

An Overview of the ITTC Networking & Distributed Systems Laboratory

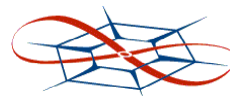
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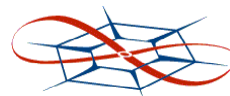
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Research and Technology Focus

- ◆ High capacity network systems
- ◆ Distributed performance measurements
- ◆ Distributed network services
- ◆ Network control and management
- ◆ Advanced protocol architectures for optical networks
- ◆ Integration of optical and wireless networks



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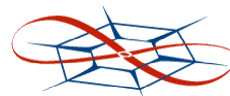
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Research Areas

- ◆ *High capacity network systems*
 - *study, implementation, and integration of multiple network types at multiple levels*
 - *integration of optical networking systems*
- ◆ *Distributed performance measurement and modeling*
 - *tools, analysis techniques, and simulation models*
 - *accurate performance prediction*
- ◆ *Distributed network services*
 - *active networking*
 - *routing*
 - *management and control functions*



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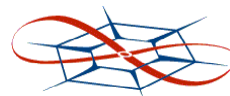
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Research Areas

- ◆ *Network control and management systems*
 - *self-configuring networks*
 - *signaling systems*
 - *protocols*
- ◆ *Integration of wireless networks*
 - *architectures & protocols*
 - *reliability and robustness*
 - *ubiquitous and ad-hoc systems*



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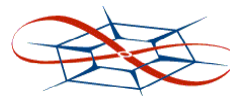
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Unique Capabilities

- ◆ *Extensive high speed networking infrastructure*
 - *connected to high speed wide area networks*
 - *MAGIC backbone connection at 2.4 Gb/s*
 - *AAI testbed for coast-to-coast experimentation*
 - *wide variety of switches and network interfaces*
- ◆ *Hardware and software system design experience*
 - *developed 622 Mb/s ATM switch hardware*
 - *developed network testing and measurement tools*
 - *developed network simulation and modeling tools*
 - *developed early web applications and servers*
 - *integrated wireless, mobile systems with fixed networks*

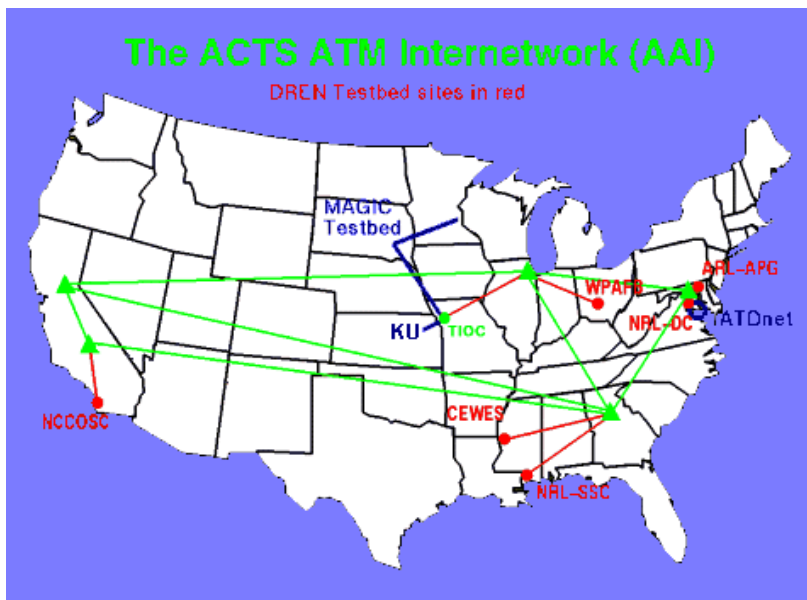


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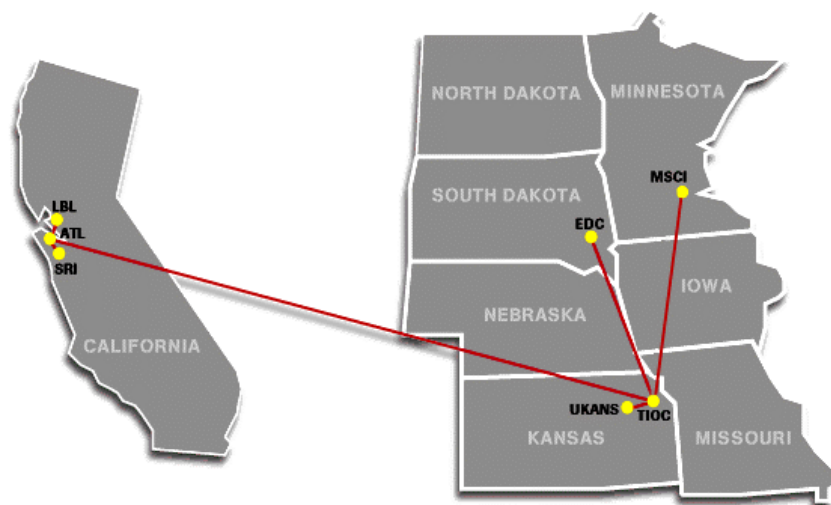


