QUESTION-HOW: FORTH's participation

Evangelos Markatos, Ph.D.
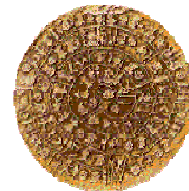
W3C Office in Greece

markatos@ics.forth.gr
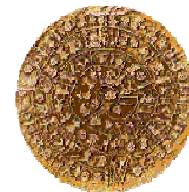
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Institute of Computer Science (ICS)

Foundation for Research and Technology – Hellas (FORTH)

FORTH's contribution

- **WP1: RDF Suite**
- **WP2: CC/PP Apache module**
- **WP6: Participation in WP6**
  - ➢ European events
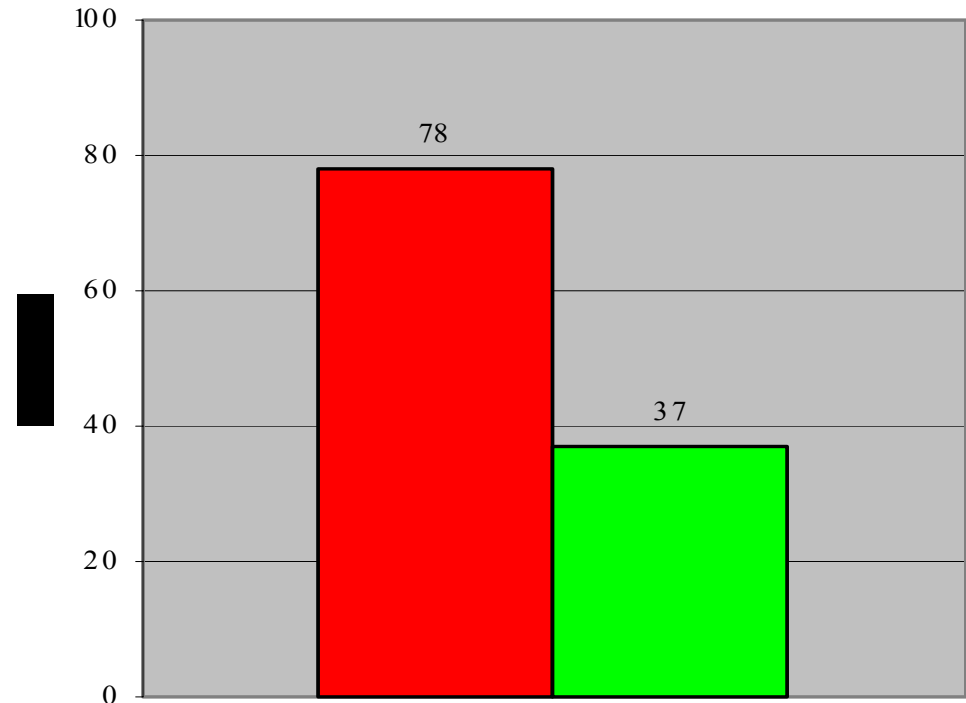   - ✓ e.g. semantic web tour

In Summary

- **VRP Performance Improvement**
  - Validating RDF Parser
- **Full Support of XML Schema Datatypes**
- **Support of the latest RDF/XML Syntax Spec.**
- **Additional VRP Statistics**
- **SVG Representation of VRP output**

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VRP Performance Improvement

Used Memory

50.812	39.848
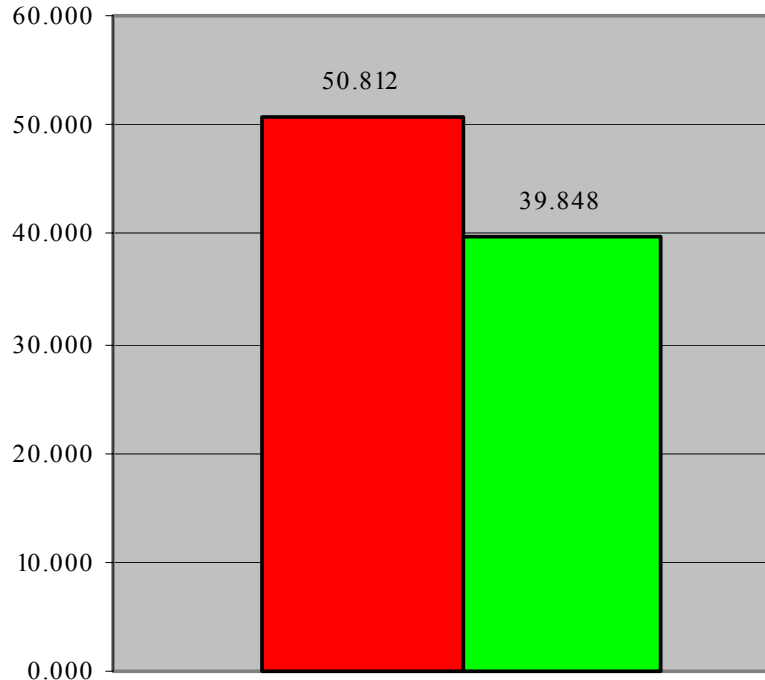
~ 20 % less memory [1]
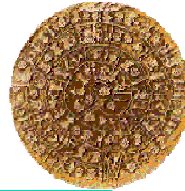
CPU Time

