

The logo for 'icube' is displayed in a white, italicized font on a dark, textured rectangular background that is tilted slightly to the right.

방송공학회 디지털방송기술 워크샵
데이터방송 서버 기술

2001/11/23

아이큐브

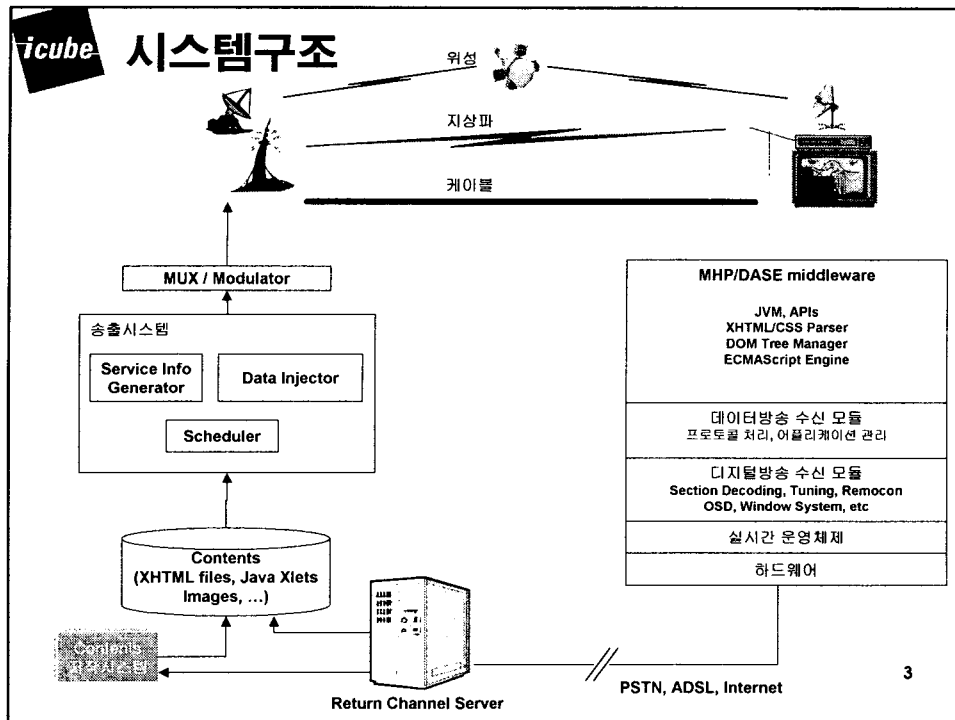
김석원

swkim@icube.co.kr

A small version of the 'icube' logo, consisting of the word 'icube' in white italicized font on a black square background.

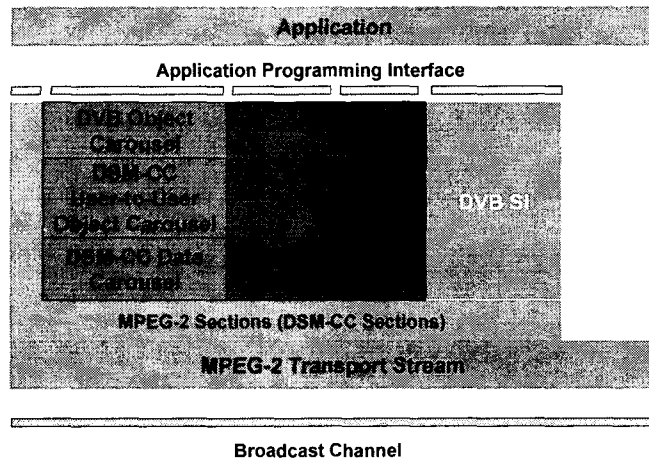
발표 내용

- **전송 프로토콜**
 - Object/Data Carousel
 - Multiprotocol Encapsulation
- **서버 구현 사례**
 - MHP Data Server
 - ATSC Data Server



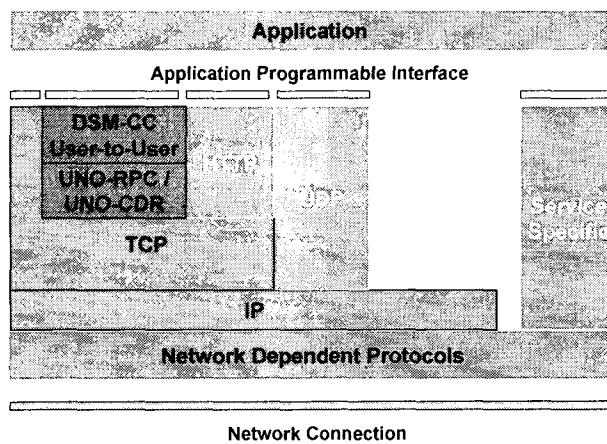
- icube DVB 전송 프로토콜**
- Object Carousel
 - Data Carousel
 - Multiprotocol Encapsulation
 - Synchronous and synchronized data streaming
 - Asynchronous data streaming
 - Data piping
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icube 방송채널 전송 프로토콜 (MHP)

