ATSC 3.0

What Does "Next Gen TV" Mean for MVPD Operations?

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Terms and Definitions

ATSC	• Advanced Television Systems Committee
COFDM	• Coded Orthogonal Frequency Division Multiplexing
ATSC 1.0	• Current Digital Broadcast TV standard • Uses 19.4 Mbs data rate
ATSC 3.0	• Data rate can vary up to about 57 Mbs.
HDR	• High Dynamic Range-HD format for more realism
4K, 8K	• Ultra HD- 4 times and 16 times the full pixel resolution of full HD

ATSC 3.0 is really a family of standards for "Next Generation TV"

It is a non-backward compatible, internet integrated system

Provides for Enhanced EAS, 4K, mobile video, roaming handoff, and internet augmentation, and more

Strong support for “Next Generation TV” (ATSC 3.0) is coming from Sinclair Broadcast Group and Nexstar Media.

Together they have announced a tentative agreement to launch ATSC 3.0 in 97 markets.

The FCC is expected to act on ATSC 3.0 approval by the end of 2017.

It is expected to be a voluntary standard, using the marketplace rather than government decrees as the driver.

Why are broadcasters interested in moving to an entirely new transmission standard?

- Capturing the mobile video market
- Support for the emerging video standards of: HDR, 4K, 8K, and beyond
- Higher video quality
- Protecting and growing revenue sources
- Immersive audio
- Hybrid broadcasting by using OTA and OTT systems
- Audience measurement
- Targeted advertising
- Enhanced EAS
- Competing better with emerging OTT sources
- Tablet viewing
- Supplementing OTA Capacity with the internet
- Data broadcasting
- SVOD, VOD, subscription based programming

Timing and Process

FCC issued a “Notice of Proposed Rule Making” on Feb 24, 2017

The comment period ended May 9th. Ex Parte input is still being accepted

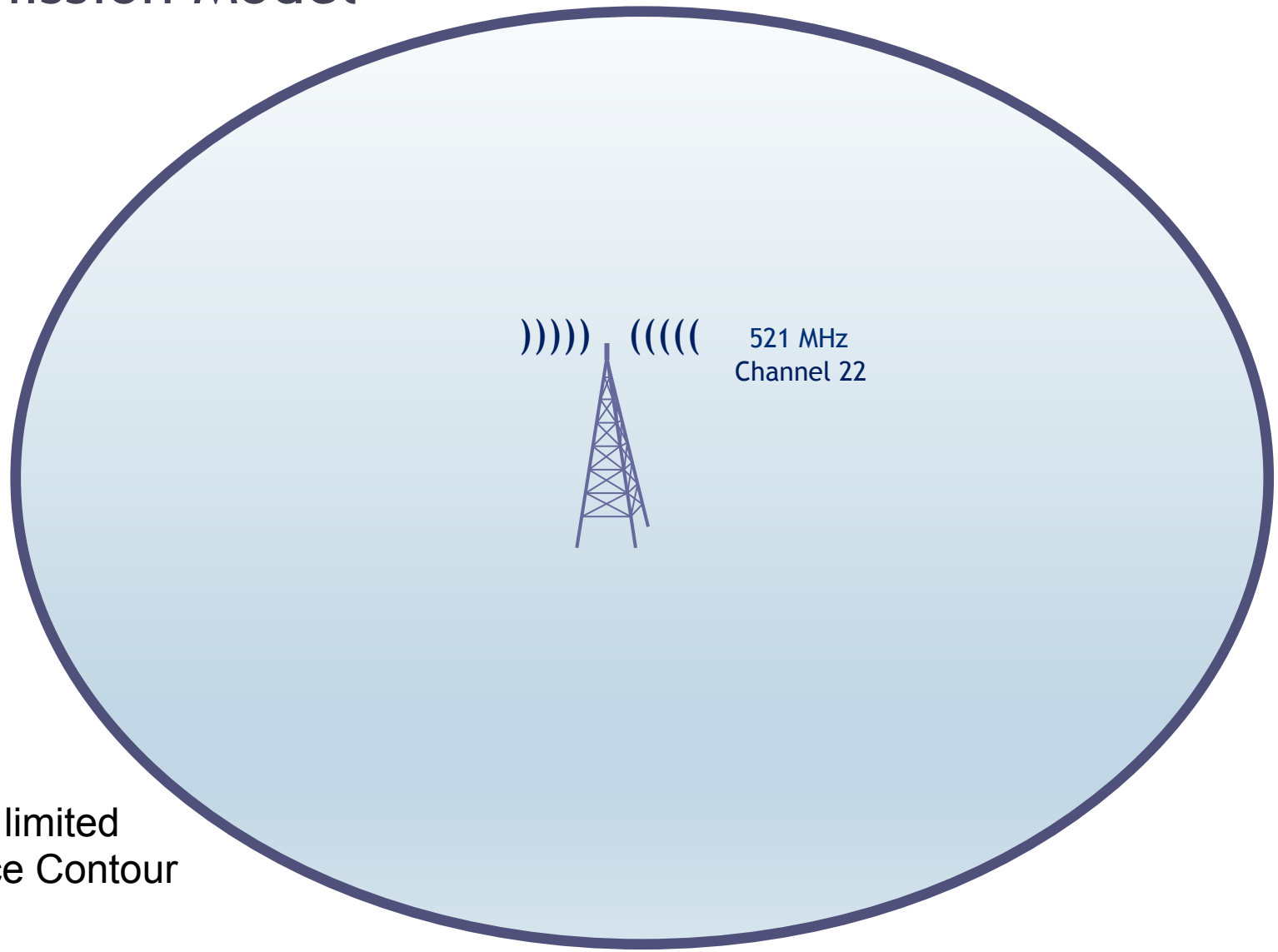
Request for voluntary deployment of ATSC 3.0, while continuing to provide an ATSC 1.0 service in the DMA

