Billing Revenue Assurance and Audit - Complexities and Challenges

ABSTRACT

All major Telcos today are facing stiff competition that is not only resulting in decreasing ARPUs for them but it is also becoming imperative for them to ensure that their customers are highly satisfied thereby reducing churn. In this regard providing accurate bills that reflects on the actual usage of the subscriber is becoming a very important for them. However, to ensure accurate bills are generated and dispatched for each and every customer on a regular basis with multiple services consumed by their customers is quite a big challenge.

In this white paper, some of the major issues related to billing (in) accuracies, audit and compliance are discussed. In addition, the challenges faced by Telcos to comply with the regulatory authorities such as FCC in USA, Ofcom in the UK and TRAI in India are also discussed and a solution approach to address these issues comprehensively are also presented.

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INTRODUCTION

Worldwide, today's Telecom Service Providers are grappling with problems of revenue leakage, customer dissatisfaction and compliance complexities arising out of billing inaccuracies. On one hand, when customers are over-billed, it leads to customer dissatisfaction and customer churn, on the other hand, when customers are under-billed, it results in massive revenue losses for the Telecom Service Provider thereby impacting their bottom line and margins. Even a fraction of unit of currency (dollar or a rupee) error can potentially result in millions of units of currencies due to the sheer customer base of subscribers in tens of millions across operating countries and circles. Additionally, all Telecom Service Providers mandatorily need to comply regularly with the norms set by regulatory bodies [such as TRAI (Telecom Regulatory Authority of India), FCC (Federal Communications Commission, USA), Ofcom (Regulatory Authority in UK)] related to billing and ensuring subscriber satisfaction all the time.

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WHAT IS REVENUE LEAKAGE?
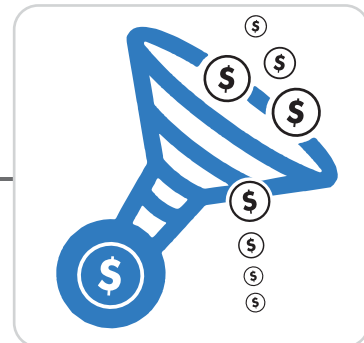
A telecom organization's revenue chain is usually a very complex set of inter-related technologies and processes providing a seamless set of services to the end consumer and then track the services delivered and bill the customers for the services delivered. This long and complex chain is very often referred as Revenue Management Chain. As the set of technologies and business processes grows bigger and more complex, the chances of failure increase in each of its connections. A revenue leakage is typically attributed to a Telco organization when it is unable to bill correctly for a given service or receive the correct payment. As the organization grows the probability of revenue leakage only increases.

A typical Revenue Management Chain pertaining to any operator across the globe is comprised of:

1. The network and the network operations ensuring the fact that the services are being rendered properly to the subscribers

2. Operations which are associated with the delivery of this information to the mediation system for processing

3. Mediation systems

4. Different billing systems, for example, prepaid, postpaid, interconnect and roaming and

5. The core process related to billing, for example, tracking, collection, dunning, and credit control.

In a nutshell, Revenue Management Chain is a complex process where SYSTEMS, PROCESSES AND HUMAN BEINGS are involved and so revenue leakages are bound to happen and there is nothing like no leakage, one can only minimize the revenue leakages with a full-fledged Revenue Assurance function.

Revenue Assurance (RA) has been a problem for the telecom companies since the very early stages. Tracking of pulses, minutes, counts, bytes etc. has never been more difficult. Another area of revenue loss is telecom fraud. Fraud can be viewed as an intentional revenue loss. One would think these would be easy for the tech-savvy Telcos. However, the truth is just the opposite. In a hurry to release new technologies into the market, the Revenue Assurance systems have always been lagging behind. Revenue Assurance in a Telco environment covers a wide range of technical and business aspects. An RA operator needs to be aware of both OSS & BSS processes and internal dependencies to accurately decipher the revenue code.

Although Revenue Assurance has always been present in the telecom parlance, it has recently been brought to the forefront of the top managements. This is due to several factors including:

- Profits: Increasing cost pressures and decreasing margins. The high profit days for most Telcos are over. They all need to find alternative means to squeeze higher margins by effectively tracking their revenue

- Regulatory: New regulatory structure and compliance requirements which force the telecom operators to report their revenue accurately.

