

## I-MASTER: THE REVENUE ASSURANCE CHALLENGE

MAY 2005, VERSION 2.0

### THE REVENUE ASSURANCE CHALLENGE

New services and pricing models are putting unprecedented pressure on traditional postpaid business models and obstruct the ability for service providers and operators to find new sources of revenue or maximize existing revenues.

#### **How can you be sure your company is billing and collecting all the revenue it generates?**

Mergers and acquisitions, declining profit margins and an aggressive competitive landscape are typical challenges that telecom companies face today as they strive to improve and maintain the integrity of their revenue streams. Given the multitude of challenges faced by service providers and operators, traditional postpaid business models are not always in synch with certain key markets, especially in some of today's emerging markets, many of which are just now establishing a basic voice service.

Historically, prepaid business models were targeted at subscribers considered at risk of defaulting on payments. Typically, only voice services were deployed under this model because average account balances were usually lower than traditional residential subscribers, in some cases less than half. Another draw back to this approach was the high customer churn rate given there was no commitment associated with the account beyond the initial purchase.

Given the scenario described above, there's currently a niche market relatively untapped to provide prepaid and postpaid billing convergence, also known as, Balance Management. Balance Management offers service providers the ability to market value-added services to prepaid subscribers thereby, increasing their overall average revenue per user (ARPU) and lower churn rates.

The market niche available can be captured through a flexible combination of prepaid, postpaid or postpaid limited credit billing models which will position service providers and operators to be competitive in today's highly competitive markets.

#### **Bundled Services and Integrated Billing**

Traditional voice carriers have a long history of offering postpaid subscriber services such as residential voice with a general degree of success. However, as competition increased from deregulation rates, revenues decreased. To reduce the decrease in rates, carriers have had to find various avenues to not only maintain, but increase their sources of revenue.

As competition intensified, telecom operators aggressively moved towards bundling services (see Table 1).



Table 1

Bundled services and integrated billing have provided the platform for telecommunications providers to enhance their revenue sources beyond traditional voice billing. Many cable operators and ISP's are now offering many of the same types of bundled offerings which in many cases include voice. The bundled offerings provide a greater ARPU and have lower churn than the same services when sold individually.

According to researchers, 40% of U.S. households are buying phone service as part of a heavily discounted broadband and television bundle. Service providers must go to market with bundled and well-integrated services that enable them to retain their current customers and compete with other service providers in order to attract new subscribers that want simplified, effective communications services.

### VERSO - ADDRESSING THE CHALLENGE

Verso Technologies offers a compelling and value add prepaid calling platform introduced to the market as, I-Master. I-Master enables service providers to capture and increase new revenue streams in the rapidly evolving and dynamic telecom market.

Verso's I-Master enables telecom companies to uncover missed revenue opportunities at every stage along the revenue life cycle

- From customer acquisition - to customer retention.

With a dormant subscriber base, service providers are taking note and welcoming the prospects of prepaid subscribers. A prepaid service model offers:

- Convenience for the low usage demographic
- Solution for those subscribers that prefer an up-front payment method to control their communication expenses

### **I-Master Platform: Benefits and Features**

Verso Technologies offers a unique and patented technology that

- Enables and accelerates ROI
- Improves profit margins
- Reduces operational costs

The I-Master platform and its application suite comprise an unprecedented enhanced VoIP solution due to its scalable capacity and the ability to interoperate in multiple IP environments. The core infrastructure of this powerful platform includes integration of the following:

#### Platform Architecture

- Highly reliable and secure Database built on Oracle \*
- WebLogic Application Server
- Scalable Solaris Operating System

#### Network Adapters

- RADIUS
- SIP

\* The Oracle license provided with the I-Master is an Application Specific License that enables the service provider to access any data within the solution from external applications for reporting, modification or exporting purposes.

