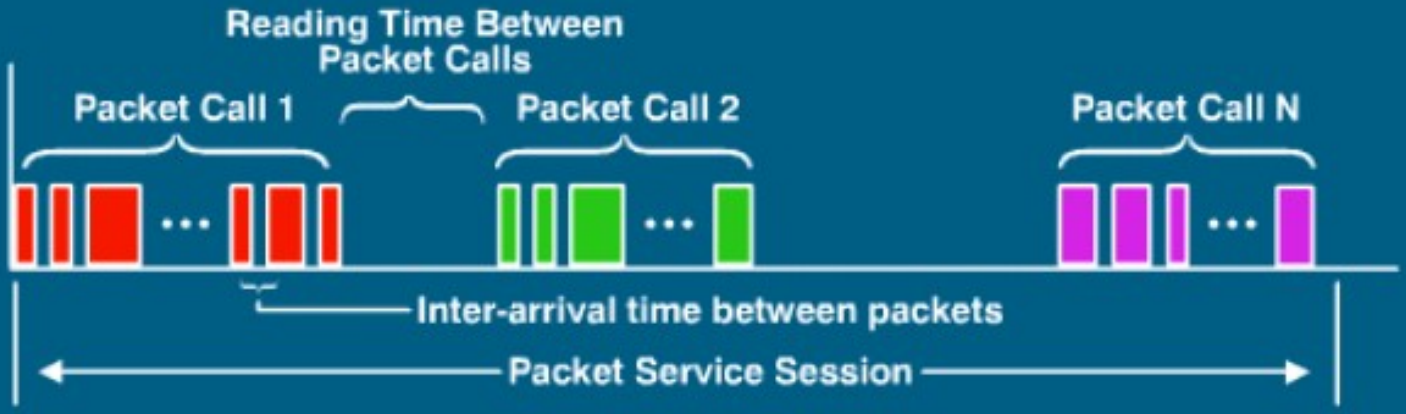
CDMA2000
Packet Call/Session Scenarios

High Level Call Scenarios

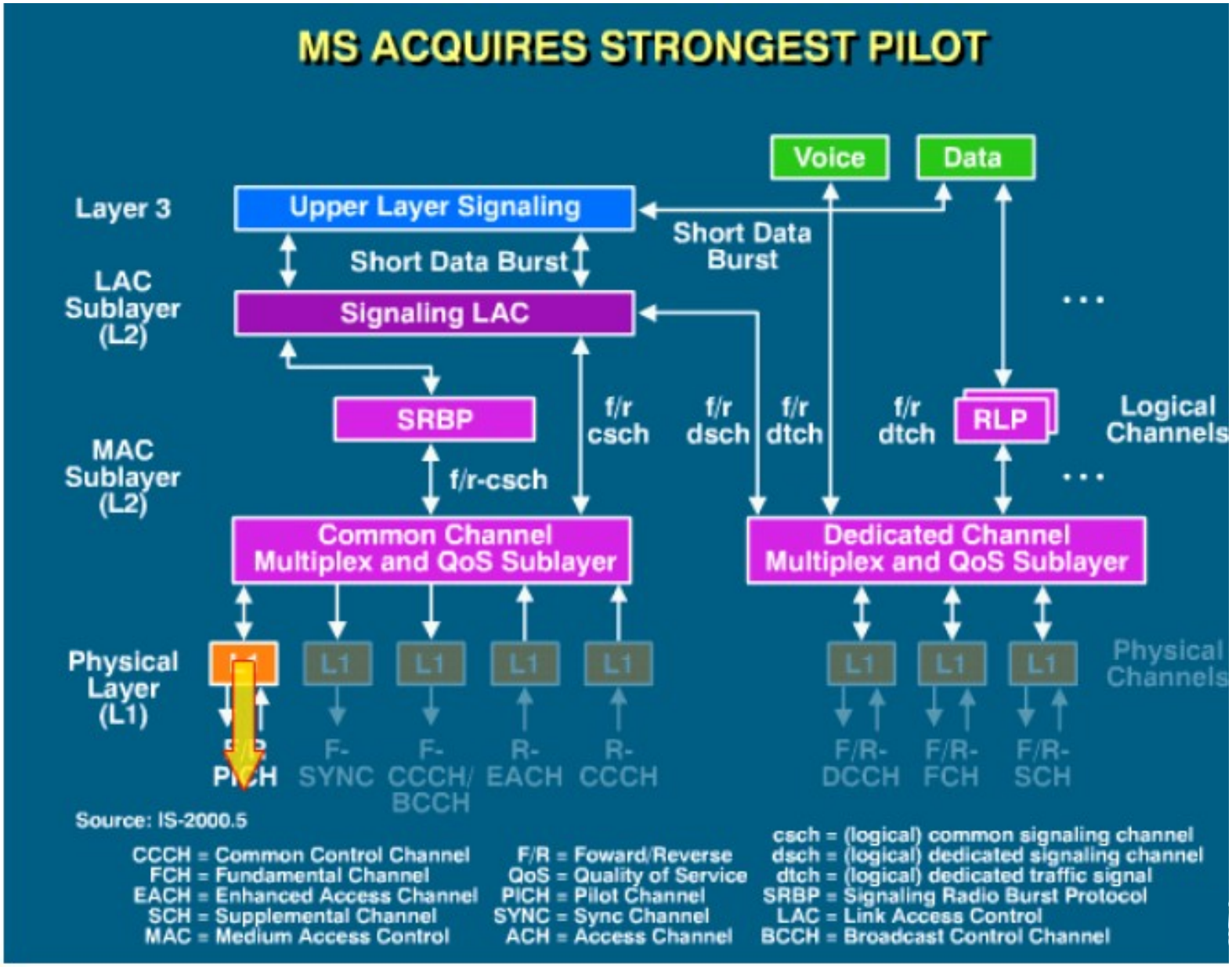
EXAMPLE PACKET SERVICE SESSION
TYPICAL INTERNET SURFING SCENARIO FOR ONE USER



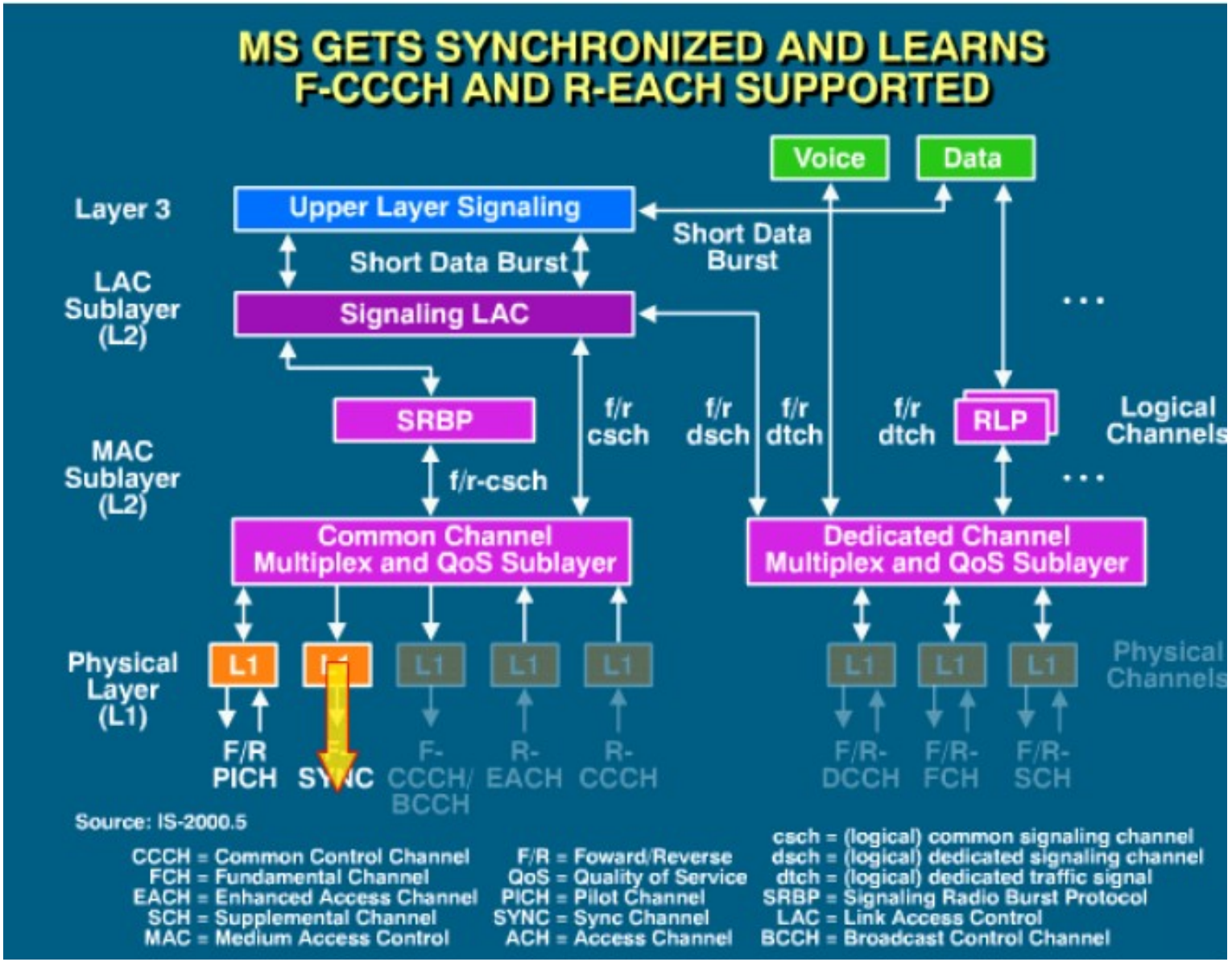
Average Packet Calls Per Session	5
Average Number of Packets in a Packet call	25
Average Reading Time Between Packet Calls	412 Seconds
Average Packet Size	480 Bytes
Average Requested File Size (25x480)	12,000 Bytes