- Technology Innovation: Ensuring that new technologies and products are performing as per perceived plans. Keeping up with release of new technologies along with co-existing legacy systems has been a big challenge for most Telcos.

- Mergers and Acquisitions: With increase in the number of Telco mergers and acquisitions, organizations are finding it very difficult to handle multiple BSS systems including Billing, Mediation and Rating together etc.

In a competitive market, several new and different charging options are being introduced continuously by the service providers, some of which may apply only to a single customer ora class of consumers for either a definite period or an indefinite period. With growing number of such options, call types and hundreds of VAS (Value Added Services) along with data, voice and DTH services, consolidation in one bill coupled with the sheer volume of number of subscribers (retail and corporate) are growing the number of billing complaints received by Service Providers and Regulatory authorities alike across the world. Despite multiple support and help channels, including IVR, Self-Care, SMSC codes interaction, it is becoming imperative for the Telcos to control their billing processes even more stringently and

ensure almost 100% accuracy, every time a bill is generated and dispatched to various types of subscribers – Post-Paid, Retail, Wholesale, Corporate. Unfortunately, there are many challenges that Service Providers are facing to make this happen.

In general, all Telecom regulatory bodies have laid down rules for billing accuracy and very broadly are responsible for achieving the following goals:

1. Bring uniformity and transparency in the procedures being followed by service providers with regard to metering and billing.

2. Specify standards relating to accuracy of measurement, reliability of billing.

3. Measure the accuracy of billing provided by the Service Providers from time to time and to compare them with the norms so as to assess the level of performance.

4. Minimize the incidences of billing complaints.

5. Protect the interest of consumers of telecommunication services.

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WHERE THE PROBLEM IS:

The most debated part of revenue assurance is where to start checking, i.e. at the network side, the rating side, the billing side, the interconnect side, the CRM side, etc. However, most surveys and reports state that the maximum leakage happens during the flow of Call Detail Records (CDRs) or Event Detail Records (EDRs)

from the Switch to the respective rating / billing engines. Some of the common problem areas are:

Network

- Signaling problems
- CDRs in Switch not sent to Mediation
- CDRs in Mediation not sent downstream
- CDRs rejected by rating / billing system
- Wrong duration on the CDRs
- Incorrect Business rules
- Subscriber provisioning
- Incorrect Routing

Rating & Billing

- Incorrect Rejection Logic
- Duplicate CDRs resulting in double charging
- Incorrect tariff plans
- Rating & Billing errors
- Late rating / billing
- Incorrect configurations – rating minutes instead of seconds
- Incorrect Disconnection

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REGULATIONS OF TRAI, FCC AND OFCOM ON BILLING
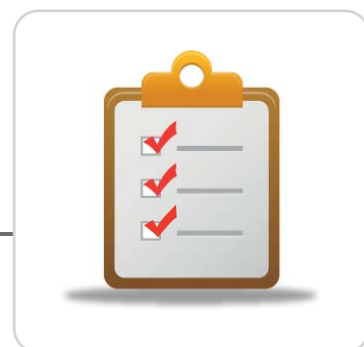
TRAI's (India) requirements regarding Auditing of Metering and Billing System specify that Total Metering and Billing System reliability performance should comply with the following tolerances:

TRAI's (India) requirements regarding Auditing of Metering and Billing System specify that Total Metering and Billing System reliability performance should comply with the following tolerances:

Chargeable Events	Performance
Number under or not Charged	0.1% (1 in 1000)
Number overcharged	0.004% (1 in 25, 000)
Value under or not charged	0.05% (1 in 2000)
Value overcharged	0.002% (1 in 50, 000)

(Source: Consultation Paper on Review of The Quality of Service (Code of Practice for Metering & Billing Accuracy) Regulations, 2006, Consultation Paper No. 15 /2012)

Ofcom (regulatory Authority of UK) requirement regarding Total Metering and Billing System of charges specifies that all Communication Providers (CPs) should comply with the following tolerances:

Usage Events	Inaccuracy Limits
Value Overcharged (Billing)	0.002% (£1:£50k)
Count of Events Overcharged	0.002% (1:50k)
Events Over Recorded	0.002% (1:50k)

(Sources: Notification of a modification under section 49 of the Communications Act 2003 the Ofcom Metering and Billing Direction)

Other regulations that the service providers have to comply with as per Ofcom are:

1. The error-rate that is allowable (e.g. 0.002% or £1 in every £50,000 of calls or other charges billed).

2. A maximum amount ('threshold') of £600 a month in respect of overcharging allowed by CPs whose turnover is less than £360m a year.