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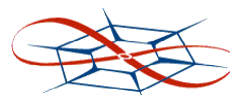
Unique Capabilities



MAGIC Testbed

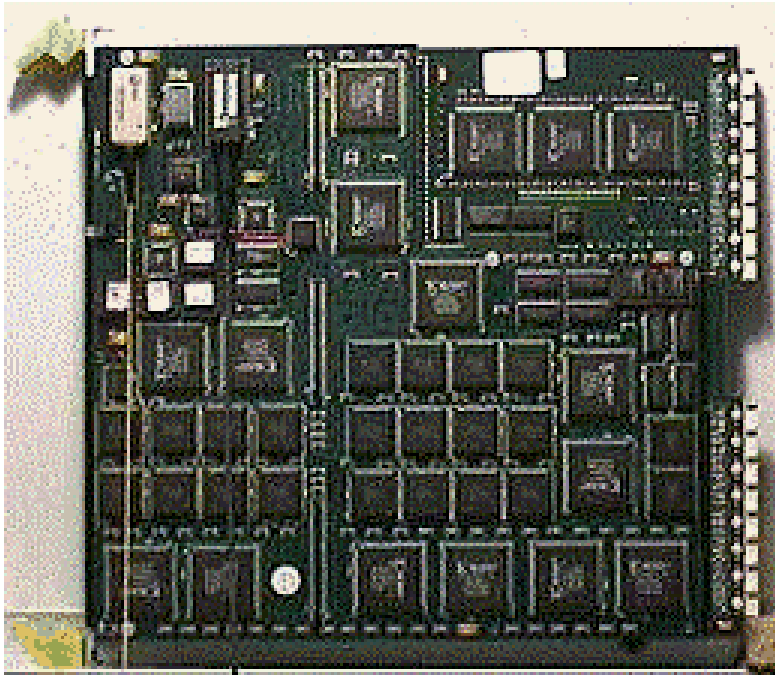
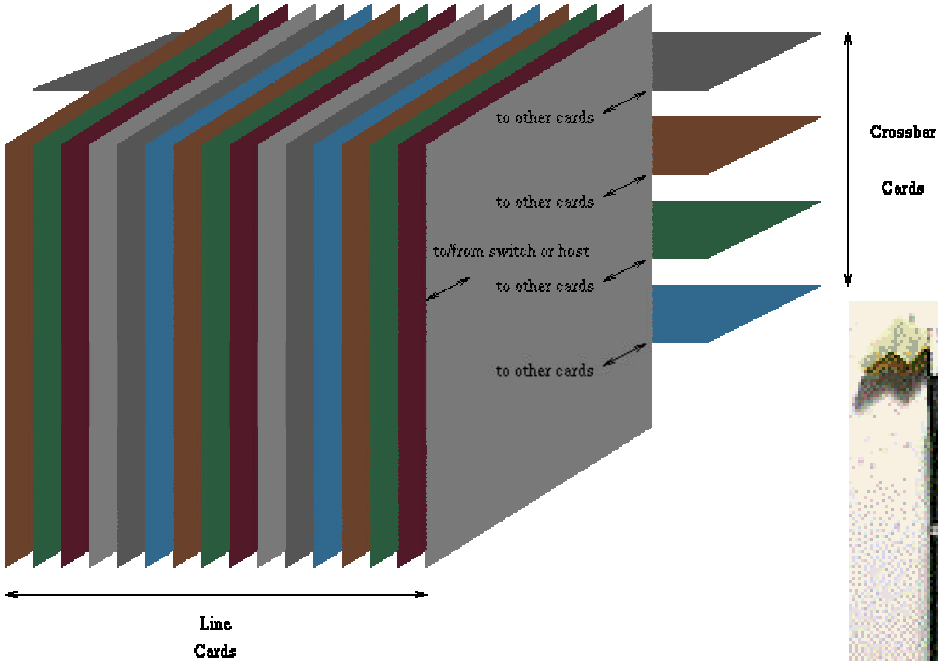


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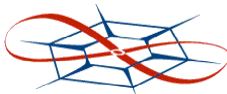


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Unique Capabilities



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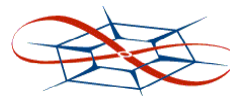
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Some Projects

- ◆ *MAGIC-II - DARPA*
- ◆ *ACTS ATM Internetwork - DARPA*
- ◆ *Functional Programming Environment for DSP (Adaptive Computing Systems) - DARPA*
- ◆ *Determination of the Impact of Advanced Traffic Controls on the Performance of Edge/Core ATM Network Architectures - Sprint*
- ◆ *Traffic Management and Controls for ATM Networks - Sprint*
- ◆ *Evaluation of Distributed Control and Signaling Infrastructure for ATM Networks - Sprint*
- ◆ *Exploiting Open Control of ATM Networks - Sprint*
- ◆ *The Pricing of Services in ATM Networks - Sprint*
- ◆ *Wireless ATM Adaptive Voice/Data Networks - USAF Rome Labs*
- ◆ *Advanced ATM Research - NEC*
- ◆ *Performance Evaluation of IP Firewalls over ATM Networks - TIS*



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