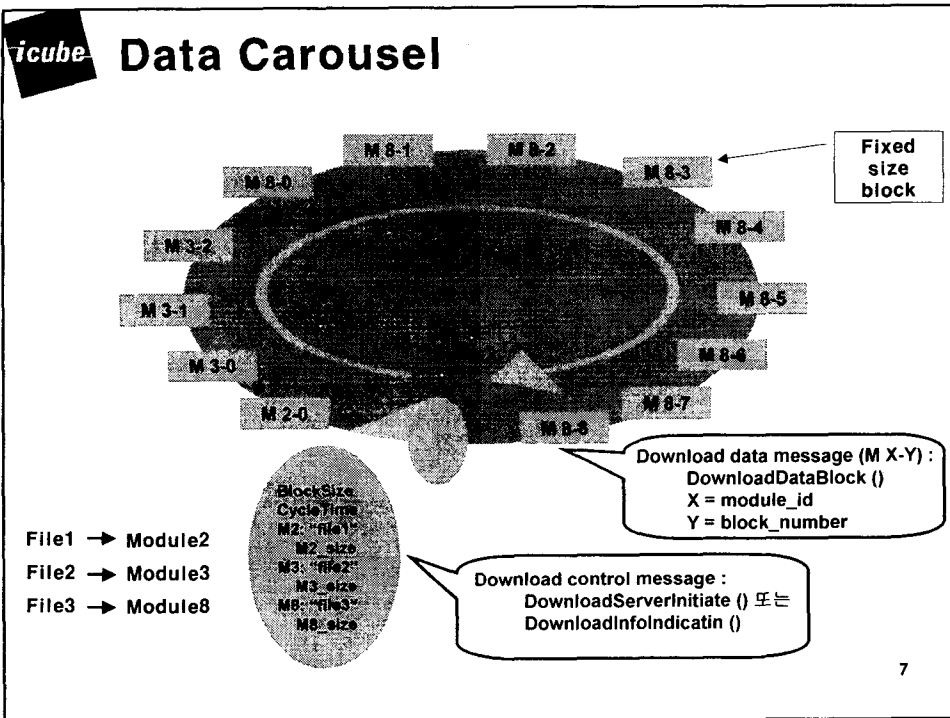


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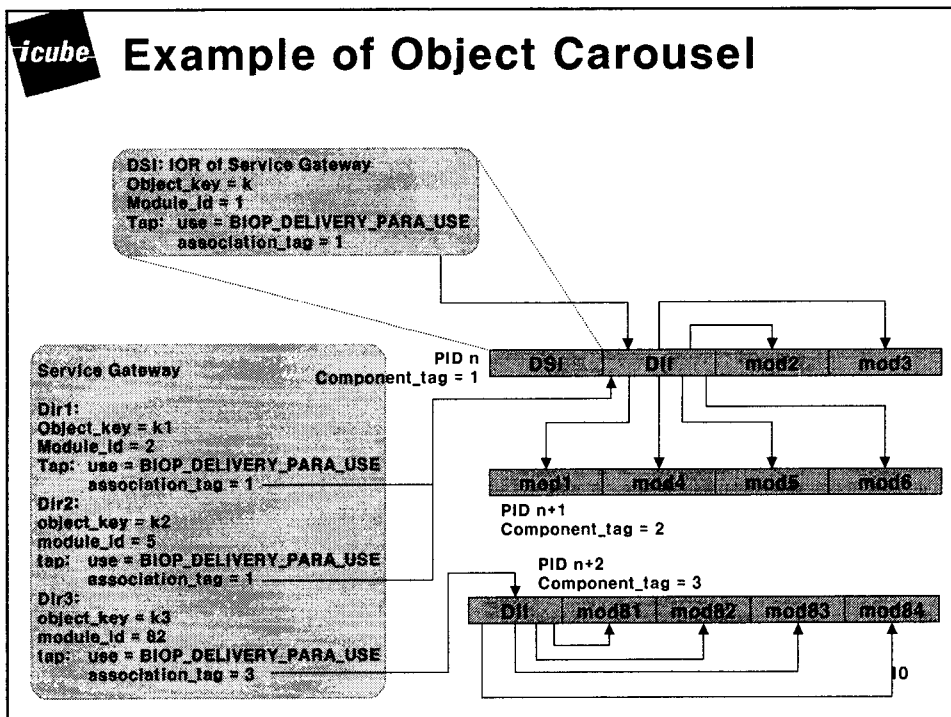
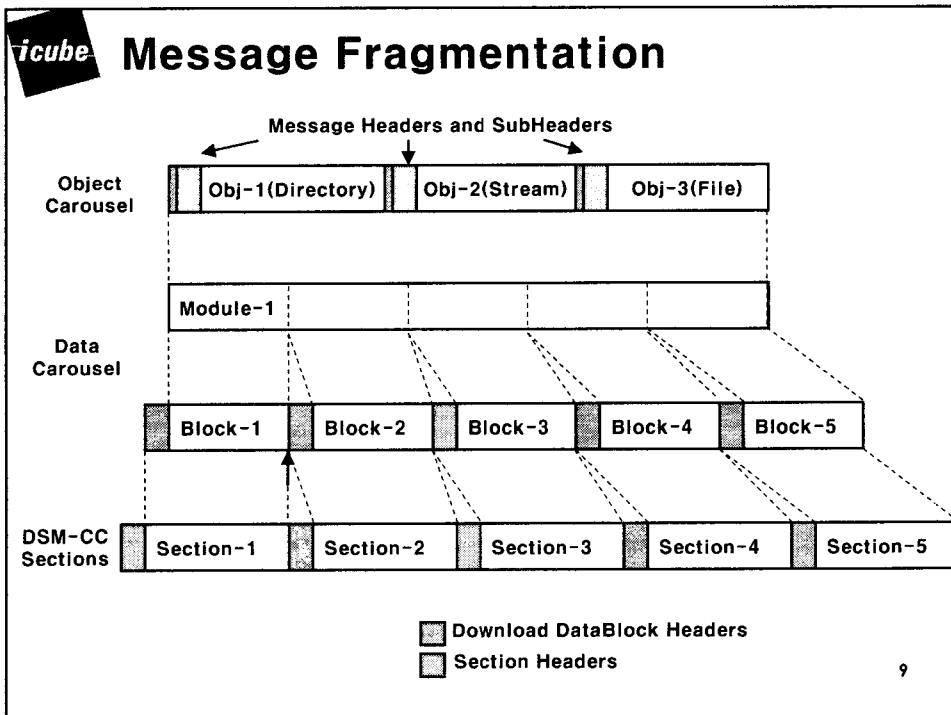
icube 응답채널 프로토콜 (MHP)



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- icube Object Carousel**
- 데이터를 Object로 표현
 - Object type
 - File, Directory, ServiceGateway, Stream, StreamEvent
 - CORBA IOR (Interoperable Object Reference)로 Object 참조
 - 최종 전송은 Data Carousel을 이용
 - 1 Module contains N Objects ($1 \leq N$)
- 8



icube Multiprotocol Encapsulation

- Datagram을 Datagram 섹션 형식으로 전송
- IP의 경우 1 Datagram이 1 섹션에 할당
- 섹션 헤더에 MAC address 표현

48-bit MAC address byte: [MSB] [LSB]