3. The procedure to be followed by CPs in the event of failures in the performance of their metering and billing system.

4. The assessment process for initial and ongoing approval.

The negative reaction of subscribers upon seeing unexpected charges in their phone bills is called Bill Shock in telecommunications parlance.

For consumers and businesses that own a variety of wireless devices, deploying a solution that offers real-time monitoring and management is the only solution to avoid bill shocks.

The FCC and CTIA in the United Sates, as well as Ofcom in the UK and other agencies, like the European Union, have made numerous headlines by advocating on behalf of consumers and businesses for protection against bill shock. These agencies are making significant strides in terms of legislating bill shock laws, and examining the role the telecom carrier plays in moderating these costly, unexpected surprises. (Sources:- (1) Notification on the Ofcom Metering and Billing Direction Notification of a modification under section 49 of the communications Act 2003 The Ofcom Metering and Billing Direction 2) Notification on the Ofcom Metering and Billing Direction Notification of a modification under section 49 of the Communications Act 2003, The Ofcom Metering and Billing Direction)

As per FCC (regulatory authority in USA) The Government Accountability Office has reported that 34 percent of wireless phone users responsible for paying for their services received unexpected charges on their bills in 2008 and early 2009. And in a survey done in April-May 2010, the FCC found that 17 percent of all Americans with cell phones – a total of 30 million people (translates into 1 out of 6 Americans have experienced bill shock at least once throughout their lives) – had experienced a sudden increase in their bill that occurred even when they had not changed their calling or texting plan.

(Source: Federal Communications Commission Consumer and Governmental Affairs Bureau - White Paper on Bill Shock – October 13, 2010)

All the above has resulted in heavy revenue losses due to dissatisfied customer and churn, also FCC has introduced regulation to prevent Bill shock to subscribers.

As per FCC, Service providers need to comply with the following:

1. Alerts and Notifications have to be sent out well in advance when

    a. Subscribers are approaching an allotted limit for voice, text, and data usage.

    b. Subscribers have reached their monthly allotment limit and begin incurring overage charges for any subsequent use of that service.

    c. Subscribers will incur international or roaming charges that are not covered by their monthly plans and notification if they will be charged at higher than normal rates.

2. Service Providers need to make clear, conspicuous, and ongoing disclosure of any tools or services they offer which allow subscribers to set usage limits or monitor usage balances, including any applicable charges for those services.

3. This information should be made available in a manner that is accessible to and usable by consumers with disabilities (section 716 of the Communications Act of 1934, as amended (Act), and the Commission's rules implementing sections 255 and 716 of the Act)

Quality of Service which has to be maintained by all service providers pertaining to billing system should be excellent and at par to achieve 100% correctness of bill, which will in turn help them arresting revenue leakages, if any and increases customer satisfaction through accurate bills thereby increasing telecom operator's brand value. Brand Value of the service provider is severely affected by customer churn and dissatisfied customers' word of mouth. .

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# NEED FOR AUTOMATED BILLING ASSURANCE AND AUDIT SYSTEM
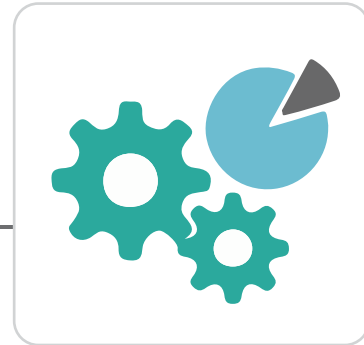
Rapid and far-reaching changes in the telecommunications landscape are increasing the risk of revenue leakage. Today's operators have to cope with complex network systems, converged service offerings, multiple third party partners and a rise in outsourcing, all of which create the potential for inaccurate data capture and billing, and contribute to revenue leakage.

