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Service Level Agreement (SLA) Template and its Reflection in Living Faith Church, Goshen City, ISP Services

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Abstract— Service Level Agreement (SLA) was defined and it was further reviewed in the context of an Internet Service Provider (ISP). Also, SLA standard template which include a description of the nature of service to be provided, the expected performance level of the service and service level monitoring, the procedure for reporting problems with the service, the time-frame for response and service fault resolution, the consequences for the service provider not meeting its obligations and escape clauses/ constraints were considered. Then a brief introduction about Living Faith Church (LFC), Goshen City was provided which forms the basis for the internet service rendered by Etact to them. The reviewed SLA template reflection in the LFC Goshen City /Etact SLA was considered. Lastly, a general conclusion was drawn based on the findings of the Service Level Agreement (SLA) Template and its Reflection in Living Faith Church, Goshen City, ISP Services.

Index Terms— Internet Service Provider (ISP), Quality of Service (QoS), Service Level Agreement (SLA), Template.

I. INTRODUCTION

The importance and relevance of SLA in protecting the interest of customers is on the increase as it is a key differentiator of services the service provider have to offer. It is primarily aimed at describing the type of service to be provided, the performance standards and its measure, compensations, threshold failure acceptance level and right to terminate if service, changes to prices, contract management, change control parameters and security measures to be put in place [1].

Therefore numerous initiatives are currently undertaken to specify SLAs and to identify the new challenges for the provider's service. SLA strict contractual guarantees is however very paramount in situation where system reliability is poor [2].

The term paper is organized in the following manner: Firstly, SLA and a relevant element to SLA are defined. Secondly, a standard SLA template is considered and carefully analyzed. Also, a brief introduction to Living Faith Church, Goshen City, Nassarawa was provided and the church/ ISP Service Level Agreement was comparatively analyzed with reference to SLA template. Lastly, various shortcomings in the SLA where identified.

II. SLA

A. SLA Definition

A Service Level Agreement (SLA) is a formal definition of the relationship that exists between a service provider and its customer. A SLA can be defined and used in the context of any industry, and is used to specify what the customer could expect from the provider, the obligations of the customer as well as the provider, performance, availability and security objectives of the service, as well as the procedures to be followed to ensure compliance with the SLA [2] [3].

SLA comes to play in a situation where an organization cannot cater for service and has to involve a third party in deploying such services. With this an agreement is reached based on the type of service to be rendered, how it's to be rendered, when it's be rendered, quality assurance and QoS check indices [2].



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B. SLA in the Context of Network Service Provider

SLA in the context of Network Service Provider means a contract between a network service provider and a customer that specifies, usually in measurable terms, what services the network service provider will furnish and what penalties will be considered if the service provider fails to meet the established goals. It could bear the form of carrier to carrier, carrier to ISP/transport, ISP to enterprise/operator, ASP to enterprise and ISP to subscribers [2].

SLA is all encompassing as it illustrates all terms of agreement; it's therefore a basis for an established contract between the ISP at any level of service provision and its direct customer.

III. SLA TEMPLATE

SLA Template depicts certain important content a good SLA should cover. A good SLA would in addition to other contents provide an overview of the different items that can go wrong with the provided service, and attempt to cover those situations as part of the SLA agreement. More of this is discussed under the escape clauses and constraints of a SLA. Below is the detailed explanation of the contents of a Service Level Agreement.

A. A Description of the Nature of Service to be provided

This includes the type of service to be provided. In the context of Internet Service Provision, it gives a detailed description of the standard service to be provided such as STM-1, STM-4, STM-16, E1/T1 etc and their relevant bit rate; full description of the media technology/technologies to be deployed e.g Fibre Optic Cable, ADSL; voice, data, video conferencing among many other factors.

S1	voice
S2	videophone
S3	telephony services
S4	multimedia
S5	video on demand
S6	white board
S7	VPNx (IP VPN, optical VPN, tel. VPN=PMR)
S8	data real-time (telnet, ...)
S9	data interactive (web, transactions, e-commerce, email-server, ...)
S10	data streaming (FTP, bulk data transfer/retrieval, still image, ...)

Table I: Table showing list of possible services [2]

B. The Expected Performance Level of the Service and Service Level Monitoring

This focuses more on the reliability and responsiveness of the service to be deployed. The table below shows the needed content for appropriate QoS at this juncture.

P1	loss
P2	delay
P3	jitter
P4	bandwidth
P5	consumer/provider
P6	monitoring
P7	admission control
P8	topology
P9	Reliability/protection (MDT, MTBF, MTTR)
P10	mono-direction/symmetric/asymmetric

Table II: Table showing list of expected service level parameters [2]



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According to Emmanuel Marilly et al, all the above parameters are not necessary to converge in one service but each level of service consumption has its unique set of needed parameters. For example, loss, delay and jitter are end-users oriented for the measure quality of service measure, while an Enterprise on the other hand is keener of global parameters like the bandwidth, Reliability, Protection and Security [2].

