,190	860,809	6,350,652	14,846,986
December*	615,722	258,819	31,997	7,846	36,146	30,773,591	164,912	712,675	5,259,548	12,115,489
<b>Year Daily Average</b>					<b>Total Traffic for the Year</b>					
	<b>504,855</b>	<b>225,905</b>	<b>24,358</b>	<b>6,267</b>	<b>615,021</b>	<b>373,512,811</b>	<b>2,201,868</b>	<b>8,587,376</b>	<b>79,338,595</b>	<b>177,061,692</b>

**Monthly Traffic Summary (January – December, 2002) (contd.)**

After a thorough analysis of the year’s data, we have found that the average number of page views on SIN increased nearly 50% (49.22%) in the Fall Semester compared to the Spring Semester. This jump in traffic is more than evident in the following line graph. The data represented here is the average number of daily page views for each month of the year. The peak, being in September, sets the tone for the entire Fall Semester. As would be expected, the low periods during June and July are the result of fewer users on campus and/or fewer users with immediate access to a computer or the Internet.

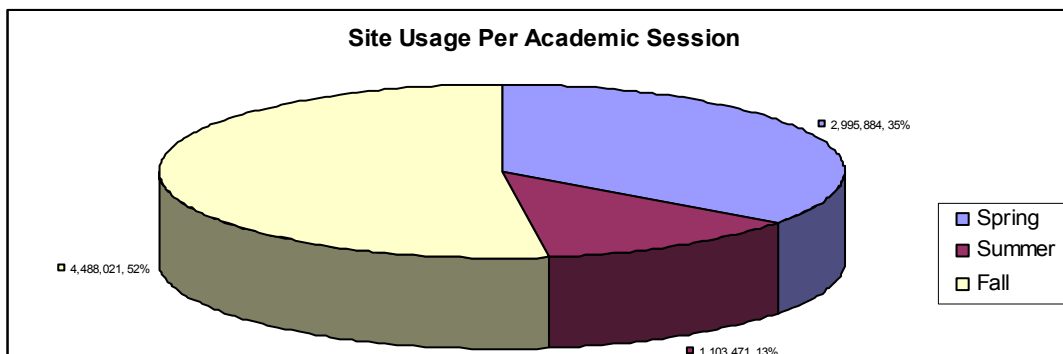


The following bar graph represents Total Page Views and Total Visits for each month. In September, SIN actually achieved an organizational-record 1.1 million page views for the month. Again, the increase in traffic for this semester is quite evident in this graph.



But perhaps the best representation of the increase in traffic for Fall 2002 can be seen in this pie chart. Total Page views for each ‘Session’ were split up based on the months of the session (Spring being January through May, Summer being June and July, and Fall August through December), summed together, and charted in terms of percentage. 52% of the yearly traffic for SIN has come during this fall. The Spring Session is slightly behind, with 35% and the shorter and less crowded Summer Session claimed 13% of the yearly traffic

<b>Spring</b>	35%	2,995,884
<b>Summer</b>	13%	1,103,471
<b>Fall</b>	52%	4,488,021





