WHAT IS CLAIMED IS:

1. A distributed software defined network (SDN) packet core system comprising:

a plurality of interconnected local SDN infrastructure instances, each local SDN infrastructure instance corresponding to a respective local mobility domain (LMD) and including a plurality of processors arranged geographically in proximity, and communicatively coupled, to a respective plurality of radio access technology (RAT) specific access points, the processors for each local SDN infrastructure instance being configured to execute:

a plurality of RAT-specific front-end modules associated with at least one RAT, each RAT-specific front-end module being configured to handle intra-RAT and intra-LMD mobility events that involve switching connectivity of client devices between two radio access points coupled to the local SDN infrastructure instance and associated with a first common RAT that is also associated with that RAT-specific front-end module; and

a mobility manager coupled to the front-end modules and configured to:

handle intra-RAT and inter-LMD mobility events that involve switching connectivity of client devices between two radio access points coupled to separate local SDN infrastructure instances and associated with a second common RAT.

2. The distributed SDN packet core system of claim 1, wherein each local SDN infrastructure instance is further configured to execute:

a SDN mobility controller configured to:

track intra-LMD mobility events that involve switching between two radio access points coupled to the local SDN infrastructure instance; and

coordinate handling of the intra-LMD mobility events with the plurality of RAT-specific front-end modules and the mobility manager of the local SDN infrastructure instance.

3. The distributed SDN packet core system of claim 1, wherein each RAT-specific front-end module is configured to maintain a data structure including, for each client device served by that RAT-specific front-end module, a binding between an identifier of the client device and an identifier of a radio access point serving the client device.

4. The distributed SDN packet core system of claim 3, wherein the identifier of the client device includes a media access control (MAC) address of the client device.

5. The distributed SDN packet core system of claim 3, wherein the identifier of the radio access point serving the client device includes a tunnel endpoint identifier (TEID) associated with a transport tunnel between the radio access point and the RAT-specific front-end module.

6. The distributed SDN packet core system of claim 5, wherein the transport tunnel between the radio access point and the RAT-specific front-end module includes at least one of:

an Ethernet over Internet protocol (IP) tunnel;

a generic user datagram protocol (UDP) encapsulation (GUE) tunnel;

a generic route encapsulation (GRE) tunnel;

a 802.11 over GUE tunnel;

a general packet radio service (GPRS) Tunneling Protocol (GTP) tunnel; or

an Internet Protocol (IP) security (IPSec) tunnel.

7. The distributed SDN packet core system of claim 3, wherein the data structure includes a data packet forwarding rule for applying to data packets associated with the client device and the access point serving the client device.

8. The distributed SDN packet core system of claim 3, wherein the identifier of the client device is a first client device identifier and the identifier of the radio access point serving the client device is a first radio access point identifier and wherein handling intra-RAT and intra-LMD mobility events includes:

retrieving, by the RAT-specific front-end module, from a data frame received from the client device a second client device identifier and a second radio access point identifier;

determining, by the RAT-specific front-end module, based on the first and second client device identifiers and the first and second radio access point identifiers that the client device switched between two separate radio access points coupled to the local SDN infrastructure instance and associated with the first common RAT; and

updating, by the RAT-specific front-end module, the binding between the first client device identifier and the first radio access point identifier to reflect a binding between the first client device identifier and the second radio access point identifier.

9. The distributed SDN packet core system of claim 8, wherein handling intra-RAT and intra-LMD mobility events further includes:

sending, by the RAT-specific front-end module to a SDN mobility controller of the local infrastructure instance, information indicating that the client device switched between

two separate radio access points coupled to the local SDN infrastructure instance and associated with the first common RAT; and

receiving, from the SDN mobility controller, a request to create a new binding between the first client device identifier and the second radio access point identifier,

wherein updating the binding between the first client device identifier and the first radio access point identifier includes creating new binding between the first client device identifier and the second radio access point identifier responsive to the request.

10. The distributed SDN packet core system of claim 1, wherein the mobility manager is configured to maintain a data structure that includes for each client device attached to the distributed SDN packet core system a binding between an Internet protocol (IP) address of the client device and an IP address of a front-end module serving the client device.

11. The distributed SDN packet core system of claim 10, wherein the data structure includes a data packet forwarding rule for applying to data packets originating at or destined to the client device.

12. The distributed SDN packet core system of claim 10, wherein handling intra-RAT and inter-LMD mobility events includes:

receiving, by the mobility manager, a request from a SDN mobility controller of the local infrastructure instance to update its data structure responsive to a handover request associated with the client device; and

updating the data structure by changing a first IP address of a first RAT-specific front-end module previously serving the client device with a second IP address of a second RAT-specific front-end module, the second RAT-specific front-end module located in a different LMD than the first RAT-specific front-end module.

13. The distributed SDN packet core system of claim 12, wherein the data structure is a first data structure and the SDN mobility controller is configured to:

send a request to the second RAT-specific front-end module requesting update to a second data structure of the second RAT-specific front-end module, the second data structure including bindings between identifiers of client devices served by the second RAT-specific front-end module and identifier of radio access points serving those client devices.

14. The distributed SDN packet core system of claim 13, wherein the second RAT-specific front-end module is configured to:

update the second data structure by changing a first access point identifier of a first access point associated with a UE with a second access point identifier of a second access

point, the first and second access points associated with a common RAT and coupled to different LMDs.

15. The distributed SDN packet core system of claim 10, wherein the at least one RAT includes two or more RATS and wherein the mobility manager is further configured to handle inter-RAT and intra-LMD mobility events that involve switching connectivity of client devices between two radio access points coupled to the local SDN infrastructure instance and associated with distinct RATs.

16. The distributed SDN packet core system of claim 15, wherein handling inter-RAT and intra-LMD mobility events includes:

receiving, by the mobility manager from a SDN mobility controller of the local SDN infrastructure instance, a request to update its data structure responsive to a handover request associated with the client device; and

updating the data structure by changing a first IP address of a first RAT-specific front-end module previously serving the client device with a second IP address of a second RAT-specific front-end module, the first and second RAT-specific front-end modules located in a single LMD and are associated with different RATs.

17. The distributed SDN packet core system of claim 16, wherein the data structure is a first data structure and the SDN mobility controller is configured to:

send a request to the second RAT-specific front-end module requesting update of a second data structure of the second RAT-specific front-end module, the second data structure including bindings between identifiers of client devices served by the second RAT-specific front-end module and identifiers of radio access points serving those client devices.

18. The distributed SDN packet core system of claim 17, wherein the second RAT-specific front-end module is configured to:

update the second data structure by changing a first access point identifier of a first access point associated with a UE with a second access point identifier of a second access point, the first and second access points associated with different RATs.

19. The distributed SDN packet core system of claim 1 further comprises a global SDN mobility controller configured to:

track inter-LMD mobility events; and

coordinate handling of intra-RAT and inter-LMD mobility events with mobility managers associated with separate local SDN infrastructure instances.

20. The distributed SDN packet core system of claim 1, wherein each SDN infrastructure instance is associated with a respective metropolitan area and can be coupled to the radio access points serving mobile devices within that metropolitan area.