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BUSINESS AND TECHNOLOGY

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## Global Context of Cyber Security

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### Importance of Cyber System

- Most of the workforce today has jobs that are information-intensive.
- The job of those in the field of raining and teaching, accountants, lawyers and executives.
- These jobs are predominantly based on handling large amount of information.
- Cyber Security now have become an inseparable part of business organization.

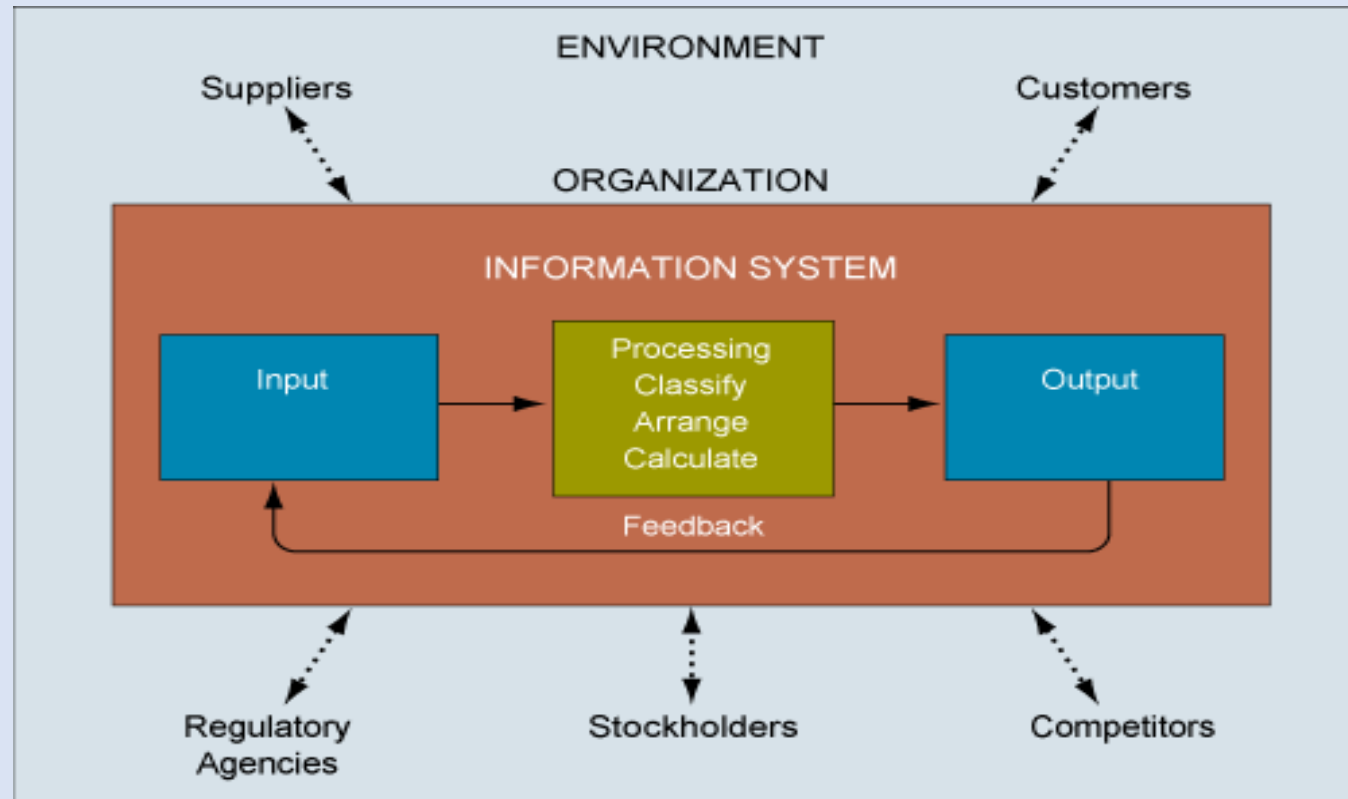


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## Importance of Cyber System



### Importance of Cyber System

- Large organizations piggy-back data flows on the complex management support systems and the global communications they use to control their supply chains.
- The recognition of information technology (IT) facilitating global coordination of organizations is today recognized as a key component of competitive strategy.
- For successful operations multinational organizations need to be tightly linked in their information and communication flow requirements.