## Yearly Service Summary (March – December, 2002)

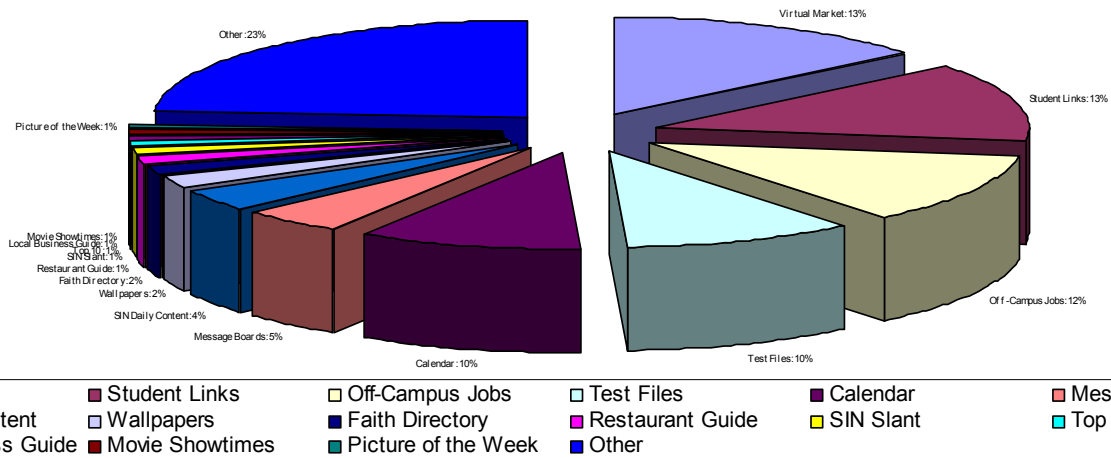
### Top 15 Services

Service	Accesses	Percent
1 Virtual Market	233,862	14.20%
2 Student Links	211,855	12.88%
3 Off-Campus Jobs	197,308	11.99%
4 Test Files	163,893	9.77%
5 Calendar	160,795	9.76%
6 Message Boards	74,158	4.51%
7 SIN Daily Content	58,453	3.56%
8 Wallpapers	33,014	2.01%
9 Faith Directory	26,739	1.63%
10 Restaurant Guide	21,994	1.34%
11 SIN Slant	18,589	1.13%
12 Top Ten Lists	14,271	0.87%
13 Local Business Guide	13,377	0.81%
14 Movie Show Times	12,616	0.77%
15 Picture of the Week	11,642	0.71%
All Other Services	392,433	23.86%
<b>Total Usage:</b>		<b>1,644,999</b>

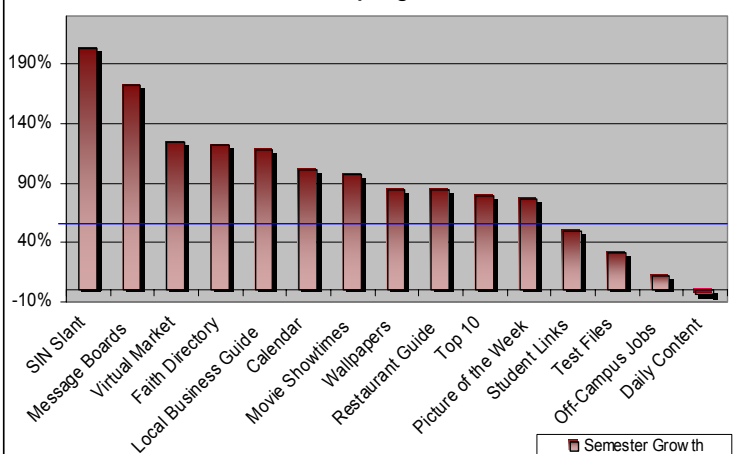
The service usage for March through December of 2002 takes into account all stat data we have from these days. Service usage for each month was individually tallied, summed together to get a service analysis, and then calculated as a percentage of the total page views during the time period. Data for January and February was too incomplete for a sufficient analysis to be completed.

Many of the same SIN services were at the top for each month. However, the popularity of Sooner Football caused an extensive interest in the Virtual Market service. Student links, while not really a 'service', came in with a high second due to its wealth of resources for students and faculty. The off-campus jobs section made an impressive rise during the summer but encountered a significant decline during the actual school year. Other services, such as Daily Content and the Local Guides, declined in popularity and demand throughout the semester while the alternative-humor SIN Slant increased in popularity.

### Service Usage



### Service Growth: Spring 2002 to Fall 2002



Note: The blue trend line indicates overall site growth.

### Service Growth: Fall 2002

Service	Gain
SIN Slant	+203%
Message Boards	+172%
Virtual Market	+124%
Faith Directory	+121%
Local Guides	+118%
Calendar	+101%
Movie Show times	+97%
Wallpapers	+84%
Restaurant Guide	+84%
Top Ten Lists	+79%
Picture of the Week	+77%
Student Links	+49%
Test Files	+31%
Off-Campus Jobs	+12%
Daily Content	-3%

**Overall Site Growth: +49.22%**

The growth of services is an approximated number that is calculated from the average daily accesses in the Spring semester and compared to the average daily accesses in the Fall.

The numbers speak for themselves: 11 of the top 14 SIN services grew at a rate faster than the site average. The SIN Slant Magazine, propelled by front page 'Featured' placement for much of the semester, grew the most with a 200% gain.

