

# CyberSecurity and System Administration

IT4GIS  
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## Today's Topics

- Users
- Privileges, Permissions, and Sharing
- User groups
- Other Topics:
  - Mapped drives
  - ROI
  - TCO
  - Data retention and deletion
- Think “Enterprise”

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## Users

- Local
- Remote
- Generic Account Profiles
  - Guest
  - Administrator
  - Others



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## Privileges, Permissions, and Sharing

- Privileges
- Rights
- Permissions and Sharing permissions



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## User Groups

- Administrators
- Guest
- Others:
  - User
  - Power User
  - Backup Operator, etc.

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## User “Needs”

- What is the user’s functional need?
- What is the user’s level of “sophistication” or “computer literacy”.
- What is the user’s job description.
- *Do not confuse rank with authority*

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## Assigning Privileges and Permissions

- Based on these considerations, add the user to the appropriate user group(s). This gives them *Privileges*
  - Basic = User
  - Advanced = Power User
  - Basic + Temporary = User + Guest
- Apply *Permissions* to their workspace
  - Administrator always has full control
  - The user (owner) always has full control
  - *Everyone* has read access only (if any)

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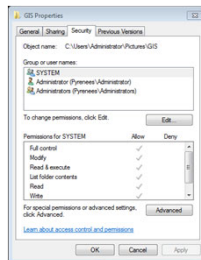
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## Sharing Resources

- Files and folders
- Devices
- Important for ArcGIS Geoprocessing Servers



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## Ownership

- Who (one account) ultimately owns a file or folder
- Administrators can take ownership

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## Security

- We talked about **data integrity** (information assurance) when we discussed *servers*
- We now need to discuss **data security** (information security) in detail as it is an important topic in *system administration*



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## Data Security

- Why is it important?
  - Aside from ethical reasons
  - There are compelling legal reasons
  - Idaho's [CyberSecurity](#) initiative

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## Professional Hints and Tips

- Create passwords that are:
  - Strong, Unique, Random
  - Do not use the same username/password combo more than once
- Visit <http://www.passwordmeter.com/>

**What did you learn?**

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## Authentication

- Single factor (1FA)
- Two factor (2FA)
- Three factor (3FA)



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## Questions & Other Topics



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## Mapped Drives

- Remote drives
- Same as “Connect to Folder” with ArcGIS



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## ROI

- Return on Investment



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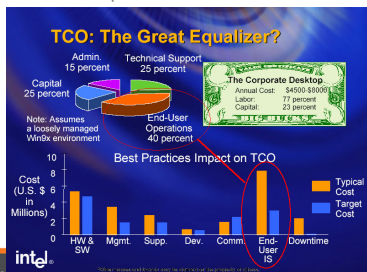
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## TCO

- Total Cost of Ownership



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## Policies

- Writing and seeking approval for administrative policies or procedures
  - Data Retention and Deletion
  - Data Sharing

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## Considerations

- Once you decide what must be kept, you still need to consider:
  - Format of data in the archive
  - Archiving media
  - Archiving frequency
  - Task delegation
- In Idaho, Geospatial Data are listed as perpetual records

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## Thinking Enterprise

- What is meant by the term “Enterprise”



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## An Enterprise...

- Is Amorphous
- Shrinks and swells with the scope of the question, problem, or task
- Works toward a common goal as a group
- Is connected

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## GIS and the Enterprise

- GIS is *part* of the enterprise
  - Tends to be a technical resource
  - Information supplier
  - Analyzer
  - Integrator
- GIS is *NOT*
  - THE enterprise
  - THE decision maker

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## A GIS Manager Must



- Keep the "goal" of the enterprise in mind
- Communicate the benefits and capabilities of GIS to decision makers
- Understand GIS, networks, servers, system administration, ROI, TCO, and

–**People**

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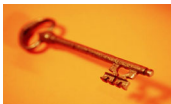
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## Key Concepts

- We have explored several important GIS and IT topics
- New terms of significance- Enterprise, ROI, and TCO
  - *Keep these in mind throughout the semester along with effectiveness*

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## Your Assignment

- Complete the exercise
- Review the GIS TReC *Data Retention and Deletion Procedures and Data Sharing* documents
- Prepare for the first exam (mid-term)
- Grad students... proposal due Friday

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## Professional Hints and Tips

- Reply or Reply to All?...
- Replying when you are unavailable

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## Questions?



Get ready for the 2-minute write

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Preparation

**REVIEW FOR EXAM ONE**

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