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Monitoring and Measurement Activities in European Projects

MOME

BroadBand Europe Event, Bruges
Session 3 - Network Monitoring and Measurement
December 9, 2004

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Outline

- | About MOME project
- | MOME Survey
 - | Approach
 - | Results
- | Outlook & Conclusions

The MOME Project – Some Facts

MOME

- | FP6, IST, Co-ordination Action
- | 1st Call
- | IST-2003-001990
- | Strategic Objective IST-2002-2.3.1.3 “Broadband for all”
- | 24 month (2004-05)
- | 63 person month / 8 partners
- | Budget: € 714.200 / Funding: € 527.880
- | Web-site: <http://www.ist-mome.org>
- | Mailing list: <http://www.ist-mome.org/announcements/>

Introduction

What do we mean by IP monitoring & measurement?



Use cases

- | Traffic Control
- | Traffic Engineering
- | Billing/Accounting
- | Security
- | SLA/SLS Monitoring
- | QoS Measurements
- | Trials & Evaluation

Measurement Tools

- | active
- | passive

Measurement Data

- | raw data
- | aggregated data
- | analysed data

Standards

- | metrics
- | data exchange
- | sampling mechanisms

Measurement Results

- | traffic/flow statistics
- | alarms/notifications
- | graphs

Project Objectives

What are MOMEs important tasks?



Co-ordinate activities in the field of IP monitoring and measurement

Measurement Tools

- | evaluate & promote interoperability
- | provide information

Measurement Data

- | select format
- | provide database
- | collect
- | convert
- | disseminate

Measurement Standardisation

- | identify potential
- | collect plans
- | co-ordinate joint contributions

Build a knowledge exchange platform

- | Workshops, conferences
- | Dissemination activities

MOME does not

- | Develop new measurement tools
- | Develop new measurement methods
- | Develop new measurement standards

MOME Events

Where public MOME activities take place?



- | March 2004
 - | IPS2004 Workshop, Budapest
- | June 2004
 - | MOME Session at TERENA Networking Conference, Rhodes
- | December 2004
 - | MOME session at BroadBand Europe Event, Bruges
- | March 2005
 - | IPS-MoMe 2005 Workshop, Warsaw
- | June 2005
 - | MOME Cluster Event at TERENA Networking Conference
 - | Interoperability Event
- | Summer 2005
 - | Standardisation Event
- | October 2005
 - | open MOME Workshop

MOME Survey – Overview



- | Collect information about IP monitoring and measurement activities in Europe
 - | IST projects, network operators
- | Three parts
 - | General part
 - | Project information
 - | Tools (if developed by given project or company)
- | Web-based survey tool + oral interviews
 - | <http://www.ist-mome.org/about/questionnaire.html>
- | Goal
 - | Identify needs and activities

