

* Dijective: Design two would nodes that can connect to each other through point - to -point network that handler data nate of 50 mbgs and delay of 5ms. The first node acts at a goarre of second as client. Mode used: NS-3 simulator. * Theory: NS-3 simulator is an apen-source distrett event-network simulator primarily used for research finally for strudying various network protocols since TPV4 Tole, Tel, WPP, etc. mounting protocols since TPV4 technologies ecentarios in a controlled a reproduible environment. Some key points about NS-3 simulators	
hondles date rate of 50 mbgs and delay of 5ms. The first pode outs as a garre of second as client. Mode used: NS-3 simulator. Throng: NS-3 simulator is an apen-source district event network ork simulator primarily wild fax research simulation for stridging various network protocols since TPV4 TPV6, TCP, WPP, etc. mouting protocols (Bup 4 osbe) technologies ecentrics in a controlled a reproducible environment Some key points about NS-3 simulation: 1. Madularity: designed to be modular t entinible Answing addition or new hotwork. 2. Programming interface: Are typically written in Cut a pathon being objectionlend AFT. 3. Visualization: Tribudes built support for Visualizing rimulation results using tools since platform for provide. Paris.	· Title: To demonstrate point to point network using NSS simulator using a suitable code.
* Theory: NS:3 simulator is an open-source district event-returned in simulator primarily wed for research timulation in computer networking. It provides platform for studying various network protocols like IPV4 TPV6, TCP, WPP, etc. multing protocols (BGP & OSBE). technologies scenarios in a controlled of reproducible environment. Some key points about NS-3 simulator: 1. Madularity: designed to be modular t extensible alsocing addition of new patwork. 2. Programming interfaces Are typically written in C11 Spython being objectionlend API. 3. Visualization: Travades brill - support for visualizing simulation results with tools like NetAdmin and pyriz.	o Objective: Design two would nodes that can connect to each other through point to -point network that handles down note of 50 mbps and delay of 5ms. The first node acts as a garree of second as elsert.
NS:3 simulator is an apen-source discrete event-heterork simulator primarity wed for research timulation in computer networking. It provides platform for studying various network protocols since IPV4 TPVC, TCP, VDP, etc. routing protocols (B4P 4 05BE) technologies scenarios in a controlled of reproducible environment. Some key points about NS-3 simulators: 1. Madularity: designed to be modular a extensible anomaly addition of new hetwork. 2. Programming interfaces Are typically written in C11 Spatron being objected to bell - support for usualising of maintains and patron being objected bill - support for usualising of maintains and patron and results. Pyviz.	· Mode wed: NB-3 Simulator.
Some key points about NS-3 imulator: 1. Modularity: designed to be modular & entinsible allowing addition of new hetwork. 2. Programming interface: Are typically written in (1) 3. Visualization: Trubbes built-support for visualising simulation results using tools like NetAdmin and Pyviz. The same and support for providential since of points. The same and support for providential since of providential since of providential support for providential supporting research and experimental supporting research	ork simulator primarily wed for research timul- alban in computer networking. It provides platform for studying various network protocols like IPV4 TPV6, TCP, WPP, etc. rowting protocols (BGP & OSBE) technologies scenarios in a controlled of reproducible
3. Visualization: Truvdes built-support for usualising simulation results using tools like NetAdmin and Pyris. This a very variable platform for provid-	Some key points about NS-3 simulators. I Modularity: designed to be modular & extensible Allowing addition of new hetworks.
This a very variable platform for provid-	2. Programming interpace: Are typically written in Cit
It is a very variabile platform for provid-	simulation results using tools like NetAdmin and
	It is a very variable platform for provid-

Page No.:





