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(74)

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(54) ( A L L I P )

IP , , (HLR,  
 (All IP) ,  
 WCA, TCA, BSC /PCF, PDSN, SG, TG, VS, ICG, IGSG, IGTG ) IP  
 ; ; (BTS,BSC)가 IP (RAN)  
 ; IP IP  
 , , (WCA) (TCA)가  
 , (TCA)가 가 TCA  
 , All IP IP  
 , IP

1  
2  
3  
4

(RAN:Radio Access Network) , IP (All IP Network) (Core Network)

1

1 , ; (BTS::Base Station Controller)(201), /  
 (PCF:Packet Control Function)(202), / (IGSG/IGTG)(In  
 ter Generation Signaling Gateway/Inter Generation Trunk Gateway)(235), /VLR(MM,CCA,PR  
 C)(220), (HLR)(234), (ICG)(233), (SG)(231),  
 (VS)(232), (TG)(230), PDSN(240)

(MSC:Mobile Switching Center)(341)

(MSC)

1). (MCA: Mobile Call Agent)(220) (HLR: Home Location Register)

(MS)(101,102) (201)  
 가

(BTS)

, (101,102) (BTS)가 (BSC) (  
 BSC) (MCA) , (101,102)  
 (PRC:Packet Routing Control) (CCA: Call Control Agent)

(101,102)가 (MCA)/ 가 (VLR) 가

2).

(101,102)가 (101,102) (originating BSC) 가 (origination BSC) (TG)(230) (TG)(230) PCM PSTN/PLMN(Public Switched Tele phone Network/Public Land Mobile Network)(320) 가

(RCC: Radio Call Control) (MCA) (TG)(230) PSTN/PLMN(330) (MCA) (PSTN/PLMN)(3 (SG)(231) (SG)(231)가 가 (terminating BSC) (MCA)가 가

(233) (MCA) 가 (ICG)(233) (3G All IP Network)(310) 가 가 (MCA) 가 (BTS) (BSC) (MCA)가 가

3).

가 가 (102) (BTS)(201) (BSC) (102) (BSC) 가 PCF(Packet Control Function) , PCF PDSN(Packet Data Serv ing Node) , PDSN(240) / 가 (102) PDSN PPP(Point to Point Protocol) 가 가 PPP 가 PSDN (inactive) (102)

(BSC) 가 (PRC : Packet Routing Controller) PSTN (102)가 (201) (dormant) BSC/PCF(212) (Packet Zone Change)

, BSC/PCF 가 PCF  
 , BSC/PCF 가  
 PCF  
 PCF BSC/PCF 가  
 PDSN R - P(Radio - PPP) PDSN PPP  
 , PCF ID (PRC) PSDN ID, BSC/PCF /  
 , PCF ID BSC/PCF BSC/PCF  
 (MCA) (341)  
 , IP (Core Network)  
 (All IP)  
 IP  
 , 1 (All IP) IP IP  
 , IP  
 (All IP)  
 (QoS) (QoS) 가 ,  
 (QoS) IP IP  
 (WCA) (TCA) IP  
 (All IP)  
 (All IP)  
 (HLR, WCA, TCA, BSC /PCF, PDSN, SG, TG, VS, ICG, IGSG, IGTG  
 ) IP ; (BTS,BSC)  
 가 IP (RAN) ; IP IP

, IP IP (All IP) ,  
 (TCA)가 가 (WCA) (TCA)가 ,  
 TCA .  
 , IP .  
 (All IP) ,  
 (a) IP  
 ;  
 (b) (a) BTS - BSC  
 BSC/SDU ;  
 (c) (b) (WCA)가 (TCA)  
 ;  
 (d) (c) (TCA) BSC/SDU  
 TG/ICG/BSC 가  
 ,  
 (All IP) ,  
 (a) , (WCA)가 가  
 , 가 PDSN ID BSC/PCF ;  
 (b) (a) (BSC)가 가  
 가 PDSN PCF ;  
 (c) (b) PCF가 PDSN R - P PDSN PPP  
 ;  
 (d) (c) IP I  
 P 가 .  
 2 , 3  
 , 4  
 2 3 , IP (700) (701) (610,620,630,800)  
 가 (HLR) 540, (WCA/VLR(MM,RCC,PRC))(530)  
 (TCA/(CSCF))(532) (530), BSC/PCF(520), PDSN(556), SG(553), TG(55  
 4), VS(555), ICG(551), IGSG/IGTG(552) ,  
 IP (RAN) IP RAN(601) , (501,502)  
 BTS(510), BSC/PCF(520)가 .  
 , (530) (WCA(MM, RCC,PRC))(521)  
 가 TCA , (TCA)(532) .