MOME Survey – Topics

Measurement Approach

- Objectives
- Methods/Algorithms
- Metrics

Measurement Scenarios

- Timeframe
- Results
- Analyses

Measurement Tools

- Used well-known tools
- Developing new tools

Expectations from MOME project

- Expected services
- Provided supply

Standards/Standardisation Plans

- Used standards
- New standards
- Expected standards

Measurement environment and role

- Operational network or testbed
- Integrated or support role

MOME Survey – Current Results

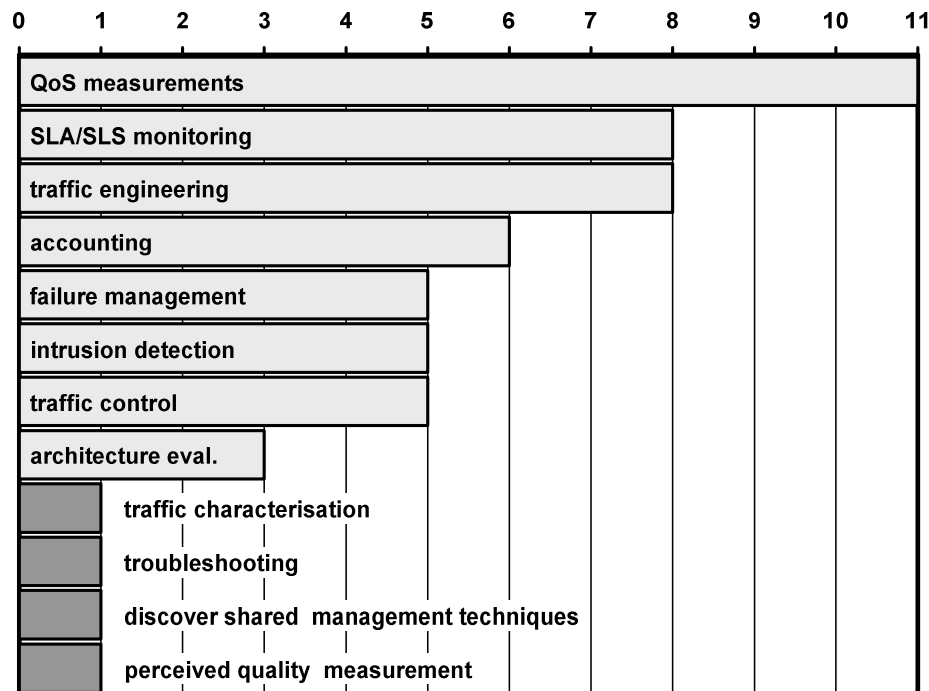


- | Currently 11 projects interviewed
- | FP5
 - | Euro6IX
 - | GÉANT
 - | INTERMON
 - | SCAMPI
- | FP6
 - | Ambient Networks
 - | DAIDALOS
 - | ENTHRONE
 - | EuQoS
 - | EUROLABS
 - | EuroNGI
 - | LOBSTER

MOME Survey – Current Results



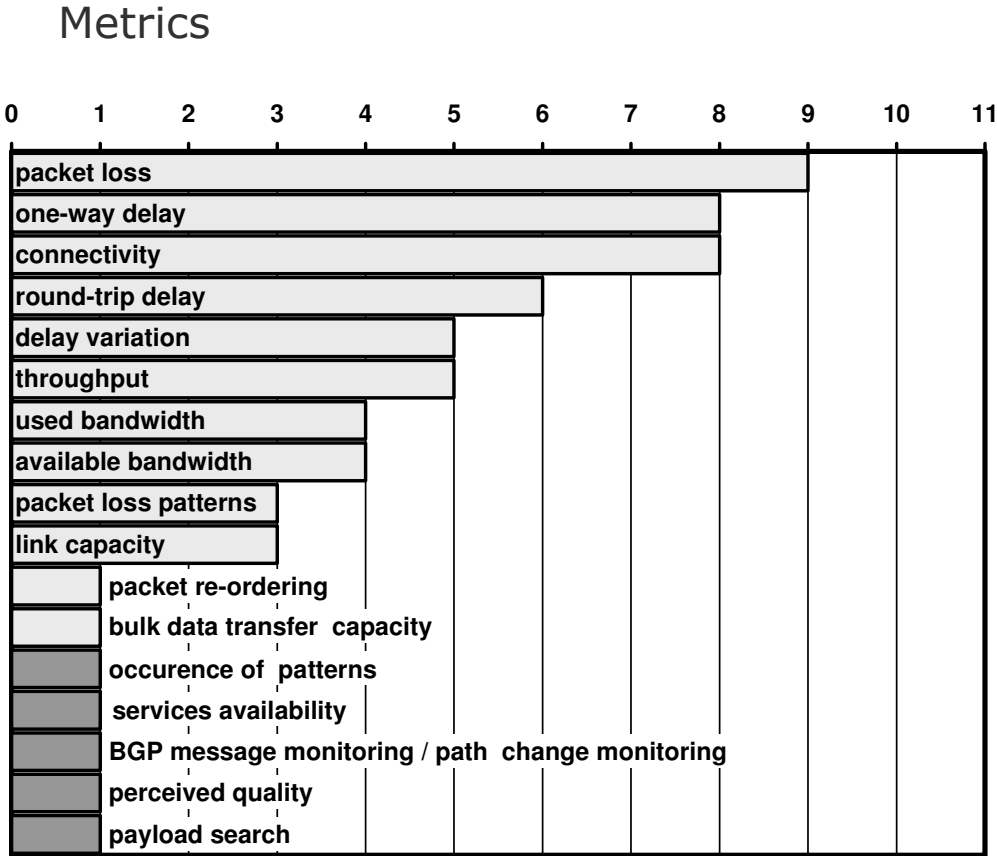
Measurement objectives



Measurement tools

- | Well-known tools
 - | ping, traceroute
 - | tcpdump
 - | snort
 - | nagios
 - | DAG cards
 - | etc.
- | New developments
 - | ~25 new tools

MOME Survey – Current Results



- Standards
- | IETF dominating
 - | IPPM
 - | IPFIX
 - | PSAMP
 - | ITU
 - | Y.1540

MOME Survey – Current Results



- | Measurement Methodologies & environment
 - | active vs. passive measurements
 - | artificial vs. operational environments
 - | Timeframe
 - | Only few long-term measurements
- | Contributions and Expectations of MOME
 - | Workshops highly demanded
 - | Measurement data
 - | Measurement tool descriptions

Future Work & Conclusions

- | Survey is continuing throughout MOME lifetime
 - | Your project?
- | MOME platform currently under development
 - | Measurement tool exchange
 - | Measurement data exchange
- | Upcoming workshops and events

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Thanks!

MOME

Web-site: <http://www.ist-mome.org>

Mailing list: <http://www.ist-mome.org/announcements/>

Questionnaire: On-site interviews possible!

Questions?