LESSON E29_EN. Internet Service Providers, Customer relation Management, Webmaster.

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Consultations: Every working day between 9.00 to 12.00 a.m.

After this lesson you will be more reach with the following knowledge:

- This lesson gives an overview on Internet Service Providers roles and features including a release on how Customer Relation Management can improve service provider effectiveness. A brief description on main webmaster tasks is also included.

CONTENT OF THE LESSON

LEARNING OBJECTIVES:

After learning this lesson you will accomplish the ability to:

- Know what are the actors in the telecommunication market landscape
- Know what are service provider capabilities and features
- Improve software products and services thanks to CRM methodology
- Identify and schedule webmaster tasks

1. Telecommunication Market: Overview

The relationship between a service and its bearer network is becoming less evident.

The paradigm shift in the world of telecommunications is illustrated in Figure 1. End-user requirements will determine the future telecommunications services that will be in demand, and the resulting offering will form the foundation for the choice of technique and for network planning.

Currently forecast services are naturally based on today's lifestyles and ways of thinking, which are in turn determined by present communication possibilities. Future technical advances are likely to affect our set of values and our assessment of what is necessary.

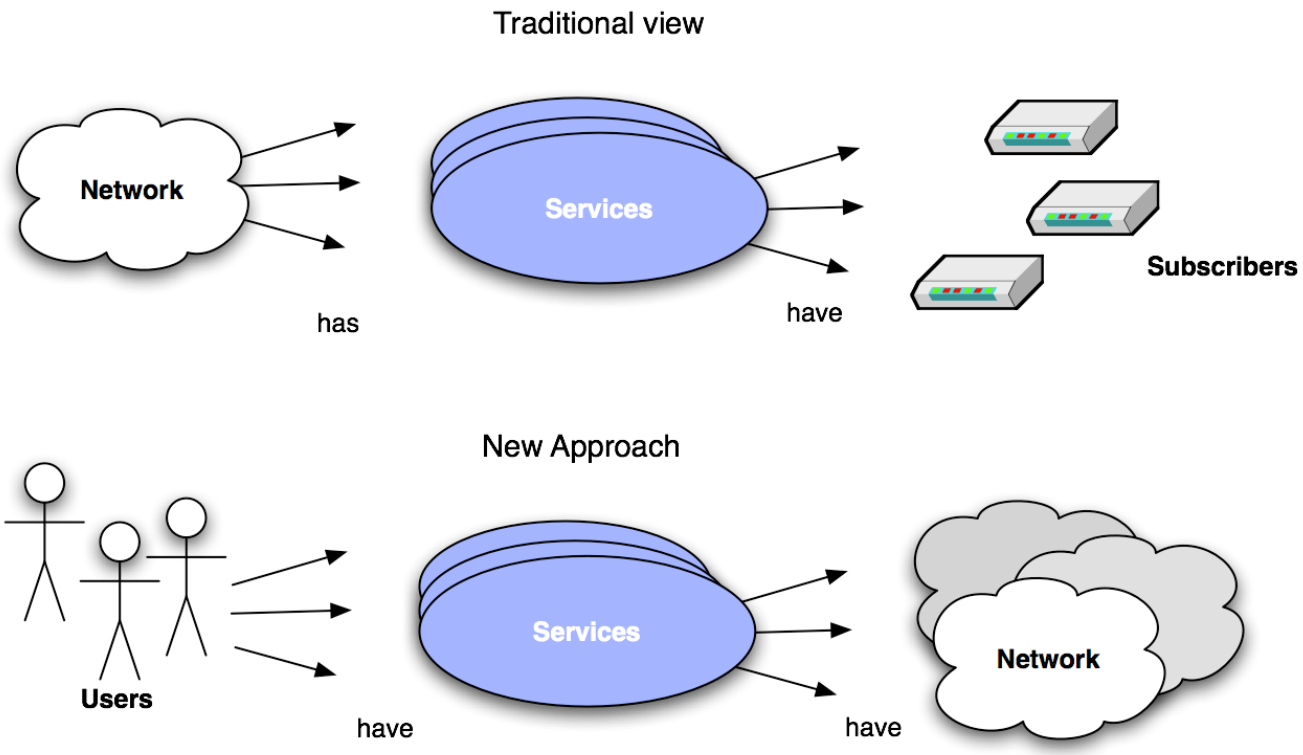

Fig.1.1. Paradigm shift

1.1. Telecommunication Market: roles and player

Players in the telecommunications market can have more than one role, and many players can share the same role.

