
QoS Monitoring & Measurement – IST Projects Intermon & 6QM

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TF-NGN Rome,
6/7 Feb 2003

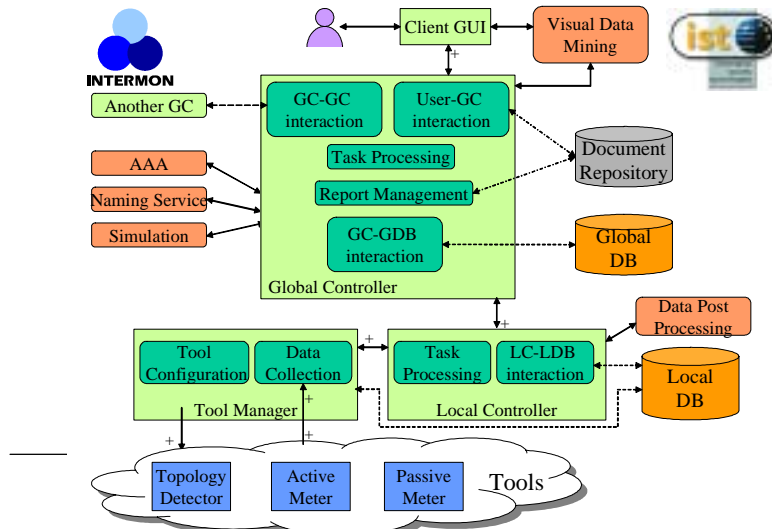


IST INTERMON -- Advanced architecture for INTER-domain quality of service MONitoring, modelling and visualisation

- 12 Partners: Salzburg Research (Coordinator), TILAB (I), Uni Bern (CH), Uni Dortmund (D) Waterford Institute of Technology (IRL) Fraunhofer FOKUS (D), SIEMENS Austria, T-Systems Nova (D), I+D Telefonica (E), NEC Europe Ltd (D), BUTE UniBudapest (HU), CINI/ITEM (I)
April 2002 - March 2004
- a scalable inter-domain QoS control architecture with components for:
 - topology discovery by analysing routing advertisements
 - measurement / monitoring of network traffic
 - traffic modelling based on measurement data
 - simulation of data traffic / network behaviour
 - data mining (aggregation of collected information)
 - visualization with interactive data exploration
- For Network Operators Internet service providers, QoS enabled end system developers



INTERMON System Architecture

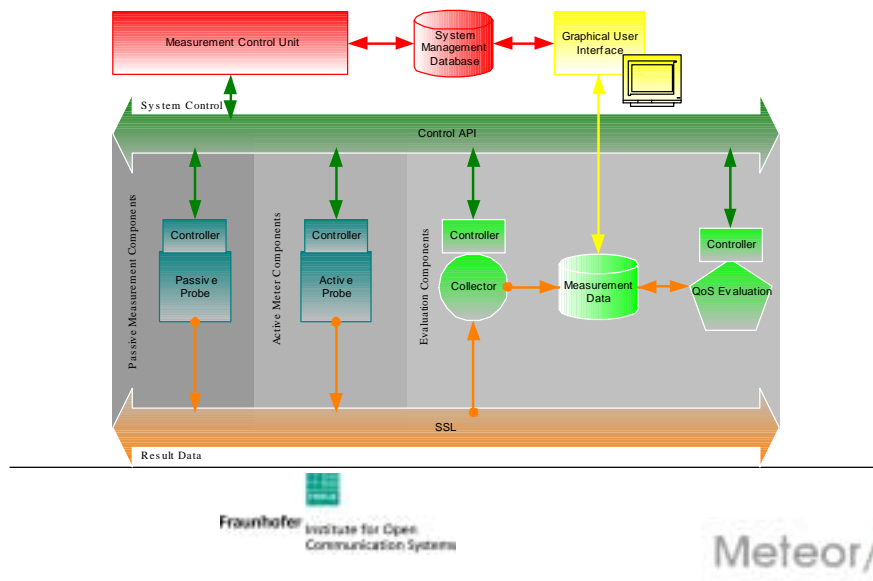


IST 6QM – IPv6 Quality of Service Measurement

- Partners: Hitachi Europe (Coordinator), Hitachi Ltd Japan, France Telecom, Consulintel Fraunhofer Fokus
 - Duration Sept. 02 – Aug 04
- Analysis of requirements for QoS measurements
- Development of a flexible architecture for QoS measurement in IPv6 networks
 - Metering components for non-intrusive data capturing, sampling
 - Server components for task distribution data collection, processing
 - Interfaces and protocols
- Cooperation with other related Projects and Fora for dissemination, demonstration and common experiments

FOKUS Internet Measurement Platform

Architecture & Components



IMP Features

- ✓ measurement component using **libpcap** (sourceforge.net/projects/libpcap)
 - ✓ configurable filter to extract specific flows
 - ✓ Count (bytes/pkts), PktId, TimeStamp, Paket Capture
 - ✓ active traffic generation
- ✓ QoS metrics: basic OWD, OWL,
derived: IPDV, delay distributions, statistics, bandwidth,
- ✓ visualisation/analysis
- ✓ OS portable: BSD, Linux, Solaris
- ✓ IPv4/IPv6 ready
- ✓ used in projects, 3Gb testbed, Fraunhofer Intranet, at partners,..
- ✓ Open Source

References

- IST Intermon
 - www.ist-intermon.org
 - Coordinator:
Ulrich Hofmann Salzburg Research email: ulrich.hofmann@salzburgresearch.at
- IST 6QM
 - www.6qm.org
 - Coordinator:
Stéphane Amarger Hitachi Europe, Sophia Antipolis
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- FOKUS Internet Measurement Platform
 - www.fokus.fraunhofer.de/globe/products/imp
(to become: www.fokus.fraunhofer.de/meteor/products/imp)
 - Technical Contact:
Lutz Mark, Fraunhofer FOKUS
mark@fokus.fraunhofer.de
- IETF Packet Sampling (psamp) <http://www.ietf.org/html.charters/psamp-charter.html>