

AdvOSS Converged Billing

PRODUCT DATA SHEET

Latest version of this Product Datasheet can be downloaded from
www.advoss.com/resources/datasheet/advoss-converged-billing-product-datasheet.pdf

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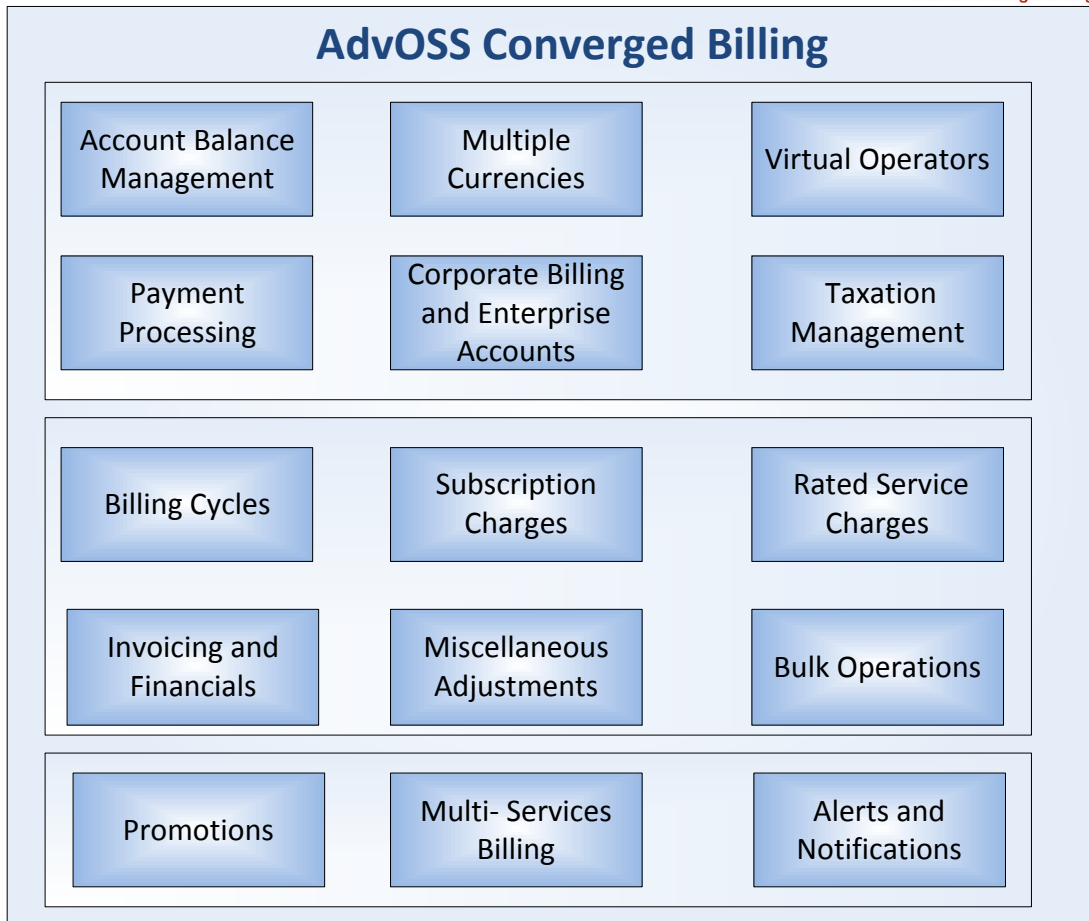
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1 AdvOSS Converged Billing - Introduction:

AdvOSS Converged Billing enables a service provider to process subscription charges for the services that it offers. It allows converged multiple services to be provided to subscribers and allows flexible subscriber and subscription models with different life cycles. It generates invoices and processes all payments in different ways. It integrates with CRM, Rating & Charging engines, HSS and Provisioning Engines for full cycle service management.

AdvOSS Converged Billing is service agnostic and allows CSPs to monetize new revenue streams for any type of service offering and business model, through one unified platform. It fully supports both prepaid and postpaid business models. It empowers CSPs to improve time to market of new products and services, while lowering the total cost of ownership.

