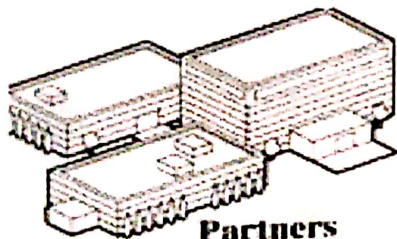


## EXTRANET MODEL

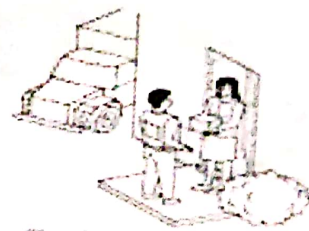
### The strategic role of the extranet

The extranet represents the bridge between the public Internet and the private corporate intranet. The extranet connects multiple and diverse organizations online, enabling strategic communities of stakeholders with common interests (communities of interests) to form a tight business relationship and a strong communication bond, in order to achieve commerce-oriented objectives. The extranet defines and supports this extended business enterprise including partners, suppliers and distributors, contractors, customers and others that operate outside the physical walls of an organization but are nonetheless critical to the success of business operations. With the Internet providing for public outreach and communication and intranets serving internal business interests, extranets serve the business-critical domain between these extremes where the majority of business activity occurs.



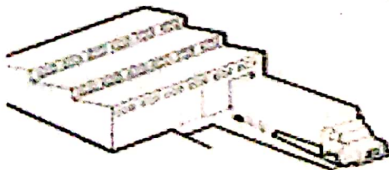
**Partners**

- Joint design
- Outsourcing



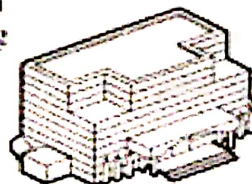
**Customers**

- Customer self-service
- Online sales & marketing
- Sales force automation
- Built-to-order products
- Just-in-time ordering



**Suppliers & Distributors**

- Distributor management
- Supply chain management
- Procurement



**Internal Processes**

- Human resources
- Finance



— • The Extranet Model

The unification of robust enabling technologies and ubiquitous access through the Web is resulting in unique and interesting market dynamics that are changing the way many companies are doing business.

Interactive communities are beginning to emerge that exist solely in cyberspace, where information travels faster, more cost effectively and with greater accuracy when compared to other forms of communication and information exchange. These interactive communities are the driving and sustaining force behind the extranet concept and their insatiable collective need to access content when, where and how they want to see it will continue to push the limits of what is technologically possible.

Extranet solutions built to engage and support these interactive communities are designed to emphasize and foster customer relationships. As successful businesses know, the cost of obtaining a new customer far outweighs the cost of maintaining a current one. With commerce-enabled extranets, companies are now able to establish and maintain one-to-one relationships with each of their customers, members, staff or others at very low cost through the Web, offering a customized and individualized experience that can be dynamically generated or modified based upon a user's privileges, preferences, or usage patterns. Information entered by the user (registration form, on-line surveys, etc.) can be compiled with statistics and other information that is captured automatically by the system (searches performed, products purchased, time spent in each site area, etc.) to provide the company a complete picture for each and every visitor of the system. This comprehensive user profile offers unprecedented opportunities to present relevant information, advertising, product and service offerings and other content to a qualified, targeted interactive user community on a one-to-one basis.

## Managerial Issues

Implementing intranets and extranets is a more complicated task than simply buying a Web server and uploading Web documents. There are several technical challenges and organizational issues require management's attention.