No requirement for continuing all multi-cast services in ATSC 1.0

Chairman Pai would like proceedings completed before the end of 2017

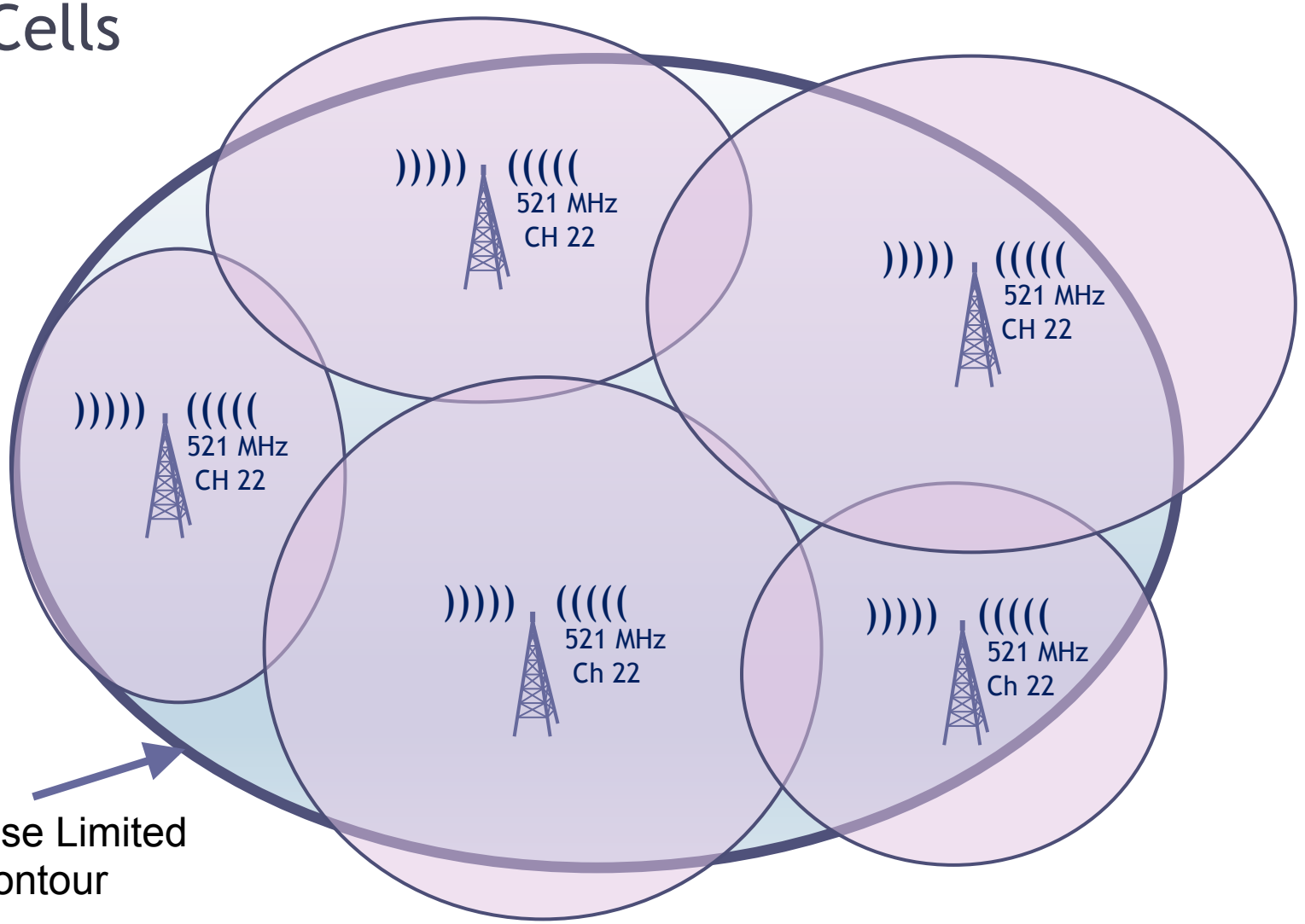
Activity is happening concurrent with the incentive auction frequency repack plan

