Oracle Communications Billing and Revenue Management Product Overview
Introduction

The communications, media and cloud markets are undergoing significant transformations which present service providers with new challenges that require new strategies. Service providers are facing significant business challenges on various fronts—increased competition locally and globally, erosion of customer loyalty due to commoditization of services, and decreasing margins for traditional service offerings. To compete in this new business environment, service providers must transform their businesses to meet the new market demands.

As the leading provider of billing and revenue management solutions for the global communications, media and cloud markets, Oracle is committed to helping service providers transform to meet the key business objectives of maximizing customer value, enhancing business agility, and maximizing profitability.

A robust revenue management system helps service providers to:

- Optimize value of customers: Acquiring and retaining the right customers by offering high-margin, high-value services and increasing customer loyalty with customer-focused billing options.

- Maximize profitability: Increasing revenue potentials and reducing operational costs by consolidating business processes and systems.

- Enable business agility: Adapting quickly to changing market demands and competitive pressures with a future-proof solution that enables rapid launch of new service offerings and business models.

Oracle Communications Billing and Revenue Management (BRM) provides the complete end-to-end solution for managing revenue, supporting key business processes that incorporate generation, capture, collection, and assurance of revenue. Combining the industry’s most comprehensive functional footprint with the superior real-time architecture, Oracle is the leading worldwide provider of revenue management solutions for the global communications, media, cloud and digital services markets.
A Functional Overview of Oracle Communications BRM

The Revenue Management Lifecycle
Managing revenue is a fluid process where revenue is generated, captured, collected, and analyzed. This lifecycle, defined by Oracle as the Revenue Management Lifecycle, is evolving to become a critical component of the enterprise and goes beyond the closed-end processes traditionally associated with billing. Service providers are increasingly looking to Revenue Management as a competitive differentiator that leads to profitability. With its broad business processes, Revenue Management impacts the way that providers introduce new products and services, manage customer accounts, balances, and payments, and manage revenue integrity.

Oracle’ solutions for Revenue Management are designed to take the complexity out of profitability. Today’s service provider often has to navigate dozens of billing applications, customer information systems, and financial applications in order to get an accurate view of the customer. This complexity results from the array of applications used for different services, payment methods, and customer groups. In this environment, it is difficult for the service provider to get a good picture of the value—and profitability—that customers bring to the enterprise. The Oracle Communications Billing and Revenue Management solution provides a single convergent platform for service providers to manage revenue in real-time across any customer type, network, service, geography, and payment method.

An example of how Oracle can help services providers adapt quickly to a changing market is its ability to offer revenue management solution for triple- or quad-play pre- and/or post-paid services over a single platform. Traditional billing systems, designed as batch systems with rigid architecture, lack the necessary flexibility required by the changing market conditions and stringent network requirements of real-time transactional processing. Oracle Communications Billing and Revenue Management delivers performance and high availability through an open and flexible architecture that allows service providers to offer multiple services over heterogeneous network and protocols further maximizing customer value and lowering of the total cost of ownership.

Figure 1. Billing and Revenue Management functionality within the revenue management lifecycle
**Revenue Generation** enables services to be delivered to customers, priced in a manner that is optimized for the user, the service provider, and partners. This solution helps maximize customer and partner value through sophisticated account management and agile service delivery. With real-time access to customer data and the ability to quickly create innovative offerings, service providers can respond quickly to changing market conditions to ensure they retain their most profitable customers.

**Revenue Capture** maximizes market share using competitive pricing models and flexible credit control to enable any service for any subscriber. As services are consumed, transactions are pre-authorized, captured, and rated, and balances are updated. Real-time interactions help to reduce the risk of revenue leakage and improve customer satisfaction.

**Revenue Collection** ensures that all bills and invoices are generated and that the appropriate monies are collected from the correct debtors. Postings are made to accounts receivables and general ledger accounts, while handling all payment terms, settlements, and disputes. A real-time and accurate view of revenue provides insight to respond to market dynamics.

**Revenue Analysis** ensures all transactions are conducted with the fullest possible control, integrity, and completeness. It provides real-time verification, reporting, analysis, and control of all events and actions, which helps maximize revenue and minimize loss associated with fraud and revenue leakage.

When these four revenue management lifecycle components are integrated with existing business-critical systems such as CRM and ERP, they provide competitive advantage for service providers. In the following sections we provide a description of the comprehensive Revenue Management capabilities of the Oracle solution.