- *End Users*: the consumers utilising the telecommunications services.
- *Content providers*: those who actually produce the content of the services offered to end-users. The content provider produces, edits and/or publishes the information made available to the public on the Internet. His role is comparable to the publisher's in the analogue world.
- *Information service providers*: sell their information services to end-users. The service provider provides facilities and software to enable the content provider to make his information available to the public. Information received from the content provider is uploaded on the service provider's server, and subsequently made accessible to the millions on the Internet.
- *Network operators:* provide network services, such as PSTN, ISDN and PLMN services. Network providers provide the infrastructure and basic telecommunication services essential to the operation of the Internet. These are as the "roads" of the Information Superhighway. They act as intermediaries in the supply of information services and other value-added services to the end-users and bill for what they provide. Some network operators may play more specialised roles: as access network operators or as transport network operators.
- *Content providers:* are those who actually produce the content of the services offered to end-users by the aforementioned service providers: videos, music or database information. This role is played, in many cases, by movie companies and other media enterprises.

The increasing number of services and service providers creates a demand for *brokers* who are qualified to aid users in selecting the right combination of services and the vendor who offers the most favourable conditions.

Service brokers combine services from a number of service providers and then offer complete service packages to end-users.

Content brokers can support service providers during selection of the contents to be included in all services. On the other hand they can support ISP products selling and dissemination.

