



# BcN Advanced TCA

## Perspectives on Advanced TCA Technology in BcN

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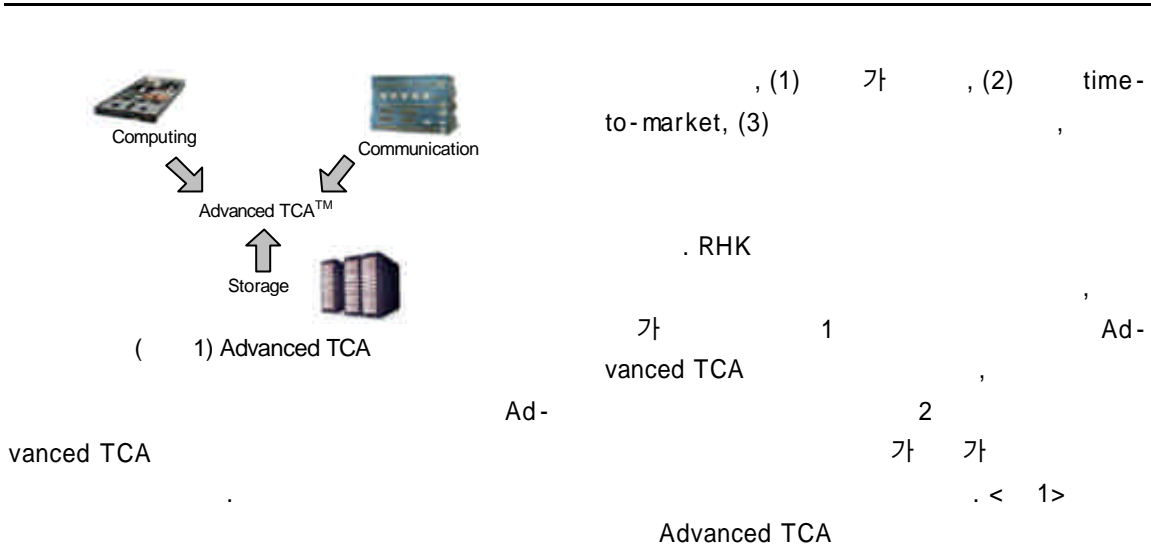
가 ,

Advanced TCA PICMG , 100 가  
 가  
 ,  
 TCA Advanced

### I.

가 , 가  
 가 100 , 가  
 , , , 가 2~3  
 ,  
 2007 가  
 , , ,  
 가 가  
 가 PC  
 가  
 (convergence) 가 가 ,

PICMG 2001 Advanced TCA  
 2002 가 가 ,  
 Advanced TCA(Telecom Computing Architec- 가  
 ture) [1] - [3]. ( 1) 가  
 Advanced TCA Advanced TCA  
 , SERDES(Serial - Deserial) 가 .



## II. Advanced TCA

Intel PICMG 2003 RHK가 가 5  
Advanced TCA [4]. 가

Advanced TCA 5~10  
Advanced TCA

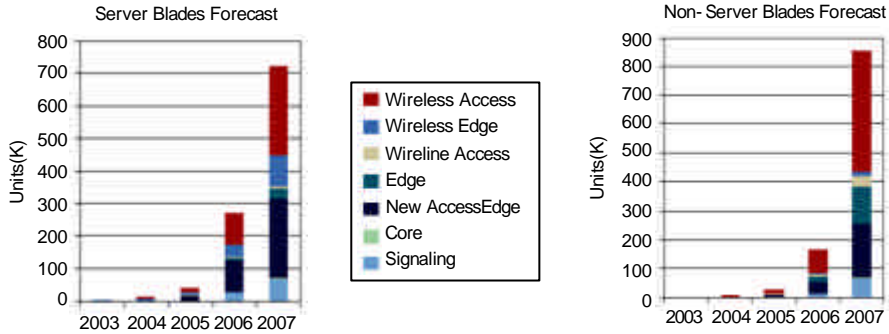
Advanced TCA . 5 2

Advanced TCA . Ad- 가 wireless edge, wireless access new access edge .  
2007 \$3.7Billion edge ( 2) (server blade)  
5 Advanced TCA , DSP, -  
Advanced TCA (non-server blade)

< 1 > Advanced TCA

Segment	Network Element Types	Advanced TCA System Units in 2007(%)
Wireless Access	BTS/Node B, BSC/RNC, Transcoder	38
Wireless Edge	MSC, HLR, GGSN, SGSN/PDSN, Billing server, Multimedia server	50
Wireline Access	DSLAM, CMTS, MxU	1
Edge	Edge router, Multiservice switch, Optical edge device	3
New AccessEdge	Media gateway, Softswitch, Media server	21
Core Transport	Core router, SONET/SDH ADM, WDM	<1
Signaling	Signaling server, STP, SCP	5

< >: RHK Inc. Lower adoption than rest of segment



< >: RHK Inc.