### Revenue Generation

The Oracle Communications BRM revenue generation capabilities enable service providers to respond to market pressures and increase customer lifetime value. The following business processes and capabilities are included in the solution:

- **Pricing Management**: Build, test, and roll out new product offerings with innovative and competitive pricing and purchase incentives.
- **Customer Management**: Acquire, maintain, and grow customers. Integrate with CRM applications to help up-sell and cross-sell and provide a more personalized customer experience.
- **Service Enablement**: Create and manage service, provide service activation and deactivation, and maintain information related to devices.

### Oracle Communications Pricing Design Center

The ability to create and roll out innovative, high-margin offerings in a timely manner is a critical component of revenue generation. To rapidly meet the demands of an increasingly competitive and changing market, Oracle Communications Billing and Revenue Management works in conjunction with Oracle Communications Pricing Design Center to create, modify and manage product offerings.
Oracle Communications Pricing Design Center is a highly flexible, web-based pricing platform designed to bring an intuitive business-based workflow approach to pricing design for unprecedented time to market advantages.

Through the Oracle Communications Pricing Design Center and Oracle Communication BRM’s flexible product catalog support, service providers can define their offering strategy based on market vision and innovation instead of being limited by systems constraints. By leveraging the reusable “building blocks”, service providers can easily and quickly roll out new products to the market.

In Oracle Communications Pricing Design Center, offerings are created as Charge and Discount Offers, Bundles, and Packages. A Charge Offer can define charges for one or more charge types, such as cycle fees or service usage; these charges can be based on any number of subscriber, service, or event attributes such as time, zone, quality of service, and friends & family. Virtually any attribute can be used to guide to a price. The price structure includes specification of simple or tiered rates based on usage quantity or other accumulated balances. Discount Offers can also be created using flexible rules based on a variety of conditions and attributes. Charge and Discount Offers are grouped into Bundles for a given service. Bundles can be combined into a Package, enabling the service provider to offer subscribers multi-service bundles, utilizing sophisticated cross-service discounting. Packages are grouped into Package Lists to enable segmentation based on specific business requirements.

The bundling structure in the Oracle Communications BRM product catalog allows service providers to achieve optimal pricing flexibility with reduced operational overhead because of the modularity and reusability of the pricing model.

While the well-structured product catalog offers outstanding manageability of the product offerings, the comprehensive and robust pricing model offers optimal flexibility in designing the charging and discounting rules to support the most innovative of pricing scenarios. The model supports virtually an unlimited set of pricing scenarios based on an extensive set of attributes including:

- Charge for data usage based on duration and data quantity
- Offer promotions such as Friends and Family to voice subscribers
- Use customer profile data such as Friends & Family or Special Day to apply special discounts
- Set up tiered pricing and discounting based on usage quantity or volume, such as amount spent or minutes talked during the billing period
- Configure pricing based on day and time, including day-of-week, day-of-month, holiday and month-of-year
- Set up zone definitions and base prices for telephony usage based on originating and terminating zone
- Use flexible validity rules for promotions, for example, specify that a discount is valid from the first time it is applied for the duration of three months
- Define bundle and discount dependency and exclusion rules
• Apply optimal rates for an individual subscriber based on usage during the past billing cycle
• Provide compensation for dropped calls
• Tailor pricing of an offer for a corporate customer
• Reduce the total charge at billing time by evaluating threshold conditions
• Offers cross-account discounting incentives
• Provide cross-service discounts for cross-sell and up-sell opportunities
• Enable dynamic discounting, for example, such as the reduction in charge for the 10 most frequently called numbers during the current billing cycle

In summary, through the pricing capabilities of Oracle Communications Pricing Design Center coupled with Oracle Communications BRM solution, operators can create innovative marketing strategies in order to expand their customer base, quickly react to customer demand and competitive pressure, and generate up-sell opportunities to customers with creative pricing configurations.

Customer and Partner Management

The Oracle Communications Billing and Revenue Management solution offers an extensive set of capabilities for account management, enabling service providers to acquire, maintain, and grow their customers and partners. Account management is a mission-critical function as providers aim to maximize customer value by increasing customer loyalty and retention, up-selling/cross-selling high-margin product offerings, while reducing costs of operations by managing customer data accurately and efficiently.

