

June

శ్రీవామలుని, ఉత్తరాయణం
మాసం బుధవారము, తేవాళమాసము
మాసగంవారము/TUESDAY

Sunrise 5-48 AM 24/1



2021

బ.ప్రష్టి ఉ.కో.5-57, సప్తమి తె.కో.5-24
భనిష్ట రా.కో.8-56
తె.వ.4-14 ల 5-52

1

Sunset 6-33 PM

Report - Below 25 slides - ppt

- Present in class
- Make notes

- Can go with latest development from google scholar
- use of journal paper

Network Layer - Topics

- Logical IP addressing

↳ IPv4, Classful address, classless address

- IP → Formal e.g. IPv4, Fragmentation (how pkts are fragmented)

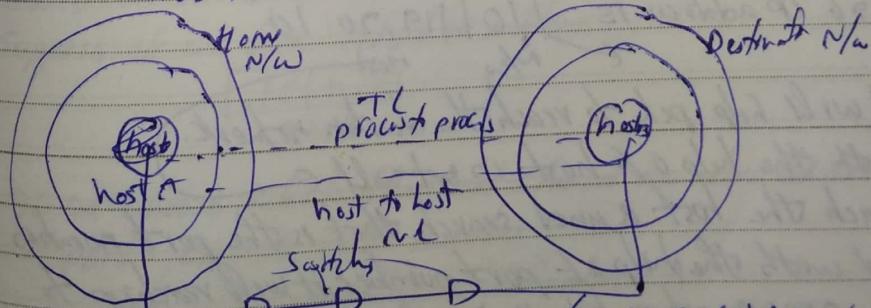
→ Auxiliary protocol - ARP, RARP, BOOTP, DHCP

- Forwarding and Routing - static Routing Protocols

Dynamic Routing protocols.

IPv4 - IP Version 4

we have diff hosts which are in same N/w



If A want to send a pkt to B by creating a process we &

దిద సమాజానికి వ్యక్తికి అనుసరించడగానిలా ఉంటుంది అదే ధర్మం.

Dharma is the same virtue that the society and the individual have to follow.

June

2

అప్పిల్ తెగం, రీ-13
శబ్దిషం రా.గం, 9-18
కె.ఎ.3-54 ల 5-33



2021

తీస్యవనామసం, ఉత్తరాయం
వనంత ముతుపు, లైశాఖవాసము
యథవారము/WEDNESDAY

Sunrise 5:48 AM

Sunset 6:33 PM

generating packet and that pkt will go to host to hosts
that means from n/w to destination n/w. So this is process - process
communication i.e., one process is communicating with other process.
If we want to communicate host to host then N/L & included
and if we communicate / connect with switches then it
is called hop to hop connectivity which is performed through
data link layer.

So in N/W layer we are creating a process ex:- If we
write www.sosoek.com then it will have IP address
N/W Host

DNS - resolve IP address by name

To reach the destination network we need N/W ID.

So in n/w a process is created and the process will work
www.sosoek.com then DNS will resolve its IP address.

so its IP address is 110.119.20.10
N/W Host

It will help pkt to reach the destination network.
with the help of host ID it will
reach the host & and search that is the port number
and with the help of port number it will reach up to
the process where http is running.

తానాట సుందరి కి ధృతం ఆచరణలో ఉండి. అదే నొనుతపు ధృతం.

Dharma is the same orthodox virtue that is practised from the eternal.

June

ప్రాణమును||, ఉత్సాహం
ప్రాణమును, వైకాఖమును
ప్రాప్తి బుట్టు, వైకాఖమును
ప్రాప్తి/THURSDAY

Sunrise 5:48 AM

2021

నవమి తె.గో.5-32
పూర్వాభాద్ర రా.గో.10-09
వర్షము లేదు

3

Classfull addressing Scheme

Sunset 6:34 PM

→ IP address. - (IPv4 → 32 bit Address + divided into 4 parts)

8	8	8	8
---	---	---	---

→ 64 →

8	8	8	8
---	---	---	---

 → 0-255

8 bits → 110.111.20.10 → range.

0-255 0-255 0-255 → range.

If we have one bit then it will either be 0 or 1.

1bit → 0
when we consider 2 bits →

0	0
0	1
1	0
1	1

 $2^2 = 4$

2bit →

1	2
D	1
O	1
1	0
1	1

If we consider 3 bit then it will divide into 2 parts and if we consider then it will divide into 4 parts, when we consider 2 bits it will divide into 8 parts. So it depends on how many bits we are choosing. If we choose k bits then it will be divided into 2^k bits.

Suppose if we have n bit IP address.

K	$n-K$
n bits	

If we choose K bits then it should be divided into 2^K parts consists $\rightarrow 2^n$ number

2 part $\rightarrow \frac{2^n}{2^K} = 2^{n-K}$ numbers

వీడలు, ఉపనిషత్తులు, ధర్మశాస్త్రాలు, జాతివీచిలు, పురాణాలు - ధర్మార్థ ప్రమాణాలు ఉన్నాయి.

The standard of righteousness is established using Vedas, Upanishads, Sastras, Epics and Puranas.

2021

శ్రీ విష్ణువు సంగమం, తృతీయ పాలన
వసంత యాత్రి, కైలాశ పాలన
కుతుర్బము/FRIDAY

June

4

సాప్తాహి
అప్పాప్రా నెం. 11-31
ఏ.సి.8-17 వి. 9-39



Sunrise 5:48 AM

Sunset 6:34 PM

So if we have 32 bits \rightarrow then we have 2^{32} IP address. and if we consider 8 bits then it will become $2^8 = 256$ parts.
so each part we have 2^8 number IPs
So we can create 256 networks if we divide into 2^8 parts.
Suppose if we have 16 bits then we can create 2^{16} no. of hosts
i.e. each n/w \rightarrow 1P \rightarrow 2^{16} no. of hosts we can create.

\rightarrow If we have 2^{32} IP address in the file so if we want to divide into 2 parts so one part will be 2^{16} and other part we have 2^{16} .
So we taking only one bit. So we will say '0' for one part and '1' for another part.

32 bit

0	- - - - -	0
0	- - - - -	2^{16}
1	0 0 0 - - -	- 11
1	- - - - -	2^{16}
1	1 1 1 1 1 1 1 1	1

Let we have 4 bit $\rightarrow 2^4 = 16$ numbers then we need to divide into parts then $16/2 = 8 = 2^3$

మాత్రమే సాధువు భద్రమే, మాత్రమే ప్రయత్నమే భద్రమే.

The principle of salvation is virtue. Righteousness is the ultimate salvation.

June

శ్రీవామనస్తోత్రమ్, ఉత్తరాయణం
సంక్లిష్ట మంత్రము, వైశాఖమాసము
ప్రారమ్మ/SATURDAY

sunrise 5:48 AM



2021

దశమి ర.గం. 6-16
రేవతి రా.గం. 1-19
వ.వ. 12-24 ల 2-08

5

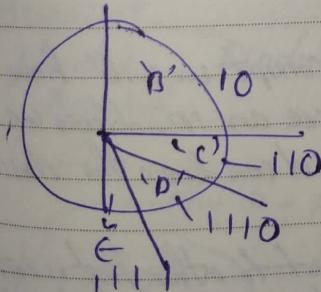
Sunset 6:34 PM

So we need to divide $0000 \rightarrow 1111$ numbers into two parts then we can consider 1st bit so that $0000 \rightarrow 0111$ we will consider as 1st part and for ~~2nd part~~ take 2nd part - $1000 \rightarrow 1111$. So each part has 8 bits. So we can say if 1st bit is 0 then it will be 1st part and if 1st bit is 1 then it will be in 2nd part.

So if we want to divide this 22 bits into 4 parts then we will consider 2nd two bits like if 1st two bits are '00' then it will be 1st part and '01' - 2nd part '10' - 3rd part '11' - 4th part.

and if we want to divide into 8 parts then we will take 3 parts.

If we want to divide 2^{22} into 5 parts



0-A
10-B
110-C
1110-D
1111-E

జయితులు ఏమి చేస్తే మన మనస్సు భాద్యపడుతుండి లటువంటి పనిని ఇంతలకు పుసం చేయకావిందిదేవే ఉత్సవాత్మమయిన ధర్మం.
The best virtue is that we do not do such things to others as our mind suffers when others do them to us.

June

6

వికాదరి ట.గం.7-34
అంబీని ట.గం.3-31
రా.వ.11-08 ఎ 12-53



2021

శ్రీశ్రవణమసం,, తత్తురాయణం
వసంత బుధువు, వైశాఖమసము
ఆదివారము/SUNDAY

Sunrise 5-48 AM

Sunset 6-35 PM

32

8	8	8	8
<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

$$A' - 000000000000 - 01111111(127)$$

$$B' - \begin{matrix} 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 1 & 0 & 0 & 0 & 0 \end{matrix} - 127,255,255,255$$

$$128,0,0,0 - 191,255,255,255$$

$$C' - 11000000 - 11011111$$

$$192,0,0,0 - 223,255,255,255$$

"P"

$$\left. \begin{matrix} \text{there to} \\ \text{not private} \\ \text{or private} \end{matrix} \right\} e' - 224,0,0,0 \rightarrow 239,255,255,255$$

$$KMP \text{ case } i) 240,0,0,0 - 255,255,255,255$$

When we r talking abt classfull concept we will have class divisions. So whenever we see an IP address we can see ~~using~~ using the range and can know the class.

Casting -

We r sending a pic from one host to other host is casting.
Casting - Unicast - one to one - one host to another host
Broadcast - one to many

మనవుండరం జ్ఞానపంచులం లక్ష్మిదాము పురియి జ్ఞానాన్ని ఎప్పుడూ లభిస్తే ఒకే విలాలగా ఉండాలు!
May we all become knowledgeable and never detest knowledge!

June

திருவாரூபம், திருவாரூபம்
நடை முறை, கீர்த்தனையும்
மேற்கொண்டு/MONDAY

sunrise 5:48 AM

2021

7

சூரி உ.க. 9-15

ஏர்பி பூரி

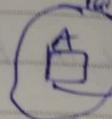
2-05 ம 3-51

20+00.0 network ID

Sunset 6:35 PM

IP - 20.10.10.5

Unicast



Class A

10.0.0.0 - network ID



Class B

16.0.0.0 - network ID

~16 host

N/W host

24.0.0.0 - network ID

~24 host

N/W host

256 host

10 recessions which n/w

to receive which n/w

let IP address of A is 10.5.5.5

2 → 256 host

So if we have less computers then we need to choose class C

cos it has only 256 host so it will become easy to search

in class C and in class A & class B we need to search

in $2^{16} \& 2^{24}$ host. So if we have many users then we

can use class A or B. So in our situation we are using class B.

So if we want to send a pic from host A to B then

it is unicast cos they have diff network no find sender

to one → one.

Broadcast

Limited Broadcast

Directed Broadcast

Broadcast

Limited -

N/W ID - 10.0.0.0

96 (this particular host wants to

send a pic to some inside this network.

DATA

source Destination

IP

MAC

Port

Protocol

Sequence number

ACK

Checksum

Urgent pointer

Control

Window

Checksum

Sequence number

ACK

Checksum

June

8

తుమ్మెదరి ఉ.గో.11-11
ఫరడి ఉ.గో.5-58
రా.వ.7-15 ల 9-01



2021

శ్రీప్రవామసంలీ, ఉత్కరాయణం
వసంత బుత్తు, వైశాఖపంచమి
మంగళవారమ్మ/ TUESDAY

Sunrise 5:48 AM

Sunset 6:35 PM

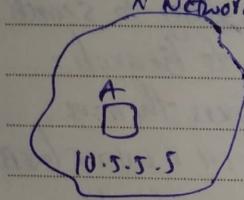
DG A wants to send pic to everyone in network then

Source address = 10.5.5.5

Destination = 255.255.255.255 \rightarrow DG switch soft
this IP address then it will send the pic to everyone in
that network.

Directed Broadcast N/W

X Network - 10.0.0.0



Y - 20.0.0.0



DG A want to send a pic to everyone in Y network then

Source address = 10.5.5.5

Destination = 20.255.255.255 (It's directed broadcast node)

DGA \rightarrow $^{20}_{10}$ \rightarrow Network ID + Host ID (host ID all 1's / that
means 255 -

DG Y network ID is 172.16.0.0

then DGA \rightarrow 172.16.255.255 (In B class address

N/W will be 28's so as 1's and host ID \rightarrow 255.

జపం చేసివారికి పొతకం ఉండదు.

There is no sin for those who practice penance.

June

QUESTION, ANSWERS
SOLVED, EXERCISES
Wednesday

Time 5:48 AM

2021

64.64.6.16.248
64.64.6.16.8.98
64.64.6.16.4.54

9

Time 5:58 PM

NFT William is using $192.168.0.0$ So 2^8 hosts,
 2^{16} IP addresses.

$$192 \rightarrow 192.168.0.0 \rightarrow \text{N/w ID}$$

East $\rightarrow 192.168.255.255 \rightarrow \text{DBA}$ So we will not
use these as IP addresses

$$\text{So, No. of IP addresses} = 2^{16}-2$$

So let N/w ID = 192.168.1.0 2^8 -Host

At so we can assign $2^8 - 2$ additional addresses to the host.

So, 192.168.1.0 is N/w ID

192.168.1.255 is used as DBA.

Tomorrow - Subnet / Subnetting / Super netting

25/1

If IP is given then IP = 190.1.2.3

N/w ID = 190.1.0.0 DBA = 190.1.255.255

Class B LBA = 255.255.255.255

IP = 200.1.10.100 - class-C [21.8]

= 200.1.10.0 DBA = 200.1.10.255

IP \swarrow Public LBA = 255.255.255.255
 \searrow Private

If IP = 10.15.20.60 \rightarrow NIB = 10.0.0.0 DBA = 10.255.255.255

An impractical donor and a rich miser - both are useless to anyone.

June

10

● అమావాస్య ప. 3-09
కోహితి ఉగ. 11-11
సా.ప. 5-19 ల 7-05



2021

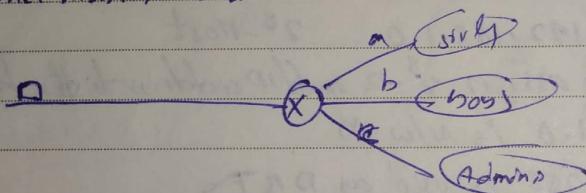
శ్రీపతివనామసంగి, ఉత్తరాయణం
వసంత బుయువు, దైత్యాధిష్టాను
సురువారము/THURSDAY

Sunrise 5-48 AM

Sunset 6-38 PM

Subnet - Dividing a big Network into smaller network, for management

If we have 2000 students then we need 1 IP address atleast 2^{11} = 2048 IP numbers. So to manage these many number is difficult when pack comes from the source then it will hit first to router which maintains a routing table which contains v/w10, subnet mask, interface.



so router will take decision which path it needs to go like out of 2000 lines need to receive that pack so it's difficult to search. So if now is not divided then it's difficult to search and router will take more time. So if it's a big network it is difficult to manage so we will divide the big network into 3 to 4 parts so that it is easy to manage.

Anything if it is compact then it will be managed. for now we have admin part. If it is not compact (loose) then so that we can know and manage.

Disadvantages of Subnet → If we divide now into small

శిథిదు రాజుగుట, ఉత్తముడు సీతకుగుట - అస్పథమునకు కారణము.

A mean person becoming king or a noble person becoming a servant is a sure recipe for disaster.

ne

వివాదం, ఉత్సాహం
మానవ, జ్యోతిషమానము
విశ్వమ/FRIDAY

rise 5:48 AM



2021

శ.పాడ్యుమి సా.గా.4-52
పుగకిరప.గా.1-33
ర.వ.10-39 ఎ 12-23

11

Sunset 6:36 PM

part then it becomes complex part. It is easy to divide network.

2^8 $\frac{NID}{2^8} - 200.1.2.0 \rightarrow$ class C $\boxed{2^8}$
 w/o host 28 host - 0 - 255

if we want to manage then we need to divide into two parts so that at least one bit is required '0' & '1'. So 1st bit is taken as subnet ID.

New part is fixed we r dividing host part

200.1.2.0.00000000 }
 ; } 1st part - let's be subnet-1

200.1.2.0.11111111 }
 ; } 2nd part - let this be subnet-2

200.1.2.1.11111111 }

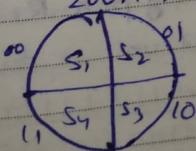
$NID/31^0$ 200.1.2.127 \rightarrow DBA

S1 range 95 $200.1.2.0 - 200.1.2.127$

S2 range 95 $200.1.2.128 - 200.1.2.255$

1st IP address is S10 last IP address - DBA
 Subnet# of S2

Example-2 200.1.2.0 need to divide into four subnets



IP - $200.1.2.0.00000000$
 w/o work no CQ it's Class C

fixed

పశ్చిమానులు తమంత కాచే ఎవ్వుటపు నీనుణుము చెయ్యాలికి స్థిరమైంది.

Good people are always ready to extend help to others.

June

12

விடிய் ஸ்.கே.6-12
அர்வ.கே.3-35
த.வ.4-23 எ



2021

இஷ்வநாமுஸங், ஒத்ராயங்
கிழ் சூரியன், ஜீவநாஸங்
சனவரம்/SATURDAY

Sunrise 5:48 AM

200.1.2.10

200.1.2.164 Sunset 6:36 PM

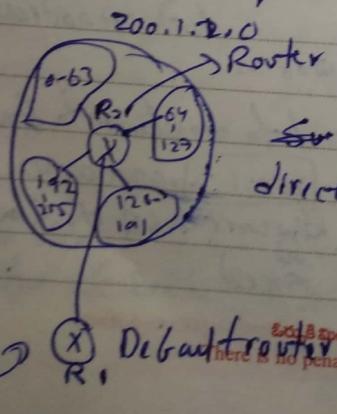
$S_1 - 200.1.2.\underline{00}000000$	$S_2 - 200.1.2.\underline{01}000000$
$200.1.2.\underline{00}11111$	$200.1.2.\underline{01}11111$
$200.1.2.\underline{10}000000$	$200.1.2.\underline{11}000000$
$200.1.2.\underline{10}11111$	$200.1.2.\underline{11}11111$
$200.1.2.191$	$200.1.2.192$

$S_1 - 200.1.2.1 - 200.1.2.6$ → we can assign to hosts
 $S_2 - 200.1.2.65$

So, 248 addresses are used for host 8 addresses are used for S1 & DBS

Subnet Mask - It is 32 bit number used to find particular host in R/W. It will help switch or router to decide where to go particularly.

Ans -



For If any pk R receive it directly go up.

ஒரு காலத்திலே செய்த சொல்களை விட விரும்புகிறேன்.
There is no penance greater than patience.

June

జున్/June
శ్రీ విషణువునానీ, ఉత్తరాయణం
యాహినీ, శ్వచ్ఛమానము
సెకండు/SUNDAY

5-48 AM



2021

తద్దియ రా.గం.7-08

పునర్వ్యవస్థ సా.గం.5-12

13

2-25-6-05 A. G. S. 1-34 C 3-15

Sunset 6-36 PM

Routing Table -

NID	SM	Entfernung
2001.1.210	255,255,255,192	a
2001.1.2.64	255,255,255,192	b
2001.1.2.128	255,255,255,192	c
2001.1.2.192	255,255,255,192	d

96. pk has destination address - 200.1.2.130 then which interface has taken but how to calculate which interface it will go that for decide that Subnet Mask will help

$NID \& SID \rightarrow I's$

$HIP \rightarrow O's$

$\text{G}_1 = S_1 \cap D \rightarrow [200, 162] - 0$ Last ID - 200-1-2-6-3

$\tilde{\omega}/\omega_{10} = 24$ bit

$$2b_1t = 510$$

$$26 \text{ bit} = NID + S1D$$

remaining 6 bit is host ID.

So in subtract most NIBBLE is 1's

so 26 bits is 1

So 26 bits is 1
 $\overbrace{111111111111111111111111}^{\text{NID}}, \underbrace{11}_{\text{SID}} | \underbrace{000000}_{\text{Remaining}}$
 \downarrow
 $255.255.255.192 \rightarrow \text{Subnet Mask} \rightarrow S_1$

Everything that exists emanates from the Almighty.

June

14 விடி ரா.ந்.7-33
புதுவை ஸ்.ந்.6-20
வட்டம் தெவு



2021

தினாண்மேல்தான், ஒத்துரையெல்
பிழை சூதாக, வீசுவாரங்கள்
வீசுவாரங்கள்/MONDAY

Sunrise 5:48 AM

Sunset 6:37 PM

So everywhere NID is 24 and SID is 2. In above example
So every part will have same subnet ID.

If we have a pkt with destination address with 200.1.2.130

DA > 200.1.2.130

In pkt header \rightarrow [SA | DA | Data]

source Add destination Address

so here we will perform AND operation with SM 82 in
above example

1111111.1111111.1111111.11000000 \rightarrow subnet mask
DA - 11001000.00000001.00000010.10000010
 \downarrow
200.1.2.130

AND operatr.

11001000.00000001.00000010.10000000
 \downarrow
200.1.2.128 \leftarrow

So we go to table we will get NID

So, if we do AND with destination address and subnet mask
ID then it will give NID. So through NID we can know
which interface the pkt should go. In above example it
will go to Interface C

In Routing table there are many things but prior we discuss

தல்லை சமாரை ரக்மை அதி கார்பக, வாடக முறையும் சுற்றைக் கல்வை.

Austerity of the body, austerity of speech, austerity of the mind are the three fold penances.

June

Wednesday, 16th June
Date: 16/06/2021

Time: 5:48 AM

2021

Subnet ID: 7-27
Subnet IP: 10.0.0.8-19
Mask: 255.255.255.128

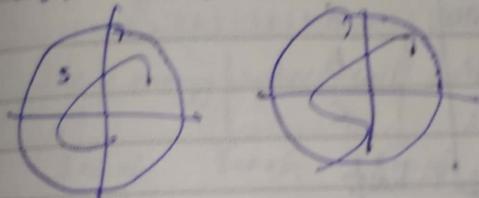
15

Subnet 5:87 PM

that three.

VLSM - Variable Length Subnet Mask

Before example if we divide 2 parts or 4 parts we're dividing with equal length but here we will divide variable or different sizes.



$$128 + 64 + 64 = 256 = 2^8$$

Since if we need to divide into two parts
then we have one bit for subnet. So here
first we take one bit.

$$\begin{aligned} S1 &= 200 \cdot 1 \cdot 2 \cdot \boxed{0}0000000 \rightarrow 200 \cdot 1 \cdot 2 \cdot 0 \\ &\quad - ! \qquad \qquad \qquad 0-126 \end{aligned}$$

$$200 \cdot 1 \cdot 2 \cdot \boxed{1}111111 \rightarrow 200 \cdot 1 \cdot 2 \cdot 127 \rightarrow \text{BNA}$$

For subnet 2 we have to divide & need two bits.

$$\begin{aligned} S2 &= 200 \cdot 1 \cdot 2 \cdot \boxed{10}000000 \\ &200 \cdot 1 \cdot 2 \cdot \boxed{10}111111 - 192 \end{aligned}$$

*Only good, thoughtful & judicious words can bring success & happiness.
Austerity in speech consists in words that are truthful and pleasing.*

June



2021

16 షష్ఠి సా.గం.6-52
మఘ రా.గం.7-08
ఉ.వ.7-03 ల 8-40, త.వ.3-02 ల 4-36

లీప్పివనామసం||, ఉత్తరాయణం
గ్రిష్మ బుటువు, జ్యోతిషమాసము
బుధవారము/WEDNESDAY

Sunrise 5-48 AM

Sunset 6-37 PM

$S_3 - 200 \cdot 1 \cdot 2 \cdot \boxed{1} 000000$

$200 \cdot 1 \cdot 2 \cdot \boxed{1} 111111 \rightarrow 25.5$

Routing tabl -

NID	SM	Interface
S ₁ 200.1.2.0	255.255.255.128	a
S ₂ 200.1.2.128	255.255.255.192	b
S ₃ 200.1.2.192	255.255.255.192	c

↓
Class C Go to N/W 200.1.2.0 Subnet + host

Subnet mask for S₁ →

$$N/W = 24 + 1 = 25$$

Subnet Mask Gov S₁ → 11111111.11111111.11111111.00000000

00000000.00000000.00000000.0111.

11111111.11111111.11111111.11000000

Subnet Mask Gov S₂

$$N/W = 24 = 200 \cdot 1 \cdot 2$$

$$S/ID = 2 =$$

$$2^5 - 2 =$$

11111111.11111111.11111111.11000000

255 255 255

255

12

'చిత' అంటే 'నివ్వ', 'చింత' అంటే 'బిగుల', 'ఉత్త' ప్రాగం లేదిదాన్ని దివేస్తే, 'చింత' ప్రాగం కశ్చ మరిపినే దివుస్తంచి.
'Chita' means 'fire', 'chinta' means 'worry'. If the 'chita' burns the lifeless, the 'chinta' burns the living man.

June

శ్రీపతినామసం, ఉత్తరాయణం
ప్రస్తుతము, శ్వేషమానము
నామారథము/THURSDAY

Sunrise 5:49 AM



2021

సెప్టెంబర్ సా.గి. 5-49
సెప్టెంబర్ సా.గి. 6-50
రా.ప. 1-50 ఉ 3-23

17

Sunset 6:36 PM

$$\text{Subnet mask } G \text{ or } S = 2^6 - 2^1 = NID + SID \\ 255.255.255.192$$

Example -

Given subnet mask is 255.255.255.192
(Class A \rightarrow IP address [8] [24])

11111111.11111111.11111111.11000000
How many subnet will be there?
8 no. of 8 no. of 8 no. of 2 no. of 7's

28 No. of 2's 6 No. of 0's.
 $NID + SID \rightarrow 7's$.

In class A' 8 bit Network

$$8 + SID = 26$$

$$SID = 7 \text{ bits}$$

So we can make 2^7 No. of subnets.

$$\text{Ex:- 8 bit network class A} \quad 19 \cdot 9 \cdot 9 \cdot 0 \\ 8 \cdot 8 \cdot 8 \cdot 2 = 18 = 2^{10}$$

Example - 255.255.255.192
 $26 \text{ bits} \rightarrow 2$

$$\text{Class B} = [16] [16]$$

$NID + SID = 26$ bits
 $SID = 26 - 16 = 10$ so we can make 2^{10} bits.

ముదుటకలక్షణాలకు శ్వాసము.

Wearing kumkum on forehead will usher prosperity.
So in class NID = 16 So SID = 26 - 16 = 24 = 2⁵.

2021

June

18 అప్రిల్ సా.గ. 4-23
శతర సా.గ. 6-08
రా.వ. 2-10 ల 3-41

శ్రీపతివనామసంగి, ఉత్తరాయణం
గ్రిష్మ యుదుప, జ్యేష్ఠమాసము
శక్రవారము/FRIDAY

Sunset 6-38 PM

Sunrise 5-49 AM

~~Router table~~
Example: Given IP address N10 = 128.75.43.0
SM - 255.255.255.0 interface - etho

N10	SM	Interface
128.75.43.0	255.255.255.0	etho
128.75.43.0	255.255.255.128	eth1
192.12.17.5	255.255.255.0	eth2

De bgft.

Given one pk is coming with IP address 128.75.43.16
 for which interface it will go?
Ans - AND operation of Destination address with subnet Mask
 will give Network no.

Subnet = $\underbrace{11111111}_{\text{if we do and will get}} \cdot \underbrace{11111111}_{\text{Set the same as DA}} \cdot 11111111 \cdot 00000000$

$\underbrace{\hspace{10em}}_{\text{00010000}}$

$\underbrace{\hspace{10em}}_{\text{00000000}}$

$\underbrace{\hspace{10em}}_{\text{00000000}}$

$\underbrace{\hspace{10em}}_{\text{00000000}}$

$\underbrace{\hspace{10em}}_{\text{00000000}}$

128.75.43.0

Subnet 2 \rightarrow 2nd case

10000000	\rightarrow	128.75.43.0
00010000		
00000000		

భ్రామకుమహామృతు కంశులో వాసనలు త్యాగ్యానం.

Brahma Muhurta is great for worshipping the Supreme God.

June

శ్రీవామస011, ఉత్తరాయణం
గ్రీష్మ బుటువు, జ్యేష్ఠమాసము
శివరామమ/SATURDAY



Sunrise 5-49 AM

2021

నవమి ప.గం.2-35
హస్త సా.గం.5-06
రా.వ.12-39 ఉ 2-09

19

Sunset 6-38 PM

So for both cases we got something $128.75 - 47.0$ so it can be tth_0 or tth_2 but answer can be only one.

