

1. TV

, 1995 EBU SMPTE ‘

(EBU/SMPTE Task Force for Harmonized Standards for the Exchange for Programme Material as Bitstreams)

200 가가 7

- (Compression Algorithm)
- (File Formats)
- (Transport Streams)
- (Transfer Protocols)
- (Interface)
- (Wrapper and Metadata)
- (System Management)

, EBU SMPTE

1998

2.

TV

가

가

(Object Modelling)

가

가

가

가.

가 , 가 ,
가

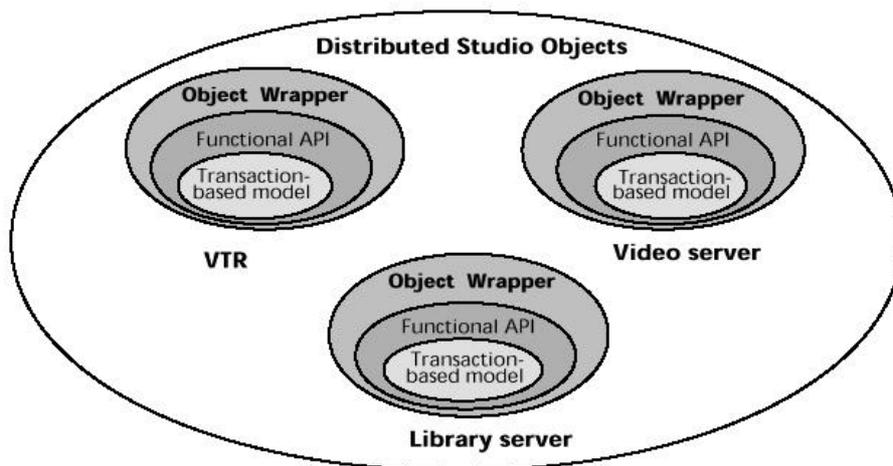
1)

2

(Transaction-based Model)

(, RS-422

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2.

API(Functional API)

API

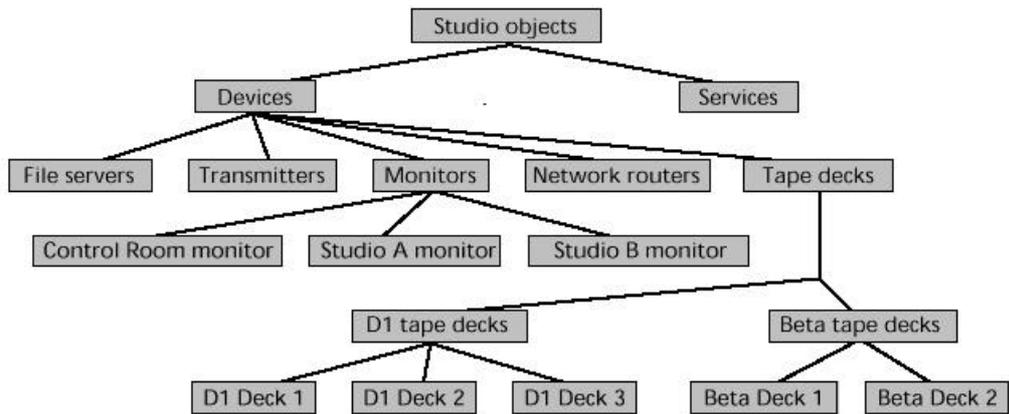
(Object Wrapper)

2)

(Network Object

Registry)가

3



3.

가

가

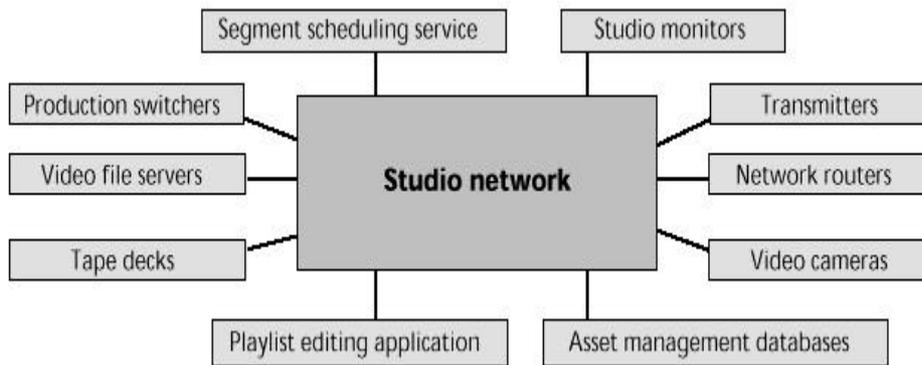
(Network Routers)