There are many ways by which a Telco loses valuable revenue; revenue leakage due to incorrect billing is one of the main culprits. Due to sheer size of the customer base besides complexity and diversity in the services offered, it becomes a herculean task for the Telco to often process and validate the bill correctly. Over billing and under billing are the main outputs of such system which in themselves cause revenue leakage.

Bill Run Delay is one other factor causing revenue leakage. With a delayed Bill Run, collections are impacted that directly result in Revenue loss. When a customer is added into the Billing System, the system assigns the customer a predefined Bill Cycle. A bill cycle is a date on which the Billing Engine runs and produces bills for a set of customers. If customer is assigned to the bill run date of 1st of the month, this is called customer's nominal bill date. But because of various reasons, many times bill run is delayed and actual bill gets generated on a later date, this is called actual bill date.

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IMPACT OF NON-AUTOMATED BILLING AND AUDITING SYSTEM
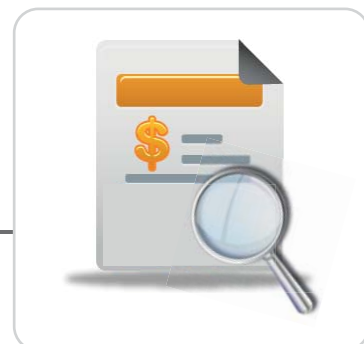
In the overall scenario outlined above, it is imperative for Telecom Service Providers to employ a well-defined, systematic plan for the continuous monitoring and reporting of the risk of loss, or the actual revenue loss within the billing system. Also, apart from meeting compliance norms, physical auditing for leakage

identification and containment ensures to some extent that billing is correct and consistent and helps establish a "company you can trust"image and aids in customer retention. However, the entire process of manual audit in which the bill computations are checked is tedious, manpower intensive and error-prone.

In the absence of specialized tools designed for auditing of metering accuracy, Telecom Service Providers have been forced to rely on manual processes or home-grown solutions. Though these measures control the billing accuracy to some extent, they are still NOT altogether reliable. Some of the issues faced by such ad-hoc checks and balances are:

1. Manual Processes: Resource intensive, complicated and error-prone, much skilled labor is needed to manually check the bills. Further, growing subscriber bases mean that the sample sizes of manual checks also grow with every Bill cycle! This results in prolonged, error-prone and tedious manual bill checking and heavy dependence on incremental resources.

2. New Product Implementation: Frequent launches of newer bill plans, packages, price schemes, etc. result in a need to refer to multiple systems to check and implement the changing audit policies. This makes the process of manual auditing tedious as complex combinations of services used by customers need to be calculated.

3. Complexities in Computation and Validation: Different pieces of the billing information are available at different sources and it needs complex calculations to arrive at the correct cumulative figure. Manual process of referencing different sources of bill data and carrying out these activities is, once again, tedious and error-prone.

4. Sample Coverage: Due to short and stringent bill cycle window times only a small sample is audited as manual auditing is highly time-taking and resource intensive; this small sample cannot be considered an adequate measure of leakage management and containment

5. Tracking Human Error: Due to lack of an automated system, it is an arduous task for the auditors to track and measure, keep record of the errors that are generated, and difficult to route errors to concerned supervisors / managers. Individually and cumulatively, all these lead to longer Turn-Around-Times for corrections and it becomes very tough to identify corrective measures to curtail leakage.

The impact of non-automated or manual billing and Auditing system can be summarized as follows:

- Incorrect rating of billing systems can cause approximately 10%* of revenue leakage

- Compliance to the stringent regulatory requirements for metering and billing audit norms becomes a nightmare

- Inconsistent billing leads to increasing customer dissatisfaction and churn.

- Dependency on domain experts, becomes both expensive & time-consuming

- Configuration Issues in Bill Plans arise frequently

- Over-billing issues, dissatisfied customers are not uncommon

- Under-billing issues resulting in revenue leakage, tax problems

- Low / small sample size because of time constraint

- Possible errors on unaudited portions of the subscriber base

- Verifying business scenarios - Complex challenge

07
UniServe™ ASSURE SOLUTION FOR REVENUE LEAKAGE, GOVERNANCE, RISK & COMPLIANCE

Intense's UniServe™ Assure (Billing Revenue Assurance and Audit System) is a robust and dependable solution for improving revenue assurance of a Telecom Service Provider. Assure addresses the management of revenue assurance by automating and monitoring of post-cycle revenue assurance and ensures efficient leakage identification and containment, cost effective and 100% reliable.