Both ans r correct but we need to give only one answer
 if we have more length we will opt that one like
 In 1st case submit there r 24 No. of 2's and in 2nd case
 there r 25 No. of 2's so we will obt 2nd case and
 answer is either 2.

¹⁴B/P + purl = socket; so to bond 1P8 purl bonds is used
2/11

$$24 + 510 = 28$$

$$S1D = 28 - 2^{b_1}$$

$$\sin = 4$$

So we can make $2^4 = 16$ bits

CIDR - Classless Interdomain Routing.

Demort of classstuff - 36 we have 350 hosts that we

Gave only classfull concept and we work Admin then which class we gonna choose? So for 350 at least we need

$2^9 = 512$ so if we need 300 then we have to take

27. If we need go to take class B $2^{16} = 65535$ is address

సత్సంగతాన్నికి మంచిన మిత్రుడు లేదు.

June

20

ದಕ්ಷಿಂ ಪ.ಗ್.ಎ.೧೨-೩೧
ಚಿತ್ರ ಪ.ಗ್.೦.೩-೪೭
ರಾ.ವ.೯-೦೧ ಎ ೧೦-೩೧



2021

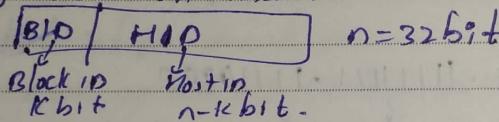
ಶ್ರೀ ಶ್ರವಣಮಂಗಲ, ಉತ್ತರಾಯಂ
ಗ್ರಿಹ ಬ್ಯಾತು, ಶ್ರೀ ಶ್ರವಣಮಂ
ಅದಿವಾರಮ್ಮ/ SUNDAY

Sunrise 5-50 AM

Sunset 6-38 PM

So even if we need 350 we need to go to $2^6 = 65535$ IP addresses, so remaining will be wasteage. NISCOM is paying around 5-6 lacs per month. NAT (Network Address Translation). So they have provided 10-11 IP's addresses. So to avoid wasteage we have Classless Concept.

Classless - So if we want 350 IP address then we need to take 2 power so we're taking $2^9 = 512$ so we're taking block. In classless we don't have any classes.



CIDR value $\underline{a.b.c.d}/k$.

Ex:- If we have an IP address 192.168.1.1/28
 28 bits 1's. \leftarrow CIDR

1111111.1111111.1111111.0000 i.e., out subnet

mask is 255.255.255.240.

Most ID = $32 - 28 = 4$ bit

2^4 IP address = 16

2^4 IP = network ID last - 0 & 1 So only 14 IP addresses to assign

ವಿಮರ್ಶೆಯಲ್ಲಿ ಮನಸ್ಸನ್ನು ತಾರಿ.

Criticism should touch the minds like a gentle breeze.

June

శ్రీపత్నమసాం, ఉత్తరాయణం
శ్రీపత్నమిష్టు, శ్రీపత్నమసము
శ్రీపత్నమిరము/MONDAY

Sunrise 5-50 AM



2021

విజయ రోడ్, గోదావరి జిల్లా
సాముద్రమిష్టు, శ్రీపత్నమిష్టు
రా.ఎ.7-29 ల 8-59

21

Sunset 6-38 PM

Rules for CIDR block.

① All IP address should be contiguous. (Suppose 14 hosts and we r admin & if someone is asking some specific IP addresses then and so & they r not continuous then it's difficult.)

Ex:- 192.16.1.1, 192.16.1.2, 192.16.1.3, ...

This is continuous. All the requested IP address should be continuous.

② Block size will be always to power of 2

③ First IP address in the block should be evenly divisible by the size of block.

Ex:- If first IP address = 192.16.1.0 and 16 size may be $2^4, 2^8$ so IP address must be divisible by size of block.

$(111)_2 \rightarrow 1011$ if we divide $1011 / 2^1$

Reminder - 1 Quotient - 5

$(101)_2 / 2^2$

Reminder - 3 Quotient - 2

1011 if we divide by 2^1 then the remainder will be first bit of $1011 = 1$ if we divide with 2^2 then the remainder will be last two bits $11 = 3$ so if we divide with 2^3 then remainder will be last three bits $011 = 3$

$$2^4 \rightarrow \text{remainder} = 1011 = 11$$

విష్ణువు సమృద్ధయంతో, విష్ణుతతో స్నేహితంపడమే సంస్కారం.

The sacrament is to receive criticism with kindness and humility.

June

22

ପ୍ରସ୍ତୁତ କ.ନ୍ର. ୮-୧୫ ପ୍ରସ୍ତୁତ କ.ନ୍ର. ୯-୧୯
ଦେଖ କ.ନ୍ର. ୧୨-୩୭
କ.ନ୍ର. ୫-୨୨ ଓ କ-୫୧



2021

ମୁହଁରାବିଦୀ, ଶୁଭମନ୍ଦିର
ପ୍ରିୟ ମହିଳା, ମହିନେର
ମୁହଁରାବିଦୀ/TUESDAY

Sunrise 5:50 AM

Sunset 6:00 PM

If $s = 5$, it can want to divide some x . Number b_{j+1}
then check first y digits in x

192-16-1-0 29

$172 \cdot 16,00000000$, last 9 digits are not '8'
So it's not divisible.

$$86.14.11.142.16.0.0 \rightarrow 2^{10}$$

Now it is divisible by last two digits are 21

$$Ex: 100 \cdot 1.2 \cdot 32 \rightarrow 100 \cdot 1 \cdot 2 \cdot 10000000$$

100. 1, 2, 33

一一一

100.1.2.42.

⑦ It is continuous so we can Good Create block but ~~and~~ ruler
 $4^2 - 3^2 = 16 - \text{Power of } 2 = 2^4 = \text{Block size}$

$$47 - 32 = 16 = \text{Power of } 2 = 2^4 = \text{Block size}$$

③ 2¹⁷ IP address divisible by 2⁴ or not.

Yes, it is divisible by 9 last digits are 108.

④ CIRR = ?

Our requirement is $16 \rightarrow 2^4$ $H1D = 4$

$$N/P/BID = 32 - 4 = 28$$

$$C1DR = 2^3 + \text{IP address} = 100 + 1.2.32 / 28$$

ప్రాంతిక వైషణవ మండలం కుమారుల అనుమతి నీర్జున కుమారులు.

True worship is the practice of Swadharma and offering its fruit to God.

June

శ్రీ విష్ణువుసులీ, ఉత్తరాయణం
మాటలు, శ్రీ విష్ణువుసులీ
అధికారము/WEDNESDAY

Sunrise 5-50 AM



$C = 1$
 J

2021

చతుర్దశి రా.కో.2-53
అసూరాఢి ఇ.కో.10-58
సా.డ.4-12 ఉ 5-41 23

Sunset 6-38 PM

Example - 150.10.20.64

150.10.20.65
150.10.20.66

150.10.20.127

~~get's not possible to create CIDR~~

① It is continuous

$$\textcircled{2} \quad 127 - 64 + 1 = 64 = 2^6$$

③ 150.10.20.1000000 and it is divisible by 2^6

④ CIDR -

$$\text{Our range} = 64 = 2^6 \quad \text{CIDR} = 6$$

$$\text{NID/BID} = 32 - 6 = 26$$

$$\text{CIDR} = 150.10.20.64/26$$

$$\text{Our IP} = 20.10.30.35/27$$

$$\text{HID} = 32 \quad \text{NID/BID} = 32 - \text{HID} = 27$$

$$\text{CIDR} = 5$$

$$\text{Our range} = 2^5 = 32 \text{ No. of IPs available}$$

so range is 32 \rightarrow ~~coz~~ it is divisible by 2^5

1

68

$$20.10.30.35 \rightarrow 20.10.30.001/00011$$

$$20.10.30.001/00000 \rightarrow 20.10.30.32^{\text{host}}$$

$$20.10.30.001/11111 \rightarrow 20.10.30.03$$

లభక త్రసంగం విశ్రాంతి కూడా త్రసంగం విశ్రాంతి.

Uncalled for loquacity will turn even friends into foes.

June

2021

24

ఓప్పాల్టిము రా.గం.12-37
జెస్చ్ ట.గం.9-24
సా.ప.4-52 ల 6-22



శ్రీపతివనామసంగి, ఉత్తరాయం
ప్రింట్ బురువు, వైష్ణవామసము
గురువారచు/THURSDAY

Sunrise 5-50 AM 2010-30. 100.1.2.00100000 - 72 Sunset 6-38 PM

$$\text{Given, IP} = 100.1.2.35/20$$

$$HID = 10_2$$

$$\text{or } 10_2 = 2^1 2 = 1024 \text{ IP's addres}$$

$$100.1.2.00 - 100.1.15.255$$

$$0000.0000.00000000.4096$$

$$100.1.1.0 -$$

$$100.1.2.00 -$$

J

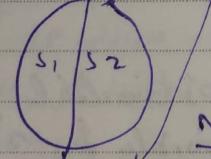
$$100.1.0000|0010.00100011 \rightarrow 100.1.00$$

$$100.1.0000|0000.00000000 \rightarrow 100.1.15.255$$

$$100.1.1110.111111 -$$

Subnetting of CIDR -

$$20.30.40.10/25$$



$$25 \text{ No. of } 1's \rightarrow \text{NID/BID}$$

$$32 - 25 = 7 \text{ bit Host}$$

$$\text{Network ID/Block ID } 2^7 = 128$$

$$20.30.40.00001010$$

Host ID

$$\text{Range} = 20.30.40.00000000 \rightarrow 20.30.40.0$$

$$20.30.40.00000000 \rightarrow 20.30.40.11111111 \rightarrow 20.30.40.11111111$$

మంచి లేది అపోరం, మంచి లేని మాటలు కంఠండూ జీవితాన్ని పూలస్తాయి.

Excessive eating and excessive talking, both are sure to drain a person.

June

శ్రీ విష్ణువునాని, ఉత్కాశమం
మాయాదుష్ట, శ్వేతమహానము
అప్రాప్తము/FRIDAY



2021

ప.పాడ్సమి రా.గం.10-26

మొల ల.గం.7-51

ఉ.స.21 ల 7-51, స.స.4-56 ల 6-26

25

Sunrise 5:51 AM

NID

Host

Sunset 5:39 PM

$$1^{\text{st}} \text{ subnet ID} = 20.30.40.0 \quad [0] \overbrace{000000}^{26}$$

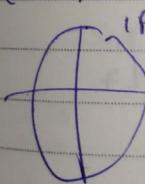
Guest bit of Host ID is S1D

$$S2 \left\{ \begin{array}{l} 20.30.40.0 [0] \overbrace{000000}^{26} \rightarrow 20.30.40.0 \rightarrow \text{NID/B1P} \\ 20.30.40.0 [0] \overbrace{111111}^{26} \rightarrow 20.30.40.63 \rightarrow \text{DBA} \end{array} \right.$$

$$S2 - 20.30.40.0 [0] \overbrace{000000}^{26} \rightarrow 20.30.40.64 \rightarrow \text{NID/B1D}$$

$$20.30.40.0 [0] \overbrace{111111}^{26} \rightarrow 20.30.40.127 \rightarrow \text{DBA}$$

Example



$$IP = 20.30.40.10/25$$

4 parts.

$$20.30.40.0 [0] \overbrace{0001010}^{7}$$

$$S1 = 20.30.40.0 [0] \overbrace{000000}^{27} - 20.30.40.0$$

$$20.30.40.0 [0] \overbrace{0011111}^{27} - 20.30.40.31$$

$$S2 = 20.30.40.0 [0] \overbrace{0100000}^{27} - 20.30.40.32$$

$$20.30.40.0 [0] \overbrace{0111111}^{27} - 20.30.40.63$$

అవసీకారి దేవం దెవం నూ అస్తుభూతి దెవం దెవం మేలు.

It is safe to live in a jungle than to lead life among those who detest your company.

June

26

విదియ రా.గం.8-33

పూర్వాంగి లగం.6-34, ఉత్తరాంగి లగం.5-40
వ.ప.2-15 ఎ 3-48



2021

శ్రీప్రసాదమనంలో, ఉత్తరాంగం
గ్రిష్మ బయాతుపు, వైశాఖమనము
శనివారము/SATURDAY

Sunrise 5:51 AM

Sunset 6:39 PM

$$S_3 = 20.30.40.0 \boxed{10} 00000 /_{27} - 20.30.40.64$$

$$20.30.40.0 \boxed{10} 1111 /_{27} - 20.30.40.127 95$$

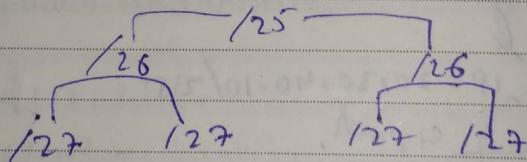
$$S_4 = 20.30.40.0 \boxed{11} 00000 /_{27} - 20.30.40.128 96$$

$$20.30.40.0 \boxed{111111} 1 /_{27} - 20.30.40.127$$

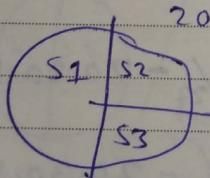
Sub answers

Host \rightarrow 5 bit, ~~18~~ SID-2/27 BID-25

BID+SID=NID=27



VLSM of CIDR.



20.30.40.10/25

Ram

$S_1 = 20.30.40.0 - 20.30.40.63 /_{27}$

$S_2 = 20.30.40.64 - 20.30.40.95 /_{26}$

$S_3 = 20.30.40.96 - 20.30.40.96 /_{27}$

\Rightarrow Subnetmasking is just perception not reality.
use - to resolve the interfaces/addresses

ఉత్తరములు జీవితాన్ని నాపదులుచేంటారు కాబి ధృవ్యాన్ని పదులుకేరు.

The noble prefer to lose their life rather than dignity

June

శువ్వానునీ, ఉత్తరాయణం
మాత్రమే, శ్రీకృష్ణానును
అప్పము/SUNDAY

Sunrise 5:51 AM

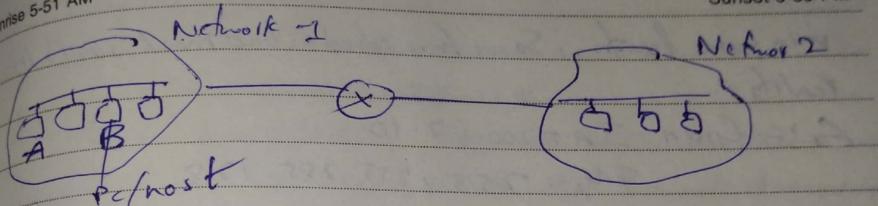


2021

తదియ ర. 9.0.7-00
తెచ్చెం త. 9.0.5-03
ఉ. 9.33 ల 11-07

27

Sunset 6:39 PM



If A wants to send a pk to B but A don't know that where B is there is network 2 or network 2. So we will find it using subnet mask. So we know the IP address of A & B and know the subnet mask of A but don't know the subnet mask of B.

Known IA, IB

SA

AND $\frac{IA}{SA}$
NID of A in respective of B

IB

SA

AND NID of B wrt with respect of A (NIDBA)

If NIDAA = NIDBA \Rightarrow Same N/w.

NIDAA \neq NIDBA \Rightarrow different N/w

So according to N/w we getting interface and sending pk.
Subnet Mask is in routing table.

If we r asking any ISP or internet connect then with some cost he will provide IP, subnetmask & default gateway.

OR X.

Dynamic Host Configuration Protocol (DHCP) \Rightarrow so he will give IP

One who does not like to share his food with others is an offender.

No IP for lease so it will be shown its net is on and we

కేవలం తనకారు వంటకిని తనే వాడు పాపభేజులు.

June

28 தவி 4-50
தவி 5.4-50
உ.வ. 9-00 ம 10-35



2021

திருவாப்பள்ளி, ஒத்துரையூர்
கிழக்கு மொத்து, தீர்த்தமாநாதம்
சீமாரம்/MONDAY

Sunrise 5:51 AM

Sunset 6:39 PM

V in some locanth, So we have solved subantmask so, 1/5 in reality.

$$\text{Ex:- Given } I_A = 200.1.2.10$$

$$SMA = 255, 255, 255, 128$$

$$IB = 200.1.2.130$$

$$I_A = 11001000, 00000001, 00000010, 00001010$$

$$SMA = 11111111, 11111111, 11111111, 10000000$$

$$11001000, 00000001, 00000010, 00000000$$

$$NDA_A = 200.1.2.0.$$

$$IB = 11001000, 00000 =$$

$$NDBA = \underline{\underline{200.1.2.0}} \quad NIDA_A \neq NDBA \\ 200.1.2.128$$

$$\text{Ex:- } I_A = 200.1.2.10 \quad IB = 200.1.2.126$$

$$SA = 255, 255, 255, 128$$

$$NDA_A = 200.1.2.0$$

$$ID = 11001 \quad 10111110 \quad \text{So, } NIDA_A = NDBA$$

$$\begin{array}{r} 10000000 \\ - 00000000 \\ \hline 0 \end{array}$$

$$So, NDBA = 200.1.2.0$$

ஸுருவலாயு பூத்தோனானா, விஷுவலா, சுங்குவலா வரீக்கங்காநா ஸ்துகிஂங்கா.

Give obeisance to the Guru openly, but shower adulations on the family and friends discretely.

June

శ్రీ విష్ణువుసంగమం, కాశ్తరాయణం
అప్పటి బుధవ, వైశాఖమాసము
మాంగళవరమ/TUESDAY

Sunrise 5:51 AM



2021

పంచమి సా.కో.5-06
శతదిషుం తె.కో.5-06
వ.వ.12-06 వ 1-43

29

Sunset 6:39 PM

$$\text{Giv: Given } IA = 200.1.2.10$$

$$SMA = 255.255.255.128$$

$$IB = 200.1.2.89 \quad SB = 255.255.255.192$$

Case(1) - A wants to send a packet B ② B wants to send a packet to A

$NIDA \rightarrow 00001010$

01000101

00000000

$$\rightarrow 200.1.2.0 = NIDA +$$

~~IA
IB
SA
NIDA~~

$$\begin{array}{r} \text{Case (1)} - IA - 00001010 \\ SA - 10000000 \\ \hline 00000000 \end{array} \quad IB = 01000101$$

$$\begin{array}{r} SB = 10000000 \\ \hline 00000000 \end{array}$$

$$NIDA = 200.1.2.0$$

$$NIDAB = 200.1.2.0$$

$$\text{Case (2)} - IB = 01000101$$

$$SB = 11000000$$

$$NIDAB = 01000000 \underset{6 \ 7 \ 8}{\overset{0 \ 1 \ 2 \ 3}{+}} = 200.1.2.64$$

$$\begin{array}{r} IB = 11000000 \\ SB = 11000000 \\ \hline 11000000 \end{array}$$

$$IA = 00001010$$

$$SB = 10000000$$

$$00000000$$

అక్కయిం లేకుండా పోతేలు, శ్రీలు, కిరులు రాదేంద్రు.

Without patronage and protection, scholars, women or creepers don't bloom.

$$NIDBA = 200.1.2.0$$

So in case of A, A & B are in same NID & in case of B

June

30



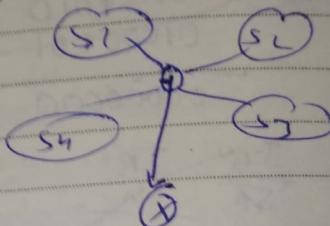
త్రిపులునామనం||, ఉత్తరాయణం
గ్రిష్మ ఋతువు, క్షేత్రమానము
శుభవారషు /WEDNESDAY

Sunset 6-39 PM

• Sunday 5:51 AM

• Summed S-PI AM
It will not have same in same network -
Router will take the decision to send the pkt to the
one that should be received so no need to calculate.
Superflooding - we have to aggregate whole network in
one place.

one place.
The Testimable will be used to
write all subjects so to
avoid this superfluous concept.



is there.

Rules -

\rightarrow N/W are contiguous

\rightarrow size will be power of 2.

→ FIRST NID will be divisible by the size of entire block.

Ex:- $900.1 \cdot 0.0 / 24 = 200.1$ ⚡ These r continuous.

$$200 \cdot 1 \cdot \$0/24 \rightarrow 200 \cdot 1 \cdot 1 \cdot 0 = 200 \cdot 1 \cdot 1 \cdot 255$$

200.1.2.0/24 → 200.1.2.0 → 200.1.2.255

$200 \cdot 1.3 \cdot 0 / 24 \Rightarrow 200 \cdot 1.3 \cdot 0 = 200 \cdot 1.3 \cdot 255$

$200 \cdot 1 \cdot 0 \cdot 0 \Rightarrow 200 \cdot 1 \cdot 3 \cdot 355$ so the 13 is centered over

$1/2^8 \rightarrow 8$ bit host $\Rightarrow 2^8$ hosts

$$\text{we have } 4 \text{ networks} = 2^4 \times 2^8 = 2^8 \times 2^8 = 2^{16}$$

మిర్చం దాపులంపిన వాలకి ఉపదేశం షురుం

One who is hard of hearing, good advice is doomed to fail.

so polarizable
Reh²

First address - 200.1.0.0 and hosts 2^{10}
 So it is divisible, so we can make it supernet.
 Supernet Mask - 200.1.00/22

$2^{10} \rightarrow 10$ bit host $\rightarrow NID = 32 - 10 = 22$, No. of 1's
 Network protocol, frame format

1/2-

Ex - 200.1.32.0/24

200.1.33.0/24

!

Supernet Mask.

200.1.47.0/24

8 bit host $\rightarrow 2^8$ hostwe have 16 network $= 16 \times 2^8 = 2^4 \times 2^8 = 2^{12}$ first address - 200.1.32.0 hosts $= 2^{12}$ $\rightarrow 200.1.0001000000000000$ is divisible. 2^{12} host $\rightarrow 12$ bit $NID = 32 - 12 = 20$ No. of 1's.

Supernet Mask = 200.1.32.0/20

Loopback Address - 1 Default Rule.

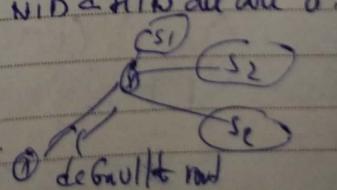
In class A range $\rightarrow 0 - 127$

IP - 0.0.0.0

NID & H1D all are 0.

127.0.0.0

H1D - 127 H1D can be anything.

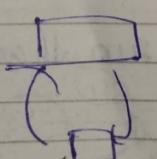


Monthly Planner

2021

July

*Mission
Manual work*

Thu	1	whenever we r making routing table we have broadcast															
Fri	2	Interface															
Sat	3																
Sun	4																
Mon	5																
Tue	6																
Wed	7	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td>HW</td> <td>SW</td> <td>Interface</td> </tr> <tr> <td>1</td> <td>Si</td> <td></td> </tr> <tr> <td></td> <td>52</td> <td></td> </tr> <tr> <td></td> <td>53</td> <td></td> </tr> <tr> <td>0.0.0.0</td> <td>0.0.0.0</td> <td></td> </tr> </table>	HW	SW	Interface	1	Si			52			53		0.0.0.0	0.0.0.0	
HW	SW	Interface															
1	Si																
	52																
	53																
0.0.0.0	0.0.0.0																
Thu	8	Subnet mask.															
Fri	9	Each table will have a default route. If it is connected to RJ45 , then port number will be 1. If it is not belongs to any subnet then it may come to default network.															
Sat	10																
Sun	11																
Mon	12	Use of loopback Address - If laptop is not getting															
Tue	13																
Wed	14	internet															
Thu	15	\rightarrow Port \rightarrow RJ45 at the end of the cable 1 or 2															
Fri	16	Port (8080)															
Sat	17	It will have ethernet card / NIC card															
Sun	18	Network Interface Card.															
Mon	19	We are connecting with RJ45 is connected with NIC card At present NIC card is now coming attached with mother board															
Tue	20																
Wed	21	If Ethernet card is not there that means RJ45 is not there															
Thu	22	then we can't connect to internet.															
Fri	23	\rightarrow If NIC card is not working then internet connection is wrong															
Sat	24	we can send a request to our own laptop if we start up our own laptop/pc will give us reply whether it is working or not.															
Sun	25																
Mon	26																
Tue	27																
Wed	28																
Thu	29																
Fri	30																
Sat	31																

July

శ్రీ స్వామీ నానుం, ఉత్తరాయణం
గ్రిష్మ చూలువు, శ్రీస్వామీ సము
గురువారము/THURSDAY



2021

ఎ.సెప్టెంబర్ సి.గం. 5-09
ఉత్తరాయాద్ర పూర్ణ
ప.స. 3-50 ల 5-31

1

Sunrise 5:52 AM

Default IP address Go every PM
 Sep - cmd -> ping 127.0.0.1 -t Then it will
 reply -> Ringing 127.0.0.1 with ~~00~~ bits 32 bits of data
 Reply from 127.0.0.1 bytes 32 time/loss TTL=128
 So this is the way to check NIC is working/not.

To check IP address - ipconfig/all
 → Default subnet mask = 255.255.255.0

If m bits are borrowed from NID, then what could be the supernet mask?

- (a) 255.255.2^{8-m}*2^m.0 (b) 255.255.2^{8-m-1}*2^{m-1}.0
 (c) 255.255.2^{8-m}*2^{m-1}.0 (d) 255.255.(2^{8-m}-1)*2^m.0

An -

255.255.11111111.00000000

Let this be $8-m$ m .

Let's take $m=4$

$$\text{So, } 255.255.(2^{8-m}-1)*2^m.0$$

$$2^4-1 \leftarrow 11$$

$$2^3-1 \leftarrow 11$$

$$2^4-1 \leftarrow 1111$$

$$2^3-1 \leftarrow (8-m)-1$$

ఈ పరియందు త్రైకలగిసతాడు స్వామిందుకాదు.

Be dutiful to be successful.

July

2

అప్పమి సా.గం.5-57
ఉత్తరాధిక నో.7-01
రా.న.7-53 ఎ 9-36



2021

తీస్పచ్చనామసంి, ఉత్తరాధిక
గ్రిష్మ భూతువు, వేదాయిల్ క్రమము/FRIDAY
మత్కవరణు/FRIDAY

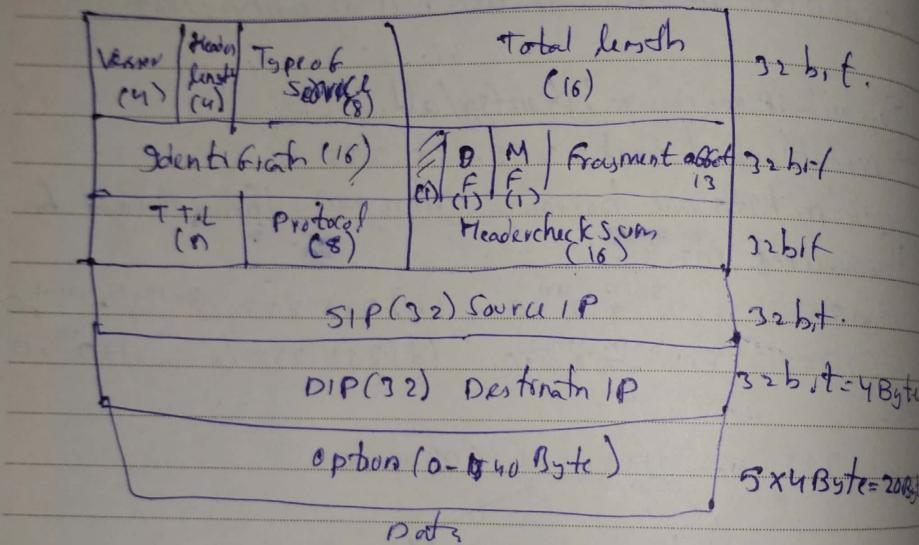
Sunrise 5:52 AM
Sunset 6:39 PM

Sunrise 5:52 AM

In N/W → we will call datagram/packet. Header Data

DLL → Frame.

IPv4 Header



So, Header length = 20 - 6 byte

- ① Version (4bit) → It indicates that which version it belongs to. IPv4 belongs to version 4 → So - 0100 4bit
- ② If it is IPv5 then 0101
- ③ If it is IPv6 then 0110

త్రట్టులు త్రట్టంథంచున వనిని పడచిట్టారు.
The Virtuous people never relinquish anything that they begin.