A

가

B

가



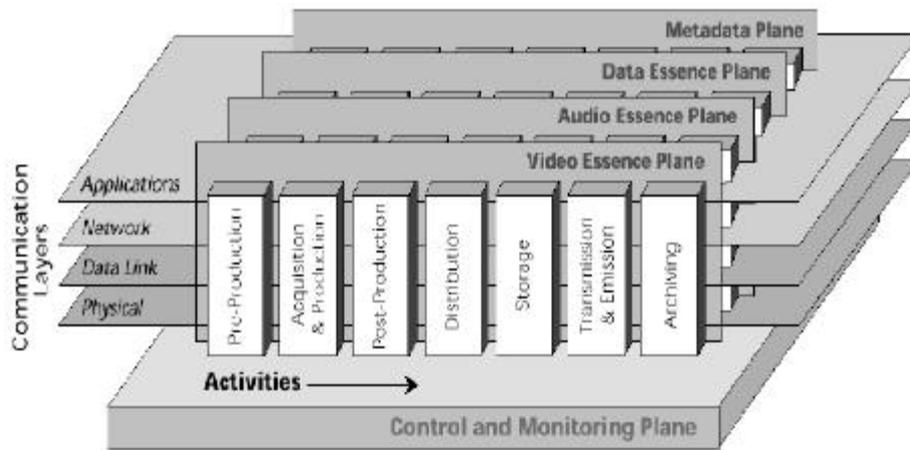
4.

가 . 4
가

가 5

(Activity)

1) (Activities)



5.

1) ,

2) (Essence and Metadata)

