TELECOM BILLING - SUPPORT & MAINTENANCE

Support and maintenance is an integral and the most important part of a telecom operation. Customer satisfaction directly depends on how efficient and how good support is being provided to them. If customer is being put in the loop and he is not getting good response for the problem/issue raised, simply customer would switch to another available operator.

Support and maintenance covers the following major areas:

- **System support and maintenance:** This includes keeping the BSS *BusinessSupportSystems* and OSS *OperationSupportSystems* running and in good health. If there is any issue in any of the systems *Billing*, *Provisioning*, *Network*, *Mediation*, *CustomerCare*, *etc.* , , then it is looked by the specialists and fixed within a minimum time frame.

- **Customer Support:** This includes fixing all the issues related to customer provide and services. A customer complains through customer care or call center and then issue flows at different stages. This issue could be related to signals, call drop, voice or data download quality, wrong bill, some dispute, service activation or termination, etc.

- **System upgrades:** This includes upgrading an existing system with the latest version to provide more stability and flexibility in the business. New version of any system comes along with new features to cater new business requirements. This also includes hardware upgrade to maintain system performance and for more storage as well.

Support Levels:

There are always different levels of support kept in place by the service providers. These levels handle different types of issues depending of their nature and severity. Most commonly used support levels are as follows:

- **Level 1:** Customer contacts the customer support, which could be a call center and customer support specialist listens to customer problem and suggests a solution on the spot. For example, there could be some problems, which can be resolved by simply restarting the phone. So an efficient customer care specialist knows about such type of problems and can suggest a solution without escalating the issue *usuallycalledatroubleticket* to the next level.

- **Level 2:** If a customer care specialist is not able to resolve a problem, then issue is escalated to second level support, which is a group of technical specialists. These specialists belong to Information Technology *IT* department, and if they are able to understand the problem, then they can suggest a solution and send the issue back to level 1, otherwise they check the nature of issue to understand if issue is related to network or billing system or provisioning system or hardware, etc., and based on the nature of the issue, issue is assigned to next level, i.e., department.

- **Level 3:** These are different departments specializing in their areas like core engineering, radio planning, billing, provisioning, order management, etc. If issue is escalated to them, then they analyze the problem and try to find out the root cause of the problem. Most of the times, issue will be diagnosed and fixed by third level support because they are highly skilled engineers specialized in their area. There may be situation, when issue can not be fixed at 3rd level support because it may be related to core functionality of the system which is not modifiable by 3rd level support. In such case, issue is further escalated to 4th level support.

- **Level 4:** These are actual vendors of the systems supporting business, for example, billing system, network switch, provisioning system, etc. So if issue is found to be related to the core functionality of billing system, for example billing system is not able to apply correct discount, then it would be escalated to the billing system vendor, and if issue is related to the core functionality of the provisioning system, then it would be escalated to the provisioning system vendor.

Service Level Agreements *SLA*:

Support departments always work with a predefined service level agreement called SLA. These SLAs are defined and kept in place keeping various parameters in mind. For example:

- Severity of the issue or operational task.
- Business impact of the issue or operational task.
- Whether issue or operational task is impacting a single customer or multiple customers.
- Whether the issue or operational task is directly related to revenue loss or customer satisfaction.

Based on such type of parameters, different priorities are defined and assigned to different issues or operational tasks. Operational task could be report generation, invoice generation, database cleanup activities, or backup activities.

Finally, each issue and operational task comes along with an assigned priority and each priority will have associated SLA. For example, if there is a problem in creating customer order, then it would be assumed a high priority issue because it is directly impacting business. Such type of issues need to be resolved as soon as possible by the assigned department. So a very tight SLA is defined for high priority issue.

SLAs are discussed and finalized with mutual agreement keeping business need on top priority. Usually, an SLA keeps the following information:

- Parameters to qualify the nature of the issue whether it is priority 1st issue or 2nd priority issue or 3rd or 4th priority issue. Lower the priority number, higher is the criticality of the issue.
- For a given type of priority and severity, how much time it would take to resolve the issue.
- In case of failure of an SLA, what penalty would be applied.
- Contact points of escalation for each level of support.
- Process flow and communication medium during issue resolution.
- Infrastructure availability and other constraints impacting the issue resolution.

SLAs can be defined between different departments, between vendor and operator and between different operators as well in case of interconnection.