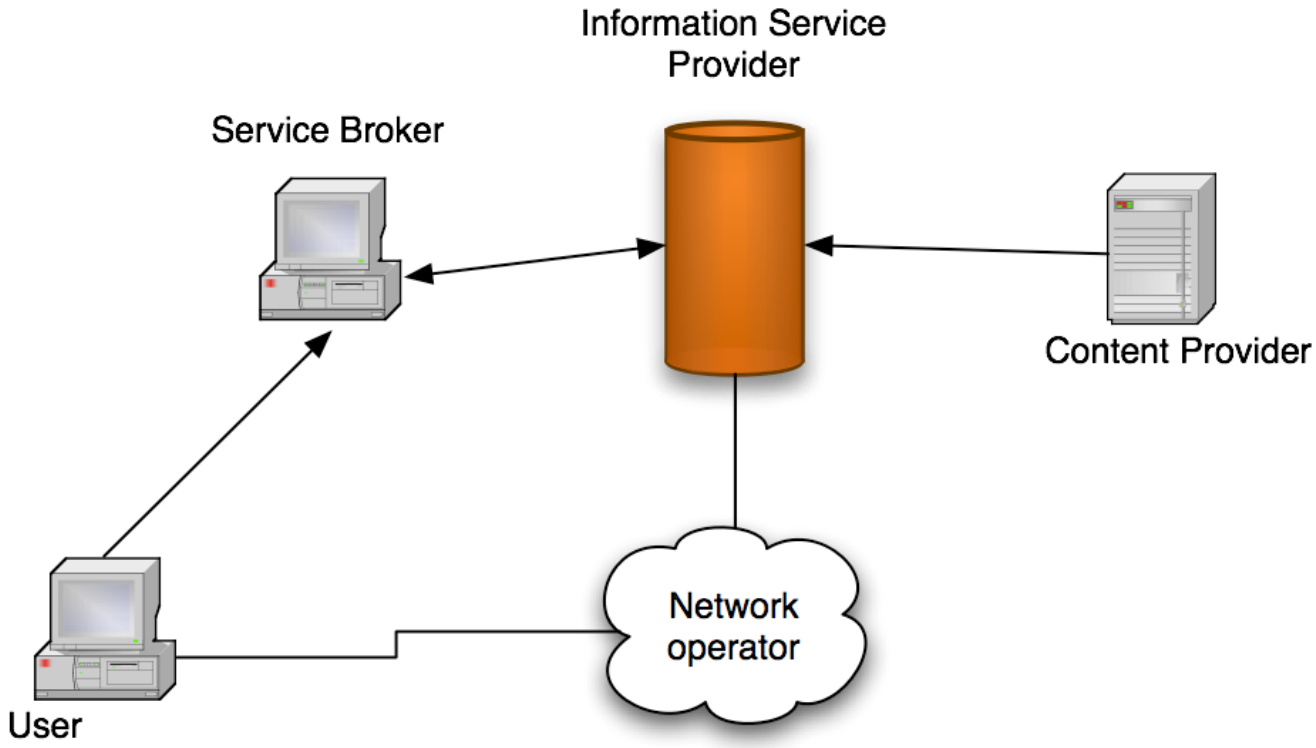

Fig.1.2. Telecommunication market: players

2. Internet Service Providers

Internet Service Provider (ISP) is "a company that provides access to the Internet. For a monthly fee, the service provider gives you a software package, username, password and access phone number. Equipped with a modem, customer can then log on to the Internet and browse the World Wide Web and send and receive e-mail. In addition to serving individuals, ISPs also serve large companies, providing a direct connection from the company's networks to the Internet. ISPs themselves are connected to one another through Network Access Point." (http://www.webopedia.com/TERM/I/ISP.html)

2.1. Internet Services Providers features

Services

There are thousand of ISPs offering a wide range of features. But in general they all provide:

- Choice of either a dial-up, ISDN or broadband connection
- Access to the world wide web
- Email
- Access to newsgroup
- Web space you can use to host user's own web pages. Users often will get a fixed amount of space free
- A technical support helpline

Sometimes additional services are included such as:

- Domain name registration
- Web development
- Automatic virus scanning

Recommended security services and procedures

An high quality service provider should provide a set of services for security and attack management:

- Mailbox security for network security issues.
- Clear policies and procedures on the sharing of information about a security incident with their customers, with other ISPs.
- Customer advice for security notice and network vulnerabilities.

- Appropriate Use Policy (AUP): whenever an ISP contracts with a customer to provide connectivity to internet that contract should be governed by an AUP. The AUP should be reviewed each time the contract is up for renewal.
- Traffic filtering of the data exchange between undesiderable sources and customers.

Filtering

Internet Service Providers have the option to provide mechanism that users can choose to utilize in order to filter the content delivered to users over Internet and to allow authorized access to that content.

Filtering mechanisms are implemented in software applications that may reside at the ISP, client, or some other host. These applications employ one or more of the core technologies and may be described in the following categories:

- *Special purpose browsers for children.* Browser applications can be written that are targeted to child users. Such applications can provide easier search strategies and friendlier graphics, remove advertisements, and provide filtering and search-safe domains in a way that makes it transparent to the user.
- *Child-friendly search engines and portals***.** The idea behind both special purpose child-friendly search engines and portals is to use a third party gateway to Web content. Child-friendly portals are Web access sites that try to provide a domain of safe sites for the user to explore. As long as the user comes in through the portal, they view a pre-selected domain set of the Web.
- *Proxy applications.* Proxy software is software that is at the ISP and acts as the intermediary between the client or browser and Internet. Application software can be added to server proxy modules that permits the execution of text analysis and URL list comparisons for each Internet browser request and response.
- *Activity monitors.* Rather than restrict or control access to Web sites; these applications monitor and log Internet activity for parental review.
- *Restricted access applications.* Applications residing on the host site can be written that restrict access to services or data on that site to authorized users. These applications may encrypt the data so that only authorized users can decrypt and view the data.
- *Non-HTTP applications***.** In addition to Web page access, applications can be written using these core technologies to filter content of email and to control access to ftp sites, telnet hosts, discussion and chat groups, and newsgroups.

Virtually all of the filtering techniques can be implemented by an ISP, it is important that the use of filtering is transparent to the user. The user should be informed when filtering is in place or has occurred. To be effective, it is important that:

- The user knows when content has been filtered and why.
- The user knows the criteria for filtering.