Support for SIP-enabled networks, backward compatibility into H.323 networks with RADIUS support for other VoIP gateways uniquely positions the I-Master platform as a viable solution for virtually any VoIP network. Most importantly is the platform's ability to support these various protocols simultaneously. This offers a service provider the ability to incorporate evolving technologies into the existing service offering. This scalable platform grows with the operator as usage and applications continue to evolve guaranteeing a high ROI and long life cycle.

### **I-Master Benefits**

- Bundles voice and data services including Internet access in one account
- Incremental usage and high margin revenue through popular, market-proven enhanced messaging and conferencing services
- Turn-key solution drives fast time to market and ROI
- Single provisioning of multiple network components in an integrated platform
- Reduced investment and ongoing operating expenses with an integrated, scalable, carrier-class services platform
- MWI support via SIP, SMDI or SMPP
- Private label branding for telephone and web interfaces
- Supports customized telephone user digit map interface by organization
- Supports customized greetings and announcements for telephone interface
- Configurable feature activation management and resource allocation parameters
- Open standard APIs and web interface for OAM&P
- Carrier-grade, hardened platform delivers high availability
- Easy to use web interface allows organizations to self-configure, customize and change multiple auto-attendant menus

### I-Master Application Features

The I-Master platform contains a powerful feature set, the underlying framework for all applications both present and future. All of the features and functions listed below are customized as appropriate for each of the applications supported:

#### I-Master Application Features

- Product Creation
- Inventory Management
- End-User Self-Care
- Operations Management
- Comprehensive Reporting Capabilities
- Wholesale Support

#### The I-Master Solution Features

The I-Master offers a real-time, interactive command, control and accounting system for Next-Generation networks. It combines the separate telecommunications functions of order processing, operations, provisioning, and customer support into a single system. In addition, it offers service configuration, activation and provisioning for immediate potential revenue generation. A scalable architecture allows for easy entrance into the market while allowing a service provider or operator to grow the customer base, providing opportunity for continued expansion.

- **CornerStone** - The I-Master platform provides the signaling and protocol infrastructure as the "cornerstone" for additional applications and services. This provides the flexibility to build value into the application. I-Master also supports bundling multiple data and voice services (at an account level) with unique rating schemes for each service. This capability is extremely valuable to providers and in many cases the functionality provides a competitive edge to ensure customer loyalty while increasing revenues.
- **Integrated Solution** - I-Master provides a single platform that supports prepaid, postpaid and postpaid limited credit solutions replacing the high cost of deploying multiple systems with a more cost effective technology.
- **Grow with Verso's I-Master Solution** - I-Master platform supports RADIUS, MGCP, SIP and H.323. - = Preserves application investment, even while service providers move to IP networks.

Verso has successfully leveraged the convergence of voice and IP. We've integrated a bundle of premium, carrier-grade applications that offer the reliability and quality of a mature TDM solution but, with a flexibility beyond what can be obtained within a TDM environment.

- These applications and accompanying infrastructure scale seamlessly and inexpensively when compared to their TDM counterpart.

**Reversing Declining Revenues with Enhanced Services**

- Voice revenues are expected to steadily decline, as a percentage of ARPU, over the next few years (see Table 2).
- Data revenues are expected to grow significantly during the same period.

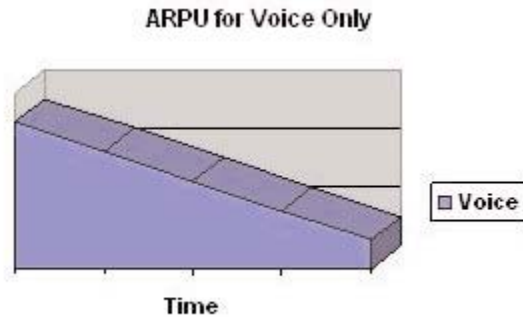


Table 2

Realizing the opportunity and challenges ahead, service providers are aiming to increase stagnate and declining Voice ARPUs by offering bundled services, integrated billing, as well as offering next generation services to prepaid customers.

