



TAHI IPv6 and IPsec test suites

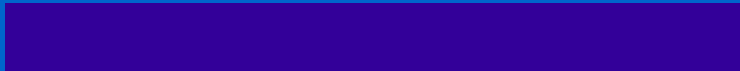


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Hiroshi HOSHINO

TAHI Project

<http://www.tahi.org/>



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Introduction

- TAHI Project: Objectives
- Activities of TAHI
- IPsec IPv6 conformance test

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TAHI Project: Objectives

- Developing verification technology for IPv6 and IPsec
 - conformance test suites
 - interoperability test suites
- Cooperating with KAME and contributing quality improvement of IPv6 implementation
- Making our test suites freely available

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Activities of TAHI

- Conformance test
- Interoperability test
- Other activities of TAHI

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Conformance test suites spec.

- Test coverage
 - IPv6 basic spec / Neighbor Discovery / Address autoconf / PathMTU / ICMPv6 / IPv6 over IPv4 tunnel / IPsec IPv6
 - over 200 (6hours) tests for host and for router
- Automated verification
- Generating HTML based test results and log

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Interoperability test suites

- Test scenarios
 - for host: IPv6 basic spec
 - for router: RIPng, BGP4+
- Test tools
 - packet analyzer, traffic generator
- <http://www.tahi.org/inop/>

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Other activities of TAHI

- Test report
 - KAME (by monthly)
 - Microsoft Research IPv6 (1.4 beta)
 - <http://www.tahi.org/report/>
- Interoperability test event in Japan (Sep,99)
 - 3com, Cisco, Ericsson, ETRI, GAYDYADE, IMAG, Microsoft, Toshiba, Hitachi, NEC, Fujitsu, Matsushita, Yamaha, NTT Software, PFU, TITECH, Linux v6
 - Provided the overview of the test results to IESG

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IPsec IPv6 conformance test

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IPsec test spec.

- Test coverage
 - AH or ESP, Transport-mode for a host or Tunnel-mode for a router
- Test examples
 - AH with HopByHop/Dest. Options header
 - ESP padding, ESP with ICV
 - fragmented packet with AH or ESP
- About 50 tests for AH, 50 tests for ESP

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IPsec test spec.

- Requirements to a target implementation
 - IPsec ICMPv6 echo request and reply
(no test with UDP, TCP)
 - off-link IPsec communication with Global address
(no test with link-local address)
 - manual key management
(no test with IKE)
 - IPv6
(no test with IPv4)

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Experience with IPsec test

- Test for KAME (fbsd228+kame stable 20000214)
 - 97/100 tests result “PASS”
 - <http://www.tahi.org/report/>

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You are welcome

- You are welcome to ask me for testing your implementation in this event
- Demonstration is available in our booth
- My booth:
KAME PROJECT 403

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Contact points

- Contact point
 - contact@tahi.org
 - <http://www.tahi.org/>
- Any feedback is welcome
- Future plan being discussed

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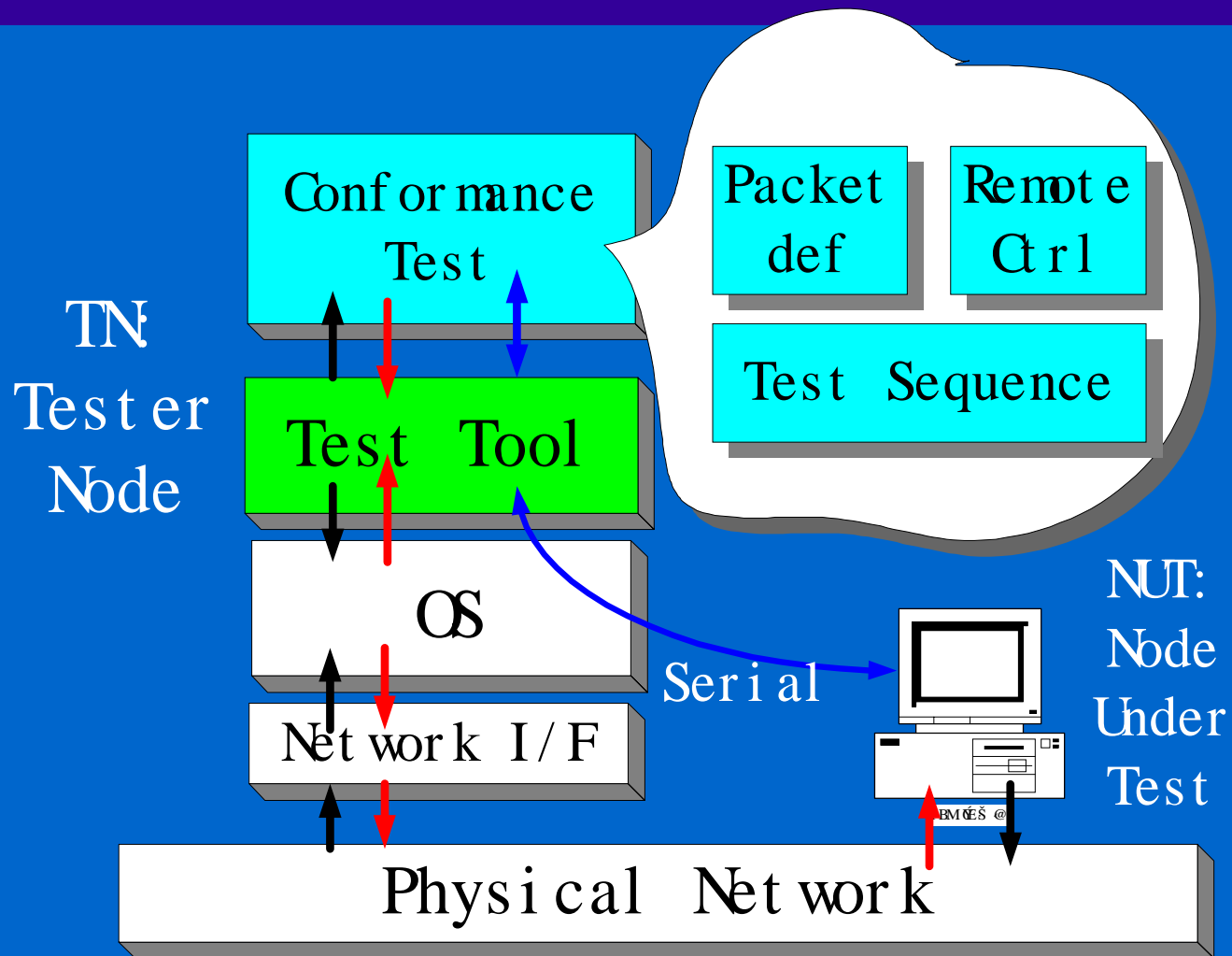


The End



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Conformance • Test • System • Architecture



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Element of the conformance test suites

- Hardware • IBM PC
 - CPU: AMD-K6 200MHz Memory: 128MB
 - Network I/F: Ethernet, 10/100BaseT
- OS: FreeBSD 2.2.8, 3.2, 3.3, 3.4
- Conformance Test Tool
 - C++ and Perl5 (25,000 + 5,000 step)
 - OpenSSL 0.9.2b
- Conformance Test
 - Perl5 and original packet definition language (40,000 + 30,000 step)