Customer and partner accounts may be created and managed through Oracle Communications BRM, through CRM integration, or through integrations with legacy applications. Oracle Communications BRM offers a web services interface that supports integration with leading CRM application such as Oracle’s Siebel CRM, enabling service providers to accelerate time to market and reduce deployment costs.

The Oracle Communications BRM customer and partner management capabilities support the following key business functions:
• Customer and partner registration; account creation and maintenance
• Management of complex account groups, hierarchies, and subscription relationships
• Service subscription and product/price plan purchase
• Management of billing options and payment methods
• Presentation of account balances and credit limits
• Reviewing invoices and bill and event details; responding to customer inquiries
• Accounts receivables activities such as adjustments or disputes
Service Enablement

The Oracle Communications Billing and Revenue Management solution provides service enablement capabilities that enable service providers to create and manage services, provide service activation and deactivation, and maintain information related to devices.

Oracle offers a number of pre-configured Service Managers. These Service Managers provide specific service provisioning and activation, authentication, authorization, and other service management capabilities, as well as third party integrations needed based on the industry requirements.

Inventory Management

The Inventory Management Framework provides the structure for development of applications to order devices by integrating to third party order management systems, and managing device lifecycles. In BRM, an order is a request for a physical or virtual object such as set-top converters or voucher cards. The Inventory Management Framework is used to create orders for device inventories, such as an inventory of new set-top devices or prepaid scratch cards or vouchers. The Inventory Management Framework is used by optional BRM components such as the Voucher Manager to facilitate order management features.

Revenue Capture

The Oracle Communications BRM revenue capture capabilities enable service providers to maximize profit from business transactions and reduce revenue leakage. The following business processes and capabilities are included within Oracle Communications BRM:

- **Service Authorization** Authenticate customers, authorize service, and guide transactions through network integration.
- **Event Collection and Enrichment** Analyze, classify, enhance, split, and assemble transactions.
- **Rating and Discounting** Rate and discount transactions and revenue share using monetary and non-monetary resources.
- **Balance Management** Monitor resource availability, manage reservations, maintain thresholds, and charge transactions.

Benefits of the Oracle BRM revenue capture capabilities include:

- Maximize profit from business transactions and reduce revenue leakage
- Reduce fraud and revenue leakage through ability to authorize service usage. Lower TCO through more seamless integration with the network
- Increase flexibility of business models and increase customer loyalty through usage enrichment
- Improve responsiveness to market and competitive pressures with real-time access to revenue data
Service Authorization

The ability to authenticate users and determine their authorized services and available consumption levels is crucial for service providers. Oracle Communications BRM addresses this vital requirement with a transactional real-time architecture designed to minimize fraud and bad debt.

When a registered user attempts to access a service, Oracle Communications BRM performs authentication and authorization in real time, using real-time data. External applications and databases can also be accessed as part of the process via an application programming interface (API).

The authentication and authorization policies are fully customizable by the service provider. This means that as different types of services are added, the Oracle Communications BRM authentication and authorization processes can be extended to perform any required verification. This capability is essential for offering new services quickly and for staying ahead of rapid changes inherent in the industry.

Network Connectivity for Online Charging

In an online charging environment, the interface between the network and Oracle Communications Billing and Revenue Management is controlled by an Oracle application called the Oracle Communications Online Mediation Controller. It provides high-speed translation of the network messages from Diameter Ro or RADIUS protocols to the internal Oracle Communications BRM communication protocol whereby the processes of authorization, authentication, event rating, and account balance updates are performed. Support for Intelligent Network (IN) and SS7 families of protocols (such as CAP, INAP, WIN) and SIP/ISC are also provided through optional components, licensed separately.

The Oracle Communications Online Mediation Controller has a native integration to Oracle Communications BRM, so that it establishes connections with Oracle Communications BRM and makes use of these connections to invoke BRM internal processes.

The Oracle Communications Online Mediation Controller supports both the latency and high availability requirements for prepaid. However, the Oracle Communications Online Mediation Controller can operate in a degraded mode, if necessary—in the event of a failure in a lower-layer component within the revenue capture platform.

For example, the system can maintain service authorization availability if the Oracle Communications Online Mediation Controller loses connectivity to Oracle Communications BRM. Through a timeout facility within Oracle Communications Online Mediation Controller, if an unacceptable latency is detected, call detail record (CDR) processing is initiated based on a configurable set of business rules. For example, if an authorization request is for a local call, business rules might indicate approval following the timeout of such a request, while a timed-out request for authorization for an international call might receive a denial.