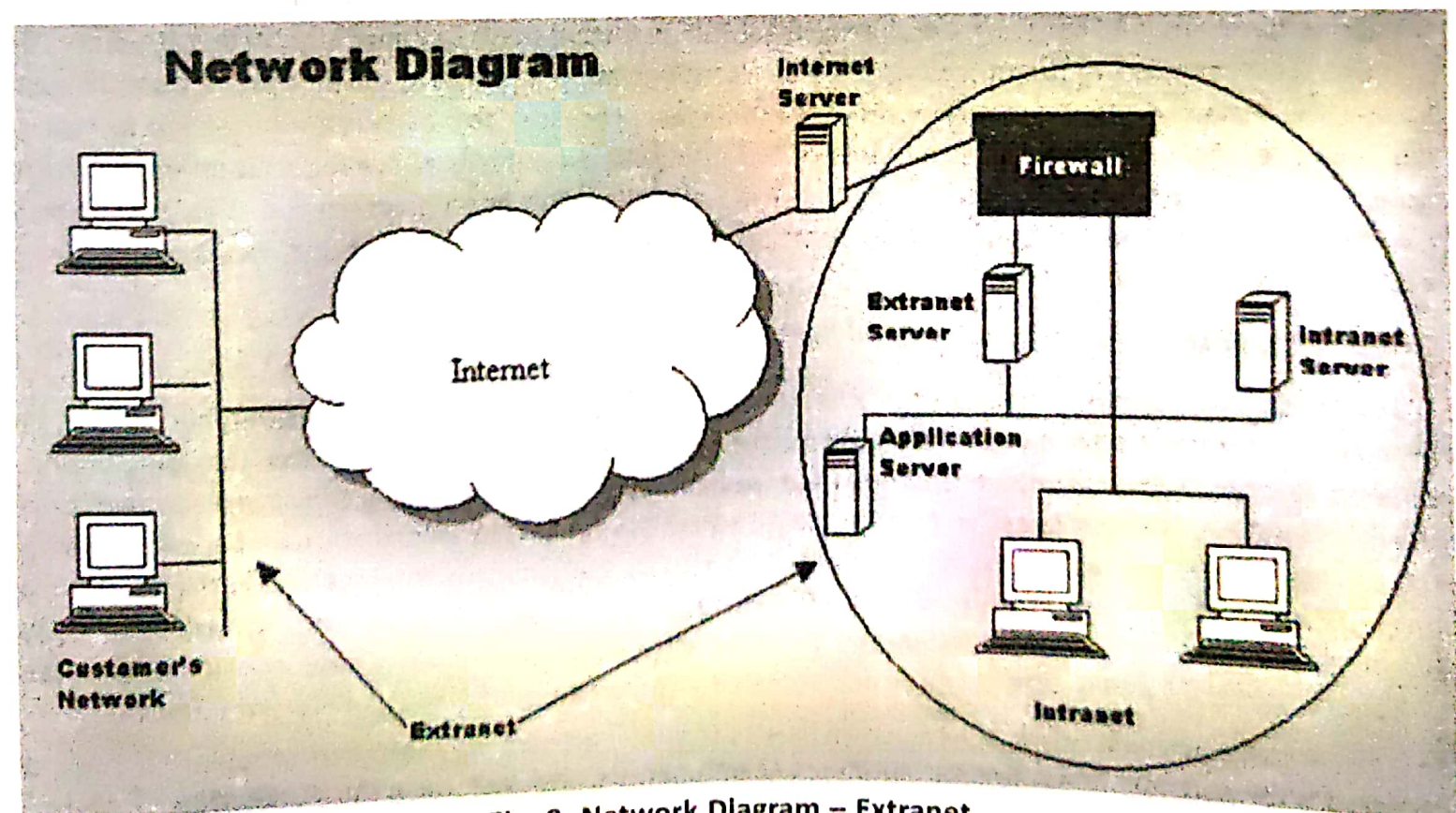


Fig. 9. Network Diagram – Extranet

## Electronic Payment Systems

Issues of trust and acceptance play a more significant role in the e-commerce world than in traditional businesses as far as payment systems are concerned. Traditionally, a customer sees a product, examines it and then pays for it by cash, check or credit card. In the e-commerce world, in most cases the customer does not actually see the concrete product at the time of transaction and the method of payment is performed electronically.