"Throughput: Refers to rate of secretal
transmission over a summerication draws.
is command incoursed in by this par every
In antest of accommentary, taxangular is also
ted by measuring the amount of data according
transmitted from source made titrim specified pools
Procedure:
1. apy first ice file to no-3,381 scratchs
2. In order to run the file open tominal:
cd ps-allinone -3 321 ps-3-32
\$. Ins 3 your scratch I first-co
change the 1024 to 512 as product size and honor
the 511 sty in the trace file and compile it again
4. Ins : run stratch / First-ce
Open another terminal a go to 8 cd no-assimone-23/feet
- anim - 3.109 / # · / Neth nim
the second of th
open the XML file and check the output in the
animate y Gindou
and the second of the second o
Now Find the throughput with horse of software
called tracemetrics which is dready installed
Chile de l'Assertation de la constant de la constan
opening another terminal or ving the acting one
\$ cd tracemetrics - 1.4.0
5 jara Jar tracemetrics-jar

Page No. :



Observati	100:						PROPERTY OF THE PROPERTY OF TH	-
		minim	<u>~m</u>	yackel	3,20	· D 1	024 by	tes by
		bserred					V	TOTO IN THE STATE OF THE STATE OF
		957.28		5.00F £	8 M			terrimone de la grandida y
	1	957.2	}	8				
When	the	maxim	num	packet	size	is 51	2 byte	the
				3:				
		452.2			3,			F
	1	492.	77					
						1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		
							P	
Onelusia					1 100			
-1KB	6776	riment	'ın	NS-3	illust	rate fi	se set	ch a
analize	si			lain		-00-	i' am	neigh
	s th	८ १००१४	14- 10.	- home .	ne tuoy	OF IS	THE	(3/3)
into	s th	e da	>> 17 - 40.	Am Hon	UK FENDY	o cyfo y	mane	b-7
into	netw	ork a	on Hgs	motion	an d	perfor	mance	<u> </u>
into	netw	ork o	paran	neturs,	arsignic	perfor	· 499 L	وط دو
into contigu	netu nviry nlly	Nink enablis	paran	neters,	and assigning	perfor	mahæ Mahæ whicred	رط در دره ۲۲م
option	netu wing ally	ork o Nink enabling	paran	neters, outing, exploring	assigning This hel	perfor- J 79 B 6	ipskuch repiered repiered	thr dhr
option	netu wing ally	ork o Nink enabling	paran	neters, outing, exploring	assigning This hel	perfor- J 79 B 6	ipskuch repiered repiered	thr dhr
into ontigu option analysi chava	neter	simula on ablin	paran paran Dion Lion dat	noting . exploring . exploring .	asignic	perfor- J 79 B 6	ipskuch repiered repiered	thr dhr
into ontigu option analysi chava	neter	ork o Nink enabling	paran paran Dion Lion dat	noting . exploring . exploring .	asignic	perfor- J 79 B 6	ipskuch repiered repiered	رط عر الاء عمر الاء عمر الاء
into ontigu option analysi chava	neter	simula on ablin	paran paran Dion Lion dat	noting . exploring . exploring .	asignic	perfor- J 79 B 6	ipskuch repiered repiered	رط عر الاء عمر الاء عمر الاء
into ontigu option analysi chava	neter	simula on ablin	paran paran Dion Lion dat	noting . exploring . exploring .	asignic	perfor- J 79 B 6	ipskuch repiered repiered	thr dhr
into ontigu option analysi chava	neter	simula on ablin	paran paran Dion Lion dat	noting . exploring . exploring .	asignic	perfor- J 79 B 6	ipskuch repiered repiered	thr dhr
into ontigu option analysi chava	neter	simula on ablin	paran paran Dion Lion dat	noting . exploring . exploring .	asignic	perfor- J 79 B 6	ipskuch repiered repiered	thr dhr
into ontigu option analysi chava	neter	simula on ablin	paran paran Dion Lion dat	noting . exploring . exploring .	asignic	perfor- J 79 B 6	ipskuch repiered repiered	thr dhr
into ontigu option analysi chava	neter	simula on ablin	paran paran Dion Lion dat	noting . exploring . exploring .	asignic	perfor- J 79 B 6	ipskuch repiered repiered	thr dhr
into ontigu option analysi chava	neter	simula on ablin	paran paran Dion Lion dat	noting . exploring . exploring .	asignic	perfor- J 79 B 6	ipskuch repiered repiered	رط عرال عرال عرال
into ontigu option analysi chava	neter	simula on ablin	paran paran Dion Lion dat	noting . exploring . exploring .	asignic	perfor- J 79 B 6	ipskuch repiered repiered	thr dhr
into ontigu option analysi chava	neter	simula on ablin	paran paran Dion Lion dat	noting . exploring . exploring .	asignic	perfor- J 79 B 6	ipskuch repiered repiered	thr dhr
into ontigu option analysi chava	neter	simula on ablin	paran paran Dion Lion dat	noting . exploring . exploring .	asignic	perfor- J 79 B 6	ipskuch repiered repiered	thr dhr

