Next Generation 911 (NG911) Conformance Testing

The migration to NG911 will bring tremendous improvements in 911 service delivery functionality and will provide a more resilient and reliable system for the public and emergency responders. Important to a successful migration is the development of uniform standards and the adoption of those standards by vendors offering products and service to 911 Authorities. While still evolving, these standards are the foundation upon which all stakeholders depend. They ensure that different components interoperate within the NG911 system being implemented, and customers rely on adherence to standards to ensure interoperability with adjacent jurisdictions that have migrated to NG911.

Vendors providing NG911 products and services have developed appropriate testing programs to ensure interoperability of the components they provide. Many have extended their testing to products from other vendors that are procured at the same time, as part of a customer solution.   Investments in these internal testing programs are considerable. However, internal testing has its limitations. For example, not all components are tested against an agreed-to baseline and some small vendors may not have the opportunity to test with larger vendors. Some of these limitations can be addressed through the creation of a formalized testing program, however, the addition of such a program will carry incremental costs.

iCERT supports testing of NG911 solutions as a means to demonstrate conformance to standards, promote interoperability, and instill confidence that NG911 will work as intended. iCERT's recently-released white paper, *The Critical Role of Testing to Achieve and Maintain NG911 Interoperability,* covers several types of testing including NG911 conformance testing, interoperability testing, end-to-end testing, performance testing, and life cycle testing. iCERT member companies support all testing that improves multi-vendor interoperability, which would facilitate the implementation of NG911 systems. In particular, the iCERT paper concludes that NG911 conformance testing is an important first step in a testing regime that builds consumer confidence in an interoperable NG911 environment. **As such, iCERT supports the development of a Formalized NG911 Conformance Testing Program** based on the following recommendations.

iCERT Recommendations for any Formalized NG911 Conformance Testing Program

The list of recommendations provided here cover a wide variety of topics that iCERT believes are important to any NG911 testing program. However, there may be other important issues that were not considered. Consequently, this recommendation should not be viewed as an endorsement of any particular conformance testing program, as iCERT's support for such a program would depend on a variety of operational and financial factors.

Program Governance:
- A governance body with oversight for NG911 conformance testing should be established as an initial step in the development of a formal testing program, and inclusion of iCERT would ensure that industry input is incorporated into the test development process.

- The governance body should ensure that the NG911 conformance testing program focuses on interfaces that provide the greatest benefit as compared to associated costs.

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- The governance body should have responsibility for creating and monitoring a financial model for the program that is rational and sustainable over the long term and minimizes costs for vendors as well as the testing entity.

- The governance body should make sure that testing is equally accessible and affordable for all vendors regardless of size, as this will ensure innovation has the greatest chance of success.

- The governance body should be responsible for focusing the conformance testing program on areas that this type of testing is best suited to address and recommend other types of testing where appropriate.

NG911 Conformance Testing Program Characteristics:

- The program should be a consistent, trusted, open, and independent process for performing conformance testing against the existing standards.

- Conformance testing should be performed by an independent testing entity.

- The program should be on-going enabling validation of conformance as standards and technology platforms evolve.

- Any conformance testing process should align with NG911 standards that:

    o are promulgated by an accredited Standards Development Organization (SDO);
    o are non-proprietary, open, and consensus-based; and
    o support the continued evolution of the standards into the future.

- Testing should apply a proven, replicable, and collaborative methodology based on real-world scenarios, use cases, and resulting documented test cases.

- Considerations should be made to enable automated testing by vendors that can be done on or from a vendor site.

- Conformance testing should be strictly focused on testing conformance to currently accepted and agreed-upon standards, e.g., the current version of the NENA i3 standard.

- Vendor participation in the conformance testing program should be voluntary. iCERT believes that a voluntary conformance testing program will produce the highest level of participation among technology/service providers and emergency services organizations.

- Conformance testing results should be Pass/Fail with results provided to 911 Authorities in a format such as i3VersionX – Company – Pass/Fail – Date. The test result composition needed to generate a "Pass" result should be determined by the governance body.

- Funding for the program should come from a neutral source.

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About the Industry Council for Emergency Response Technologies (iCERT)

The Industry Council for Emergency Response Technologies ("iCERT") is the voice of commercial enterprises in the field of critical communications and emergency response software and technologies. iCERT plays an important role in addressing public policy issues impacting funding, regulation, and impact of vendors in the emergency calling, communications, and response ecosystem. iCERT members understand that business leaders' expertise can assist public policymakers and agency professionals as they address complex choices regarding advanced communications technology alternatives.

Find out more at: www.theindustrycouncil.org.