Built on SOA (Service Oriented Architecture), the solution effectively caters to the complexities of subscriber bases, clustered rules of bill plans, and schemes for validation and ensures bulk indexing of values to the external database for generation of reports.

The application aims to ensure that billing systems and those functions that feed into the billing process are accurate, as well as meet all relevant regulatory requirements. It encompasses the totality of all equipment, data, procedures, rules, configurations and activities used to determine the billing charges for provision and usage of Electronic Communications Services. These accurate and metered charges are then presented on End-Users' Bills. In other words, UniServe Assure assists and ensures that all the compliance parameters established by telecom regulatory bodies are fully met in a reliable and consistent manner.

UniServe ™ Assure incorporates all processing steps required by the telecom provider to prevent Revenue Leakage for the end customers and empowers consumers with simple alerts and makes sure they are never billed incorrectly. It also empowers them with information enabling them to make smart decisions about their mobile plans.

08
KEY FUNCTIONALITIES AND FEATURES OF UniServe ™ASSURE FOR RESOLVING THE PROBLEMS FACED BY SERVICE PROVIDERS WITH ISSUES PERTAINING TO TMBS

Revenue Leakage

As explained above there are many ways by which a service provider loses one of the most valued assets, that is revenue. Below section points out how automation of billing system by UniServe ™ Assure helps arrest these leakages.

UniServe™ Assure automates the key telecom billing related functions such as:

- Call Data Record (CDR)
- Guiding
- Rating application
- Billing

UniServe™ Assure contains below mentioned functionalities /modules to achieve the desired goals of complete automation:

1. IDM – Intelligent Data Manager
2. Audit Sample Selection
3. Plan Configurator
4. Alerts and Notifications

1. IDM (Intelligent Data manger) and Bill Run Assurance : IDM captures all the CDR information through adaptors and inputs them into the system. CDR information like details of the call, start time of call, end time of call, duration of call, originating number and terminating number are captured and fed into the system automatically without any human interference.

Bill Run Assurance: There are many sub features to this functionality, they are:-

a. Input data handler: The system accepts varied data sources like ASCII Text files (Fixed length, delimited and tag based), XML and Input stream from a Database/Data lookup (ODBC, Oracle, DB2, SQL Server, MySQL) simultaneously.

b. N Level Support: The system writes a process ready input file for auditing by taking input from above mentioned varied sources and generates output in parent and child format.

c. Data Formatting: The system supports Data Formatting features at the input handling level like elimination of unwanted data, data transformation (data alignment, prefixing, suffixing, defining the length of the object, replacing the data object with a given value or string, enabling decimal places and rounding-offs, converting numbers to words with trim options, converting various date time formats, adding punctuations, adding separators and deleting unwanted lines in a spool file), addition of intelligent flags, addition of Customer breaks/Page breaks, date/text/numeric formatting, tagging variable data, conversion of variable data into a tabular format.

d. Metadata capture at input level: The system supports metadata capture for reconciliation reports at input level and captures metadata into pre-defined external databases for reporting, while processing the input from varied data sources.

e. Formatted Files: The system supports generation of customer-wise formatted files and consolidates data of different customers into one single formatted file

f. Template designer: The system supports GUI based templates to specify the input type (ASCII Text files, XML), input path, set of rules, output type (TXT, CSV) and dynamic output path applicable for a line of business (LoB) or basis the requirements.

g. Business Rules Engine: The system supports GUI based configurable business rules engine to define various charging and discounts rules. The system supports GUI for definition of conditions on the data objects of various data types.