Even when operating in a degraded mode, the system prevents revenue leakage, by ensuring that all events (CDRs) are captured in a replay log and persisted to disk for durability. Use of the replay log then ensures that each event undergoes charging as soon as the system recovers.
To support the high availability requirement for prepaid, multiple connections to the network are maintained. Each instance of Oracle Communications Online Mediation Controller can be configured to connect to at least two distinct connection managers, which in turn route requests to appropriate business logic modules within Oracle Communications BRM. The design of the Oracle Communications Billing and Revenue Management Solution allows time-sensitive requests such as authentication and authorization to be performed by accessing data from the high-speed Oracle In-Memory Database Cache using the Oracle Communications BRM IMDB Cache Manager.

**Network Connectivity for Offline Charging**

Oracle Communications Offline Mediation Controller is a convergent offline mediation application that handles a wide range of services, protocols and formats. Oracle Communications Offline Mediation Controller has a distributable multi-threaded architecture that facilitates reliability and scalability. A simple graphical user interface makes configuration of rule-based mediation flows simple and intuitive using drag-and-drop.

Interaction with network elements is achieved through an extensive set of collection cartridges which collect and normalize data. Enhancement and aggregation cartridges can be used for correlation, aggregation and enrichment of xDRs before distribution cartridges distribute the data to Oracle Communications BRM and other downstream OSS and BSS systems. The Charging Gateway Function (CGF) cartridge pack for GPRS/UMTS networks and IMS Cartridge pack provides 3GPP standards conformance to address mediation for traditional and next generation networks.

Oracle Communications Offline Mediation provides a complete solution to configure, design and deploy mediation processes for all types of offline mediation needs. Although Oracle Communications Offline Mediation Controller provides an extensive and rich set of out-of-the-box functionality, it also includes a cartridge development kit (CDK) to provide service providers the capability to rapidly design or enhance a cartridge for collection, enhancement and distribution functionalities for specific requirements.

**Event Collection and Enrichment**

The event collection, tracking, and enrichment process occurs prior to the event rating process. This process ensures all customer activities, collected from any external source, are tracked accurately in the system and enriched to include additional data required for the rating process. Oracle Communications BRM collects, tracks, and enriches data in both transactional real-time and near real-time batch processing.

Event collection is achieved through tight integration with external systems, which allows Oracle Communications BRM to collect event records from external sources, such as a mediation device for voice phone calls, and validate, guide, and map the records to a standard internal format.

The enrichment process enables new values to be added to the original event, for example, special account attributes such as customer segments. These additional values can either be used within the subsequent near real-time batch rating functions of the Oracle Communications BRM solution or be transmitted directly to integrating systems, such as billing or remittance.
Rating and Discounting

Rating and discounting is the process of calculating the appropriate charges and credits for an event based on a wide range of parameters associated with subscriber, event, and service attributes as defined in the product catalog. The Oracle Communications BRM solution enables service providers to freely define the set of chargeable “events types” to be rated—creating the most flexible and robust rating and discounting solution in the industry. Providers can define any number of chargeable events in the system: usage events for the various service offerings; one-time, non-recurring events such as registration or cancellation charges; as well as recurring events of varying duration (e.g., weekly, monthly, multi-monthly, and annual events). Each event type may be rated and discounted using different parameters and metrics, with rating and discounting rules as simple or complex as needed for the business requirement.

Oracle Communications BRM also supports re-rating which re-calculates balance impacts for ratable transactions that require any retroactive rate changes or corrections. The re-rating capabilities support both real-time and batch events, encompassing all services for prepaid and postpaid accounts. Re-rating functions include special rerating triggers when out-of-order events are detected, custom analysis to determine whether re-rating is required, re-rating with price overrides, and tracking the re-rating reason for better control of re-rating jobs.

The Oracle Communications Billing and Revenue Management solution provides integrated support for both transactional real-time and near real-time batch event processing. Service providers can optimize the systems architecture based on the specific data and performance requirements of each service offering.

