



How Good is Good Enough v2.0?

A look at Service Level Agreements, Objectives, and Guarantees in Internet Infrastructure

Overview: Nine months after our first report, we have returned to this topic, taking an even deeper look into the current trends in Service Level Agreements (SLAs) and Service Level Management (SLM) in the Internet infrastructure space. Tier 1 Research uses this 127-page report to compare the results of a detailed SLA survey and corresponding 61-item scorecard among the service providers in the industry, as well as to profile a dozen SLM solution vendors. In essence, this report asks and attempts to answer the following questions: Who is responsible for what? What tools are being used to monitor and manage SLAs?; and What happens when things go wrong? The survey and scorecard consists of four sections: Customer Service, Network, Infrastructure Uptime, and Security. Each section was scored separately, allowing companies the flexibility to participate in any or all of the sections. While comparisons between participating firms are made within each section, considering the services provided by each firm vary, this report is NOT intended to be viewed as a who's SLA is best and who's worst. It is instead a snapshot of the types of SLAs and SLM processes that each firm provides.

- **To Service Providers:** SLM remains at heart of the outsourced model. It's time to take a hard look at the tools being used to monitor, track and report on SLM because those xSPs that have the best SLM practices have a competitive advantage. While most firms have developed proprietary tools and customer portals to tackle the complexities of SLM, we profile a dozen third party SLM solution providers that could potentially augment or even replace an xSP's existing SLM strategy.
- **To Customers:** SLAs should no longer be considered a useless item in your negotiating process. There are tools on the market to monitor, measure, track, and report on SLA performance, and you should be sure to negotiate the correct tools to monitor your SLA, or audit your service provider. Those looking for the most robust Customer Service SLA should turn to NaviSite, Totality, or AT&T; for Network, turn to IBM, Digex, or AT&T; for Infrastructure Uptime, look to Rackspace, Digex, or NaviSite; and Security, again turn to Rackspace, Digex, or Seurat.
- **To Investors:** While a great or a poor SLA and corresponding SLM processes are not justification enough for a buy or sell decision, these results should help support a decision. That said, some of the publicly held firms with high scores in various areas include: AT&T, Digex, divine, Exodus/C&W, IBM, Internap, and NaviSite. There are also a number of third-party SLM solution providers (mostly private) worth evaluating for venture funding that show significant promise with enterprises and xSPs.

Tier 1 Research

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INTRODUCTION

If a company's "always available" partner extranet goes down in the middle of a data center forest, and nobody hears it, does it really go down? While an amusing question, we are much more interested with asking what applications are being used to track the outage, who is responsible, and what steps are being taken to remedy the situation, financial or otherwise? This report follows up to our November 2001 publication, and it continues to examine the recent trends in Service Level Agreements (SLAs) and Service Level Management (SLM) in the Internet infrastructure space by comparing the results of an in-depth SLA survey and by profiling SLM solution vendors. Co-authors Joshua Beil and Andrew Schroepfer present an analysis that will help: 1) service provider better understand their competitor's SLA offerings, 2) investors uncover new reasons to support investment decisions and spot some exciting privately held prospects in the SLM sector, and 3) enterprise clients uncover strengths and weaknesses of this integral component of their service contract while also introducing certain tools to independently monitor a provider's SLA.

Up until the mid-1990s, SLAs were primarily used by corporate IT departments to set expectations with their internal customers and by larger enterprises to set expectations with traditional IT outsourcers and system integrators. These early SLAs all shared a common purpose – define the services to be rendered, roles and responsibilities of all parties, and outline the consequences of unacceptable performance. While the core purpose of an SLA hasn't really changed, the mushrooming of new companies delivering computing services through the Internet over the past five years has certainly increased the complexity of defining SLOs, negotiating and monitoring SLAs, and collecting on Service Level Guarantees (SLGs). In fact, an entire discipline dedicated to these business functions, known as Service Level Management, or SLM, has emerged.

The complexity of SLM is compounded by service providers and infrastructure providers bundling services together into integrated offerings, which may include: network connectivity, data center management, security, storage, hosted applications, and other enabling technologies. For each service in the bundle, the parties involved must clearly define the SLOs between each other and be able to monitor the SLAs at near-real time intervals, while managing their own risk with their own service providers and taking into account the business impacts to their customers.

