

DESIGNING EFFECTIVE SERVICE LEVEL AGREEMENTS

Background

With the proliferation of services and service providers in the Telecommunications, Media and Technology sector, purchasers of these products are seeking means to control the quality of the delivered service. A mechanism increasingly used for this purpose is the Service Level Agreement or SLA. A well-thought-out Service Level Agreement, or SLA, is valuable both for the service provider and for the client. The former gets the benefit of concrete demand, which allows them plan against realistic expectations, so avoiding overly expensive provision. The latter gets a reasonable, guaranteed level of service and some sensible recompense if things do not match the targets in the SLA.

However, a poorly drafted SLA can be a major source of problems for both parties. The increasing level of co-operation between network and application providers and users means that a considerable amount of importance is now vested in the Service Level Agreement. Getting it right, first time, cannot be left to chance.

There is a tendency towards offering SLAs that are not soundly based on engineering data, which owe more to marketing than sound design principles. Intercai believes that such SLAs are damaging both to the supplier and the user. The user because he does not get what he believed he had ordered and the supplier because he loses his customer's confidence.

How Intercai can help

Intercai Mondiale has developed a portfolio of techniques to help software and equipment suppliers, service providers and clients to design and agree SLAs that meet the key needs of their business. These techniques have been developed and refined over time, in real, successful applications. Our consultants have many years of practical experience and tend to join us from senior design and operational levels across the telecommunications and IT sectors

In addition to having a wealth of practical experience, Intercai Mondiale are active participants in the SLA Summit and chair public sessions on current developments. This unique blend allows us to help at all levels.

- For designers of software or equipment we can help to define the functionality that users want to see and specify the tools that will enable them to achieve their objectives.
- For service providers, we can provide the technical know-how to model system reliability and capacity in order to derive service levels that can be safely offered to clients with a known risk of failure. This quantitative approach ensures that the provider is not held to unrealistic targets and does not over-engineer their network. We can also assist with setting realistic and motivating penalty regimes that provide differentiation in the market place with minimum risk to the service provider.
- For clients, we can ensure that the SLA provides an appropriate level of protection and is based on sound measurements of performance. Our experience



can ensure that users select services that are appropriate to the business need and that the SLAs promised are likely to be met.

- For companies that are restructuring, we can act as an independent adjudicator to assist the setting of internal SLAs for service that are provided between different parts of the company.

Given the ever-increasing importance of the SLA, our approach has been to adopt engineering rigour in their development. In this way, the risks that face both provider and client can be addressed to an appropriate level, thereby minimising undue costs and risks.

What Intercai will deliver

Working as individuals or in managed teams, we will help you design, review and implement all necessary Service Level Agreements. We work as an integral part of your operation and encourage a transfer of skills wherever possible.

In addition to the SLA itself, we would provide the models, checklists and procedures that are developed in building it. Hence the reasoning and engineering behind the SLA is available for subsequent revision. By way of example, the key SLA elements that we would examine and attend to are listed in the next section.

To provide successful SLAs, it is necessary that the whole company understands them and is aware of their implications for business success. Intercai can also provide training for sales and commercial as well as engineering staff. This can be tailored to requirements and would be carried out by Intercai consultants with broad training experience.

Elements of an SLA

There are many types of SLA, including:

- Implementation: Reaction to users queries, agreement of delivery dates, delivery on time
- Performance: Capacity, latency, delay under defined load conditions
- Operation: Failure rates and time to repair
- General: Security, quality, expandability etc.

The SLA is more than just a list of service indicators—it lays out the ongoing monitoring and response process between the provider and the client. The SLA should also clearly define responsibilities for both parties. Furthermore, for each function that is defined, the person responsible for seeing that function performed needs to be identified by position.

An SLA should also cover corrective action—that is, the steps to be taken in the event that a service level objective is not met. This section should define who resolves the problem of each particular service deficiency, as well as the consequences for not resolving the problem. Consequences can appear in the form of penalty payments or, alternatively, a bonus clause for meeting all objectives. The end result will be the same.