July

శ్రీస్తుమామసంగి, ఉత్తరాయణం
గ్రీవ్ బుటువ, జ్యేష్ఠమాసము
శనివారము/SATURDAY



Sunrise 5-52 AM

2021

నవమి రా.గో.7-11
రెవతి ఉ.గో.8-46
వక్కుములెదు

3

Sunset 6-39 PM

Q6 two diff networks like one is v4 and v6 then router drop. This is transition state where we can convert $IPv4 \rightarrow v6$.
 ② Header length(4bit) - This 4 bit but whole header length is more than 20 Byte so for this we have headerlength factor. So we fix some header length factor ex: $\frac{1}{2}$ then we will divide header length by $\frac{1}{2}$ then it is converted into binary.

$$\text{So, } \frac{20B}{2} = 10B \quad \begin{array}{c} 0101 \\ \downarrow \quad \uparrow \quad \uparrow \quad \uparrow \\ 20/4 = 5 \quad \Rightarrow \quad \frac{1}{5} - \frac{1}{5} \\ \downarrow \qquad \qquad \qquad \downarrow \\ \text{min} \qquad \qquad \qquad \text{Max} \end{array}$$

$$\text{So header length is gives as } \boxed{0111} \Rightarrow 7 \times HLF \\ = 7 \times 4 = 28 \text{ bits(HL)}$$

Paddings -

for suppose

$$HL = 22 \text{ bits}$$

$22/4 = 5 \frac{1}{2}$ so we can't write this so will add padding bits/dummy bits

$$HL = 22 + 2 \xrightarrow{\text{padding bits}} 24$$

$$\frac{24}{4} = 6 \Rightarrow 0110$$

max dummy bits = 3 coz while we delivery with 'y'

సత్తమే దైవస్తురావము. ధర్మము మార్గ భవించిన సత్తస్తురావము.

Truth is the embodiment of the Almighty and Dharma is embodied in Truth.

July

4

విజయ నె. No. 8-48
అంచనా నె. 10-54
ఫెబ్రవరీ 8-17, మార్చి 27 లో 11-13

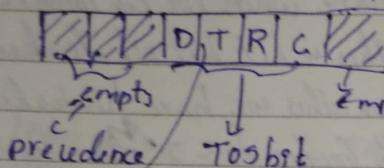
Sunrise 5:52 AM



ICMP - when our ping we will get sound
IGMP
UDP
TCP (Connection oriented)
Sunset 6:39 PM

తీవ్రమానమసం, ఉద్ధరణ
ప్రిమ్స్ డాటాప్, క్లాషిఫికేషన్
అడవిరహము/SUNDAY

- ⑤ Type of service (8 bit)
- Connectivity once dropped will not come, No ACK.
 - Three were handshaking Even if own drop retransmits will be there.
 - Ack will be there so TCP PCK will have high priority.



Remaining is empty for future bit if need extension.

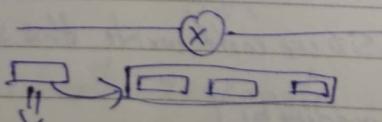
D \Rightarrow Minimize delay T \Rightarrow Maximize throughput

R \Rightarrow Maximize reliability C \Rightarrow Minimize cost

000

! Precedence
111 Not indicates priority.

Sometimes qos or rush some PCK will be dropped



So out of it which will drop then priority

Sometimes D/T/R will be priority.

In ICMP \rightarrow TOS

SNMP

0000 \rightarrow Normal pck

0010 \rightarrow Max Reliability

ముఖ్యమైన విషయములను నుమాను, అగ్ని శిఖించాలి.

There is no comfort or sleep for the seekers of knowledge.

July

2021

శ్రీస్వామినంద, ఇతరాయణం
గ్రిప్పు డ్యూటీ, వైష్ణవానము
సోమవారము/MONDAY



ఎకాదశి రా.కో.10-41
భరణి రా.కో.1-20
చ.ప.2-37 ల 4-23

5

Sunrise 5-53 AM

To S

Sunset 6-40 PM

when we're sending PNS 1000 → minimize delay
so if it is PNS it will say that this is PNS pick some
need to minimize delay.

TCP 0000

0000 → Normal 1000 → minimize delay, 0100+Max

0010 → max reliability 0001 → minimize cost throughput

So if picks comes with these bits then we can know
what is that =

$$(1) \frac{\text{Total length} - 116}{\text{bits}} = 65535$$

size of the data pack having header size + payload.

so max data that we can put in this size is 65535

≈ 1500 → size of Ethernet → It's only 1500 but we can go upto
65535 → hypernet 65535

→ 1Mbps / 16Mbps → Tokenring.

so far its size is 4464 → for 76's size is 171917

→ IPv4 works in NL. So, it can support upto $\frac{20}{6} 65535$

3. In TL (Transport layer) we have sent pack to NL with size
65535 so & it is more than it can't accommodate in
NL.

కల్పించులోను కలిపవెందరి వారు ఉత్సవాన్నియిలు.

They are indeed the noblest whose minds are not perturbed even in adversity.

July

2021

6

ಕ್ರಾಡ್ ರಾ.ನಂ. 12-40
ಬ್ಲ್ಯಾಕ್ ನಂ. 3-56
ವೆಶ್ವಾಮೀದ್

MSG E AL
Sunrise 5:53 AM

Segment C TL



65495

[20] 65495
65515

Application Layer will have
segment limit

ತೀವ್ರವಾದವಿನಿಂದಾಗಿ, ಉತ್ತರವಾಗಿ
ಅಂತಿಮವಾಗಿ, ಉತ್ತರವಾಗಿ
ಸಂಗ್ರಹಣ್ಯಗಳನ್ನು

Sunset 6:40 PM

TCP Header
UTP Header

IPV4 E NL

[20] 65515
65535

Network.

~~Segment~~ → Application layer need to think that segment should be so small.

TL

[20] 1460

~~DL~~ NL

[20] 1480
1500

DLL

[1500]

So while pick up transferring from one layer to other
then we need to take care of max size limit.

AL

Msg (no limitation)

TL

[20] 65495

Segmentation

NL

[20] 65515
65535

DLL

[1500]

PL
(PDU)

ಪ್ರಾಚೀನ ಮಾನವರು ಕಾಲಾನುಭಾವದಲ್ಲಿ ಇದ್ದಾಗಿ.
A good advice can be accepted even from a child.

July

తీవ్రవానామనం, ఉత్సాహం
గ్రీష్మ డుతువు, జ్యేష్ఠమాసము
బథవారము/WEDNESDAY

2021



త్రయోదశి రా.గం.2-36

రోహిణి సా.గం.6-32

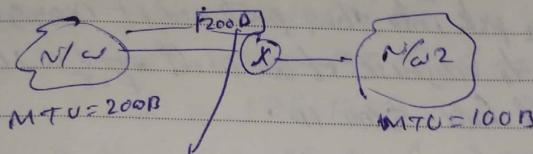
శ.వ.9-39 ఉ 11-25, రా.చ.12-40 ఉ 2-26

7

Sunrise 5:53 AM

Sunset 6:40 PM

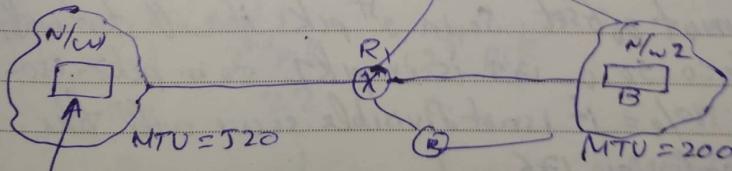
So whenever msg is coming from AL then it's divides it's size by segmenting so msg is called segment in TL.



So Router will check whether it's satisfying or not so here Router received 200B from network 1 but network 2 max limit is 100 so Router will divide into 2 parts and then send it cos N/w2 doesn't have the knowledge of N/w1

DG DLL using Ethernet then it's size is 1500 so when N/w1 data is going to DLL then it is fragmentation. So msg in DLL is called frame.

Example -



Host A if has MTU (Max Transfer unit = 520)

It wants to send a pk to B, A pk [720/520]
Now how Router divide the pk? ^{reach later}

రాజు స్వర్గములో పూతుమే పూజం వచ్చాడు. విద్యారథులు లంఠలు పూజం వచ్చాడు.

A King is respected in his own country while a Scholar is honoured everywhere.

2021

July

8

వతురకి లె.గో.4-20
ముగ్గిందిర రా.గో.8-57
వచ్చుములేదు



Sunrise 5-54 AM

Sunset 6-41 PM

శ్రీప్రవనావాసం, ఉత్తరాయం
గ్రిష్మ బుధవు, శైఖసుంగారం
సురువారము/THURSDAY

So pick will be divided into $\boxed{200}$ $\boxed{200}$ $\boxed{100}$ NO X

before fragmenting we need to provide some IP.

So when we divide pick into three parts and if may go to wrong way then to recognise it we will put a ID.
All the fragments will have same ID.

$\boxed{20} \boxed{160}$	$\boxed{20} \boxed{180}$	$\boxed{20} \boxed{180}$	$1D = 777$
$\boxed{60}$	$\boxed{200}$	$\boxed{100}$	Identical number
$\frac{160}{20}$	$\frac{200}{20}$	$\frac{100}{20}$	

So here we sent $180 + 180 + 160$ are sent.

But how do we know which pick is 1st, 2nd, 3rd as all have same ID's coz there is no order bcz it should follow the same path. So there may be any sequence of pick may reach like P₁, P₂, P₃ or P₂, P₃, P₁ or P₃, P₂, P₁.

So at receiver end it will resemble things so we will use fragment offset. So in 1st pick if will start with 0 so $0/8 = 0$ so 0-139 is in pick1 so in pick2 - 180-33
 $P_2 = 180/8 =$ it is not divisible so we will take nearest value as 176.

So we should not take 180 we will take 176. So overall we will take 196 not 200.

సూరు చేతులతో సంపాదించాలి. వెయి చేతులతో దాటం చేయాలి.

Earn by hundred hands and distribute by thousand hands.

July

శ్రీపతివామసనం, ఉత్తరాయణం
గ్రిష్మ బుటువ, జైషమాసము
శక్రవారము/FRIDAY



2021

●అమావాస్య తె.గం.5-48
ఆర్గ రా.గం.11-04
ఉ.వ.6-05 ల 7-49

9

Sunrise 5-54 AM

Sunset 6-41 PM

20/148

160

20/176

196

20/176

196.

So 1st pk → 0 - 176. = 0/8

2nd pk → ~~176+176~~ 176/8 = 22

3rd pk → 176 + 176/8 = 44

So there are offsets value → creating octet of ? BH
of that pk.

So now by knowing offset values we can rearrange the pk
in required end.

what will be your MF value (more fragment) (1 byte)
when this 1st pk will be received then it will say any other
pk with same ID or not to receiver thinks when it
see a pk it will think of it full pk or fragment pk.

So if MF=1 then one more pk will come and if MF=0
then MF=0 - and 9

→ 3rd pk. 2nd pk 1st pk

44

22

0.

0

1

1

- MF(1 bit)

5

5

5

HL

168

196

196

TL

శ్రీధృతి నేత చేయడం జ్ఞానానికి దారిద్రీస్తుంది.
One acquires wisdom by constantly serving the aged.

2021

శ్రీపతివనామసనం, ఉత్తరాయం
గ్రిష్మ బ్యాలువు, ఆపోధవనామసనం
శనివారము/SATURDAY

Sunset 6:41 PM

July

10

శు.ప్రాణిది హర్షి
పునర్వృష్టి రా.గ. 12-46
ఉ.వ. 11-55 ల 1-37

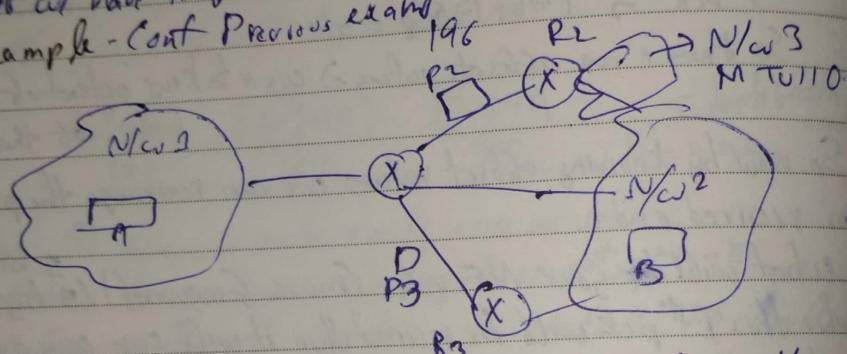


Sunrise 5:54 AM

\rightarrow Glass \rightarrow Emotions, MT, DF \rightarrow don't fragment
more fragment

So we don't want to fragment anything then it is a
If we have to fragment more than it is 1.

Example - Cont Previous example



So pck 2 need to cross n/w 3 for going n/w 2 then
pck 196 need to be fragmented coz n/w supports 100 only
So pck 2 is further divided into pck 2.1, pck 2.2
So, pck 2.1, pck 2.2 should have same identification number
, it won't change

so pck 2.1

$\boxed{20 \mid 88} \rightarrow x_{03}$ divided by 8 (8 bits)

$20 + 90$

$$\text{So, } \text{pck 2.1} \rightarrow 80 - \frac{88}{8} = 22 \text{ octet.}$$

సుఖానికి లంతం దుఖం, దుఖానికి లంతం సుఖం.

The end of pleasure is always sorrow and the end of sorrow is always pleasure.

July

శ్రీహనుమసంకలన ఉత్సవాలం
గ్రీష్మ ద్వాదశివ, ఆపాదమానము
ఆదివారము/SUNDAY



Sunrise 5:54 AM

2021

ప్రశ్నమి ర.గ.0.6-46
ప్రశ్నమి ర.గ.0.2-02
చ.వ.9-11 ల 10-52

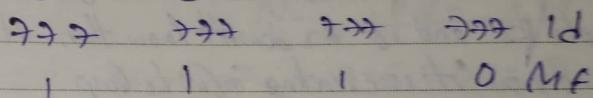
11

Sunset 6:41 PM

$$pkc\ 2 \cdot 2 \rightarrow 22 + 8/8 = 33$$

So, first pkc will take the offset value of the whole pkc. Fragment 1 Fragment 2 Fragment 3 Fragment 4
1st pkc [20|176] [20|88] [20|88] [20|148]

So whole network & pkc is divided into 4 fragments like above and reaches N/w2.



3d2

① Where are fragment discarded?

Most - R - C - Z frames do not follow same path so at any sequence it all gathered in N/w2 so resemble work will be done in N/w2 host/Receiver.

② How reassembling done at the destination?

Step 1 - fragments are identified which belongs to our addressed

Step 2 - Fragment offset we will find the order,

Step 3 - Identify subsequent fragments MTU offset \rightarrow
with the help of $(MF, offset, TL, HL)$

TL-196 TL ~~196~~ భూజుముక్కుపు, తప్పుక్కుపు దీఱులు పరమాత్మను తెలుపుకొండాలు.
By learning and severe penance, the wise people realise the Supreme

Fake length header length \rightarrow $196 - 20 - 176 - 8/8 = 22$ 0 0 0 \rightarrow Last pkc
Payload $= 196 - 20 - 176 - 8/8 = 22$ 0 0 0 \rightarrow Next fragment
Since 1st

July

12

ಡಿ.ಡಿ. 7-12
ಎಡ್. ಡಿ.ಡಿ. 2-47
ಎ.ಎ. 3-14 ಇ 4-53

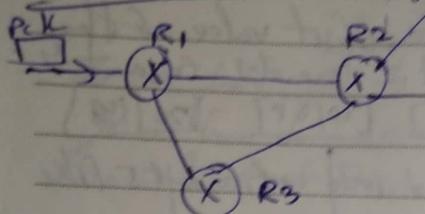


2021

Information, engineering
and technology
~~Engineering, Information and Technology~~

Sunrise 5:55 AM

Time to leave (TTL) (8 bit)

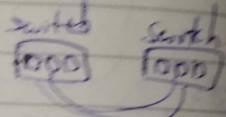
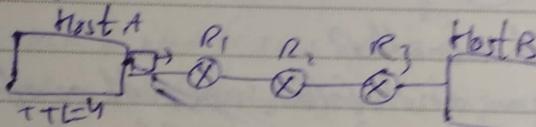


R₁ has default route towards R₂, if R₁ doesn't know the destination address then it will send to R₂, and R₂ also doesn't know destination address.

actions of that pk then it will be forwarded to default route R₃ and if R₃ doesn't know then it will sent to R₂, and now it is creating infinite loop.

Host A will fix the TTL for the pk

e.g. - TTL = 4



whenever that pk is delivered to R₁ then TTL will be decremented by 1 so now TTL=3 so now if routes to R₂ then TTL=2 R₂ → R₃ TTL=1 R₃ → Host B
if Host considers TTL=3 then at R₃ TTL become 0 so it will be dropped there. so at ~~now~~ increasing host TTL value should be greater than 0 or 0.

ನಾನು ಜೀವನ ಮಾರ್ಗದರ್ಶಕ
Of what use is birth on earth without eminence!

July

2021

తృప్తవామసం, ఉత్తరాయణం
గ్రిష్మ బుట్టప, ఆశ్చర్యవాసము
మంగళవారము/TUESDAY



తదియ ఉ.గో.7-08
పుసు త.గో.3-02
వ.వ.2-54 ల 4-31

13

Sunrise 5-55 AM

Sunset 6-41 PM

→ So how the pk comm with TTL=5 then R1 don't know destination address $R_0 \rightarrow R_1 \rightarrow R_2 \text{ TTL}=4$, $R_2 \rightarrow R_3 \text{ TTL}=3$ $R_3 \rightarrow R_4 \text{ TTL}=2$ $R_4 \rightarrow R_5 \text{ TTL}=1$ $R_5 \rightarrow R_6 \text{ TTL}=0$. So, whenever TTL value=0 then it will be dropped so infinite loop will be ended.
Protocol 1 - (8 bit)

ICMP protocol - Working in flow
TL to NL
ARP in b/w NL & DLC

T L ——————> TCP, UDP
NL ——————> ICMP
NL ——————> IPV4, ARP

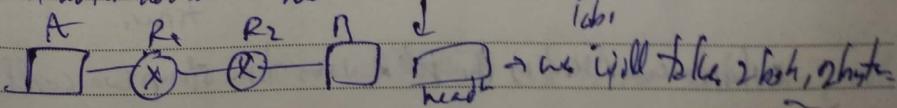
ICMP = 1, Value ICMP = 2, TCP = 6, UDP = 17,
protocol OSPF = 89

So in this way several values r there it will go up to 255 (8 bits)

8 bit will be shown as precedence. It will work when buffers, In buffers we will receive pkts and queuing. If buffer is full then some pkts need to drop. So using these values we can choose preference. Like TCP need retransmission.

Header checksum -

We will perform checksum operation add 16bit and put the value after added in header checksum



శరీరాన్ని విశ్వాసంతో రక్షించాలి. కాని తీర్మాని, శరీరము పురయు విశ్వాసంతో రక్షించాలి.
Protect your body with wealth, but safeguard your reputation with both body and wealth.

July

14

தெலு. 6-35, மூவி. 8.30. 5-37
ஷ்டா. 2-50
க. 10-58 வ 12-33



2021

திருத்தம், பார்க்கப்படும் பார்க்கப்படும்
ஒன்றுக்கொன்று நினைவு நினைவு

Sunrise 5:56 AM

Sunset 6:41 PM

When A is performing header checksum it is in middle station & and everywhere it is performed. So we rechecking whether header is correct or wrong.

At we have 15 hops. Thus we will perform 15 times its checksum.

So it's 20-16 bytes so it will take less time coz it's only header which is small. Router switches will only check headers it will not check body.

At each places FO, MF, TL, TTL are changing. So we will check header checksum.

Options - (0-40 bytes)

Options are divided into single byte and multiple byte

No operation trait operation

Record Root Strict Source Root

→ Loose source
→ Tight strict

It is used to record the time.

When we are sending the pk & using time stamp we will

தெய்வையே பூங்களை ஏற்று விடுவது உண்மை.
Duty of householder is the best of all the Dharmas.

July

2021

திருப்பூர், தமிழ்நாடு
பெண்டி, அவ்வெள்ளு
தேவான்தி/THURSDAY



7.10.4-01
6.9.2-14
6.9.51 @ 11-24

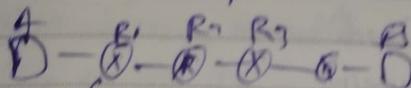
15

Sunrise 5:56 AM

Sunset 6:41 PM

get to know the arrived time, or
wishes not \rightarrow tool to capture data.

Or in GPRS loops someone will create ping attack.

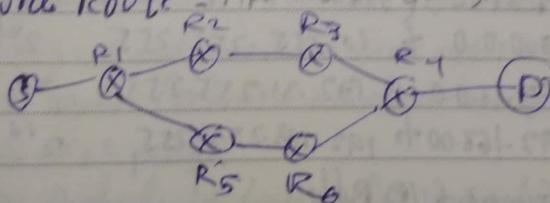


In header part it will record the route.

[R1 R2] [R3 R4] [R5 R6] P

so when B receive pkt it will understand the which path
it has following from record route so if it want to send
reply then it can send the same path.

Strict source Route Apart from data, root is written in
header.



Source decided a path like [R1 R2 R3 R4]

So whenever R1 receives pkt then R1 will send to R2 and
so on.

Loose source Route - [R1 R4] So it can take any path
from R1 \rightarrow R4.

One who can reach the goal of his actions by his efforts is really talented.

chap 19, 20

July

16

సత్కర్మ రా.గ.0.2-16
ప్రార్థన రా.గ.0.1-16
శ.వ. 10-17 వ 11-49



ravindra babu

2021

శ్రీసత్కర్మాపురం, ఉత్కాయంలు
గ్రిష్మ దిశులు, అప్పిదుషులు
శుక్రవారము/FRIDAY

Sunrise 5:56 AM 16/2 DNS and DNSSEC

Sunset 6:41 PM

w To send an email we need a IP address.

1st part - nature → root Domain Namespace

2nd part → organization, Names should be unique.

3rd part → department → node.

Domain may devide into sub domains.

If we do not find IP address then it will send to Resolverserver
if it can't solve then next to root server.

word carrying Router In DNS - share with public.

16/2

Chapter 10 → Network Layer - logical address is .

PSTN (using in three levels of hierarchy)

(VIVA) → Range of Address for private networks

10.0.0.0 to 10.255.255.255 2²⁴

172.16.0.0 to 172.31.255.255 2²⁰

192.168.0.0 to 192.168.255.255 2¹⁶

ISP → Giving no. of IPs Public

1Gbps → 10-15 IPs

out of those were using one.

With switch we can easily connect many addresses.

Router / 3 devices, with using UTM Box or Firewall.

ఉత్కములు ప్రారంభందన పనిని పరిపూర్ణయి.

The Virtuous people never relinquish anything that they begin.

July

2021

తీస్తవనామనం||, దక్షిణాయనం
గ్రిష్మ బుటువు, అప్పథమాసము
శనివారము/SATURDAY



Sunrise 5-56 AM

అష్టమి రా.గో. 12-13
చిత్త రా.గో. 12-01
ఉ.స.8-50 ఉ 10-21, శ.ఎ.5-16 ఉ

17

Sunset 6-40 PM

These devices r performing NATing.

(Public address is registered with Director, NIT Sikkim) -

we can't spend for 1000 IP address it is very cost . for 10 to 15 IP address annually it cost 32 lacs so we r taking help of NATing .

NAT will create a table which is having all the IP addresses . It will map with IP & physical address .

→ ISP also use the NAT .

Govt have Raw connection so we have 10-15 IP address & Colleges & its home they r providing with 300 rupees internet so they will not give raw address they will give shared connection and use NATing .

When a packet comes from T-L to NL then they will go to ARP (coz we need to resolve mac address over IP)

Request & reply (ICMP) - whenever we ask request it will reply (Ex:- ping).

(Vivo) → Protocols in layers (Ex:- Application layer) .

Value of codipos

1 - ICMP, 2 - IGMP 60 OR 6 - TCP.

IP	Version	TTL	Type of TL
4 bit	4 bit	8 bit	16 bit

problem - TTL = 4

$$\begin{array}{r} 20-60 \\ \hline \text{TTL} = 4 \\ 5-15 \end{array}$$

ఉత్తముల విభయము వారి సంక్లయించి దగ్గరింటుంది. వారి చేతిలోని పరిష్కారాలు కూడు.

The fulfillment of the efforts of the great men lies in their inner strength but not in their instruments.

2021

July

18 పవర్ రా.గం. 9-57
స్టోర్ రా.గం. 10-33
టి.ఎస్.వ. 6-46 క. టి.వ. 3-46 వ 5-16



Sunrise 5:56 AM

19/20/26

Sunset 6:40 PM

శ్రీష్టవనామసంగి, దక్షిణాయనం
గ్రిష్మ బయాలుతు, అపోధమాసము
అదివారము/SUNDAY

Chapter 21 -

N/w layer -

Forwarding -

Routing - determine the particular route
with the help of routers wherever the route will be there then pick
will go.

Connectn setup — connectn less → virtual ckt, datagram

Connectn oriented -

Switching → p2p switch, clt switch, msg switch

vc / datagram. Connectn oriented through vc.
vc ← connectn less .

Address Mappings -

In N/w we need some protocol for mapping b/w PL & DLL.

In N/w layer IP will be ~~main~~ protocol. For mapping we need ARP → IP will be resolved by physical address before going to DLL coz DLL needs physical address.

MAC address → So this way we need some auxiliary protocols (like ARP, RARP, BNTP, DTEP → There r not complete pl. 2.5 protocol → These protocols. N/w protocols they work both).

సంగ్రహం, సంస్కృతంద్వారా వైకిరించు ప్రతిష్ఠలు.
Sanskrit and culture are the two sources of esteem for Bharat Varsha.

July

20

Democ Dr No. 5-06
Midroc Dr No. 7-18
Dr. S. 12-30 to 2-00



2021

Information, Education,
Empowerment
Sustainable Development

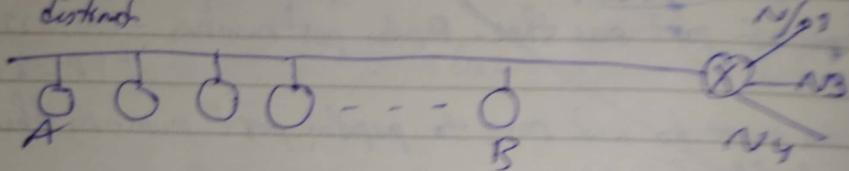
Sunrise 5:57 AM

Sunrise 5:45 AM

ARP - resolve from IP to Mac (logical \rightarrow physical address)
Two pkts - request pkt (ARP request)
- reply pkt (ARP reply).

from NW layer pkt is coming but we don't know the MAC address.

distinct

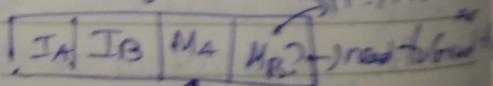


A doesn't know the MAC address of B so A want to resolve the MAC address of B using ARP

A will know \rightarrow [M | IA | IB | MA | MB]

address of B which we wanted to deliver pkt. But A doesn't know the MAC address of B which we wanted to deliver pkt.

So first we generate ARP request pkt (6 byte)



ARP request pkt.

So A will send this ARP request to broadcast so in place of M B A will put broadcast mac address. So it will be sent to everyone then it will search whether its IB or

Only virtues of the people are to be respected but not their gender or age.

Only virtues of the people are to be respected but not their gender or age.

July

క్రిష్ణమామనం, దక్షిణాయనం
శ్రీ బుద్ధు, అంశుభూషణము
మధ్యారము/WEDNESDAY



2021

దార్శకి ప.కో. 2-37
శ్రీ సి.గం. 5-39
రా. వ. 1-08 ల 2-38

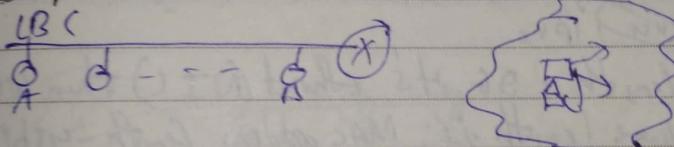
21

Sunrise 5:57 AM

Sunset 6:40 PM

matched with any one the when B receives ARP request
pk then B is matched with it so it will send ARP
reply pk coz it will understand A is looking for d's MAC add
So ARP reply pk - $\boxed{[I|A|M|A]}$ \rightarrow so since B knows
A mac address it will directly send to A's So this is unicast
So ARP request - broadcast

ARP reply - unicast - so it knows the source MAC address
example -



If A want to send a pk to this Net then it will
use LB C & A want to send a pk to all the hosts
in other network. So we will use DB (If on so, G H I)
DB then it will include a router. So router will search
the Net G DB - 10.255.255.255 - then router will
search for 10.0.0.10 using some router then it will
deliver.