Balance Management

The Oracle Communications BRM solution provides a fully extensible model for managing subscriber resources. Resources are defined to be any consumable asset a subscriber may use to pay for or track service consumption. Currency is the most common resource, but the Oracle Communications BRM solution enables service providers to define creative ways to collect for the services rendered. For example, a service provider may grant the subscriber a number of “free unit” credit resources as part of service registration or on a recurring basis to encourage subscriber usage. The service provider may also define “loyalty points” as a resource to increase customer loyalty. Credit limit thresholds may be established for each resource to ensure required financial control.

Revenue Collection

The Oracle Communications BRM revenue collection capabilities enable service providers to increase business agility with real-time business, financial, and revenue information. The following business processes and capabilities are included within Oracle Communications Billing and Revenue Management:

- **Billing:** Calculate bills and partner statements create invoices, and apply additional discounting and taxation.
• **Financial Management**: Manage receivables, general ledger, integrate with ERP systems, and close accounting cycles.

• **Payment and Collections**: Process payments and payment terms, manage aged receivables, provide dunning, and handle disputes.

• **Revenue Sharing and Settlements**: Calculate accounts payable and net settlements, integrate with clearing houses, and provide settlements for roaming, content, and resellers.

Oracle Communications Billing and Revenue Management provides a complete and flexible revenue collection solution that allows service providers to effectively manage and maximize their revenue stream. The solution performs real-time billing, maintains complete audit trails of all billing activities, supports a wide range of payment methods, and provides flexible ways to manage customer A/R operations.

The key benefits of this industry leading solution include:

• Delivery of business agility with real-time business, financial, and revenue information

• Provision of an accurate account of all revenue

• Business agility through real time access to business, financial, and revenue information

• Improvement of customer satisfaction through flexible payment and collection methods

• Growth of revenue opportunity and reduction of revenue leakage through real-time settlements

**Billing**

Billing within Oracle Communications BRM is the process of calculating bills and partner statements, applying additional discounting and taxes, and finally invoicing the customers. Billing comprises batch applications that collect and aggregate all rated events and perform a number of end-of-cycle activities.

During the course of the billing period, similar charges are aggregated in “bill items” for every customer. Examples of bill items are cycle fees or usage charges. Items may also be custom defined by the operator based on business needs. The cycle-end billing process aggregates all the bill items, and performs activities such as applying billing time discounts based on aggregated volumes, calculating rollovers, granting and resetting of resources, performing resource conversion (folds), applying deferred taxes, and applying cycle charges. Operators can create multiple bill units for a subscriber account with different billing dates and accounting types.

In Oracle Communications BRM, billing cycles can be any number of months (i.e., n-month) long. Billing cycles can also be quarterly, or annual. If the solution is configured to have a multi-month billing cycle, the bill will be finalized only after the multi-month period; cycle and other charges may still be applied monthly or may be applied for the multi-month period, depending on the configuration of the product catalog. Oracle Communications BRM supports various non-cyclic billing options such as “on-demand”, “flexible bill now” and “in-advance” billing.

Re-billing allows service providers to generate a corrective invoice for any previous bills that have been processed, after the invoice for that bill was sent to the customer. The corrective invoice (or invoices)
can be produced for simple corrections, such as address or name changes, or for charging corrections, such as retroactive price changes or settlements for disputed charges.

Invoicing

Oracle Communications BRM generates invoices—soft or hard copy—and provides them to customers who use the invoice payment type. Invoices can be generated automatically or manually after a bill run. The format of the invoice can be changed using a custom invoice template.

Invoices can be stored in HTML or XML formats. Invoices can also be stored in a separate database. This speeds up invoicing performance; allows providers to store a larger number of invoices; and provides the ability to view, e-mail, and print invoices without affecting the BRM database.

Oracle Communications BRM is integrated with Oracle BI Publisher to generate content rich formatted invoice documents in various formats: pdf, rtf, html. Users can create invoice templates using familiar desktop tools such as Microsoft Word, Microsoft Excel, or Adobe Acrobat. Pre-built sample invoice templates for individual consumers and corporate customers are included. As the sample templates are configured with comprehensive data for an invoice in the communications and media industries, it enables service providers to deploy the Oracle Communications BRM invoicing solution rapidly just by tailoring these templates to their business needs. Oracle BI Publisher also enables merging of data from multiple sources into one document thus allowing for data from a CRM system like promotional marketing messages to be inserted into the Oracle Communications BRM invoices.