AdvOSS Converged Billing architecture is based on open APIs and hence can be easily integrated with other B/OSS products to build larger solutions. AdvOSS has a range of B/OSS products in its portfolio with which AdvOSS Converged Billing comes pre-integrated as part of AdvOSS Solutions.



2 Business Use Cases:

- **Multiple Services**
 - Create as many services and their offerings
- **Corporate Billing and Enterprise Accounts**
 - Multiple using parties under a single paying party
- **Account Balance Management**
 - Subscription Charges
 - Balance Transfer
 - Credit Reservation and Refund
 - Rated Service Charge
 - Balance Adjustment
 - Payments

- Credit Limit Management
- Automatic Payment processing triggers
- **Payment Processing**
 - Voucher Redemption
 - Support for multiple voucher systems
 - Service Credit Redemption
 - Interface with Franchisee Self-Care portal
 - Interfaces with SMS and IVR gateways
 - Open API for integration of payment kiosks
 - Offline Payment
 - PoS Integration
 - CSR portal integration
 - Online Payment
 - Payment gateway integration
 - Paypal / Money Booker other such gateways support
 - Extensible online payment gateway integration
 - Automatic payment triggers in real-time
 - Interface with service management systems for automatic resumption of services
- **Billing Cycles**
 - Flexible management of billing cycles
 - Support for perpetual services
- **Subscription Model**
 - Support for base subscription of each using party for each service
 - Bundled services with Plan level subscription charges
 - Support for Service add-ons
 - Extra features
 - Higher QoS
 - Support for Resource add-ons
 - Extra Resources
 - Support for Counter add-ons
 - Extra Duration

- Extra Usage
- Extra Events
- **Subscription Charges**
 - Automatic billing cycle processing
 - Base service subscriptions
 - Subscribed Add-Ons
 - Service Add-Ons
 - Value Added Services
 - Resource Add-Ons
 - Counter Add-Ons
 - Line Rents
 - Amortized charges (charges that stop after amount has been debited)
 - Interface with service management elements to block services if needed
 - Counter instances refresh on charging system.
 - Prorated charges for mid-cycle subscriptions and changes
 - Activation charges
 - Non-default charges for individual subscribers
 - Approval workflows for non-default charge authorization
 - Rule based deduction based on Subscriber's life cycle
- **Rated Service Charges**
 - Interface with Charging and Rating engine for real-time rated service charges
 - Detailed Sub-Invoicing for each CDR
 - Service Management events upon balance depletion
- **Invoicing and Financials**
 - Separation of pre-paid and postpaid subscribers
 - Automatic Invoice generation
 - Sending of invoice as per customer preference
 - Email
 - Printing

- Flexible skin based interface for invoice formatting
- Flexible rules to club CDRs into sub-invoices to show as a single line item in main invoice
- Detailed reporting for aging and dunning etc.
- Detailed interface for export to external accounting and financial systems
- **Miscellaneous Adjustments**
 - Interface in CSR portal to post adjustments
 - Support for work flow definition for approval process
 - Detailed classification of all adjustments into charge heads
 - Service Management interfaces for blocking / resuming services
- **Non-Usage Charges**
 - Detailed definition of non-usage charges
 - Flexible deduction frequency (Daily, Weekly, Monthly, other variations)
 - Consolidated reporting on invoices
- **Subscriber Life Cycle Management**
 - Rule based life cycle for Subscribers
 - Voluntary blocked subscribers and subscriptions
 - Interface to service management systems for suspension / resumption of services
- **Unsubscribed users and pay as you go plans**
 - Unsubscribed user authentication
 - PIN based signup
 - Partner Subscriber Manager
 - Subscription based plans (hour pass, day pass, week pass and so on)
 - Duration caps
 - Usage caps
 - Event caps
 - Bandwidth and other service profile settings
- **Promotions**
 - Campaign Management