가

가

가

가

가

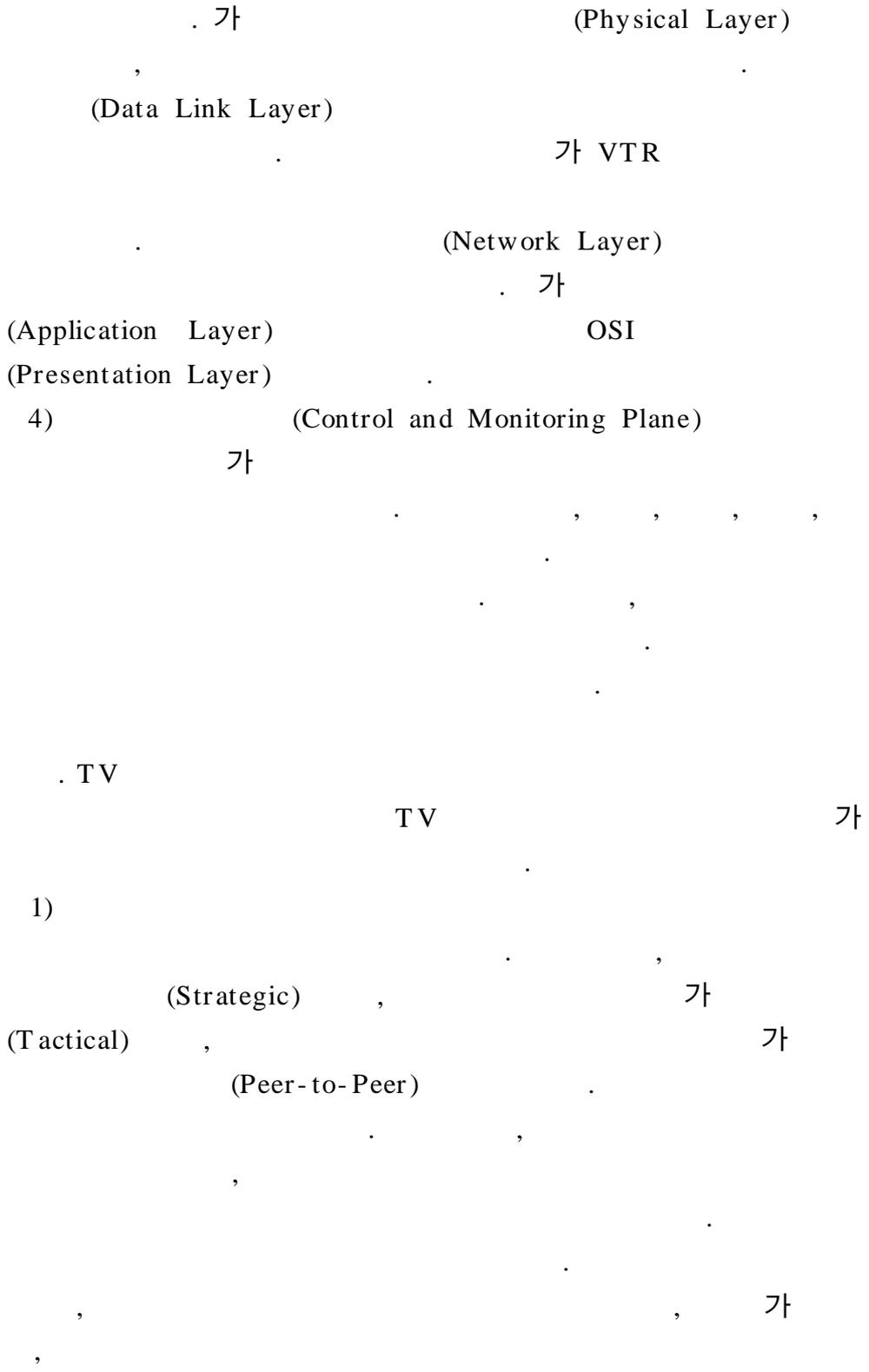
가

가

3) (Communication Layers)

OSI(Open Systems

Interconnection)



2) , ,

가

3)

가

가

가

가

4)

(Serial Data Transport Interface)

SDI

SDTI

5)

가

가

가
DV(Digital Video)

MPEG

. SDTI

가

가

6)

BB(Black-Burst)

가

가

가

가

가

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가

가

3. (Compression)

1

가

MPEG DV

가.

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'97 4 1

가

가

가
(Agile encoder)

가

6

가

- Professional MPEG
- DV
- M-JPEG
- Digital Betacam
- Wavelet Encoding
- Fractal Encoding

가 DV MPEG

. M-JPEG

가

, Digital Betacam

가

가

가 . MPEG-2 4:2:2 P@ML(Professional MPEG) DV

VCR

Betacam SX

DVCPRO

. EBU

가

가 18 25Mbps

MPEG-2 4:2:2 P@ML DV

가

가

(Agile

Decoder) 가

MPEG-2 4:2:2 P@ML

가 18Mbps/sec SX

7

가

가

. DV

50Mbps

GOP

(Agile Decoder)

6

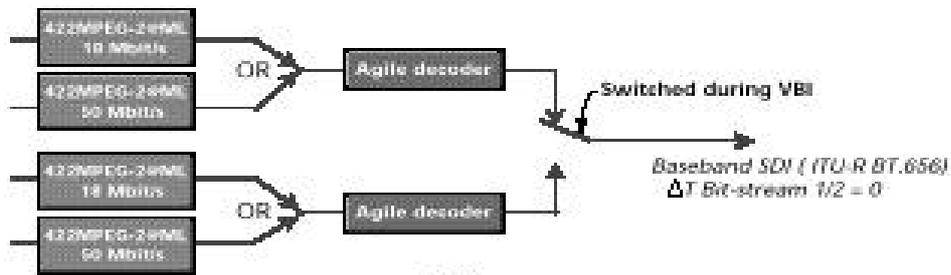
가

6

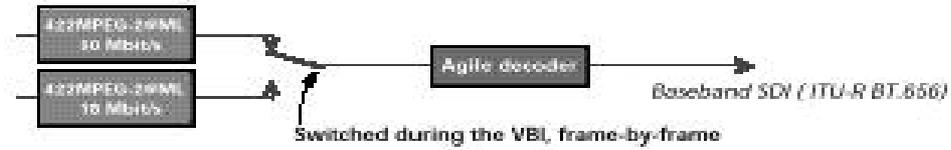
MPEG DV

SDTI

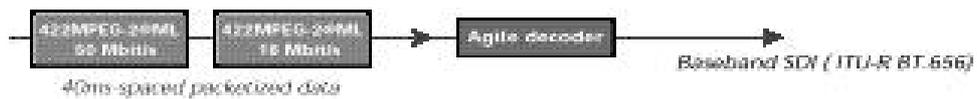
SDI



(a)



(b)



(c)

6.

