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Technical Specification

**User Group;
Quality of ICT Services;
Requirements for Bodies Providing Conformity Assessment of
Checking-up on Metering and Billing Processes**

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Full standard:
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Foreword

This Technical Specification (TS) has been produced by ETSI User Group (USER).

Information and Communications Technology (ICT) standardisation is part of the general standardisation activities, and contributes to policy objectives to improve the competitiveness of European industry, as specified in the Lisbon strategy. The legal basis for European standardisation and standardisation policy, including the ICT domain, is Directive 98/34/EC [i.4]. One of its main elements is the formal recognition of three European Standards Organisations (ESOs), CEN, CENELEC and ETSI, active in various degrees in the ICT domain. Standards produced by the three ESOs and resulting from an open consensus building process are by nature voluntary and non binding technical documents.

The standardization work described in the present document was funded by the European Commission, Enterprise and Industry Directorate-General, as part of the 2009 ICT Standardisation Work Programme and executed by ETSI.

The present document has been produced within the ETSI Special Committee USER GROUP (USER) by the Specialist Task Force (STF) 375. Several documents provided by European Telecommunications regulatory bodies have been used to develop the present document. They are detailed in TR 102 847 [i.3].

It is important to understand that conformity assessment takes place in the wider environment of accreditation principles as defined in European Community regulation No 765/2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products and repealing Regulation (EEC) No 339/93 [i.2].

Introduction

A significant difference rate between theoretical and actual bills has been identified by several parties in the current metering and billing processes operated by service providers.

Several service providers, administrations and users associations have intended to reduce this difference rate in implementing rules in order to make users more confident in the reliability of their bills.

Nevertheless, due to the complexity of this issue and in absence of any available formal standard in this area, the current practices are hindered by significant limitations. The purpose of document TS 102 845 [1] is to fulfil the gaps of the current practices in order to provide a reference that can be used for a continuous and trustworthy checking-up on metering and billing processes. Such a checking is expected to contribute to a continuous quality improvement of metering and billing processes.

In order to provide evidence that metering and billing verification is conducted according to TS 102 845 [1], it will be usefull for a service provider to have its verification process audited by an independent party, that will formally assess the conformity of its checking-up on metering and billing with the technical specification. The purpose of present document) is to define when, how and by whom the conformity assessment audit shall be conducted. Such a conformity assessment is expected to contribute to an increased trust by service providers, customers, regulators and other stakeholders that metering and billing processes are reasonably monitored.

1 Scope

The present document details the specific requirements an independent party should comply with, in addition to the generic standard ISO/IEC 17065 [2] to assess conformity of the checking-up on metering and billing processes with the requirements defined in TS 102 845 [1].

2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <http://docbox.etsi.org/Reference>.

NOTE: While any hyperlinks included in this clause were valid at the time of publication ETSI cannot guarantee their long term validity.

2.1 Normative references

The following referenced documents are necessary for the application of the present document.

- [1] ETSI TS 102 845: "User Group; Quality of ICT Services; Requirements and Method for checking Metering and Billing systems"
- [2] ISO/IEC CD 17065: "Conformity assessment - Requirements for certification bodies certifying products, processes and services".
- [3] ISO 19011: "Guidelines for quality and/or environmental management systems auditing".

2.2 Informative references

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] List of members of European Cooperation for Accreditation.
- [i.2] European Community regulation No 765/2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products and repealing Regulation (EEC) No 339/933.
- [i.3] ETSI TR 102 847: "User Group; Quality of ICT Services; Standardization and regulation references in the Metering and Billing area".
- [i.4] Directive 98/34/EC of the European Parliament and of the Council of 22 June 1998 Laying down a procedure for the provision of information in the field of technical standards and regulations and of rules on Information Society services.

