

Ch. 10 - IoT Protocol Stack

A Layered View

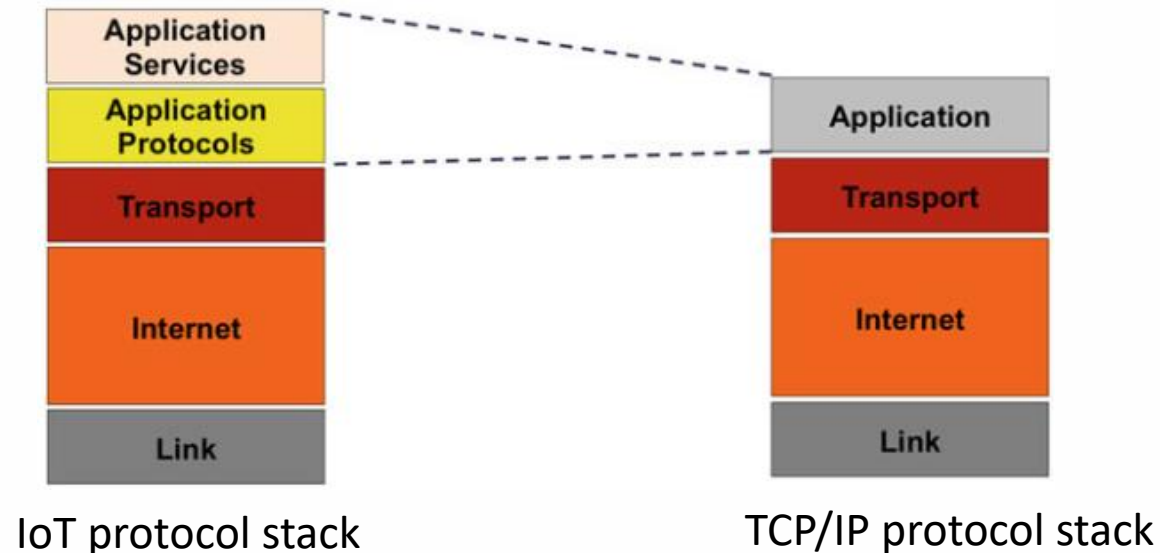
COMPSCI 147

Internet-of-Things; Software and Systems

Chapter 5 in textbook

IOT PROTOCOL STACK: A LAYERED VIEW I

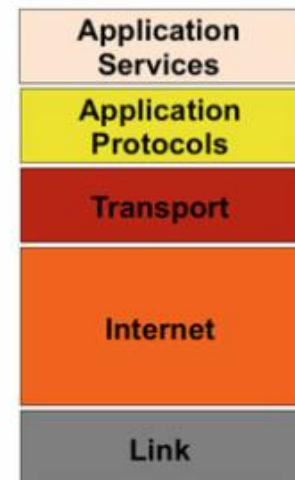
- The application layer of the TCP/IP protocol stack is expanded into two layers:
 - Application Protocol
 - Application Services
- => Interoperability between heterogeneous “things”



