

Using BitTorrent to Distribute Virtual Machine Images

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BitTorrent - What is it and how does it work?

- A peer to peer file sharing protocol
- Seeds, Peers, and the Swarm
- Torrent File
- Tracker



Why use Virtual Machines for training?

- More than one computer or OS often needed
- Physical computers can be better secured
- Classes more portable
- Can roll back VM state if student makes severe errors



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Moving Images - Requirements

- Data Integrity
- Everything can be done remotely
- Minimal interaction needed
- Resilient
- Minimal Security Risk



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Moving Images - Rejected ideas

- Scripting Copy.exe and Robocopy.exe
- Symantec Ghost



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Moving Images – BitTorrent soln

- Data Integrity built in using SHA hashing
- Everything can be done remotely
- Limited number of steps*
- Very resilient to network/machine issues
- Can be secured using OS security options
- Hardware requirements not excessive



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Demonstration



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Compatibility

- This method is compatible with VMware ACE and Microsoft Enterprise Desktop Virtualization
- OS Independent



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How can this be improved?

- Administrative Interface
- Agent based clients
- Optimize BitTorrent algorithm for this specific scenario



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Questions?