5g Network For High Speed Video Streaming With Encoding And Decoding Digital Circuit

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ABSTRACT: The high speed internet helps to increase the usage of video streaming. The existing system have lack of speed for video streaming which down the video streaming industry. The proposed system uses new encoding and decoding which increases the speed of video streaming. It also uses an equation to increases the speed of video streaming. The size of data is calculated based on latency time and response time. When we get the first data and then size is calculated. Based on the first data and size next data is calculated.

KETWORDS: video streaming, high speed network, encoding

I. INRODUCTION

1. XtremeHD

XtremeHD helps on streaming across the globe in ultra-high definition is what you seek. By simply signing up to its services, you get access to over 20000 live channels and VODs. You get access to popular shows from the US, UK, Canada, and more countries across the globe. Each of its subscription plans comes with an EPG TV Guide to help you navigate through the broadcasting schedule so you know exactly when to catch your favourite shows or movies. You also get the privilege of watching videos in Full HD, HD, and SD resolution. In addition, XtremeHD IPTV also features anti-freeze technology, meaning you'll be able to enjoy content without interruption.

2. Youtube

YouTube still has been one of the finest free streaming services in high demand. It not only bought a variety of good content free to the mobile screens of many smartphone users, but it also provided many talented folks to become creators in their own right by producing and publishing video content of their own, thus becoming celebrities overnight.YouTube TV takes this concept and expands on it by asking subscribers to pay an affordable fee to get their content without the annoyance of ads. However, that alone can't be an enticing option, so YouTube also launched its own original content programming to compete with Netflix and Prime.

YouTube TV now boasts of broadcasting over 85+ channels in one streaming platform, which includes content from Sports, News, and Entertainment. It allows you to record your favourite shows with unlimited storage and provides you with 6 accounts at a time.

3. Netflix

When Netflix began showcasing licensed content nobody even imagined the revolution it was starting with regards to online streaming of entertainment. People were charmed by its services and grew addicted to the service it was providing.

Fast forward to 2021 and Netflix exhibits the majority of the content that is being produced in the United States alone. It is also a major player in creating original content by partnering with creators from across the world. Shows House of Cards and Stranger Things are already pop culture phenomenon's that have only boosted in popularity.

Although Netflix faces tough competition with new and old players bringing their A-game in, the platform still has the upper hand by being the pioneer of the streaming services we know and consume today.

II. BIG DATA ANALYSIS

Latency is the   time it takes for a data packet to travel from one designated point to another.Response time is the time taken to transmit the data process it by the computer, and transmit the response back to the terminal

Performance Time t =latency-Response

Let t is the time ,l is the latency and r is the response. Then the equation

$5l^3-3r^2+t+d=0$

Digit sum of'd' will get the actual size of the data

$A_{ssume\ that\ first\ data\ is\ dfirst}$

d_{Next} is given by

$d_{next=}d_{first}^4/(2^5/8*1024*1024)$

Have to take six digit from right after the decimal point of d_{next} will get d_{actual}

Example:

Let latency time is 5 and response time is 5.25

Performance Time t =latency-Response

So performance time is 0.25

Let the request send and performance time is 15 minutes by using the equation

$5*(5)^3-3(5.25)^2+0.25+d=0$

.545.5625+d=0

d=-545.5625

size=5+4+5+5+6+2+5

size=32 bits

Let the first data is 5000

$D_{next}=$ $5000^4/(32*1024*1024)$

D_{next} =18626451.49231

$d_{actual=}$6264451.5 round as 6000

III.   ENCODIG AND DECODING

ENCODING
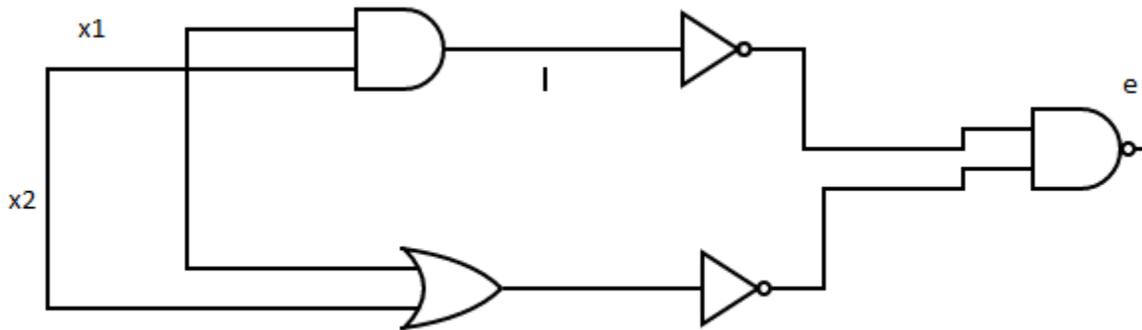
X1 and X2 are the inputs to the digital circuit and 'e' is the output after encoding. AND, NOT,OR AND NAND gated are used for encoding.

X	Y	Output
0	0	0
0	1	1
1	0	1
1	1	1

DECODER
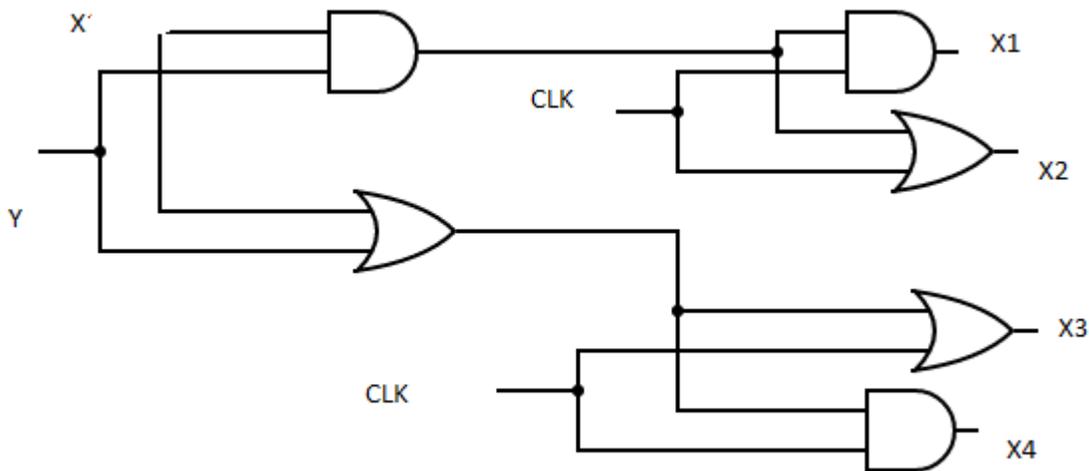
X and Y are encoded value and CLK is the clock.The decoder circuit decode E to X1X2X3X4 with clock.AND,OR gates are used to design the circuit.