UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

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ICT Benchmarking Tool
Product Report

Version 1.0

http://www.unctad.org/stdev

Contents

Product Report

1. Introduction

At its sixth session, held in Geneva from 5 to 9 May 2003, the United Nations Commission on Science and Technology for Development (UNCSTD) requested the development of a user-friendly tool for ICT benchmarking. This tool allows countries to assess their ICT development and e-readiness and compare themselves with other countries in terms of Internet access and connectivity.

The UN ICT benchmarking tool has been produced for UNCSTD by UNCTAD in close collaboration with the Institute of Software Technology & Interactive Systems of Vienna University of Technology (Professor A Min Tjoa and Mr. Amin Andjomshoaa) with the generous financial support of the Government of Austria.

2. Software Requirements

2.1 Server side requirements

To install and run the software on server machine, the following are needed:

- j2sdk1.4.2_01
- Apache Tomcat 4.0 (included in installation bundle)

2.2 Client side requirements

The benchmarking tool can be used with any of the following browsers:

- Internet Explorer 5.5 +
- Netscape 6.0 +
- Mozilla 0.9.1 +

3. Product Overview

The ICT benchmarking tool is a web-based application which receives the user's data as input and creates comparative reports as output. Results are stored in a database and can be later retrieved and monitored later.

3.1 User interfaces

The user interface includes a list of parameters on the left, and the work area to carry out the calculation and assessments on the right.

Figure 1: Main page

For each type of parameter a different page is shown. Figures 2-5 illustrate the pages shown for each kind of parameter.

Figure 2 shows the input page for assessing statistical parameters indicative of infrastructure (e.g. the number of main telephone lines, the number of Internet hosts, etc.). The user should provide the information using statistics for a given country and enter the value in the specified fields.

Figure 2: Parameter Entry input page

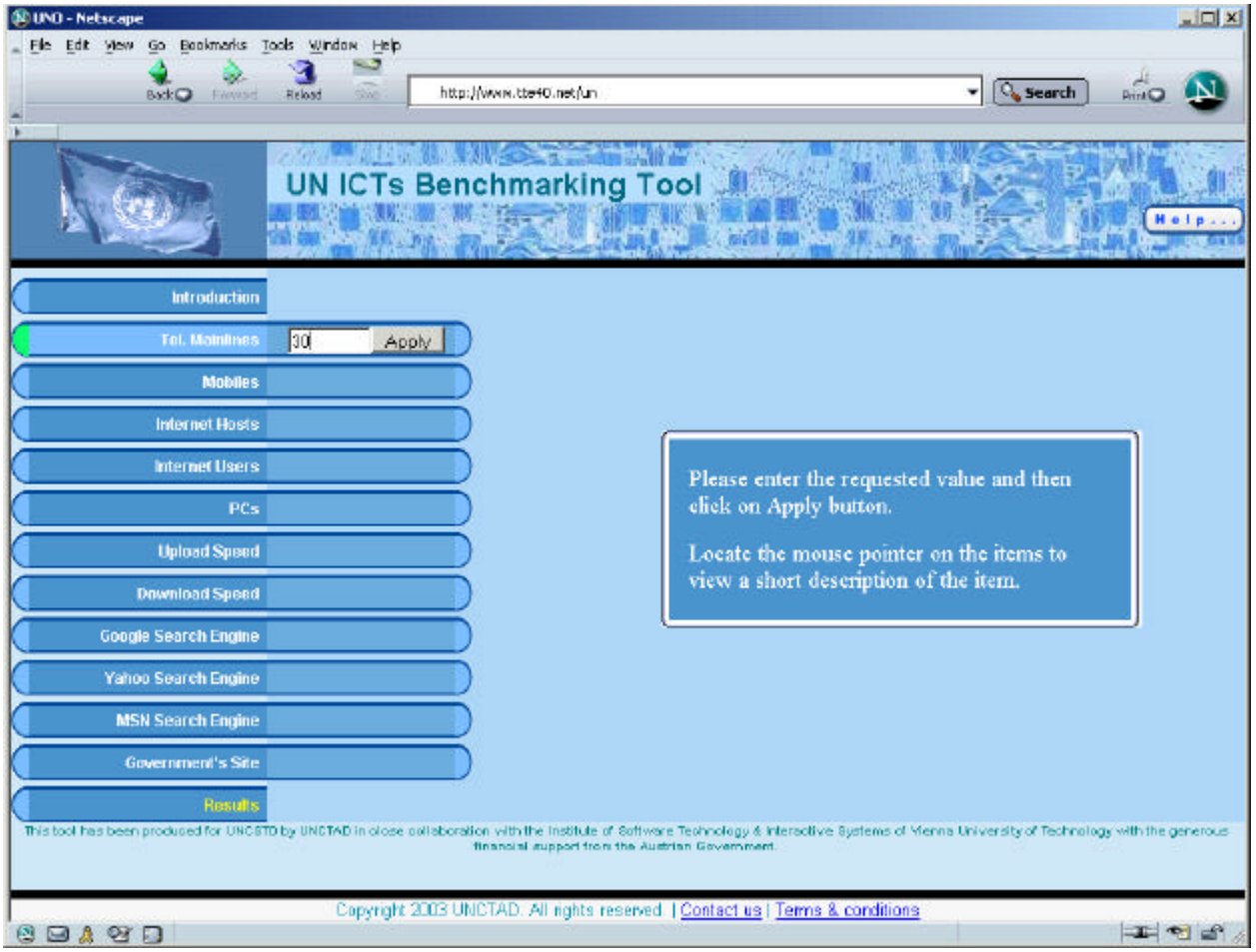

Figure 3 demonstrates the input page for assessing the upload speed in bits per second. When the user selects a file from his or her computer, the upload time is calculated by the application.

