



"It is always difficult to provide reliable high-performance Wi-Fi for a large number of conference attendees. Mojo Networks did a fantastic job and helped to make the ACM DEV conference a success."

- Bill Thies, Researcher, Microsoft Research India, and General Co-Chair of ACM DEV 2013.

Highlights

- High quality computer networking conferences
- Attracts global technology leaders from industry and academia
- Cutting edge research presented by eminent researchers
- Guest Wi-Fi access restricted to conference attendees only
- Reliable Wi-Fi network performance in presence of high user density
- Locally hosted Web portal with conference papers and presentations
- Integrated wireless security
- Quick set-up and tear down

Benefits

- High speed 802.11n access
- Secure conference Wi-Fi airspace
- Fault tolerance against Internet link failure
- Quick rollout, reliable performance, no downtime

Delivering Reliable Wi-Fi Access in a High User Density Conference Environment

COMSNETS (COMmunication Systems and NETworks) is a highly prestigious international conference in the field of telecommunications and computer networking. In 2013, its fifth consecutive year, the IEEE and the IEEE Communications Society, and the Department of Information Technology – Govt. of India, were the technical co-sponsors of the conference, and the conference was in co-operation with ACM SIGMOBILE and ACM SIGCOMM.

The conference was hosted in the city of Bengaluru in India, and attracted several industry leaders as patrons: Mojo Networks, Cisco, HP, Huawei, IBM, Microsoft Research, Mymo Wireless, TCS and Qualcomm. It was the first time that COMSNETS was co-located with ACM DEV – an international conference focusing on research to bridge the digital divide in developing regions.

Both conferences attracted highly knowledgeable attendees in the form of renowned researchers, technology leaders, and engineers from around the world – both from industry and academia.

The Challenge

COMSNETS organizers approached Mojo Networks to provide complimentary guest Wi-Fi access for registered attendees at both conferences. The Wi-Fi network had to be stable, secure and deliver reliable performance in presence of a high density of simultaneous Wi-Fi users.

Providing Wi-Fi access at these conferences also meant catering to the communication needs, for six consecutive days, of technically savvy and highly demanding network users – most carrying multiple Wi-Fi devices, and many who were experts in the field of wireless networking.

In addition to providing Internet access, the Wi-Fi network was also expected to provide conference attendees with access to locally cached conference proceedings so that even if the Internet link went down or had limited bandwidth, the attendees would still be able to access relevant conference content.

Quality of Service Demands

Several conference sessions depended on having seamless Wi-Fi access available for the participants. For instance, some presenters required reliable network performance to successfully showcase their technical demonstrations during the conference. Some panel sessions in the workshops

associated with the conference also had remote participants tuning in via live video conferencing session over Wi-Fi. Even one of the keynote talks, a highlight event of the conference, required the presenter to have reliable access to the Wi-Fi network for a live demonstration.

All of this meant that the Wi-Fi network had to be optimally provisioned — starting with thorough RF planning to ensure that there were no coverage holes and there was enough capacity to handle large number of simultaneous users, and performance guarantees for critical applications and sessions that depended on reliable Wi-Fi network access. There was no room for error!

Prepping the Network

The conference had to work within a tight time window. The Mojo WLAN Services team was going to get physical access to the hotel's network only one day in advance for setting up the Wi-Fi network.

The Mojo Networks team met the challenge by planning the Wi-Fi rollout a week in advance using an in-house predictive RF planning tool. Floor plans and relevant information (e.g., building materials) about the RF environment, and availability of network ports were procured from the hotel for this purpose. The tool provided an estimate on the number of Wi-Fi access points (APs) needed and their placement.

Two engineers from the Mojo WLAN Services team reached the venue a day before the conference. Working closely with the hotel's IT department, the team was able to rollout the Wi-Fi network in a few hours. Six Mojo C-50 single-radio 2x3 APs were used to cover three large halls plus the lobby area across two floors where the conference was to be held. An Mojo VMware server was used to centrally manage the six APs.

Testing and RF site survey was done post installation to validate the network for coverage and capacity and resolve any issues. The C-50 APs at COMSNETS were used for providing Wi-Fi access while scanning for wireless issues and threats in the background across both the 2.4 GHz and 5 GHz frequency bands.

"Wi-Fi security has been a huge concern for the conference organizers all the years since the inception of the conference. However, with Mojo Networks managing Wi-Fi for COMSNETS 2013, we did not have to worry about the security and scalability of the Wi-Fi network at all," said Dr. Rajeev Shorey, Advisor, NIIT University, and Steering Committee Co- Chair of COMSNETS 2013.

Custom Guest Captive Portal

Mojo Wireless Manager provides comprehensive guest Wi-Fi access and management features — ranging from simple click-through access to RADIUS based authentication. Organizations can customize the guest captive portal, define a walled garden, and configure settings such as guest access timeouts, firewall rules, and bandwidth allocation.

To allow access only to registered attendees of both COMSNETS and ACM DEV conferences, the guest captive portal was set up with login and password based authentication. The attendees received their login credentials at the registration desk.

Once logged into the Mojo Wi-Fi network, users were automatically redirected to a locally hosted portal where they could view or download conference papers and presentations. This was very useful because conference attendees got high-speed access (up to 300 Mbps) to the conference content. This also helped reduce the load on the conference hotel's 10 Mbps Internet link, which otherwise would have been easily consumed.

Positive Feedback

Conference organizers received a lot of positive feedback from attendees about how stable the Wi-Fi connectivity was with fast connection speeds and no downtime.

"The delegates were satisfied with the performance of the network. COMSNETS would like to partner with Mojo Networks every year so that the delegates have an excellent experience with Wi-Fi at the hotel," said Dr. Shorey.

"The ease of setup, dependable performance, and the comprehensive WIPS solution provided by Mojo Networks are top-notch. I would strongly recommend Mojo Networks to anyone considering a Wi-Fi installation, be it a single AP, or hundreds of APs covering a wide region," said Dr. Bhaskaran Raman, Associate Professor at the CSE Department, IIT Bombay, and General Co-Chair of COMSNETS 2013.

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