Section:

Table Id	...	Section length	[MAC Address]	reserve	...	Last Section number	...
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icube Application Signaling

PMT

- PID
- App. Sig. Desc.
 - type
 - version

Application Information Table

- Transport Protocol Desc.
 - Object Carousel
 - Internet Protocol
- Application Desc.
- Application Name Desc.
- DVB-J App. Desc. (Startup Parameter)
- DVB-I App. Loc. Desc. (directory, class path, initial class)
- (parameter) (physical root, entry point)

선택

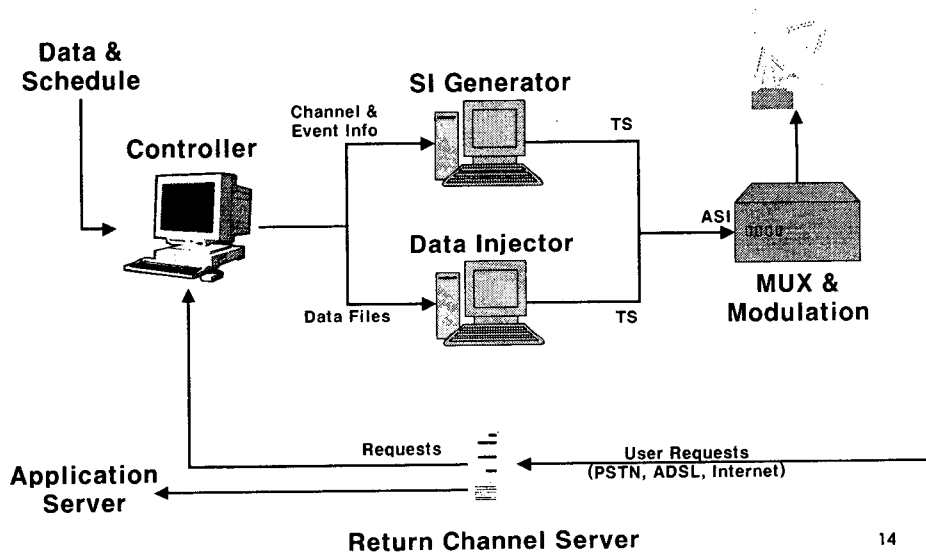
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icube 데이터 방송 서버의 기본 기능