78	37

~ 50 % less time [1]

[1] Measured with a 5.8 MB RDF/XML file using JRE 1.4
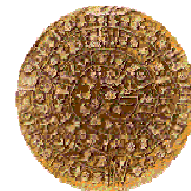
Full Support of XML Schema Datatypes

Full XML Schema (Part 2) Datatype support for validating domain and range declarations for properties by integrating the Sun™ XML Datatypes Library[1]
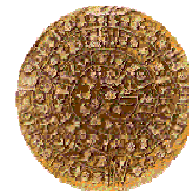
using the namespace:
   http://www.w3.org/2001/XMLSchema-datatypes.xsd#

[1]

   http://wwws.sun.com/software/xml/developers/xsdlib/

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Support the latest RDF/XML Syntax Specification (Revised)[1]

- **Support of XML Base.**
- **Statements - rdf:bagID and rdf:ID.**
- **Literals are stored with language (xml:lang) and datatype[2] (rdf:datatype) specification.**
- **Support of rdf:nodeID.**
- **Support of Lists (rdf:parseType="Collection", rdf:first, rdf:rest, rdf:nil).**

[1] http://www.w3.org/TR/2002/WD-rdf-syntax-grammar-20021108

[2] Not used for datatype validation!

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Additional VRP Statistics

- **Instance Distribution**
  i.e., how many classes have x instances

- **Ancestor and descendants distribution both for classes and properties**
  - Direct
  - Recursive