(a)

(b)

(c)

SDTI

가

M-JPEG

M-JPEG

(NLE : Non-Linear Editor)

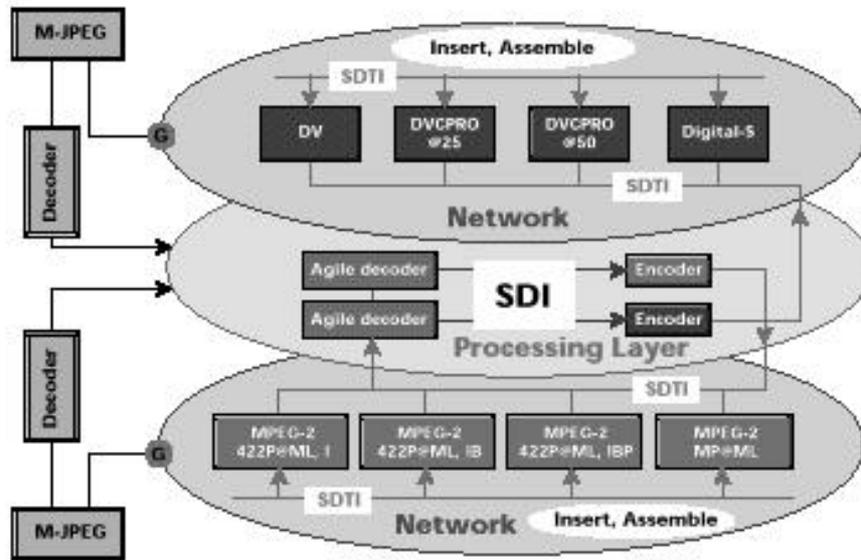
DV

MPEG

가

M-JPEG

가 가



7.

4. (Wrapper & Metadata)

가.

Individual

Header 1	Label 1	Value 1	Header 2	Label 2	Value 2
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Group

Header	Label	Tag x	Value x	Tag y	Value y	Tag p	Value p
--------	-------	-------	---------	-------	---------	-------	---------

Packed

Header	Label	Value 1	Value 2	Value 3	Value 4
--------	-------	---------	---------	---------	---------

8.

SMPTE

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8

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ANSI

SMPTE

(Universal Label)

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SMPTE

(Registry)

. SMPTE

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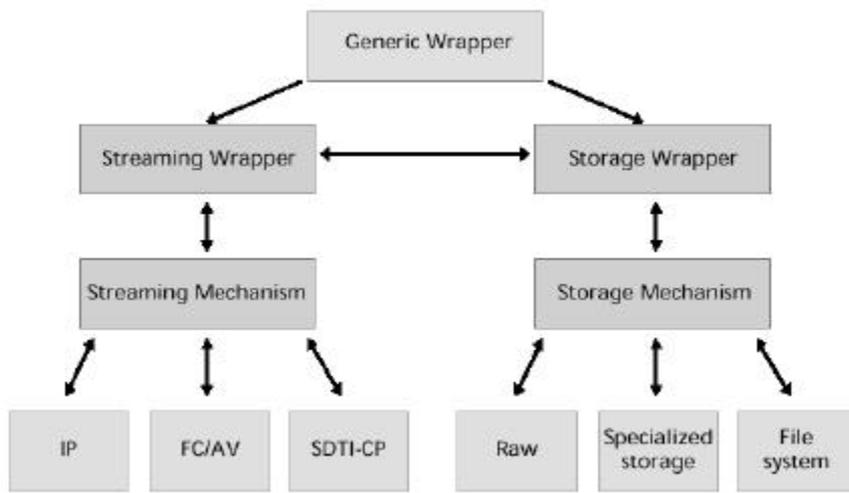
,

, 가

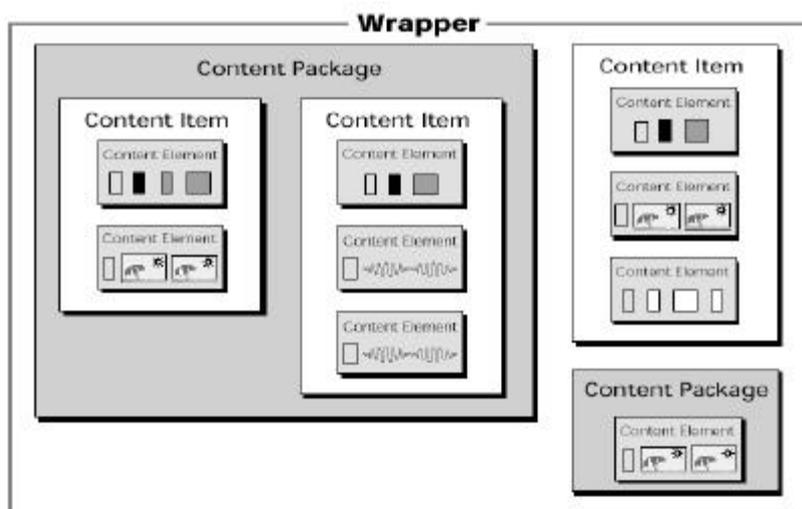
,

SMPTE

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9.