Oracle Communications BRM provides multiple ways to publish the generated invoices. Invoices can be made available for Electronic Bill Presentment and Payment (EBPP) applications in a self-care environment. In addition, invoices can be mailed or sent to external application for printing.

As mentioned in the section above, a corrective invoice is a correction document issued to a customer for a corrected bill that was produced after re-billing. The corrective invoice document can be either a correction letter which states only the corrections that were performed on the previous invoice that was issued, or a replacement invoice which replaces the original invoice and includes all the data from the original invoice plus the corrections made on that data. The pre-built sample BI Publisher invoice templates for the correction letter and replacement invoice are included and service providers can customize these templates to their business needs.

Financial Management

Oracle Communications BRM allows for the management of Accounts Receivables (A/R) and the General Ledger (G/L). The solution also offers published APIs for integration to financial ERP systems such as Oracle E-Business Suite or 3rd party systems. The Oracle Communications BRM application is pre-integrated with taxation packages such as Vertex and TaxWare.

Payments and Collections
Oracle Communications BRM processes payments and payment terms, manages aged receivables, and provides dunning as well as reversals and write offs. The Oracle Communications BRM application flexibly supports multiple payment methods including invoice, credit card, direct debit, voucher top-up, etc. Each account may have multiple payment methods if multiple balances and bills are generated for the account.

The Oracle Communications BRM application allows allocation of single payment over multiple open bill items and multiple bill units. Payments may be entered into the system via an integration with a payment gateway or may be manually entered using the Oracle Communications BRM payment tool.

**Revenue Sharing and Settlements**

Oracle Communications BRM provides a convergent platform for settlements between business entities. The settlement and remittance functionality allows providers to share revenue with and pay royalties to third-party partners, which may include other service/network providers or content providers. For example, a wireless operator that offers online games to its subscribers would typically pay a portion of its revenues to the game content provider. The Oracle Communications BRM application supports multiple business models such as revenue sharing, wholesale, and resale.

Revenue sharing and settlements capabilities provide the following core functionalities:

- Ability to integrate the third-party systems with the Oracle BRM Content Manager for the authentication and authorization of services.
- Ability to flexibly define and charge the customers for third party products such as content and commerce services.
- Ability to settle the revenue with partners for various business models such as wholesale, resale, and revenue sharing. In addition, it is also possible to use this manager to generate commission statements to dealers or sales agents to compensate for services sold.
- Ability to delay revenue sharing with a partner until after the partner service is billed to the customer or after the payment has been made by the customer. It is also possible to do bi-directional settlements such as a partner paying a service provider a rental fee to connect to their network while, simultaneously, the service provider shares revenues for the partner’s services that have been provided to the service provider’s subscribers.

**Roaming**

The Oracle Communications BRM solution offers comprehensive functionality to process roaming calls and data interchange with other network operators. Roaming allows customers of one network operator to use their mobile phones in foreign networks. They can travel to other regions or countries and use the services of any network operator that has a roaming agreement with their home network operator.

The BRM application allows network operators to perform the following:
• **Out-collect processing.** Rate the usage for customers from another network operator (visiting customers) when they use the home operator's network; assuming there is an established roaming agreement between the network operators.

• **In-collect processing.** Rate the usage for events created by your subscribers while using another operator's network. With in-collect processing, operators receive event records and a bill for the aggregated charges of the events.

Similar to out-collect processing, all data received from another network operator for roaming usage of subscribers is rated according to the roaming agreement between the two operators. The input data is in either TAP3 or CIBER files, depending on what is specified in the applicable roaming agreement. The Oracle Communications BRM application fully supports the creation of RAP files according to the Returned Accounts Procedures (RAP) version 1.4 as specified in GSM Association TD.32.

**Interconnect**

For carriers that must keep track of and bill for interconnection charges using interconnect billing systems, Oracle Communications BRM interconnect capabilities enable them to manage their carrier relations and wholesale operations. Oracle Communications BRM provides support for the following:

- Circuit-switched services, voice over IP (VoIP), GSM, Wireless GPRS, UMTS, WAP, IP, GSM, LTE and fixed-net circuit-switched, as well as packet-switched, IP-based services

- Freely configurable CDR/EDR/IDR formats; new fields and structures are easily added via configuration

- Flexible rules-based evaluation, guiding, and processing that provide product configuration and service-level agreement dependencies without add-on development

- Multiple network model configurations for optimal planning and simulation of future interconnection agreements