ARP not also resolve brdcast host it will may go to
host to router if it wants to send pk to other network
then it need to search for router mac address.

ప్రాణికి ను తోచుకొండి ఉత్సమృద్ధి.
His life is praiseworthy who lives for others' sake.

July

22

త్రియోదశ ప.గం. 12-17
మూల నె.గం. 4-09
పడ.2-38 ల 4-09, రా.వ. 1-12 ల 2-42



2021

శ్రీశ్రీవినామసం, దక్షిణాయనం
గ్రిష్మ మాటలు, ఆషాధమసమయ
రూరూరపు/THURSDAY

Sunrise 5:58 AM

Sunset 6:40 PM

SD APP(MAC) -

i) Host \rightarrow Host (ii) Host \rightarrow Router (iii) R-R (iv) R-SH

ARP PK \rightarrow 28 bytes

\rightarrow 16 bits to 16 bytes

Hardware Type - 16 bit - which kind of OS/CW it's running

ex:- Ethernet, Fibre optics, Gast, Fiber opt

Protocol - (16 bits) - which protocol U or v is running -

ex:- (IPv4) IPv4

Hardware length - 8G it's ethernet (NI) then what is the hardware length i.e.; MAC address length - 48 bytes

$= 6 \text{ bytes} = 011000$

Protocol length - 32 bytes - 0100

Operach - request / Reply

00000001 00000010 .

Sender hardware address - MAC address of source (6 bytes)

Sender protocol address - IP address of source.

Tansed hardware address - MAC address of source/destint

Sender protocol address - IP address of destint

దయ ధర్మము యొక్క జర్మభాషా.

Kindness is the birthplace of Righteousness.

July

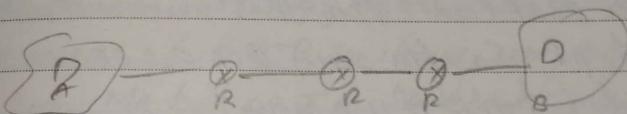
శ్రీ విష్ణువునామసం, దక్షిణాయనం
గ్ర్యాప్ బుహువ, ఆషాధమాసము
పుత్రవారము/FRIDAY

Sunrise 5-58 AM

 ARP -

System A know A IP & MAC and want to send to B but don't know MAC-OF B.

ARP - So it will resolve the mac address. So when sending ARP request packet is broadcasted, we will write mac address of A, IP address of B and in place of mac address of B is will be 0. So after receiving pkt B - request B will send APR reply which is unicast cos B knows mac address of A.



case of ARP
reqst / reply

H → H
H → R
R → R
R → S1

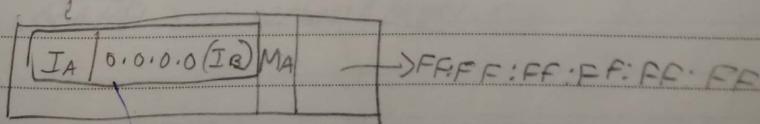
(RARP) -

We know the mac address but we don't know IP so with help of mac address we will resolve IP address.

RARP request pkt is sending to server.

NL [IA] I RARP] all 0.0.0.0 - default route.

OLL



దానములో సమానమైనది పురాయికలేదు.

There is no better treasure than charity.

2021

చతుర్దశ త.కో.10-07
పూర్వాహిద ప.కో.2-50
రా.పే.10-28 ల 12-00

23

Sunset 6-39 PM

2021

July

24

Open 8.59.8=11
Closed 8.59.1=46
Open 8.59.0=7=12

Sunrise 5:58 AM



Network High server

Interaktion, Operation
by mistake, error detection
error detection

5:58 PM

Network High server

It is running with 0.0.0.0 so it is a broadcasted pk so process will pt FF:FF

In each server we have RARP SERVER. (RARP server) means a host is assigned/act as RARP server which will provide services. So RARP server static Table
not changeable

M ₁	IP ₁
M ₂	IP ₂
M ₃	IP ₃

Dynamic - IP might be changes not always
but binded.

when it receives RARP request then this server will ask who
you to send the pk. So after suing 0.0.0.255:-
server will understand that it is a request

A don't has ip address -> A so it will send RARP request so
RARP reply [MA|MA|MA|TA] →

Disadvantage - very static table, & no host & thus then
100 IP address.

20-35 IP address is in a clm so remains wast.

தாழ்வான் குறித்தும் சொல்ல, வெளியே வாட்டுவது கூறுகிறோம்.
Money that is earned lawfully brings favour here and in the next world.

July

శ్రీపతినామసం, దక్షిణాయనం
గ్రిష్మ మాతువు, ఆమోధమూర్ఖము
ఆదివారము/SUNDAY



2021

ఎ.పొడ్యూమి ఉ.గం.6-35, విదియ తె.గం.5-29
తృవణం ప.గం.1-04
సా.వ.5-00 ల 6-35

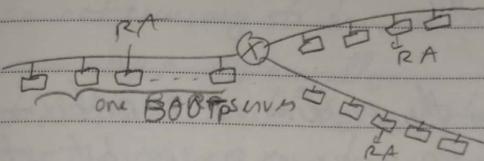
25

Sunset 6-39 PM

Sunrise 5-58 AM

Each floor or subbasement it needs more servers
So now we've got us in it so we come to upgraded version

BOOTP



Each NW has some relay agent which knows the exact mac address of BOOTP so if we send a request that we know MA but no IA, so when it receives by RA then RA doesn't know the IA coz it doesn't have static list so RA can send this request to BOOTP this is unicasted coz RA has mac address of BOOTP. When BOOTP receives request then it will send the IA to it. Or before this we need separate RARP server for all networks but here we have RA for each network so no need to have BOOTP for all servers. BOOTP works on application layer, RARP → on network layer.

స్తుతిలు న్యాయమార్గమును ఎన్నటికి పదచిహ్నిటి.
Gentle people never step aside from the path of morality.

July

26

தினி தே.ஏ. 4-45
நினைவு தே.ஏ. 12-44
நாள். 7-58 ம 9-35



2021

ஸ்ரீதஷ்வராமஸ்வரம், சுதாயூர் நங்
பிஸ்கூ சமூஹத், அவோத்சுவாஸ்வரம்
சீமாரம்/MONDAY

Sunrise 5:58 AM

Sunset 6:39 PM

This is encapsulation it will start with A and ends with A.

AC

TCL

NL

DL

PL

AC

TCL

NL

DL

PL

AC

TCL

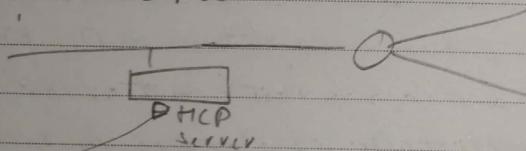
NL

DL

PL

Advantage - It solves the problem of range being in a range
of servers only one BOOTP server is required but it has
stack list so one disadvantage is contained.

DHCP - Dynamic host



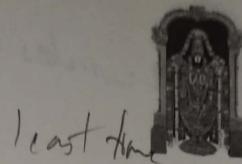
Dynamic - whenever the host is ready.

ஸ்ரீதஷ்வராமஸ்வரம் குடா அரசி சூத்தகாங்கமு வங்கீத், வினாக்கள்.

The world like the stem of a plantain tree it without much substance.

July

తృప్తివనామునంగి, రక్షిణాయినం
శ్రీ బుత్తువు, ఆచాధమునము
సుంగకవారము / TUESDAY



2021

చదివి త.కో. 4-29
శతదివి త.కో. 12-53
రా.వ. 7-26 ల 9-05

27

Sunrise 5:58 AM

Sunset 6:38 PM

If we're not connected to LAN then we don't need IP or
even if we connected to LAN then and not using internet
then we need IP. So if everyone doesn't need IP address
so only if few people use then they will need a IP
address so not necessary to show one IP address to everyone.
So we can assign dynamically.

600 students and might be 200 student active
then 255 No. of IP cross.

IP Pool \rightarrow 192.16.2.1 - 192.16.3.255 so if we
come to host then we might get an IP address
from this pool. So in dynamic concept one pool of IP
address will be there so if any host want to ask Govt
for access internet then it will be dynamically assigned.
 \rightarrow Lease time (So we will provide IP address for
some x time so then it will dynamically switched so
first 15 sec MA has IA then after x time it
might get IB.

\rightarrow Max time same IP address coz it will recognise the
mac address. If we turn off laptop for 2 days then
we may not get same IP. One pop up will ask for id
and password then it will give IP address.

స్నేహమలతో పంచుకున్న దుఃఖం తప్పచుటం కెలుగిప్పుంది.

The sorrow shared with friends become bearable.

July

28

వంచి లె.గం. 4-42
హర్షామాద్ర లె.గం. 1-31
రా.ఎ. 11-33 ఎ 1-14

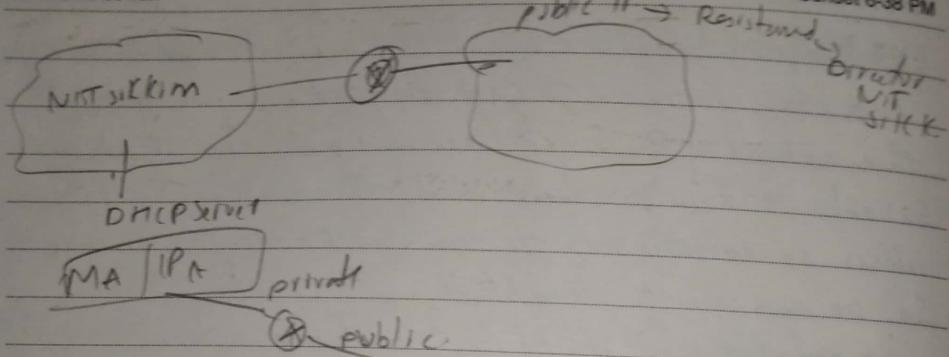


Wishes across point 2021

తీవ్రమాధునా, వీకాయం
శ్రీపు లాలు, అంధమానం
ప్రభారత/WEDNESDAY

Sunrise 5:59 AM

Sunset 6:38 PM



→ we have created guest account - for which we need to have IP address for some time so we should not give static so coz of that DHCP works fine.
where do we put DHCP server?

These days routers can itself be a DHCP.

Router can be defined by DHCP and NATing.

Accesspt is generally used as switch but not used in wireless router.

Router will check whether the PC is in diff router or network.

బుద్ధమంతుడు మంచి సలవైను, అంబులన్న వెంటనే స్నేకించుటు.

A wise man accepts a good advice and betel-nut without any delay.

July

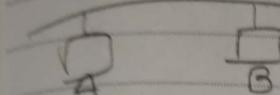
దక్కినామినం, దక్కినామినం
సమయం, అప్పిచునానము
శనివారము/THURSDAY

Sunrise 5:59 AM

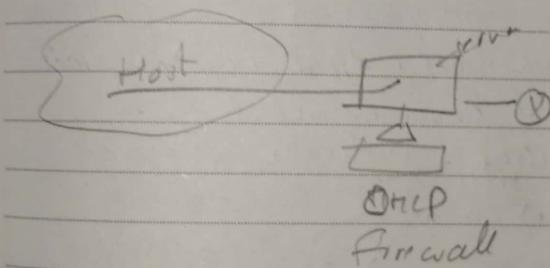


UTM box
My throat marks
2021
B.R. 5-26
B.R. 2-38
B.R. 3-26 & 5-09
29

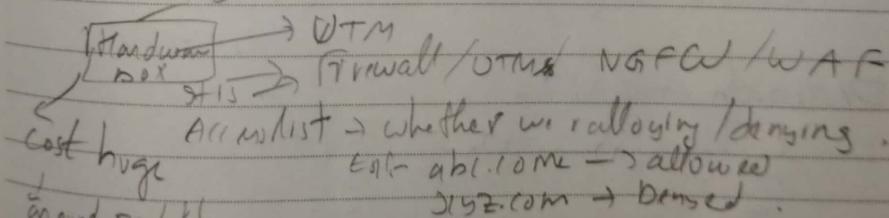
Sunset 6:38 PM

- 
- (1) See the routing table and give to B
 - (2) It will used to defaukt route
 - (3) subtract calculate is percepthn.

If we define NAT, DHCP in router then we will solve all problems. whether it is external IP/internat IP, NATing is done ~~not done~~ so private \rightarrow public.
so these days everyone using high end routers so that we can do all. But INDIAN SSI K K I m



Thread blocking


 Hardware box $\xrightarrow{\text{UTM}}$ Firewall/UTM, NGFW/WAF
 cost huge $\xrightarrow{\text{Access list}} \rightarrow$ whether we allowing / denying.
 $\xrightarrow{\text{Ex - abt. 10ML}} \rightarrow$ allowed
 $\xrightarrow{\text{152.com}}$ denied.

ఇతర వ్యక్తులు సంపాదించుటకు అప్పిరికొను లు చిత్తం ఉండుట.

Tiger disdains another's prey.

July

30 సప్టెంబర్
శాఖలు నెం.గ.4-16
వర్షములేదు



2021

Sunrise 5:59 AM

శ్రీచ్ఛివాముసం, దక్షిణాయం
గ్రిష్మ బుధవ, ఆషాదముసం
శక్తివారము/FRIDAY

Sunset 6:38 PM

(ICMP)

query msg like ping command:

IP > connects bus datagram - unreliable, only header delivery
but not for data. Two deficiency - Don't have any error control

- No Assistance control

like selective Repeat fully

If we lost / remove pkt then we can't send ACK. Ack

So ICMP is designed to compensate these & it is a compensation to the IP.

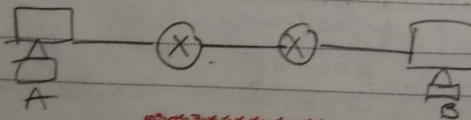
→ If pkt is dropped then we can't understand like router discard any datagram like if N/w is not ready or fragments didn't go in time then we can't know in N/w / IP protocol.

In ICMP - Error reporting → Destination unreachable

Handling / breakdown
Query message msg → Source quench
Time exceeded
parameter problem

Redirect

① Destination Unreachable -



అప్పియైన సత్కము పలుకుటయి, వినుటయి మధ్యభాషుచో.

Bitter truth, though benevolent, is rarely spoken, much less listened to by anyone.

July

శ్రీ వామసులీ, దక్షిణాయనం
ప్రయాసము/SATURDAY

Sunrise 6:00 AM



NL

2021

సప్తమి ఈ.గం.6-35
అష్టమి సా.గం.6-18

31

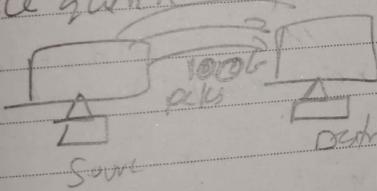
వ.ఎ.1-57 ఉ 3-41, భ.ఎ.4-50 ఉ

Sunset 6:38 PM

If B is out of network like B is not accessing any LAN then pkts is going from A → R₁ and R₁ → R₂ then by the time R₂ will understand B can't receive then R₂ will put the msg in buffer for sometime after that it will drop then R₂ will send a ICMP msg to A that Host B is not reachable so i dropped.

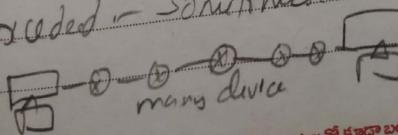
In header SIP and DIP will be known but can't see data so in NL we can play with header only can't see data so ICMP will go from R₂ → R₁, R₁ → A.

② Source quench



If NL's buffer is full then it will send a ICMP pkts NL will not have flow control. So ICMP pkt will be send to A saying that my (0) buffer is full so don't send more.

③ Time exceeded - sometimes called TTL exceed.



ఎద్దులు కలిసి ఉండటం వల్ల స్థాపించు లభిత కూడా బంధమేళ్ళదుము.
Even immovables become attached to us by constant association with them.

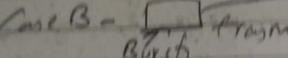
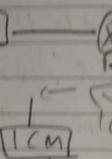
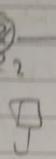
Monthly Planner

2021

If TTL value is \rightarrow then it will be discarded in Router
 \rightarrow then R₂ will inform to source that TTL is ^{Impack}

August

exceeded for that pkc can not reached to destination.

Sun	1	Case B - 	$\frac{1}{3}$	$\frac{2}{3}$	$\frac{3}{3}$	so there
Mon	2					
Tue	3					
Wed	4					
Thu	5					
Fri	6					
Sat	7		(X)		R ₁	R ₂
Sun	8					
Mon	9					
Tue	10		ICMP		J	dropped
Wed	11					
Thu	12					
Fri	13					
Sat	14					
Sun	15					
Mon	16					
Tue	17					
Wed	18					
Thu	19	③ Parameter problem -				
Fri	20	we have options in IP.				
Sat	21	strict Source Rout				
Sun	22		R ₁	R ₂	R ₃	R ₄
Mon	23					
Tue	24					
Wed	25					
Thu	26	So if it has some problem in R ₂ , then it				
Fri	27	can't go from R ₁ to R ₂ but pkc need to go at				
Sat	28	that route only so it is strict rout so R ₁ will				
Sun	29	send a ICMP pkc to source then it will change				
Mon	30	the rout so that it will reach destination.				
Tue	31					

August



2021

திருவநாலூர், திருச்செய்யன்
பிலை மூலம், அஷாத்மி மே
ஒடிவார்வை/SUNDAY

தி.நாள் மி.10.8-13
போகி மி.10.8-40
ஏ.1.5.8-38.5

1

Sunrise 6:00 AM

Sunset 5:38 PM

NAT (Network Address Translation) - It is a process that enables one unique IP address to represent an entire group of computers. So it maps multiple IPv4 addresses to a single public IPv4 address.

→ NAT configuration can reveal just one IP address for an entire network to the outside world as part of this capability effectively hiding the entire internal network and providing additional security.

NAT permits a single device such as NAT firewall or NAT router or other network address translation device, to act as an agent b/w the public & private network.

So, network address translation works like the request arrives at the public IP address and port, and the NAT instructions send it where it should go without revealing the private IP addresses of the destination.

As a NAT network address translation example, an inside host may want to communicate with a destination network address translation web server address in the outside world. For further communication, it will send a data packet to the network's NAT gateway router.

நான் கூறுவதை முன் மொழுவேன்.
One, whose mind is impure, cannot be comfortable even in dream.

August

2

ಸಿಕ್ಕಿ ಉ.ನಂ. 10-06
ಫೆಲಿಟಿ ಉ.ನಂ. 11-14
ಕ.ನಂ. 9-57 ಎ 11-43



2021

ಶ್ರೀವಿಷ್ಣುಮಹಾದೇವ, ದೃಷ್ಟಿಯಾಗಿ
ಪ್ರಿಯ ಬಾತು, ಅವಧಿಪರಾಗಿ
ಭೋಗ್ಯಾರ್ಥಿ/MONDAY

Sunrise 6:00 AM

Sunset 8:37 PM

Problem of IPv4

- **Scarcity of IPv4 Addresses**— Because of the scarcity of IPv4 addresses, many users/organizations implemented the Network Address Translation (NAT) to map multiple private IPv4 addresses to a single public IPv4 address. More workstations and devices which are connected to the Internet also demand the need for more addresses and the current statistics prove that public IPv4 address space will be depleted in due time. This has therefore made the scarcity of IPv4 addressing system a major limitation.
- **Security**— As stated earlier that the initial design did not help anticipate some issues, security threats was also not anticipated at that time.
- **Quality of Service**— Service quality relies on the shift of the IPv4-type of service field and the identification of payload. This service has limited functionality and payload identification is not possible when the IPv4 datagram payload is encrypted.
- d) **Address Configuration Issues**— Configuring IP addresses should be simplified and clarified as networks and internets are expanding and lots of new invented devices are using IP.

ಸಂಖಾರಿ ವೀರವ್ಯಾದಿ ಗುರುತ್ವ ಕೂಡಾ ದೊಡ್ಡಮೂರಾ ಕಂಡೆಂದು.

Even a virtue becomes blemish when you are impatient.

August

2021

శ్రీ సువామిగంగా, దక్కిలాయనగు
ప్రముఖులు, అష్టమాదినము
మంగళవారము/TUESDAY



6:00 AM - 12:00
శుభాంగ 7:00 AM - 1:00 PM
సా. 5:45 PM - 6:45

3

Sunrise 6:00 AM

Public & Private IP address

Sunset 5:27 PM

Private IP address - IP address which is used to communicate within the same network. Using private IP data or info can be sent or received within the same network.

Public IP address - IP address which is used to communicate outside the network. It is assigned by ISP (Internet Service provider).

→ A public IP address is the address that is assigned to a device, it can be directly accessed over the internet.

All services servers and publicly known devices has public IP addresses. A public IP address is globally unique.

IPv4 has limited no. of addresses and if each device is given a public IP then the IPv4 addressing scheme is not sufficient to solve the problem each organisation has one public IP to represent itself and all internal networks and devices has private IP addresses. These are the addresses which anyone can for their personal use without any permissions. So this way no. of addresses can be saved as each organisations only uses private IPs to have inter networking. The IANA has held in reserve the following 3 blocks of IP address from three classes.

A → 10.0.0.0 - 10.255.255.255 B - 172.16.0.0 - 172.31.255.255

C → 192.168.0.0 - 192.168.255.255

ధృతము సూచించిన వాంచి స్వార్థానికి ప్రాణికుండా.

A person endowed with righteousness is blessed with heavenly abode.

August

4

Sat 06 A.M. 2-07
Sat 06 A.M. 4-18
A.M. 8-00 c 9-46



2021

Wednesday, August 4, 2021
Morning, 8:00 AM - 9:46 AM
Wednesday/WEDNESDAY

Sunrise 6:00 AM

Sunset 8:37 PM

Router -

Forwarding - when router has received a packet to be forwarded, it looks at the table to find the route to the final destination.

Whatever doubts dharma, has no cognition of his aims.

August

2021

శ్రీ విష్ణువునా, దుర్గామయిను
పూజ చెప్ప, అంశుమానము
విశ్వామిత్ర/THURSDAY
22/7



Sunrise 6:00 AM

శ్రీ విష్ణువు వీరు 3-52
అంశుమానము
విశ్వామిత్ర 5
విశ్వామిత్ర 3-15

Sunset 6:36 PM

Redirect concept -

It will send pck to R₁ (coz defaultrouter) so R₁ will send a ICMP (Redirect msg) that to send any pck to B v send the pck to R₂ not Pre(R₁). I₀₃H is also connected to U(A).

No ICMP →

For special address like loopback / before H route.

2 Query messages = always paired '(request & reply)'.

(1) Echo request & reply - Type : 8 and 0

If we run ping then we will get a reply from server so, this is echo request we're requesting smthg and we're getting reply. Ping is not client-server program.

Ex- ping www.google.com .. -t → echo command/ query ms

So there will be a reply.

ipb: TTL=16 it will support TTL+H(16)C

So we don't know how many hops it'll going we don't know.

We don't know whether which server is replying so TTL

is saying ki it will max go to TTL=116. i.e 116 hosts

We will get when we trace route.

TTL శ్రద్ధ క్రమం ధ్యాని త్రయంలాగు.
The wisemen call sraddha or faith as the main characteristics of Dharma.

August

6

திருமூலச்செ. ஸி.ஞ். 5-17
கலை டி.ஞ். 6-36
தா. வ. 7-29 கி 9-12



Trau Route

2021

Sunrise 6:01 AM

Sunset 5:35 PM

ping will start from NL and ends in NL will not go to AL.

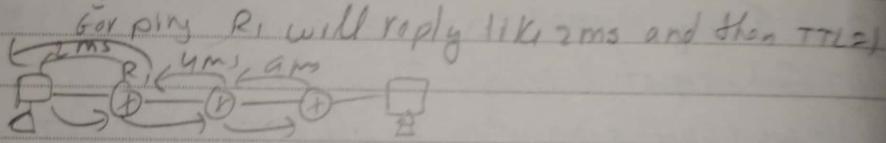
Server-client will go to AL (AL start & end).

② Timestamp

RTT will be calculated.

Round TRIP time - how much time to reach from one host to another so it will read time stamp.

Trau Route - If we will send a ICMP pk (request) then



So after becoming $T+L=2$ then R_2 will respond then we will make $T+L=3$ then R_2 will reply with $\text{SNT}(ICMP)$ and if $T+L=4$ then we reached google server - So in this way we will calculate time.

Trau Route will support till $16 = TTL$ so it will add TTL one by one so it will add total time.

③ Address mask

ICMP msg to request A don't know if its subnet mask default we will send ICMP msg to our Router to know my mask.

வாய்மையாலேயே தெளிவாக வருமாறு வருமாறு.
People go to heaven by the purity of their heart.

August

శ్రీసత్కామనసంగి, దక్షిణాయనం
ప్రియ్య బుత్తు, ఆపోధమాసము
శివరాత్రి/SATURDAY



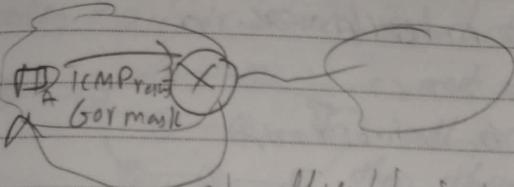
Sunrise 6-02 AM

2021

చతుర్దశి సా.గ. 6-16
వృందాశ్రమ ఉ.గ. 8-24
స.వ. 4-51 ల 6-32

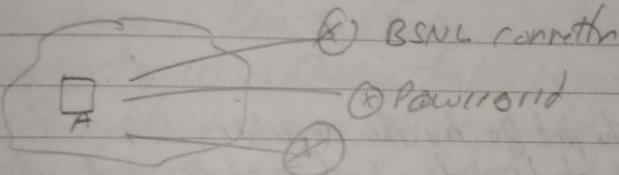
7

Sunset 6-36PM



It will send by using table.

⑨ Router solicitation -



⑩ A doesn't know it's default router than it will send broadcast. So when we send broadcast then we will get a msg from them whether they r default router or not.

Ping → Envi- (cmd)

traceur www.google.com

172.16.72.2 ASP Server gateway

10.10.10.2 → private ID of router

103.119.242.113 = powerfat → public ID.

so when we P TTL value when TTL=12 it ping google

10.170.29.92 - delhi powered gateway

Forgiveness wins and not the anger.

within 11ms (millisecond) So this process is used/done by ICMP.

August

8

• అమృతాస్వర్గ నం.గ.6-45
పుష్టివి ఉ.గ.9-46
రా.వ. 11-00 ఎ 12-40



Wani content

2021

Sunrise 6:02 AM

NIC (contd -

Sunset 6:35 PM

Ex :- trauct www.nitsikklm.ac.in

NIT SIKKLIM IP - 10.2.20.217.67

NIT SIKKLIM is handled by intranet.
Wani confuds in serv.

Windows 11 - USB port is not supported. Mouse /Keyboard
pt because lower version. Keyboard/Mouse upgrade /pt
upgrad.

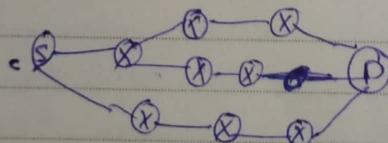
23/2

NI handles how the pcc go by the undriving.

Direct - host or host /host of router to host - same network
Indirect Host → Router → Host → diff N/A

PSI 36 - Roli Kurni

Forwarding - Forwarding means to place the pcc in its
route to its destinat.



Forwarding requires a host or a router to have routing table
Routing means preparing routing table by algorithm.

సద్గుల్మయిల్లారీ ద్వారా గొప్పమాన కీళ్లాయి.
Forgiveness is the highest pilgrimage of all.

August



2021

కు.పొడ్చమి రా.కో.7-02
ఆర్కిష్ట. క.గో.10-36
రా.ప.10-47 @ 12-24

9

Sainte-Clotilde

Sunset 6-35 PM

Flooders - whose source sends to send a destination

 and source will send packet on all paths if there is no dropping
 then three same packets will be reached to destination.

On Routing the packet may be lost but in flooding the packet loss in channel is less so flooding is reliable. But we are using routing so in flooding traffic is more, duplicate packets so buffer & resources will be wasted.

Routins ~~disadvantage~~ - pick may get lost, reliability is less.

