

# Quality of Service Management



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In the current economic scenario, services are in the spotlight and already account for the largest share of global business. Quality of service is in the center of attention. Until the seventies, the focus of business operations was internal efficiency. In the nineties, trends reverted and customer focus became essential. Today, the main concern of service providers is "quality as perceived by the customer". Even companies that formerly worked exclusively with trading goods have now found, in the services area, the best, if not the only, differentiation opportunities.

The reason of this change in focus comes clearly from the tightening in competition. The consequences are that service companies are being forced to orient their strategies towards perceived quality. Overall, two major points can be identified among these strategies: the differentiation of offers through added value, and the creation of barriers against new competitors.

A powerful tool that makes it possible to act successfully on perceived quality is the Service Level Agreement (SLA). The discipline that supports its deployment is Service Level Management (SLM).

## Quality of Service

The development of services encompasses important features that distinguish it from the production of material goods, namely:

Services are intangible - services are assessed according to customer experiences, while goods are physical items that can more easily be owned, assessed, weighed and compared.

Simultaneity – generally, services are produced and consumed simultaneously. Two important consequences arise. On one hand, it brings more flexibility for the fulfillment of customer expectations. On the other hand, it turns difficult and critical the task of monitoring the service provided.

These issues make it impossible to assess services before they are purchased, making it difficult for customers to assess the quality of services.

The quality of services as perceived by customers consists of two main components: technical quality and quality of interaction. Technical quality depends, in general, on technological factors that can be controlled by the provider, while the quality of interaction depends on a factor beyond control: the customer's own perception.

Quality as perceived by the customer is the comparison between expectations the customer has about the service with the experiences that he/she had after service delivery. The expectations come from the customer needs and other factors, such as previous experiences and the image of the service provider. Some objective factors such as cost and the technical definition of services may also affect customer expectation.

In order to improve the technical quality of services, providers may work on specific factors that affect its delivery, i.e. on the elements that support delivery and factors that affect the quality of interaction. Technology has made it possible to technically tune many services and their quality of interaction. Many methods and tools are now available for managing the technological base and operational infrastructure.

It remains to know how to help the customer to fulfill expectations, adjusting them to the service actually provided. This can be reached by ensuring that the customer has a clear understanding of the technical and operational quality that can be expected when contracting the service. The monitoring of expectations versus perceived quality can be realized by means of the discipline of Service Level Management (SLM).

SLM is the set of processes and procedures to ensure that the proper service level is provided to the customer. Adjustments to the service level must be defined in accordance to the priorities set by involved parties and must be kept within previously defined costs. The concept of SLM was developed to make available to the service provider the means to manage the quality of services. It is based on the definition and management of the Service Level Agreement or SLA.

An SLA is an agreement between the provider and its customer, aiming to formally define the quality level to be reached in service delivery. Its goal is to make the measurement of quality both objective and quantifiable, introducing resources for controlling customer expectation and managing perceived quality .

## Service Level Agreement

An SLA is embodied by a document complementary to a service contract. It defines the technical quality criteria to be followed within this relationship. Being a contractual document, an SLA should include several contract items, such as the description and scope of the agreement and a detailed description of the responsibilities.

To define technical criteria, an SLA should refer to another document, the metrics handbook, which includes the indicators that define the agreed service levels. This handbook also defines how and when these indicators are to be measured. The following illustration shows the relationship between the services contract, the SLA and the metrics handbook.

<b>CONTRACT</b> Defines the services provided and includes an item for service management, which refers to the existence of the SLA document and the powers assigned to this document.	<b>SLA</b> The description of the agreement, scope, and responsibilities, referring to the existence of the metrics handbook and the powers assigned to that document.	<b>METRICS HANDBOOK</b> Definition of the indicators, how and when they are measured, and who makes the measurements. Includes also the definition of thresholds for the indicators.
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The description and comprehensiveness of the agreement specify the customer, the provider, and the contract that supports their business relationship. It also lists all its services and the validity period. It may also contain the involved areas within both customer and provider, and their respective responsibilities.