Validation of all the bill entities:

The application supports validation of the following bill entities and the respective scenarios through configurable GUI:-

a. Recurring Charges - Apportion & Non-apportion Advance, Arrears, Bill Cycle Change - Stretch & Shrink, Rate Override, Combo Parameters based Charging, Refund & Discount claw back, Activation and Disconnection of services

b. One-time charges - Normal Charging, Rate Override, Parameter based Charging

c. Other Credits & Charges - Adjustments, Waivers, Regular OCCs

d. Promotions - Explicit & Implicit Discounts covering scenarios like Absolute, Relative and Tiered discounts

e. Free Units Packs - Implicit, Explicit, POFU and POFUL

f.   Customer Name & Address, Account Number

g.   Bill-Date, Bill-Period, Due Date

h.   Previous Balance, Payments, Current Charges, Total Amount Due

i.   Messages on the invoice (appearing in BCH and/or BGH output which will be an input to the application).

The system identifies and highlights the over-billing and under-billing cases along with the impacted customer id/Service Id for quicker resolution of the issue.

Some of the key characteristics of IDM are:

1.   High Scalability: The system supports horizontal and vertical scalability

2.   Proforma processing: The application is able to process a single or multiple files in Proforma (test) mode to ensure that the configurations & the output are as per the business requirements

3.   Security: The system supports application access only to authorized users

4.   No limitation on the pre-bill audit sample: There's no limitation on the sample size (total input files) for pre-bill audit.

5.   Exception Handler at Processing Level: The system handles exceptions in the event of errors such as DB disconnection, incorrect folder and write permissions etc while processing

6.   Output Report: The system supports consolidation of data from varied data sources, writes various output formats such as ASCII Text, XML, CSV and Indexes the output to another database. The system supports a GUI for defining the structure of the output file for Header, Body & Footer.

7.   The system has the flexibility to check the computed value with multiple sources - Bill and/or Rate Plan value

2.   Audit Sample Selection:

Audit Sample Selection module allows selection of various subscribers who would be taking part in the pre-bill audit by a criterion. These selected subscribers will be validated by the system as per their plans and ensures correctness in billing. Service providers can select the subscribers as per the criterion laid by the regulatory authorities. For example, the audit criteria defined by TRAI and followed by UniServe ™ Assure are:-

1.   Audit should be done on a sample basis taking into account plans that have more than 10% of total subscribers in each licensed service area, subject to maximum of 10 service plans per licensed service area.

2.   Apart from the above, two post-paid tariff plans, having the largest number of subscribers, shall also be covered in audit

4. Includes more number of tariff plans which are launched during the year

5. Two post-paid tariff plans launched during each of the half year of audit that has the largest number of subscribers may be considered for audit

Other Audit criteria that can be selected are listed below:

- Rate Plans - lists all the available Rate Plans

- Service Packs - lists all the available Service Packs

- Services - lists all the available Services

- Promotions - lists all the available Promotions

- Free Unit Packs - lists all the available Free Units Packs

- Free Unit Packs (COFU/POFU) - lists all the available Free Units Packs (COFU/POFU)

- Movements - Upgrades/Downgrades

- Newly activated Contracts

- Suspended Contracts

- De-activated Contracts

- Re-activated Contract.

- Customer Groups - lists all the available Customer Groups

- Suspended Customers

- De-activated Customers

- Re-activated Customers

- Newly activated Subscriptions

- Customers who changed their rate plans

- Specific entries (Individual input / Bulk upload using CSV) - Service Id, Customer Id, Customer Code.

3. Plan Configurator:

This module feeds all the different plans that are present in the system and are being offered or in-service by the service provider in a single repository which is then used to audit the bill against each customer to check bill correctness. Rate Plans, Promotions, Free Units Packs are stored in the repository

Rate Plans will include:-

- Rate Plans
- Service Packages
- Services

Free Units Packs will include:-

- Promo Pack
- Promo Rule
- Promo Mechanism
- Promo Criteria
- Tiered Discount
- Zone
- Logical Zone

4. Alerts and Notifications:

There are various types of alerts that can be configured into the system, which help the Service provider to adhere to the regulations laid down by the regulatory bodies. These alerts also help the subscribers to know the status of their accounts and also alert them in many scenarios.

With these alerts the subscribers can avoid bill shocks. Informed customers with proper alerts can decide what plans they may choose in different scenarios. This is beneficial for the service provider too, as subscriber will not avoid using the service in many scenarios (Ex. Roaming) which directly means revenue loss. Without alerts bill shocks become more frequent resulting in dis-satisfied customers leading to churn and bad reputation for the brand.