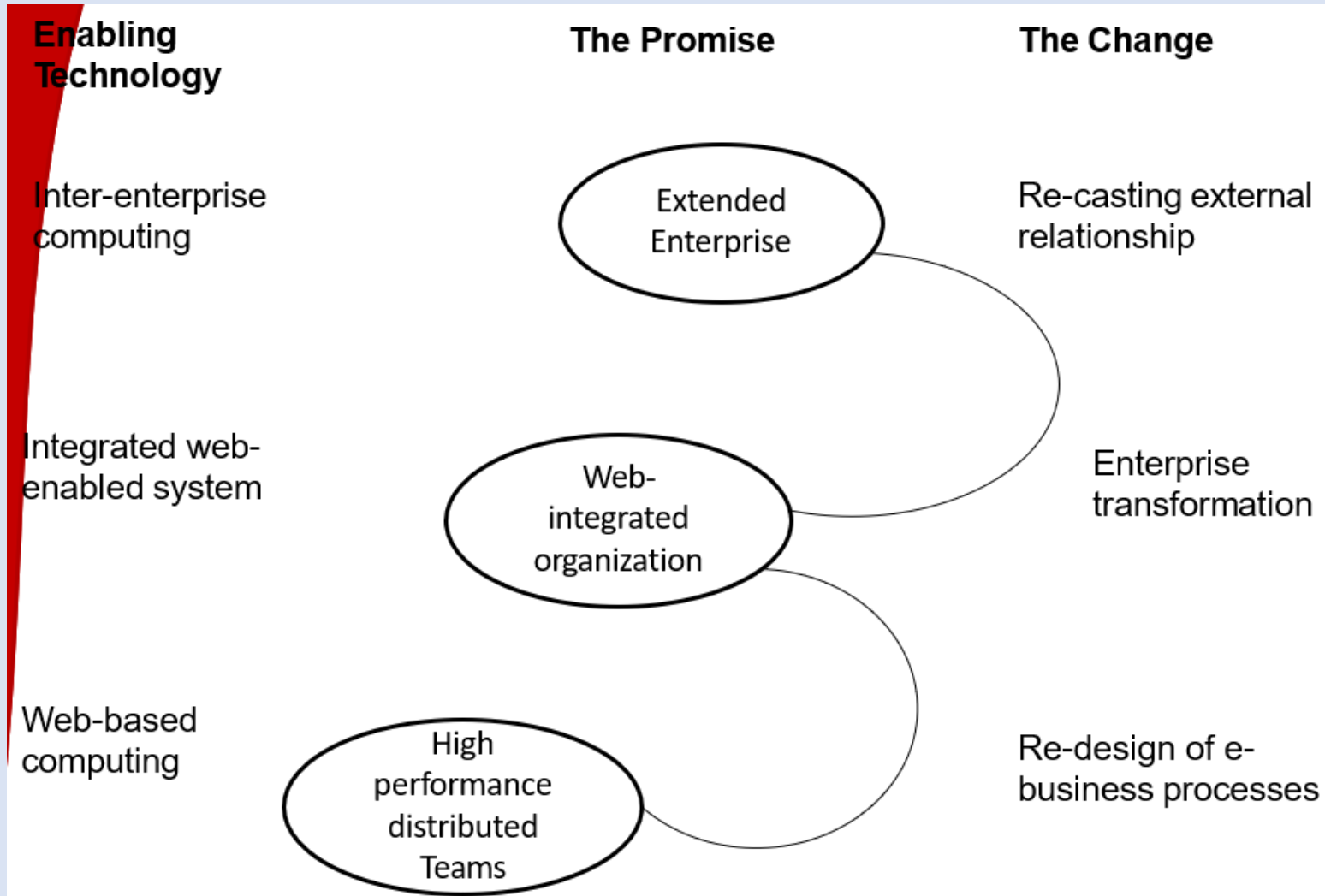


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## Importance of Cyber System



### Importance of Cyber System

- To sustain the pressures from business and to satisfy the decision-making requirement in today's dynamic environment, the nature of modern Cyber Security is such that they call for intensive and complex interaction between physically remote but interdependent units.