Today's Typical Broadcast Transmission Model



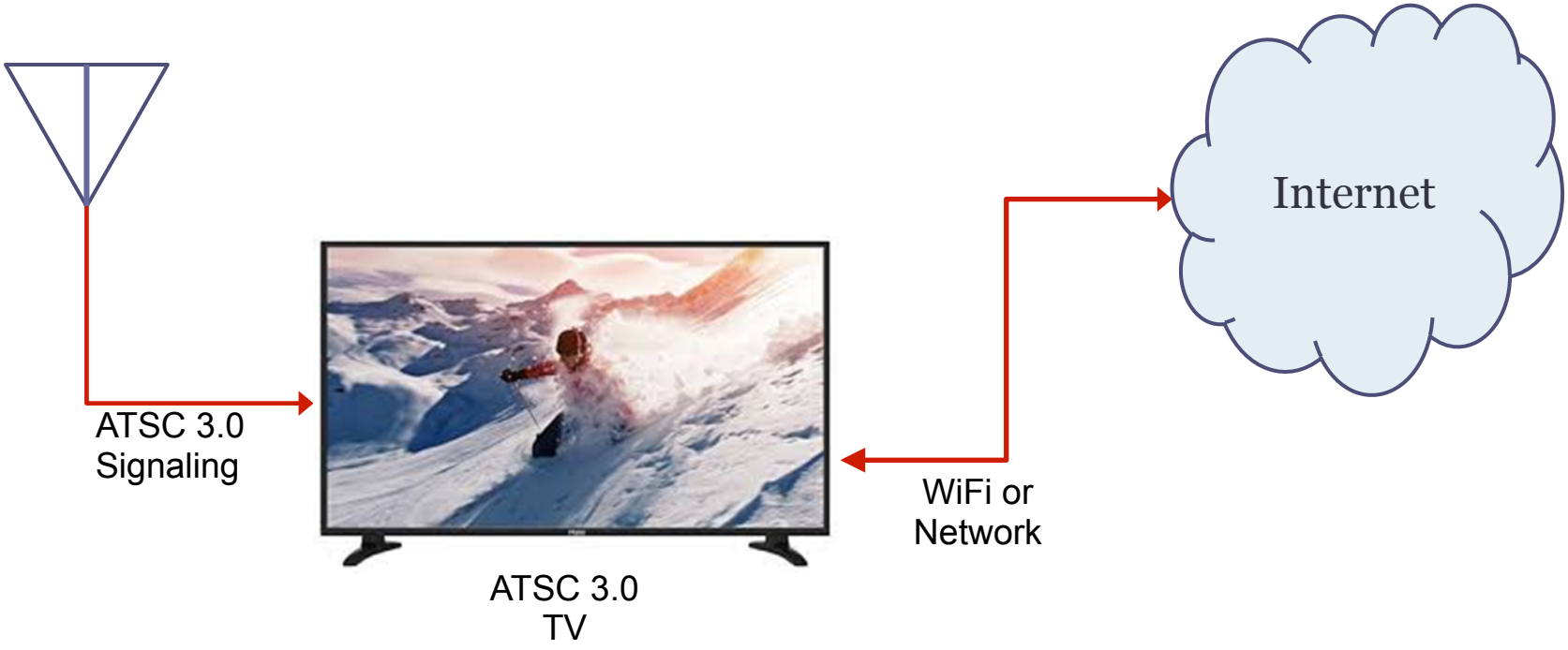
Noise limited
Service Contour

Multiple Transmitters Operating as a Single Frequency Network (SFN) Cells

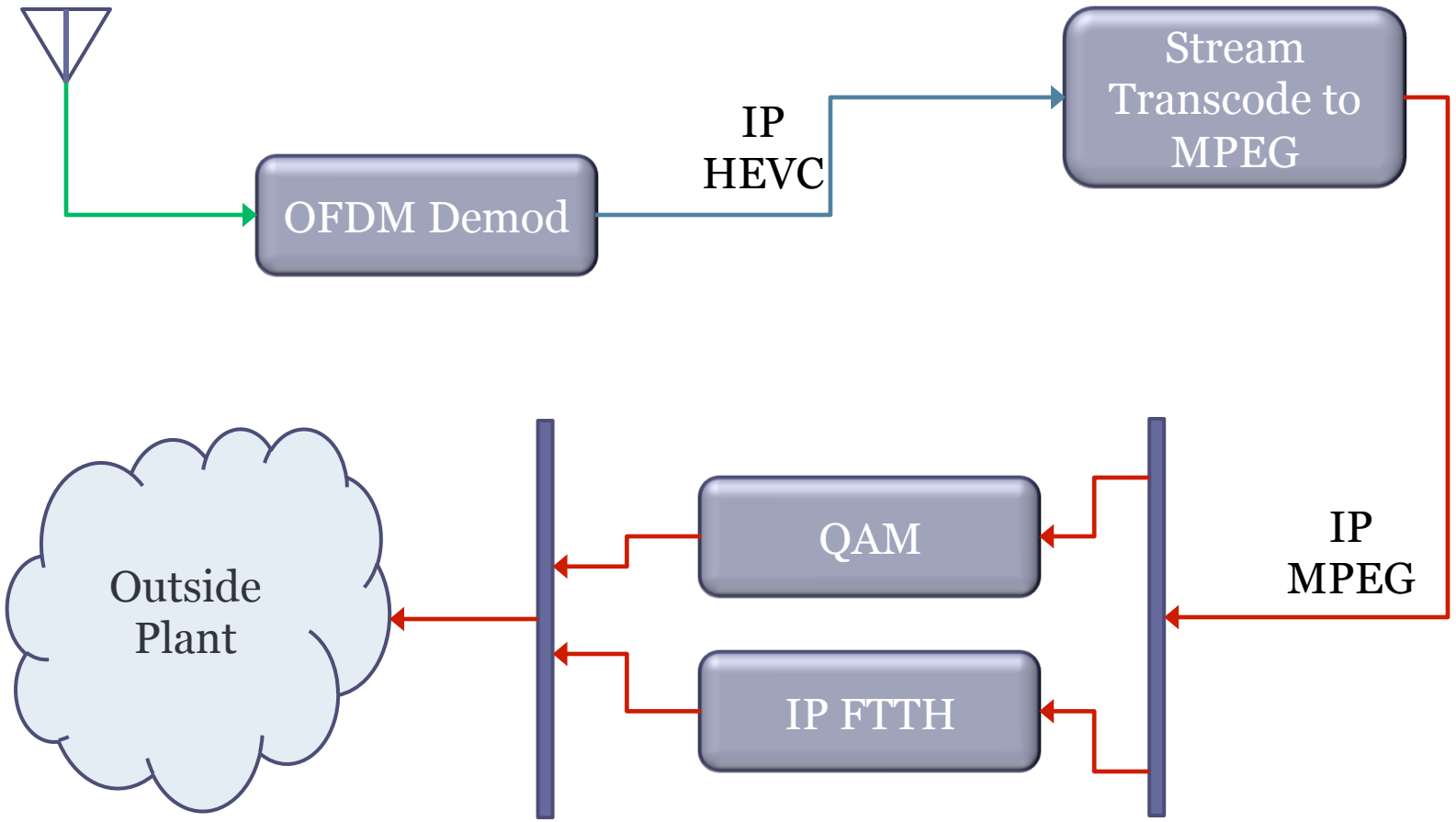


Mobile Video Handoff Scenario

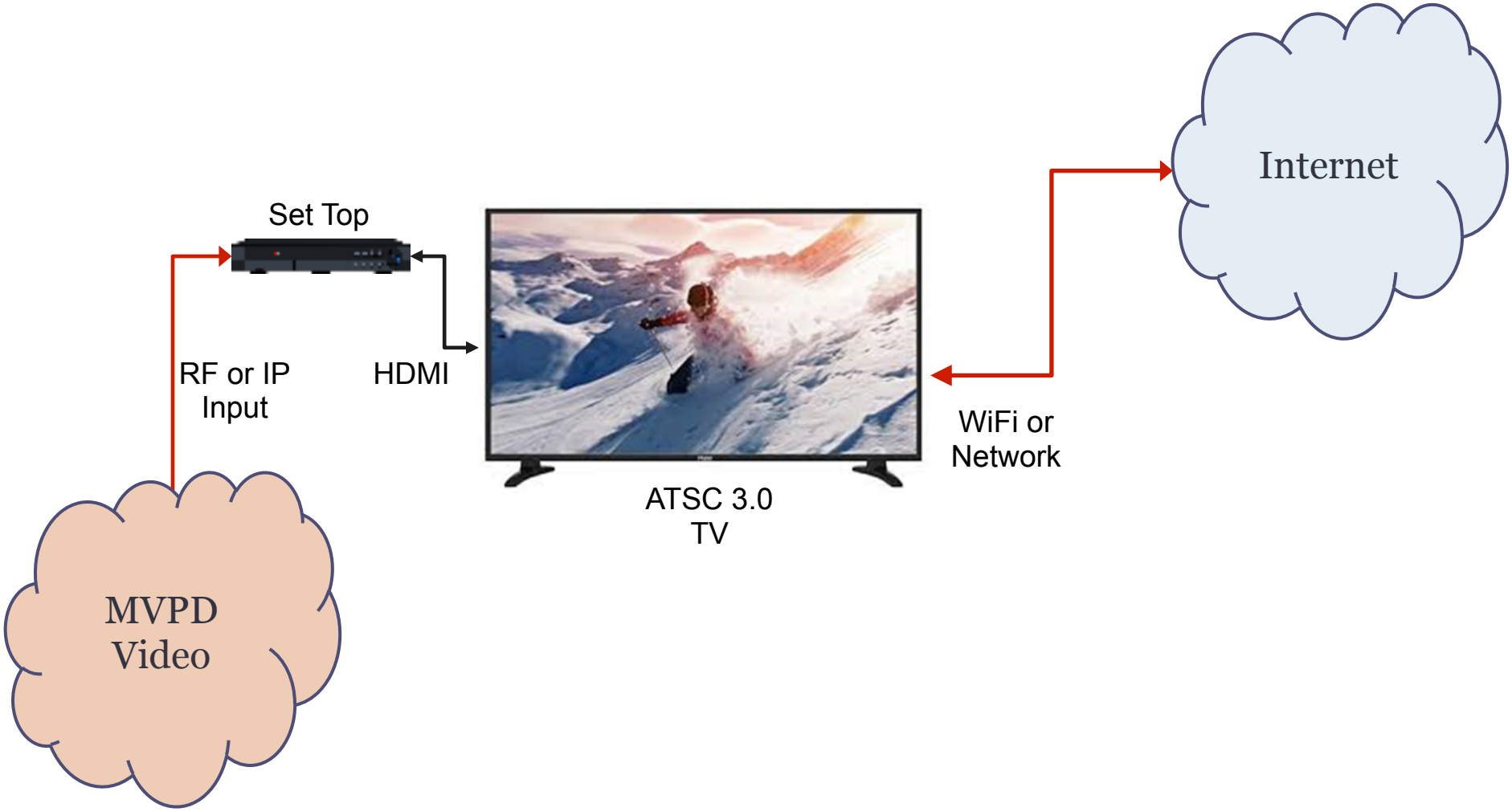
COFDM Direct Off-air Reception



Off Air MVPD Reception



MVPD Distribution



Channel 8 ATSC 1.0

KIFI-ABC HD
Program 3
PID 100

Telemundo SD
Program 4
PID 200

The CW SD
Program 5
PID 300

24 Hr News SD
Program 6
PID 400

8 VSB 6 MHz wide carrier
Entire package is 19.4 Mbs

Channel 6 ATSC 1.0

KPVI-NBC HD
Program 3
PID 150

Decades SD
Program 4
PID 250

Cozi TV SD
Program 5
PID 300

8VSB 6 MHz wide carrier
Entire package is 19.4 Mbs

8VSB Demod Plus multiplexing

KIFI-ABC HD
Program 1
PID 500

24 Hr News SD
Program 2
PID 501

The CW SD
Program 3
PID 502

KPVI-NBC HD
Program 4
PID 503

ATSC 3.0

KIFI-ABC HD
Portion of Stream

The CW HD

Metadata

24 Hr News SD
Local segments

COFDM 6 MHz wide carrier
Estimated peak data rate to 57 Mbs
Dynamic Program assignments

COFDM/Internet/HEVC Transcode to MPEG

KIFI-ABC HD

24 Hr News SD

The CW HD

Targeted Ads

Time Shifted Programming

Internet Component

KIFI-ABC
Final pieces to finish HD stream

Time Shifted Programming

Targeted Ads

24 Hr News SD
National Segments

We Are Video!

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