- Support for most complex rule definition using work flow languages for passing on bonuses to matching customers
- Promo-code management
 - Published and individual promo-code support
 - Integration with Customer self-serve portal
- Multiple possible bonuses and benefits
 - Extra cash bonus
 - Extra counter bonus
 - Extra duration
 - Extra usage
 - Extra events
 - Higher sub-totals
 - Lower or zero subscription charges for a defined period
- Cross service bonuses
- Detailed tracking of issues bonuses
 - Cost of sales analysis for issued bonuses
 - Detailed tracking of each issued bonus to applicable campaign
- **Virtual Operators Management**
 - Manage Virtual Operators
 - Account Balance Management for Virtual Operators
 - Invoicing and Payments
 - Self-Serve Portal
 - Product Management
 - Rate Management
 - Subscriber Management
 - Subscription Management
 - Reporting
- **Multiple Currencies**
 - Manage customer balances, subscription charges, rated service charges in multiple currencies.
- **Taxation**
 - Payment based taxes

- Unlimited payment taxes supported
- Tax exemptions record for individual subscribers
- Usage based taxes
 - Tax deduction on subscription charges
 - Tax deduction on rated service charges
- Charge head based flexible taxation policy
 - Allowing tax exemption on some services
- Interface for Charging and other engines to pull taxation rates
- **Operational Support**
 - Monitoring
 - Bulk Operations
 - Flexible Transactional API
 - Work Flows
 - Reporting
 - Text files based activity feeds

3 Modules:

The AdvOSS Converged Billing is composed of the following modules:

- Account Balance Management
- Virtual Operators
- Payment Processing
- Corporate Billing and Enterprise Accounts
- Billing Cycles
- Multiple Currencies
- Subscription Charges
- Rated Service Charges
- Invoicing and Financials
- Miscellaneous Adjustments
- Promotions
- Alerts and Notifications
- Friends & Family packages
- Multi-services Billing
- Taxation Management

For details of these modules please see the section titled “AdvOSS Converged Billing Modules” later in this document.

AdvOSS Converged Billing Modules Description

AdvOSS Converged Billing incorporates following main modules described below.

3.1 Account Balance Management:

AdvOSS Converged Billing supports unified Account Balance Management for subscribers. A common subscriber wallet is maintained and this enables the offering of a truly converged behavior by the Billing system. The Account Balance module offers the following features:

- i. **Increase Subscriber Balance**
- ii. **Decrease Subscriber Balance**
- iii. **Adjust Credit Limit of subscribers:** Credit-limit of subscriber may be changed for postpaid customers for flexible postpaid billing management.

The system enforces that any increase or decrease in the Subscriber Balance is always a part of a transaction that justifies the balance adjustment.

3.2 Virtual Operators Management

AdvOSS Converged Billing offers flexible Virtual Operator Management for Private labeled Agents, Resellers, MVNOs and Partners. This allows other partners of same operator to use service-provider's infrastructure and yet market with partner's own brand.

The Virtual Operators will have the following systems at their disposal:

- i. **Virtual Operator Self Care:** The Self care portal for the virtual operator enables them to perform all of their own billing and subscriber management related functions.
- ii. **Franchisee of the Virtual Operator:** Each Franchisee of the virtual Operator will have their own portal.
- iii. **Self Care for Virtual Operator Subscribers:** The end subscriber of the virtual operator will each have their own self care portal.
- iv. **Advoss VOMS - Voucher Management System**

(Optional) : If AdvOSS VOMS is part of the solution , then a separate instance of the AdvOSS Voucher Management System will be setup for each virtual operator.

The following features are available:

Add Agent: There can theoretically be unlimited partners who act as second level / virtual service-provider and can be added as Agents into the system. It is an excellent supported feature that allows Communication Service Provider to make new Value Added Resellers/MVNOs etc.

Receive Payment: Payment is received from the Payment/Agent, allocating him some usage balance. Partner may be created as Prepaid or Postpaid partner depending on business requirements. System allows both business models.

Agent's Billing: A reseller/partner is assigned a tariff-plan and is controlled as a B2B customer. The partner is charged for this plan for every usage by subscriber of this partner.

Reseller Web Access: Every reseller will have access to the billing web interface as an administrator to manage operations for his customers. The interface allows all billing management capabilities from customer registration to plan management. However, reseller is restricted to perform only those tasks which are assigned by the billing administrator to this reseller.