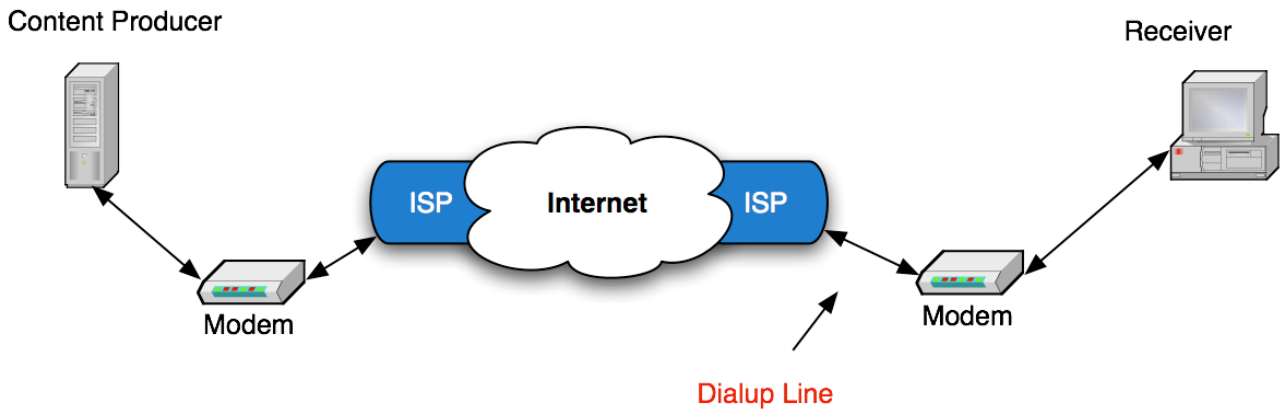

Fig.1.3. The role of ISP: connecting users to Internet

An evolving set of filtering technologies are those that are deployed at the level of the Internet service provider. These include:

- "Family-friendly" online services that filter content by limiting the domain to which children have access.
- Manual screening of content according to an ISP's Acceptable Use Policy (AUP).
- Access control mechanisms (such as pre-registration or credit card interfaces).
- Encryption and other encoding techniques.
- Filtering and blocking technologies (including the emerging family of cache-based filtering technologies).

ISP's may offer value-added services to their users by providing filters at the ISP level, using firewalls or proxy servers. Firewalls are gateway machines that control all traffic to or from the host system and the Internet. Software at the firewall can be configured to reject classes of access for all users of the system. A proxy server is a server side application that works with the server software as a channel for client requests. The browser on the client must be configured to use the proxy. The proxy software acts as an intermediary in the Web page access process. All client requests go through the proxy server and the resultant content from the Internet goes through the proxy before being sent to the user. The control mechanisms, typically accomplished using a proxy server, include:

- Application of label filters.
- Filtering of search results by lists or content.
- Providing a database of "safe" sites for searching.
- Providing portals sites for children.

The proxy server generally caches or stores the accessed Web pages at the ISP. This cached data may save communication and download time and congestion and can be used for filtering data before it is sent to the user. The proxy at the ISP can perform several filtering related tasks:

- Cache certain page hierarchies using lists.
- Check with the source site to verify if the cached page is current before sending to the client.
- Check the labels associated with pages in cache.
- Refuse to send certain pages from cache to the client based on lists.
- Analyze the content of pages to decide if to send or remove.