## Basics of Cyber Security

- The Cyber Security related works is a set of interrelated components that collect, process, store and distribute information to support decision-making and control in an organization.
- Cyber Security accept data from their environment and manipulate the data to produce information that is used to solve a problem or address a business need.
- The vast majority of computerized Cyber Security relies on:-
  - # Data warehouses
  - # Database management system(DBMS)
  - # Software to manage the storage and retrieval of the information in the system.

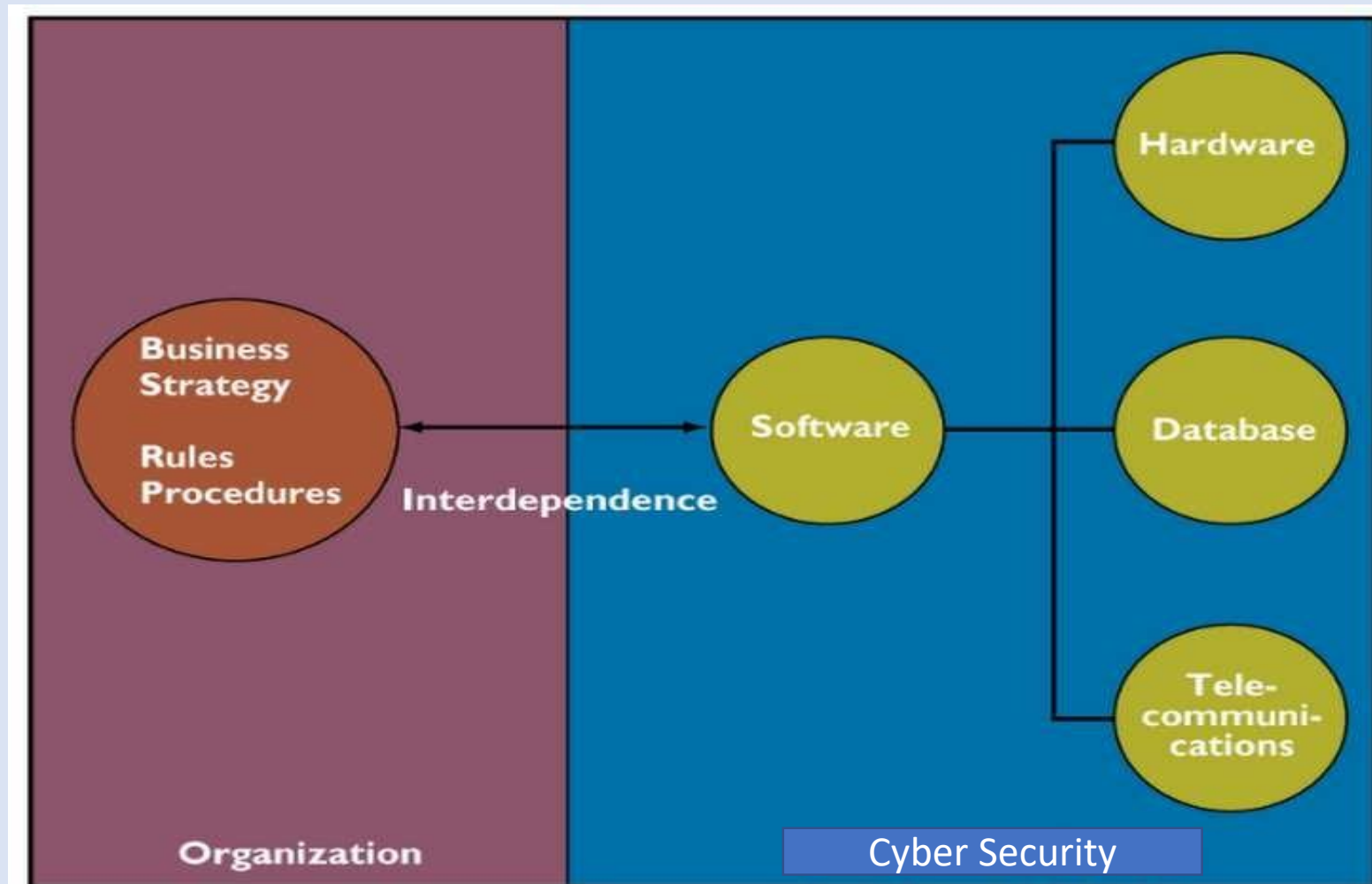


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## Basics of Cyber Security







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## Basics of Cyber Security

**- Cyber Security consist of :-**

**Data**

**Hardware**

**Software**

**Procedures and**

**People**

**-Their major function are:-**

**Input**

**Storage**

**Processing**

**Control and**

**output**

## Basics of Cyber Security

- Cyber Security are usually developed to support specific business functions such as the administrative functions common to most organization.
- In the finance area, organizations need financial management information systems(FMIS)
- Information can be divided into three parts:-
  - # There are data that bring together all kinds of information that can be stored.
  - # There is knowledge that is those aspects that are not immaterial but brought in by experienced employees.
  - # Lastly there is an action to send information to someone or something through the information system.

## **The Changing nature of Cyber Security**

- In the past decade, the nature of Cyber Security has undergone a dramatic change, from mainframe- based Cyber System to client/server computing to today's web-based information system, with the internet having made the revolution.
- The four powerful worldwide changes that have altered the business environment are:-
  - # Globalization
  - # Rise of the information economy
  - # Transformation of the business enterprise
  - # Emergence of the digital firm

### **The Changing nature of Cyber Security**

- Modern business applications of cyber security show a trend toward the development of systems that are decentralized, autonomous and heterogeneous.
  - The new generation of cyber security is characterized by the combination and integration of local cyber issues, each with their own intended purpose and goal.
  - Information systems of today are distributed and component-based.
- Today's information-intensive enterprise, the local structured procedures can be effectively and flexibly integrated into the global work processes supporting the business goals.