WWW Surfing at UDD Rate	Average Inter-arrival Time Between Packets
64 Kb/s	62.5 ms
144 Kb/s	27.7 ms
384 Kb/s	10.4 ms
2,048 Kb/s	1.95 ms

Source: 3GPP TR 101 112 - Selection Procedures for Choice of Radio Transmission Technologies


MS ACQUIRES STRONGEST PILOT
Voice
Data
Layer 3
Upper Layer Signaling
Short Data Burst
Short Data Burst
LAC Sublayer (L2)
Signaling LAC
SRBP
f/r csch
f/r dsch
f/r dtch
f/r dtch
RLP
Logical Channels
MAC Sublayer (L2)
f/r-csch
Common Channel Multiplex and QoS Sublayer
Dedicated Channel Multiplex and QoS Sublayer
Physical Layer (L1)
L1
F-SYNC
F-CCCH/ BCCH
R-EACH
R-CCCH
F/R-DCCH
F/R-FCH
F/R-SCH
Physical Channels
Source: IS-2000.5
CCCH = Common Control Channel
FCH = Fundamental Channel
EACH = Enhanced Access Channel
SCH = Supplemental Channel
MAC = Medium Access Control
F/R = Foward/Reverse
QoS = Quality of Service
PICH = Pilot Channel
SYNC = Sync Channel
ACH = Access Channel
csch = (logical) common signaling channel
dsch = (logical) dedicated signaling channel
dtch = (logical) dedicated traffic signal
SRBP = Signaling Radio Burst Protocol
LAC = Link Access Control
BCCH = Broadcast Control Channel