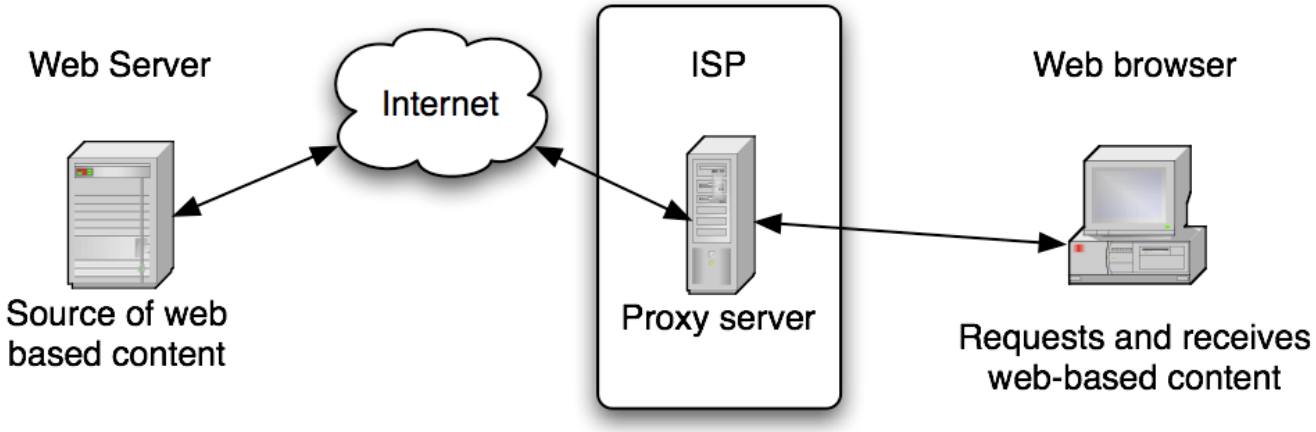

Fig. 1.4. ISP and proxy server

Most ISPs provide browser software pre-configured to go to an ISP portal site as the users default home page when the browser is launched. In any event, the client may configure his or her browser to go through the ISP proxy server. The use of the proxy prevents the clients from going directly to the Internet but rather all requests are processed through the proxy. Proxy software can store or cache results that can then be filtered before results are sent to the client.

ISPs should be encouraged to offer differentiated services to clients, based on access to the Internet through a proxy server. Two classes of such service should be considered:

- *A "clean" service*: the proxy filter includes a list of *permitted URLs only*; all requests outside this list are refused. Several such proxy-based blocking schemes are currently available, providing access to a universe of thousands of permitted pages.
- *A "best effort" service***:** the proxy filter blocks a set of known sites, rated according to some prescribed criteria.

ISPs may incur some costs in setting up services such as these. These could either be passed on to clients in increased fees, or an ISP may see some competitive advantage in providing such environment to clients.

Charging methods

The fees to pay change according to the services provided.

With *broadband*, customer generally pay a fixed monthly subscription fee to her ISP. This can give a greater control of costs over dial-up access, especially pay-as-you-go packages where costs can escalate if user is online for long periods of time. Broadband also provides faster connection and download times as well as always-on access, which can save a considerable amounts of time and money.

Dial-up access is usually charged in one of three ways:

- Customer can pay a monthly or annual subscription for a maximum number of hours online, during which there are no call charges.
- Customer can choose a pay-as-you-go option, simply paying telephone call charges every time you go online.
- Customer can choose a package deal where you get free unlimited Internet access for a fixed fee every month.

The right choice for customers depends on their usage patterns. If they only plan to go online occasionally, perhaps just to collect and send emails, pay-as-you-go may be the right choice. But if their web use is likely to be intensive, a subscription service or package is likely to be better.

Accounts

Once customer Internet expectations are specified, he must decide whether to purchase a remote account, a SLIP or PPP account, or a direct connection to the Internet.

- *Remote Accounts* give an account on a host computer system that can provide a variety of Internet services, including text, but not graphic, Web access. Often the host will be a Unix computer with hundreds of other users; these accounts are sometimes called shell accounts, because they give you access to a Unix shell. The resources required to access a remote account are relatively modest. Faster computers and faster modems are better, but not required,

- *SLIP and PPP Accounts* (Serial Line Internet Protocol and Point-to-Point Protocol) are personal Internet connections that use modems and phone lines. However, unlike the remote accounts discussed above, SLIP and PPP provide direct access to Internet. You get virtually all the benefits of being on the network, but often at a slower speed than direct connections,

- *Direct Connections* provide full access to Internet services. A direct connection requires more resources than a remote account: a faster, smarter computer connected to a network. This network, in turn, connects to the Internet. Getting local area networks (LANs) to talk to the Internet is not a trivial job. LANs use any one of several wiring schemes (e.g., Ethernet, LocalTalk, token ring). Connecting LANs to the Internet usually involves the use of a special phone line, often called a dedicated line.

2.2. ISP Liability.

Internet service providers provide Internet access service to customers in exchange for a fee. ISPs also store data for their customers' use, such as on a Usenet newsgroup server or a world wide web server. ISP liability for the activities of its customers is generally based on a knowledge of the customer's activity.

The liability standards potentially applicable to Internet access and service providers are extremely variable. They may vary from country to country, from one legal domain to another, and from court to court.

Even within the framework of civil law, different standards of liability may apply. Usually, in defamation or privacy cases, a knowledge requirement exists, whereas in intellectual property cases courts may prefer to apply the much stricter rule of direct liability.

In this context, the freedom to impart information, guaranteed in some European constitutions, as well as in Article 10 of the European Convention on Human Rights (ECHR), adds considerable complexity.

