End-User Computing

- Definition
- Advantages
- Risks
- Audit Concerns
- Policies and Standards
- Risk and Control Considerations
End-user computing is the transfer of information processing capabilities from centralized data centers onto the user’s desktop. End-user computing systems may range in size and computing power from lap-top notebook computers, to standalone personal computers, client-server networks, or small systems with sufficient computing power to process applications for a financial institution.

Small systems entirely supported by a hardware or software vendor are referred to as turnkey systems (not to be confused with PC/LAN systems).
End-User-Computing Advantages

- Low cost relative to other platforms.
- Efficiency through the sharing of resources.
- Ease of expansion for future growth.
- Enhanced communication capabilities.
- Portability.
- Data availability.
- Ease of use.
End-User-Computing Risks

- Difficulty in controlling access to the system.
- Lack of sophisticated software to assure security and data integrity.
- Insufficient capabilities to establish audit trails.
- Inadequate program testing and documentation.
- Lack of segregation of duties. appropriate operational activity.
- Inadequate System Development Life Cycle consistent with those for centralized information (SDLC) procedures.
End-User-Computing Audit Concerns

- Incorrect management decisions.
- Improper disclosure of information.
- Fraud.
- Financial loss.
- Competitive disadvantage.
- Legal or regulatory problems.
End-User-Computing Policies and Standards

* Policies:
  * Management controls.
  * Data security.
  * Documentation.
  * Data/file storage and backup.
  * System and Data Integrity.
  * Contingency plans.
  * Audit responsibility.
  * Training.
End-User-Computing Policies and Standards (cont.)

* Standards:
  * Acquisition
  * User Standards
  * Software Selection
  * Physical Protection
  * Operations
  * DR/Contingency Plan
  * Network and Communications
  * Small Systems
  * Program/system control
  * Third party escrow agreement
  * Third party programming
  * System Software
Risk and Control Considerations

- Security
- Computer Operations
- Implementation and Maintenance
- System Software
- Database Management Software
- Middle Ware