# Yearly Server Resource Summary

Using the Multi-Router Traffic Graphing Application, in conjunction with an army of shell scripts, PHP scripts, and SNMP lookups, we are able to continually graph and monitor various vital resources on the primary SIN Server (narcissus.services.ou.edu). These values are subject to error and availability of various on-server resources. The analysis is only valid for May through December, as we did not monitor the vital statistics prior to this date.

### CPU Utilization

CPU utilization on Narcissus ran fairly high for most of the second half of the year. An abundant load was created by several external services being added. This, along with record SIN traffic, contributed to the 50-75% constant CPU utilization. Memory usage also ran at nearly 100% for the same period.

### Active Session Usage

The active PHP sessions on Narcissus were skewed by bad data from an attempted session hijacking (failed) in July. However, the numbers ran pretty constant on a daily basis. Due to the lack of exact precision in the graph, we can not get a true analysis. The mathematical average reported by MRTG is 197 at all times during the day, 42 of those being user sessions.

### Web Server Connections

The number of web server connections (active 'sockets' open to the SSL port 443) followed the average daily user load reported by the web server (as would be expected). Many times during the day, a maximum number of simultaneous web server connections reached well into the 4000 and 5000 range.

### Network Interface Card (NIC) Usage


The network interface card usage, while not exactly a great gauge, does have some bearing as to what is being downloaded. The large spikes represent weekly remote backups of the server (outbound traffic). The solid green is inbound traffic. The ratio of NIC traffic to number of users is pretty well in line.


### Average Page Load Time


The average page load time is the most important graph of all. The dark green lines reaching 100 are error lines – they should be ignored. However, the lighter green is a constant factor of deciding how much time it takes to load four specific SIN pages. This value is watched constantly as a gauge of database efficiency as well as overall traffic. The average page load time on SIN is four seconds.


 **Other SIN Project Information**


This year, SIN took on many new challenges and brought together several new services, such as the University of Oklahoma Alumni site and the Price College of Business Integrated Business Core (IBC) Peer Evaluation System. All of these services were designed upon the SINAPSE platform, hosted on SIN-controlled servers, and managed within the organization. We also continued the tradition of hosting online elections as well as voting for Homecoming royalty, unveiling the new SINAPSE-driven elections module just in time for the fall election period. The various stats for each of the major SIN services are listed below. In December of 2002, the University College Online Advising System was completed and delivered for public use. While no stats are available for it yet, we fully expect the module to be widely accepted and perhaps used throughout the University of Oklahoma within the next year.


 <i>sin.ou.edu</i>	
Back-end Implemented:	Sep 2001
Front-end Implemented	Dec 01–Feb 02
Avg. Page Views Per Day	24,358
Registered Users	32,576
Registered Groups	281
Database Records	500,000
Powered By	SIN Proprietary

 <i>www.sinapse.org</i>	
Implemented:	May 2002
Current Core Version	0.9.5
Core Lines of Code	11,911
Avg. Page Views	586
Active Developers	6
Active SINAPSE Schools	18
Live SINAPSE-driven Sites	8
Developed Modules:	14
Powered By:	Custom PHP / phpBB

 <i>alumni.ou.edu</i>	
Implemented:	Apr-May 2002
Launched	Aug 1, 2002
Registered Users	5,263
Registered Groups	136
Modules	47
Avg. Page Views	3,072
# of Students	270
Powered By:	SINAPSE 0.9.0

 <i>elections.ou.edu</i>	
<b>UOSA Spring 2002</b>	
Hosted	Apr 3 & 4, 2002
Polling Stations	9
Page Views	220,428
Powered By	SIN Elections Proprietary
<b>UOSA Fall 2002</b>	
Hosted	Nov 12 & 13, 2002
Polling Stations	1
Page Views	145,351
Powered By	SINAPSE 0.9.4 / Elections 0.9.0

 <i>homecoming.ou.edu</i>	
Implemented	Aug-Sep 2002
Hosted	Oct 15 & 16, 2002
Page Views	19,483
Polling Stations	1
Powered By	SINAPSE 0.9.4 / Elections 0.9.0

 <i>ouibc.sinapse.org</i>	
Implemented:	Sep-Oct 2002
# of Classes	5
# of Students	275
Powered By:	SINAPSE 0.9.4