In detailing the definition of services, an SLA complements and equalizes the understanding and expectations of both parties regarding each of the items in the agreement. This is done with help from the metrics handbook where the indicators are actually defined.

The SLA definition is a cyclical process, which starts with an evaluation step with the diagnosis of needs and elaboration of recommendations for inclusion in the agreement. The diagnosis is directly linked to the provider's business, involving the rising of the potential customer needs and evaluation of market practices and business criteria, including any possible impacts on the implementation and cost of the service offered.

After that, the SLA should be developed. At this moment, are selected the quality indicators for each service. The target customer should be clearly identified and the values for the indicators negotiated. It must be very clear how each indicator will be calculated and which are the operational procedures that will make possible the collection of data for the calculation.

The next step is the implementation of the agreement. The metrics handbook should be completed and approved, and the service provider should be ready to begin the data collection for the calculation of indicators. It should be clearly defined how the result of this measurement will be published by means of quality reports.

When the SLA is operational, a monitoring process must exist in order to collect data, analyze it and supply information about the course of the agreements. This process includes distribution of quality reports to both customer and provider. At this point, there will be excellent opportunities for service differentiation, by supplying the customer mechanisms for reducing the intangibility of the service. Dynamic reports allow the customer to objectively follow service delivery, increasing quality perception.

Analysis of the quality data allows beginning a new cycle. The whole process can be restarted, by identifying new opportunities for service differentiation, including enhancement of the provider's internal operational processes, tuning of the metrics handbook, identification of new indicators, and tracking of the evolution of the quality of service as perceived by the customer.

### Selection of indicators

Indicators should be selected so as to:

§ Correctly motivate service provider and customer behaviors. Indicators should encourage collaboration and promote the narrowing of the relationship between customer and provider. Although most of the responsibility in reaching the goals is the provider's, the customer should also be committed, being aware

of his role in the fulfillment of the goals. For instance, for an indicator of perceived availability calculated from open repair orders in a help desk, the customer must be aware that the unfounded repair orders should be excluded from the calculation. A certain level of perceived readiness may be part of the goal, as could also be the reduction of the total number of unfounded repair orders.

§ Depend on factors that are under service provider control. In the previous example, it would be incorrect to punish the provider for the unavailability calculated from the unfounded repairs.

§ Should be possible to calculate objectively. All data used to calculate the indicator must be available. In the example above, records for the opening and closing of repair orders should have associated timestamps, and should identify the relevance of the order.

Two more principles to consider are not to introduce an excessive number of indicators and that the parties should be prepared to review the goals as data is collected, processed and analyzed.

## The Metrics Handbook

The metrics handbook is the technical part of an SLA. It is the place where all indicators are listed, described, and quantitatively defined. Definitions of the quality goals and thresholds are also provided. For the service provider, it is also important to register all operational rules associated with indicators and thresholds. The rules allow for proactive management and define actions that should be executed when a threshold is close to being exceeded.

In the metrics handbook, each quality indicator should include a description that explains its relationship with business goals. Additionally, it should have quantitative sections that define:

- Performance data - Defines which data should be collected to calculate the indicators, how they are collected and how often.
- Summary criteria - Due to the volume of the performance data collected, summarizing may be necessary, including the calculation of averages for different time ranges, as in hourly, daily, weekly or monthly averages.
- Formula – A mathematical formula is used to calculate indicators from collected data, summarized data and other indicators, or through a combination of any of these items. The formulas should be defined objectively and precisely.

## Service Level Management

After being established and implemented, the service level agreements need to be managed. SLA management derives a procedure called Service Level Management (SLM) through which the customers are ensured the appropriate services levels.

SLM is always associated with a negotiation process: customers specify their requirements and the business practices that support their goals, and the provider translates these needs into a package of differentiated services to assist them. The basis for negotiation is the SLA and the procedure that supports it is SLM.