- Parallel evaluation of alternative network setups, including dynamic routing

- SLA support for QoS-based charging principles definition and monitoring of dynamic service-level agreement and validation

- Multiple parallel-rating and promotions for various IC billing scenarios such as ICP carriers, reseller, content provider, competitor-analysis, and best-rate

- Multiple parallel and online aggregation scenarios

- High-performance compression of vital business information

- Unlimited calculation of usage statistics such as margin analysis, commission evaluation, sharing calculation, and revenue stats

- Unmatched real cross-product-volume-discounting; any discount can be directly granted to any other service or product combination
• Built-in script programming language that supports implementation, enhancement, and manipulation for new guiding, splitting, mapping, rating, and pricing rules
• Parallel tariff simulation for interconnect carrier agreement verification and analysis

Revenue Analysis
Oracle Communications BRM delivers business intelligence and operational controls to service providers. The following business processes and capabilities are included within Oracle Communications BRM:

• **Revenue Assurance.** Data consistency, redundant processes, system high-availability, and transactional completeness. Automated monitoring and notification. Business operational process, tools, and error analysis
• **Reporting.** Reconciliation, interactive and dynamic reporting, and notification

Benefits of Oracle Communications BRM revenue analysis capabilities include:

• Reduced revenue leakage through effective business intelligence, usage verification, data consistency and transactional completeness
• Reduced cost of operations through revenue simulation capability
• Enhanced business visibility and operational responsiveness through real-time reports and notifications

Revenue Assurance
Revenue assurance refers to the process used to verify the end-to-end completeness, accuracy, and integrity of capturing, recording, rating, and billing all revenue generating events as they flow through the system. Revenue assurance enables operators to answer the following types of questions:

• Is all usage being rated, recorded, and billed?
• Are all subscribers being billed appropriately?
• What is the status of a specific usage event or batch of events?

Reporting
Reporting capabilities within Oracle Communications BRM enable service providers to perform revenue analysis and reconciliation, as well as deliver operational insight by leveraging the data captured by the various applications and processes supported by the system.

Oracle’s industry leading reporting platform, Oracle Business Intelligence Publisher (Oracle BI Publisher), is used to enable reporting for the Oracle Communications BRM application. A number of pre-defined Oracle BI Publisher report templates are included with Oracle Communications BRM. In addition, Oracle BI Publisher allows for customers to easily extend and build report templates specific to their business needs. Users can develop these templates in familiar desktop tools like Microsoft
Word, Microsoft Excel or Adobe Acrobat, which significantly reduces the time and cost to develop and maintain reports.

Oracle BI Publisher supports generation of reports in various output formats: RTF, PDF, Excel, HTML, and XML. Reports can be delivered to printers, email, fax, and ftp or published for online viewing or to a web portal.

The pre-defined report templates in Oracle Communications BRM enable customers to get a head start on report development. Report templates provide specific functionality for targeted groups such as sales, marketing, finance, and accounting. Template examples include general ledger, A/R aging reports, G/L chart of accounts, product cancellations and subscriptions, and remittance, as well as market-specific examples. Combined with Oracle Communications BRM documented data schema, users can rapidly build and deploy custom reports.

Enterprise Application Integrations

As services and the business processes to support them continue to evolve, service providers traditionally struggle to maintain a complex BSS infrastructure that consists of a number of software systems. Billing systems at the heart of this BSS architecture require integrations with the network systems on one end and with enterprise applications like CRM systems and financial systems on the other end. This problem is compounded as mergers and acquisitions bring in a new set of systems to be folded into the same infrastructure. Traditional integrations in the field are costly to maintain and rigid in nature. This result in inability to respond to shifting market needs and curb the innovation necessary to have a competitive edge.

Oracle takes the complexity out of the service provider’s hands by providing pre-built integrations for Oracle Communications BRM with other Oracle applications as well as third party industry applications to support end-to-end business processes. This greatly reduces the total cost of implementation and maintenance for the service provider, as well as ease operational tasks. The integrations are designed using open, standards-based methodologies allowing for easy extensibility.

Applications Integration Architecture for Communications

Oracle Application Integration Architecture (AIA) provides an open, standards-based framework for creating cross-application business processes that support the way organizations run their business today, while paving the way for long term, strategic, business transformation plans.