(All IP)

1 (MCA)(5  
 30) (WCA:Wireless control agent)(531)  
 (TCA:Terrestrial Call Agent)(532) (HLR, WCA, TCA, BSC/SDU, PCF, T  
 G, SG, IGSG, IGTG, ICG )

(HLR:Home Location Register)(540) 가 가  
 (501,502) (WCA)(531) (501,502)  
 HLR (501,502)

(HLR)(540) (501,502) (TCA)(532)  
 (501,502)  
 SID/NID TCA ID (WCA) ID

(WCA)(531) (BSC)(521)  
 (501,502) 가 (540) (501,502)  
 (TCA)  
 (Paging Zone) (BSC)(521) (User Zone)  
 (Packet Zone),

(WCA)(532) (TCA)(531)  
 (TCA)(531)  
 PDSN ID (STATE) PDSN ID

(WCA)(532) 가 가 가 (SD  
 U: Service Delivery Unit) (Hard handoff) (Dormant handof  
 f) (BSC)(521) PDSN ID PPP 가  
 PDSN(556)

(501,502)가 BSC/SDU (intra - WCA)  
 (TCA)(532) (inter - WCA)  
 (WCA)(530) (TCA)(532)

(TCA)(532) (WCA)(531) 가  
 (501,502) (home TCA) PSTN/PLMN(630)  
 (TCA) (WCA)  
 BSC/SDU (bearer traffaic channel) (WCA)(531)

(WCA)(531) 가 가 (AI  
 I IP) (TCA) , PSTN/PLMN (SG)  
 , (LEGACY) (620) 가 (IGS)  
 G)  
 , (TCA)(532)  
 (TCA)(532) 가  
 /가 (BSC/SDU) (501,502)  
 ,  
 ,  
 /가 (521) (BSC/SDU) (Soft han  
 doff) (QoS)가 IP (RAN:Radio Access Network)(600)  
 , (bearer path) IP (core Network)(700)  
 , PCF(Packet Control Function) (BSC)  
 ,  
 PCF(522) BSC/SDU PCF  
 PDSN(556) R - P (MS - BTS - BSC - PCF - PDSN) (501,502)가 (Dormant)  
 , BSC/SDU R - P (501,502)가  
 R - R  
 (TG)(554) PSTN (All IP)  
 , PSTN(or PLMN)(630) (All IP)  
 (home TCA) 가 PSTN (inband signall  
 ing)  
 (501,502) BSC/SDU (Roming)  
 가 (ICG)(551) (All IP)  
 (610) 가  
 (SG)(553) PSTN (All IP)  
 , PSTN (home TCA) 가 ,  
 PSTN (TCA)(532) PSTN  
 PSTN  
 (IGSG) 가 3 All IP (620)  
 ANSI - 41 3 All IP 가 (SG)  
 ANSI - 41  
 (IGTG) (All IP)  
 가  
 (ICG)(551) (All IP) (All IP)  
 가  
 (TCA) 가

(All IP) 2

4

2 , 4 (All IP) , 3 2

3 (610,630,561,800) IP (600) ,  
 (BSC) (510) IP (RAN Network)(600)

, IP (600) (HLR)(540), (WCA(MM/RCC/PRC))(531),  
 (TCA(CSCF))(532), /PCF(520), PDSN(556), (SG)(553),  
 (TG)(554), (VS)(555), (ICG)(551), (I  
 GSG) (IGTG)(728) 가 .

(All IP) ;

601 (501,502) , (BTS)(510) IP (RAN)(  
 (BSC)(520) (BSC)(520)가 (WCA)(531)  
 가 , (WCA)(531) (HLR)(540)

U (532) , (BTS - BSC) , (501,502) BSC/SD  
 TG/ICG/BSC (WCA)(531)가 (TCA)  
 (TCA)(531) BSC/SDU  
 가 .

2)가 , IP (Soft handoff) BSC/SDU (TCA)(53  
 (600)

(WCA)가 (501,502) (BSC) (hard handoff) (TCA)  
 BSC/SDU ,

가 ; 가 , , (WCA)(531)  
 (HLR)(540) , (502)가 PDSN ID B  
 SC/PCF(520) .

(BSC)가 (WCA) 가  
 (502)가 PDSN(556) PCF(522) , PCF(522)가 P  
 DSN(556) R - P , (502) PDSN(556) PPP 가 , (50  
 2) S/W IP (Simple IP mode) IP (mobile  
 IP mode) , PDSN(556) (5020 가 ( )  
 (640) .

, HA(Home Agent) IP 가 , AAA(Authertication, A  
 uthorization, and Accounting) , , .

가 , (501,502)가 BSC/PCF(520) (WCA)(531)  
 BSC/PCF PDSN ID 가 , PCF가 PDSN R - P  
 , PPP , IP .

(501,502)가 BSC/PCF BSC - PCF (DORMANT)  
 (WCA)(531)  
 PDSN ID , PCF PDSN R - P BSC/PCF 가  
 (DORMANT) , BSC/PCF PC  
 F가 R - P R - P .

4 (MCA)가 (WCA) (TCA)  
 , IP IP (All IP) IP  
 (2G RAN, cdma 2000, other RAN)(3G/All IP Carrier, PSTN/PLMN, Internet/Intra  
 net/ISP, Fixed Access Network) , , (TCA)  
 가 가 (TCA) .

