

Monitoring and Measurement Cluster

MOMG

FP6, IST, Co-ordination Action

Strategic Objective IST-2002-2.3.1.3 "Broadband for all"

Jan 2004 - Dec 2005

6QM Workshop, Berlin 14.12.2004

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Outline

- | Project objectives
- | Consortium and cooperating projects
- | Questionnaire
- | Technical approach
 - | Measurement Tools
 - | Measurement Data
- | Standardisation
- | Dissemination & MOME events

Project Objectives + Workpackages

What are MOMEs important tasks?

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

WPO: Project Management

Measurement Tools

- | evaluate & promote interoperability
- | provide information



WP1: Interoperability

Measurement Data

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



WP2: MOME Data

Measurement Standardisation

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

WP3: Standardisation

Build a knowledge exchange platform

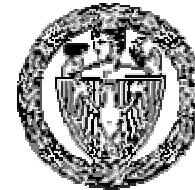
- | Workshops, conferences
- | Dissemination activities
- | Bringing projects and information together

WP4: Dissemination

MOME Consortium

MOME

salzburg|research



Salzburg Research, AT

NEC, UK

Telefónica I+D, ES

Université Libre de Bruxelles, BE

Budapest University of Technology
and Economics, HU

Warsaw University of Technology, PL

Fraunhofer FOKUS, DE

TERENA, NL



Telefonica

NEC



MOME Cooperating Projects

Who gains added value through MOME?

Past (FP5)	Current (FP5+6)	Future (FP6)
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EuroNGI
BREAD
EuQoS
Daidalos
Euro6IX
ENTHRONE
MESCAL
EuroLabs
LOBSTER



...



- | 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)

- | Location
 - | <http://www.ist-mome.org/about/questionnaire.html>

- | Evaluate & promote interoperability of tools developed by different European projects
 - | Provide information
 - | Test interoperability

- | Collect information on known measurement tools
 - | Initial list of 353 tools identified...
 - | Currently ~60 have been inspected closely

- | Build tools taxonomy
 - | Name, Keywords, OS, Access (commercial, free, open source),
 - | Contact, Link, Input (e.g. command line, script files, GUI),
 - | Output (e.g. text, GUI), Active/Passive,
 - | Functions/Metrics, Time Scope (on-line or not),
 - | Granularity (single flows or aggregates)

Tools database

Create searchable database

- Will be available on the Web

- Initial list at: <http://www.ip-measurement.org/tools/avail.html>

- Final version: <http://www.ist-mome.org> beginning of 2005

Interoperability tests

- Control, metrics

- Testing event will be organized (MOME workshop March 2005)

Name	Measurements Properties				
	Input	Active/Passive	Functions/Metrics	Time Scope	Output
TTCP	Data to transmit (optional)	active	UDP, TCP Throughput	Real-Time	Text
Info					
	Keywords	Throughput			
	OS	Linux, Win 9X/NT/2000, FreeBSD, Solaris, SunOS, AIX, HPUX, IRIX			
	Access	Free, Open Source			
	Contact	nttcp: Elmer Bartel bartel@Informatik.TU-Muenchen.DE wsttcp: Sungjin Chun sjchun@janus.sst.co.kr pcattcp: ttcpdownload@pcausa.com			
	Download	ttcp at ftp://ftp.arl.mil/pub/ttcp/ nttcp at http://www.leo.org/~elmar/nttcp/ wsttcp at http://www.winsite.com/info/pc/winnt/netutil/wsttcp.zip/ pcattcp at http://www.pcausa.com/Utilities/pcattcp.htm			
	Description	ttcp is a tool for measuring TCP and UDP throughput. The tool must be started on sender and receiver side. The measurement can be configured with a couple of parameters such as number of packets, packet size, etc. A couple of variants exist. Newer variants like nttcp have more features like inetd support, checksums, multicast packets etc.			

- | Collect measurement data and make it available to the community for statistical analyses
 - | Evaluating new models with measured data
 - | Understanding the behaviour of the Internet

Different publicly accessible repositories

- | Internet Traffic Archive, NLANR, RIPE, Abilene, Waikato, etc...
- | Inhomogeneous data and meta-data formats
- | Insufficient descriptions

Different types of measurement data

- | Packet traces
- | Flow records
- | QoS results
- | Routing data
- | HTTP access logs

- | MOME meta-database: description of actual data, e.g.
 - | Data format
 - | Collection scenario
 - | Date, duration
 - | Location of monitors
 - | Type of measured network
 - | ...
 - | Link to the actual data

- | Searching functionality
 - | Various searching criteria

- | Initiation, planning and co-ordination of contributions
 - | IETF IP Performance Metrics, IPPM
 - | IETF IP Flow Information eXchange, IPFIX
 - | IETF Packet SAMPLing, PSAMP

- | The following issues will be analysed
 - | Potential of standardising MOME related project results
 - | Shortcomings and missing contributions within the already planned activities of the mentioned working groups
 - | Opportunities to start new activities within the mentioned working groups or to establish new working groups

MOME Events

Where public MOME activities take place?

MOME

- | March 2004
 - | IPS2004 Workshop, Budapest
- | June 2004
 - | MOME Session at TERENA Networking Conference
- | December 2004
 - | MOME symposium at BroadBand Europe Event
- | March 2005
 - | open MOME Workshop
- | June 2005
 - | MOME Cluster Event at TERENA Networking Conference
 - | Interoperability Event
- | October 2005
 - | open MOME Workshop

Thanks!

- | Name: Monitoring and Measurement Cluster
- | Reference: IST-2003-001990, MOME
- | Partners: 8
- | Duration: 24 month
- | Volume: 63 person month
- | Total Costs: € 714.200
- | EC Funding: € 527.880

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