With customer-facing, partner-facing, and employee-facing Internet infrastructure becoming more and more mission critical, CIOs are faced with the challenge of identifying equally mission-critical SLOs and negotiating SLAs that are meaningful and measurable before handing over the keys to the kingdom to an outsourced service provider. In addition, CIOs deserve and expect access to reports that provide near real-time information describing critical service levels, as well as the ability to analyze service level performance over time.

STUDY METHODOLOGY

Tier 1 Research conducted an extensive survey, corresponded directly with each of the participants, and/or has seen copies of each participant's SLAs or supporting documentation. Following the publication of our Version 1.0 report, we spoke with a number of service providers, SLM vendors, and customers soliciting feedback on all aspects of the report. Given the great response to the first report and our belief that this is a topic requiring ongoing evaluation and not just a one-time snapshot across the industry, we made the determination to update the report at least once a year. The following companies participated in v2.0:

Exhibit 5: Companies that Participated in the SLA survey v2.0

<i>Company</i>	<i>Public/Private</i>	<i>Sections of Participation</i>
AT&T	NYSE: T	All
Attenda	Private	1, 3, 4
Avasta	Private	All
Conxion	Private	All (*)
Digex	NASDAQ: DIGX	All
Divine	NASDAQ: DVIN	All
Exodus/C&W	NYSE: CWP	All
Fusepoint	Private	All
Genuity	NASDAQ: GENU	**
IBM	NYSE: IBM	All
Inflow	Private	All
InterNAP	NASDAQ: INAP	1, 2 (*)
MFN	NASDAQ: MFNX	All (*)
NaviSite	NASDAQ: NAVI	1, 3, 4
NTT/Verio	NYSE: NTT	**
Optiglobe	Private	All
Peer 1 Network	Private	All
Qwest	NYSE: Q	**
Rackspace	Private	All
SevenSpace	Private	1, 3
Seurat/XOR	Private	All
SiteLite	Private	1
Sprint	NYSE: FON	**
Totality	Private	1, 3, 4

Notes:

- 1) Companies with a (*) did not participate in Version 2.0 and answered are based on Version 1.0 survey answers.
- 2) Companies with a (**) did not participate in the survey and all information presented is from publicly available sources.

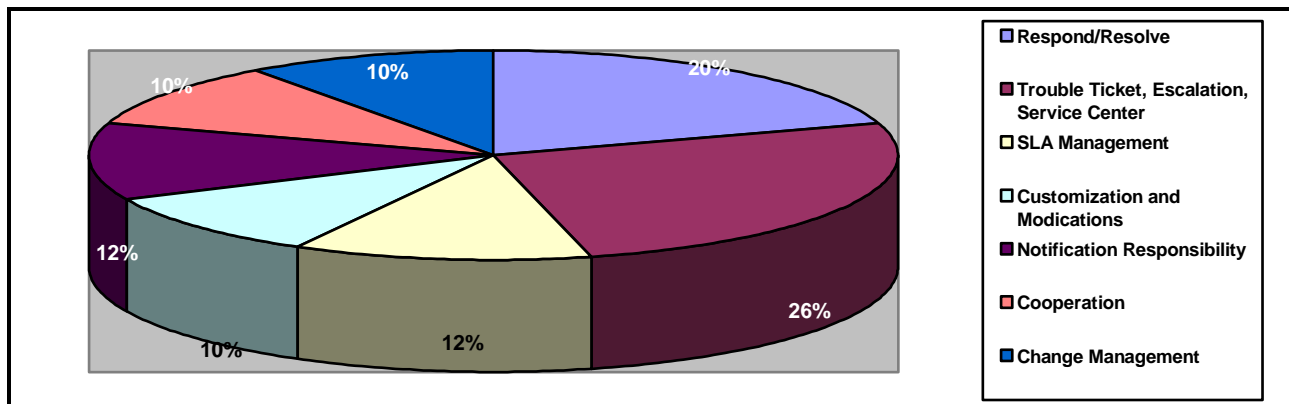
After receiving the survey results from each company listed in Exhibit 5 and scoring the surveys, we allowed each company at least two business days to review their results and challenge or question our scoring and profile. For some of the providers in our review, we used information available from their version 1.0 survey results (indicated in Exhibit 5).