  i.e., how many classes/properties have x ancestors/descendants

SVG Representation of VRP output

- **VRP graph output can be saved in Scalable Vector Graphics (SVG) format**

- **Describes two-dimensional graphics in XML**

- **SVG drawings can be dynamic and interactive**

RDF Graph Example
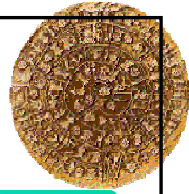
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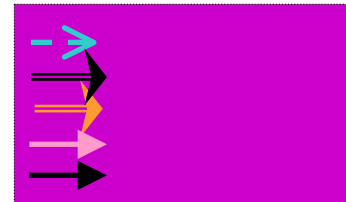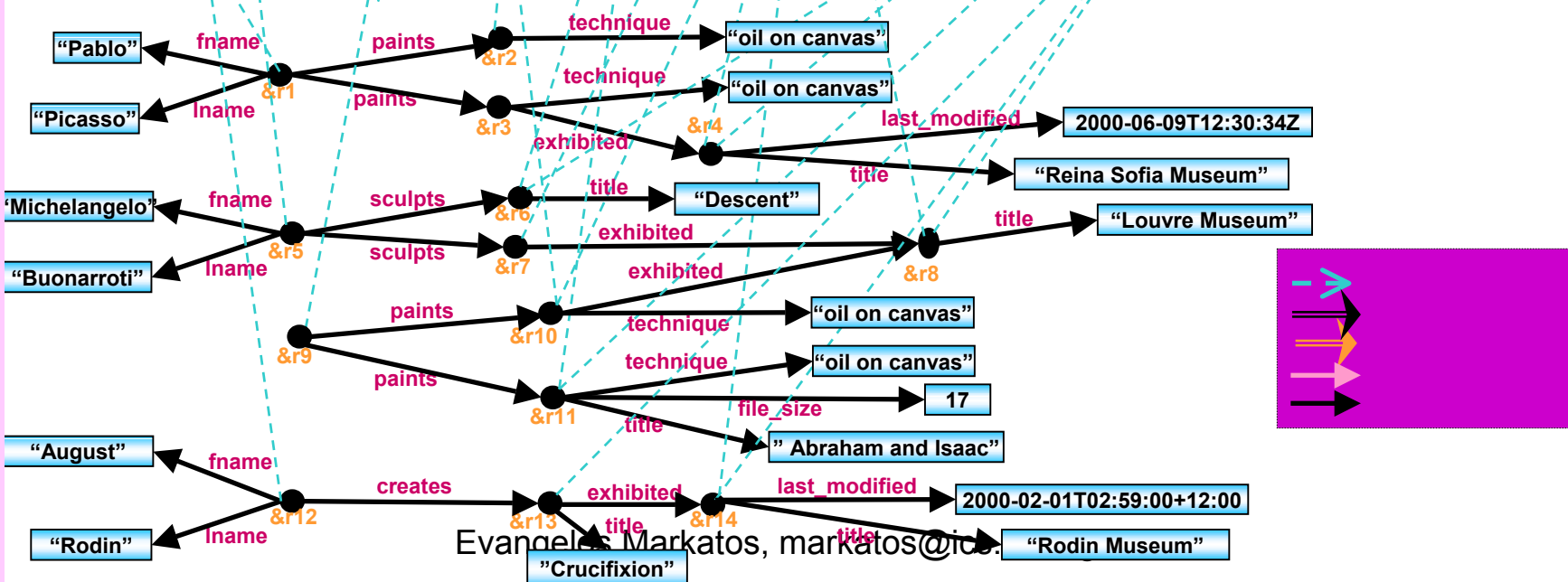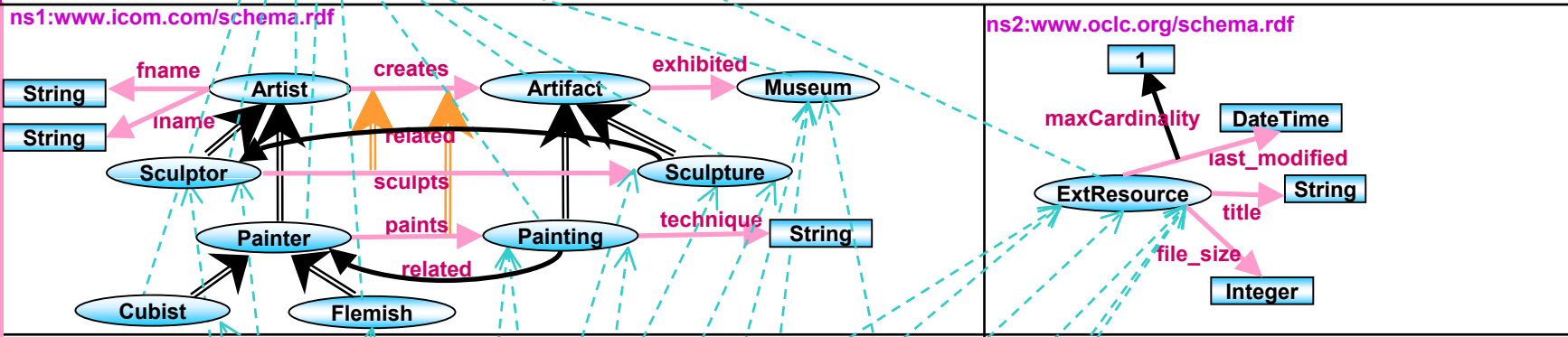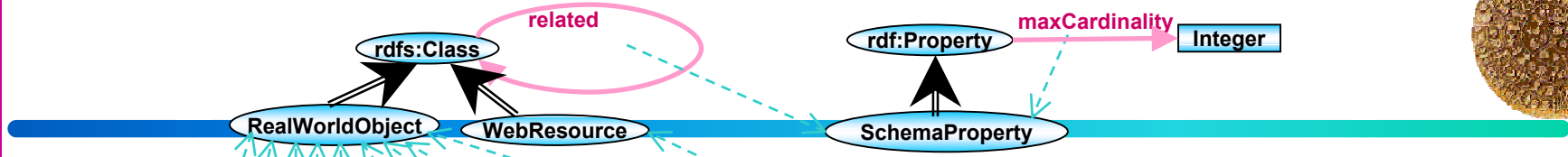
Display a Metaclass using SVG

Display a Class using SVG

Display a Property using SVG

Display a Resource using SVG

WP2: CC/PP – content adaptation

Mobile phones

PDA

Laptop computers

OMNBOOK 2100

Universal Multimedia Access

Web Multimedia Servers

Home PC's

Office workstations

WP2: CC/PP

Client(s) | **Client** Proxy CC/PP aware | **Server** Proxy CC/PP aware | Web Server