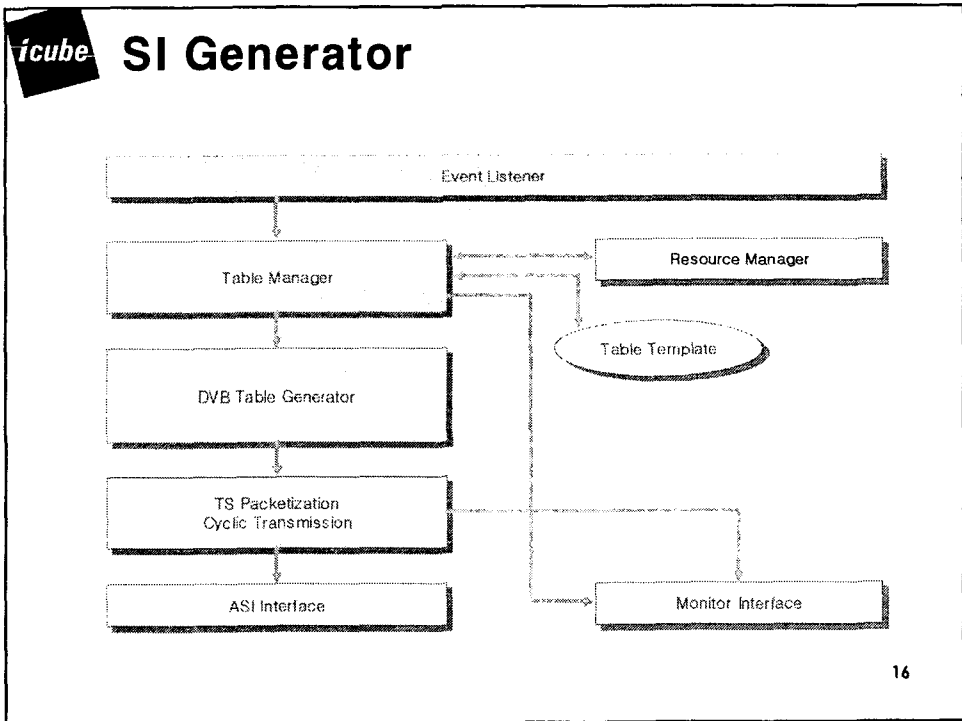
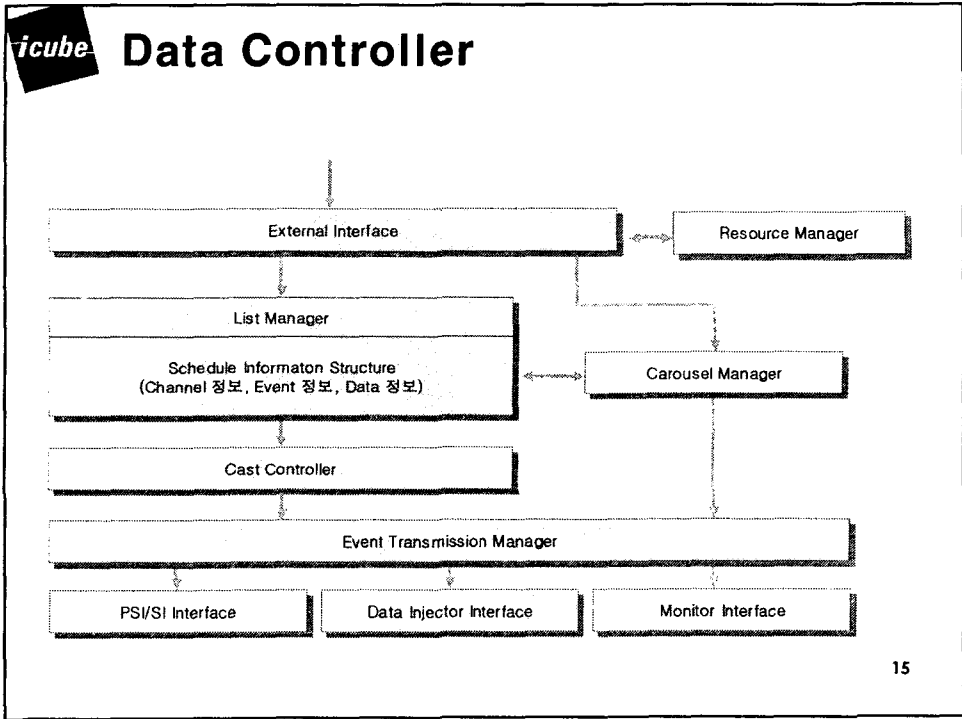
- **편성 관리**
 - 채널 구성, 이벤트 관리
- **서비스 정보 생성**
 - PSI/SI, PSIP
 - 데이터관련 테이블 : AIT, DST
- **데이터 인코딩**
 - Carousel, MPE
- **섹션 전송**
 - 주기별 반복 전송
 - MUX에 고속 전송