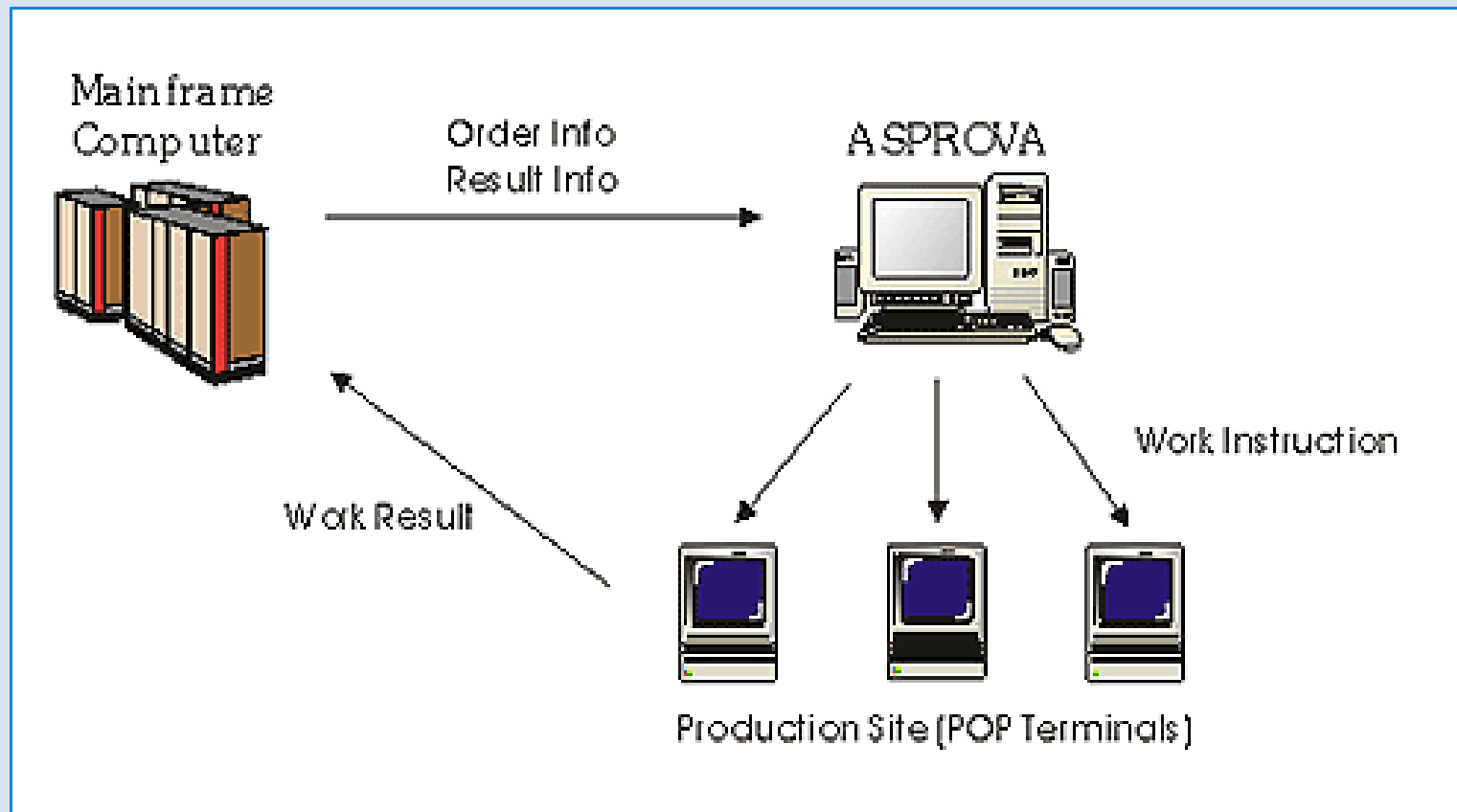


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## The Changing nature of Cyber SecuritySystem- Mainframe-based information system