→ In flooding there will be a shortest path in many of them. So in flooding the packet will definitely reach in shortest path also coz it comes in all paths but in routing it is not ensured that it will take shortest path.

In Routing we need routing-table but in flooding we don't need table. In Routing traffic will be very less.

Porting is optional (as Goodey can do this work). Goodey is the basic / main thing.

ஏதும் செய்து வருவது காலத்தின் படிமம்.
Actions performed in previous births are termed as destiny.

August

10 ବିଦୀଯ ରା.ନେ. 6-13
ମସ୍ତ ଉ.ନେ. 10-58
ସା.ଵ. 6-54 ଏ 8-30

2021

ଶ୍ରୀପଦମାଳାଚନ୍ଦ୍ର, କଲ୍ପନା
ପରମାତ୍ମା, ଶ୍ରୀମଦ୍ଭଗବତ
ମୋରିବାରୁଟ୍/TUEWU

Sunrise 6:02 AM

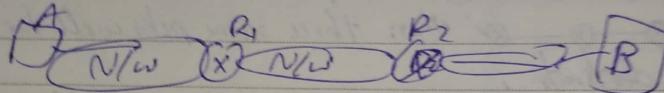
Sunset 6:34 PM

Forwarding techniques -

(1) Route Method

(2) Hop Method

(3) Path Method



Routing table based on Route.

On Host A Route - R₁, R₂, host BOn Router ~~host A~~ Route - R₂, host B.On R₂ Route - Host B.

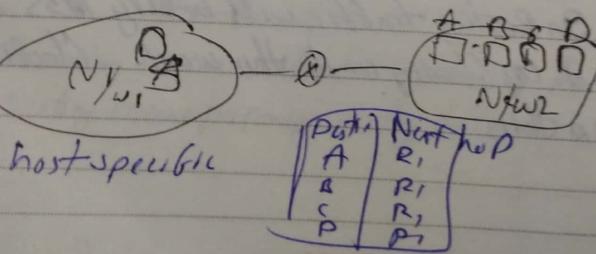
(1) Hop method

On ~~Host A~~^{host A} Next hop - R₁On ~~Host B~~^{host B} Next hop - R₂

2. Host B Next hop - Host B / --- we will put

In R₂,
host B as next hop

In Routing we will use next hop method

(3) Host specific vs ⁽⁴⁾N/w specific.

ପୃଷ୍ଠମାଲ ମୁହଁରାଧାରୀ ଫୁଲ ପାଇବାକାହା, ଯା ଗନ୍ଧାରୀ ପୁଷ୍ପାଳ ପାଇବାକାହା।
The earth carries the fragrance of flowers; but the flowers never borrow the scent of earth.

August

2021

శ్రవణమసం, దక్షిణాయనం
ర్ఘ్రముతువు, ద్రౌపదిమాసము
పుఠవారము/WEDNESDAY



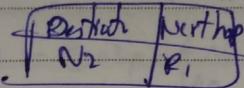
తదియ సా.కో.5-12
పుచ్ఛ ఉ.కో.10-49
సా.పె.5-52 ఉ 7-26

11

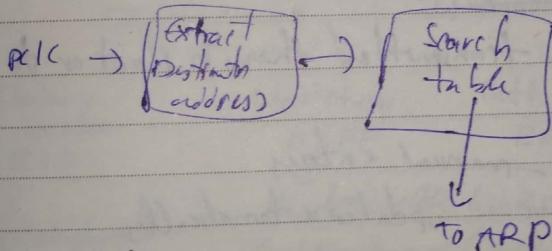
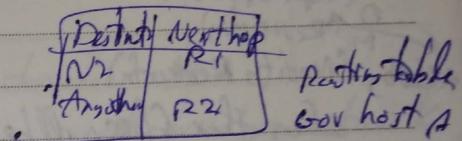
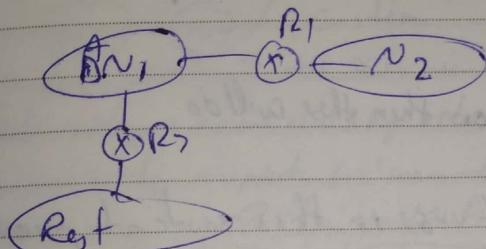
sunrise 6-02 AM

Sunset 6-34 PM

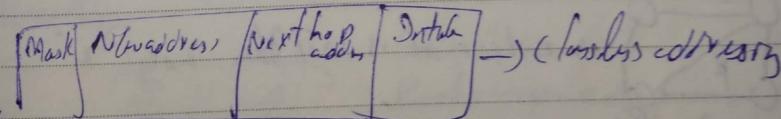
N/w specific



③ Default Method - / Default Route ,



IP ARP (node-to-node)
DLL



See ss of this data Gov sum

Ans - op. o. o QWERTHWRP = R2 = 180.70.61.200

cos Rest of the internet

Defaultn IP (AND) Mask gives N/w Add res

→ In N/W s + RLm If we have one router then IT will / we will give default route.

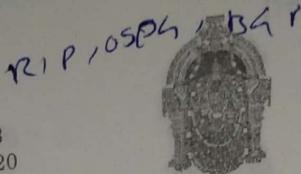
సూదములు చుట్టూ చెలచండపుత్తులు దండ్రం చుట్టులు విషములా మాచును?

Can the sandal tree turn toxic even though entwined by large snakes?

2021

August

12
వచ్చి ప.గ. 3-53
ఉత్తర క.గ. 10-20
సా.వ. 6-23 ల 7-56



Sunrise 6:02 AM

CISCO command line

శ్రీపదవనామసంఠి, దక్కిఁజుయసు
వర్షభూతువు, శ్రావణమాసభు
గురువారపు/THURSDAY

Sunset 6:33 PM

Flags -

U (UP) \rightarrow UP & running 1-ON

G (Gateway) \rightarrow destination is in other network (1-UP)

H (Hope specific)

D (Down)

M (Modify RouterInfo)

(Added by) after these flags will be on then these will do

Reference count - gives no. of users in this route at present

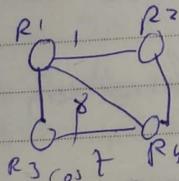
Use - how many times

Count & NO. of pk transmitted through Router to the
destined

2/12

Routing Table \rightarrow static - manual entries

Dynamic - updated automatically



\rightarrow consider if it is not there now?

So if there is a change dynamic will update it.
In static, it can't be changed/updating automatically

ఎవేక నదులు వెద్దు తనలో కలుస్తున్నా, సముద్రం తన జలపథాలలో మార్పును చూపదు.
The ocean changes not its watermark even when rivers swollen with rain water rush into it.

August

కీసనామునం, ర్షీశ్వరులు
చెందుతారు, క్రూపామునిచు
అప్పాచు/FRIDAY

Sunrise 6:02 AM

Bellman Ford algorithm \rightarrow Distance vector

2021



చందులు ఉ.గం. 2-10

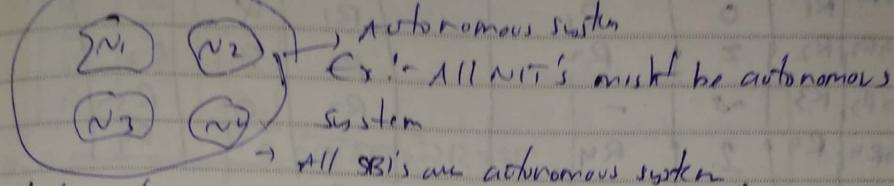
పాశు ఉ.గం. 9-23

సా.ప. 5-06 ల 6-39

13

Sunset 6:33 PM

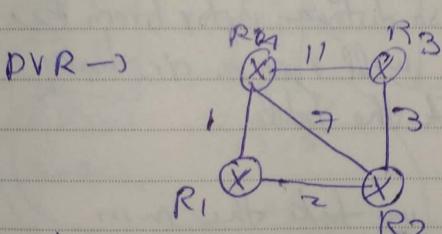
Autonomous systems - group of N/W under single administration.



Static routing \rightarrow no one is using, only for small public network.

Dynamic routing \rightarrow update for some time interval / changes in distance
Routing protocols

Intradomain	Interdomain
Distance vector	Link state
RIP	OSPF
Bellmanford Algorithm	Path vector \Rightarrow BGP developed with Linkstate Routing. Dijkstra Algorithm.



Consider -

Router - are edges

Diagram - graph -

Shows their routing table with neighbours periodically -

ప్రజలు తమ విధలు నిర్వహించి లన్ని విధాల లభించి ఉచ్చంగు.

People following their duties get all round prosperity.

August

14

పాఠ్ వ.గ. 12-27
చిత్ర కొ. 8-35
ప.వ. 1-45 ఎ 3-14



2021

శ్రీపతమామనం, దక్షిణాయం
వర్షాబుతువు, శైవజాగ్రసమీ
శనివారము/SATURDAY

Sunrise 6:02 AM

R ₁ Table			
	Dstn	Cost	Nwthops
R ₁ → R ₁	R ₁	0	R ₁
R ₁ → R ₂	R ₂	2	R ₂
R ₁ → R ₃	R ₃	∞	-
R ₁ → R ₄	R ₄	7	R ₄

R ₃			
	Dst	Cost	NH
R ₁	R ₁	0	-
R ₂	R ₂	3	R ₂
R ₃	R ₃	0	R ₃
R ₄	R ₄	11	R ₄

R ₄		
Dst	Cost	NH
R ₁	1	R ₁
R ₂	7	R ₂
R ₃	11	R ₃
R ₄	0	R ₄

R ₂		
Dst	Cost	NH
R ₁	2	R ₂
R ₂	0	R ₂
R ₃	3	R ₃
R ₄	7	R ₄

① We would like to update R₁ table for R₁, the distance vector from R₂ is $\begin{bmatrix} 2 \\ 0 \\ 3 \\ 7 \end{bmatrix}$ → R₂ showing this to R₁.
R₁ having $\begin{bmatrix} 1 \\ 2 \\ 7 \\ 0 \end{bmatrix}$ is $\begin{bmatrix} 1 \\ 2 \\ 7 \\ 0 \end{bmatrix}$ should so distance vector from R₂, R₄ is will receive distance vector & update the table.

when we calculate R₁ → R₂ we take the min distance part. $\min \left\{ \begin{array}{l} R_1 \xrightarrow{?} R_2 + R_2 \xrightarrow{?} R_2 = 2 \\ R_1 \xrightarrow{?} R_4 + R_4 \xrightarrow{?} R_2 = 8 \end{array} \right.$

మాత్రమే రథపాఠిగా, మహాన్ పు క్రమిగా తెలుగుకొనవలి.
Know thy intellect as the charioteer and the mind indeed as the bridle.

August

Algorithm 2 Disjoint Log PBR

2021

திருவாவல்நூல், விஜயாநாந்
பதியாசன், இராமாநாந்
நீண்டகாலம்/SUNDAY

Sunrise 6:02 AM

$R_1(u_w)$

out	Dist	N/w
R_1	0	R_1
R_2	2	R_2
R_3	5	R_2
R_4	1	R_4

Sunset 8:31 PM

திருவாவல்நூல் 4.10.9-51
பெ. 4.10.8-48, பெ. 8.10.5-09
ப. 11-59 ம் 1-28

15

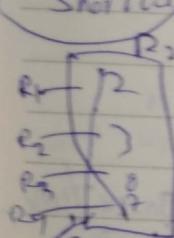
$$R_1 \rightarrow R_3 \rightarrow \min \left\{ R_1 \xrightarrow{2} R_2, R_2 \xrightarrow{3} R_3 \right\} = 5$$

$$R_1 \xrightarrow{2} R_4 + R_2 \xrightarrow{3} R_4 = 8$$

$$R_1 \rightarrow R_4 \geq \min \left\{ R_1 \xrightarrow{2} R_2 + R_2 \xrightarrow{3} R_4 = 9 \right. \\ \left. R_1 \xrightarrow{2} R_4 + R_4 \xrightarrow{3} R_4 = 1 \right.$$

so in this way we can update the table by taking
the routing table of neighbours.

shortcut -



R_4

1
7
11
0

Dest	Dist	Wn
R_1	0	R_1
R_2	2	R_2
R_3	5	R_2
R_4	1	R_4

$$R_1 \xrightarrow{2} R_2$$

$$2+0=2$$

$$R_1 \xrightarrow{2} R_4 = 1 \\ 1+3=8$$

so it is 2.

$$R_1 \xrightarrow{2} R_3$$

$$3+2=5$$

$$11+1=12$$

got from R_2

$$R_1 \xrightarrow{2} R_4 = 2+3 = 5$$

திருவாவல்நூல் திருவாவல்நூல் திருவாவல்நூல் திருவாவல்நூல் திருவாவல்நூல்.

Dharma is the attribute of a person who is dressed up as a cultural figure in the soul.

August

16

கலை த.ந். 7-28, கலை இ.ந். 5-00
வினாக்கல் த.ந். 3-30
இ.ந். 8-53 c 10-22

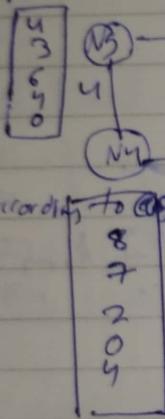
Sunrise 6:03 AM

2021

#3) Intradomain & interdomain diff is by autonomous system
Group 8G router

On the basis of autonomous system intradomain &
intradomain \rightarrow BGP protocol

DVR -



3

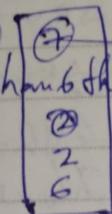
6

2

RIP protocol

Distance b/w N3 to N1

According to cost we will change the vector according to it.



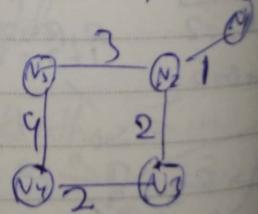
(2) 9G due to some reason cost b/w N2 to N3 is

reduced to 2' then it will be updated,

Updated will be done when there is a change / Some time updated vectors are.

At N1 \rightarrow

Node	Dist	N/H
N1	0	
N2	1	
N3	3	
N4	3	
N5	3	
N6	3	
N7	3	
N8	3	



Righteousness i.e., Dharma, is the only saviour in this world and the next.

August

తీవ్రమాసం, రక్షితాయనం
వర్షమాసం, తొపచమాసము
మంగళవారము / TUESDAY



2021

దశమి రా.గ. 2-33

శ్రీపతి రా.గ. 1-50

ఉ.ప. 8-42 ల 10-11

17

Sunrise 6:03 AM

Sunset 6:31 PM

N_3 -updated vector.

$N_3 \rightarrow D_N$ is given by N_2, N_4
distance vector

DV of N_2

6	(1)
7	(4)
3	(8)

DV of N_4

8	(3)
7	(1)
2	(6)
0	(7)

Given N_3

	N_1	N_2	N_3	N_4
N_1	3			
N_2	2		N_2	
N_3	0		N_3	
N_4	2		N_4	
N_5	5		N_3	

N_2

$$\text{For } N_1 = \min \left\{ \frac{N_3-N_2}{2}, \frac{N_4-N_2}{2} \right\}$$

$$N_3 \rightarrow N_1 = 2+1=3 \quad 2+8=10$$

$N_3 \rightarrow N_2$

$$N_2 \cdot 2 + 0 = 2$$

N_4

$$2+7=9$$

$$N_2 + 7 = 9$$

$$2+0=2$$

$$N_5 - 2 = 5$$

$$2+4=6$$

అన్ని ధర్మములలో జీవశిఖకు సమానమైనది పురాతని కు ఒకట్టుగా లేదు.
Having mercy on all living beings is considered supreme of all dharmas.

August

18

வெள்ளி ம.கோ. 12-18

வெள்ளி ம.கோ. 12-17

அ.ப. 9-18 ம 10-48, ப.ப. 10-47 ம 12-17



202

திருவாரூபம், சென்னை
ஏற்றுமொத்த, விடுதலை
நடவடிக்கை/WEDNESDAY

Sunrise 6-03 AM

Sunset 6-30 PM

Gor DV o G N4

N5
4
3
6
4
0

N4
5
4
2
0
7

N3
3
2
0
2
5

$$N4N5 = 4$$

$$NUN3 = 2$$

$$Gor N4 \rightarrow N1 = 4 + 4 = 8$$

$$2 + 3 = 5$$

$$N4 \rightarrow N2 = 4 + 3 = 7$$

$$2 + 2 = 4$$

$$N4 \rightarrow N3 = 4 + 6 = 10$$

$$2 + 0 = 2$$

$$N4 \rightarrow N4 = 0$$

$$N4 \rightarrow N5 = 4 + 0 = 4$$

$$2 + 5 = 7$$

Gor DV o G N1 N1 N2

N5
4
3
6
4
0

N1
0

N2
1
0
5
7
3

$$4 + 4 = 8$$

$$3 + 1 = 4$$

$$N1 = 0$$

$$4 + 3 = 7$$

$$4 + 0 = 1$$

ஒவ்வொருவனும் தாழ்வேடுகளை தீர்த்து வெட்ட முத்துவதற்கு அங்கே யூஸ்கூஸ்.
Dharma is the only friend who follows one even in death.

August

శ్రీపతివామినందీ, దక్షిణాయనం
వర్షాయుతువు, కొవణమాసము
ప్రథమవారము/THURSDAY

Sunrise 6:03 AM

$$4+6$$

$$0+6$$

$$4+4$$

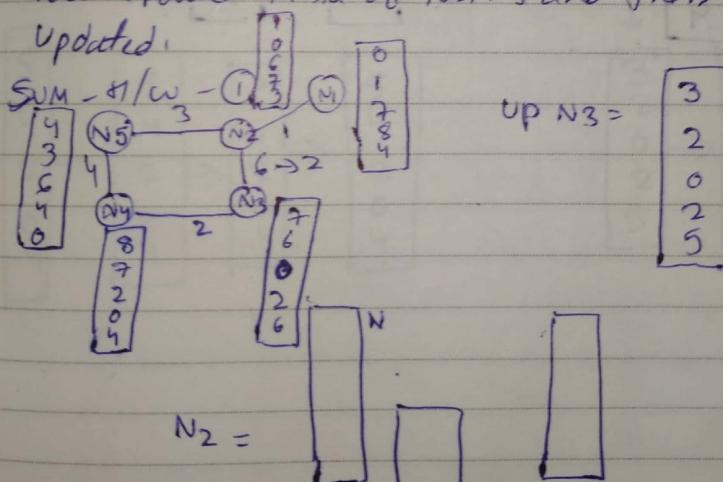
$$0+7$$

$$4+0$$

$$0+3$$

The update can be done immediately or next time.

So at the same time all R updated N₂, N₃ can be updated as H's same connects but while updating the same time N₁, N₄, N₅ will take the reference of old table of N₂, N₃ so in the next round when there is a update the same time N₂, N₃ are already updated last time so now N₁, N₄, N₅ will take the new updated table of N₂, N₃ and then will wholly updated.



ధర్మాన్ని ఒక ఉపకర్త్రా ధర్మాన్ని మనం తప్పనటిని వెల్లు వెల్లున్నప్పుడు లద్గ నేతికర్తా నీకు ఉపకర్త్రానుణంది.
If you wear the virtue all the time in your life as a crutch, it will help you as a prop when we are unable to walk.

Homework
Work updated 19 Aug 2021

ఎంబెస్ ఏ.కో, 10-04

ఎంబెస్ ఏ.కో, 10-55

② Now N₁, N₂, N₃ values 1 now

N₁ is N₂ path is Sunset 6:29 PM

- broken link in N₂ updated table N₁N₂=0

19

August

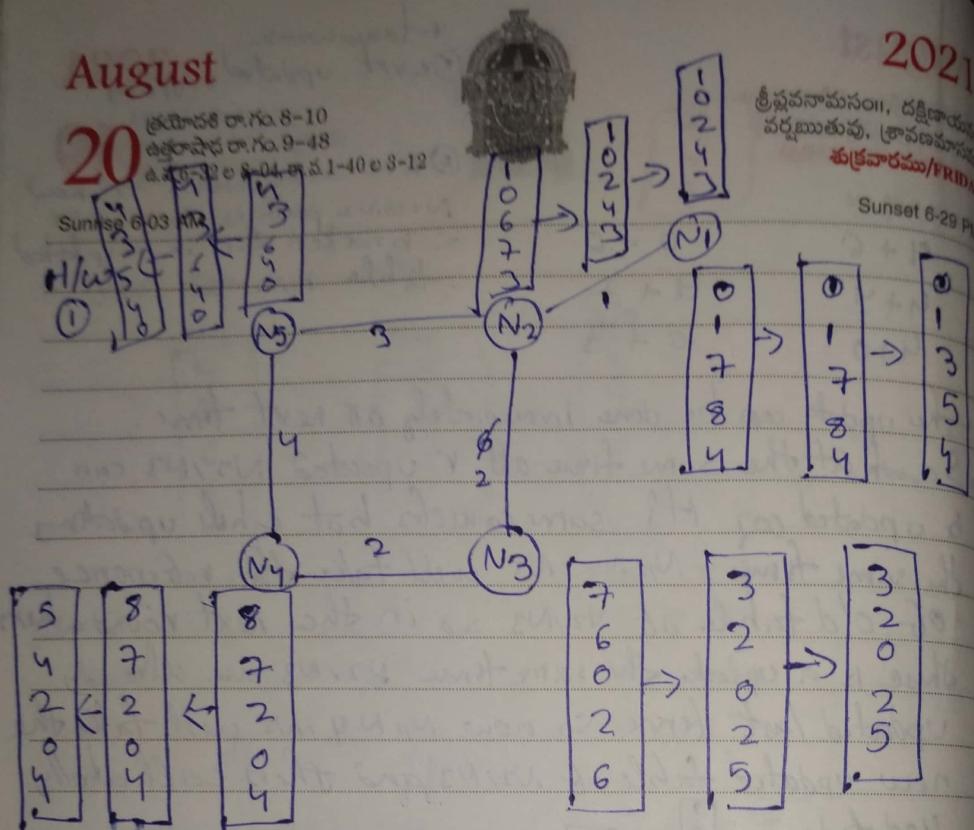
2021

2

ଶ୍ରୀମଦ୍ଭଗବତ ରା.ଗୋ. 8-10
ଶ୍ରୀମଦ୍ଭଗବତ ରା.ଗୋ. 9-48
ଶ୍ରୀମଦ୍ଭଗବତ ସେତୁ 8-04-୫୩ ୧-40 ଓ ୩-12

శ్రీప్రవనాముసం||, దక్షిణాయిల్
వర్షాభ్యాసుతువు, క్రావచావుసు
మత్రవారము/FRI

Sunset 6-29 p.



ପିତ୍ର ଦ୍ୱାରା ଜ୍ଞାନଂ, ଜ୍ଞାନଂ ଦ୍ୱାରା ବିଜ୍ଞାନମୁ, ବିଜ୍ଞାନମୁ ଦ୍ୱାରା ଧୃତିବ୍ୟୁତି କଲୁଣ୍ଠାଯା.

August

2021

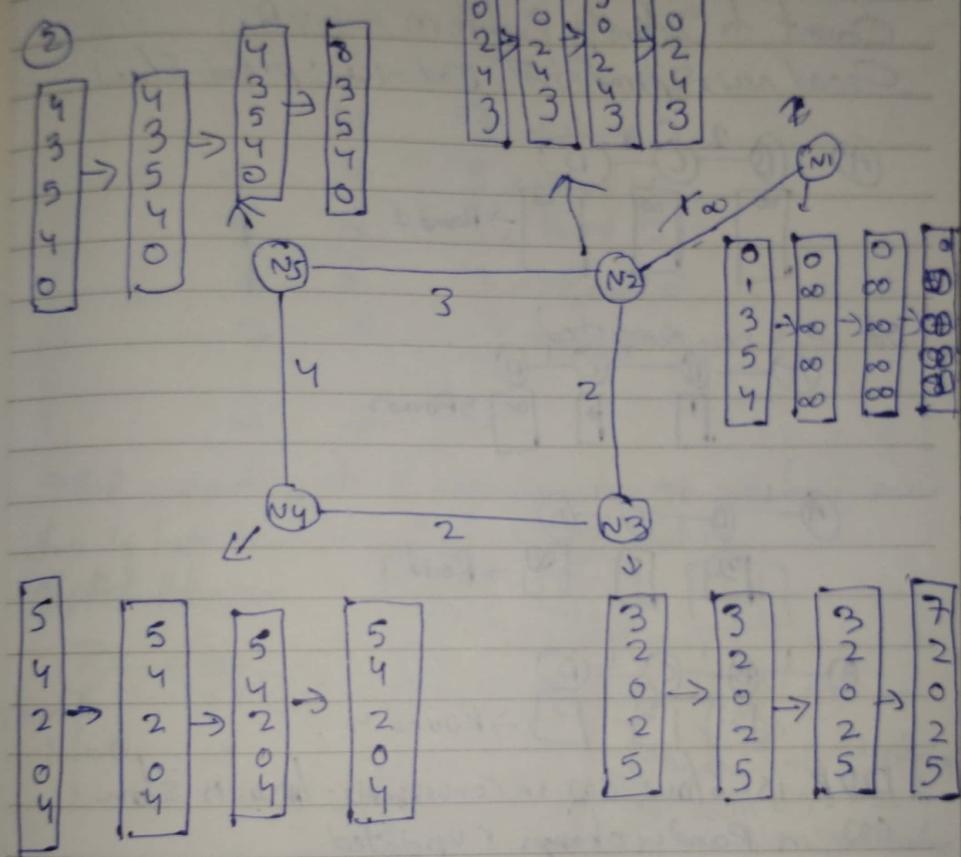
క్రిస్తువారమంగ, ద్వితీయమంగ
ప్రమాణము, క్రాన్చిమంగము
శనివారము/SATURDAY

శక్రదశ ఆ.గో.6-36
ప్రమాణ శా.గో.9-01
ఓ.5.1-56 వ 3-31

21

Sunrise 6:03 AM

Sunset 6:28 PM



శాంతికరంగా జీవించు, పాపములులత పొత్తుల, పొత్తుల రహిత ధరించు, ధరించు పొత్తుల ధరించు. ధరించు పొత్తుల విషాంకుషితులు, లిఖితులు పొందించు.

Learning gives modesty, by modesty one attains worthiness, worthiness begets money, money gives rise to charity and by charity one attains happiness.

August

22

Onwards 5-22
Onwards 5-26
5-25-5-24 = 5-24



2021

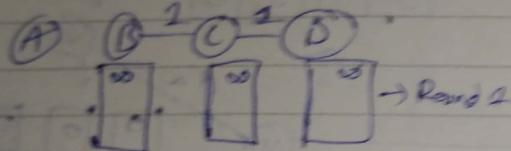
Buddha Jayanti, Chhath
Sanghastikayatra
Bhagwan Mahaveer Jayanti

Sunrise 6:03 AM 8/3

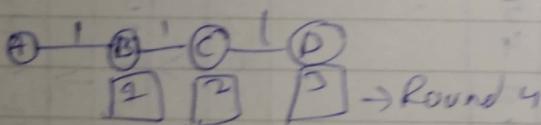
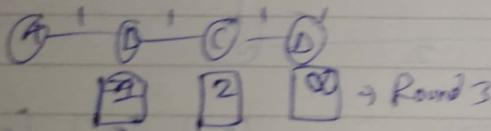
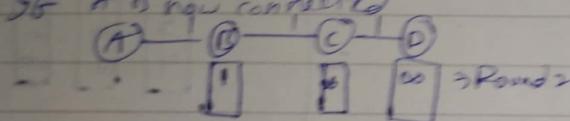
Sunrise 6:03 AM

Count to Infinity Problem = DVR

Good news spread fast Bad news spread slow

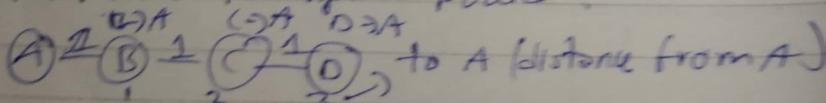


36 → now connected



DVR is slow coz in convergence time is slow.

(Q) in Round 4 changes r updated



Now (A) X (B)

मृत्युं वस्तुदानं चर्यते दक्षिणा देवी देवता गुरुं ग्रन्थं दर्शयन्ते - एव धर्मात् प्रदर्शयन्ते
Sacrifice, study, donation, penance, truth, fortitude, forgiveness and generosity are the eight forms of Dharma.