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

accreditation body: organization that has the power to accredit a conformity assessment body

audit team: group of auditors appointed to provide conformity assessment of metering and billing system checking activities with a technical standard

auditor: person who is competent to carry out audits

billing verification body: organization that has skills and methods to conduct the checking-up on metering and billing processes of a service provider

NOTE: The Billing Verification Body can be internal (i.e. a department of the service provider) or external (i.e. a specialized company to which the service provider has outsourced the checking-up on metering and billing).

billing integrity principles: principles that must be fulfilled to state that the billing activity of a service provider is correct

checking-up on metering and billing: activities used to verify how strongly a service provider metering and billing activities complies with billing integrity principles

conformity assessment: activities concerned with determining directly or indirectly that relevant requirements are fulfilled in billing and metering checking

conformity assessment body: organization that has skills and methods to conduct conformity assessment audit of the metering and billing checking process of another party

customer: user who is responsible for payment for the electronic communication services

electronic communication: service that helps people communicate

independent observer: entity which can evidence two characteristics: independency and externality

NOTE: In the context of the present document, the independency clause means that the entity in charge of checking has some level of independence from the entity in charge of operating metering and billing within the service provider. The externality means that the checking entity does not have to understand all the complexity of the information systems and network components involved in the metering and billing of a service provider.

metering and billing: activity, within a service provider, which aims at charging a customer either by producing an invoice or by decreasing a prepaid account

service provider: organization that provides electronic communications services to users and customers

NOTE: The Service Provider conducts the metering and billing processes for its services.

tariff information: set of principles defined by a service provider to price the electronic communications it offers to its customers

NOTE: Tariff information includes the definition of unit price (price for a unit billed quantity) and valuation methods (set of mathematic methods allowing to transform raw quantities into a billed quantities).

tariff plan: set of principles defined by a service provider to price the electronic communications service it offers to one customer

NOTE: Tariff plan is a sub set of Tariff Information.

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

AB	Accreditation Body
BVB	Billing Verification Body
CAB	Conformity Assessment Body
EC	Electronic Communication
ICT	Information and Communications Technology
SP	Service Provider
SSEC	Stratified Sample of Electronic Communications

4 Approach for conformity assessment

4.1 Scope of conformity assessment

It is important to understand that the Conformity Assessment described in the present document is concerned with the compliance of the verification process with requirements described in document TS 102 845 [1].

NOTE: conformity assessment is not concerned with the way a service provider meters and bills its customers, but with the way a service provider verifies that it meters and bills correctly the electronic communications of its customers.

Figure 1 illustrate the different roles and actions of entities involved in the conformity assessment Process.

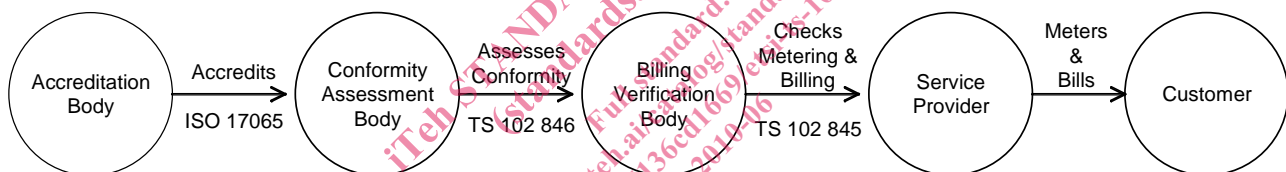


Figure 1: Role of Entities and Applicable Standards in Conformity Assessment of Metering and Billing

4.2 Types of conformity assessment

It is expected that some service providers may outsource the metering and billing checking to an external third party and that other service providers may insource the checking-up on metering and billing.

In order to address these two schemes, two types of conformity assessment have been defined:

- A) **External BVB** (Billing Verification Body). When an external BVB checks-up on metering and billing of several service providers, the conformity assessment of the BVB can be carried on the basis of methods used by the BVB and examples of service providers monitored by the BVB. This is called a type A conformity assessment.
- B) **Internal BVB**. When a service provider executes with its own means the checking-up on its own metering and billing processes, the conformity assessment is carried out on the basis of the process used to check metering and billing. This is called a type B conformity assessment.