Subscription & Tariff Management by Agents: Reseller can add billing tariff and rates for its end users. These tariffs are used to charge his/her end users by the reseller. He/she can have his/her own rate plans, own bonus schemes etc. Whenever an end user of a reseller will make a call, end user will be charged by the reseller with rates defined by reseller for end user. And reseller will be charged by rate defined by Billing Administrator for reseller.

Reseller Reporting: The super billing administrator requires reports to monitor and track agents/partners activities, their credit-limits (for postpaid partners) and usage tracking for profit analysis. AdvOSS Converged Billing provides reports at all levels to support this functionality.

3.3 Payment Processing

AdvOSS Converged Billing supports multiple payment methods through its Payment Processing module.

The following features are supported:

- i. **Payment Gateway Setup:** Billing System supports integration with various credit card payment gateways including Paypal, Authorize.net and others. Support for any new payment gateway can be made available quickly on demand.
- ii. **On File Credit Cards:** Putting Credit card on file provides convenience to both customers and Service Providers. In this way customers don't have to provide the credit details every time and Service Provider can charge for monthly subscription services etc according to the Billing cycle or for any new services extended.
- iii. **Payments through Vouchers:** Payments can also be received via vouchers, when integrated with a Voucher Management System (VOMS).
- iv. **Payments through POS Terminals:** Payments can also be received via Point of Sales Terminals through integration with various POS Devices.
- v. **Personal Payment Preferences:** Personal payment preferences can be set by customers
- vi. **Add offline payment:** Payment can received offline for example cash received by the Franchisee etc and posted.

3.4 Corporate Billing & Enterprise Accounts:

AdvOSS Converged Billing supports the provision of having multiple Child Accounts under a Company (Parent/Corporate) account. Payments and usage is done against the parent account, which means their current balance is maintained under single accounts. Also usage is calculated separately calculated and can be viewed separately. Invoices can be raised for child accounts as well as for companies/parent only.

3.5 Billing Cycles

AdvOSS Converged Billing supports multiple types of billing cycles, catering for a multitude of business models by the CSPs.

The following billing cycles are supported:

- i. Weekly
- ii. Monthly
- iii. Quarterly
- iv. Yearly
- v. Perpetual

The following features are supported by the AdvOSS Converged Billing:

- I. **Add Billing Cycle:** Multiple Billing Cycles can be added into the Billing System.. Admin can define a Billing Cycle and select its period in the Billing System.
- II. **Attach a Billing Cycle to a Plan:** Created billing cycles can be attached to a Plan. Each Plan can have one or more Billing Cycles depending on the Bill dates, for example 1st and 15th of every month.
- III. **Separate Billing Cycle Instance Per Subscriber:** An individual subscriber billing cycle instance is made per subscriber , and this offers control at the granularity of every subscriber with regard to billing cycle related operations

3.6 Multiple Currencies

AdvOSS Converged Billing offers support of multiple currencies in the system and conversion rates can be set by the billing administrators. There is a Base currency set by Billing System admin and different agents can charge their customers according to their local currencies.

3.7 Subscription Charges:

AdvOSS Converged Billing provides flexibility to introduce subscription based charges of recurring and non-recurring (one time) nature as described below:

Recurring Charges – Any type of recurring charges can be applied for a billing cycle.

Non-recurring Charges: System supports the provision of one time activation charges associated any subscription.e.g. One time charges for following type of services or more can be supported:

- i. Service Setup charges (IPTV, Data, Voicemail etc)
- ii. CPE charges
- iii. Trunk groups

Pro-rating:

Subscription Charges Module offers Prorating for various charges which are to be deducted at the time of billing cycle activation. The pro-ration can be turned on or off as per the CSP requirements.

3.8 Rated Service Charges:

Through its integration with the Charging Engine, the AdvOSS Converged Billing gets information about all Rated Service Charges deducted for a subscriber. This information is then utilized by the AdvOSS Converged Billing in relation to the following:

- i. Potential service management through provisioning, as a result of the rated service charge e.g. if a network element needs to be provisioned for policy enforcement when usage reaches a certain threshold.
- ii. Invoicing
- iii. Payment Processing if required as a result of rated service charge
- iv. Reporting
- v. Alerting and Notification

3.9 Invoicing & Financials:

AdvOSS Converged Billing offers enhanced Invoice management options. It provides a single unified bill for different type of services and service offerings (voice, data, video etc) and showing details including usage charges, fixed monthly charges, recurring charges and tax calculations and more.

