



Basics of Dialup

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Executive Summary

This white paper describes the business of running an ISP that provides dialup access to the users. Dial up access is still the major way of accessing internet in most parts of the world. It also introduces the hardware required for launching such a service.

It then introduces different types of billing plans that an ISP may offer and mentions the requirements for the billing system to support such plans.

It introduces the use of prepaid cards for accessing such a service and the requirements on the billing system to support such a service.

It also mentions different payments methods that your billing should support including integration with online payment gateways for taking credit card payments.

The white paper mentions customer self care requirements to reduce load on the provider's staff.

Introduction

In the recent era of technology, **Dial-up** Internet access is one of the well known means of Internet connection that has been extensively used to get into the world of Internet. Such types of Internet access/connections are provided by your local ISPs.

ISP stands for **Internet Service Provider**, they provides internet access to the users via Dial-up or Broadband connections (Cable or DSL) and get paid monthly or yearly. Both Dial-up and DSL (Digital Subscriber Line/Loop) utilizes the conventional telephone lines while Cable Internet connection employs the cable normally used for TV channels. The whitepaper focuses on Dial-up Internet connections.

Dial-up Internet access is more economical than the broadband connections and is easily available to the normal users. ISPs that offer internet access through Dial-up, mostly uses T1 lines/connections to communicate with bandwidth providers (upstream systems) at 1.54 Mbps. Such ISPs further sells different connections via modems at 28.8 Kbps.



NOTE: T1 lines usually support 200 connections at a time.

Services offered by Single POP (Point of Presence) Dial-up ISP include high speed internet connectivity with E-mail and Web browsing facility. It also provides Network News Service and Domain Name Service. It will take four to six weeks to establish an ISP business depending on the fulfillment of orders for equipments and lines. Following figure illustrates setup of an ISP, offering Internet services via Dial-up:

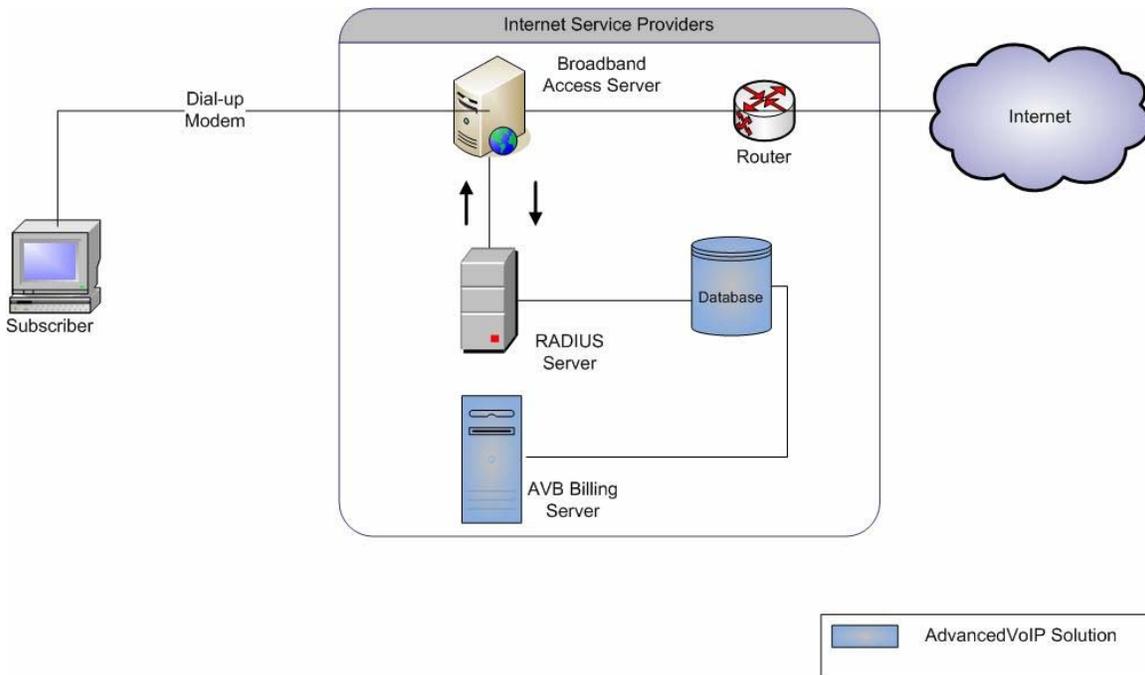


Figure 01: Setup of an ISP

Subscribers need a PC (Personal Computer) and a Dial-up Modem at their premises to initiate a connection with their local Internet Service Provider. ISPs offer many flavors of services

their diverse range of subscribers. They offer various plans/packages, discounted rates for their corporate customers etc.