These are all Content Components:

- | | | | |
|--|--------------------------------|--|--------------------------------------|
| | Essence Component (Video) | | Metadata Item |
| | Essence Component (Audio) | | Vital Metadata (e.g. Essence Type) |
| | Essence Component (Other Data) | | Association Metadata (e.g. Timecode) |

10.

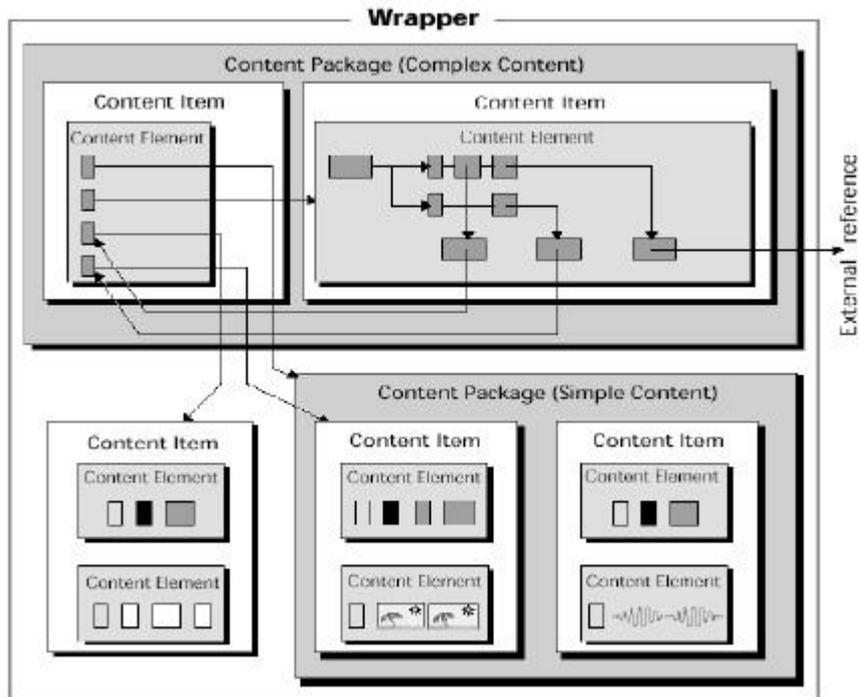
가 가

(Hierarchical)

(Recursive) 가

11

(EDL),



11.

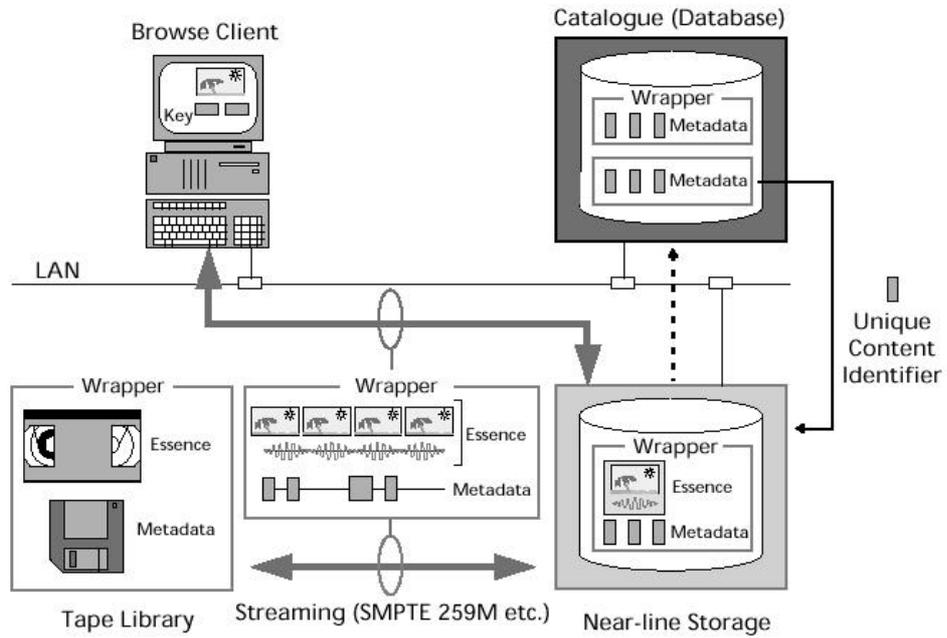
12

가

SMPTE

가

가



12.