This section also encapsulates how the Service is being monitored and reported, i.e., who will do the monitoring, what types of statistics will be collected (e.g back to back ping test), how often would they be collected, and how past/current statistics may be accessed. Some network providers may allow the customer to directly access part of the network through a network management tool [3].

C. The Procedure for Reporting Problems with the Service

The nature of standard reporting procedure in case of service downtime or below-expectation-performance of the provided link as the case may be.

This includes information about the person to be contacted for problem resolution, the format in which complaints have to be filed, and the steps to be undertaken in order to quickly resolve the problem. The agreement would also typically describe a time-limit by which a reported problem would be responded to (someone would start to work on the problem) as well as how soon the problem would be resolved [3].

D. The Time-frame for Response and Service Fault Resolution

This is the time limit for responding and treating problems as identified by the customer. A tracking ticket is usually issued by the service provided help-desk and the ticket number is issued to the customer for tracking and reference purposes. Dinesh C.Verma, SLA on IP Networks categorically states that a SLA may specify that a failed link would be re-commissioned within 24 hours.

E. The Consequences for the Service Provider not Meeting its Obligations

These include ability of the customer to terminate its relationship, or to ask for reimbursement of part of the revenues lost due to loss of service. The consequences of not meeting the SLA may vary depending on the nature of the relationship between the customer and the network provider [3].

F. Escape Clauses and Constraints

These are conditions under which the Service Level Agreement does not apply, or under which it would be considered unreasonable to meet the requisite service level agreements. A typical example is a situation where service provider's equipment is damaged in flood, fire or war. They often also impose some constraints on the behavior by the customer. [3] A service provider may void the service level agreement if the customer is attempting to breach constraints stated in the SLA.

IV. A BRIEF INTRODUCTION ABOUT LIVING FAITH CHURCH, GOSHEN CITY

Living Faith Church Worldwide a.k.a Winners' Chapel International whose mandate is to liberate the entire world from all oppressions of the enemy both spiritual and physical through the teachings and preaching of the word of Faith, schooling them to exploits in life and releasing men and women to their full potentials to benefit humanity. The president of the church is Bishop David Oyedepo [4].

With the increasing communication need of various church branches, education arm, publishing arm among many others, there was an evident need to have an improve and well manage service provider to actualize the church online presence, live service streaming and Wide Area Network (WAN). To this end, Living Faith Church, Goshen City, Nasarrawa State, Nigeria went into a SLA with Etact Systems, Abuja for the provision of a redundant 6Mbps internet connectivity service [5].

A comparative analysis of the Living Faith Church (LFC), Goshen City SLA and the standard SLA template will be discussed in subsequent paragraphs.



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V. THE REFLECTION OF THE STANDARD SLA TEMPLATE IN LIVING FAITH CHURCH, GOSHEN CITY (LFC, GOSHEN CITY)/ ETACT SLA

A. A Description of the Nature of Service to be Provided as it Reflects in LFC, Goshen City/Etact SLA

As earlier identified, an SLA should comprise a detailed description of the service(s) to be provided beyond reasonable doubt. The table below shows an excerpt from the LFC, Goshen City/ Etact SLA stating the type of service to be provided by Etact Systems.

Schedule A

DETAILS OF SERVICE

Service	Medium	Bandwidth
Internet	Licenced microwave	6mbps/6mbps

Table III: Service to be provided for LFC, Goshen City [5]

This clearly shows that the service to be provided is a symmetrical 6Mbps internet connection via a licensed microwave medium.

Etact Services and responsibilities where further exemplified under section 6.0 of the SLA as follows;

- Supply, deliver, install, test, commission, maintain and control the service to the customer(LFC, Goshen City) (clause 6.1)
- Service maintenance (clause 6.2)
- Basic responsibilities of the service provided before installing/commissioning the link (clause 6.3)
- LFC Goshen City liability to fault caused by their negligence.(clause 6.4)

Other service details as identified in the SLA;

- Cost implication with reference to the service including the disconnection criterion in the event that customer fails to pay after two weeks of notice.
- Tax responsibility of the customer [5].

B. The Expected Performance Level of the Service and Service Level Monitoring as it Reflects in LFC, Goshen City/Etact SLA

As earlier highlighted, the expected performance level focuses more on the reliability and responsiveness of the service to be deployed. In general, it summarizes the quality of services to be rendered. LFC, Goshen City/Etact SLA also has a provision for this under section 12.1.5, 9.2, 16.2, 13.1, 16.2, 18.0, 8.0, 9.0 and 8.0. All the above expected performance features in the SLA are further exemplified below.