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### III. Advanced TCA

가

#### 1. Advanced TCA

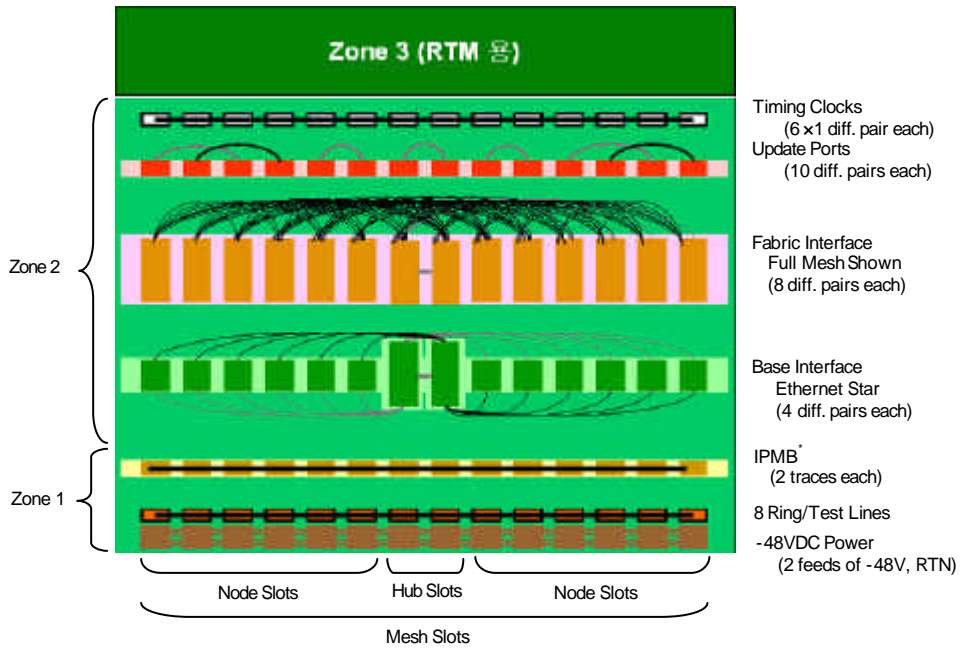
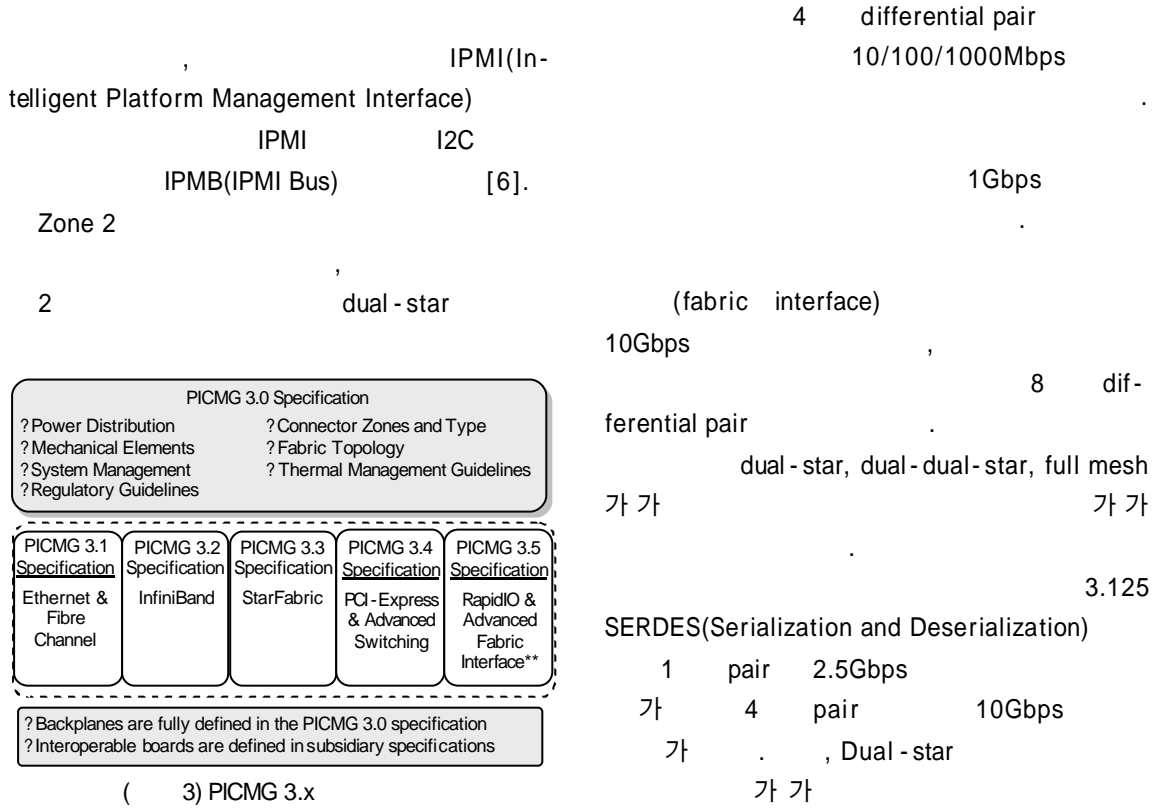
Advanced TCA  
 2001  
 PICMG 3  
 2002  
 12 PICMG 3.0 [5]  
 IPMI 1.5  
 2003  
 가  
 Advanced Switching  
 Serial rapid IO 가