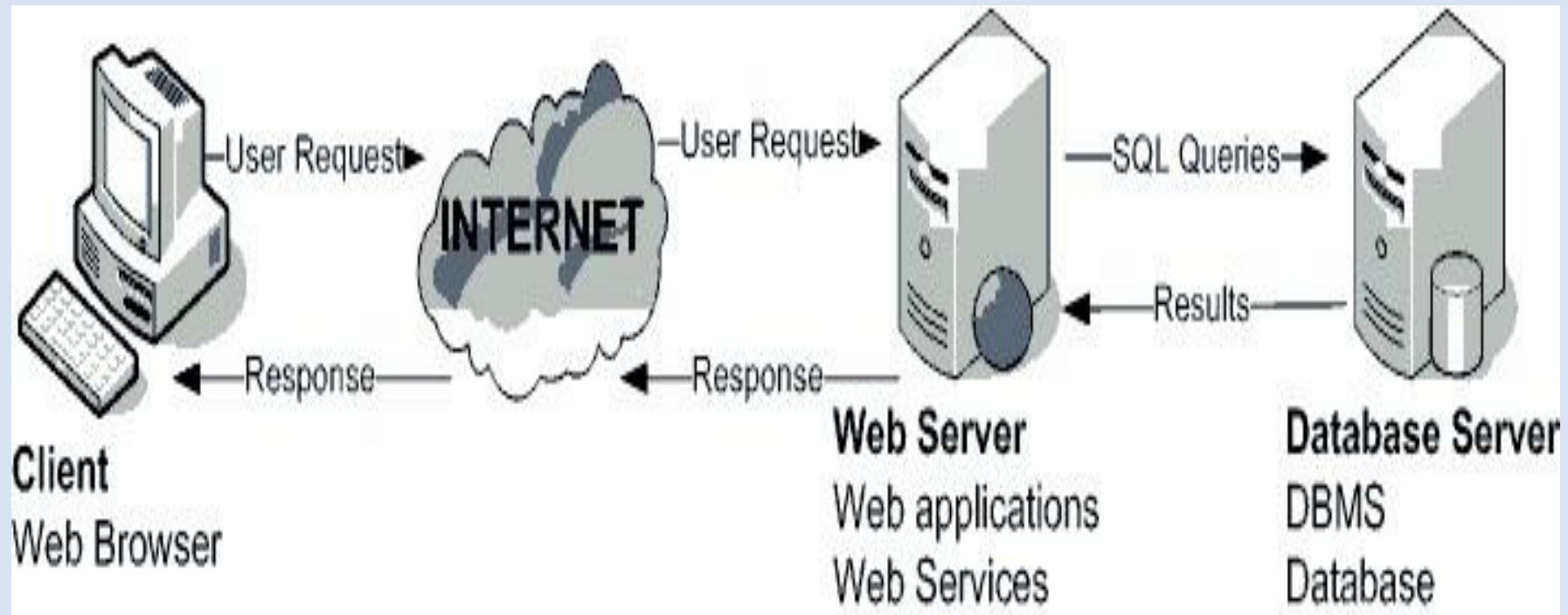


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## The Changing nature of Cyber Security System-(Client/server-based information system)



