Enforcement Subcommittee Recommendations

November 17, 2017

Enforcement

1. What options do you see for making enforcement more robust, including by increasing automation to prevent interference, and to identify and respond to interference when it does occur in the near or longer term?
2. What are the principal technical and operational options for enabling automated enforcement, at both the network and device levels, and how would you address cybersecurity and privacy requirements? Please consider, among others, options related to: station IDs; data cloud/fog architectures; and crowd-sourcing.
3. What options for automated enforcement are unique to the development and deployment of 5G technologies/applications?
4. What steps do you recommend the Federal Government, specifically NTIA, take to implement automated enforcement processes? What steps will the private sector need to take? Please consider steps relating to technical, process and policy issues, including potential operator-to-operator coordination approaches?

Red denotes topics not addressed

Subcommittee Members

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Findings

- Most companies hire consultants to locate and identify interference
- When considering automated enforcement, there are three types of interference – Intra-system, Proximate and Widespread
- Automated systems today are relatively primitive
- Next generation wireless systems - 5G - are providing challenges
- Modern spectrum use trends are such that many services utilize a number of separate bands

Recommendation 1

Automation with regard to enforcement is not a panacea. Manual investigations will continue to be needed for the foreseeable future.

NTIA should continue to establish and encourage capabilities and processes in order to someday more fully enable automated enforcement systems.

Recommendation 2

NTIA should develop a standard for interference detection, classification, logging, and report generation software capabilities that could be mandated, when practical, for insertion within radios that share spectrum with federal systems.

This should include the development of a machine-readable report standard for interference detection results, classification results and logging.

Recommendation 3

NTIA should investigate the establishment of an information sharing program/database of experiences of discovering and identifying interference. This would help enable automated identification of interference sources.

NTIA should investigate who would pay for and who would operate the 5G enforcement activity.

Recommendation 4

NTIA should analyze the different enforcement process stages to determine the automation approaches and the costs/benefits of automation at each stage.

Subsequently, NTIA should develop an automated enforcement architecture for shared spectral bands.

Recommendation 5

NTIA may wish to further study some fundamental questions that would need to be addressed if automated enforcement were to be broadly deployed …

- How is interference/harmful interference defined?
- How are externally-generated forms of interference detected and handled?
- How does handling externally-generated interference differ from unintentional interference?
- How are externally-generated unintentional forms of interference detected and handled?
- For formal interference actions, what evidence should be collected and how are “chain of custody” issues associated with that evidence maintained?
- The extent to which SASs or the system technology that they have developed may be utilized in the future to participate in automated enforcement activities will require defining their participatory role and responsibilities.

Questions and Comments?