


# LTE Broadcast

## Offloading Technologies

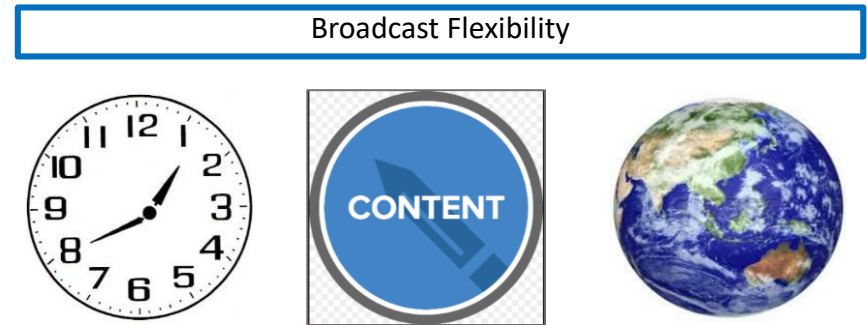
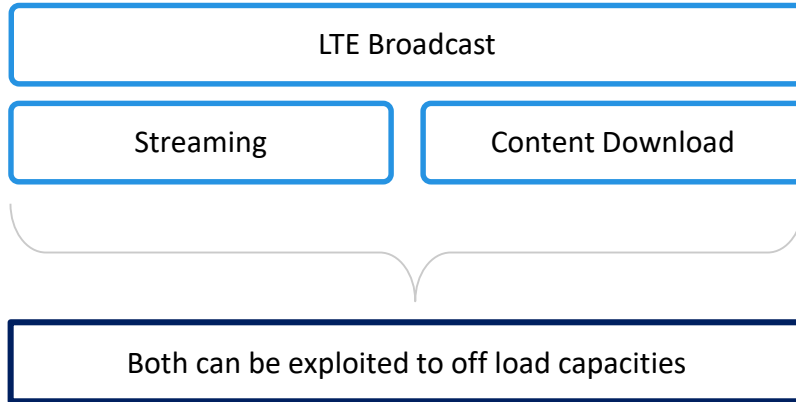
10 Oct 2019



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- The background of the slide features a close-up of a silver, mesh-covered microphone on the left side. The rest of the background is a dark, out-of-focus scene with several bright, circular bokeh light spots in shades of blue, white, and yellow, suggesting an indoor event or stage setting.
- Introduction
  - Status of LTE Broadcast at Jio
  - Benefits of LTE Broadcast to all stakeholders
  - Conclusion

## Point-to-multipoint (One-to-many) technology that enables efficient distribution of content

- Distribute content simultaneously to large number of users
- All kinds of content can be delivered – linear, live multimedia (e.g. TV, video, music), static content, software, data and information
- Provides Streaming and Download Services to mass users
- Flexibility in service offering based on time, content and geography



225000	eNB	8	BMSC
130000	Small Cells	41	MBMS Gateway
14	Cricket Stadiums	41	MME
147	Device Models	84	MCE

Jio has 100 mn users in the network with eMBMS Devices

## Peak Day Stats (15<sup>th</sup> May 2018)

90K

Viewership in hours

2.1 M

Sessions

61

TB Data

## Season Stats (April 18 to June 18)

431K

Viewership in hours

8.7 M

Total Sessions

314

TB Data



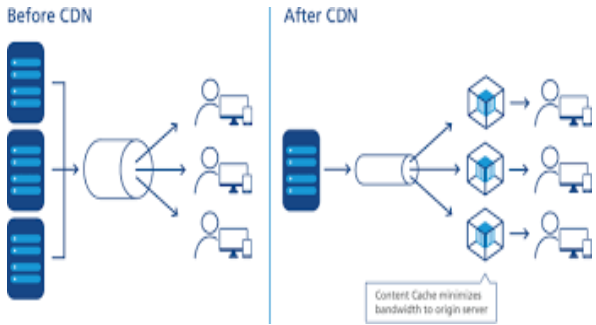
eMBMS performance is excellent, it is scalable and can deliver its promises