- (scalable): 2.5Tb/s
- 가 (availability): 99.999%
- 40Gb/s
- DSP, CPU,
- API OAM&P
- 가
- 가 7

PICMG 3 Advanced TCA  
 2.5Terabit  
 high reliability  
 19" (14slot) ETSI 600mm  
 (16slot) 가 가 1 3  
 (CPU, DSP, NP )가  
 가  
 Advanced TCA

#### 2. Advanced TCA

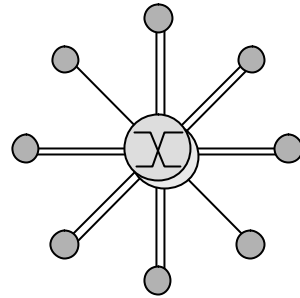
Advanced TCA PICMG 3.x (3)  
 PICMG 3.0  
 5가  
 PICMG 3.x 가  
 3가  
 (( 4) ). Zone 1 -48VDC  
 ring ring generator



< >: Jim Kennedy, Intel Corporation

( 4) PICMG 3.0

full mesh, dual-dual-star  
 가  
 . SERDES  
 가 3.125Gbps가  
 6Gbps SERDES

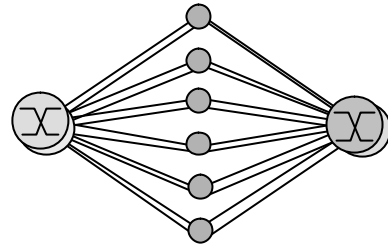


( 5) Dual-star

speed-up 가

10 pair가

가



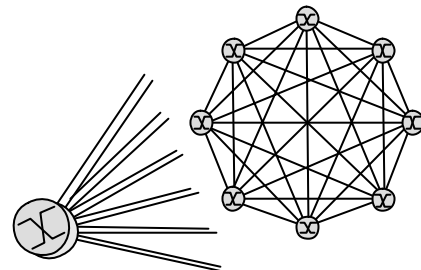
( 6) Dual-Dual-star

timing) 6 pair

(clock

3 zone 3

가



( 7) Full Mesh

가 가 가 14

RTM(Real Transition Module)