Reports

Some of the reports that UniServe™ Assure provides to subscribers are:-

1. Usage alerts and related information that will assist them in avoiding unexpected charges on their bills.

2. All consumers have access to baseline information to help them manage the costs associated with mobile service in an informed and timely way to avoid unexpected charges.

3. Establishing a precise usage level at which this initial notification message would be triggered.

4. Notification messages to consumers once they reach their monthly budgeted limit and begin incurring overage charges.

5. When a consumer is about to exceed the established monetary or volume limit for a voice, text, or data plan, the provider would be required to send a one-time notification explaining that the consumers are about to incur charges for services in excess of their normal rates.

6. Notification messages to consumers when they are about to incur international or other roaming charges in excess of their normal rates.

7. Balances information and Capping option information

8. Offer consumers the ability to set limits on voice, text or data usage either for the entire plan or for individual members of a family plan to preclude incurring overage or other charges.

09
ENTERPRISE BENEFITS
WITH INTENSE UniServe™ ASSURE:

Enabling Metering Accuracy: Since Intense's solution for GRC (Governance, Regulatory and Compliance) is automated and driven by process intelligence, validation of various plans, schemes, discounts and other billing related parameters becomes increasingly easier with a greater coverage of the subscriber base.

Reduced and Assured TAT: Faster turnaround times for auditing can be achieved as manual intervention is not required at any stage. Also, errors that are bound to creep in due to human intervention are eliminated. Therefore the bill auditing process is faster and more accurate

Reduction of Manual activity: Reduced cost of auditing bills as manual intervention is minimized and a growing subscriber base does not result in an increased need for human resource for auditing.

Enhanced Data Security: Confidentiality of customer information is maintained as automation of the billing output validation requires no manpower involvement

Enhanced Reporting and Analysis: Detailed reports on errors in billing data and causes of erroneous bills are sent automatically to concerned supervisors / managers

Accountability: The solution can be configured to collect exhaustive metadata throughout the process cycle. This metadata can be used to accurately identify bottlenecks, thus increasing accountability

Escalation Matrix: In case of an error, automated triggers are sent to respective supervisors / managers to enable faster corrective action. An escalation matrix is maintained based on the type of error to enable routing of error reports to concerned supervisors / managers

Regulation and Compliance: Adherence to regulation laid down by telecom regulatory authorities

- Faster and transparent reporting of revenue leakage and containment points due to intelligent process automation

- Better compliance as a greater sample (size can be determined by the Telecom Service Provider) of bills is checked for correctness

Cost Reduction:

- Automation directly reduces manpower allocation

- Eliminates manual entry

- Error free processing

- Avoidance of over and under billing

Revenue Leakage Mitigation:

- Ensures maximum effectiveness in auditing of billing output by eliminating dependency on manpower

- Audit reports generated and distributed by the solution ensure that billing and operations managers are alerted and made aware of any errors from the billing output

- Transparency of the system ensures accountability, traceability and faster TAT for correction

Reduction in Churn: Satisfied customer results in reduction of churn, better brand value.

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An Alumnus of the reputed Indian Institute of Technology (IIT), Madras and Clemson University, USA is a proven leader with 20+ years (8 years in USA and 12 years in India) of experience in Enterprise Software products development – design, architecture, planning and execution on varied technologies – Java, .NET, Web and mobile technologies across telecom, BFSI, Retail, Healthcare and utilities domains.

He has served clients across the globe in highly demanding and changing environments. He is highly passionate about building Enterprise world-class software products that make an impact to all its stake holders.

About Intense Technologies

Intense Technologies Limited is a global enterprise software products company, headquartered in India with a strong and emerging presence in USA, LATAM, EMEA and APAC. Our enterprise software products are used globally by Fortune 500s for digital transformation of their mission critical, customer-facing processes that result in increased revenues and improved customer experience.

We have a strong track record of deploying our highly scalable product suite to Banking & Financial services, Insurance, Government, Utilities, Manufacturing and Telecommunication enterprises. We serve customers in 20 countries across 4 continents, with a 70% market share in Telecom in India