Different Invoice layouts, formats and invoicing period cycles can be supported and customized according to CSP requirement.

Invoicing Management & Financials modules comes with the following basic features:

Customer Bill/Invoice Generation: Billing administrator can generate bill for any customer for any period. All rated CDR are also kept in history and linked to the invoice/bill generated. It also supports bulk invoice generation, allowing CSP to generate invoices for all the customers simultaneously instead of generating one by one for each.

Finance Reports: Variety of finance reports for timely reporting on profit/loss, Payments received, Invoices sent, Aging, Voucher redemption, churn etc are currently available in system. Moreover any new reports can be quickly made available as per the CSP's requirement.

Auto Invoicing: Converged Billing System supports bulk invoice generation and Auto Invoicing features. System can send the invoices generated to the customers automatically through email at end of Billing Cycle or date as specified by the CSP.

3.10 Miscellaneous Adjustments

AdvOSS Converged Billing provides the feature of doing Balance Adjustments against different charge heads when required. Typically this is done when a case of wrong charging is reported and subsequently subscriber balance needs to be adjusted. Charge Heads against which Balance Adjustments can be adjusted are customizable as per the requirements of CSPs.

3.11 Promotions

AdvOSS Converged Billing enables the CSP personnel to run various customized promotions through easy to use interfaces.

The Promotion module enables the CSP to dynamically build promotions and loyalty programs in order to increase their revenue streams from existing and new subscribers. Promotions are made possible by using the following two provisions in the AdvOSS Converged Billing, as described in the relevant sections above:

- i. Workflow Hooks
- ii. Bulk Operations

3.12 Alerts/notifications:

Different kind of alerts (low credit, account expiration, welcome) can be sent to end customer.

Bill shock prevention Low credit alerts (email/SMS) will be sent to users whenever their balance becomes less than the specified amount. Administrator can set the low credit alert functionality against the plans, and it is in the control of administrator to send the low credit notifications to users of some selected plans only.

Welcome Notification: Welcome notification will be sent to a user at the time of new account creation. The email text (Subject, Body) is also editable. Also the email server settings options are provided. Welcome email will not be sent in the case of prepaid card users.

Payment Processing Notification: The subscriber can be notified if a payment is made to its account manually or through automatic deductions through credit card.

Notifications through IVR Generated Calls:

The subscriber can be notified or alerted based on any CSP defined trigger, through a call initiated by an IVR Application.

Customized alerts: Any other types of alerts can be defined as per CSP requirement, on demand.

3.13 Friends n Family:

Special rates to support Friend & Family packages e.g. adding friends and family numbers for a residential voice serving offering to avail discounts on those numbers.

3.14 Multi-services Billing & Control:

Multi-services Billing module offers service control & provisioning of converged multiple services extended by the CSP to its customer.

This enables provisioning or de-provisioning of any service extended by the CSP and added through the Service Management Module. Service Management is an add-on module in AdvOSS CRM, which enable adding any new services on the fly. Examples different types of Services Groups and Services are mentioned in document "AdvOSS-CRM-ProductDataSheet".

Multi-services Billing module offer service management and control to the Operator which may involve following or more

- i. Automatically Provision Services (for new Customers when an order comes or for an existing Customer when he purchase a new service etc)
- ii. Suspend Services
- iii. Resume Services

3.15 Taxation Management:

Converged System offers efficient handling of Payment based taxes. The system supports Payment based Taxes.

Payment Based Taxes: Payment based taxes are taxes deducted at time of payment. They are defined globally and are inherited to each subscriber at time of creation. They can either be waved off totally or applied in full to each subscriber. Unlike usage based taxes their percentage cannot be varied.

These taxes are deducted whenever a payment is made through any supported means including charging of voucher.

The subscriber gets a credit which is less than the amount charged. E.g. if total payment charges are 10%, then a subscriber making a recharge for \$10 would get a credit for \$8.