View Offline  
Anytime,  
Anywhere, Buffer-free



- Push Content to Devices
- Bringing CDN beyond the edge; Transform end user devices into CDNs
- Watch offline through pre-caching of content on user device
- Buffer free experience
- User can play content in repeat mode
- Provides new usage avenues like in aircraft, long route trains etc. where there is no or poor connectivity

## Reduced Server Footprint

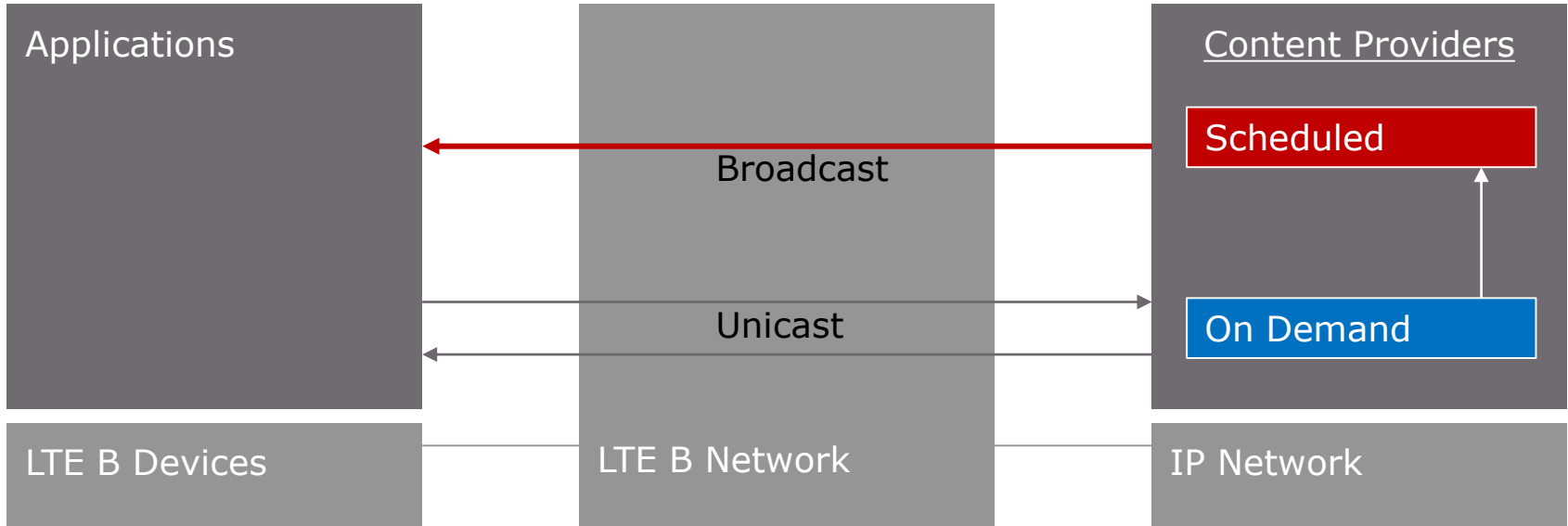


- Reduce server farm requirement
- Broadcast infra is independent of user traffic
- Reduced TPS on Platforms
- Less Bandwidth to and from Platforms
- Caters to bottleneck in concurrent sessions at Server/ CDN and CSP air interface resources
- Reduce cost by paying less to CDN providers

Most Spectrum  
Efficient

- Broadcast by nature is very spectral efficient
- Offloaded capacities can be used for more users and for more applications
- Various methods are explored to reduce congestion – eMBMS must be one of them
- If eMBMS is used aggressively UX will improve
- SPs/Govt will save on spectrum





- Some 'On Demand downloads' can be converted to '**scheduled downloads**'
- **Many downloads can be scheduled** (FOTA, Apps Upgrades, subscribed content)
- Better User Experience, improved subscriptions, improved success ration, reduced platform footprint – **benefit to all stake holders**
- **Take CDN to next level**

- eMBMS as a technology is now **performance proven and scalable**
- Offloading opportunities are tremendous with growing GB usage per user
- Stake holders (**Devices, Apps & Content**) to **aggressively support** the evolution of eco system
- Broadcast bearer is to be recognized as the first delivery option by the Content Providers
- Let Unicast and Broadcast coexist and complement each other

Thank You

