RF Upstream Characterization Service

ARRIS Global Services

SERVICE BENEFITS:

The ARRIS RF Upstream Characterization Service provides benefits in the areas of:

- CapEx planning – allows operators to identify areas where capacity is at limit and plan expansion for the implementation of DOCSIS 2.0/3.0
- Customer satisfaction – identifies defective quality paths in the network, that, once fixed, can improve the subscriber's quality of experience
- Carrying capacity – implemented recommendations can result in improved upstream capacity

SERVICE OVERVIEW:

Technology evolution always brings new investment and performance challenges. Rolling out the bonded channel technology of DOCSIS 3.0 – particularly in the return path – raises challenges associated with maximizing bandwidth efficiency in the noise-encumbered lower reaches of the RF spectrum. Defective quality paths and existing capacity limitations cause quality of service problems and can result in service downtime. Deciding where to invest a limited CapEx budget is not an easy task.

The ARRIS RF Upstream Characterization Service provides a careful analysis of the cable operator's return path dynamics across multiple parameters. This characterization determines capacity potential so as to allow operators to plan for optimal results when bonding upstream channels. This service assists cable operators in making a smooth migration to DOCSIS 2.0/3.0. ARRIS provides experienced personnel, tools, and processes to perform a characterization that focuses on the performance of key network elements on a HFC network.

Services Deliverables

The deliverable of this characterization will be a report detailing the health of the nodes being analyzed plus recommended actions to take on the findings. The ARRIS expert staff will perform an analysis in some or all of the following areas, depending on the needs of the customer:

- Impediments including microreflections and ingress noise
- FEC statistics and CMTS Equalized Modulation Error Ratio (EQ-MER)
- Return transmitter type and performance with respect to second- and third-order non-linearities QAM levels being used
- Return path performance metrics relevant to the application of the capacity-enhancing specifications of DOCSIS 2.0
- Amplifier cascade lengths
- Dynamic system range of cable modems

ARRIS will provide the necessary on-site equipment to perform the analysis, including but not limited to the Agilent MXA Series Vector Signal Analyzer, RF Matrix Switch, and laptop computers. Depending on the agreed-upon analysis required, additional CATV Analyzers, Diagnostic Cable Modems, and BSR CMTS may also be used for the analysis.

Assumptions and Prerequisites

This list of assumptions and pre-requisites is not intended to be exhaustive. Prior to the commencement of services, ARRIS will inform the customer of any additional responsibilities necessary for the performance of the services.

Assumptions

- ARRIS and the customer will provide a single point of contact for the project
- ARRIS will provide services only for the work described in the agreed-upon Statement of Work
- ARRIS and the customer will agree upon a set of nodes to be analyzed and a level of detail to which the nodes will be analyzed

Prerequisites

The Customer will:

- Work with the ARRIS Account Manager to determine the type of characterization that ARRIS will be contracted to perform and the number of nodes and locations on which the characterization will be performed.
- Provide the necessary access and personnel to connect equipment to the nodes being analyzed if any of the agreed-upon analyses require work in the field.
- Provide all necessary documentation, including, but not limited to, network diagrams and amplifier types in use and their specifications.
- Provide remote connectivity access from the ARRIS on-site laptops to the Internet.

RF Upstream Characterization Service

To order these services, contact your sales representative.

ORDERING INFORMATION

Part Number	Description
476666-111-00	RF Upstream Characterization Service