MS GETS SYNCHRONIZED AND LEARNS F-CCCH AND R-EACH SUPPORTED

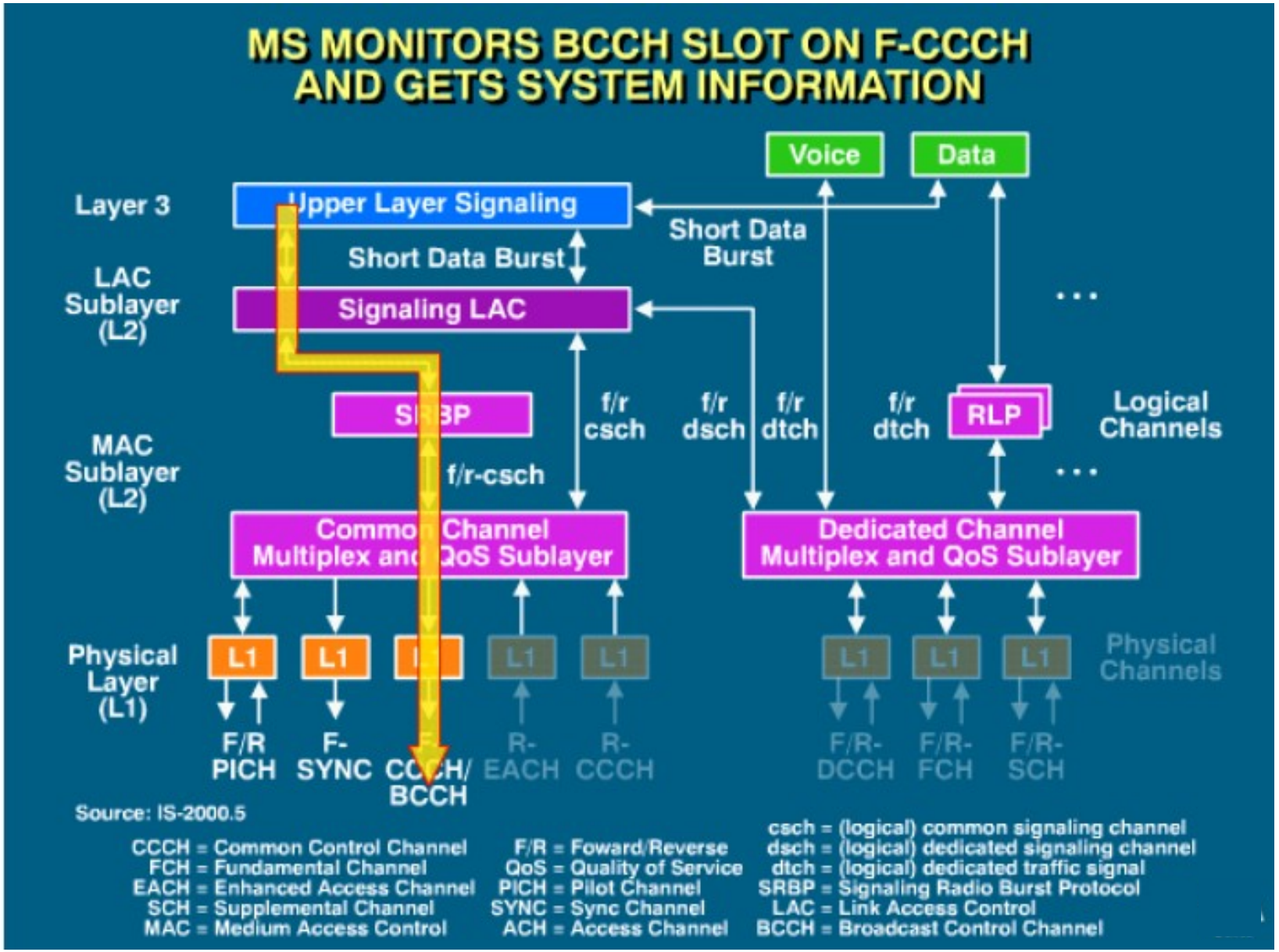


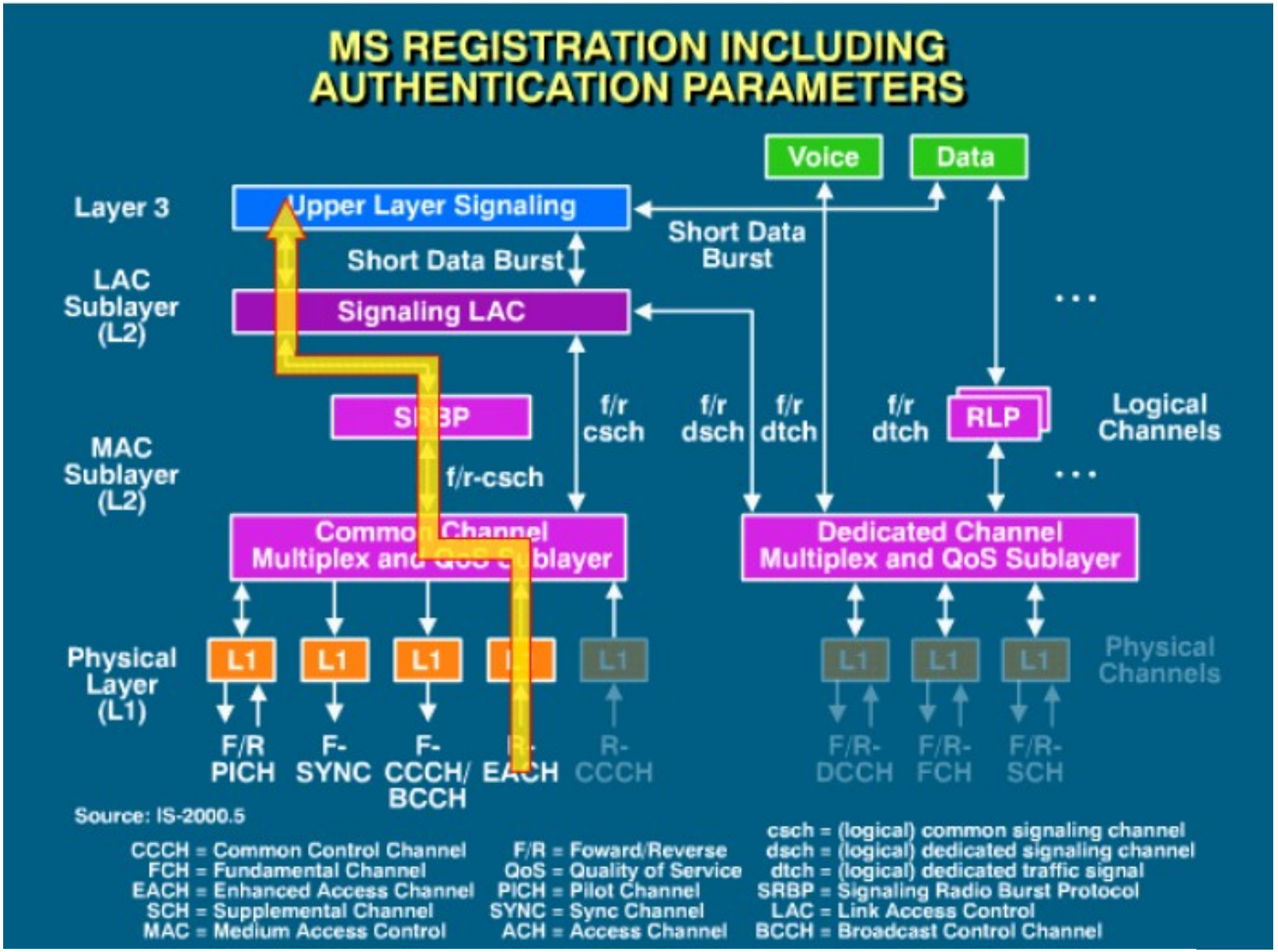
Source: IS-2000.5

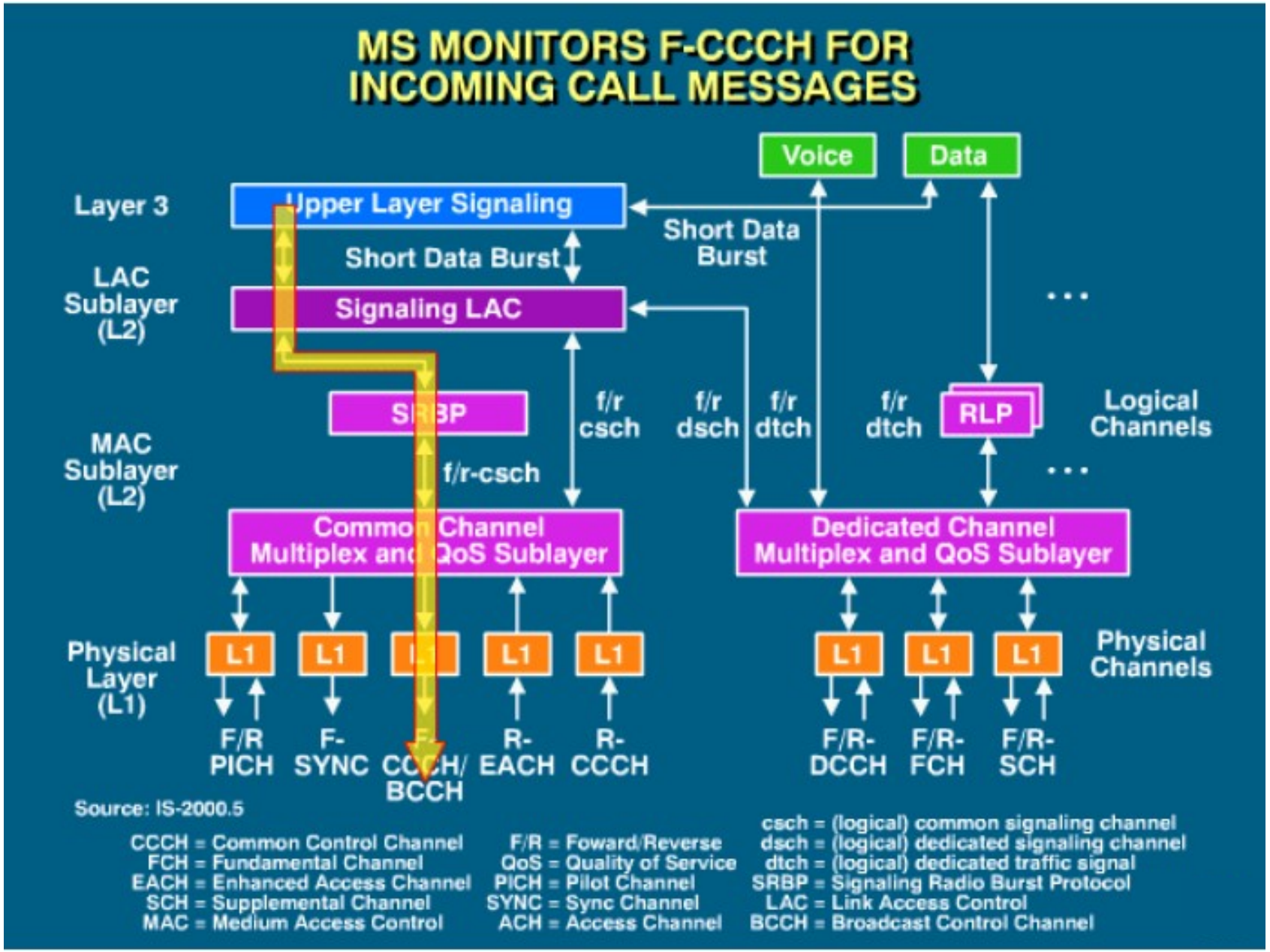
CCCH = Common Control Channel
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SCH = Supplemental Channel
MAC = Medium Access Control

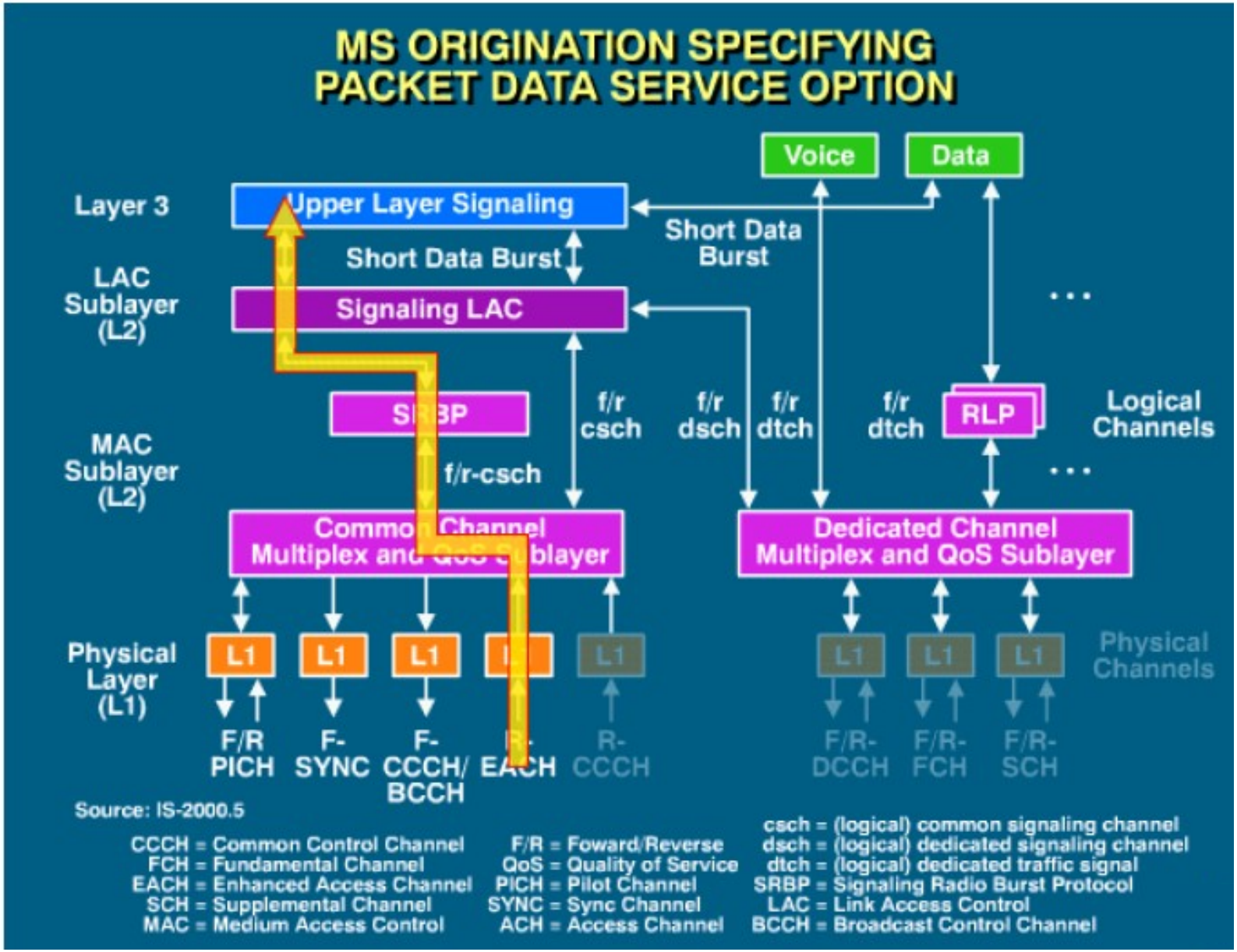
F/R = Foward/Reverse
QoS = Quality of Service
PICH = Pilot Channel
SYNC = Sync Channel
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dtch = (logical) dedicated traffic signal
SRBP = Signaling Radio Burst Protocol
LAC = Link Access Control
BCCH = Broadcast Control Channel