IOT PROTOCOL STACK: A LAYERED VIEW II

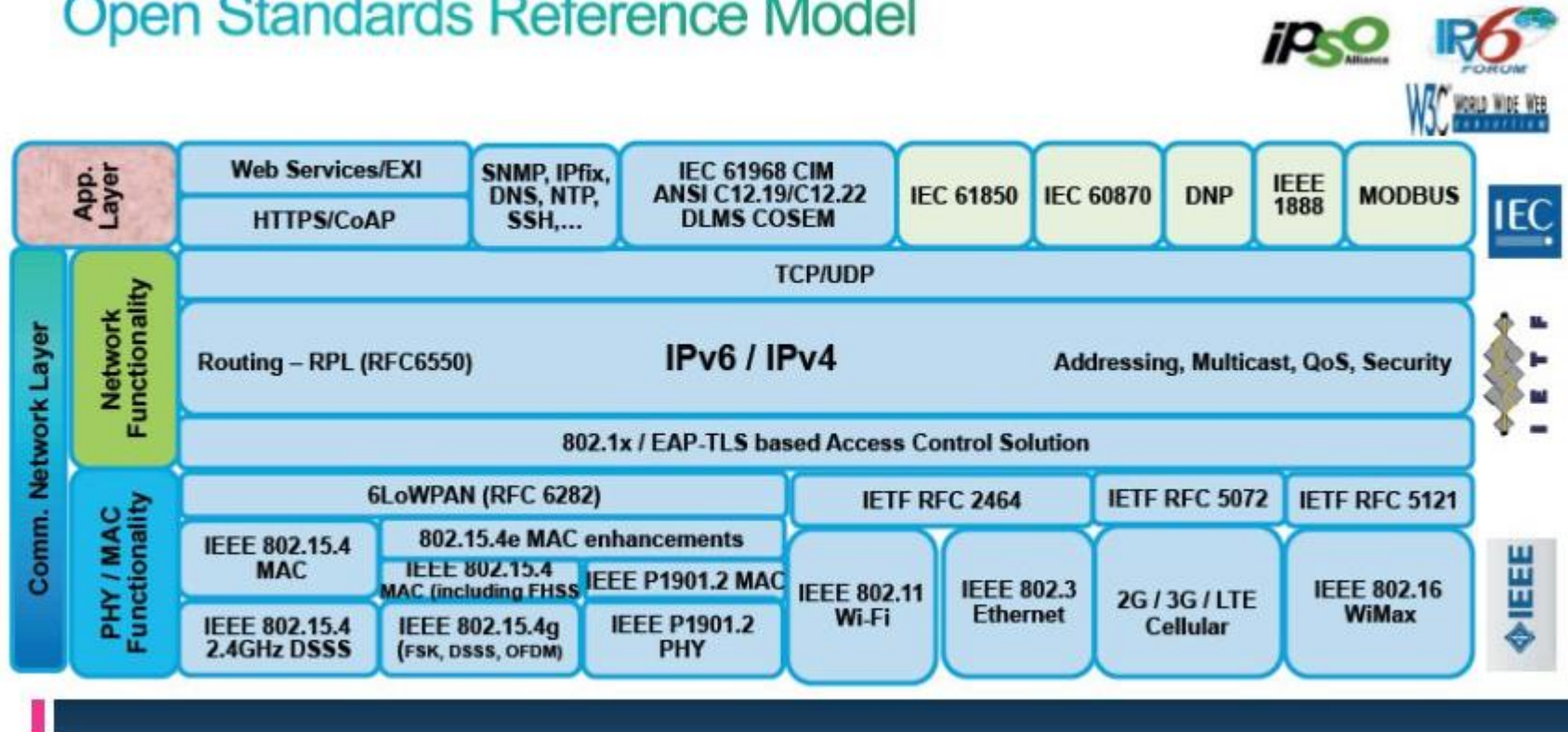
ISO/OSI Reference Model	IoT Protocol Stack	TCP/IP Protocol Stack
	<u>Applications</u>	
Application Layer	<u>Service Layer</u> (oneM2M, ETSI M2M, OMA, BBF)	Application Layer
Presentation Layer	<u>Application Protocol Layer</u> (HTTP, CoAP, XMPP, AMQP, MQTT) (NETCONF, SNMP, mDNS, DNS-SD)	
Session Layer		
Transport Layer	<u>Transport Layer</u> (TCP, MPTCP, UDP, DCCP, SCTP) (TLS, DTLS)	Transport Layer
Network Layer	<u>Network Layer</u> (IPv4, IPv6, 6LoWPAN, ND, DHCP, ICMP)	Internet Layer
Data Link Layer	<u>PHY/MAC Layer</u> (3GPP MTC, IEEE 802.11, IEEE 802.15)	Link Layer
Physical Layer		