August

శ్రీస్తవనామసంగి, దక్షిణాయనం
వద్దముతోవు, కొవణమాసము
సోమవారము/MONDAY



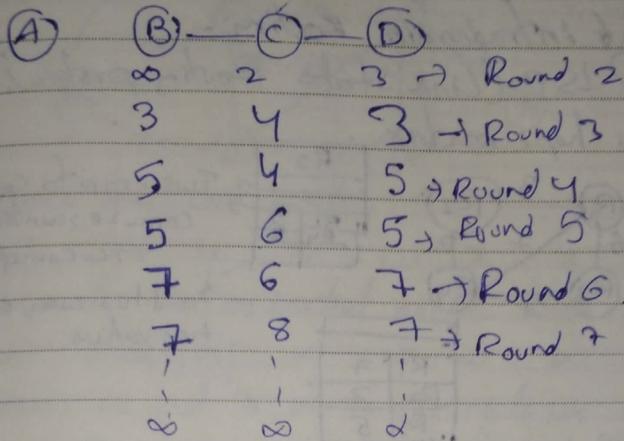
2021

బ.పెద్దాయి సా.గి.4-36
శతభిషం రా.గి.8-38
తి.ప.3-09 ల 4-47

23

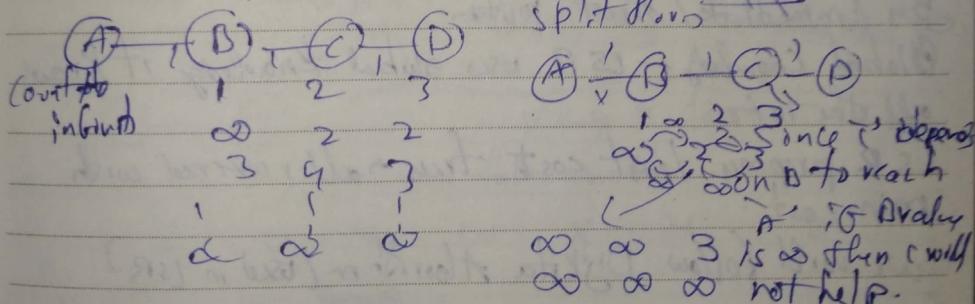
Sunrise 6:03 AM

Sunset 6:28 PM



→ RIP supports upto 15 hops update. If we have more than 16 hops then it will show unreachable.

Split Horizon -



So E depends on A and will send B to B

భగవంతుడు ప్రాపులసు కి ప్రయోజనం నిమిత్తం స్థోనాది ల ప్రయోజనాన్ని నెరవేద్యదివే వాది భూధి.

Fulfilling the purpose for which man is created is called dharma.

August

24

విద్య సా.గం. 4-19
శాఖలు నెట్ రా.గం. 9-08
ప్రముఖుడు



2/I/W Discrete
Algorithm 2021

తీవ్రవాహపణా, ద్విషాధన
వర్షముతో, క్రాస్టాఫ్
సోసిఏరమ్/TUESDAY

Sunrise 6:03 AM

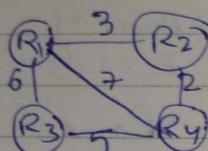
Sunset 6:27 PM

Two types of Intradomain Routing -

① DSR ② LSR (Link State Routing protocol)

RIP → follows hop matrix

LSR



R1	7
R2	2
R3	5

R2
R4

Two empty cells
consequently R
TTL concept

In this way each row
has values

In DVR R2 can't be updated by R3 but here R2
is also updated by R2 through the path

Local knowledge → DVR uses local knowledge only update
by immediate/direct router

Global knowledge - LSR uses global knowledge if know
all the info

LSR prepares least cost trees → all recovered with
min cost.

We will follow Dijkstra Algorithm (based in LSR)

చేస్తే అచంచలం పుట్టి భగవంతుని పుట్టి విషయాలు భక్తి అన్నట్టునే, దేవతలు అంతరాత్మ సద్గు అందంగా ఉంటుందో లభే మాటలుగా యింకు, ఉత్సవములు

Devotion without attachment and realizing innate happiness leads to Dharma.

August

2021

శ్రీ సువామి సంగమం
ప్రధాన తత్త్వ, కొవణదుషణము
విశ్వారము / WEDNESDAY



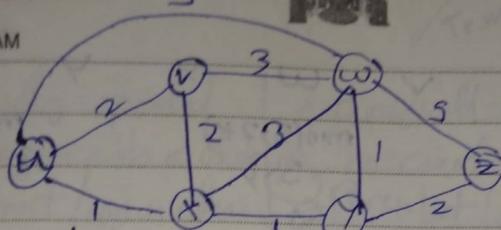
కుటుంబ నెఱి. 4-34
ఉత్తరాధికరణ నెఱి. 10-10
టి. 8-49

25

Sunrise 6:04 AM

Sunset 6:27 PM

5



Find out least cost path?

Step 1 - 'G' u v w x y z

We consider u as initial node, so we will put $u = 0$

$1. \rightarrow \boxed{u} \quad \infty \quad \infty \quad \infty \quad \infty \quad \infty \quad \infty$

Whenever we put ∞ it is the node we started

2. ux ∞ $\min(1, 0+2) = 2$ $\min(2, 0+3) = 2$ $\min(3, 0+3) = 3$ $\min(3, 0+5) = 3$ ∞

$\begin{array}{c} u \\ \swarrow \\ \textcircled{1} \end{array}$ $\begin{array}{c} x \\ \searrow \\ \textcircled{2} \end{array}$ These 3 are directly connected to 'u'.
min cost is 2 i.e., 2

$3. \rightarrow \textcircled{1} \quad u \quad v \quad w \quad x \quad y \quad z$

3. uxy $\min(2, 1+2) = 2$ $\min(3, 2+3) = 5$ $\min(3, 2+5) = \infty$

$\begin{array}{c} \textcircled{1} \\ \swarrow \\ \textcircled{2} \end{array}$ $\begin{array}{c} \textcircled{3} \\ \searrow \\ \textcircled{4} \end{array}$ $\begin{array}{c} \textcircled{5} \\ \searrow \\ \textcircled{6} \end{array}$ very less cost

can take another

'G' u v w x y z

$\begin{array}{c} u \\ \swarrow \\ \textcircled{1} \end{array}$ $\begin{array}{c} \textcircled{2} \\ \swarrow \\ \textcircled{3} \end{array}$ $\begin{array}{c} \textcircled{4} \\ \swarrow \\ \textcircled{5} \end{array}$

$\min(2, \infty)$
 $\min(2, 2+\infty) = 2$
 $\min(4, 2+\infty) = 4$

$\min(2, 2+2) = 4$

శ్యామలికి అంతర్భూతముగా ఉన్నతి పొందుతారు, అశ్యామలికి ఇతరులను విందిస్తారు.
Happy people build their inner world. Unhappy people blame their outer world.

August

26

వచి సి.గ. 5-18
కేచి రా.గ. 11-40
ట.వ. 10-55 వ 12-37



2021

శ్రీపతివామసులో, దక్షిణాద్యమం
పర్వతముతుపు, క్రామమయిని
సురువారము/THURSDAY

Sunset 6:28 PM

Sunrise 6:04 AM

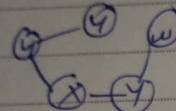
stop

g u v w x y z

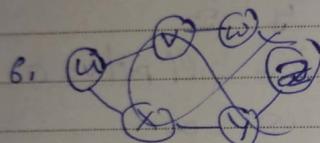
s. ux4vw

$\min(3, 7+3)$

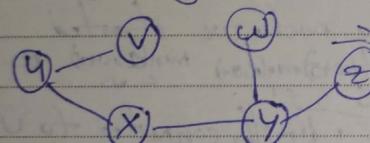
$\min(4, 2+2)$
 $= \infty$



(3) 4
5



$\min(4, 3+2)$
 $= 4$



least cost try with the help of Dijkstra.

In LSR function - every router has every routers information.

DVR

1980

→ Bandwidth less
→ Local Knowledge sharing

LSR

1990

→ B/WP → high → global knowledge

→ Local Knowledge → Global Knowledge
→ Bellmanford Algorithm → Dijkstra
→ Traffic is less → Traffic is high (cos everyone)

అంశిరం, నిర్మి, భయం, శైఖరం, వాంచమనుషులకు, ప్రూగాలకు సమానమే. వీటికి లక్షితమైన మనుషుడే ధర్మాన్ని నిర్వహించాలి.

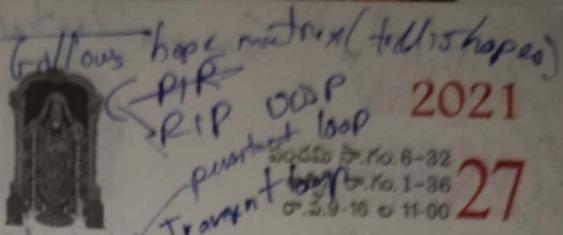
Hunger, sleep, fright, sexual pleasure are same for animals and humans. Shared their table while people devoid of these can alone sustain dharma.

August

Cast with
no unuse.

కృష్ణామంగలి, చెర్కులుయున్
స్కూలుచౌపా, కొవెలుమానుము
శ్రీకారము/FRIDAY

Sunrise 6:04 AM



27

Sunset 6:26 PM

- | | |
|-------------------------------|--------------------------------|
| > Periodically updated | > Periodically updated |
| > Count to 0 problem is there | > no count to 0 problem |
| > Persistent loop is there | > Persistent loop is not there |
| > RIP | > OSPF > Gallows not working |

In LSR or DMR there is no headers nor data.
It's like "Hello" pck.

→ TCP and UDP.

Q3 25th Chapter.

Transmission Layer → Transport Layer protocol

End-end connection / process - process

→ also responsible for flow control selective repeat
stop & wait

• Both in transport layer protocol we r using selective repeat

→ Error control → checksum is used

→ In DLL CRC bit no T6 checksum

So in TCP & UDP header checksum field will be there

→ From AL msg in coming i.e., bytes → 0 with this
bytes we r making segments (so this is the task)

Segmentation - we r making chunks according to the
new environment how much it supports according to that
we r making segment.

AL msg is divided & segmentation made.

విజయిత తండ్రి శ్రీమతి వెంకట రెడ్డి శ్రీమతి రఘువురావు.

Virtuousness brings fame, which is priceless.

August

28 2021
2021
2021

Sunrise 6:04 AM

Congestion Control



2021

త్రిశ్వరమునీ, దక్కిటాయిపులు
వర్షామును, క్రొపచమాచు
శనివారము / SATURDAY

TCP - 21

STCP - port no - 3

TELNET - port - 23

Sunset 6:25 PM

Ques 1) Ques we are using multiplexing & demultiplexing.

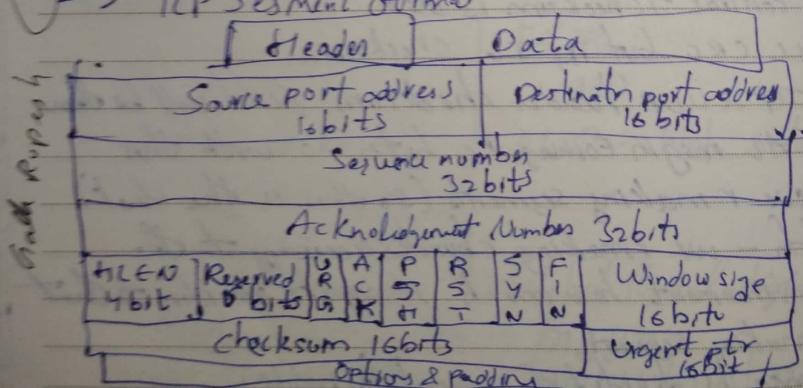
In TCP we using diff port, 16 bit port number is used
each port goes to nearest router / nearest device.

so many port we have created like we r watching movie or
goal match etc. All port r goes in one pass (many into one
i.e., demultiplexing).

So multiplexing & demultiplexing are the responsibilities of TCP.
Congestion Control is another task of TCP.

whenever the link capacity, if data is moving
beyond the capacity of link that flow congestion
will occur.

Node - Node - DLL Host - Host - Network process - process TCP
→ TCP Segment Format



సంఘర్షణ కావు మాండి విజయింగులు, మాండి ఆశ్రు, మరిషి విష్ట, అంగావం పురాయి అనుమతులు లేదాయి.
Joy is a deceptive trap; grief is the real preceptor, teaching caution, circumspection,
discrimination, detachment, awareness and vigilance.

August

2021



శ్రీ విష్ణువునంది, దృష్టిమయం
వచ్చయితామి, కొరకుమానము
ఆప్రమాదము/SUNDAY

సిద్ధమి తమ. నెం. 10-01
సిద్ధమి తమ. నెం. 05-01
0.5.5-01 = 6-53

29

Sunrise 6:04 AM

Sunset 6:24 PM

Q Port address is 16 bit i.e., 0-12¹⁶ (0-65535) port numbers
So one of those port number are assigned to source port & destination port.

Q Sequence number is 22 bits i.e., 0- (2²²-1) numbers
When a msg is coming from upper layer (TCP) then
it will be divided into segments. So whatever byte is coming
it is counted. All $\frac{1}{1}$ MSG. So each byte has a number
that is called $\frac{1}{1}$ sequence number.

Segment =

Payload	Header
---------	--------

 ~19
suppose payload =

11111111	01101101
----------	----------

 ~20²
Each is a byte. 100 bytes
Length 50 bytes

So we will assign a random sequence number suppose 200 the sequentially we will assign numbers to each byte
like 201, 202 --.

length of sequence number is 0- (2²²-1)

TCP protocol is Byte stream protocol cos every byte
is counted by providing sequence number.

In NW we r using IP it's pk stream protocol
cos we r providing a number in IP header for each pk
i.e., identification number (16 bit)

If it is given when the pk starts from host and when
it reaches the destination host then the sequence number
will change.

Only a fearless person can work towards self development and can also help in social and political development.
Therefore one should fearlessly perform all his duties.

August

30 అప్రిల్ రా.గం. 12-02
కృతిక ఉ.గం. 6-23
రా.వ. 12-08 ల 1-54



202

శ్రీశ్రవణమసంఠి, దక్షిణ
వరధనుతువు, క్రాపట్టు
సోమవారము/MONDAY

Sunrise 6-04 AM

Sunset 6-23

Session fragmented then I don't think number will help
us to identify the fragments/parts of same pic.
→ In DLL, HDLC protocol is a bit stream protocol.

స్వార్థంతో బ్రాహ్మణంగా చెయ్యగా తన్న శ్రద్ధల్నిప్రాపు సంభూతాలను విముఖంగా ఉంటాడు. అతను ఎప్పుడూ చెఱు కళలలో విషయాల్ని ఉంటాడు.
The person who is basically evil by nature will always be averse to virtuous deeds. He is always engaged in bad karma.

August

తృప్తిమానసం, దృష్టిమానసం
విషయముతో, కొవడమానసము
సోనగచ్చము/TUESDAY

Sunrise 6:04 AM



2021

5.6.20 09.10.2-00
09.10.9-01
5.5.3-12 0 4-58

31

Sunset 5:23 PM

0 - 1023 1024 - 49151 49152 - 65535

↓
well known port.

↓ Registered

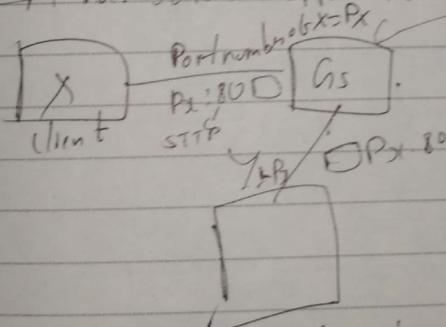
port
some of them reassigned ↓
Dynamic port.
ports.

unregistered

Any number will be assigned through IANA & with the help
of this we will assigned the port number.

When we do some application a port will be generated that
is in b/n 49152 - 65535 with that port number only
the replied pak will come.

Q) Why do we need port number if we have IP number
Suppose 1G we have google service.



If port number comes then it will receive some buffer.

If both client shows same port number then one server
can't come so server can't understand which Px Gov
which client

క్లియర్ అంటి లభించుట వేదిని వాళ్లని చెయ్యగలదు. ఇది ల్యూ ఆమ్మాలలు లభించుటకు ప్రయత్నించుటకు విజయ ప్రాధికారి కూడా నిర్వహించాలి.

The light of knowledge is fully of capable of destroying the darkness of ignorance.
This also help in overcoming all the difficulties and in achieving success in all endeavors.

September



12 ముద్రగొ. 7-48
ఉత్కు మగో. 1-12
సా. మ. 4-55 ర 6-24

sunrise 6:25 AM

TANTA will enter public domain
September

1960-1961

10. The following table gives the number of hours worked by each of the 1000 workers.

— *—* *—* *—* *—*

W. - 1945-1946

1000-10000 m.s⁻¹

卷之三

22-1000 (2000)

1990-1991

1990-1991

~~Ans~~ Suppose we have 16 port numbers. It may have same numbers so IP address is also required not only port numbers.

④ port & IP IP Port = Socket
22 16 48

Loopback address - 127.0.0.1 → To test Nic and we will use loopback.

RJMS in 2 Pcs

one byte in $\text{p1}'$ will have 15 serial numbers in the

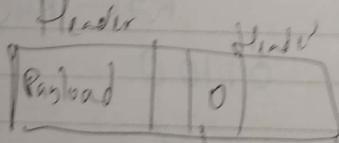
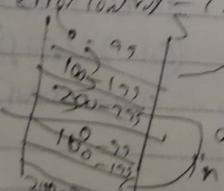


Figure ground field
with global for 2nd column
not always "o" number

Dr TC error control - chicken

DL error control - CRC



Delayed pet will come in next year
in the same place so it will think it's
comes

Nine forms of Bhakti are Sravanam, keerthanam, smaranam, paada sevanam, archanam, vandanam, dasyam, sakhyam and astma nivedanam.

September

తృప్తివామసంగి, డక్టిణాయనం
వర్షాయుతువు, భాద్రపదమాసము
సాపువారము/MONDAY



Bottle Neck . 2021

సప్తమి లక్ష. 5-23
అషాద్ధ లక్ష. II-34
పా. 5-4-46 ల 6-15

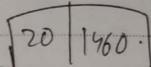
13

Sunrise 6:05 AM

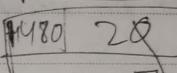
Sunset 6:13 PM

So a pkts send to server client through H and I packets until session gets over and if a pkt. among H is delayed/missed.

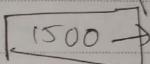
TL



NL



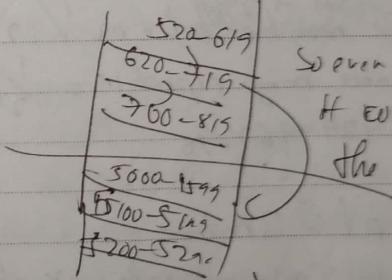
DLL →



In DLL it size should not be more than 1500.

In case of IP & TCP its size is 20-60 header size.

So to correct we will use R/SN so it will give random sequence numbers. like



So even if the pk delayed it will know it's not the same sequence number.

Sequence number - $(0 - (2^{32} - 1))$

If we continuously sending the pkt then H may randomly take the same sequence number. ex:- start from 500 - 2³²-1 -- 475

దైవం ప్రతికాలమును ఉంచే ప్రయత్నము, పొదుషము ద్వారా వేయబడు.

If the divine does not favour, neither effort nor strength can do anything.

September

14

நட்சதி தி.கோ. 2-58
நட்சதி தி.கோ. 9-58
நட்சதி. 5-21 கி. 6-50



2021

திருவாறு, தாங்கூர்
புதுமலை, புதுமலை,
கோயம்புத்தூர்.

SUN 8-12 AM

Sunrise 6:05 AM

Wraps around time - Even 16 we take random sequence
numbers there might be the chance of repetitions.

(?) when will it be repeated?

If we use 1Mbps (Mega byte per second) normal
Mbps is mega bit per second

$$\begin{aligned} \text{Mbps} &= 1\text{sec} \rightarrow 1\text{MB} \\ &\rightarrow 10^6 \text{B} \\ &\rightarrow 10^6 \text{sec No.} \end{aligned}$$

$$10^6 \text{sec} \rightarrow 1\text{sec}$$

$$1\text{sec} \rightarrow 1/10^6 \text{sec}$$

So sequence number may be taken in $1/10^6 \text{sec}$

So probability of sequence number may repeat is $= \frac{1}{2^{32}} = 4294967296$

Life-time of a pic = 3 min

If it is delivered in 3 mins then ok or else it will
be dropped so we need to send - via cycle.

WAPP \rightarrow LT then no problem.

இன்னொ உண்டீ வீரதேவா நாமாயக்கு.

Anything can be accomplished, if there is divine strength.

September

కృష్ణామంగా, దక్షిణాయనం
స్వర్ణాయితుచ్చ, భాగద్విషమాసము
విశ్వారము/WEDNESDAY

Sunrise 6:05 AM



2021

సవమి వ.గో. 12-39

పూర్వ క.గో. 8-18

ఉ.గో. 6-48 ఒ 8-18, రా.గో. 5-18 ఒ 6-48

15

Sunset 6:12 PM

get us 1 GBS.

1sec \rightarrow 1GB

$\rightarrow 10^9$

$\rightarrow 10^9$ Sec No.

10^9 Secs \rightarrow 1sec

1 sec $\rightarrow \frac{1}{10^9}$

$$2^{32} = \Rightarrow 2^{32} / 10^9 = 4.294965 \text{ sec}$$

So if we get the file no. of 6 bits then WAT > LT

So it will be resolved.

How much should be the sequence number so that
WAT > LT. $2^{12} = 4096$ sec.

160sec \rightarrow 1GB need to be supported.

$$\frac{x}{10^9} > 160$$

$$(x > 160 \times 10^9) \text{ 42 bit,}$$

So if we have 42bit & lifetime 1:3 min then
we will have no problem but sequence no - 32 so to
get 42 bit we will ask for timestamp and borrow
from option.

తథ చంపేస్తున్న భూమిలోను, అయి తప్పించుకొనుటం వేళు, ఆయన విజులును, తథ విషయాలను.

He who thinks that the soul kills and he who thinks of it as killed, are both ignorant. The soul kills not, nor it is killed.

September

16

దశమి ఉ.గో. 10-28

ప్రాణాంధు ఉ.గో. 6-50, ఉత్తరాంధు ఉ.గో. 5-43
ప.వ. 2-47 ల 3-59

29/3

Sunrise 6:05 AM



Fin

2021

Scenepkts

Ackpkts

Poll arrival

Pkgg packing

శ్రీపతివనామసంగి, దక్షిణాంధు

వర్షయుతువు, భూగ్రపదము

గురువారము/THURSDAY

Sunset 6:11 PM

HL (header) -

Actual header length is 20-60 bits

So we will divide it with headerlength factor - 4

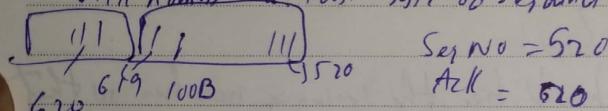
$$20/4 = 5 \rightarrow 0001 \quad 60/4 = 15 = 1111$$

Ack no = 32 bits

The sequence numbers we expected next.

Sequence number = 2 length of sequence number.

Ack number = last byte of sequence number + 1



Example -

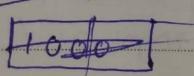
Given TL = 1000 } IP Datagram
HL = 5

NL = 5 } TCP
Seq No = 100 } Segment

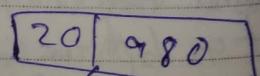
Header

What will be the Ack no. of this TCP Packet?

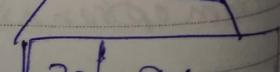
Any 1060



TL = 1000



So Ack no = 1059 + 1 = 1060



జంతుయాలు స్తూల శరీరానికంటే గొప్పవి మరియు జంతుయాల కంటే ఉన్నతమైనది మనస్సు మనస్సును వించుని బృద్ధి బృద్ధి కూడా వించుని

The senses are superior to the gross body, and superior to the senses is the mind.

Beyond the mind is the intellect, and even beyond the intellect is the soul.

September

18 దార్జి ఉగ. 6-57, తమించి లెగ. 5-52
ఫల్స్ టెగ. 4-20
ఐ.వి. 8-44 వ 10-18



202

తీవ్రవాహమంగలీ, రాజీవ్
వర్షయుతుడు, భాగద్వాను
శివార్థము/SATUR

Sunrise 6-05 AM

Sunset 6-10

$Seq = 522, Ack \rightarrow 2001 \rightarrow$ pure ACK pack
 $Ack = 12001$ now data transfer

? Data transfer - *continues*

C C2 ACK not received any sequence number SYN
Received a sequence num.

~~Seq = 100, Ack = 200, Seq = 522, Ack = 1~~ → double checking if the previous ACK is lost.
Now we don't need SYN ACK because we already used it.