가 , RTM zone 3  
 . Zone 3

가

가

가

Advanced TCA

### 3. Advanced TCA

Ad-

(  
 5)~( 7) dual - star, dual - dual - star,  
 full mesh 가

vanced TCA  
 Advanced TCA

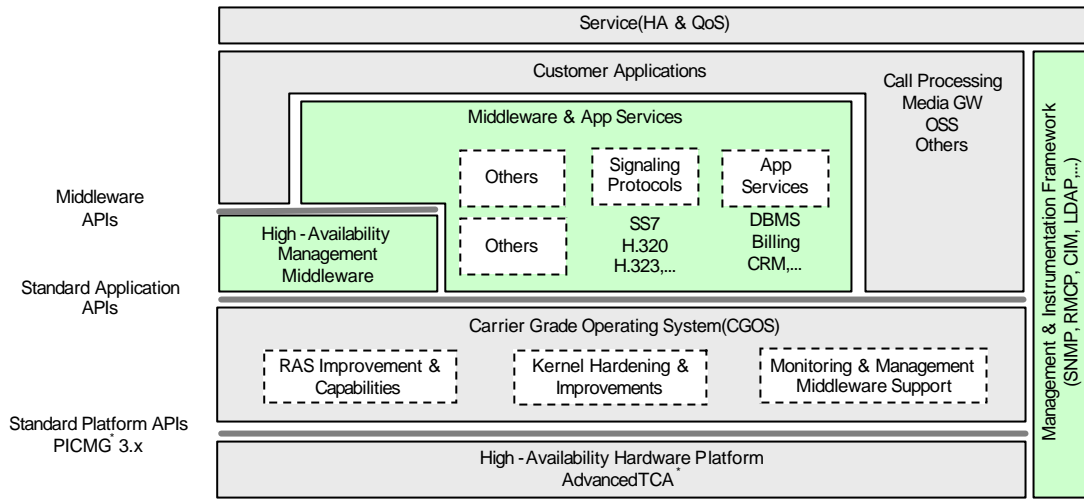
Advanced TCA

Advanced TCA

Advanced TCA

vanced TCA 가 Ad-

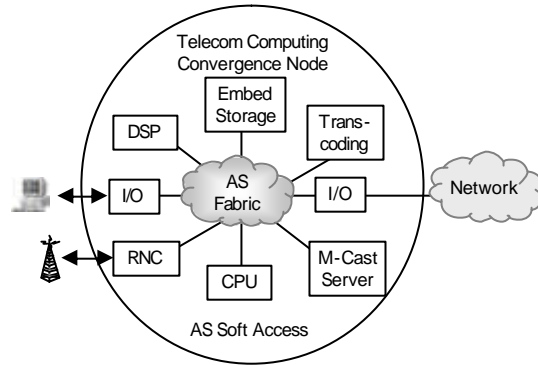
. ( 8) Advanced TCA



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Advanced TCA  
API가  
IPMI  
IPC(Inter Processor Communication)  
NP(Network Processor)  
CPU, Carrier Grade Operating System( : CG - LINUX),

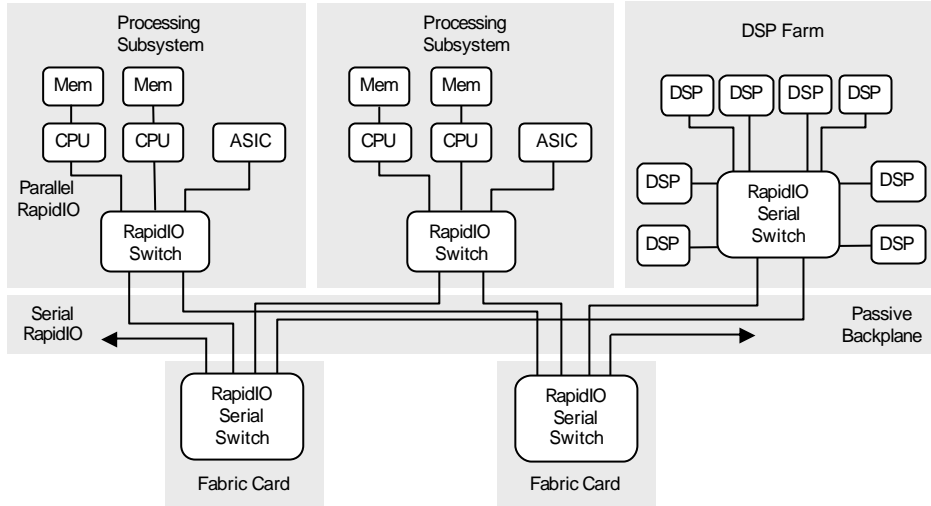
가 [7].