With this flexible scheme, when a service provider wants to make stakeholders confident that the quality of his billing is checked according to the standard TS 102 845 [1], he will have the choice between:

- subcontracting the metering and billing checking-up process to an external BVB which has an up-to-date generic type A conformity assessment awarded by a CAB (Conformity Assessment Body); or
- executing by its own means the Metering and Billing Checking process and hiring a CAB to receive and update a specific type B conformity assessment.

NOTE: Type A conformity assessment is applicable only if the service provider has subcontracted to a BVB the totality of the checking-up process described in clause 7 of TS 102 845 [1]. In case of partial outsourcing, the service provider needs to look for a type B conformity assessment, even if its BVB owns a valid type A conformity assessment.

5 Audit scope

The team leader shall draft an audit and assessment plan as described in ISO 19011 [3] in accordance with the scope of the conformity assessment.

In case of type A conformity assessment, the BVB shall provide the audit team with the list of service providers it is involved with. From this list, the BVB shall provide several real checking process cases. The number of cases shall be significant. It shall consider at least the square root of the total number of monitored service providers, with a minimum of two cases. The cases examined by the audit team may be different for each requirement described in TS 102 845 [1].

In case of type B conformity assessment, the scope of conformity assessment shall be clearly defined in term of Tariff Plans (list of tariffs to be audited).

6 Audit team

The audit team may be composed by a sole or several auditors. Each of them shall be qualified by the party providing assessment of the checking process. In case of an audit team with several auditors, one shall be designed as the audit team leader. Auditor(s) shall have:

- secondary education or 7 years of professional experience;
- significant knowledge (in the field of or including) in statistics;
- knowledge in information and communications technology;
- basic knowledge of mechanisms for metering and billing systems.

The audit team leader shall have experience in audit as lead auditor as described in ISO 19011 [3].

Auditors shall maintain their qualification on an annual basis through active participation in assessment activities in checking process and updating knowledge in the relevant standards.

7 Audit activities

7.1 Overview

The activities of the audit are the following:

- 1) Initiating the audit.
- 2) Conducting document review.
- 3) Preparing for the on-site audit activities.
- 4) Conducting on-site audit activities.
- 5) Preparing, approving and distributing the audit report.
- 6) Preparing the audit report.
- 7) Approving and distributing the audit report.
- 8) Completing the audit.

- 9) Conducting audit follow-up.

Additional information about audit activities can be found in ISO 19011 [3].

7.2 Audit methods

Three types of audit methods are defined to assess the compliance of the Metering and Billing Checking process:

- Inquiry: interview of the personnel in charge of the checking-up on metering and billing systems.
- Examination: review of documentation, visual examination.
- Test: tests or computation of results.

In the case of a type A conformity Assessment, the verification shall be performed only on a limited subset of cases as explained in clause 5.

7.3 Assessment of independent observer status

The BVB who conducts the checking process shall employ sufficient and competent personnel to perform the checking process as described in TS 102 845 [1]. This staff shall have the following minimum skill, knowledge and competences:

- Specialist knowledge in statistics;
- Specialist knowledge in ICT;
- Specialist knowledge in Automated Robot Network Management;
- Specialist knowledge of Mechanism for metering and billing systems;
- Specialist knowledge in pricing.

"Specialist" means that the personnel shall have a specialized education.

Independency

The BVB shall demonstrate that conflicts of interest do not exist with the departments in charge of operating the billing within the service providers. In particular, they shall not be involved in the design or parametrization of the billing system.

Externality

For the checking-up, the BVB shall not have access to the internal parts of the processes and systems used for metering and billing services. In particular they should never used the parameters of the billing systems instead of the public tariff information.

7.4 Assessment of prerequisites

The auditors shall assess the efficiency of the method used by the BVB to check the conformity of prerequisites with each requirements stated in clause 6 of TS 102 845 [1]. Audit by the auditors shall assess the correctness, completeness and coherence of the examination by the BVB.

The following documents shall be provided as inputs for the assessment of prerequisites:

- a) list of every type of electronic communication offered by the service provider through the offers considered in the scope of conformity assessment;
- b) document providing definition of successful and unsuccessful status for every type of electronic communication;
- c) document providing definition of units;
- d) document providing definition of time of each electronic communication type;