Clearly, there are no quick and easy answers to establish whether or not an Internet service provider, in a given situation, will be held liable will depend on a number of technical, legal, economical and factual circumstances. Factors to be considered are:

- the measure of editorial control exercised by the provider;
- the technical possibilities of detecting and preventing infringement;
- the actual knowledge of the infringing act (notification);
- the contractual duties on the part of information providers;
- the possibility for the claimant to obtain relief directly from the information provider.

<<Please look also at the Directives And legislation aspects presented in the lessons about legislation included in the handbook F.>>

3. CRM (Customer Relationship Management)

CRM stands for Customer Relationship Management. It is a process or methodology used to learn more about customers needs and behaviours in order to develop stronger relationships with them.
CRM software fulfils the requirement involved in the user-focus approach (figure 1).

Service providers might use CRM system to handle customer problems looking for ways to personalize online experiences through tools such as help-desk software, e-mail organizers and Web development applications.

Advantages of CRM:

- Provide better customer service
- Increase customer revenues
- Make customer support more efficient and less costly;
- Discover new customers
- Cross sell/Up Sell products more effectively
- Help sales staff close deals faster
- Make call centers more efficient
- Simplify marketing and sales processes

CRM system focus to make available user communication channels easy to use (e-mail, sms. web and so on) in order to collect data, suggestions or feedback. This vision brings CRM system to have multi-channel capabilities. One of the most important step, in a good CRM system, is the analysis of the data collected during multi-channel interactions within users. Analysis issues will produce side effects during system reworks to improve accuracy and optimization. This kind of analysis can give a measurement for the customer satisfaction that is the base for the CRM.

CRM software tools might build a database about its customers <<it is necessary to be protected the customer privacy and to be respected the legislation in the field, Gheorghe M. Sandulescu>> that describes relationships in sufficient detail so that management, people providing service, and even the customer can access information, match customer needs with product plans and offerings, remind customers of service requirements, check payment histories, and so on.

Most CRM vendors provide a suite of business applications that will manage complex sales, marketing and customer service functions to improve and retain relationships with customers.
CRM is implemented by businesses to provide better personalized service to customers, gain better knowledge about the customer, and to differentiate oneself from the competition. PeopleSoft, Oracle, SAP and Salesforce.com are major players in the CRM arena.