~~Ack = 200, Data seq = 622~~

~~= 622 - 72~~

~~Ack = 200, Data seq = 722~~

~~= 722 - 82~~

~~Ack = 200, Data seq = 822~~

~~= 822 - 92~~

~~Ack = 200, Data seq = 922~~

~~= 922 - 100~~

~~Ack = 200, Data seq = 1000~~

~~= 1000 - 1100~~

~~Ack = 200, Data seq = 1100~~

~~= 1100 - 1200~~

~~Ack = 200, Data seq = 1200~~

~~= 1200 - 1300~~

~~Ack = 200, Data seq = 1300~~

~~= 1300 - 1400~~

~~Ack = 200, Data seq = 1400~~

~~= 1400 - 1500~~

~~Ack = 200, Data seq = 1500~~

~~= 1500 - 1600~~

~~Ack = 200, Data seq = 1600~~

~~= 1600 - 1700~~

~~Ack = 200, Data seq = 1700~~

~~= 1700 - 1800~~

~~Ack = 200, Data seq = 1800~~

~~= 1800 - 1900~~

~~Ack = 200, Data seq = 1900~~

~~= 1900 - 2000~~

~~Ack = 200, Data seq = 2000~~

~~= 2000 - 2100~~

~~Ack = 200, Data seq = 2100~~

~~= 2100 - 2200~~

~~Ack = 200, Data seq = 2200~~

~~= 2200 - 2300~~

~~Ack = 200, Data seq = 2300~~

~~= 2300 - 2400~~

~~Ack = 200, Data seq = 2400~~

~~= 2400 - 2500~~

~~Ack = 200, Data seq = 2500~~

~~= 2500 - 2600~~

~~Ack = 200, Data seq = 2600~~

~~= 2600 - 2700~~

~~Ack = 200, Data seq = 2700~~

~~= 2700 - 2800~~

~~Ack = 200, Data seq = 2800~~

~~= 2800 - 2900~~

~~Ack = 200, Data seq = 2900~~

~~= 2900 - 3000~~

~~Ack = 200, Data seq = 3000~~

~~= 3000 - 3100~~

~~Ack = 200, Data seq = 3100~~

~~= 3100 - 3200~~

~~Ack = 200, Data seq = 3200~~

~~= 3200 - 3300~~

~~Ack = 200, Data seq = 3300~~

~~= 3300 - 3400~~

~~Ack = 200, Data seq = 3400~~

~~= 3400 - 3500~~

~~Ack = 200, Data seq = 3500~~

~~= 3500 - 3600~~

~~Ack = 200, Data seq = 3600~~

~~= 3600 - 3700~~

~~Ack = 200, Data seq = 3700~~

~~= 3700 - 3800~~

~~Ack = 200, Data seq = 3800~~

~~= 3800 - 3900~~

~~Ack = 200, Data seq = 3900~~

~~= 3900 - 4000~~

~~Ack = 200, Data seq = 4000~~

~~= 4000 - 4100~~

~~Ack = 200, Data seq = 4100~~

~~= 4100 - 4200~~

~~Ack = 200, Data seq = 4200~~

~~= 4200 - 4300~~

~~Ack = 200, Data seq = 4300~~

~~= 4300 - 4400~~

~~Ack = 200, Data seq = 4400~~

~~= 4400 - 4500~~

~~Ack = 200, Data seq = 4500~~

~~= 4500 - 4600~~

~~Ack = 200, Data seq = 4600~~

~~= 4600 - 4700~~

~~Ack = 200, Data seq = 4700~~

~~= 4700 - 4800~~

~~Ack = 200, Data seq = 4800~~

~~= 4800 - 4900~~

~~Ack = 200, Data seq = 4900~~

~~= 4900 - 5000~~

~~Ack = 200, Data seq = 5000~~

~~= 5000 - 5100~~

~~Ack = 200, Data seq = 5100~~

~~= 5100 - 5200~~

~~Ack = 200, Data seq = 5200~~

~~= 5200 - 5300~~

~~Ack = 200, Data seq = 5300~~

~~= 5300 - 5400~~

~~Ack = 200, Data seq = 5400~~

~~= 5400 - 5500~~

~~Ack = 200, Data seq = 5500~~

~~= 5500 - 5600~~

~~Ack = 200, Data seq = 5600~~

~~= 5600 - 5700~~

~~Ack = 200, Data seq = 5700~~

~~= 5700 - 5800~~

~~Ack = 200, Data seq = 5800~~

~~= 5800 - 5900~~

~~Ack = 200, Data seq = 5900~~

~~= 5900 - 6000~~

~~Ack = 200, Data seq = 6000~~

~~= 6000 - 6100~~

~~Ack = 200, Data seq = 6100~~

~~= 6100 - 6200~~

~~Ack = 200, Data seq = 6200~~

~~= 6200 - 6300~~

~~Ack = 200, Data seq = 6300~~

~~= 6300 - 6400~~

~~Ack = 200, Data seq = 6400~~

~~= 6400 - 6500~~

~~Ack = 200, Data seq = 6500~~

~~= 6500 - 6600~~

~~Ack = 200, Data seq = 6600~~

~~= 6600 - 6700~~

~~Ack = 200, Data seq = 6700~~

~~= 6700 - 6800~~

~~Ack = 200, Data seq = 6800~~

~~= 6800 - 6900~~

~~Ack = 200, Data seq = 6900~~

~~= 6900 - 7000~~

~~Ack = 200, Data seq = 7000~~

~~= 7000 - 7100~~

~~Ack = 200, Data seq = 7100~~

~~= 7100 - 7200~~

~~Ack = 200, Data seq = 7200~~

~~= 7200 - 7300~~

~~Ack = 200, Data seq = 7300~~

~~= 7300 - 7400~~

~~Ack = 200, Data seq = 7400~~

~~= 7400 - 7500~~

~~Ack = 200, Data seq = 7500~~

~~= 7500 - 7600~~

~~Ack = 200, Data seq = 7600~~

~~= 7600 - 7700~~

~~Ack = 200, Data seq = 7700~~

~~= 7700 - 7800~~

~~Ack = 200, Data seq = 7800~~

~~= 7800 - 7900~~

~~Ack = 200, Data seq = 7900~~

~~= 7900 - 8000~~

~~Ack = 200, Data seq = 8000~~

~~= 8000 - 8100~~

~~Ack = 200, Data seq = 8100~~

~~= 8100 - 8200~~

~~Ack = 200, Data seq = 8200~~

~~= 8200 - 8300~~

~~Ack = 200, Data seq = 8300~~

~~= 8300 - 8400~~

~~Ack = 200, Data seq = 8400~~

~~= 8400 - 8500~~

~~Ack = 200, Data seq = 8500~~

~~= 8500 - 8600~~

~~Ack = 200, Data seq = 8600~~

~~= 8600 - 8700~~

~~Ack = 200, Data seq = 8700~~

~~= 8700 - 8800~~

~~Ack = 200, Data seq = 8800~~

~~= 8800 - 8900~~

~~Ack = 200, Data seq = 8900~~

~~= 8900 - 9000~~

~~Ack = 200, Data seq = 9000~~

~~= 9000 - 9100~~

~~Ack = 200, Data seq = 9100~~

~~= 9100 - 9200~~

~~Ack = 200, Data seq = 9200~~

~~= 9200 - 9300~~

~~Ack = 200, Data seq = 9300~~

~~= 9300 - 9400~~

~~Ack = 200, Data seq = 9400~~

~~= 9400 - 9500~~

~~Ack = 200, Data seq = 9500~~

~~= 9500 - 9600~~

~~Ack = 200, Data seq = 9600~~

~~= 9600 - 9700~~

~~Ack = 200, Data seq = 9700~~

~~= 9700 - 9800~~

~~Ack = 200, Data seq = 9800~~

~~= 9800 - 9900~~

~~Ack = 200, Data seq = 9900~~

~~= 9900 - 10000~~

~~Ack = 200, Data seq = 10000~~

~~= 10000 - 10100~~

~~Ack = 200, Data seq = 10100~~

~~= 10100 - 10200~~

~~Ack = 200, Data seq = 10200~~

~~= 10200 - 10300~~

~~Ack = 200, Data seq = 10300~~

~~= 10300 - 10400~~

~~Ack = 200, Data seq = 10400~~

~~= 10400 - 10500~~

~~Ack = 200, Data seq = 10500~~

~~= 10500 - 10600~~

~~Ack = 200, Data seq = 10600~~

~~= 10600 - 10700~~

~~Ack = 200, Data seq = 10700~~

~~= 10700 - 10800~~

~~Ack = 200, Data seq = 10800~~

~~= 10800 - 10900~~

~~Ack = 200, Data seq = 10900~~

~~= 10900 - 11000~~

~~Ack = 200, Data seq = 11000~~

~~= 11000 - 11100~~

~~Ack = 200, Data seq = 11100~~

~~= 11100 - 11200~~

~~Ack = 200, Data seq = 11200~~

~~= 11200 - 11300~~

~~Ack = 200, Data seq = 11300~~

~~= 11300 - 11400~~

~~Ack = 200, Data seq = 11400~~

~~= 11400 - 11500~~

~~Ack = 200, Data seq = 11500~~

~~= 11500 - 11600~~

September

శ్రీవామసంగి, దక్షిణాయనం
వ్యాపారపు, భాగ్రతదమసము
ఆదివారము / SUNDAY

Sunrise 6:05 AM



2021

చెండులు కో. 5-07
చెండులు కో. 4-15
ఏ.ప. 11-30 ల 1-06

19

Sunset 6:09 PM

③ Connection Termination

Content

$\text{Seq No} = 822, \text{Ack} = 1$
 $\text{Ack No} = 2101, \text{FIN} = 1$

$\text{Seq No} = 2101, \text{ACK} = 1$
 $\text{ACK No} = 823, \text{FIN} = 1$

or $\text{Seq No} = 822, \text{ACK} = 1$
 $\text{ACK No} = 2102, \text{FIN} = 1$

FIN seq No

FIN seq No

It is saying that Client wants to finish the connection as it doesn't have any packet to send. And the buffer reserved by the server for client can be reserved for any other purpose as it said FIN=1 which finish completely sending the pkt.

④ SYN

ACK

1

0

\rightarrow 1st pck segment

ψ

1

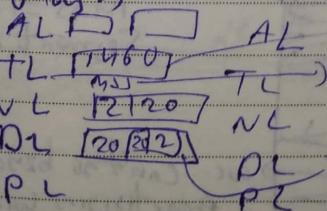
\rightarrow Middle segments $\xrightarrow{\text{rep/pk}}$ intermediate pck.

0

1

\rightarrow Last segment / ack pck.

\rightarrow PSH flag \rightarrow



If we want to send 20 byte

ether net = 1960

So if we want to send 2B pk

then if we use header so make our header so make our

Want until 16 build the msg and combine small msges
But for to end immediate msg then we will use PWSR flag.

ఆశ్చర్యమైక్కథార్మం ప్రమాణికు చేయాలటకు వ్యాపారము.

Meditation of the soul is the essence of religious activity.

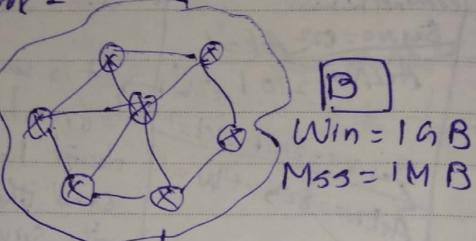
September

20

Sunrise 6:05 AM

Congestion Control -

$$\begin{aligned} W_{in} &= 1 GB \\ MSS &= 1 MB \end{aligned}$$

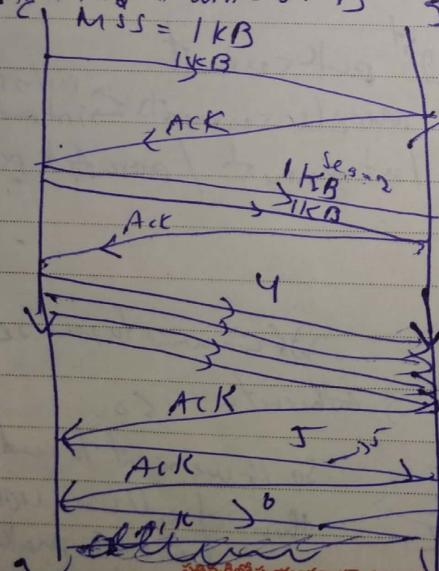


W_c = capacity of the window.

So sender will send the p/c according to the size of N/w windows.

Reactive

Advertiser $W_{in} = 8 C \beta \rightarrow \min(\text{receiver } W_{in}, \text{ congestion window})$



Have after 6 RTT we achieve the full window.

$$\text{Thrashing window} = \frac{\text{Congestion window}}{2}$$

$$\text{Th. } W_{in} = \frac{W_c}{2} = 4k\beta$$

$$\begin{aligned} MSS &= 1 KB \\ \text{Segment No.} &= \frac{W_c}{MSS} = 1 \end{aligned}$$

we can't go beyond 8 C β
Advertiser $W_{in} = 8$

Every individual has a soul, which is serene, the highest light, the cosmic truth.

September

తీవ్రమనామం ॥, డక్టిలోయనం
ప్రభుతువు, ఆద్రప్రభుసము
మంగళవారము/TUESDAY



2021

ఐ.పాడ్యమి తె.గం.5-06
ఉత్తరాఖండ తె.గం.5-33
ప.వ.2-36 ల 4-16

21

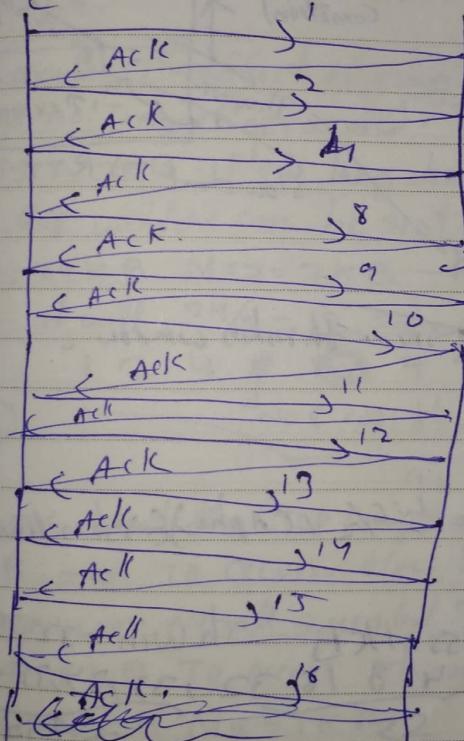
Sunrise 6:05 AM

Sunset 6:08 PM

up to 4 (+thruha window) we r going exponentially after that we r going linearly.

Graph -

Advertising window = 16 MSS = 1



Q After how many RTT's will reach to the full window.

Now after 11 RTT we r achieving the full window

తనలోని అత్యధికాన్ని లభి జీవులలోనూ ద్విందేవాదే ముమ్మతిశ్చ.
He who sees the consciousness within him and the same consciousness within all beings, attains peace.

September

22 विद्यु ते.गो.5-54
कैवल्य पुस्ति
सा.व.6-16 ल 7-57



Thursday
Rainy
Chennai
2021

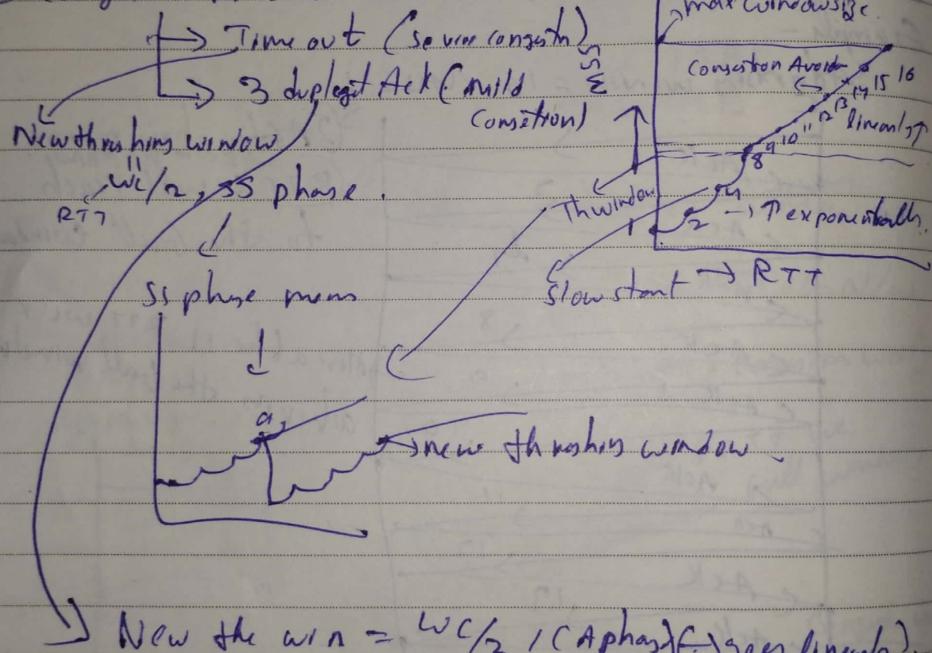
తీస్తవనామసం, దక్షిణాచలం
వర్షాయిలుపు, భాగవతపు
బాధవారము/WEDNESDAY

Sunrise 6:05 AM

Sunset 6:07 PM

- (1) slow start
- (2) Congestion Avoidance
- (3) Congestion Detection.

Last example,



$$\text{New thr win} = \frac{WC}{2} \quad (\text{Aphase}) \quad (\text{for goen lineabts}).$$

$$\rightarrow WR = 64 KB \quad MSS = 1 KB \quad \text{Thr win} = 32$$

we will send	1	2	4	8	16	32	33	34	35	... 64
	SS									

3G after 34 TO

1	2	4	8	16	32	33	34	↑	1	2	4	8	16	17
---	---	---	---	----	----	----	----	---	---	---	---	---	----	----

పంచంగ్లయులు మరియు మనసు లదువులే ఉండి, ఆర్థికశాస్త్రానికి ప్రారంభా పుట్టుపుట్టి, లభ్యార్థిత ప్రారంభానుపుట్టి.

When the five senses and the mind are still, and the reasoning intellect rests in silence, then begins the trek on the highest path.

September

తృతీయవాహనం, దక్షిణాయనం
వారాధువు, భాద్రవద్వాసము
పూర్వవారము/THURSDAY



2021

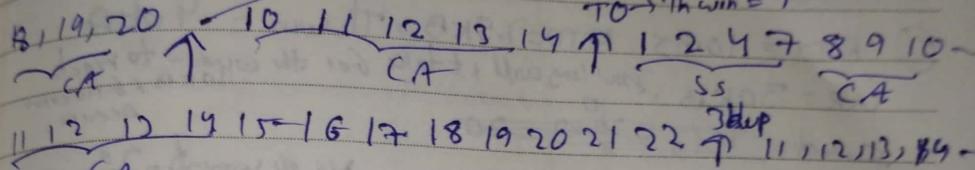
తచ్ఛియ పూర్ణ
ప్రశాంతి కో. బ-59
ప.శ.4-24 వ

23

Sunrise 6:05 AM

~~Duplast ACK~~, new thwin = $\frac{2}{2} = 1$

TO \rightarrow Thwin = ? Sunset 6:07 PM

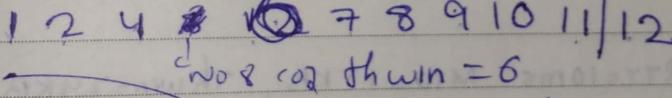


--- 64.

Q) Consider the effect of using SS on a line with 10ms RTT and no congestion occurred. The WR is 24KB and the MSS is 2KB. How long does it take before the first Gulf window can be sent?

$$WR = 24 \text{ KB} \quad MSS = 2 \text{ KB} \quad RTT = 10 \text{ ms}$$

$$\text{So it will } \frac{24}{2} = 12 \text{ segments} \quad Thwin = \frac{12}{2} = 6$$



Ans = 90

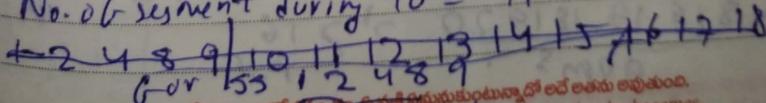
$$9 \times 10 = 90$$

Q) Suppose that the TCP congestion window is set to 18KB and TO occurs. How long will the next four transmission are all successful? Assume that MU=1KB

At 18KB TO occurs $Thwin = \frac{18}{2} = 9$

WC = 18KB MSS = 1KB

$$\text{No. of segment during TO} = \frac{18}{1} = 18$$



ఎవరి సొంత అలోకించి వాలకే ప్రశాంతి కో. బ-59 లో ఉండు లభ్యమాన్యం లేదా ఉండు లభ్యమాన్యం.
One's own thought is one's world. What a man thinks is what he becomes.

Ans = 9

September

24

திரிய டி.கோ. 7-00
உற்சிநி டி.கோ. 8-42
ஈ.வி.6-07 வி.வ. 7-11 ம 8-56



2021

திருப்புத்தூர், கொ
வாய்மூலம், அத்தூர்
குடும்பங்கள்

Sunrise 6:05 AM

Sunset 6:05 PM

⑦ $RTT = 10ms \quad MTU = 1.5KB \quad Th\ win = 40KB$
 $WR = 30KB \quad$ How long will it take for the window to reach
 $10KB$ & no more occurs.
 $Segments = \frac{30}{1.5} = \frac{20 \times 2}{2} = 20$

<u>1 5 3 6 12 24 30</u>	$No. of segments = \frac{30}{1.5} = 20$
$\underbrace{\hspace{10em}}_{6 \times 10 = 60}$	$\underbrace{\hspace{10em}}_{2^7 / 20}$
$\begin{matrix} 1 & 2 & 4 & 8 & 16 & 30 \\ \cancel{2} & \cancel{4} & \cancel{8} & \cancel{16} & \cancel{30} & \end{matrix}$	$P = 6.$
$\begin{matrix} 1 & 2 & 4 & 8 & 16 & 20 \\ \cancel{1} & \cancel{2} & \cancel{4} & \cancel{8} & \cancel{16} & \end{matrix}$	$1 2 4 8 16 20$

⑧ $RTT = 10ms \quad MTU = 1.5KB \quad Th\ win = 24KB$
 $RCWND = 30KB \quad$ How long will it take for the window
to reach $30KB$

$RTT = 10ms \quad MTU = 1.5KB \quad Th\ win = 24KB$
 $RCWND = 30KB \quad Segments = \frac{30}{1.5} = 20$

<u>1 5 3 6 12 24 25 26 27 28 29 30</u>	$1 2 4 8 16 24 25 26 27 28 29 30$
$\cancel{1} \cancel{2} \cancel{4} \cancel{8} \cancel{16} \cancel{24} \cancel{25} \cancel{26} \cancel{27} \cancel{28} \cancel{29} \cancel{30}$	$1 2 4 8 16 20 21 22 23 24 25 26 27 28 29 30$
$1 2 4 8 16$	$1 2 4 8 16$
$\frac{30KB}{1.5KB} = 20 \quad Th\ win = \frac{24KB}{1.5KB} = 16$	$1 2 4 8 16 17 18 19 20 \quad \cancel{2} \cancel{7} \cancel{16} \cancel{17} \cancel{5}$
$90ms$	$1 2 4 8 16 17 18 19 20 \quad \cancel{2} \cancel{7} \cancel{16} \cancel{17} \cancel{5}$

வினாக்களும் புதிதானாக செய்திட விரும்புவதை நான் நினைவு செய்து விடுகிறேன்.
As science advances, the world will recognize more and more traditions.

September

క్రిష్ణవామనం, దక్షిణాయనం
ప్రభుతువు, భాగవతమాసము
శనివారము/SATURDAY



Leaky Bucket
Token BucketAlg

2021

చదిలి ఉ.కో.8-40
భరటి ఉ.కో.10-57
స.ప.12-12 @ 1-58

25

Sunrise 6-06 AM

6/9 Application

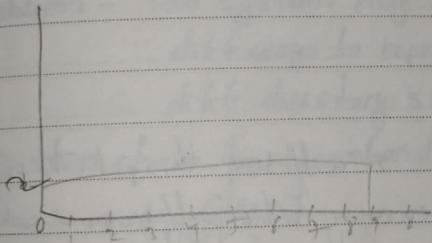


Bursty data / Gflow
Gfixed flow
Xflow

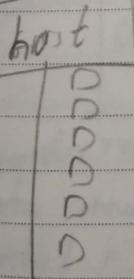
12 Mbps

Sunset 6-05 PM

2Mbps

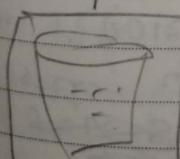


Token outlet



No fixed flow
by burst flow.

Max



Being without laziness, friendliness, respect, character, respect for elders, practice with initiation are the qualities of a good student.

September

26 ఫంవు రు.గం.10-38
క్లోక్ వెగ.1-28
వడ్డము లేదు



15/09/2021

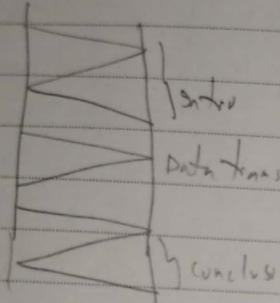
తీస్వనామసాలి, రక్తింబులు,
పర్మయుంపు, శాంతింబులు
ఎంచారణు/అంచారణు

Sunrise 6:06 AM

Sunset 6:05 PM

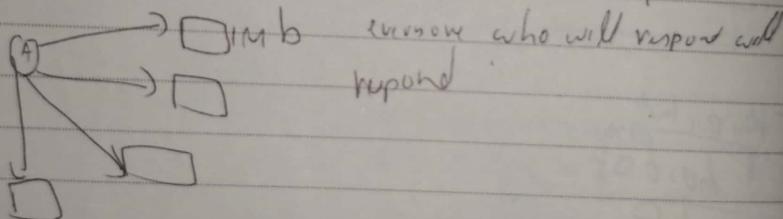
Q Application Request/Reply
→ Request & → Reply

In TRP



5. Get transferred our data then
is in transmission and having
Data transfer hectic process.

Q Broadcasting / Multicasting - It will send the pic to



CMP -

Checksum = Data + Header + Pseudo IP header
+ PPP header.

$$\text{① } \text{Checksum} = \text{CB84}000\text{D}0016001\text{C} \quad \text{② } \text{Total length} = 22 \quad \text{③ } \text{Data length} = 28$$

$$\begin{aligned} \text{① Source port} &= \text{CB84} & \text{④ } & 4 + 8 \times 16 + 8 \times 16 + 1 \times 16^3 = 52100 \\ \text{② Destination port} &= 0000\text{D} & \text{⑤ } & 22 - 8 - 6 = 14 \\ &\Downarrow 13 & \text{⑥ } & 28 - 6 = 22 \end{aligned}$$

ఎంచారణ క్రమం, అంచారణ క్రమం, శాంతింబులు, పర్మయుంపులు.
Non-violence is a great virtue, great penance, good knowledge and great practice.

September

కృతివామనసంగి, దక్షిణాయనం
వీరముపు, భాగవదమానము
జ్యోతిషము/MONDAY

Sunrise 6:06 AM



2021
both upper & lower UPP
both upper & lower UPP

ప్రశ్న ప.కో. 12-43
రాష్ట్ర సి.గో. 4-05

ఉ.ప. 7-12 @ 8-58, రా.ప. 10,16 @ 12.02

27

Sunset 6:04 PM

\rightarrow Q) OP =? represent well known server.

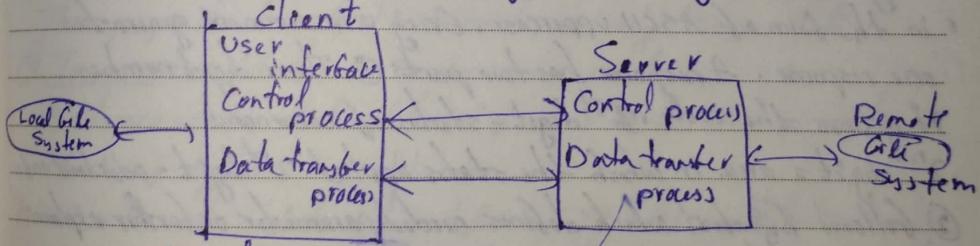
- (1) \rightarrow the port diverted from client to server or vice versa.
- (2) what is the Client process = Data transfer protocol / CoP
- (3) represent data/time

Application layer protocol!

FTP - File transfer protocol - it is a protocol provided by TCP/IP for copying a file from one host to another.

Problems - Two systems may have diff file name conventions
diff ways to represent data
diff directory structures

\rightarrow Better choice to transfer large files / using diff formats.



complex rules

Simple
rules \rightarrow Control " " " b/w control ..

More efficient: separation of commands and data transfer

అశ్చేయాల పవర్తించు అభివృద్ధి నొర్చుట, అది నొఱాడు దాలచిస్తుంది.
When ambitions overtake performance, it results in frustration.

September

28

ಸುಧಾರ್ ನಂ. 2-45
ಮೃತ್ಯು ನಂ. 6-37
ಎ.ನಿ. 3.49 ರಿ 5.35



202

ಶ್ರೀಮದ್ವಾಮಾರ್ಪಣ, ದಕ್ಷಿಣ
ಪರ್ವತಗಳಲ್ಲಿ, ಭಾರತದ್ವಾರ್ಪಣ
ಜೂನ್ 1985/ಫೆಬ್ರುವರಿ 1985

Sunrise 6:06 AM

Sunset 6:00 PM

Two Connections - two connections have two diff lifetimes.
The control connectn remains connected during the entire interactive FTP session. The data connectn is opened and then closed for each file transfer activity (command that involve transferring files).

* FTP uses two known TCP ports : port 21 for control connectn
port 20 for data connectn.

Control Connection -

It uses NVT ASCII character set as used by TELNET.
During this, commands are sent from the client to server which is in the form of ASCII uppercase. Every FTP command generates one response. A response has two parts
① Three digit number
1st defines the code, 2nd digit - status of command
2nd digit = ana in which the status applied 3rd digit - additional info
② followed by text which defines needed parameter or further explanation.

Data Connection -

- ① The client opens using an ephemeral port e.g. client issues the commands for transferring files.
- ② Using port command the clients send this port number to send.
- ③ Server receives the port number and issues an active open.

ಒಂದು ಅಡಿಕ್ಕಾದ ಸ್ಥಿರತ್ವ, ಅದು ವಿಶೇಷವಾಗಿಯಾಗುತ್ತದೆ.
When performance overtake ambitions, it results in success.

September

త్రిపురామునం, దక్షిణాయనం
వచ్చుతున్న, భాగ్రపదమానము
ఉధూరము / WEDNESDAY

Sunrise 6-06 AM



2021

అప్పిల్ సి. ఆర్. 4-84

అప్పిల్ సి. ఆర్. 8-67

వశ్రమ లేదు

29

Sunset 6-02 PM

Communication over Data Connects -

Before sending the file through the data connect, we prepare for transmission through control connect. We need to define three attributes of communication - ① File type ② Data structure ③ Transmission mode.

① File Type - FTP can transfer ASCII file / EBCDIC / image file.

② Data structure - It follows one of the interpretations of the structure of the data ① file structure ② Record structure ③ Page structure used by default structure. It is continuous stream of bytes.

✓ File is divided into records can be used only with text files.

✓ The file divided into pages and each page have pg no and page header. These pages can be stored & accessed randomly / sequentially.

③ Transmission Mode - 3 transmission modes.

→ Stream mode - data delivered from FTP → TCP as a continuous stream of bytes.

→ Block mode - data delivered from FTP → TCP in blocks.

Block is preceded by 3-byte header. 1st byte → block descriptor next two bytes → size of the blocks in bytes.

→ FTP needs to maintain a state about its user throughout the session.

File transfer occurs over the data connect under the control of commands sent over the control connect.

బంటలూ నడిచేమనిషు ఎంతో వేగంగా పడుతాడు.

A man who walks alone walks very fast.

September

30

సమయ నె.గో.6-04
శుస్తులు రా.గో.10-56
కు.గో.9-56 ఎ 11-40



202

శ్రీశ్రవణమంగళాలీ, దక్షిణ
పర్వతాలుపు, బాద్ధచుట్టూ
రోడ్వారమ్/THURUM

Sunrise 6-06 AM

Sunset 6-02

File transfer in FTP means -

- ① Retrieving a file (server-to-client)
- ② Storing a file (client-to-server)
- ③ Directory listing (server-to-client)

Advantages -

- ① Speed
- ② Two machines file can be shared on the network
- ③ More efficiently.