Through its capacity to bundle new services, I-Master offers innovative discounting and promotions to help service providers attract and retain customers (see Table 3). I-Master enables postpaid subscribers with the ability to add new telecom services on a prepaid basis, while eliminating the risk of spending more than desired or having a monthly commitment. However, I-Master protects the service providers because they can terminate service instantaneously and reduce any lost revenue potential.

I-Master's comprehensive IVR and web services, notifies subscribers when their balance is depleted and provides options to enable recharging on demand. Integrated support for credit card processing allows customers to instantly purchase additional service. The I-Master's dynamic and real time features provide the technology and opportunity to generate and capture revenue streams that have never existed in the past.

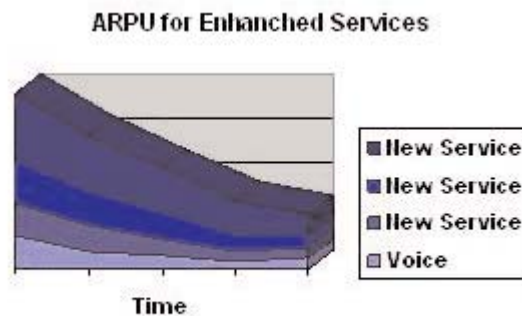


Table 3

### Prepaid Calling Cards

"Prepaid Calling Card Revenues have climbed from \$12 million in 1992 to \$4.1 billion in 2004"  
(see Table 4)

### Prepaid Calling Card Revenues

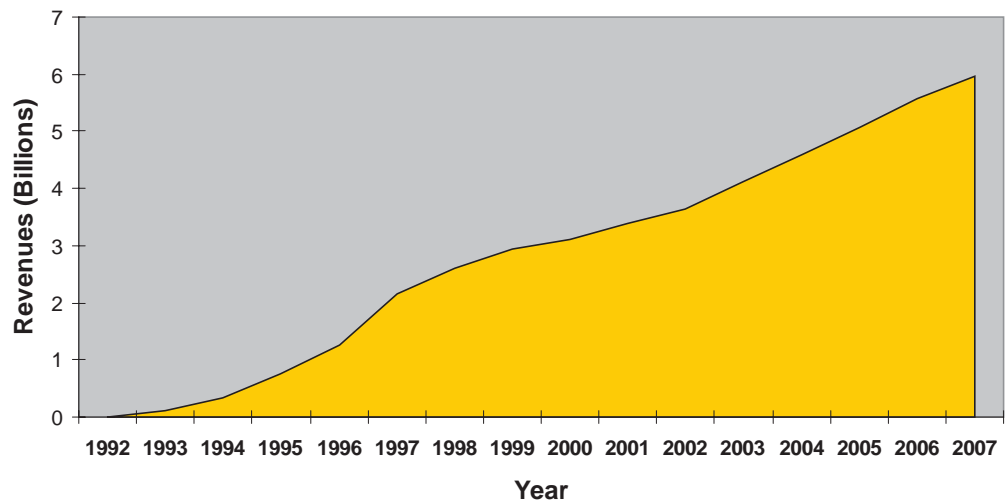


Table 4

Prepaid calling cards allow users to pay in advance for long distance minutes. Although a drop in wholesale per minute calling cost lead to a drop in retail prices, the drop in rates helped boost calling card usage but hurt companies that had signed long term contracts at higher wholesale rates.

- Companies that survived the decline, maintain that low margins remain a concern in the industry.

I-Master introduces new ways for service providers to enhance their margins, and grow their current revenue flow.

I-Master's web access and encryption are trouble free and secure. Inventory management and customer account adjustments for transactions such as balance transfers are not only simple but, they're secure.

Real-time features and benefits such as balance transfers increase customer loyalty by providing a fast and convenient platform for repurchasing thereby increasing the service provider's value and reducing the churn rate. Customer churn rates can be further reduced by

- Offering incentive programs or rewards for purchasing minutes within certain dates and/or amounts, and
- By making those purchases with credit cards or vouchers

I-Master offers the platform to offer these value added services through I-Master's enhanced IVR services.