IoT protocol stack

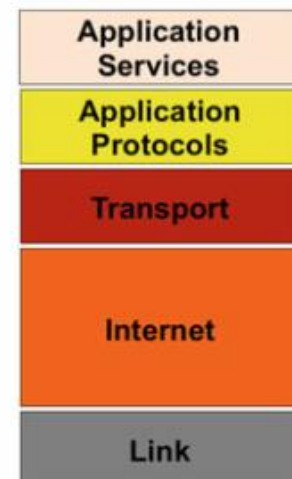


IOT PROTOCOL STACK: A LAYERED VIEW III

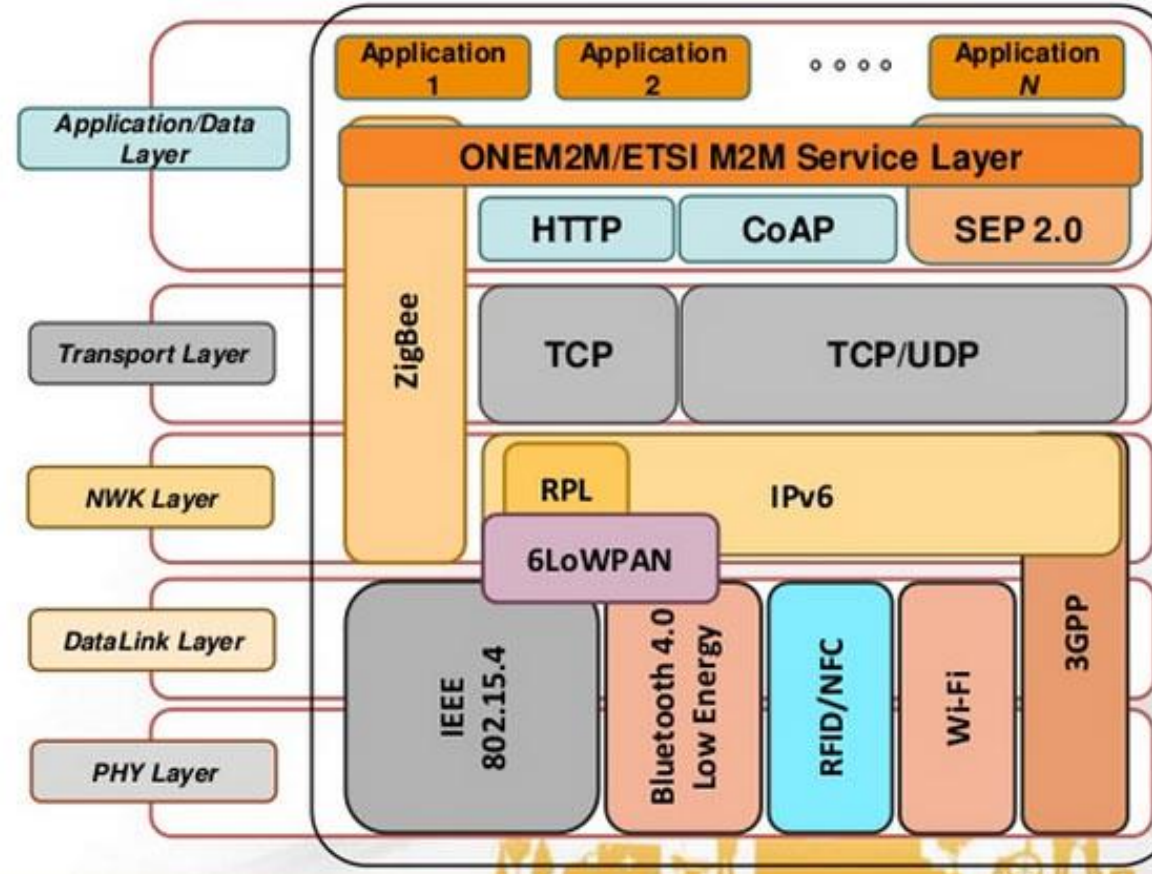
Open Standards Reference Model



IoT protocol stack



IOT PROTOCOL STACK: A LAYERED VIEW IV



IoT protocol stack