Figure 3: File Upload input page

Figure 4 shows the input page for assessing download speed. A predefined image is downloaded 10 times from the central server and the average download delay is used to calculate the download speed.

Figure 4: Download Speed input page

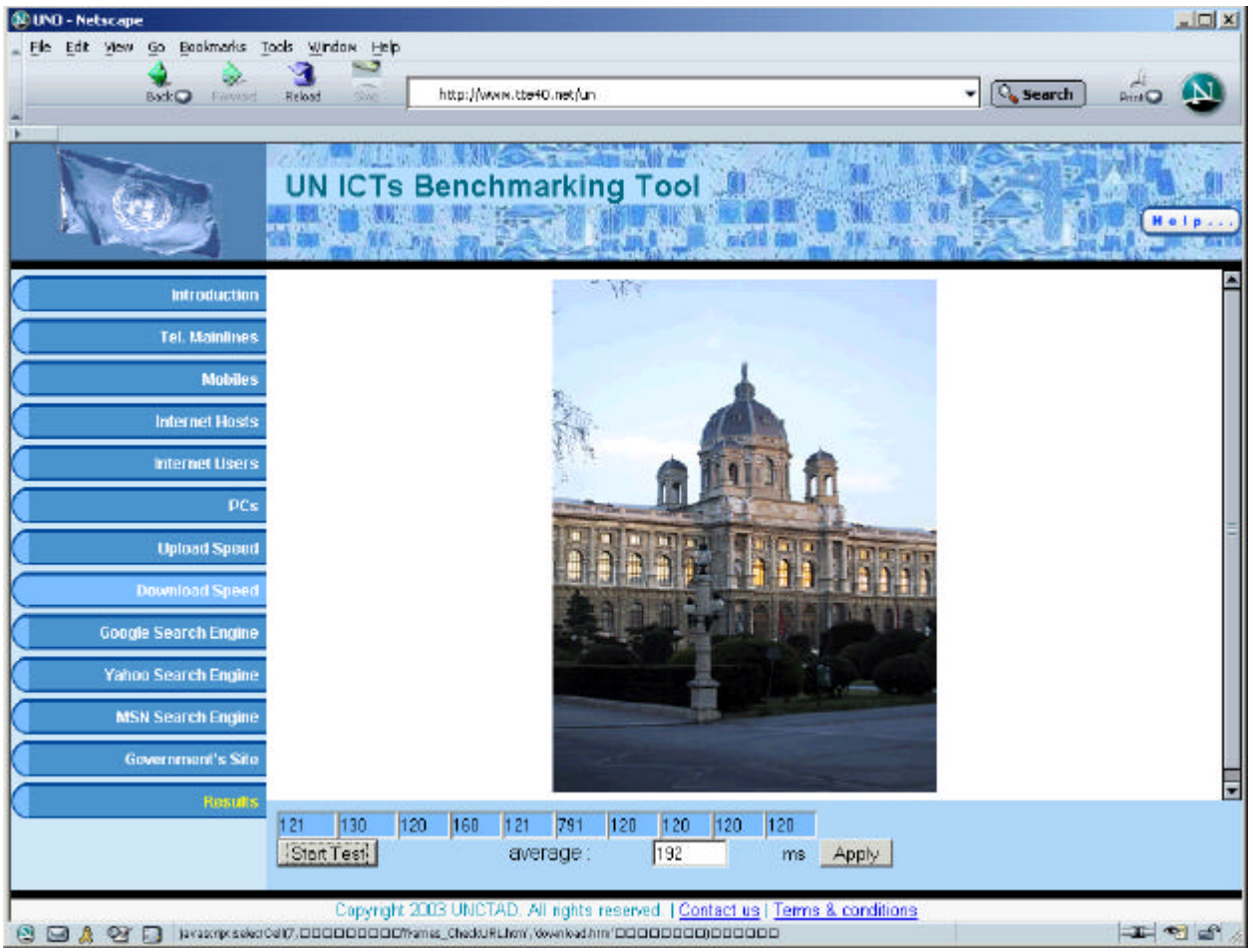

Figure 5 shows the input page for assessing search engine speeds. In order to have more precise results, 10 different queries are sent to the search engine and the average response delay is used to calculate the search engine speed.

This test is repeated for each search engine. The following list of keywords is sent to the search engines as a query string:

{Technology, Java, UN, Vienna, internet, university,
apache, e-readiness, developing, UN-CSTD}

Figure 5: Google Search Engine Speed input page