ns-3 developers meeting







ttripute value

00:00:00:00:00:01 Lic true true 5000000bps

	24CT ATTROUTES
	ns3::NodeListPriv
	⊽ NodeList
	~ 0
	✓ DeviceList
	~ 0
	Address
	EncapsulationMode
	SendEnable
	ReceiveEnable
	DataRate
	₽ TxQueue
	▶ 1
rson	ApplicationList
	ns3::PacketSocketFactory
	▶ ns3::Ipv4L4Demux
	▶ ns3::Tep
74 4	ns3::Udp
	ns3::Ipv4
	ns3::ArpL3Protocol
	▷ ns3::Ipv4L3Protocol

- Diprection. Sear Body							
Inte	Name	13 site days	that and	-6-			
44 1.751996	10.1.7.7	12.1.4.1	TUE	10000 \$ 4MINE [MTE] Sey 1 Ack	1295112 ¥în	ATMS DRUG
Fill 1.201008	10.1.2.1	10.1.2.3	16.0	00145 5 10000 1	1 Aug - 1 Aug - 2 A	0.0-00161.100	1
21 1.763998				47772 > 20000	200-1100268 A	rreccos La	
57.1.765876	10.1.2.2	13.1.4.1	TUP	ACCC0 \$ 49146 [NECT SHIT ARE	1.293164 With	51515 F#1 0
10 1. 200 U.S.					serve contractor a	demonso Lee	1-1-011
5 1 /K/N13	10:10:1	10.1 4.1		A0000 - AVEN -	orel see 1 col	1.207636.3010	which have the
100000000000000000000000000000000000000	10	13,1,2,3	10	40103 2 100000	NOT 101926 A	dir-00085 1.00	
0/ 1./0/848		11.1.4.4		49255 5 10000 1	5000000000000000 N	F PRODEST LOT	
11.760772	10.1.2.2	10.1.4.1	TUP	10000 \$ 14116	WE SHI LAK	1284628 Min	STAIS LHU C
R 1.76-772	10.1.3.1	13,1,2,2	10.	44153 2 10000	1.500 1.5030400 x	de 20030 Lee	1 1 101
03 11768772				49205 0 00000 [500HL185784 N	r r=00050 Ler	1=1:22
N1 1.755897	10.1.2.2	10.1.4.1	TCF	10000 > 1911 C	678] Sej 1 Ark	1.394800 Vin	stats Len C
curce ports a scination pr squence numb est sequence	aanti (achti) urt: 50000 (50000 ar: 1353648 (r e number: 136354) elative sequence numbe (relative sequence	n) hunter:	name name	Canado - 2018.1		Lannest Ang -100-00704 Ang -0-54 -0
convelled grant	t number: Druken	TCP. The acknowledge (late is noncer.	a while the Anner	(mms)	- Commo	(Ag=0.54) = 1
00.21.45.00	0.10.09.01.00.0	0.40.05.00.00.04.00	. IE . N N.	IUHI	current al tr	A NOC	64-8-62-1
LD +0 LC 40	0.02 00 02 03 1	0 00 24 62 00 00		1		a	Gegenit Seiter Alf
00 00 22 00	ff f1 op oc oc o	00 /12 /14 01 02 05 04	- Press wyst	bud	also also	1.508	Constant Station of
62 26 67 68	없었었었 서 !	经延迟 法法法法	ergh [k] mopg	35	General	(man)	-,
65 57 64 66	6+ 70 71 72 72 7	74 75 36 77 72 70 7-	history and copyright		(mark)	(annu)	-76 april 70 a
61 .52 63 64	6" 64 67 6F 65 6	ta th Gr 5d Ge CH 70	ebodeton 11k in	000 11 12 12	COMPANY AND	ALL	Sec = 1 Ack = 140
71 72 73 74	7* 74 77 78 75 7	TA 61 67 65 64 65 66	UPS HARR SOUTH	de linere	-64	1.536	944 - 1920 Ark -
67 38 69 Ex	able evide all	10 /1 /2 /G /A /5 /6	number of the second se	1.7		1 1 1 1	(ann 1164 Adv.
11 12 12 14	01 02 03 04 05 0	56 6/69 69 64 6b 6c	wayzeted elight	1k1 0.323	General	(anata)	A1-1994X
60 50 61 /0	12 / 2 / 2 / 4 / 6 /		adefields kines	0.323	(mate)	(mana)	Add Ton You
8288	**********	8.落湿新活净液。	stugger abole	File water	and the second sec	CK STREAM	140-120-200
20 34 65 65	48 42 4F 77 71	7 7 14 71 72 72 72	430-2000-0 AMOTO	10/2	Sec. 10	- 202 Sumo	S



October 2011



Exit Load S

Meeting goals (Tom)

- status updates from everyone
- review project happenings since March
- discuss six-month roadmap (and longer term wishlist)
- discussion topics introduced by others



ns-3 events since March 2011

- new Wordpress-based website launched
- not selected for GSoC 2011
 - ran an unfunded NSoC instead
- ns-3.11 release (May 2011)
 - modular build, Click, Open Flow Switch support, documentation work
- ns-3.12 release (August 2011)

