

Welcome to Software

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SymPA is now available in Software section!!!

[SymPA v1.0 for Symbian 9](#)

1. SymPA for Symbian 9 is now available!

Here you can download a video demo of SymPA for Symbian 9, new location functionalities have been included.

[VIDEO](#)

Thank you for your interest in SymPA. To receive your installer please fill out the form below and send it to sympa@lcc.uma.es.

[FORM](#)

If you have any problem or suggestion, please send an email to sympa@lcc.uma.es with the subject [SymPASupport].

2. User's Manual SymPA

SymPA v1.0 (Symbian 9.x) [PDF](#)

SymPA v0.1 (Previous Symbian versions) [PDF](#)

[text2pcap.bat](#)

3. Press articles

L'Atelier:

www.atelier.fr/mobilite/10/21042009/sympa-smartphone-symbian-ercim-operateur-38142-.html
[PDF](#)

Diario Sur.es:

www.diariosur.es/20091102/mas-actualidad/tecnologia/desarrollan-herramienta-para-mejorar-200911021
[PDF](#)

Europa Press

www.europapress.es/andalucia/innova-00232/noticia-innova-uma-crea-herramienta-mejorar-descargas-in
[PDF](#)

ABC.es

<http://www.abc.es/hemeroteca/historico-02-01-2010/sevilla/Andalucia/una-herramienta-mejora-las-desca>
[PDF](#)

RETA:

<http://www.reta.es/index.php/actualidad/noticias/actualidad-idi/6250-investigadores-malagenos-crean-u>
[PDF](#)

Andalucía Innova:

http://www.andaluciainvestiga.com/espanol/noticias/9/descargamejoramoviles_9144.asp
PDF

Universia:

http://www.universia.es/portada/actualidad/noticia_actualidad.jsp?noticia=104055 **PDF**

Málaga hoy **PDF**

4. SymPA Users

The following Universities and Companies have shown their interest in our tool contacting with us to obtain a version of SymPA:

Packet Video

University of Brunel

N2Nsoft

Laboratoire d'informatique de Paris 6 (LIP6)

Kamlex

Tunisiana (Orascom Telecom Tunisia)

Hunan University

Orange (France Telecom Group)

Telecom NZ

Vector Max

Telefónica I+D

TMA Solutions

Auckland university of technology

Illinois University

Yonsei University

MCG srl

Worlink

Its4Solutions Pvt. Ltd.

Sun Cellular Digitel Mobile Philippines

5. SymPA

SymPA is a protocol analyzer for mobile phones that allows all the incoming TCP/IP traffic to be captured without interfering with the normal performance of the terminal. The main design goals for this tool have been the following:

- To capture all incoming IP packets, while avoiding information overload.
- To perform efficient resource management, according to constraints on power processing and battery life of mobile devices.
- To include basic functions for network management such as ping and tracet.
- To provide interfaces for processing captured information and for exporting it to other environments.



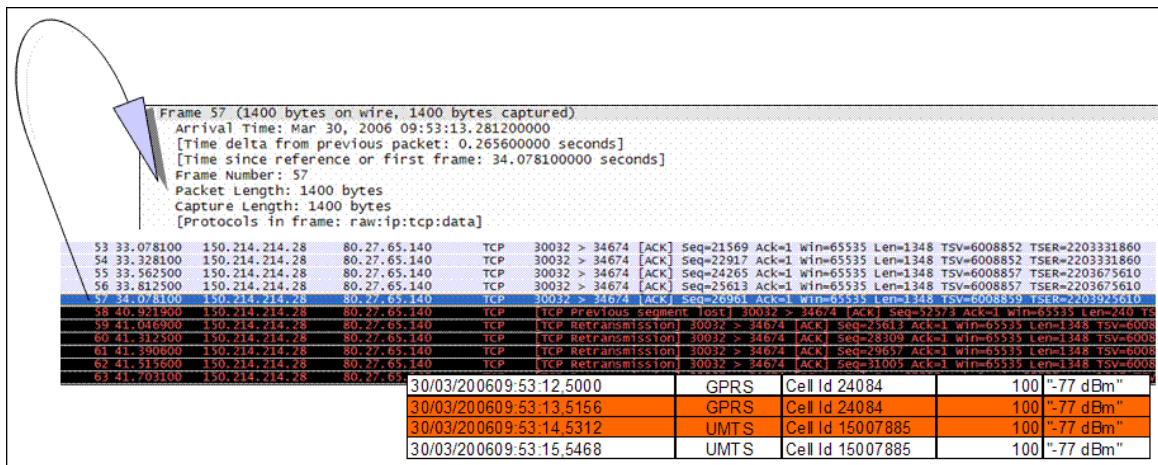
SymPAScreenshot_2

6. SymPA working diagram

When SymPA is in capture mode, all IP packets that arrive to the mobile devices from GPRS/UMTS connections are saved in buffers in raw format. SymPA runs the background without interfering in the performance of active applications. In parallel, network parameters are observed periodically. When the capturing session finishes, the contents of the buffers is stored in files and later adapted to text2pcap input format, the lipcap format conversion tool is included in the free distribution of the Ethereal analyzer. The files can be transferred to a computer via USB, infrared or Bluetooth, depending on the terminal availability of these technologies. Lipcap files can be analyzed directly with Ethereal, taking advantage of the great variety of filtering options, statistical analysis and graph generation features of this application, as depicted in figure.

7. Scenarios and Use Cases

In UMTS soft handover allows seamless handover. During soft handover, a mobile station is in the overlapping cell coverage area of two sectors belonging to different base stations. Communication between the mobile station and the base station take place concurrently via two air interface channels from each base station separately. In GSM the macrodiversity cannot be used and the communication is interrupted. Where interruptions are lengthy, the buffered packets at network elements can overflow, and may result in packets loss. This behaviour is depicted in figure. At the same time as the handover takes place, the reception of packets stops during 7 seconds. After that, the retransmission of packet loss is initiated.



scenario