Disadvantages -

- ① File size only 2GB can be transferred
- ② Multiple receivers r not supported by FTP.
- ③ does not encrypt

Security - ^{FTP} made when security is not a big issue.

Although it requires passwords / login ID's but all r sent in plaintext (unencrypted) which can be hacked. Data transfer connection also transfers in plaintext.

Soluth -

To be secure, need to add Secure Socket layer b/w
FTP & TCP.

So FTP is called SSL-FTP

Because FTP uses a separate control connection, FTP is said to send its control info out of band.

ఒకొమ్మి కేవలం కొన్ని విషయాల కు ప్రాణం పూర్తిగా ప్రాంగంలేదు.
No one can get a good result without working diligently.

Notes

2021

- HTTP sends request and response header lines into the same TCP connection that carries the transferred file itself.
- SMTP (main protocol for electronic mail) send control info in-band.

HTTP - (Hyper text transfer protocol)

This is widely used to transfer files and fetch webpages on www

→ Port no 80

→ It's not reliable but use TCP to achieve reliability

→ If it loses any pic and wants to retransmit but it doesn't have functionality so it uses TCP in transport layer to achieve reliability. This is called inband protocol.

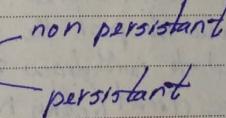
→ Inband means → we send commands

→ Commands & data go from same port

→ Stateless → It doesn't store info like meta data like which user? what time? what info?

cos millions of requests come for http if it stores all the info then delay happens. Cookies will store info.

Basically, it is stateless but many companies try to make it stateful on their end.

→ It has two variations 
non persistant
persistant

Non persistant - If we open some web page and again another page inside it so every page is linked/connected to the first main page so if we close the main page we will lose all info so we have to fill again. Ex- Close b/w some payment.

Persistant - Example is gmail if we login once and close if next time we open it, it will be directly opened.
It will be maintained after closing also.

Monthly Planner

→ Commands - Commands (Head, Get, Post, Put, Delete, Connect) 2021

- October**
- Head - Head is basically a meta data. If you are accessing a webpage or data from a data is comes under Head.
 - Get - Complete a webpage has to be accessed.
 - Fri 1 • Post - If we want to post / give some information.
 - Sat 2 • Put - Same as post if we want to send/upload some info.
 - Sun 3 • Delete - You're deleting some information.
 - Mon 4 • Connect - If we want to make a connection with server, then it will connect.
 - Wed 6 HTTPS - works in secured socket layer, in which username and password is checked in each request. So, avoid hacking.
 - Thu 7 and password is checked in each request. So, avoid hacking.
 - Fri 8 So by default how address it's going to be HTTPS.
 - Sat 9 → • OPTION - questions about available options.
 - Sun 10 • TRACE - Echoes the incoming request.
 - Mon 11

SMTP & POP

- Wed 13 → FTP is synchronous but SMTP & POP is both
- Thu 14 Synchronous & asynchronous
- Fri 15 → SMTP port no 25 for pushing the mail.
- Sat 16 By default, the POP3 protocol works on two ports:
- Sun 17 Port 110 - this is the default POP3 non-encrypted port. Port 995 - this is the port you need to use
- Tue 18 if you want to connect using POP3 yourself.
- Wed 19 Both ~~systems~~ systems should be active.
- Thu 21 SMTP is used to push the mail.
- Fri 22 POP is used to withdraw the mail.
- Sat 23 Ex: In a client (Gmail) mail from the user, A mail client or mail agent provides help. And from this mail client the info goes to MTA (Mail transfer agent).
- Mon 25 and from MTA it goes to another mail server, many times it went to MTA then mail client picked it up and it is shown to user. After reading it, we do POP (Post office protocol).
- Tue 26 POP - It picks up the mail from mail transfer agent and gives it to mail client.
- Wed 27 Mail client will show to user. POP vs. POP3 protocol is used. MIME (Multipurpose Internet Mail Extension)
- Thu 28
- Fri 29
- Sat 30
- Sun 31

October

శ్రీపద్నామసంగి, దక్షిణాయనం
శర్పుతుపు, ఆశ్వయుజమాసము
అదివారము/SUNDAY



2021

ద్వాదశి సా.గం. 6-28
శతభిషం ఉ.గం. 11-49
సా.ప. 6-17 ల 7-54

17

Sunrise 6-08 AM

Sunset 5-50 PM

Network-layer Security - security is applied b/w two hosts, two routers, host & router. protect the apps that use the service of the NL. Purpose - NL security protects the apps that use the service of NL such as routing protocols. Services of UDP will get benefit from this service coz TCP security protocols can't be applied to UDP.

→ IPsec is a collection of protocols designed by the Internet Engineering Task Force to provide security for a packet at NL.

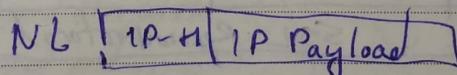
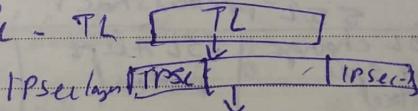
IPsec helps create authentication & confidentialty packets for IP layer.

Two Modes -

Transport

Tunnel.

Transport Mode - TL



It only protects IP payload.

ఆర్థికంగా, నిషోధికంగా, అర్బంతంగా చేసి విషయాలు మన్నే వేకంసానికి ప్రాచీనమైని మరింత మెరుగువరచుటకి ఉపయోగపడుటంది.

October

18 త్రయోదశి నా.గం. 6-14
పూర్వాహ్న వ.గం. 12-06
స.వ. 10-00 c 11-39



2021

శ్రీశ్రీమతి కృష్ణాజీ
కార్యాలయం, ఏకాంగములు
సిటీ పార్క్/MONDAY

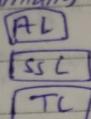
Sunrise 6-08 AM

Sunset 5-50 PM

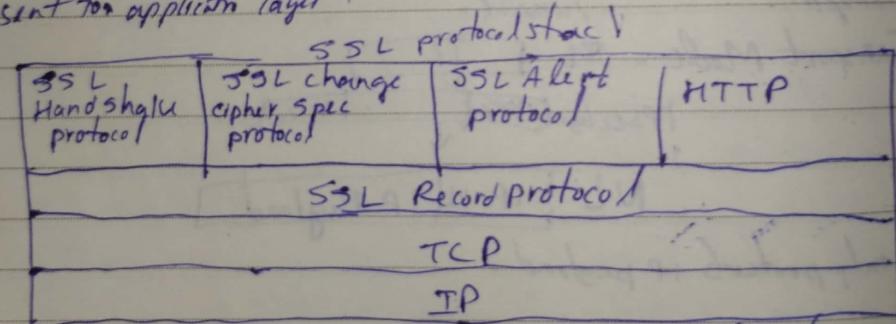
Secure Socket Layer (SSL)

when two entities want to communicate i.e. web server, web browser then the data which is communication then security for that data is provided by SSL. It maintains integrity, authentication, confidentiality.

Position of SSL —



So when a packet comes from AL, when msg is reached to SSL then first it encrypts the msg. So using some encrypted algorithm it encrypts the data then adds the SSL header to that encrypted data then it will send to receiver. Recv after receiving removes the SSL header and decrypts the data and then the original msg is sent to ^{receiver} application layer.



SSL Handshake protocol - Connection establishment and authentication both also performed by this protocol

SSL Record protocol - provides confidentiality.

మను అనుమతి చేసి ఉండాలన్నీ కొలండాలి, మనిషిపుచ్చు కూడి అందించు కొలండాలి.
We must reach every goal that makes us strong, reject every thought that weakens us.

October

శ్రీ విష్ణువు దేవాలయం
అంబుల్ కెంటమండలం
జిల్లా/TUESDAY

Sunrise 6:06 AM



2021

16/28 Dr. 10.8-31
16/28 Dr. 3.10.12-53
0.3.1-31 to 3-13

19

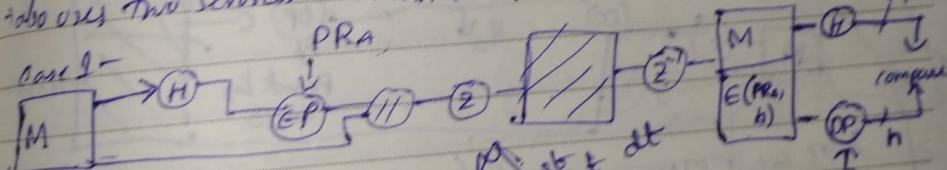
Sunset 5:49 PM

SSL change cipher spec protocol - it contains 2 msg of 2 bytes which contains number '2'. This protocol simply carry the previous state to copied into the current state.

SSL Alert protocol - If we get errors (warning) it will come here. If error comes then it will break the connection.

PGP - Pretty Good Privacy - used for mail server.

Major services are - Authentication, Confidentiality, digital signature.
also uses two services - Email compatibility, ZIP (compression).



when we get a plain text msg
we will apply hash function then
we will encrypt using private key of A then append this with
msg and then zipped and sent to receiver who receiver
receives then it first unzip the file
and so then we will get msg with encrypted hash code

This incorporated is done with private key at the receiver side
this decrypt the hash code using public key of A then 'h'

in the end of the day we can do many things
and humility.

21/10

October

20

ఓప్పులు నె. 7-20
బెంగళూరు, 2-11
స్క్రిప్ట్ ఫోటో



2021

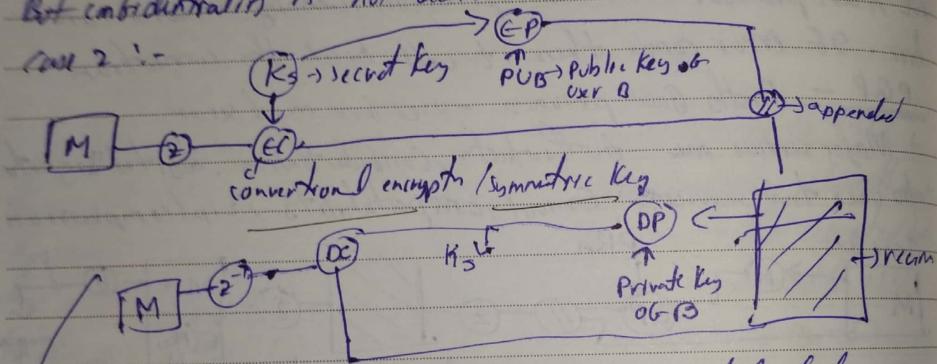
శ్రీజ్ఞపనామసంఠి, దక్షిణాది
శరద్యుతుపు, ఆశ్వయుజవిషా
సాధవారహము/WEDNESDAY

Sunrise 6:08 AM

Sunset 5:48 PM

will be generated and apply the hash function to the plain text
msg then appended 'h' and generated 'h' is compared.
So both Authentication & Digital Signature achieved.
But confidentiality is not achieved.

case 2 :-



Here we're using a secret key for confidentiality which is secretly encrypted & send to receiver but we will use public keys for both receiver & sender so authentication & Data sign are not achieved.

H - hash code, EP - public Key Encryption (either w/
private key of receiver or public key
of sender)

DP - Public Key Decryptor.

EC - Conventional encryption (symmetric encryption) - w/ the key
we used at the sender should be used at receiver.

శ్రీ విశ్వామిత్రమంతా భగవత్ప్రూపంగా, చేపులున్నాయి భగవంతుని లీకా గ్రూం లొపుడు భగవత్ప్రూపం లొపులుపుం.

Divinity is understood when all the visible objects are perceived as forms of God and actions of God.

October

திங்கள் நாள், சுவீட்டாய் நாள்
பெரிய வெஷ்ட், அதையும் வாசனை
கிழமை/THURSDAY

Sunrise 6:08 AM



2021

ஓ.வீட்டு நா. கோ. 8-37

ஏ.கீட்டி நா. கோ. 3-56

உ. 5.11.38 ம் 1-21, ரா. 5.2-23 ம் 4-08

21

Sunset 5:47 PM

DC - Conventional cipher op. th.

PVA - Public keys of users

PRA - Private key of user A

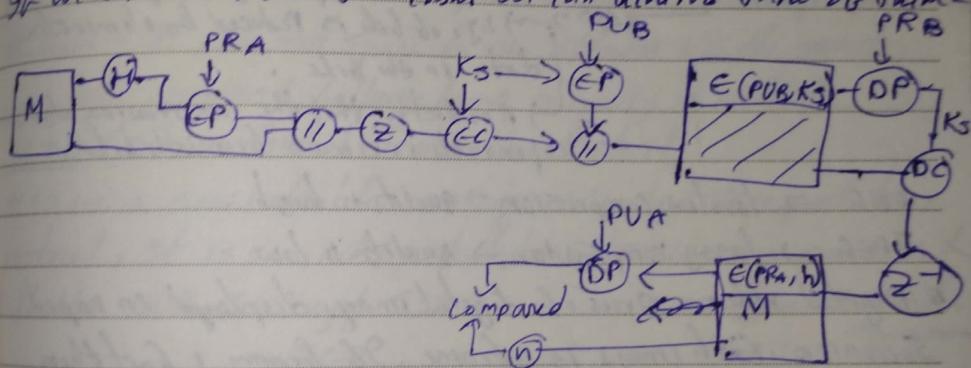
PUB = " " , user B

PRB - " " of user B

Z - compression .

K - secret key . H - hash function .

If we combine both the cases we can achieve thru algos -



for signature \rightarrow DSS with SHA algorithm (or)

RSA with SHA algorithm

Confidentiality \rightarrow CAST / IDEA / Triple DES with
Lithic - Hash func.

ஒன்றியூல் கிரியென்டிக்கேஷன் தொற்குத்தூர், முருங்காலை தெரு, ஸ்ரீராம்புரம் தெருக்கள் வை பழக்கம்.
By the feel of God, all vices and bad practices are removed and virtues and good customs prevail themselves.

October

22

విదియ రా.గం.10-17
భరణి సా.గం.6-05
వర్షము లేదు



2021

తీస్తపనామసంగా, దక్కించి
శర్పుతువు, అశ్వయుద్ధము
కుత్తుకుము/PRIDE

Sunrise 6:09 AM

Sunset 5:47 PM

Video Compression & Optimization -

Compression - reduce the volume of data

So it becomes more efficient storage and transmission of data faster,
lower transmission bandwidth needs

Compression → Lossless → no part of data is lost during compression.
→ original data is perfectly decompressed
→ Lossy → size of file is reduced by eliminating
data in the file.
→ any data that the compression algorithm
expendable is removed from the file.

PNG → lossless compression → quality is high.

JPEG → lossy compression → quality is low

* Digital video - series of digital images displayed in rapid succession. Each image is a frame. 24 frames & fast then
we get it as a motion.

* frames / Digital images - it is a 2D array of dots called
pixels. Each pixel represented as no. of bits called bit depth.

* Colour images - image is normally divided into three
channels represented by 3 colours - Red, Green, Blue.

Bit depth is 24, 18 bits for each colour.

* MPEG Compression - (Moving Picture Expert Group)

Algorithm compress data to form small bits that can be easily
transmitted and then decompressed. It achieves its high compression.

అధిక పుట్టుం చేసి వారి జీవితము ధనానికి, పరులకు దానును చేస్తూం.

Those who spend a lot of money make their lives enslaved to money and others.

October

24

సంచార నెఱ. No. 2-21
ప్రాణికి నెఱ. No. 11-07
స.స. 2-15 వ 4-01, స. స. 5-19 వ



2021

తృతీయావాహనము, రఘువాహనము
శశివాహనము, ఇంద్రవాహనము
అంధార్థము/SUNDAY

Sunrise 6:09 AM

Sunset 5:46 PM

SCTP Services -

- ① Process - process Communication
- ② Connection oriented
- ③ Full Duplex communication
- ④ Reliable service.

An association in SCTP can involve multiple streams.

In this fault-tolerant approach, when one path fails, another interface can be used for data delivery without interrupt. This fault-tolerant feature is very helpful when we are sending & receiving a real-time payload such as internet telephone.

If we have primary and backup IP connection. If primary IP fails then transmission takes from secondary IP.

② SCTP Features - Transmission Sequence Number

- The unit of data in SCTP is a DATA chunk.
 - Data transfer in SCTP is controlled by numbering the data chunks.
 - SCTP uses a transmission sequence number (TSN) to number the data chunks.
 - In other words, the TSN in SCTP plays the analogous role to the sequence numbers in TCP.
 - TSN's are 32 bits long and randomly initialised b/w 0 and $2^{32}-1$.
 - Each chunk must carry the corresponding TSN in its header.
- SCTP Quadruple - Stream Identifier & Stream Sequence Number.
- In SCTP, there are many streams so each stream should use a

స్వాద్ధర్మ కావయ్య దాని పుట్టు కలిగి లభ్యము నిజమైన ఉష్ణమాయి.

True worship is the practice of Swadharma and offering its fruit to God.

October

దక్కించాలని, దక్కించాలని,
ఆశ్చర్యించాలని, ఆశ్చర్యించాలని
మానవము/MONDAY

Sunrise 6:09 AM

2021

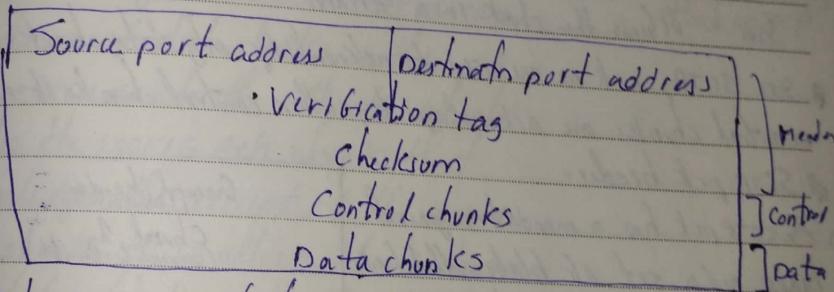
పండిత కో. 4-26
ప్రమాద రా. కో. 1-42
కృ. వ. 7-05 3 25

Sunset 5:46 PM

stream identifier (SI).

- Each data chunk must carry the SI in H's header so that when it arrives at the destination, it can be properly placed in its stream.
- SCTP data chunk K in each stream has SI and SSN (stream sequence number) and in proper order.
- Data are carried as data chunks, control info is carried as control chunks. Several control chunks and data chunks can be packed together in a pk.

For every chunk - TSN, SI, SSN is allocated.
A SCTP header -



TCP header is 20 bytes and SCTP header is 12 bytes

- TSN located in the chunk's header
- Ack no and window size are part of each control chunks.
- There is no need for a header length field coz there are no options to make the length of the header variable like the TCP header length is fixed.
- No need of urgent pointer in SCTP.
- The checksum in TCP is 16 bit in SCTP is 32 bits.

మనలో పొలసు మనం సంస్కరించుకోగా వక్కంలో లోక్కుమం కేసం యిత్తుంచే అధికారం డుక్కు లేదు.
We have no right to strive for the welfare of the world unless we reform our own shortcomings.

October

26 పుస్తి పూర్తి
ఆర్డర్ నెం. 4-06
ఏ.పి. 10-56 వి. 12-42



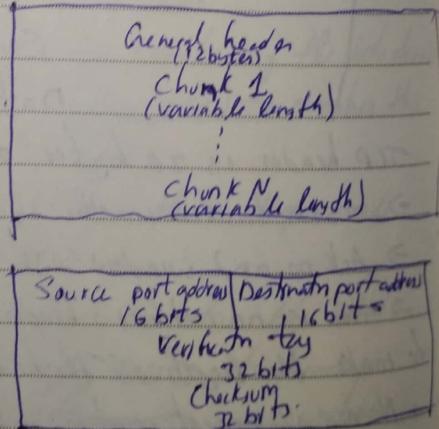
2021

తృప్తిమానమంగలాలీ, దక్కించిన
శరద్యుతువు, అశ్వయువులు
మంగళవారము/TUESDAY

Sunrise 6-10 AM

Sunset 5-46 PM

- The verification header tag in SCTP is an association identifier, which does not exist in TCP. In TCP, the combination of IP and port addresses defines a connection, in SCTP we may have multi-homing using diff IP addresses. A unique verification tag is needed to define each association.
- ⇒ Data chunks are identified by 3 items: TS N, SI and SS N
- TSN = cumulative number identifying the association.
- SI = defines the stream.
- SSN = defines the chunk in a stream.
- ⇒ In SCTP, ack no are used to acknowledge only data chunks; control chunks are acknowledged by other control chunks if necessary.
- ⇒ SCTP pkt headers -
- ⇒ An SCTP pkt has a mandatory general header and a set of blocks called chunks.
- ⇒ Two types of chunks: control and data.
- ⇒ Control chunk controls and maintains the association; a data chunk carries user data.
- ⇒ In a pkt, the control chunks come before the data chunks.



సత్కారంలో సత్కర్మలు ఉపాయం చేయి భాగవత్యున్నార్ని చేరుదాటకి మార్చాలు.
The way to God is to practice all good deeds in a time bound manner.

October

Transmission, Diffusion
Duplex, half-duplex
~~WEDNESDAY~~

Sunrise 6-10 AM

2021

May 10, 2021
Tatiksha Singh
17.05.2021

27

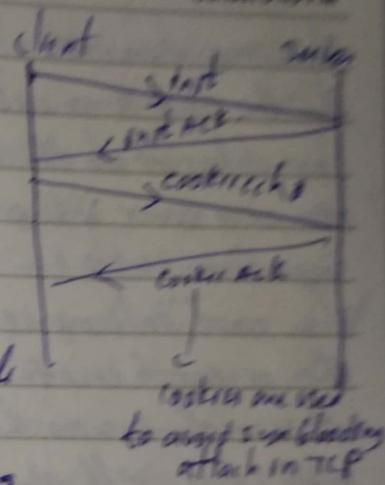
Flowchart Association Establishment -

→ The client sends the 1st pk, which contains no data chunk.

→ The server sends 2nd pk, which contains no INIT ACK chunk.

The client sends the 3rd pk, which includes cookie echo chunk. This is a very simple link that echoes, without change, the cookie sent by the server. SCTP allows the inclusion of data chunks in this pk.

→ The server sends the 4th pk, which includes the COOKIE ACK chunk that acknowledges the receipt of the cookie echo chunk. SCTP allows the inclusion of data chunks with this pk.



~~DHCP~~ DHCP - Dynamic host Configuration protocol.
A dynamic IP is what a computer gets an IP address from a DHCP server. DHCP server automatically assigns a computer an:
① IP ② Subnet mask ③ Default gateway ④ DNS server

When a comp choose a option to chose random IP address then

The tree differs the step by step and doesn't follow the standard operating procedure.
The clients can choose the IP address that follows the pattern of those that work in cluster.

October

28

సత్కార ఉ.గం. 7-54
పునర్జ్యు ఉ.గం. 6-15
వ.వ. 2-48 ఎ 4-31



2021

తృప్తిపూర్వమంగళ, దక్షిణాదికం
శరద్యుతుపు, ఆశ్రమాలమంగళ
కుమారచంద్ర/THURSDAY

Sunrise 6-10 AM

Sunset 5:45 PM

then comp broadcast a request for IP address to DHCP server.
Then the DHCP server will assign an IP address from its pool
and deliver it to the computer
Once server will give the IP address from its scope which
ranges from 10.0.0.1 - 10.0.0.100
If we want only one IP address and don't want to change
then we need to create reservation on the DHCP server.
A reservation ensures that a specific device identified by its
MAC address, will always be given the same IP address
when the device requests an IP from DHCP.

DNS → Domain Name System

D → It resolve names to numbers (IP addresses)

If we want to retrieve the server we can type on the domain
name instead and let DNS convert it to an IP address
for us. So when we type some server name, the DNS
server will search through its database to find a
matching IP address for that domain name then it's resolved
so our comp can communicate with some server & retrieve
the webpage.

Steps

So when you type in some yahoo.com in your web browser

పొటపం చేసినవానికైనా లడగటుండనే మీలు చేయాలి.
To shield someone from insult, preach him good even unasked.

October

శ్రీ విష్ణువు, దక్షిణాయనం
శ్రీ కృష్ణ, అశ్వాయమహాసము
శ్రీ గుణాలు/FRIDAY

Sunrise 6-10 AM



2021

అప్పమి ఉ.కో.9-00

పుష్టమి ఉ.కో.7-56

ఉ.కో.9-21 ఉ 11-02

29

Sunset 5-45 PM

and if your web browser or os can't find the IP address in its own cache memory, it will send the query to the next level which is called the resolver server. The resolver server is basically ISP, so when resolver receives the query it will check its own cache memory to find an IP for yahoo. If it can't find in it, then it will send query to the next level which is the root server (which is the top of a DNS hierarchy). There r 13 sets of root servers around the world and operated by 12 diff organizations and each set of these root servers has their own unique IP address. So when the root server receives the query for the IP address for yahoo, the root server is not going to know the IP, but it knows where to send the resolver. So the root server will direct the resolver to TLD (top level domain server) for the .com domain. So resolver will now ask the TLD server for IP. The top level domain server stores the address info for a top level domains such as .com, .net, .org and etc. This particular TLD server manages the .com domain which yahoo.com is a part of. So now TLD will direct the resolver to the next level (Authoritative Name server) when it asks for IP, the authoritative name server or one

బుధవంతుడైనవారు అప్పాలంలేదైనా, కష్యులేదైనా ఉన్నాపోన్ని చిడయ.
The wise never lose their mettle even in adversities.

October

30 నవమి ఉ.గ. 9-36
ఆర్థిక ఉ.గ. 9-07
రా.వ. 9-28 ఎ 11-07



2021

తృప్తపనామసం., దక్షిణాదిక
శరద్యతువ, ఆశ్రయమహానీ
కోలారుష/SATURDAY

Sunrise 6-11 AM

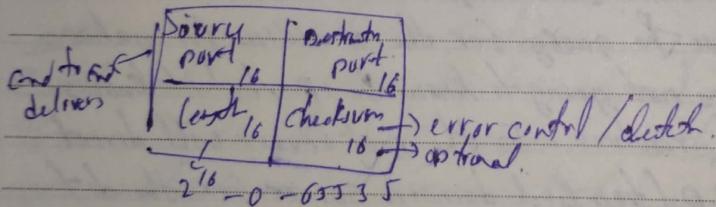
Sunset 5-45 PM

responsible for knowing everything abt the domain including IP.
So when the authoritative name server receives the query from
the resolver the name server will respond with the IP address
for yahoo.com. Once the resolver receives the IP address, it
will store in its cache memory.

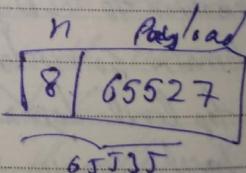
UDP -

connectionless (unreliable) \rightarrow If any pkt lost then it's not known

\rightarrow No order req we will not care how pck reach there
whether in order or not.



So total length can be 65535 length



checksum = UDP header + UDP data + IP header IP

fixed # bytes in IP
others are included like
source/destination IP,

అవీరస్తుపచ్చాలలే స్నాగ్ పదిలిచేనే సుఖం లభిస్తుంది.
If you are too shy at dinner or at work, you cannot be happy.

October

దక్కించాలయనం
అశ్వయుజమసము
శనివారము / SUNDAY

Sunrise 6-11 AM



2021

దశర్థ ఉ.కో.గ-42
మధు ఉ.కో.గ-50
సి.ఎ. 5-54 ఉ 7-31 31

Sunset 5-44 PM

TCP Congestion Control -

- Byte streaming / Connection oriented , Full Duplex, Piggybacking, sender data will come from application layer without any limitation, flow control, flow control & Congestion control.
- if we want to have reliability we will give connection,
- uses 3 way handshaking protocol
- full duplex → A and B are commutator then both can transfer data at the same time.
- Piggybacking → when we receive data we send ACK so here along with ACK we can send data also that is piggybacking. It will use ARQ & SPS to send data. And ACK is commutative & piggy packing.
- Error control - If change occurs then receiver can understand the error
- flow control - Data should be sent equal or less than the capacity of receiver buffer.
- Congestion Control - when we send a data to receiver and if the capacity of accepting of receiver is of 1000 bytes then our will send max of 1000 bytes not more than that and TCP also take care of the New buffer connects the A & B .

ప్రధానార్థములకు ఈ రిపబ్లిక్ ఒకే ప్రమాణము.
The entire world becomes a single family for the liberal.