Since the release of v1.0, we made some additions, deletions, and changes to the initial 4-section, 40-item scorecard and corresponding survey. The result was a new 61-item scorecard. The scorecard is broken down into four sections: Customer Service, Infrastructure uptime, network, and security. The Customer Service scorecard is shown in Exhibit 5. In the report, we have provided a detailed description of each item in order to provide a context for understanding why we created each item and the relative importance of each item. It is also our goal to provide some color on the scoring system for each item.

Exhibit 6 TIER 1 RESEARCH SLA SCORECARD (1 OF 4)

ITEM		Poor 1	Below Average 2	Standard 3	Above Average 4	Excellent/Unique 5	Weight
1.1	Customization	Template SLA, one size fits all	One point for each: 1) tiered, 2) metrics customizable, 3) response/resolve customizable, 4) real-time changes to SLAs can be made				5%
1.2	Cooperation (resolving multi-provider issues)	Will not work with other service providers	Rarely interacts with other service providers, but will do so if required OR N/A	Regularly interacts with other providers; one point for each: 1) defined processes for handling trouble tickets, 2) web based reporting; 3) takes responsibility for uptime			10%
1.3	SLA management	No tools provided to monitor and manage SLAs	Tools/apps provided w/ focus on trouble ticketing	One point for each: 1) portal with performance data mapped to SLAs, 2) 3rd party verification provided, 3) 3rd party data integration (or capability)			12%
1.4	Service Center Availability	Not 24x7	Web-based support only OR outsourced without customer's knowledge	Web support with limited call center support	Web support with 24x7 call center support	All the above and 24x7 on site techs	10%
1.5	Notification Responsibility	Customer responsible for notification, no tools provided	Customer responsible for notification, some tools provided	Company responsible for notification, historical reporting provided	Company responsible, real time, web-based monitoring/management provided	Company responsible, automatic credit given for SLA breaches	12%
1.6	SLA modifications	No defined process	No defined process upfront; one-off renegotiations possible, OR N/A	Some defined processes exist but not necessarily defined upfront	A defined upfront process for requesting changes and fixes to an SLA	Web based form for initiating requests	5%
1.7	Trouble Ticket	No trouble ticket system or delayed listing	Real time listings with 1 point for each: 1) data and ticket ID search tool, 2) Ability to sort columns online, 3) Ability to enter comments in existing tickets, 4) Charts of trouble ticket history by application or trouble ticket type				8%
1.8	Change management	No defined process	Changes typically made on a one-off basis OR N/A	One point for each: 1) standard processes for change management and escalations, 2) customer able to define change management requirements, 3) processes disclosed up front			10%
1.9	High priority issues (time to acknowledge)	>60 min OR not offered	30-60 min	15-30 min	5-15 min OR customer defined	<5 min	5%
1.10	Medium priority issues (time to acknowledge)	>2 hours OR not offered	<2 hours	1-2 hours	30-60 min OR customer defined	<30 min	3%
1.11	Low priority issues (time to acknowledge)	>4 hours OR not offered	2-4 hours	1-2 hours	30-60 min OR customer defined	<30 min	2%
1.12	High priority issues (time to respond/resolve)	>4 hours OR not offered	<4 hours	1-4 hours	<60 min OR customer defined	<30 min	5%
1.13	Medium priority issues (time to respond/resolve)	>8 hours OR not offered	4-8 hours	2-4 hours	1-2 hours OR customer defined	<60 min	3%
1.14	Low priority issues (time to respond/resolve)	>2 days	1-2 days	4-8 hours	2-4 hours OR customer defined	<2 hours	2%
1.15	Escalations	No defined process	One point for each: 1) clearly defined processes disclosed upfront, 2) escalation flow/details are available through portal, 3) escalation involves meeting/call with executive management, 4) post-facto report given to clients				8%
Customer Service (Subtotal)							100%

Exhibit 7: SUMMARY OF THE CUSTOMER SERVICE SEGMENT



Source: Tier 1 Research

RESULTS

SECTION MEANS

As referenced in Exhibit 5, out of the twenty companies that participated in our SLA survey v2.0, 65% (n=13) participated in all four sections. Four companies participated in three sections, two participated in two sections, and the final company participated in one section only. In terms of how this factored into the actual sections, the following table illustrates the mean scores found in each section, which is used for comparative purposes throughout the company profile section.