An electronic payment system is needed for compensation for information, goods and services provided through the Internet such as access to copyrighted materials, database searches or consumption

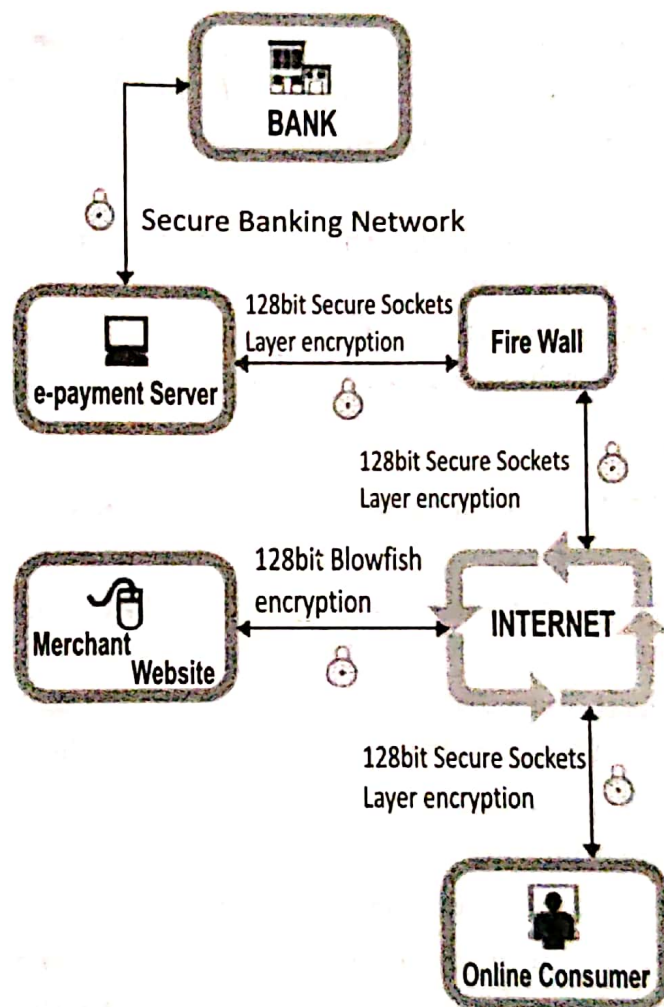


Fig. 10. Electronic Payment System – A Security Aspects

of system resources or as a convenient form of payment for external goods and services - such as merchandise and services provided outside the Internet. It helps to automate sales activities, extends the potential number of customers and may reduce the amount of paperwork.

## Requirements

- **Security** : Payment systems are very likely to become a target for criminal attacks.
- **Flexibility** : Different models for different situations (anonymity, accountability, risk).
- **Computational efficiency** : Support for micropayment; per-transaction cost must be small enough so that they are insignificant.

## Payment Methods

- **Secure (or non-secure) presentation** : The customer provides credit card information over a secure (or even clear) transportation means.
- **Customer registration** : The customer gets a password or digital signature based on a credit card (hides the credit card information from the merchant, but still clears through the credit card).
- **Credit-debit instruments** : Similar to customer registration but only one bill per month either through credit card or debit check.
- **Electronic currency** : This method has potential for anonymity but requires tamper resistant hardware.
- **Server scrip** : The customer gets a kind of coupons from an agent that can be spend only with one particular merchant. this reduces the risk of double spending and allows off line transactions.
- **Direct transfer** : The customer initiates the transfer of funds to the account of the merchant. This method provides no anonymity.
- **Collection agent** : The merchant refers the customer to a third party who collects payment using one of the methods mentioned above.

Of all models, (non)secure presentation is the only model that has a large customer base today. All other methods require a special hardware and/or software that most potential customers don't have.

## Systems available today

- **Secure socket layer (SSL)** : Client submits credit card information using encryption based on public keys.
- **Cybercast** : Customer registers credit card with CyberCash and selects a signature key. Requires special software on the client, but hides credit card information from merchant.
- **Secure electronic transaction (SET)** : The customer obtains a signature key from the card issuer. This method requires a special software running on the client to encrypt and sign credit card information.
- **Open Market** ; Provides multi-mechanism collection services for web browsers.
- **Mondex** : Provides smart-card based electronic currency.
- **Electronic check** : Provides a PC card-based credit-debit payment instrument that can be sent across the Internet, but clears through the existing banking network.