( 9) Advanced Switching

#### IV. Advanced Switching sRIO

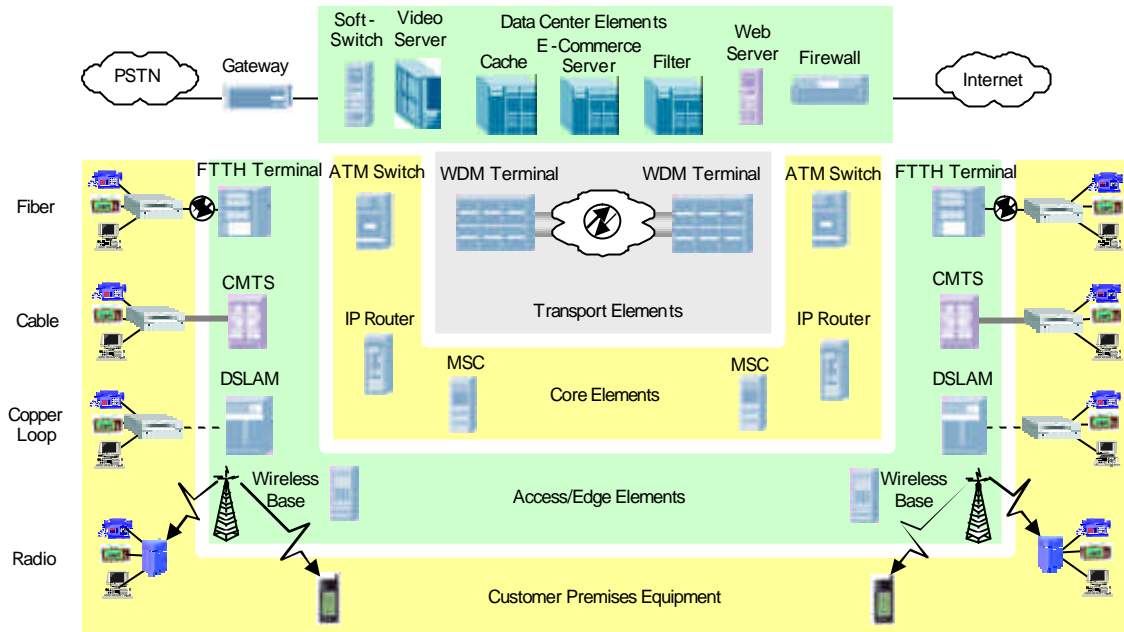
PICMG 3. x  
sRIO(Serial Rapid IO)  
PCI Express & Advanced Switching  
가  
가 sRIO  
PICMG 3.4 AS  
QoS  
scalable computing, DSP, embedded storage, embedded server, transcoding  
AS AS  
가 add-in  
vanced TCA Ad- flexible



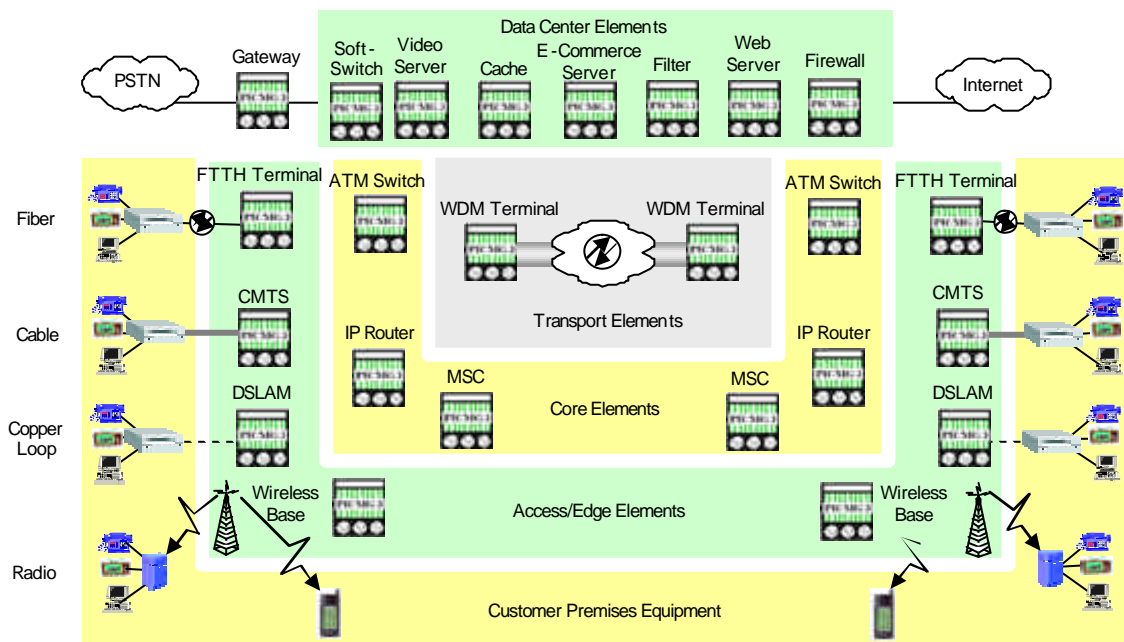
( 10) Serial RapidIO

### V. Advanced TCA

AS serialization PCI Express PCI Advanced TCA QoS PIGMG 3.x Advanced TCA 가 . 2004 가 PICMG 3.5 sRIO가 DSP Advanced TCA AS sRIO ( 9) AS computer em- bedded 가 . ( 11) ( 12) PICMG 3 Advanced TCA sRIO ( 10) CPU, DSP, ASIC 가 Advanced TCA 가 sRIO (OpEx) [8].