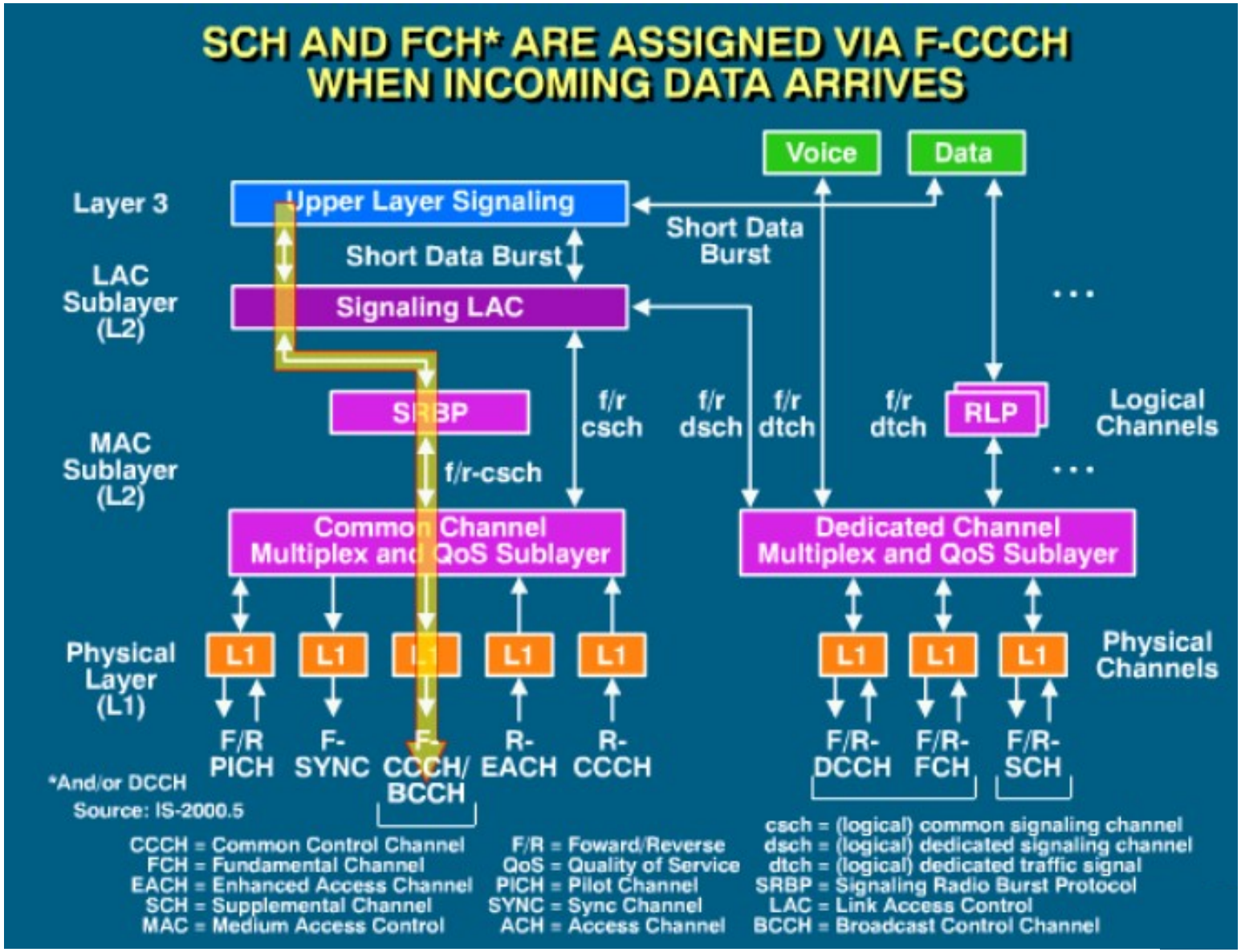

MS MONITORS BCCH SLOT ON F-CCCH AND GETS SYSTEM INFORMATION
Voice
Data
Layer 3
Upper Layer Signaling
Short Data Burst
Short Data Burst
LAC Sublayer (L2)
Signaling LAC
SRBP
f/r csch
f/r dsch
f/r dtch
f/r dtch
RLP
Logical Channels
MAC Sublayer (L2)
f/r-csch
Common Channel Multiplex and QoS Sublayer
Dedicated Channel Multiplex and QoS Sublayer
Physical Layer (L1)
L1
Physical Channels
F/R PICH
F-SYNC
F-CCCH/ BCCH
R-EACH
R-CCCH
F/R-DCCH
F/R-FCH
F/R-SCH
Source: IS-2000.5
CCCH = Common Control Channel
FCH = Fundamental Channel
EACH = Enhanced Access Channel
SCH = Supplemental Channel
MAC = Medium Access Control
F/R = Foward/Reverse
QoS = Quality of Service
PICH = Pilot Channel
SYNC = Sync Channel
ACH = Access Channel
csch = (logical) common signaling channel
dsch = (logical) dedicated signaling channel
dtch = (logical) dedicated traffic signal
SRBP = Signaling Radio Burst Protocol
LAC = Link Access Control
BCCH = Broadcast Control Channel


MS REGISTRATION INCLUDING AUTHENTICATION PARAMETERS
Voice
Data
Layer 3
Upper Layer Signaling
Short Data Burst
Short Data Burst
LAC Sublayer (L2)
Signaling LAC
SRBP
f/r csch
f/r dsch
f/r dtch
f/r dtch
RLP
Logical Channels
MAC Sublayer (L2)
f/r-csch
Common Channel Multiplex and QoS Sublayer
Dedicated Channel Multiplex and QoS Sublayer
Physical Layer (L1)
L1
Physical Channels
F/R PICH
F-SYNC
F-CCCH/ BCCH
R-EACH
R-CCCH
F/R-DCCH
F/R-FCH
F/R-SCH
Source: IS-2000.5
CCCH = Common Control Channel
FCH = Fundamental Channel
EACH = Enhanced Access Channel
SCH = Supplemental Channel
MAC = Medium Access Control
F/R = Foward/Reverse
QoS = Quality of Service
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SRBP = Signaling Radio Burst Protocol
LAC = Link Access Control
BCCH = Broadcast Control Channel

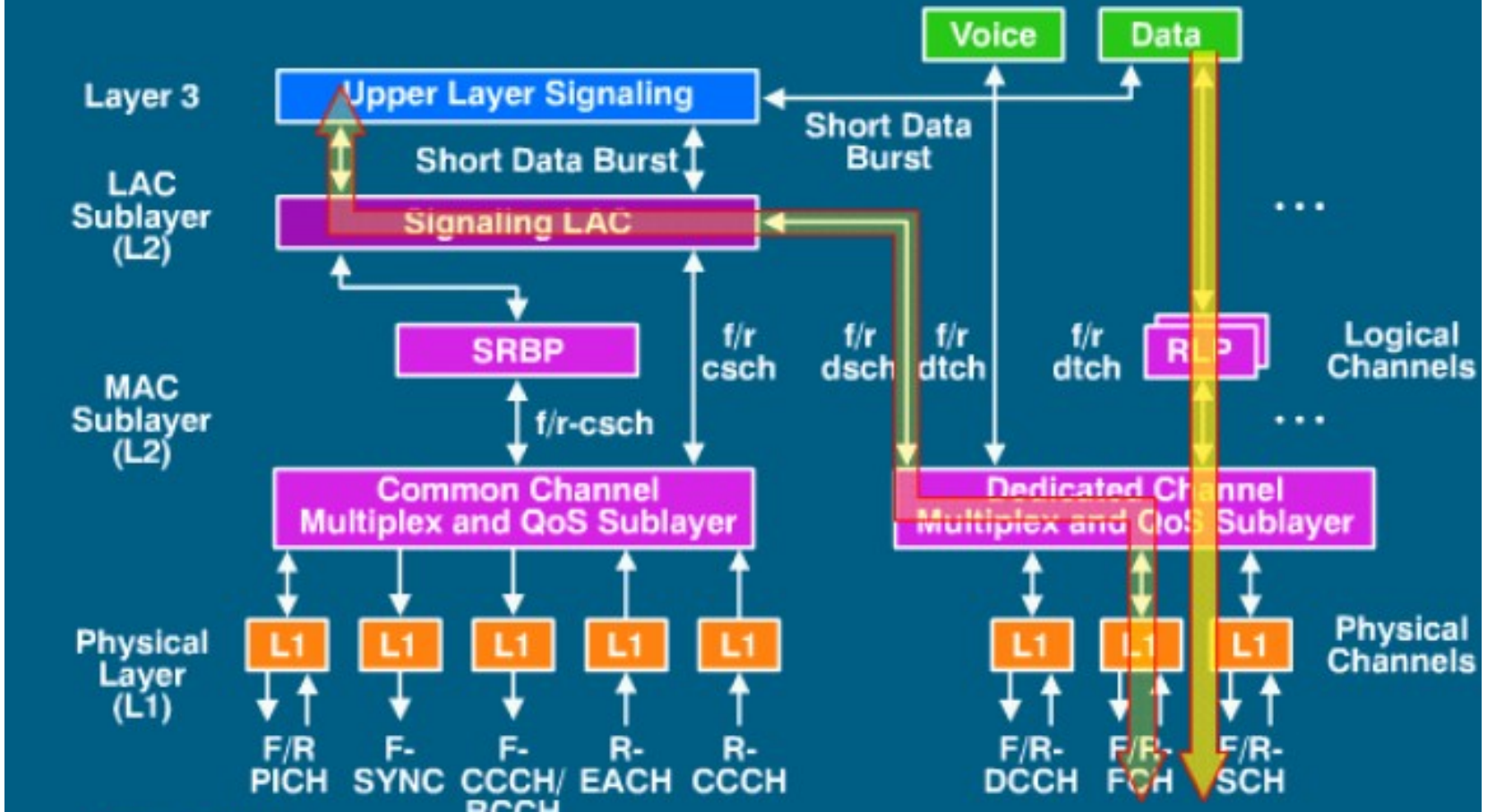

MS MONITORS F-CCCH FOR INCOMING CALL MESSAGES
Voice
Data
Layer 3
Upper Layer Signaling
Short Data Burst
Short Data Burst
LAC Sublayer (L2)
Signaling LAC
SRBP
f/r csch
f/r dsch
f/r dtch
f/r dtch
RLP
Logical Channels
MAC Sublayer (L2)
f/r-csch
Common Channel Multiplex and QoS Sublayer
Dedicated Channel Multiplex and QoS Sublayer
Physical Layer (L1)
L1
Physical Channels
F/R PICH
F-SYNC
R-EACH
R-CCCH
F/R-DCCH
F/R-FCH
F/R-SCH
BCCH
Source: IS-2000.5
CCCH = Common Control Channel
FCH = Fundamental Channel
EACH = Enhanced Access Channel
SCH = Supplemental Channel
MAC = Medium Access Control
F/R = Foward/Reverse
QoS = Quality of Service
PICH = Pilot Channel
SYNC = Sync Channel
ACH = Access Channel
csch = (logical) common signaling channel
dsch = (logical) dedicated signaling channel
dtch = (logical) dedicated traffic signal
SRBP = Signaling Radio Burst Protocol
LAC = Link Access Control
BCCH = Broadcast Control Channel


MS ORIGINATION SPECIFYING
PACKET DATA SERVICE OPTION
Voice
Data
Layer 3
Upper Layer Signaling
Short Data Burst
Short Data Burst
LAC Sublayer (L2)
Signaling LAC
SRBP
f/r csch
f/r dsch
f/r dtch
f/r dtch
RLP
Logical Channels
MAC Sublayer (L2)
f/r-csch
Common Channel Multiplex and QoS Sublayer
Dedicated Channel Multiplex and QoS Sublayer
Physical Layer (L1)
L1
Physical Channels
F/R PICH
F-SYNC
F-CCCH/ BCCH
R-EACH
R-CCCH
F/R-DCCH
F/R-FCH
F/R-SCH
Source: IS-2000.5
CCCH = Common Control Channel
FCH = Fundamental Channel
EACH = Enhanced Access Channel
SCH = Supplemental Channel
MAC = Medium Access Control
F/R = Foward/Reverse
QoS = Quality of Service
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dsch = (logical) dedicated signaling channel
dtch = (logical) dedicated traffic signal
SRBP = Signaling Radio Burst Protocol
LAC = Link Access Control
BCCH = Broadcast Control Channel