HTTP Headers | HTTP Headers + CC/PP Headers | HTTP Headers

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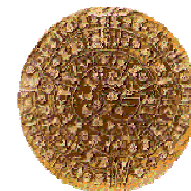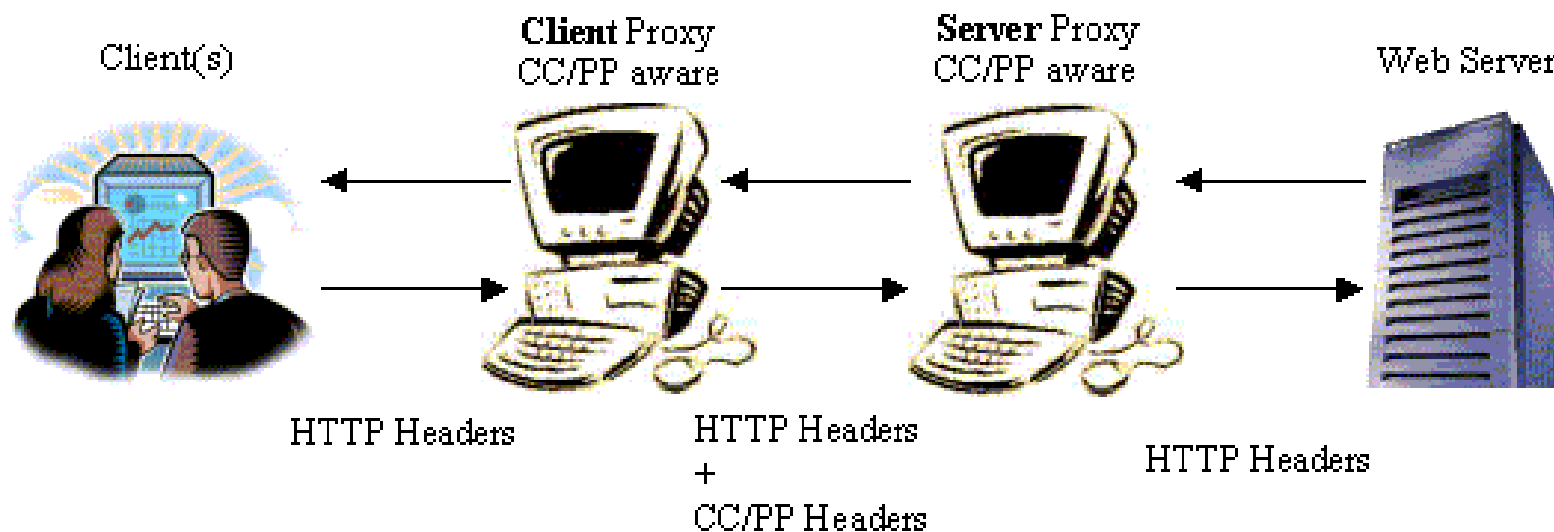
WP2: CC/PP work

- **Completed the Apache 1.3.x server module**

- **Completed the Apache 1.3.x proxy module**

- **CC/PP header parsing**

- **Completed prelim. content adaptation**
  - ➢Images (gif files) (ImageMagik Lib)
  - ➢MP3 audio files
  - ➢MPEG video files (FFmpeg lib - needs more work)

WP1: CC/PP
The module has been published
http://www.ics.forth.gr/carv/w3c_qh.html

WP1: CC/PP
Demo page is available

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Examples of transcoding
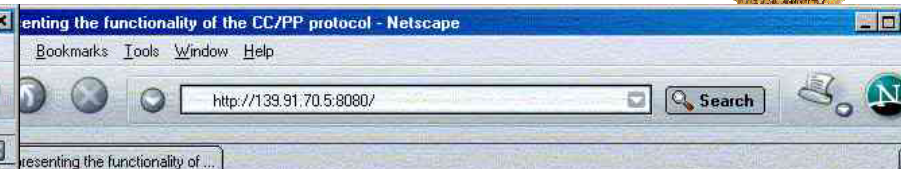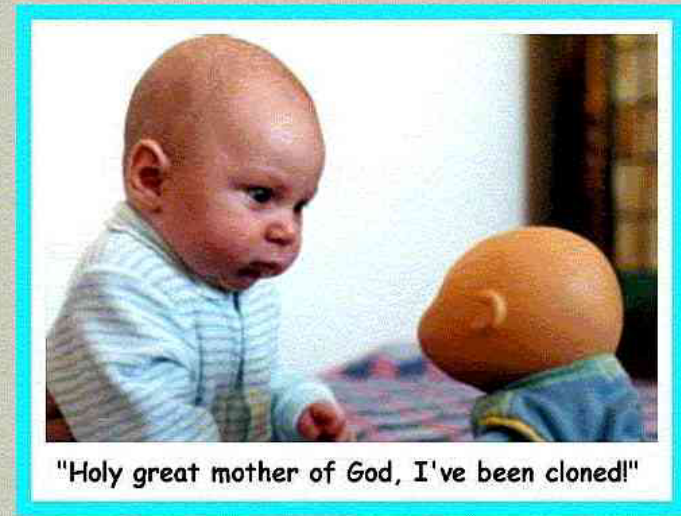
Video Transcoding

Future CC/PP work

- **Port to Apache 2.0**
  - ➤2.0 is based on multithreaded code
  - ➤Works for MP3/gif
  - ➤Needs work for MPEG videos
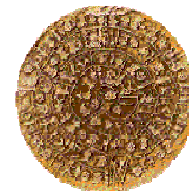 - ➤Performance evaluation

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