Expected performance in terms of technical losses, jitter, link latency (delay) were not considered in LFC Goshen City/ Etact SLA. Only physical equipment loss, Customer Provider Facilities (CPF) loss and nontechnical delay in services were considered under section 12.1.5, 9.2, 13.1, 16.2 and 18.0.

Also, Expected performance level in terms of service monitoring were considered, stating categorically under section 8.0 that “ETACT shall monitor from its Network Operating Centre the quality of Service available to the CUSTOMER and on the last day of each month shall submit a written report of the month’s service quality. The CUSTOMER shall be deemed to have accepted ETACT report if there is no dispute in writing within 14days of receipt of the report.” The above statement on service monitoring parameters fails to state the type of statistics of QoS to be collected and reported [5].

The LFC Goshen City /Etact SLA further guaranteed the link reliability under subsection 6.3 of the SLA. The nontechnical security and protection were also talked about without touching the technical security status of the link. Lastly, the link topology was not provided which leaves LFC, Goshen City in the dark with respect to link topology.



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C. The Procedure for Reporting Problems with the Service as it Reflects in LFC Goshen City/Etact SLA

This focuses on the standard problem reporting procedure to be followed in case of unforeseen link problem. The LFC Goshen City/Etact SLA states when the service is said to have failed to be where there is confirmed outage for a period of forty eight (48) consecutive hours, or the service or any part thereof fails to meet the required service characteristics for ten (10) or more periods of at least one (2) hours each or a longer per occurrence within a period of thirty (30) consecutive days [5]. The procedure for reporting problems under the LFC Goshen City/Etact SLA was effectively considered and it meets the expected SLA standard. An excerpt from the SLA that addresses this part under section 9.0 is stated below.

“All faults related to ETACT services should be reported immediately to the ETACT Helpdesk by opening a trouble ticket at the relevant severity level. Upon evaluation of the report, or throughout the course of responding to the report, ETACT may reclassify the severity based upon this evaluation. All fault reports should be made directly to ETACT’s Helpdesk through the following methods only.”

The help desk contact was consequently provided accordingly [5].

D. The Time-frame for Response and Service Fault Resolution as it Reflects in LFC Goshen City/Etact SLA

The exact time-frame for response and service fault resolution was stated in the LFC Goshen City/Etact SLA. The SLA also included an escape clause with respect to time response guarantee. This is stated below;

“ETACT will make its best effort but cannot assure prompt response time for fault reported by other means other than these stated” [5].

Table IV below shows the time-frame for service fault resolution based on the priority and service type as identified in the LFC Goshen City/Etact SLA.

Priority	Service Type	Fault Severity	MTTR
1 st Level	Longhaul VPN, Internet , Metro Fiber, WIMAX	Severe – Emergency	1 hour
2 nd Level	Longhaul VPN, Internet, Metro Fiber, WIMAX	Major - Service Outage	2 hours
3 rd Level	Longhaul VPN, Internet, Metro Fiber, WIMAX	Minor - Service Degradation	4 hours

Table IV: The time-frame for LFC Goshen City/Etact SLA service fault resolution [5]

E. The Consequences for the Service Provider not Meeting its Obligations as it Reflects in LFC Goshen City/Etact SLA

One major consequence was specified in the LFC Goshen City/Etact SLA. This is outright termination of the agreement (section 14.0 of LFC Goshen City/Etact SLA). As identified in the SLA, Etact included an escape clause in terms of not been liable to revenue loss incurred by customers due to loss of service. The excerpt is stated below; *“16.2: In no event shall ETACT be liable for any incidental or consequential damages or loss of profit or of revenues, occasioned by any defect in the network not foreseeable by this Agreement, or the provision of the Service to the CUSTOMER, or any delay in the provision of the Service to the CUSTOMER, any failure of ETACT to provide the Service. Neither party excludes liability for death or personal injury caused by its negligence.”* [5].

F. Escape Clauses and Constraints as it Reflects in LFC Goshen City/Etact SLA

In terms of escape clauses and constraints, the LFC Goshen City/Etact SLA is loaded with them. This is generally seen for the angle of protecting both parties involved in the SLA against unnecessary commitments. Some of these constraints has been exemplified in previous discussions. The LFC Goshen City/Etact SLA meets the reviewed standard SLA template requirement.

VI. CONCLUSION

From the foregoing, the LFC Goshen City/Etact SLA reflects fully five out of six key sections of a standard SLA template earlier reviewed while the remaining one (the expected performance level of service) fails to address the technical aspect of the service loss, delay, jitter, link latency, topology, security and the type of statistics to be



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collected under link monitoring scheme. These factors are indeed needed in protecting the interest of the LFC Goshen City to further define the expected service level and its quality as the case may be.

Conclusively, the LFC Goshen City/Etact SLA fully reflects 83.33% of a standard SLA template as earlier analyzed.

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