Exhibit 19: Section Participation and Mean Scores

Section	Participation	Mean	Low	High
Customer Service	N = 20 or 100%	4.222	3.160	4.650
Network	N = 14 or 80%	3.019	1.940	3.785
Infrastructure Uptime	N = 18 or 90%	3.866	2.070	4.615
Security	N = 17 or 85%	3.429	1.930	4.635

All companies participated in the Customer Service section, and this was the section with the highest mean score at 4.222. While virtually every outsourced service provider would claim that they are “customer-centric,” this is an independent data point that would validate what is generally considered a salesy statement. This indicates that the service level guarantees and processes wrapped around these guarantees are, in large part, very solid among the companies included in this report. A mean score of Above Average also means that it becomes harder to differentiate between the top providers, as many companies are approaching excellence in this section.

Only 80% of companies participated in the Network section, although this was not much of a surprise considering a number of participants were Live Environment providers and do not offer their own Network-centric SLAs. This section also took a granular geographic look at packet loss and latency guarantees, which favored the global carriers. As such, this section posted the lowest mean score at 1.94, but interestingly, the top score was only 3.785, suggesting that the criteria for Excellence was a bit too rigid.

The participation level and results for the Infrastructure and Security sections were very similar. The mean score for Infrastructure was a bit higher than for Security, but the lows and highs were almost identical.

SERVICE LEVEL MANAGEMENT INDUSTRY

Outsourced service providers must look for ways to automate the operational aspects of Service Level Management. Building upon the information that was presented in v1.0 of this report, this section is designed to be an introduction and overview to the third party SLM solution provider space. A brief history of the evolution of the space and a high-level landscape is provided, along with profiles of a dozen companies that can be considered third party SLM solution providers.

The goal of sophisticated SLM for service providers (whether a network service provider or pure play managed service provider) is to drive process efficiencies as well as to provide customers with the value-add of eliminating (or at least reducing) the resources required to manage the service provider. At the same time, their enterprise customers typically have multiple outsourced IT service providers on the payroll, in addition to the in-house team, and they are struggling with multi-provider SLM from the other side. So service providers need an SLM solution for their back office, to ensure tight internal operations as well as partner integration, and for their 'front office,' to provide measurable quality checks to their customers. Simultaneously, enterprises need an SLM solution for their internal IT departments as well as to manage outsourced providers.

The evolution of SLM within the Internet infrastructure sector

There is a wide range of companies that fall into a generic 'SLM vendor' label. This is partially due to the inherent trouble with labeling and creating categories – they mean different things to different people. Semantic debates aside, it is also a direct result of the previously disconnected aspects of network infrastructure and web infrastructure. The companies that would traditionally be categorized in the 'service assurance' or Enterprise Service Management (ESM) space typically offer robust network-centric SLM functionality, and typically integrate Internet performance data from the likes of Mercury Interactive, Keynote, or Gomez. On the flip side, Internet performance measuring and monitoring companies offer their own SLM functionality, and typically integrate with, or into, ESM suites. Last but not least, new companies have emerged (and will continue to emerge) that are taking a focused approach to SLM solutions. What this means is that the type(s) of third party SLM solutions that are available largely depend on the provider's background and focus within IT infrastructure management.