TIME GOES BY


SCH AND FCH* ARE ASSIGNED VIA F-CCCH WHEN INCOMING DATA ARRIVES
Voice
Data
Layer 3
Upper Layer Signaling
Short Data Burst
Short Data Burst
LAC Sublayer (L2)
Signaling LAC
SRBP
f/r csch
f/r dsch
f/r dtch
f/r dtch
RLP
Logical Channels
MAC Sublayer (L2)
f/r-csch
Common Channel Multiplex and QoS Sublayer
Dedicated Channel Multiplex and QoS Sublayer
Physical Layer (L1)
L1
Physical Channels
F/R PICH
F-SYNC
F-CCCH/ BCCH
R-EACH
R-CCCH
F/R-DCCH
F/R-FCH
F/R-SCH
*And/or DCCH
Source: IS-2000.5
CCCH = Common Control Channel
FCH = Fundamental Channel
EACH = Enhanced Access Channel
SCH = Supplemental Channel
MAC = Medium Access Control
F/R = Foward/Reverse
QoS = Quality of Service
PICH = Pilot Channel
SYNC = Sync Channel
ACH = Access Channel
csch = (logical) common signaling channel
dsch = (logical) dedicated signaling channel
dtch = (logical) dedicated traffic signal
SRBP = Signaling Radio Burst Protocol
LAC = Link Access Control
BCCH = Broadcast Control Channel

BLOCKS OF DATA ARE DELIVERED USING F-SCH UNTIL THE WEB PAGE IS COMPLETE



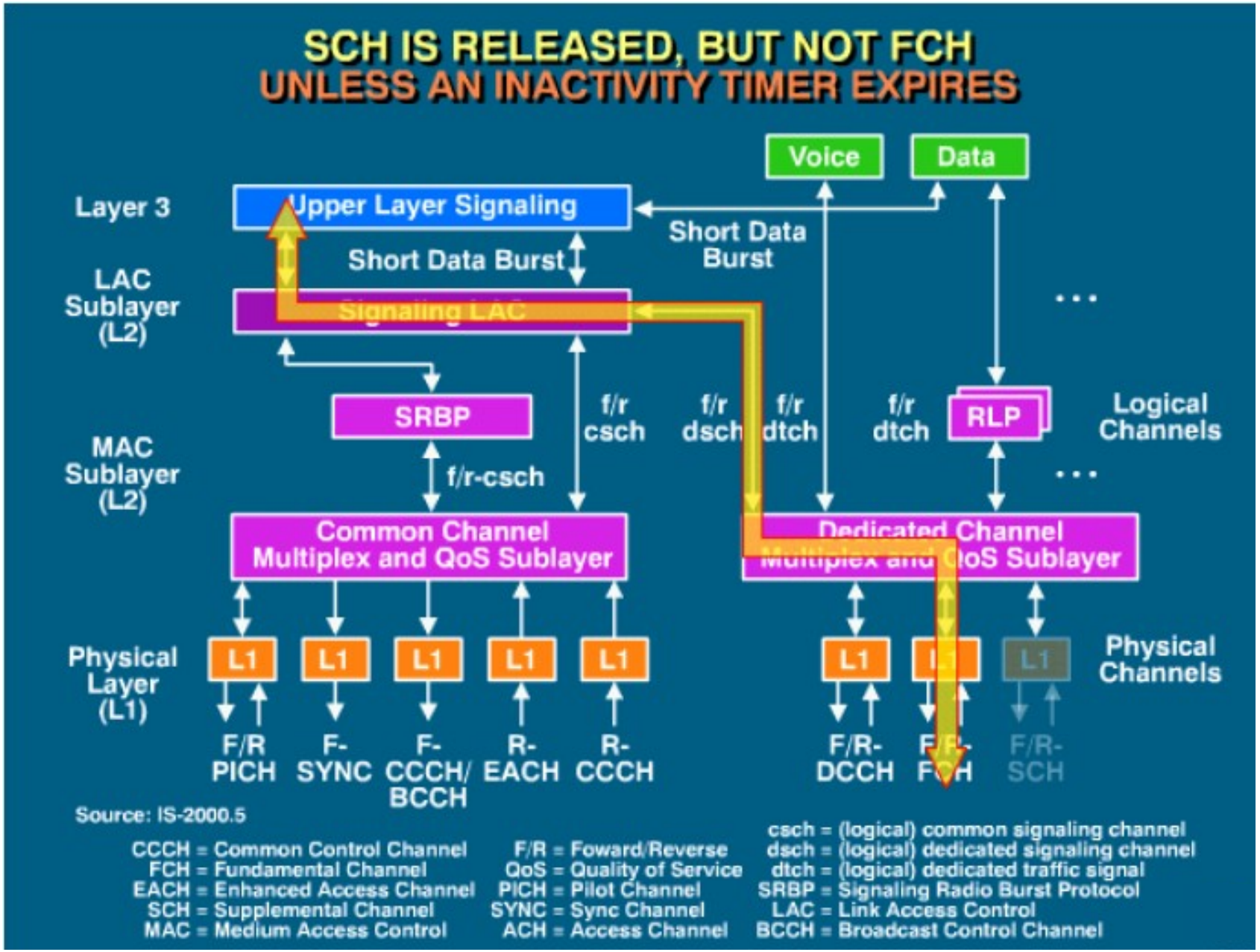
Source: IS-2000.5

CCCH = Common Control Channel
FCH = Fundamental Channel
EACH = Enhanced Access Channel
SCH = Supplemental Channel
MAC = Medium Access Control

F/R = Foward/Reverse
QoS = Quality of Service
PICH = Pilot Channel
SYNC = Sync Channel
ACH = Access Channel

csch = (logical) common signaling channel
dsch = (logical) dedicated signaling channel
dtch = (logical) dedicated traffic signal
SRBP = Signaling Radio Burst I
LAC = Link Access Control
BCCH = Broadcast Control Channel

SCH IS RELEASED, BUT NOT FCH
UNLESS AN INACTIVITY TIMER EXPIRES



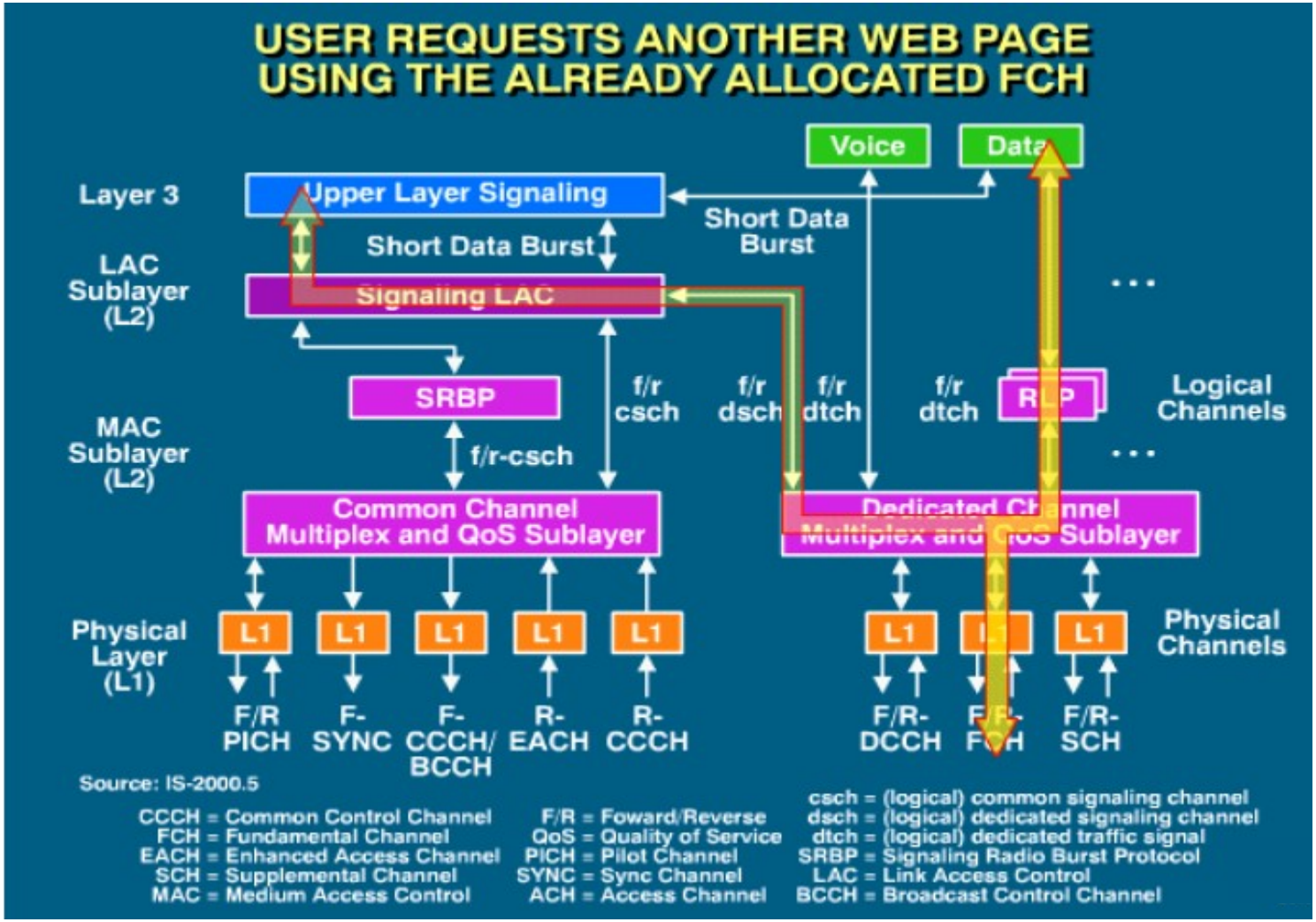
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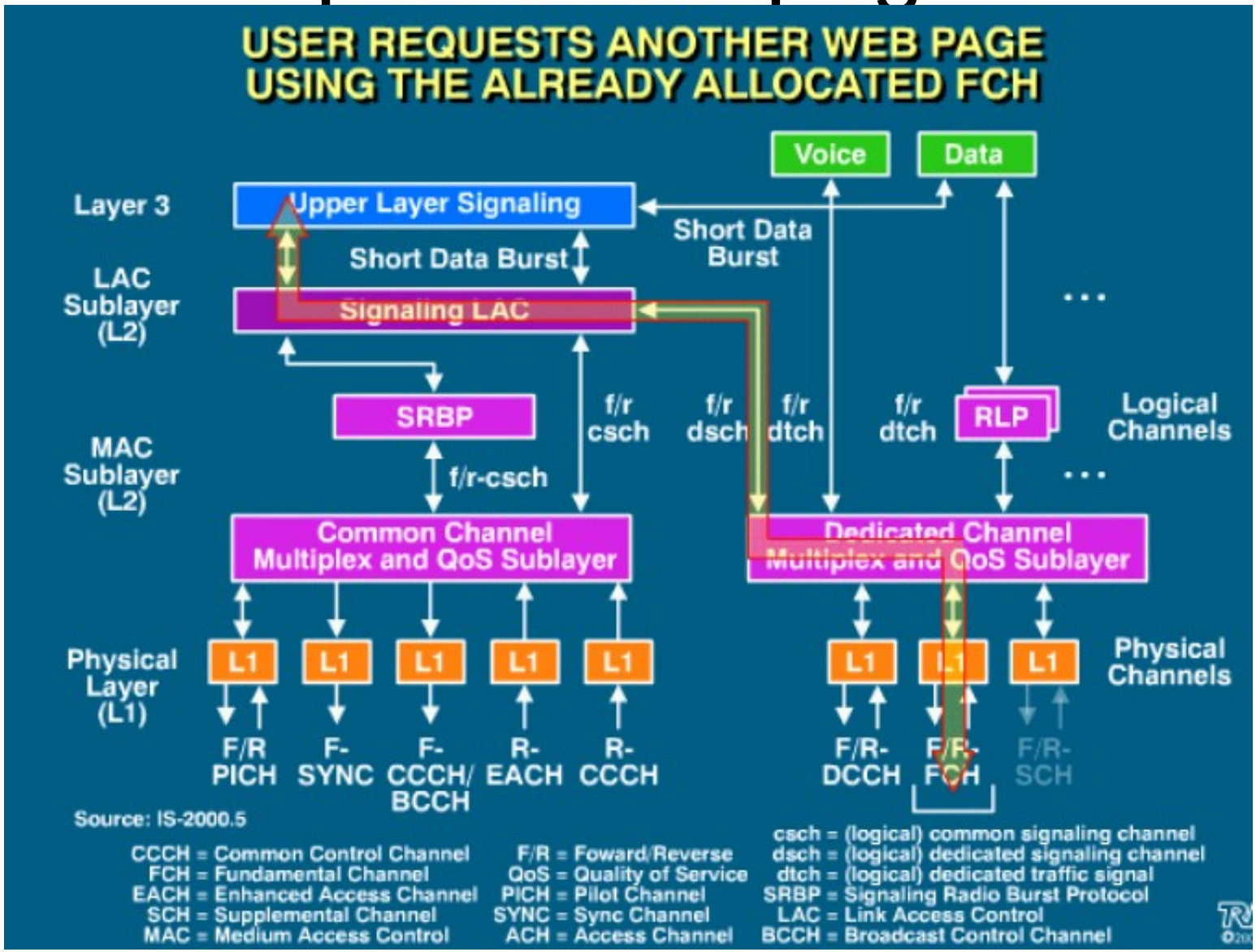
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SRBP = Signaling Radio Burst Protocol
LAC = Link Access Control
BCCH = Broadcast Control Channel