All these services need some billing mechanism that keeps track of the services and their usage in an appropriate manner. Therefore, ISPs require a comprehensive billing system that can proficiently caters to all the billing requirements of this business model.

Billing System Challenges

The billing engine experiences numerous challenges in order to ensure error free billing to the operators/service providers. Some of them are as follows:

Billing Plans

A billing plan defines charging and grouping mechanism for a group of customers. Internet Service Providers (ISPs) offer various billing plans to their subscribers like unlimited/limited billing plans, peak/off-peak hours billing plans and traffic/volume based billing plans etc.

A billing system should efficiently identify the billing plans supported by the system and charge every subscriber accordingly.

Subscribers Management

Billing system should proficient enough to manage the extensive range of subscribers. The billing engine should properly monitor the service usage of every subscriber and should report it accordingly.

Customer Types

Billing system should be capable of differentiate, in case of any service usage that either the subscriber is a prepaid or postpaid customer and then charge accordingly. As prepaid cards are easily available therefore, most of the Dial-up users prefer forestallments to access the service. A billing system should identify the service mode of every subscriber.

Service Modes

These are two different methods of payment rather than any service or technology. Users can pay in any way either before or after the service used. However there are certain pros and cons of each.

1) Prepaid Service

In case of prepaid, there is no need of any contract or long term commitment. Users do not have to worry about the payment of monthly bills. It allows users to manage their payments efficiently and there are no hidden charges for that. It is best for those whose usage varies from month to month. It is ideal for occasional users and travelers.

2) Postpaid Service

As far as Postpaid is concerned, it provides less usage charges, involves line-rent and other connection charges but mostly guarantee better service is.

Corporate Accounts

Corporate accounts are usually companies, who buy accounts in bulk and are offered cheaper rates and good service. They require better support and service level than other subscribers and system should allow special handling for them.

Customer Control over Service-Access

Customers are not granted full access/control to the service provided by the service providers. They always impose certain kind of restriction on the customers. The billing system should keep track of the level of control given to the subscribers and monitor any illegal operations, if it ever happens.

Customer Control over Payment Options

Service providers mostly offer different payment options to the subscribers (like scratch card, credit-card etc). The billing system should be able to provide different such options of payments. The billing engine should completely support different payment gateways like Authorize.Net, Link Point, PaymenGateway.Net, World pay, Verisign.

Credit-Risk Assessment and Control

As stated earlier that service providers offers two types of service modes either "prepaid" or "postpaid". Credit risk is a term mostly related to postpaid customers as users pay after service usage. A billing system, along with tracking service mode of the customers, should also capable of controlling issues related to credit risk.

Another challenge for a billing solution is not only to maintain the required data but also to keep it accurate and absolutely error free. Therefore, the billing system should efficient enough to keep track of all the services being used and should notify on time about the credit limit of the subscriber.

Conclusively, at minimal a billing system should capable enough to cater the followings:

- 1) Subscriber Management
- 2) Flexible Billing Plans
- 3) Hourly, Monthly and Bandwidth Billing
- 4) Auto provisioning with different e-mail servers
- 5) Individual and Corporate Accounts Management
- 6) Customer Self Care
- 7) Real-Time Usage Reporting

AdvancedVoIP.com realizes the need of a billing system and offers a comprehensive billing solution that efficiently fulfills all these requirements. For more information regarding the billing system offered by AdvancedVoIP, please visit [Advanced ISP Billing](#).

Customer Self Care

Customer self care allows subscribers to serve themselves via various means offered by the service providers. It reduces cost and monitoring overhead at providers' end, thus ensuring higher churn rate and customers' satisfaction.

Customer care can be provided via various means such as website, FAQs (Frequently Asked Questions), knowledge base and forums explaining various technical terms for the subscribers. Prior to all these, service providers should provide online support to the subscribers to increase their level of satisfaction.

Customer Self Care Requirements

- 1) Allow subscribers to select any means to communicate with the support personnel such as Telephone/E-mail/SMS etc.
- 2) Process their requests with minimum period of time to increase churn rate of the subscribers.
- 3) Ensures security and reliability in the service being provided to the customers.

Summary

Dial-up Internet access is one of the well known means of Internet connection that has been provided by your local ISPs.

ISP stands for **Internet Service Provider**, they provides internet access to the users via Dial-up or Broadband connections (Cable or DSL) and get paid monthly or yearly.

Contact Information

In case of any ambiguity regarding the concept, explained in the whitepaper, please feel free to contact us at support@advancedvoip.com or please, visit http://www.advancedvoip.com/voip_contact.html

For further information please, visit www.advancedvoip.com

We welcome your suggestions

Thank You for reading this whitepaper. We will be pleased to receive your response and suggestions. Kindly give us your feedback, as your satisfaction is ours!!! [Feedback Form](#)