In practice, every SLA is different but there are a few common threads that should be a part of each one. Here are the basic elements of a good SLA:

Parties to the agreement – a list of all the parties involved in the agreement, especially when there are multiple service providers and/or client groups.

Term of the agreement – the period of time that the agreement will be in place. A typical length is one to two years.

Services included – definition of each service covered, and identification of relevant service level indicators. The SLA should define how the indicator is measured, and who is responsible for performing the measurement.

Non-performance – the SLA should define what is to be done when the indicators do not meet the levels specified. Careful consideration has to be given to the amount of deviation. For example, instead of stating that transactions will not endure a response time of more than 1 second, it might be better to say that 95 percent of transactions will have less than a 1 second response time, and 5 percent may have a response time of 1 to 5 seconds. Realistic and well-founded targets often result in a better SLA for both client and provider. In general users are not interested in penalty payments – they want what they contracted for. Penalty regimes, therefore, should be motivating for the supplier to achieve the agreed targets.

Reporting and reviews – the reports created using any SLA monitoring tools, the frequency of reporting, access to reports, and availability of real-time reporting, as well as periodic reports.

Other provisions – such as unique provisions that reflect a company's business or regulatory environment.

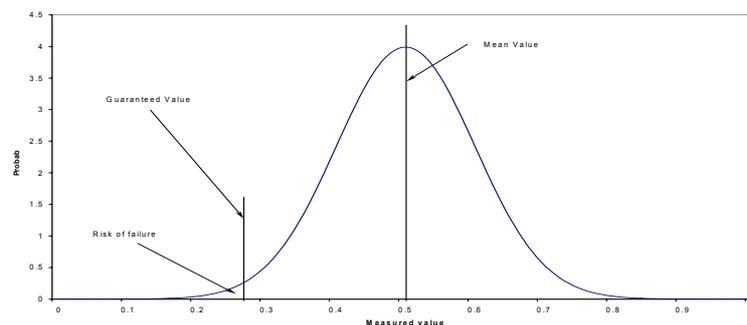
Modifications – the process for changing the SLA, if necessary. Changes in the user organisation (for example, increase in size) can place unexpected traffic on the network, resulting in poorer response time and failure to meet the SLA.

Engineering solutions

The Intercai approach to the design of an SLA is firmly rooted in rigorous engineering practice. For instance, reliability and availability guarantees are derived from a model of the network components that provide a service in order to calculate end-to-end figures. This ensures that SLA offers are tenable and that a client can rely on the stated level of service.

Performance guarantees are calculated using a similar approach. In this instance, some degree of traffic analysis is needed, as many users will be supported on a network-based service. For packet systems, queuing theory is one of several tools used to ensure that the figures that appear in the SLA are achievable and are of known pedigree.

Of course, analysis based on statistics and probability can never be totally accurate, so some allowance has to be made for this. The method developed by





Intercai takes into account sample size and risk to define an SLA that can be set with a known level of risk of failing the test (see chart).

Finally, the models generated to set realistic performance and availability targets can be used to guide subsequent dimensioning. For instance, it is possible to derive the extra bandwidth or processing required to maintain SLA targets, at a given level of risk, when more users are added.

Recent assignments

Intercai consultants have been involved in the design and operation of SLAs for over 10 years. Some typical assignments include:

- The design, negotiation and operation of the SLAs for a major UK Government network
- The definition of the SLAs between operating groups of a restructuring European carrier
- An analysis of the competitive positioning of the SLAs offered by a world wide carrier
- Managing the SLA content of a bid by a systems house for a major traffic management scheme.
- Providing operational management and team members supporting the delivery of SLAs to their targets
- Providing process and measurement design in support of the delivery of defined service levels.

About Intercai

Intercai Mondiale is a management consultancy specialising in the information technology, media and telecommunications industries. We work at business strategy, business planning, implementation and operational levels in major telecommunications operators and service providers in Europe and the US. We promote confidence and communication through close working with our clients. The frequency of our repeat business is a good indication of the quality of our consultancy work and its value to our clients.

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