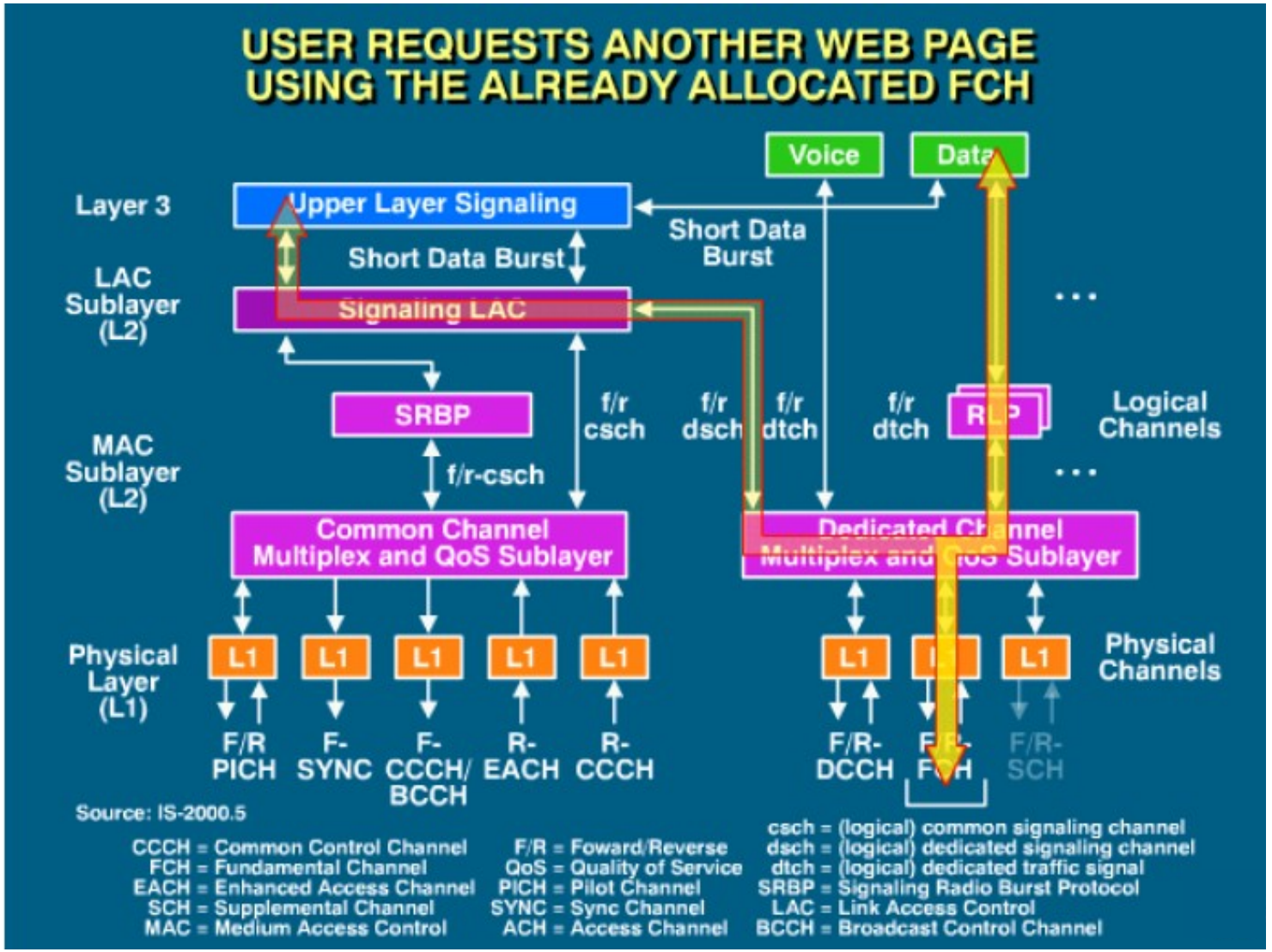
Request Web page A

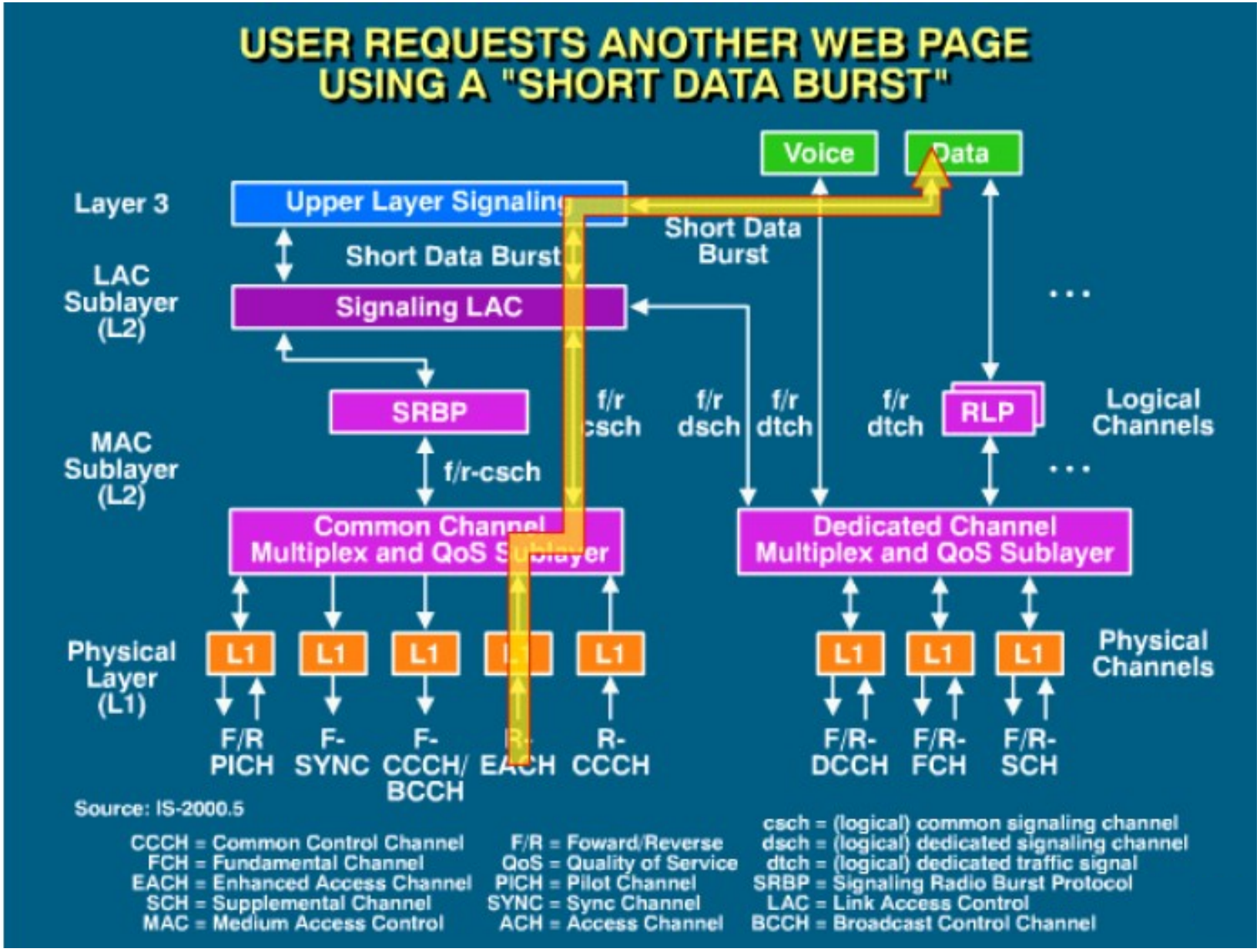


Request Web page B

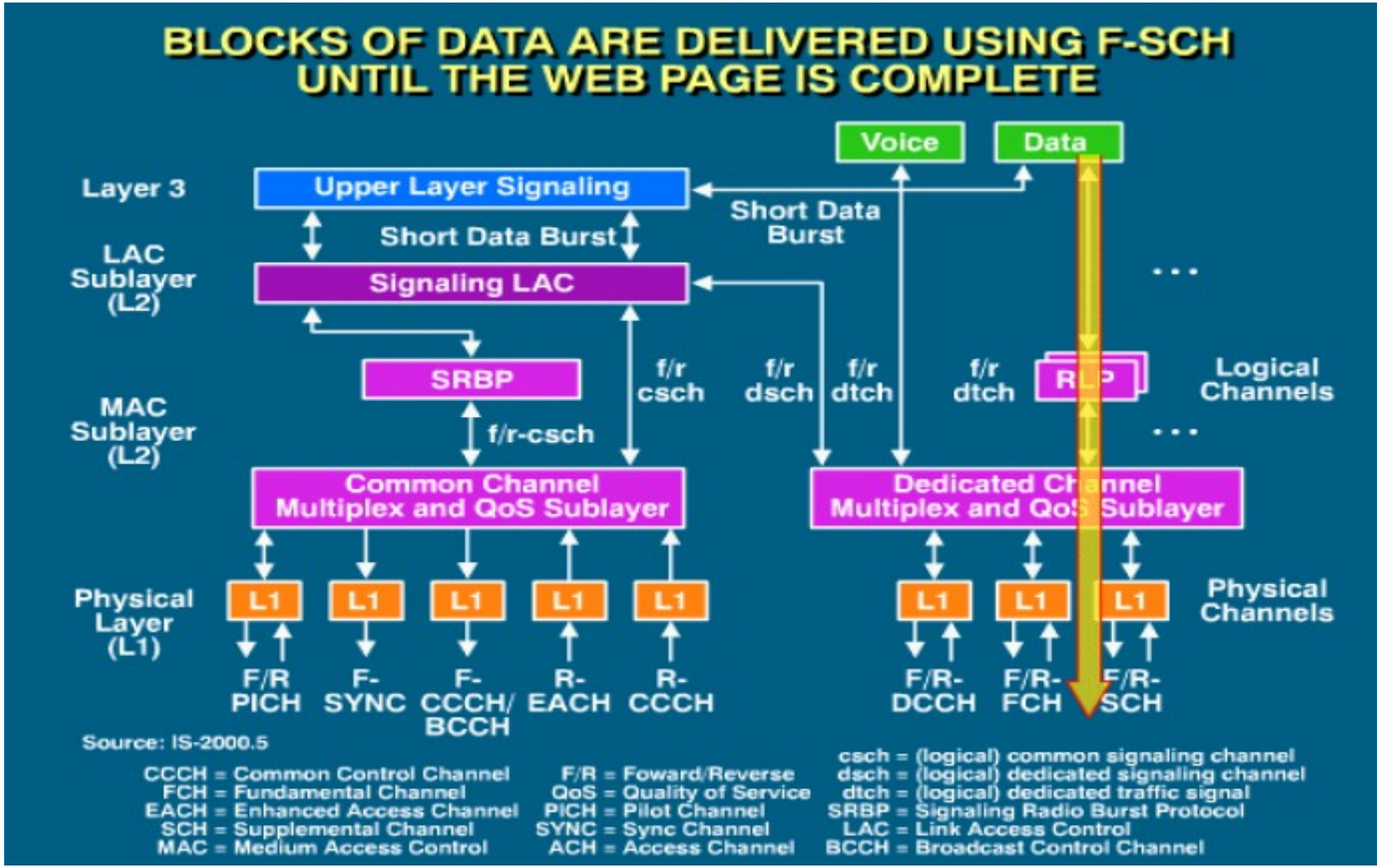


Request Web page C

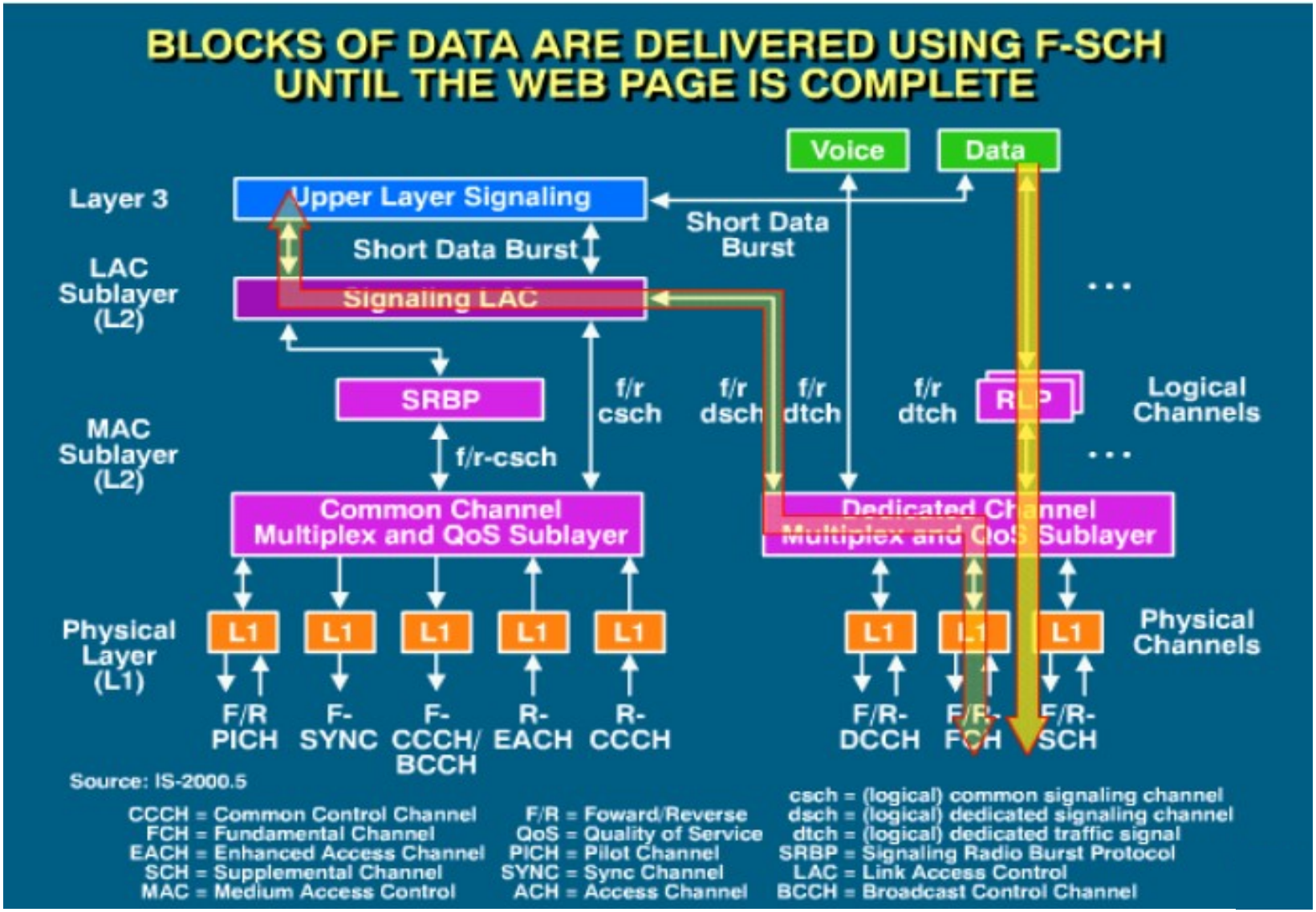


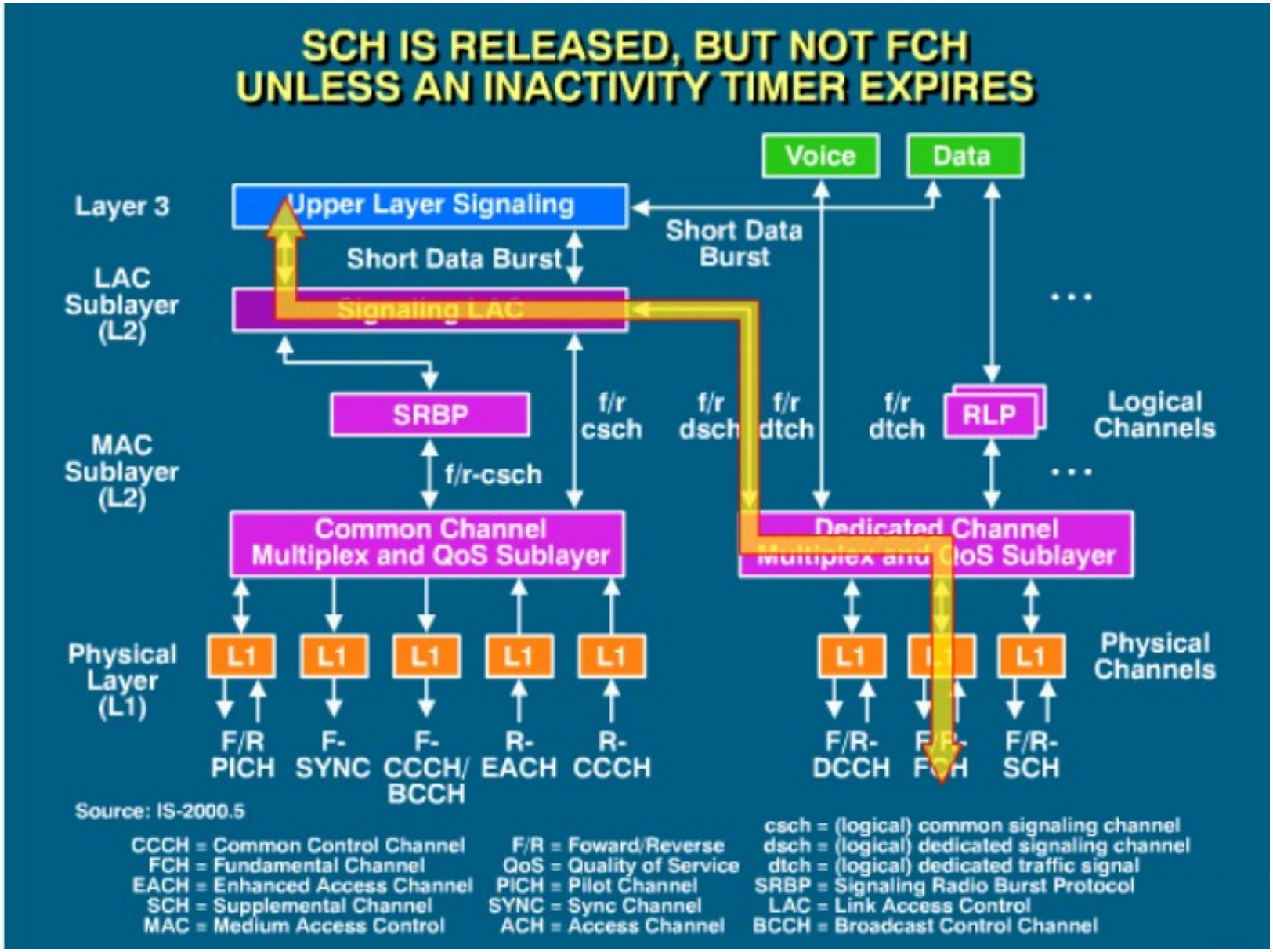

USER REQUESTS ANOTHER WEB PAGE
USING A "SHORT DATA BURST"
Voice
Data
Layer 3
Upper Layer Signaling
Short Data Burst
Short Data Burst
LAC Sublayer (L2)
Signaling LAC
SRBP
f/r csch
f/r dsch
f/r dtch
f/r dtch
RLP
Logical Channels
MAC Sublayer (L2)
f/r-csch
Common Channel Multiplex and QoS Sublayer
Dedicated Channel Multiplex and QoS Sublayer
Physical Layer (L1)
L1
Physical Channels
F/R PICH
F-SYNC
F-CCCH/ BCCH
R-EACH
R-CCCH
F/R-DCCH
F/R-FCH
F/R-SCH
Source: IS-2000.5
CCCH = Common Control Channel
FCH = Fundamental Channel
EACH = Enhanced Access Channel
SCH = Supplemental Channel
MAC = Medium Access Control
F/R = Foward/Reverse