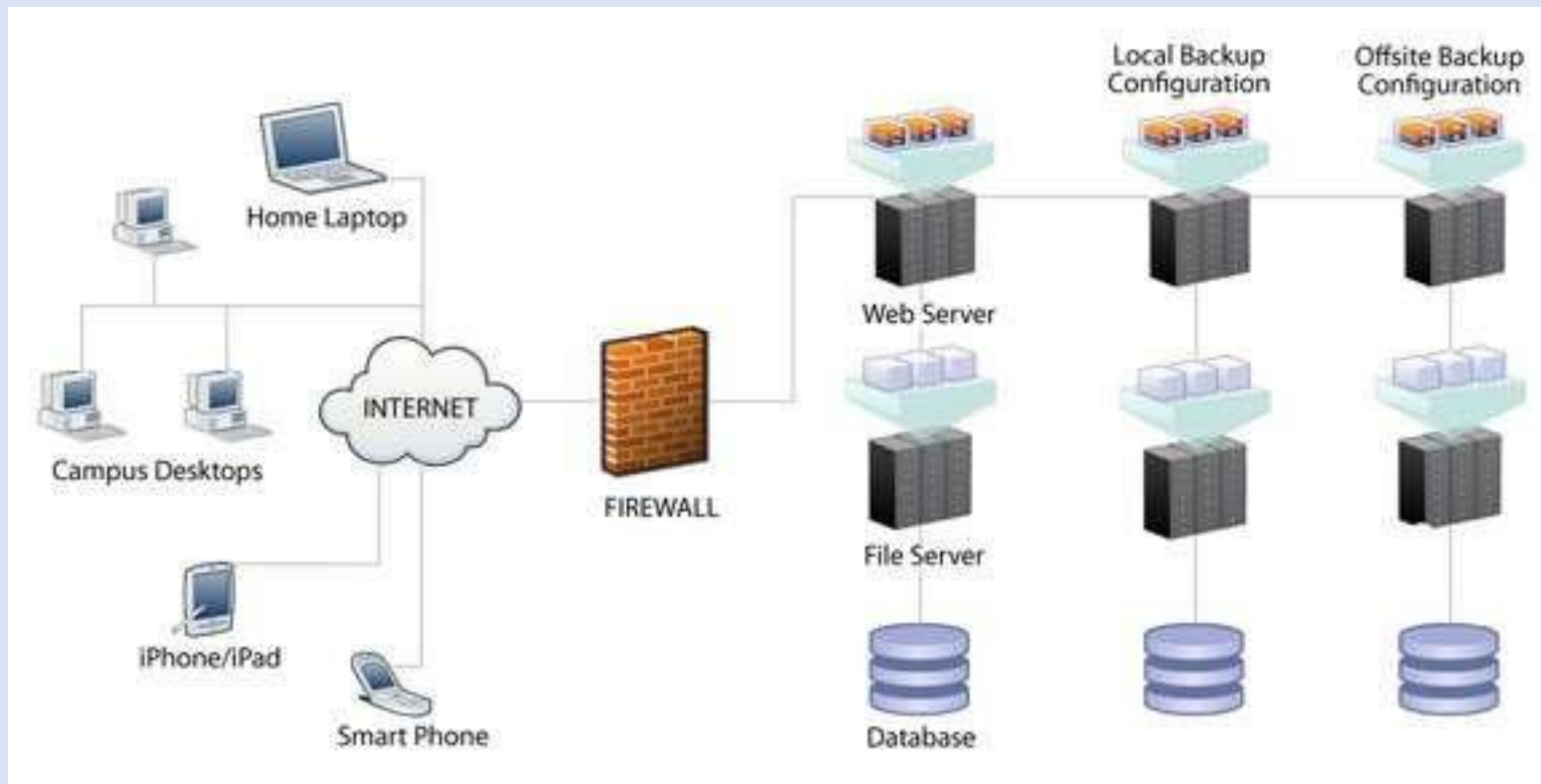


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## The Changing nature of Cyber Security System-(Web-based information system)





## **Globalization of Business and the Need for Distributed Information Systems**

**In the new paradigm, cyber security are handling information in all forms, not just the text-based data of the 1970s that came typically in flat files but also the rich text, images and voice.**

**We are in the realm of not only terabytes of data but also multimedia, multi-geo order of information system.**

**The widening scope of cyber security issues can be summarized as follows:-**

**# 1950s:technical changes.**

**#1960s-1970s:managerial controls.**

**#1980s-1990s:institutional core activities.**

**#Today: digital information webs extending beyond the enterprise.**



## Globalization of Business and the Need for Distributed Information Systems

**They are characterized by**

- Electronic commerce**
- E-business**
- Cyber security issues link the buyers and sellers to exchange information, products, services and payments.**

## Global Cyber Security issues: Role of Internet and web service

- The internet has revolutionized communication and thereby its contribution to information sharing.
- The web is designed to exchange unstructured information: while people can read web pages and understand their meaning.
- It make possible for companies to do business through their computer systems exploiting the internet infrastructure.
- IBM's definition of web services that  
“web service are self-contained, modular applications that can be described, publishes, located, and invoked over a network, generally, the World Wide Web.”

### Global Cyber Security issues: Role of Internet and web service

- The idea of web service is to leverage the advantages of the web as a platform to apply it to the service themselves, not just to the static information.
- Web service make easy to build service-based architectures without the applications being locked-in to a particular software vendor's products.
- Web service make information available from computer systems to other applications using well-defined standards.