## SOLVING THE CHALLENGE

I-Master's prepaid solutions enable a network's performance to handle prepaid rating of complex services and deliver the responsiveness to manage balances real-time. The real-time infrastructure software application offers the scalability to manage increasing volumes of network events with fewer hardware investments, and the responsiveness to process and rate prepaid events in real time.

### I-Master or I-Master Springboard

**I-Master** includes advanced fraud controls, carrier-grade rating engine, scalable capacity and the ability to interoperate in a multi-vendor environment. The core infrastructure of this powerful platform includes an Oracle database, running on a Sun Solaris operating system.

I-Master supports RADIUS, SIP and H.323 networks (see Table 5).

Support for SIP-enabled networks, backward compatibility into H.323 networks with RADIUS support for other VoIP gateways uniquely positions I-Master as a viable solution for virtually any VoIP network. I-Master is capable of supporting these protocols simultaneously.

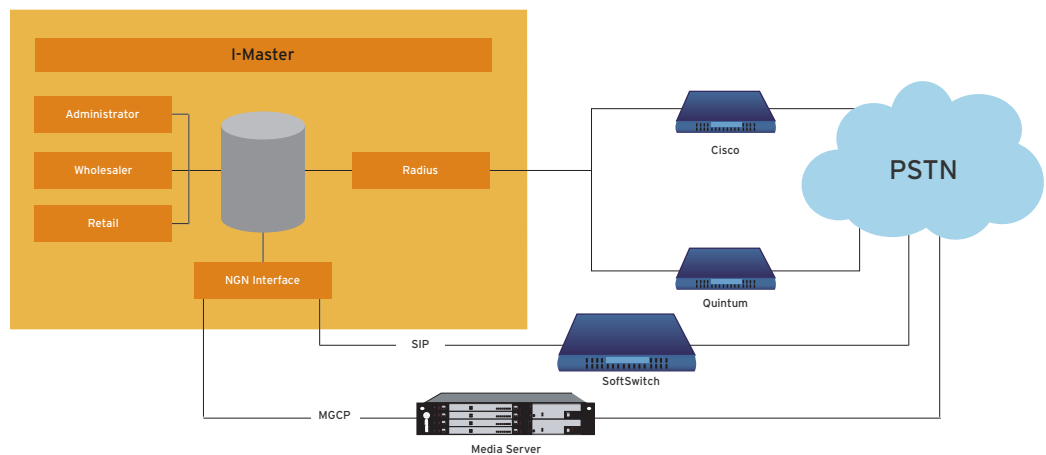


Table 5

**I-Master Springboard** is designed for select niche markets and/or tier 2 or tier 3 providers, but offers the same core functionality as the robust I-Master. It is designed to work within Verso, Cisco or Quintum powered networks. I-Master Springboard is limited for use in a RADIUS network environment and has a web interface option.

As a service provider's usage continues to grow and evolve, the I-Master and I-Master Springboard offers the ability to seamlessly incorporate evolving technologies, while ensuring a greater ROI.

### **Carrier-Grade Rating Engine**

World-class carriers and emerging VoIP networks have successfully deployed the I-Master's rating engine, which offers virtually an unlimited number of account rating variations. The most complex rating schemes are managed easily with the unique, intuitive interface. All currencies are supported and each authentication, rating and accounting process is accomplished in real-time. Full GMT time zone support enables multi-region and global deployment of IP services. Pre-rating and post-rating activity is accurate to four decimal places. Rating option variables include:

- Time of Day/Day of Week
- Access & DNIS Based Charges (Session Initiation/Connection Charges)
- Initial/Subsequent Period Billing Increments
- Recurring Charges
- Origination and Destination Rate Tables
- Call Blocking and Call Restriction
- Activation Fees
- Surcharges Based on Percentage
- Hidden/Announced Charges
- Service Type
- Special Charges
- Operator Services
- Billing Start Point