QoS = Quality of Service
PICH = Pilot Channel
SYNC = Sync Channel
ACH = Access Channel
csch = (logical) common signaling channel
dsch = (logical) dedicated signaling channel
dtch = (logical) dedicated traffic signal
SRBP = Signaling Radio Burst Protocol
LAC = Link Access Control
BCCH = Broadcast Control Channel

Blocks of Data A

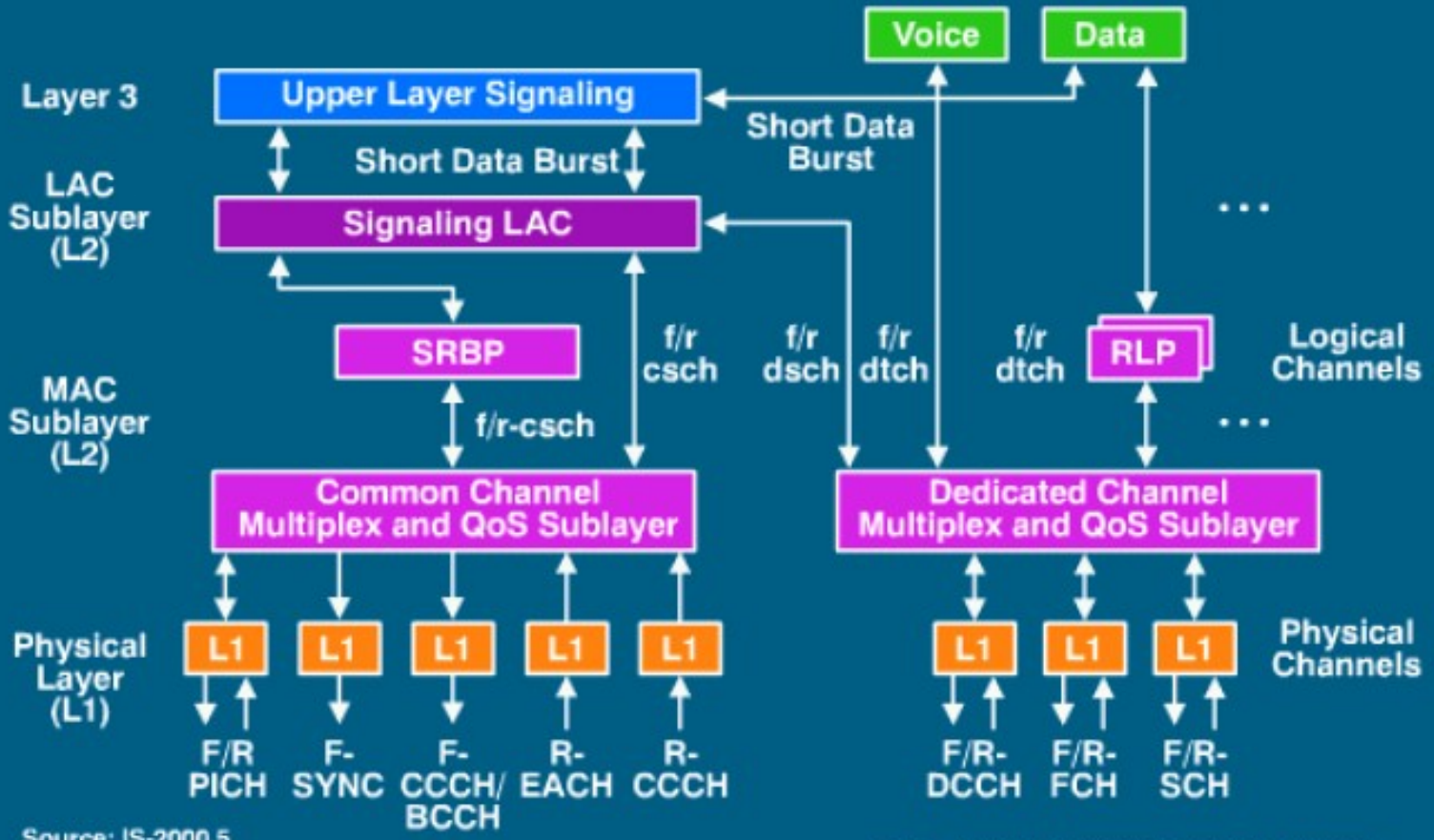


Blocks of Data B




SCH IS RELEASED, BUT NOT FCH
UNLESS AN INACTIVITY TIMER EXPIRES
Voice
Data
Layer 3
Upper Layer Signaling
Short Data Burst
Short Data Burst
LAC Sublayer (L2)
Signaling LAC
SRBP
f/r csch
f/r dsch
f/r dtch
f/r dtch
RLP
Logical Channels
MAC Sublayer (L2)
f/r-csch
Common Channel Multiplex and QoS Sublayer
Dedicated Channel
Physical Layer (L1)
L1
Physical Channels
F/R PICH
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F-CCCH/ BCCH
R-EACH
R-CCCH
F/R-DCCH
F/R-SCH
Source: IS-2000.5
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SCH = Supplemental Channel
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csch = (logical) common signaling channel
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SRBP = Signaling Radio Burst Protocol
LAC = Link Access Control
BCCH = Broadcast Control Channel

WHEN THE INACTIVITY TIMER EXPIRES . . . SERVICE GOES DORMANT . . . BUT MS AND PDSN REMAIN READY



Source: IS-2000.5

CCCH = Common Control Channel
FCH = Fundamental Channel
EACH = Enhanced Access Channel
SCH = Supplemental Channel
MAC = Medium Access Control

F/R = Foward/Reverse
QoS = Quality of Service
PICH = Pilot Channel
SYNC = Sync Channel
ACH = Access Channel

csch = (logical) common signaling channel
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dtch = (logical) dedicated traffic signal
SRBP = Signaling Radio Burst Protocol
LAC = Link Access Control
BCCH = Broadcast Control Channel

End of Session