To the provider, SLM consists of a set of systematic procedures put into practice to guarantee the execution of the SLA. It includes the following activities:

- Record all service level indicators, including formulas, thresholds and operational rules.
- Record services and relationship to indicators (define the SLA).
- Structure the services into groups, record them and relate them to the indicators.
- Collect and summarize performance data.
- Calculate the indicators and supply the customer with information about the quality of the provided service.
- Monitor indicators and define methods for anticipating trends towards agreement violations.
- Deploy operational processes to allow the reversal of any agreement violation trends as well as contingency plans to be applied in such cases.

For the customer it is important to track the execution of the agreement, through the following activities:

- Receive all information about the provided services.
- Validate the indicators and the quality of service provided.
- Reassess needs and redefine new goals for indicators, together with the provider.

All provider and customer activities should be tuned and recorded in formal agreements. Appropriate tools can turn this viable and productive, even with a great amount of data and number of SLAs, making quality manageable.

## Conclusions

Service providers need effective means to guarantee the quality of services from the customer's perspective. The most effective way to accomplish this is to work with customer expectation for the service, and increasing the level of understanding regarding the service delivered, through the definition of indicators of quality of service and their inclusion in the SLA.

The deployment of SLAs produces the need and opportunity to manage these indicators. It is in quality management that lie the greatest opportunities for differentiation and customer fidelity. Six steps should be considered in the development of a successful SLA:

1. All services should be organized so as to define their value from the customer's point of view. Service components should allow grouping and classification according to their relevance to the business. For instance: mission critical, mission priority, high visibility and low visibility. The definition of groups and categories allows the indicators to be considered according to their importance as perceived by the customer. SLM should consider the services according to this structure.
2. All indicators should be associated with thresholds specifying their impact on customer business. The formulas to calculate indicators and thresholds should be well understood by both parties. It is important to associate trend analysis mechanisms regarding the possibility of violation of agreed thresholds. It is also important to be able to trigger operational processes, dealing with issues related to an identified violation trend.
3. The quality view should be unified. Companies are usually organized in departments, areas, sections, business units, service types and technologies, in a way that makes sense for the company. However, this organization often doesn't reflect the way customers see the company. It is essential to supply the customer with a unified view of the company. This impacts the composition of offers and the management of the quality of provided services. All interactions with the company affect the quality as perceived by the customer, and should be managed accordingly.
4. Quality of service reports should be defined by customer and provider together. The quality of the reports simplifies the understanding of the SLA management process and helps decisively with the maturing of the agreements. An efficient mechanism of distribution of reports containing the indicators and their evolution is also vital.
5. The tools supporting SLA should be carefully chosen. These tools need to have a set of features, such as the capacity to collect and summarize the necessary data in an appropriate and flexible way. The tools should automatically calculate indicators, associating them to thresholds, a process that defines the quality goals. Ideally, the tools should be able to manage different aspects of the service, including the case when different technologies are used in the same tool. The monitoring of the whole process used to identify agreement violation trends is the ultimate goal and should have strong support. This enables proactive action by the provider for the reversion of violation trends. The tools should also provide automation for the distribution of quality reports, increasing the quality as perceived by the customer.

For some time, providers of goods have been adding services to their products in order to differentiate their offers. Today, a quality assurance for these goods is considered a prerequisite in almost any business. The same trends are now being observed with services. Services providers find in SLAs the opportunity to differentiate their offers by providing an effective quality of service guarantee, both quantifiably and objectively. Services Level Management (SLM) introduces significant progress in business management and customer relationship, bringing opportunities for the creation of differentiated offers in an fast and effective way.

**About Visionnaire:**

*Visionnaire PACTO* is the first Brazilian software for managing Service Level Agreements (SLA). PACTO features many differentiation items, such as treatment of operational and technical indicators, customization for the Brazilian reality and unified management.

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