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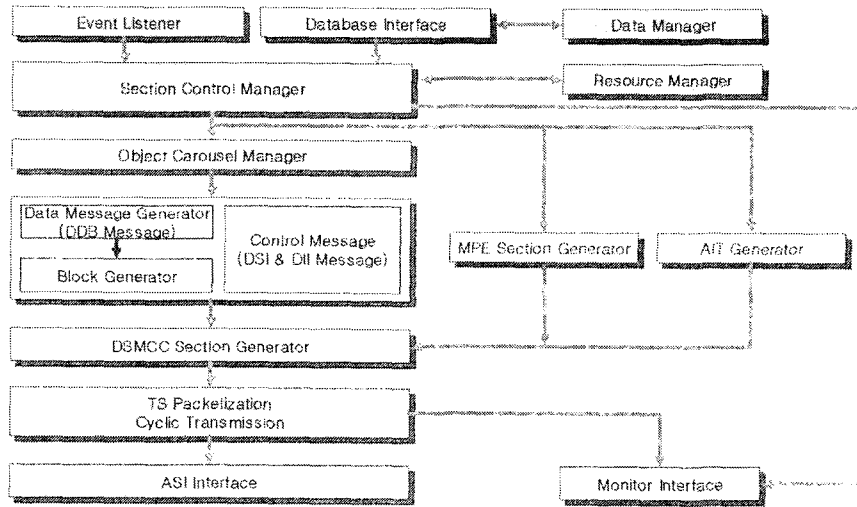
icube Headend System



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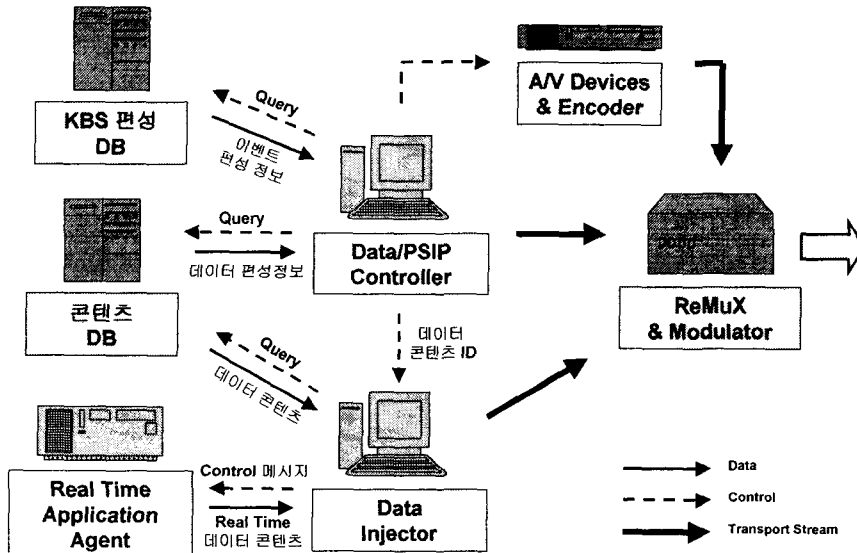


icube Data Injector



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icube KBS 데이터 송출 시스템 구성(ATSC)



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기타 고려사항

- 안정성
- 장애 대처 구성
 - Redundancy
 - Isolation
- 시스템 감시
 - 전송 상태, PID별/테이블별 전송률
 - 메시지 로그
- 성능
- 확장성