( 11)



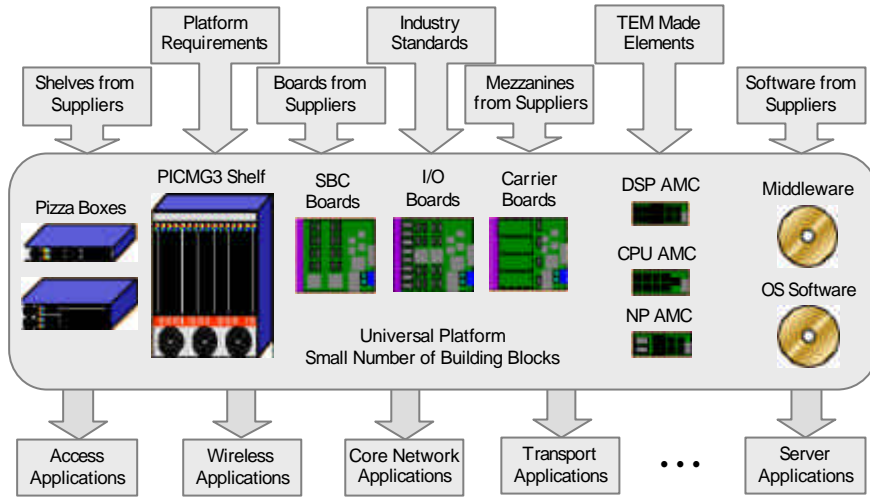
( 12) Advanced TCA

Advanced TCA

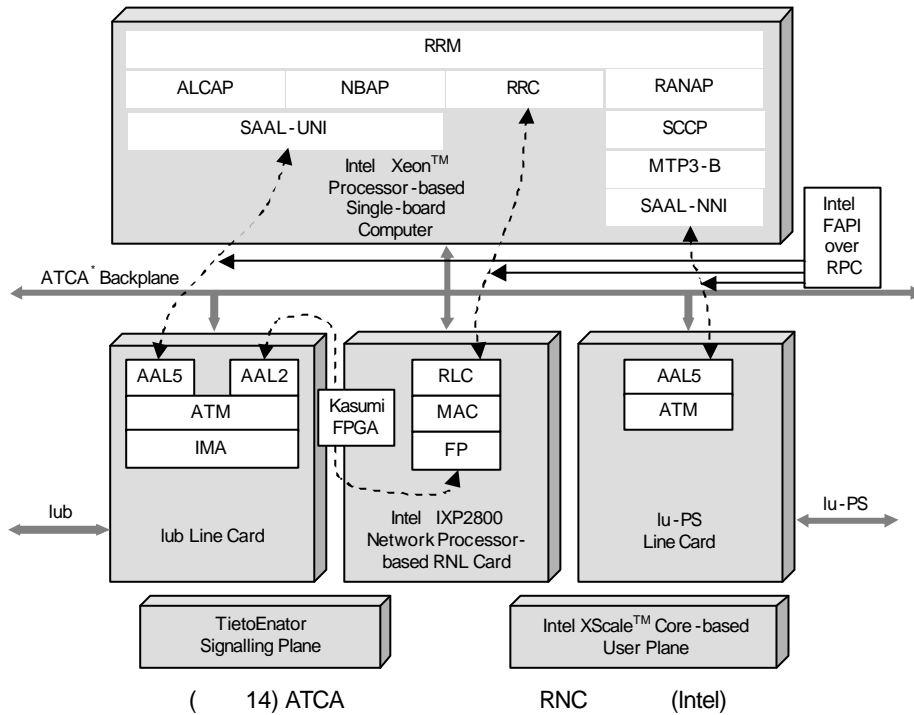
( 13)

가





( 13)



( 14) ATCA

RNC (Intel)

DSP, CPU, NP AMC(Ad-  
vanced TCA Mezzanine Card)

가

가

( 14) ATCA

1 Advanced TCA

RNC

NP

zeon CPU [9].