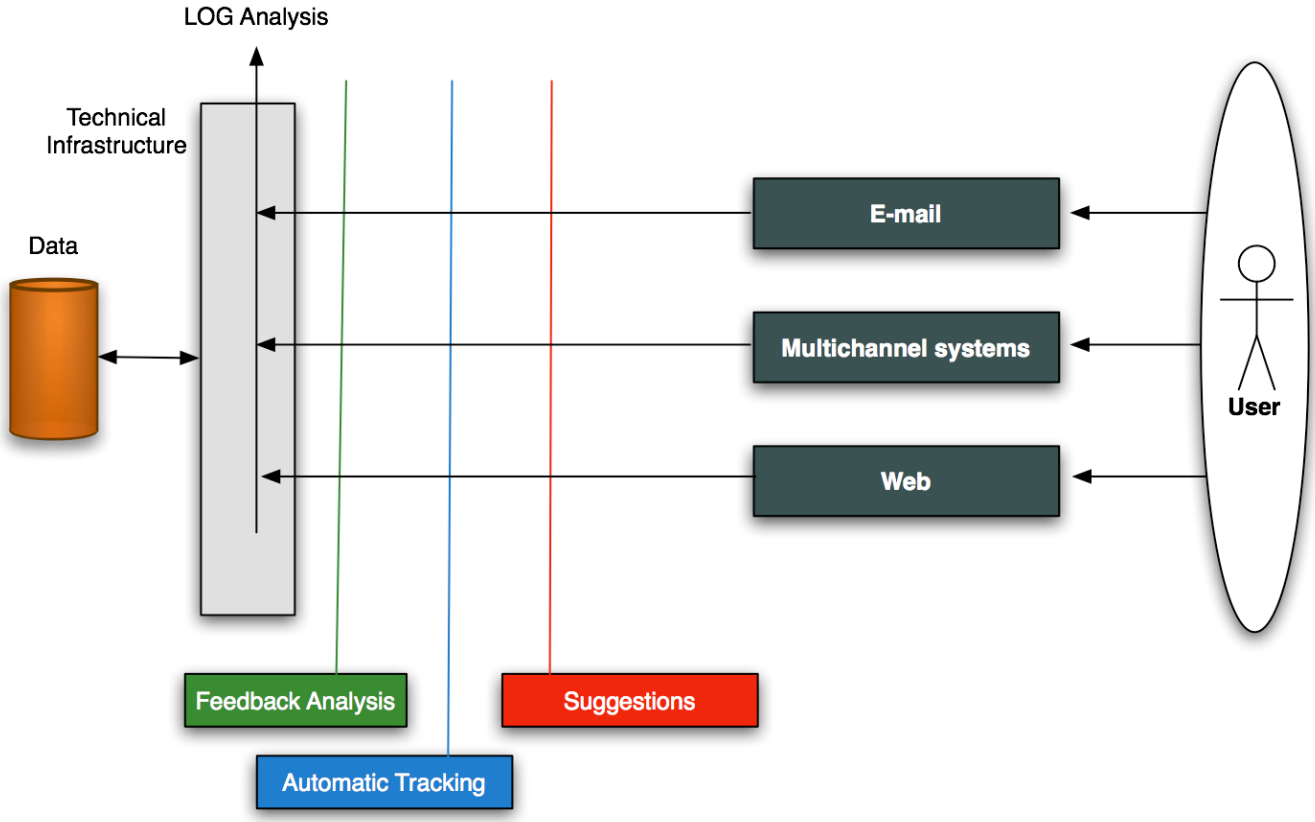

Fig. 3.1. CRM: multichannel capabilities and feedback analysis

3.1. CRM Product development

Implementing a CRM product within a company is not simple and effective and efficient collection and utilization of data about the customers is a fundamental requirement.
One effective CRM implementation approach needs to know 'from the eyes of the customer' :

- what kind of support or service the customers need,
- the customers' preferred methods or channels for transacting with the company,
- which information technologies the customers use.

CRM product development approaches can differ according to a company's approved development lifecycle, staff expertise, and IT standards. Generally speaking the CRM roadmap features steps are the following :

- *Business Planning:* defining CRM's overall objectives and delineating the requirements of each one.
- *Architecture Design*: This step identifies the business processes the CRM product will support. It involves listing the specific functions that will need to be implemented and how.
- *Technology selection:* understanding CRM's impact on existing systems and its requirements for new functionality.
- *Developmen*t: it involves the construction and customization of the CRM product, using specific product features and integration of business processes with the chosen CRM product.
- *Delivery:* dispatch the resulting CRM software to the business users who need it.
- *Measurement:* evaluates CRM usage in order to refine CRM requirements and tracks and quantifies tangible CRM business benefits

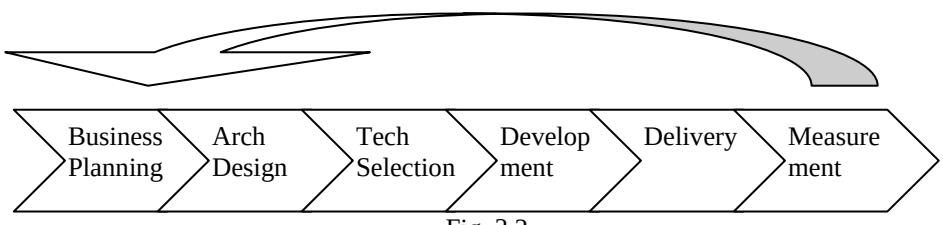

Fig. 3.2.

4. Webmaster

A webmaster is responsible for the information base of a particular site or organization.

Good webmaster wills posses:
- Good communication and writing skills.
- Ability on how to organize large amounts of hypertext.
- Ability to create and maintain a house style (editorial directions to be followed in spelling, punctuation and typographical display. Conventions are required in order to maintain some sort of order).
- excellent communications skills.
- Thoroughness and an eye for detail.
- The ability to work both independently and effectively with others.