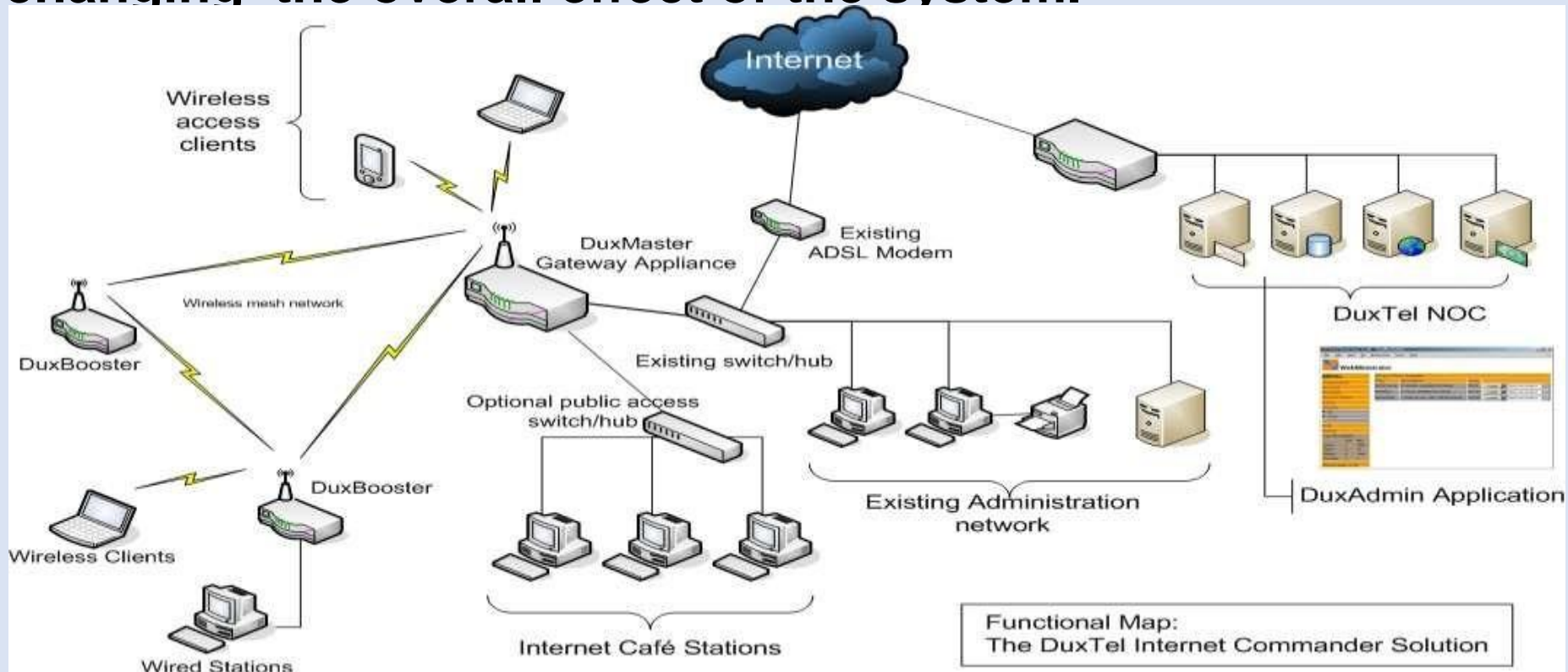
## Global Cyber Security issues: Role of Internet and web service

**Benefits of web services for developing cyber security issues of global nature are:-**

- Web service tools are available for most computer systems, including mainframes and packaged application.**
- Web service are adaptable and can handle changes more readily than other integration solutions, because they use structured text as their message format.**
- IT managers now have the ability to exchange data between most applications, on most computers, in a consistent and standard way.**

## Global Cyber Security issues: Role of Internet and web service

- If necessary, an alternative application can be used to provide web services without changing the overall effect of the system.



## Cyber Security and Threats: A Glimpse

- In the modern business era, the use of desktop PCs, laptops and network connectivity including the internet and electronic mail is as essential as the telephone at workplace.
- The misuse of information systems by employees, poses serious challenges to organizations including loss of productivity, loss of revenue, legal liabilities and other workplace issues.
- The basics of cyber security are:-  
Trademark, copyright, patent and trade secrets and protection strategies for each of them.

## Cyber Security and Threats: A Glimpse

- **Software licensing issue.**
- **Data privacy under legal framework.**
- **Info sec and control framework.**
- **Evidence of digital forensic practices and ethics.**
- **Computer frauds and Abuse Acts boundaries for illegal access to computer**
- **Electronic surveillance and cyber crimes.**



**Thank you very much  
Dr.Abdullah-Al-Musa**