Oracle Application Integration Architecture is powered by Oracle Fusion Middleware, the industry's most comprehensive family of integrated, standards based, and customer-proven middleware products.

Oracle Application Integration Architecture for Communications is Oracle’s approach to delivering end-to-end, integrated business processes, applications and technology for the communications industry. Through the AIA for Communications framework, Oracle Communications BRM is integrated with Oracle’s Siebel CRM and Oracle EBS Financials via three productized Process
Integration Packs (PIPs): Order to Bill, Agent Assisted Billing Care and Revenue Accounting. The PIPs deliver end-to-end business process functionality, yet allow a service provider to extend and modify the PIPs for specific operator needs. The AIA architecture allows for the extensions to be valid and maintained throughout product upgrades.

Application Management Pack for BRM

Oracle Application Management Pack for Oracle Communications Billing and Revenue Management provides application life-cycle services for Oracle Communications BRM. By combining Oracle Enterprise Manager’s enterprise management solution with Oracle Communications BRM, IT organizations can significantly reduce the cost and complexity to manage a production an Oracle Communications BRM environment.

One Solution, One View

Application Management Pack for Oracle Communications BRM provides a top down application management framework. This framework automates mundane operational tasks of application life-cycle management. These tasks are routinely performed by IT administrators to operationally manage a deployed production instance of Oracle Communications BRM. The management pack leverages a single solution that is based on Oracle Enterprise Manager Grid Control and extends it by providing a single view and console to manage the Oracle Communications BRM application suite. Key benefits include:

- Simple, centralized, browser-based management
- Global view and management of distributed BRM systems
- Cost effective enterprise management solution
- Reduced operational cost by task automation

Oracle Communications BRM Integration with Oracle Communications Services Gatekeeper

With increasing competition, service providers need to distinguish their offering by launching new innovative services in the shortest time possible. Oracle Communications Services Gatekeeper (OCSG) delivers a converged service exposure layer, providing operators the choice and flexibility of using web, SOA or telecom interfaces to expose their network capabilities to third party partners. This enables service providers to maximize revenue from legacy fixed and mobile network investments. The Oracle Communications BRM and OCSG integration also future proofs service provider investments for service exposure through IP networks.

Technology Platform Extensions

In addition to the extensive set of functional and operational capabilities discussed, Oracle Communications BRM also offers a set of platform extensions. These technology platform extensions
help to scale the system and improve performance, facilitate integration with external applications, and expedite the system deployment and development process.

Extensions include:

- Multi-database (Multi-DB) Manager
- Enterprise Application Integration (EAI) Manager
- Web Services Manager
- JCA Adaptor
- Deployment Tools such as
  - Pipeline Configuration Manager
  - Conversion Manager
- Development Tools such as
  - Developer Center
- BRM Software Development Kit
- Data Dictionary
- Localization Software Development Kit

Conclusion

Oracle, through the industry-leading Oracle Communications Billing and Revenue Management solution and the assistance of strategic partners in its extensive value chain, delivers a convergent platform that enables service providers to manage the end-to-end revenue lifecycle for maximum profitability.

As the communications and media markets continue to evolve, service providers are facing significant business challenges on various fronts. Increased competition locally and globally, erosion of customer loyalty due to commoditization of services, the increasing importance of data and IP services, and decreasing margins for traditional service offerings are making it necessary for service providers to transform their businesses to meet new market demands.

The Oracle Communications BRM solution provides a breakthrough approach to doing business. Oracle Communications BRM enables service providers to adapt to the changing market with agility—equipping them to transform their businesses by:

- Transitioning to a customer-focused business and intensifying efforts on customer retention and satisfaction
• Converging business systems to a single platform with the business agility to support multiple services, multiple business models, and multiple customer and partner relationships across networks, devices, and geographies

• Sustaining competitive advantage with the ability to spot new market opportunities and quickly launch new service offerings

• Consolidating revenue management solutions to an integrated platform, thereby reducing operational costs and gaining complete visibility of revenue data

• Reducing total cost of ownership and enabling efficient business processes by providing prebuilt, open, standards-based integrations to leading enterprise applications

The Oracle Communications BRM application provides the complete end-to-end solution for managing revenue, supporting the key business processes incorporating generation, capture, collection, and assurance of revenue. As a result, communications and media service providers can achieve faster time to market, reduce the risks of innovation, and define the convergent services of tomorrow.