Typical tasks would involve some of the following:

- Maintain the site maps. Including maintenance procedures such as:
  - Update navigation aids,
  - Link check,
  - Perform log file analysis,
  - Updating the public server,
  - Participation in discussion list,
  - Providing first level user support,
  - Running scripts an checking output.
- Writing and administrating so called CGI scripts and the search facilities (keyword, e-mail addresses and phonebook).
- Maintain any mirror sites.
- Assisting in site promotion. This is a critical activity and the main things to do are:
  - Ensure that our most popular pages are properly represented in the search engines and directories;
  - Periodically visit relevant newsgroups and mailing lists and mention our URLs;
  - Send out press releases when appropriate.
- Provide first level user support by compiling and maintaining an FAQ with answers and references to further information.
- Look for problems, suggest improvements, etc.
- Monitor the error logs, such as the usage statistics, and report potential problems.
- Verify that links from the site are live and go to what they claim.
- Check presentation and readability in various browsers on various platforms.
- Maintain search engine index.

Webmaster tasks schedule			
Daily	**Weekly**	**Monthly**	**On going**
Respond to email	Check for broken link	Check site ranking in the major search engines	Install new content
Check new or modified pages in various browsers	Update navigation aids (e.g. TOC, site maps, and so on)	Update FAQ	Improve procedures and scrips
Look for missing images	Monitor the error log and report potential problems		Creates new pages and multimedia demos
Validate buttons			Submit new pages to search engines
Respond to comments			Submit link requests to relevant sites that currently do not link the website
Scan the major www newsgroup and respond to questions			Checking performance
Scan the major search engines and directories and monitor website position			Traffic analysis
Participate in the forum			

How to promote a website

One of the best ways of promoting a web site is for the site to be listed on the main search engines, especially if the site is ranked so that the entry appears near the top of the list.

In order to promote a site on search engines, the web site designer must:

- Prepare the web pages on the web site so that they are suitable for the sites submission to search engines.
- Submit the site to Search engines, some of which require a fee.
- Once listed you can then try to increase your ranking in the search engines list of web sites. One approach include analysis of the sites competitors that appear at the top of the list, checking out the keyword they have used.

Creating a commercial site then a high ranking with search engines is a must.
To get site onto search engine directory database, the main preparation is:

- Keywords
- Title
- Description
- If possible, obtain links from other sites to the site to promote. This is easy if the webmaster manages more than one site and at last one of them is listed. It is also better if the sites are similar in content. The webmaster can ask to similar sites for reciprocal link
- Once the site is in the database, try to improve site position in the ranking. To do this is necessary:
  - Obtain links from other sites
  - Obtain statistical information
  - Refine keywords.

How to prepare site for search engine

In order to be indexed and listed a website:

- Must have good content.
- Page must contain keywords in strategic positions.
- Keywords should be listed in a keyword Meta tag in the head section.
- Keywords should appear on the page several times to be effective.

Key Point Summary Conclusions and Recommendations

An ISP (Internet Service Provider) is a company that collects a monthly or yearly fee in exchange for providing the subscriber with Internet access and various services Services provided by an ISP include Internet access, web hosting, and web page design.
To achieve a good market impact the approach to follow focusses on users.
Customer Relationship Management defines methodologies to follow for systems and ISP tin order to fullfill all customers requirements and even to enrich variety and improve accuracy of services set to issue.
The responsible for the organization and maintainment of web applications and the main person who decides how to propose and promote web content to users is the Webmaster who starts from the customers needs analysis to better address all the typical requirements.

Study Guide

ESSENTIAL QUESTIONS FOR THE VERIFICATION OF THE ACCOMPLISHED KNOWLEDGE

1. What are the most common services provide by ISP?
2. How communication channel can improve CRM goals?
3. How can Webmasters promote their web solutions?

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SUPPLEMENTARY IMPORTANT BIBLIOGRAPHY. REFERENCES. (www)

[SUP1.] http://www.isp-planet.com/
[SUP2.] http://en.wikipedia.org/wiki/Internet_service_provider

RESPONSES TO THE QUESTIONS

1. Many but not all ISPs are telephone companies they usually provide ISDN or broadband connection domain name registration and hosting, email services and technical support.
2. Wide and good communication channels help to collect data, suggestions or feedbacks that will be the base for the analysis of the user needs
3. In order to promote web solutions, webmasters have to provide an attractive interface which must be usable and complete so that a lot of user will be interested on them. Furthermore they need to promote the products thanks to search engines. To enhance the page ranks the content must be strategic and they need to obtain linkage from other similar sites