



中国科学技术大学

WEIFENG SUN

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Education

- ◆ Sept. 2002 - Present. PhD Candidate, Computer Science and Technology Dep.
Completion expected in Summer 2007. (direct PhD program)

Research Areas: Wireless Mesh Network, IP Network QoS,
Mobile Computing, Optimistic Handover

Rewarded “Huan Mao Tong” Scholarship, for excellence in study, 1 in 47 fellow students, 2005.

- ◆ Sept. 1997 – Jul. 2002 BS, Dep. of Computer Science and Technology, USTC
Enrolled as graduate student **without entrance exam** for excellent score

Rewarded Excellent Student Scholarship, for excellence in study, 5 in 102 fellow students, 1997.

Thesis: Implement of IPv6 in Network Simulator. (**Best Graduate Thesis**)

Advisor: Prof. Shoubao Yang

Research Experience

- ◆ 2004 - Present **Team Leader** of Wireless Network Group in USTCNIC Lab

Major projects include:

1. 2005 –present **Design MAC Protocol for MIMO Wireless Mesh Network**, supported by Innovative Research Program of USTC.

This project is about designing a new MAC protocol for multi-hop network using MIMO (Multi Input Multi Output) to improve the performance of WMN.

My Contributions:

- 1) Designed Channel assignment and dynamic routing algorithm on multi-radio multi-channel WMN. It improved the utilization of wireless channels to improve network performance.
 - 2) QoS guarantee method was designed for WMN. The method balanced between short term opportunistic gain and long term performance, so it could better guarantee the QoS of WMN.
2. 2004 -2006 **“Collaborative multi-layer QoS guarantees on VoWLAN” and “VoIP on mobile IPv6 networks”**. Both were supported by Innovative Research Program of CAS

These two projects aim to guarantee Quality of Service (QoS) for voice traffic over Mobile IPv6.

My Contributions:

- 1) Led team in designing and implementing the voice-over-IP software and proposed a QoS Pre-configure mechanism.
 - 2) Proposed a Hierarchical Mobility Management Architecture to fasten MN’s handover. In this architecture, the packet loss decreased from 300 to 50 in 80 seconds.
 - 3) Paralleled network layer handover and QoS configuration, and extend Context Transfer Protocol to guarantee the QoS after the mobile nodes perform handover. The handover time decreased from 20ms to 2ms
- ◆ 2002-2004, **Key Member** of Mobile IPv6 Research Group

Major projects

Key technology for Mobile IPv6 Network, (863 projects)

This project aims to solve the problems of QoS support in mobile dynamic circumstance.

My Contributions:

- 1) Built the mobile IPv6 test-bed based on Linux, designed and did several experiments;
- 2) Simulations using NS2 and OMNeT++;
- 3) Proposed an end-to-end guarantee architecture suits for MIPv6 by combining IntServ and DiffServ;
- 4) Developed BoIP(Bridge over IP) using Libpcap/Libnet, and it is used for IPv4/IPv6 transition.

Academic Experience

- ◆ Attending IEEE Conference WiCOM2006 as an author, Wuhan, September, 2006 ;
- ◆ Main organization member of “DRAGON STAR” summer school, Hefei, June, 2005;
- ◆ Attending Symposiums on Computer Network Technology and Applications as an author, Sanyo Dec, 2003

Skills

- ◆ Language
 - English: Good in both spoken and written English, CET-6 certificate
- ◆ Computer
 - ◆ Expert in Computer Network , especially in wireless network/optimistic handover/QoS;
 - ◆ Master in C/C++ and familiar with development and debugging on Linux;
 - ◆ Experienced in network programming and GUI programming;
 - ◆ Proficient in Linux system, experienced in building test-bed on Linux/Windows;
 - ◆ Plenty of network management experience and master in traffic control.

Selected Publications

◆ Had published or been accept **17** academic papers in Journals and International Conferences or Symposiums, and I am the first author of **4** papers.

◆ Paper List as the first author

1. *QoS Pre-Configure Mechanism on DiffServ Mobile IPv6 Networks*, WiCOM'06, Wuhan, 2006.
2. *A QoS Context Transfer Based Seamless Handover Method for Mobile IPv6*, Min- MicroCcomputer Systems, 2005.
3. *De-Centralized Hierarchical Mobility IPv6 Managed QoS Architecture*, Journal of USTC, Jul 2005.
4. *A Hierarchical IntServ-DiffServ QoS Frame for Mobile Ipv6 Networks*. *Proceeding of Symposiums on New Computer Network Technology and Applications*, Sanya, Dec 2003.