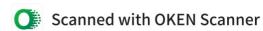
Page No.:





Questions.
Q-D Explain the purpost of NS3 in network Amulation
and its advantages over other simulators positive the
process of installing Ass on linux system, including
any dependancies and recommended practices.
-> NIS-3 13 a robust network simulator used for
modeling intricate network scenarios, offering
realistic simulation and open -source examinating
For install Mas Its primary purpose 13 to provide
a platform for networking networking & Fescarch
· Advantage :
1) Realistic simulation: Nos offers thigh level realism in
network simulations.
2) Open-source and extensible
3) Active community apport.
beginning with agrishlon of source code were narrate
Ibrarah conflavaine dependencies compliance of mining
NS-3, encuring adherence to the recommended
proctices outlined in the documentation
Q.J Describe the process or installing NS3 on Linux
system, including any dependanciel and recommended
practices.
-> It involves several steps.
1) Install dependancies: - NS3 has several dependancies
that need to be installed beforehand that need
to be installed beforehand these include build took
libraries, gre, gtt, python, etc.
2) Download NIS3: - download official NIS source code
From website or repo
3) configure: Navigate to NS3 directory and run
· Los onfigure command.
4) build and install . / waf install
the state of the s

Page No.:





and Discuss concept of mode mobility in MS simulation
and provide examples of mobility models available in
simulator.
- 31) Mode mobility in DE-3 Simulatoions reter to move
ment of network nodes unch as devices nowters as
vehicles) within a simulated hetwork enviorments under
retarding node mobility is medal for modeling reallik
Surarios and evaluation between protocol.
ii) The medals track the maintain & Kurrent initial
and on it coests of ion objects
iii) co-ordinate system: 15-3 uses cartesian coordinate puter
Con Han buding
(v) Custom mobility model: users can create custom meb-
The models by subclassing DS-3:: Mobility Model.
Q-4) Explain the process of creating a simple hetwork
100 100 100 100
howork interfaces and setting up communication
reat node Wing Josephanie
Noderntainer hodes; nodes. (reak (3);
2) configuring Network interfaces 1) configuring Network interfaces for each wing Net Device Contri-
>>> Configuring Network interfaces for each wing Net Device Control-
DC.
3) Set up Communication Links:
- establish using point Topoint Helper, (mattelper, etc
4) Simulation and Execution: - Configure simulation wiry. Simulator:: Kun() and
Configure similar
Remember to include hecessery headers file.
Remember to include
Page No. :



2.5) Discuss the role of trace Files in MS3 rimulat-
ions and explain how to generate and analyze trace
Jala
i) Trace files in 103 simulations record events
packet transmissions a cother network activities during.
Amulation motion
(1) Congration Trace data:
Frable tracing for edesired component in Nes . by
Trace correct.
sii) Vizualization and validation:
plorting / library
tonly the dalk market
denamics then salidate results by white
with expected necessary data