Interconnection networks have just not facilitated sharing of information; they have reorganised our social existence. Over the last two decades we have witnessed a tremendous influx of new technology to facilitate internet accessibility. These technologies are in essence emerging because of the advancement in newer paradigms that encompass WiFi, ad hoc networks, and P2P technologies. Today, the internet no longer is confined to wired technologies. Therefore, we must understand the latest advances in these technologies to pave the way for newer internet protocols, applications, and architectures.

This special issue primarily encompass theoretical and practical solutions that advance the research in internet protocols, applications, and architectures based on WiFi, mobile ad hoc, and P2P technologies. We received some very high quality submissions and in the end we selected the
following nine articles that encompass various trends in
current state-of-the-art research domain.

‘Fast mobility control protocols with sink location
protection in wireless sensor networks’ proposes a mobility
control protocol that can direct mobile sensors

‘Interface aware distributed multicast packet replication
in ad hoc network using multicast monitoring mobile agent’
proposes an agent-based methodology to evaluate the
genuineness of downstream multicast router interface in
the secure multicast distribution tree backed by Iolus
framework.

‘DCCP video streaming over multiple connections in the
wireless internet’ considers the potential delay at an uplink
destination on the internet and extends this to a scheme for
user-to-user mobile device via the wired internet.

‘Performance evaluation of routing protocols in
vehicular ad hoc networks’ evaluates the performance of
conventional ad hoc routing protocols in vehicular network
environments to assess the applicability of such protocols in
different vehicular scenarios.

‘Trust-based clustering for multicast key distribution
scheme in ad hoc network (TBCMKDS)’ addresses the key
management issues in ad hoc networks.

‘Performance analysis of the CAC scheme CARETON
under mixed cell environment in overlay networks’
proposes a call admission control scheme to offer best
services to the users in the next generation heterogeneous
networks.

‘A multipath routeless routing protocol with an efficient
location update mechanism’ proposes a form of beaconless
devices which directly overwrites the current location
information in the device’s database and uses a simple location
update mechanism to achieve high throughput with few
retransmissions.

‘Vehicle assisted cross-layer handover scheme in
NEMO-based VANETs (VANEMO)’ develops a
combination of VANET and NEMO to assist in seamless
NEMO handovers in vehicular scenario by utilising cross
layer information.

‘WSMXDiscoCast: a P2P approach for a better
automation of the discovery mechanism for web service
execution environment’ presents a distributed discovery
mechanism for web service execution environments based
on P2P technologies that proved efficiency and robustness
as in distributed systems.

We sincerely hope that the readers will enjoy the
aforementioned articles and also find them extremely
valuable. We also would strongly encourage the readers to
contact the corresponding authors, if they need any further
clarifications regarding their articles presented in this
special issue.

The editors of this special issue are especially grateful to
the reviewers who went through all of the submitted papers
very thoroughly and helped us in selecting the final nine
articles that are included in this special issue. We also are
grateful for the support of the editors-in-chief of the
International Journal of Internet Protocol Technology,
Professors Chao, Chen, and Zeadally. Finally, Jim Corlett,
the technical staff member of Inderscience, deserves a
special thank you for his timely and valuable services to
make this special issue a reality – thank you.