Control Plane.

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The control plane of the 5G core is removed from user experience, but is necessary to set up the user plane constructs like PDU sessions.

Note that UE interacts with the user plane only through the N3 reference point.

Similarly, the UE interacts with the control plane only through the N1 reference point; if UE need to communicate with any NFs besides the AMF then the AMF serves as a proxy. This maximizes clarity in the separation between the control and user plane. While the N1 reference point is often drawn as going directly from the UE to the AMF, this is physically impossible; data that traverses the N1 does physically pass through the access network. The drawing features is just for conceptual clarity.

The N2 reference point is for communication between the AN and AMF. This communication is needed when UE moves from one cell to another and the AMF must inform the control plane functions that while the tunnel endpoint for the UE will stay the same, the GTP addressing between UPF and gNBs will need to change.

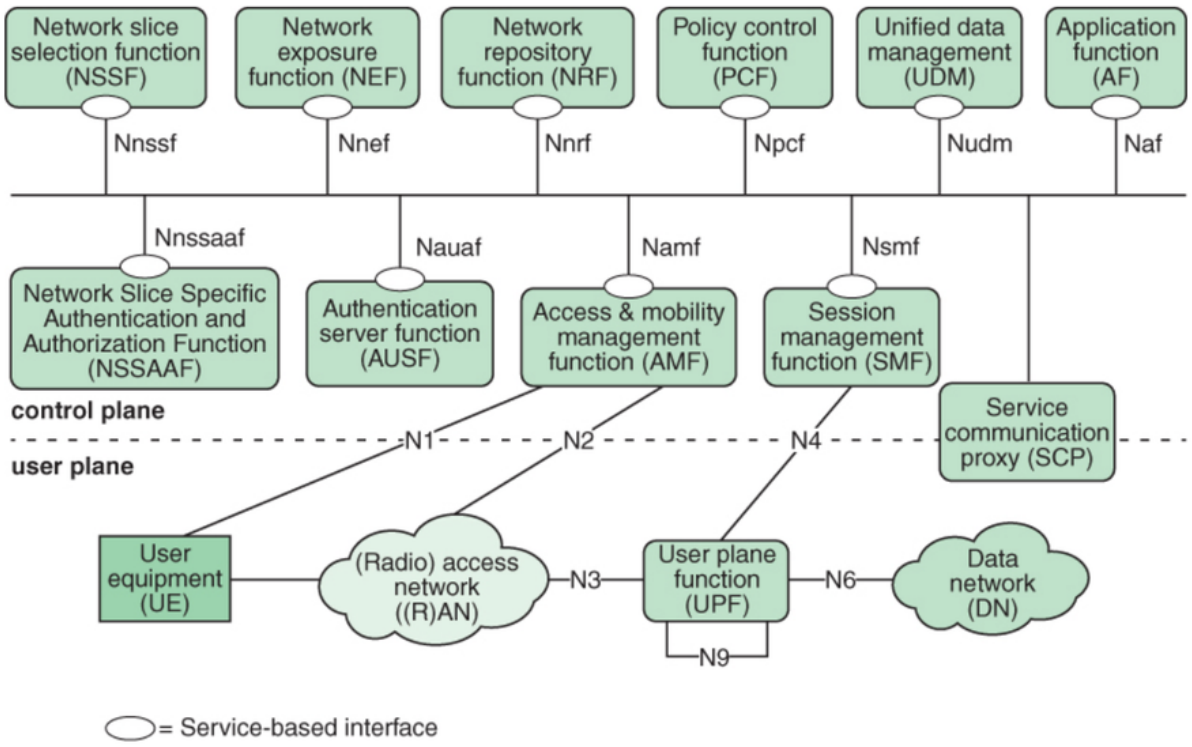

FIGURE 9.4 Non-Roaming 5G System Architecture

The critical reader will see that the N4 is a connection between the user plane and the control plane. Indeed, it is for session management, as discussed in a subsection below.