### **Fraud Controls**

To protect revenue streams from erosion due to fraudulent activity, I-Master provides several levels of fraud prevention and detection which are embedded within I-Master. Fraud prevention features include:

- Limited Authentication Attempts
- Unique Login Profiles for Security Requirements
- Strict Rules for Automatic and Manual Recharges
- State of the Art Security for Credit Card Authorization
- SSL Security Using Up to 128 Bit Encryption
- Encrypted Storage of Passwords and Credit Card Information (up-to-128 bit)
- Logs of All Administrative Activity Available for Exportation or Reporting
- Logs of All Account Transactions and Adjustments
- Real-time Monitoring Tools with Active Filter Capability
- Limited Call Attempts within a Specified Time Period
- Limitation of the Number of Concurrent Calls
- Maximum Call Length Limit
- Daily Usage Limit

Note: Reporting based on historical averages may be incorporated into a customer calling profile that establishes normal behavior for an account based on historical averages.

### Revenue Assurance Model

With its focus on the revenue assurance model, the I-Master suite guarantees recurring revenue through customer retention. I-Master provides a next generation platform for services that have never before been widely available in the telecom market. This platform guarantees robust features and scalability to ensure future growth.

- Historically, the primary driver for implementing a VoIP infrastructure was its cost benefits. Given that traditional circuit providers have addressed this challenge in the voice market by reducing rates and availing themselves of collapsed capacity prices, the VoIP cost cutting advantage has lost some of its bite.

However, the application benefits of VoIP have become major focal points for service providers and wholesalers that are currently building their IP infrastructures as a competitive advantage in today's business.

With the flexibility to offer prepaid, postpaid and postpaid limited credit services, I-Master supplies the service provider with a myriad of options to generate and grow revenue while retaining subscribers. These options allow service providers the ability to offer special promotions and incentives to retain customer loyalty and reduce churn.

**Prepaid Services** - Prepaid Accounts are authenticated and debited in real time to ensure that account balance never cross the zero threshold.

**Postpaid Limited Credit** - I-Master supports two types of postpaid accounts

- With credit limit *or*
- Without

Note: Accounts flagged as having a credit limit will not be permitted to exceed the set limit.

All required functionality for traditional postpaid activity is supported including the ability to set overdraft limits on an account type or an individual account. Call Detail Records (CDRs) are collected and stored for review or may be exported into different report formats which allow total integration with most accounting and billing systems. Additionally, the system is capable of importing CDRs generated by other systems, thereby simplifying migration efforts.

### Bundled Services

Bundled services may be authenticated by I-Master as the gateway to other applications such as Internet access, messaging, conferencing and special IVR services. Each of these applications operates in synch with one another. For example, accounts may utilize any service offered from one account and access point. These are some of the more popular features:

These are some of the more popular features:

- Phone Booth Application
- Conferencing
- Unified Messaging
- Speed Dial
- xDSL Authentication - Billing

- Optional IVR Services including
  - Alarm/Wake Up Service
  - Electronic Greeting Cards
  - Third Party Informational Services
  - Streaming Audio Services
  - Survey Applications
  - And more...

Service integration enables the provider to launch state-of-the-art revenue generating services which create a new level of customer loyalty while maintaining the revenue assurance of a prepaid business model (see Table 6).

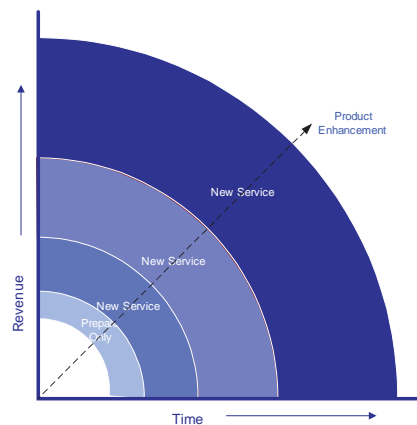


Table 6

### Basic IVR Applications

I-Master supports the basic IVR functionality required for single and two stage call flows. The IVR functionality can be embedded in gateways, soft-switches and dedicated media servers.