4 Integration Points

AdvOSS Converged Billing offers points of integration with the following systems:

4.1 Provisioning Systems

AdvOSS Converged Billing can integrate with Provisioning Systems that are responsible for Provisioning of various entities like network elements, Policy servers, etc. AdvOSS offers its own fully featured Provisioning System as well with which AdvOSS Converged Billing comes pre-integrated.

4.2 Voucher Management System (VOMS)

AdvOSS Converged Billing can integrate with Voucher Management Systems that are responsible for managing the voucher lifecycle. AdvOSS offers its own fully featured Voucher Management System as well with which AdvOSS Converged Billing comes pre-integrated.

4.3 CRM and Order Management Systems

AdvOSS Converged Billing can integrate with CRM and Order Management Systems that are responsible for order management as well as customer centric operations. AdvOSS offers its own fully featured CRM as well with which AdvOSS Converged Billing comes pre-integrated.

4.4 Charging Engines

AdvOSS Converged Billing can integrate with Charging Engines that are responsible for charging rated services. AdvOSS offers its own fully featured Charging & Rating Engine as well with which AdvOSS Converged Billing comes pre-integrated.

4.5 Franchisee Management Systems

AdvOSS Converged Billing can integrate with Franchisee Management systems that are responsible for managing the Franchisee and Distributor Channels of the CSP. AdvOSS offers its own fully featured Franchisee Management System as well with which AdvOSS Converged Billing comes pre-integrated.

4.6 Web based Subscriber Self Care Applications

AdvOSS Converged Billing can integrate with Web based Subscriber Self Care Applications. AdvOSS offers its own fully featured Web Based Subscriber Self care module that is part of AdvOSS CRM and with which AdvOSS Converged Billing comes pre-integrated.

4.7 IVR based Subscriber Self Care Applications

AdvOSS Converged Billing can integrate with IVR based Subscriber Self Care Applications. AdvOSS offers its own fully featured IVR Application Server hosting the IVR based subscriber self care application. This is pre-integrated with AdvOSS Converged Billing.

5 Key Benefits:

AdvOSS Converged Billing offers the following key benefits to the CSPs, in addition to its feature set:

5.1 Workflow Hooks:

The System offers the advance feature of providing workflow hooks on all kinds of events and control flow points within the billing logic. Context specific information depending on the current state of workflow is made available in the Hook as parameters. The CSP can alter the workflow by interfacing with any of the hooks present in the system. E.g. different kinds of complex promotions can be realized by using the workflow hooks.

5.2 Scalability:

The System can scale linearly up to a few million subscribers offering substantial advantages in terms of cost reduction and ease of scalability. Scalability is achieved using various techniques like distributed database design.

5.3 Reliability:

The system provides high reliability and ensure mechanism to avoid system downtime though fully redundant DB architecture

5.4 Robustness:

The system is very robust and keeps performing in the fact of errors.

5.5 Customizability:

The system is designed to allow for easy and rapid customizations as per CSP requirements, on demand.

5.6 Disaster Recovery:

The System can be deployed in two geographically distant data centers, for disaster recovery reasons. AdvOSS Database solutions provide real-time DB replication to remote slaves. This gives the remote location an almost real-time image of the live database and the system can fall back to remote location in a disaster situation.

5.7 Flexibility:

The system is service agnostic and has the architectural provision to support any business model. This allows for easy customizability to support specific requirements of a CSP.

5.8 Resilience:

The system works at high loads within its thresholds and gracefully keeps working by handling the situations even beyond the guaranteed thresholds e.g. by rejecting requests .

5.9 Speed:

The system guarantees high speed of operations and latency times associated with the operations.

5.10 Data Integrity:

The system preserves the integrity and correct relationship of data in order to guarantee the correct behavior.

5.11 High Availability:

The system uses various techniques to ensure a high availability behavior.

5.12 Redundancy:

The system achieves redundancy through multiple methods like having database servers in active/active configuration. The database servers as well as the servers hosting the GUIs are hosted in geographically distributed data centers.

5.13 Security:

Powerful role based security is implemented in the AdvOSS CRM GUI . Detailed Audit Trail and logging is provided by the system, in order to cater for security requirements.