nefu
(network fidelity utility)

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nefu is a UNIX daemon that monitors network services

“Lights out” user perspective

Native tests for ping, DNS, HTTP, POP, NTP, IMAP, STCP, and TCP

Built in shell test for external tests

TDK for new test integration
Reporting Overview

Mail
Syslog
Finger
HTTP
nefu & email

Status changes sent to email groups.

Individual services on a machine can be assigned to one or more responsibility groups.

Pages via local Beepage gateway.
nefu & finger

finger [-l] nefu@nefu.itd.umich.edu

Current status published in .plan and .project
nefu reporting

nefu & syslog
Events & performance statistics logged
Uptime scripts
Availability tracking = better performance

ssh — ttyp1 — 128x22
nefu & HTTP

http://nefu.itd.umich.edu/

View current status and configuration via the Web

Web history can be logged
Dependency Example
Monitoring overview

Closest Leaf First scheduling

Tri-State logic monitor

Route Verification

Exercise Protocols
SMTP Transaction UP

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Open Connection

SMTP server

QUIT

220 Banner

221 Banner

Close Connection
SMTP Transaction DOWN

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Open Connection
Close Connection

SMTP server
554 Banner

Or:
Open Connection

Or:
Connection Refused
SMTP Transaction MAYBE-DOWN

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Open Connection

SMTP server

Timeout
Monitoring Example:

Services to Monitor: SMTP & IMAP on 3 servers

Network dependencies: RouterA & RouterB
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RouterA

RouterB

ServerA

ServerB

ServerC

nefu.conf syntax

machines : dependency : groups

serviceA

serviceB

nefu monitoring
nefu.conf syntax:

ServerA ServerB ServerC : RouterB : imap
SMTP
IMAP

RouterB : RouterA : network fyi
ping

RouterA : : network fyi
ping
nefu

nefu.conf syntax:

ServerA ServerB ServerC : RouterB : imap
  SMTP
  IMAP

RouterB : RouterA : network fyi
  ping

RouterA :: network fyi
  ping

ServerA

ServerB

ServerC
Ping RouterA
Ping RouterB
Closest Leaf First scheduling.
nefu monitoring
nefu monitoring

ServerB.IMAP times out.
Route Verification: ServerB.ping is down. Alert imap group.
Normal monitoring resumed.
Operational Use in the UMCE

Developed originally for IMAP

nefu.itd.umich.edu monitors over 400 services on almost 300 machines

Dual monitors