5.

(i)

, (ii)

, (iii)

(RFT : Request For Technology)

Advanced Streaming Format

(ASF),

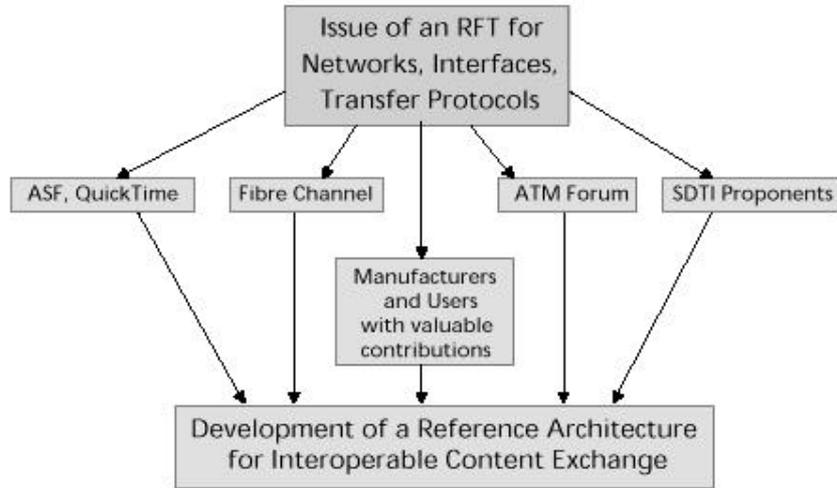
Quick Time,

Fibre

Channel Audio/Video, ATM (Asynchronous Transfer Mode),

SDTI (Serial Data Transport Interface)

, HP AI Kovalick



13.

가

(Streaming)

, DV ATM MPEG FC(Fibre Channel)

, 가 , FC, SDTI, SDI, ATM 가

가

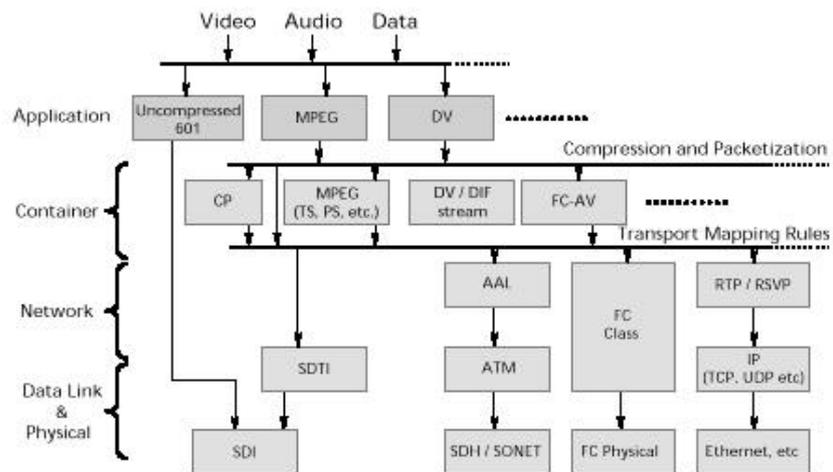
가. (Point-to-Point) (Point-to-Multipoint)

가 , FC ATM

가 (Parameter)

14

SDI가, SDH(Synchronous Digital Hierarchy) SONET(Synchronous optical Network)



14.

, FC, , 가

SDTI

, ATM WAN

가 , FC IP

가 DV, MPEG, FC A/V

가 , SMPTE

○ SDTI

SDTI

○ FCh

SDTI

FC A/V 가

, FC

○ ATM WAN

, AAL1 AAL5

(jitter)

가

, SDTI

WAN

WAN

가

, MPEG ATM

MPEG FC

. DV ATM

, FC
FTP+ ANSI . FC
.

FTP
SMPTE가 FTP+ FTP
TCP/IP . , FTP+
FTP가 , .

:

- FC A/V LAN ,
- FC .
- ATM WAN .
- IP .
- XTP .

6.

EBU SMPTE가 ,

TV

1. H. Schachlbauer et al., "EBU/SMPTE Task Force - Final Report", EBU Technical Review, pp. 1-27, Autumn 1998.