



Asia-Pacific Telecommunity

**APT REPORT
ON
TYPE APPROVAL AND ITS CHALLENGES IN APT COUNTRIES**

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Introduction

Type Approval (TA) is a legal process to ensure that international and national standards and rules of design, construction, performance and immunity are properly met.

Basically, before equipment can undergo mass production, sale, import or export necessary approvals and TA certification should be obtained from the legal authorities. TA Certification is also necessary to ensure compatibility of use with local operator or service provider's network.

So in this regard, good quality and supporting compliance process are developed. Additional costs due to the lack of system incompatibility are also avoided.. But still there are challenges for which some are included in this report. The following is the experience of Iran in TA certification for ICT systems and equipment..

Definitions

Type Approval is defined as a process in which an equipment or systems is verified and if the minimum set of standards and predefined limitations of regulatory issues, performance, safety and security are met, a TA certification is granted.

TA Certification ensures that the system complies with specified standards and incompatibility problems in interworking and interoperability wouldn't arise after the entrance of the system to a network. The equipments that don't comply with the specified rules would fail in TA process, not obtaining certification.

Challenges in Type Approval process

1- Lack of national standards and technical regulations for new equipments

Recognising that most countries in the region aren't communication equipment and information technology manufacturers and just users, so in some cases pre-determined standards and criteria for such special equipments aren't available. Further there are problems in selecting and developing appropriate standards.

These problems can arise from:

- The inaccessibility to some resources and websites because of legal prohibition or financial problems
- Problems in correct interpretation of existing standards due to lack of technology or professional experts with experience in the subject
- Lack of dynamic and active mechanisms and processes for customization of standards to develop national standard

- At times the lack of uniform standards and regulations in different countries
- Absence of unity between the TA departments in different countries
- Disharmony of TA of different countries (except the existence of MRA)

2 - Test processes and procedures

- Lack of clear and uniform procedures and methods of systems and equipments' test
- Lack of precise TA processes
- Inaccessibility to laboratory test records of other countries
- The lack of documentation of available methods
- Lack of resources and lack of trained and experienced personnel and absence of the process of transferring knowledge to new staff
- Diversity of systems
- The necessity for classification of systems and tests
- The need for adequate resources, professional and experienced personnel in defining technical specifications and test procedures
- Need for regulatory support cooperation between the manufacturer and importer companies together with the institution performing the test and provide documentation of laboratory tests for the testing agency

3 – Issues related to test facilities (laboratories) and test equipment

- Shortage or lack of test equipments and the need for periodic calibration
- The necessity of creating new laboratories for specific tests
- High costs of building and setting up laboratory including laboratory space, test room equipped with protection for shielding, Grounding, acoustic, electrostatic, etc.
- High cost of maintenance, repair and calibration of test and measurement equipments
- Lack of High Tech measurement equipment and calibration departments in most countries
- Lack of companies representing the sell and repair services of test equipment in some countries and restrictions for sending equipments to repair shops of regional companies
- Usually softwares are designed in different environments and sometimes for different operating systems therefore verifying softwares requires so much time and energy

4 - The costs of technical verifications and tests

- Financial issues related to supplying test costs (Who is responsible to pay fees?)
- Inability of small companies to support the expensive prices of TA certification
- Lack of clear and uniform tariffs for test of systems in different countries
- Failure by most laboratories to provide detailed reports to the test applicant;
In most cases the test report is sent directly to the regulator and the possibility for reapplying is not considered for the applicant and the extra expenses is borne by the applicant as many times as the application is done and the test is reviewed
- High wage of high-educated personnel working in laboratories
- High cost of training on new equipment for professional staff

5 - TA issues from the perspective of the regulatory

- The necessity of a precise definition of TA process and its differences in different countries
- Long process of TA due to the lack of laboratory facilities, inadequate resources or lack of serious support to the regulator on TA matters
- Need for stronger and serious TA regulation on imports and purchases and tenders
- Setting the treaty and mutual recognize agreement (MRA) between regulators in different countries
- Setting the treaty and mutual recognize agreement (MRA) between laboratories in different countries in coordination with and support of regulators
- Non-uniform process for accreditation laboratories in different countries
- With regards to TA process and in cases when installing the equipment in the network leads to problems such as excessive unforeseen traffic and software bugs that would have legal consequences it is necessary to clarify who is accountable (the applicant or regulator?)

An example of practical experience regarding the process of TA¹

- Submitting the applicant's request (manufacturer / importer) to regulator and announcing readiness to tests and requesting confirmation (TA) and filling declaration form by the applicant and accepting related responsibilities
- Transferring the request by the regulator to test body(Laboratory)

¹ . challenges discussed above are have been arisen from the above experience

- Sending invitation letter to the applicant to introduce his system and provide technical documents and preliminary laboratory tests reports conducted by the manufacturer
- Primary investigation of system documents by test and measurement department
- Providing necessary test sheets
- Preliminary laboratory tests of performance
- Environmental test equipment for ability to work in different situations
- Test of the safety, security, and electromagnetic compatibility (EMC) for some devices that produce electromagnetic waves
- Installing pilot system in cooperation with and approval of field operators
- Field tests in different climatic conditions if necessary
- Getting feedback and report of performance of systems under load

Conclusion and Suggestion

Here we have some suggestion in form of questions:

- 1- Considering the limited resources and high costs of establishing test and measurement laboratories, can a number of labs be accredited by an observer of the ITU that all countries (or countries that don't have standard laboratories) accept the results and records for granting TA?
- 2- Is it sensible for all countries to independently establish well equipped test laboratories or it is possible that some countries jointly act together as a region and share experiences and investments for establishing regional laboratories and even create informational useful web sites for sharing information and experiences?
- 3- Is there any possibility for various countries to make use of regional calibration stations?
- 4- Should all countries have laboratories for all different kinds of performance, protocol, Electromagnetic emissions compatibility, protection, physical functionality, etc. tests or each country can do specialized tests in a particular field or a group of fields and an aggregated report of their measurements is issued as a final regional certification?
- 5- Can we define the mechanisms for using world leading laboratories and institutions issuing TA so that the costs of measurements and verifications done by these institution for manufacturers of some low-income and developing countries includes some special discounts and even in some cases to be done for free?

6- Is there possibility for use of ITU consultant for technical advice, offering solutions and proposing regulatory mechanism and process for some countries (especially developing countries) ?