- mainly a maintenance release

• organization of WNS3-2012 (March 2012)



review of March ns-3 developers meeting

- data collection framework
- modular build system implemented phase 1 in ns-3.11
- new website review integrated search feature remains open
- ns-3 Summer of Code
- usability of ns-3 no progress
- documentation cheatsheets, some HOWTOs still not completed
- simpler mac/physical wireless models for new users TDMA model in review
- simple non-IP network layer examples

no progress yet; 802.15.4 is coming



Infrastructure plans (from March)

- Deploy analytics software, or move to hosted service (Google Analytics) remains open
- Server moving to RHEL
 pending
- require https for wiki and bugzilla done
- New buildslaves (gcc-4.6, Windows) new buildmaster purchased
- Icov/gcov coverage reports
 Re-enabled
- open issue: maintainer
 access to buildbot system
 _{Workshop on ns-3, March 2011}
 remains open

Piwik # Open source web analytics

Piwik is a downloadable, open source (GPL licensed) real time web analytics software program. It provides you with detailed reports on your website visitors: the search engines and keywords they used, the language they speak, your popular pages... and so much more.

Piwik aims to be an open source alternative to Google Analytics.

Piwik is a PHP MySQL software program that you download and install on your own webserver. At the end of the five minute installation process you will be given a JavaScript code. Simply copy and paste this tag on websites you wish to track (or use an existing plugin to do it automatically for you) and access your analytics reports in real time.

Piwik		1	Dashboari		Websites	Widgets I AP	I I Email Reports	a I <u>Give us Fe</u>	<u>eedbacki</u> English ▼ Hello, rooti <u>Settings</u> <u>Sign o</u> r		
Dashboard	Visitors	Ad	tions	R	eferrers	Goals			Website piwik.org		
Date range: 2010-08-	28 🛒 🗚	ldd a wid	get *						() You are currently viewing the demo of Piwik		
Last visits graph					List of Keywords				Visitor countries (world map)		
6,400 - Visits g				Keyword			Visits +				
Λ				plwik 198			198				
2200 Rad Lad and Land				analytics 9			9				
				web analytics 9			9				
0 Fri 12 Aug Fri 27 Aug			open source analytics 8			8					
	in the mag			~*	how to desi	gn an api		7	6		
4 H M					piwski			6	Visits V X X		
					piwik plugin	5		4			
Website Visits +	Unique	Actions	Avp	petk			4	Browsers by family			
		visitors	Visit	Webr	google ana	ytics alternative		3	/ WebKit (Safari)		
www.golem.de	92	84	3.57	2 mi	piwik api			3			
www.r10.net	51	51	1.78	50s	1-10 of 219 Next y						
www.phpmyvisites.us	26	25	2.69	2 mi				- Trident (IE)			
www.phpmyvisites.net	22	22	3.32	3 mit	IN IS N IN IN						
butter com	21	.00	5.95	D min					Presto (Opera)		

5

usage statistics



Number of ns-3 downloads per month (no data available for Nov 2009)



October 2011 meeting

lingering core issues

- need for node/device processing delays (bug 912)
- powering on/off nodes and other models in the middle of a simulation
- Doxygen warnings and errors (bug 938)
- best practices for unused variables (bug 1170)
- test cases fail to clean up properly (bug 1192)
- fixed streams for random variables (bug 101)
- NetDevice queue rework
- finishing off config-store
- support for distribution packaging
- usability/GUI integration

October 2011 meeting



upcoming events

- Nov 23: ns-3.13 feature freeze
- Dec. 2: WNS-3 papers due
- Dec 14: ns-3.13
- March 23: WNS-3 (Sirmione, Italy)
- March 24: tentative developers meeting
- March: apply to GSoC
- April: ns-3.14?



Tom Henderson and Mitch Watrous work queue

- ns-3.13 core issues
 - random variable rework
 - move forward on modularization
- ns-3 code reviews and bug fixes
 - there are many; feature freeze is in 4 weeks
- NSF SAFE project milestones (Feb 2012)
- NRL protolib, SMF, MGEN for ns-3
- quagga for ns-3 DCE
- 802.15.4/ZigBee



random number rework

- Current random number generation is sensitive to order of initialization (bug 101 has details)
 - e.g. when changing a routing protocol, the mobility traces may change
- Solution being worked (with M. Weigle, M. Lacage, M. Watrous) is to create a new type of RandomVariableStream that allows user to (optionally) set the stream index deterministically
 - Uses same underlying L'Ecuyer generator
- If we deprecate RandomVariable, we'll have some backward compatibility issues



NSF SAFE February goals

The project is working on a prototype that will integrate initial pieces of the automation framework, including the following:

- a data collection framework to extract the data of interest, perhaps requiring some additions to how this data is accessed from the routing protocol implementations
- support to easily plot the data points using confidence intervals using a plotting program such as gnuplot or matplotlib
- ability to archive the complete state of the experiment so that it can be reproduced many years later
- a steady-state detector to look for reaching the time to start data collection (and data deletion prior to that time)
- a termination detector to terminate the program once the desired number of samples
- an experiment execution manager (outside of ns-3) to manage the serial or parallel execution of simulation runs to obtain data points for each configuration
- a basic wireless/mobility artificial scenario generator allowing the user to rerun the experiment with different numbers of nodes, node densities, and rate of link connectivity changes
- A stretch goal is to allow users to plot characteristics of the scenario according to a "god-like" view of the topology, using certain assumptions, such as:
- true shortest paths available to each application packet originated over all scenarios



counts on the number of link connectivity changes October 2011 meeting