(All IP) , IP (All IP) ,  
 IP 가 .

IP IP , ,  
 , 가 .

(57)

1.

(HLR, WCA, TCA, BSC /PCF, PDSN, SG, TG, VS, ICG, IGSG, IGTG  
 ) IP ;  
 (BTS,BSC)가 IP (RAN) ;  
 IP IP (All IP) .

2.

1 , IP IP (All IP) ,  
 , (TCA)가 가 (WCA) (TCA)가  
 (All IP) TCA

3.

1 , (HLR) 가 가 ,  
 , (WCA) (TCA)

SID/NID TCA ID WCA ID, PCF ID  
 (All IP)

4.

1 2 , (WCA) ,  
 , (TCA) , HLR  
 , (WCA) (All IP)

5.

1 2 , (WCA) ,  
 , (TCA) , (TCA)  
 PDSN ID PDSN ID  
 (All IP)

6.

1 2 , (WCA) 가  
 가 가 (SDU) (hard handoff) (dormant handoff)  
 PDSN ID PPP 가 PDSN  
 (All IP)

7.

1 2 , (WCA) 가 BSC/SDU  
 , (Intra - WCA) (TCA)

(inter - WCA) (WCA) (A)  
 - (inter - TCA)  
 II IP)

8.

1 2 , (TCA) (WCA)  
 가 , (TCA) PSTN (TCA)  
 (WCA) BSC/SDU  
 (All IP)

9.

1 2 , 가 가 IP (TCA) (WCA)  
 (All IP) (TCA) ,

10.

1 2 , (TCA)  
 가  
 (All IP)

11.

1 2 , BSC/SDU BSC  
 , ,  
 BSC/SDU (BSC/SDU) (QoS)  
 IP RAN , IP  
 , PCF , BSC  
 (All IP)

12.

- (a) ; IP
- (b) (a) BSC/SDU ; BTS - BSC
- (c) (b) (WCA)가 (TCA)  
 ;

(d) (c) (TCA) BSC/SDU  
TG/ICG/BSC , (All IP) 가

13.

12 , , BSC/SDU  
(TCA)가 , IP , BSC/SDU ;  
BSC (WCA)가 (WCA)  
(TCA) BSC/SDU  
(All IP) .

14.

(a) , 가 PDSN ID BSC/PCF (WCA)가 가 ;  
(b) (a) (BSC)가 가  
가 PDSN PCF ;  
(c) (b) PCF가 PDSN R - P PDSN PPP ;  
(d) (c) 가 IP I  
P (All IP) .

15.

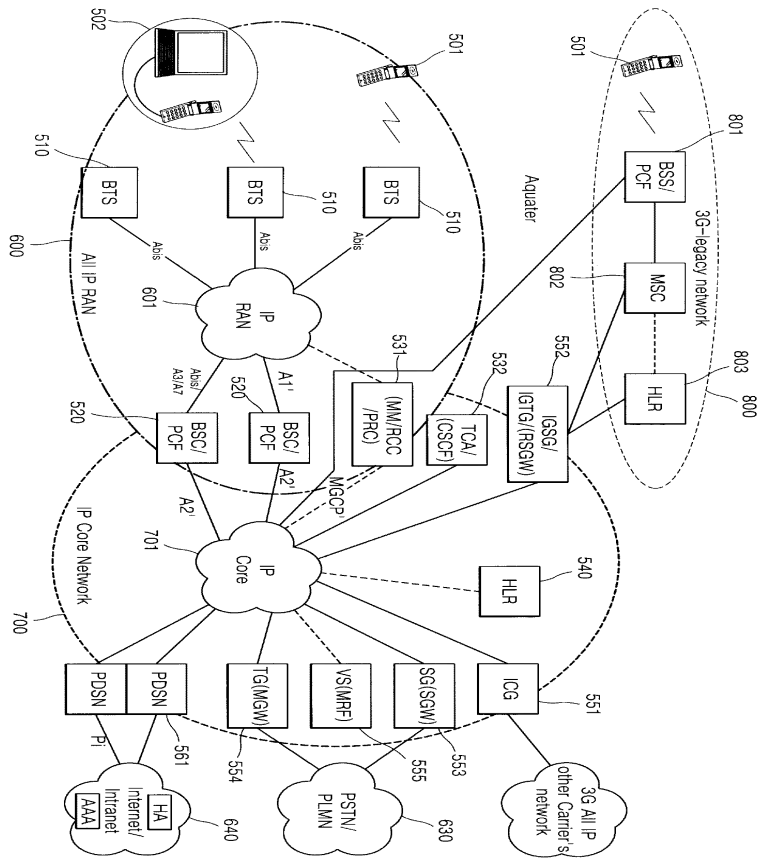
14 , , BSC/PCF BSC/PCF  
PDSN ID , PCF가 PDSN R - P , PPP ;  
/PCF 가 BSC - PCF BSC  
(All IP) , PCF PDSN R - P BSC/PCF PDSN ID

16.





3



4