It is virtually indisputable that the Internet has created a radical shift in the nature of infrastructure management over the past decade. Point solutions are becoming a thing of the past, and as we discussed at the beginning of this report, the Internet demands interoperability. We strongly believe that the ever evolving IT infrastructure management industry, and the available third party SLM solutions, will continue to witness a convergence of the following:

- Enterprise systems management software
- Internet performance measuring and monitoring
- Security monitoring products and services
- Trouble ticketing systems
- Billing and invoicing systems
- Managed hosting and NOC software
- Homegrown customer portals (see *Gaining Customer Control v2.0*)

To some degree, this convergence will come through M&A activity, as demonstrated by Open/Response/AperServ. However, it will be driven primarily by the push towards web services, as seemingly all applications become 'webified' and are able to communicate silently through open standards like XML.

ABOUT THE AUTHORS

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Mr. Beil joined Tier 1 Research in August of 2001 as the VP of Research and Development. He joined the firm from Exodus Communications, one of the leading web hosting providers, where he worked as the Senior Analyst in the Strategic Planning group. Prior to Exodus, Joshua worked at International Data Corporation where he helped to create and maintain the Worldwide PC Tracker web product for the multi-national industry research firm. Mr. Beil holds a Certificate in E-Business from UCSC Extension, and he graduated with honors from the University of California at Santa Cruz with a major in Psychology. Joshua has been quoted in numerous publications including CNET, Teledotcom, eWeek, WebHost Magazine, The Web Hosting Industry Review, Host Buzz, and Linux World News. He can be reached at (831) 426-2658 or joshua@tier1research.com.



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Mr. Schroepfer founded Tier 1 Research in August of 2000 after four years on Wall Street. Most recently, Mr. Schroepfer was a Vice President and Senior Equity Analyst with Goldman Sachs covering the Internet Infrastructure Services sector. Prior to Goldman Sachs, Andrew was with U.S. Bancorp Piper Jaffray where he covered Communication Service Providers as a Vice President and Senior Equity Analyst. Mr. Schroepfer is an honors graduate of St. John's University having earned a BA in Economics and Accounting. Andrew has been quoted in numerous worldwide publications such as the Wall Street Journal, Red Herring, USA Today, Web Hosting Magazine, HostingTech, Business2.0, and Inter@ctiveWeek. Mr. Schroepfer has also been interviewed on such television programs as CNBC, CNNfn, the Nightly Business Report, and various ABC-affiliate shows. He can be reached at (763) 694-9992 or andy@tier1research.com.



Tier 1 Research – Company Description

The need to manage information has never been as critical and the amount of information available has never been as vast. Tier 1 Research was founded in August 2000 to provide clients with research products that integrate the issues and events of both public and private firms, complimented with access to our analysts and a powerful set of online tools to access specific information when you need to make your critical decisions. We aggregate the perspectives of public/private investors, vendors, and customers to deliver concise analysis and recommendations. Starting with coverage of the Internet Infrastructure Software and Services market, this strategy empowers institutional investors, venture capital partners, corporate executives, as well as sales, marketing, and technical personnel to make better decisions with superior, unbiased intelligence. We deliver this strategy through daily, hands-on, global, strategic and financial analysis of news and information from all angles of the industry. Tier 1 Research has partnerships with AFCOM, Jaywalk, and Ramprate. The firm is based in Minneapolis, MN.



The screenshot displays the Tier 1 Research website in a Microsoft Internet Explorer browser window. The page features a green and white color scheme. At the top, there is a navigation menu with links for 'Company', 'Samples/Purchase', 'Purchase | Samples | Free Trial Registration | Knowledge Center', 'Research Services', 'Online Services', and 'Media Center'. A 'Client Log In' form is visible on the left side, with fields for 'Username' and 'Password', and a 'Log In' button. The main content area includes a 'Purchase Reports' section with a 'LEARN MORE' link, and a 'Sector Info eXchange' section with a 'LEARN MORE' link. A central banner reads 'Ultimate Advantage' with the text 'For all research products, full online access, and consulting time with our analysts, the Ultimate Advantage is right for you.' Below this, a section titled 'What We Provide' describes the firm's services. At the bottom, there are several small promotional boxes for 'Zoomerang eSURVEY', 'Event Keeper', 'Discussion Boards', 'Utility Computing', 'Security', and 'Report Profile'. The footer contains the text 'Site Powered By' with logos for Microsoft and other services, and the address '5547 Trenton Lane Plymouth, MN 55442'.

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