

ETSI TR 102 505 V1.2.1 (2011-12)



**Speech and multimedia Transmission Quality (STQ);
Development of a Reference Web page**

(<https://standards.iteh.ai>)

Document Preview

[ETSI TR 102 505 V1.2.1 \(2011-12\)](https://standards.iteh.ai/catalog/standards/etsi/0910b380-3faa-475e-b3dd-0f76c0f9c3d0/etsi-tr-102-505-v1-2-1-2011-12)

<https://standards.iteh.ai/catalog/standards/etsi/0910b380-3faa-475e-b3dd-0f76c0f9c3d0/etsi-tr-102-505-v1-2-1-2011-12>

Reference

RTR/STQ-00185m

Keywords

internet, quality

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

(<https://standards.iteh.ai>)
Document Preview

Important notice

Individual copies of the present document can be downloaded from:

<http://www.etsi.org>

The present document may be made available in more than one electronic version or in print. In any case of existing or perceived difference in contents between such versions, the reference version is the Portable Document Format (PDF). In case of dispute, the reference shall be the printing on ETSI printers of the PDF version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status. Information on the current status of this and other ETSI documents is available at

<http://portal.etsi.org/tb/status/status.asp>

If you find errors in the present document, please send your comment to one of the following services:

http://portal.etsi.org/chaicor/ETSI_support.asp

Copyright Notification

No part may be reproduced except as authorized by written permission.
The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2011.
All rights reserved.

DECT™, **PLUGTESTS™**, **UMTS™** and the ETSI logo are Trade Marks of ETSI registered for the benefit of its Members.
3GPP™ and **LTE™** are Trade Marks of ETSI registered for the benefit of its Members and
of the 3GPP Organizational Partners.
GSM® and the GSM logo are Trade Marks registered and owned by the GSM Association.

Contents

Intellectual Property Rights	4
Foreword.....	4
Introduction	4
1 Scope	5
2 References	5
2.1 Normative references	5
2.2 Informative references.....	5
3 Definitions and abbreviations.....	6
3.1 Definitions.....	6
3.2 Abbreviations	6
4 General aspects of reference web page design	6
4.1 Basic dimensions of typical web page content.....	6
4.1.1 General considerations.....	6
4.1.2 Summary of typical parameters determined for Kepler.....	7
4.1.3 Composition rule proposal applied for Kepler.....	7
4.2 Accelerators: Basic considerations.....	8
4.3 Selection of a web page sample set	9
4.4 Statistical and methodological considerations.....	10
4.5 Validation of reference pages for acceleration effects.....	10
4.6 Impact of server-side compression on http test results.....	11
4.7 Handling precautions for reference web site file sets	12
5 Measurement of web page characteristics.....	12
5.1 Measurement of object count	13
5.2 Measurement of total size.....	13
5.3 Measurement of object size distribution.....	13
5.4 Measurement of web page composition	13
5.5 Measurement of image optimization	13
6 Work flow description.....	13
Annex A: Example workflows used in creation of the Copernicus reference web page.....	15
A.1 Determination of parameters for the Copernicus web page	15
A.1.1 Selection of samples.....	15
A.1.2 Determining typical parameters	15
A.1.2.1 Compression Factors.....	15
A.1.2.2 Object count and Size	18
A.1.2.3 Object types	20
A.1.2.4 Object size distribution by type	22
A.1.2.5 Compression factor for text-type objects.....	22
A.1.3 Summary of typical parameters determined	23
A.2 Parameter assessment of the current Copernicus page	23
Annex B: Example workflows used in creation of the Kepler reference web page	24
B.1 Determination of parameters for the Kepler web page.....	24
B.1.1 Selection of samples.....	24
B.1.2 Determining typical parameters	24
B.1.2.1 Compression Factors.....	24
B.1.2.2 Object count and Size	24
B.1.2.3 Object types	27
B.1.2.4 Special considerations on "Flash video" objects.....	28
B.2 Multiple reference pages for different usage profiles.....	28
History	29

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<http://ipr.etsi.org>).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Foreword

This Technical Report (TR) has been produced by ETSI Technical Committee Speech and multimedia Transmission Quality (STQ).

Introduction

Web browsing is one of the most popular usages of the internet. Therefore, it is also an important target of QoS testing. While the basics of web browsing are simple (and assumed to be known for the purpose of the present document), proper performance testing of this service in mobile communications networks is not. There is a complex interplay between web content, web and fixed network infrastructure, air interface and end-user devices including actual web browser applications. If this interplay is not properly understood and taken care of, testing results may be meaningless at best and wrong at worst.

NOTE 1: In the following, the terms "http testing" and "web browsing" are used synonymously.

NOTE 2: For the purpose of the present document, we use the term "transport channel" to describe the entire path content has to pass from its origin (i.e. the http server) to its destination (the user's computer).

The goal of service testing is to get a quantitatively correct impression of the service usage experience from a typical user's point of view. For obvious reasons, neither third-party servers nor third-party web content should be used. Therefore, a specially assigned and well-controlled web server (reference server) will provide specially designed web content (reference web page) to facilitate the necessary control of environmental conditions and assurance of reproducibility.

It should be kept in mind that the scope of present work is usage of reference web pages in the context of QoS testing according to TS 102 250 [i.1]. Therefore, reference to QoS parameters implicitly refers to TS 102 250 [i.1].

The present document attempts to describe reference web page design in a generic way. In annexes A and B, examples are given. Annex A describes the workflow and parameters used to create the ETSI Copernicus. Annex B, likewise describes the background information used for creating Kepler.