### Optional IVR Applications

In addition to the single and two stage authentication call flows, other optional IVR applications are also supported. These applications can be deployed as stand-alone applications or they may be used as a sub menu or embedded application within the main call flow. Some of the more popular services include:

- Streaming Audio
- Third Party Informational Services
- Information & Survey IVR
- Electronic Greeting Cards
- Alarm Services
- Account Recharge
- Credit Card Recharge
- Balance Transfer Recharge

### **End-User Self Care**

I-Master includes a robust self-care module, which reduces customer support resources and enhances the end-user experience. This revolutionary IP telephone solution for on-line, self-care and e-billing easily incorporates into a service provider's website. The portal may be branded under multiple wholesalers and deployed in multiple cases enabling several wholesalers to sell and manage products for their customer base from a single system.

The service portal makes it possible to reduce or eliminate traditional invoicing with its on-line subscription, by providing payment/recharge, customer self-care and real-time account information. It also enables subscribers to manage and control their security access and to interact with their account on-line in real-time, thereby reducing the time and expense of providing customer support.

### **Personalized Option Menu**

Service providers may choose to list all services available on the web portal and allow consumers to customize their services. This functionality adds tremendous value to the user's experience. Only services offered within a specific rate plan will be available for consumers to select. Some examples include:

#### Basic Features

- Traditional Voice Call
- Speed Dial Entry
- Recharge
- Transfer Balance

#### Optional Features

- Create Conference Call (Conferencing Application)
- Voice Mail Access (Unified Messaging Application)
- Wake Up Service
- Email Access (Unified Messaging Application with Text-to-Speech required)
- Streaming Audio Services
  - News
  - Sporting Events
  - Weather
  - Account information

### **DNIS Call Controls**

I-Master recognizes DNIS information up-to-12 digits. Given that the DNIS information determines multiple aspects of the users' experience and service, there are several relationships of DNIS to other information within I-Master. The information may be used in a variety of ways simultaneously and rating elements may be triggered through the use of DNIS.

I-Master offers DNIS control with relationships such as:

- **DNIS to Wholesaler/Distributor/Owner.** Multiple DNISs are associated to the owner of any group of products. Accounts belonging to the owner may not access services via a DNIS that is not assigned to that owner, therefore reducing fraudulent calls.
- **DNIS to IVR Service.** DNIS can be used to select the service or IVR prompts that are played to the consumer. This includes default language selection. Service providers may use this relationship to offer stand-alone services such as messaging, conferencing or surveys.

### OUR EXPERIENCE

Verso develops and markets next-generation converged packet-based solutions for carriers, service providers and enterprise markets. Our solutions assist our customers to leverage their legacy technology investments in order to lower costs and reduce bandwidth constraints without sacrificing QoS. Verso solutions support new and emerging telecom organizations with the platform to aggressively compete in the prepaid services market.

### CONCLUSION

The Prepaid services market is one of the fastest growing and increasingly promising revenue sources for operators today. Verso recognized the vast market opportunity to provide a turn key solution for prepaid, postpaid and postpaid limited credit solutions; the response...I-Master.

I-Master offers customers the ability to accelerate ROI by improving profit margins and lowering operational costs. How does I-Master do this?

- Ability to add value into the application
- Single platform
- Support RADIUS, MGCP and H.323 and
- Verso's experience (thousands of deployments worldwide)

With its focus on the revenue assurance model, the I-Master suite provides value added services and features to strengthen the operator's down stream value proposition and ultimately increase customer retention rates. I-Master provides a next generation platform for services that have never before been widely available in the telecom market. I-Master offers the platform for operators to capture and increase new revenue streams in the ever changing and growing telecom market.