

Downstream Service

ARRIS Global Services

SERVICE BENEFITS:

- Enable rapid solutions deployment
- Expand downstream OOB network capacity to support interactive applications
- Improve capability to increase revenue by addressing local needs
- Provide expert knowledge and capabilities to programmatically perform the OM and DSP Split Services
- Execute deployment more efficiently
- Improve network performance
- Provide 75 years of video experience
- Offer proven methodology and track record of deployment
- Provide space, power, cooling, racking and stacking for the equipment necessary for integration and to have that same equipment prepared, prior to the start of the project



SERVICE OVERVIEW:

The ARRIS Out-of-Band Modulator (OM) Split and Downstream Plant (DSP) Split Services enable cable operators to prepare for network expansion in support of new service offerings.

New interactive applications such as SDV can add significant Out-of-Band (OOB) data traffic to existing cable networks. Cable operators need a solution to prepare their networks to meet the additional OOB traffic load. Two service options exist to expand downstream capacity. They are:

1. Downstream Plant Split Services—Splitting one Downstream plant (DSP) into two separate paths and configuring components of the new plant, including the deployment of an additional Network Controller (NC), Out-of-Band Modulator (OM) and reconfiguration of existing Return Path Demodulators (RPDs) and Advanced Return Path Demodulators (ARPDs).
 2. Out-of-Band Modulator (OM) Split Services—Deployment of additional OMs in a “Master-Slave” configuration. OM Split Services minimize changes to the Digital Addressable Controllers (DACs) and require no new Downstream Plant, thus significantly reducing the time needed to deploy. The configuration is dependent on multicasting (RADD to OM, OM to OM) being enabled prior to deployment.
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ARRIS leverages its expert knowledge and experience in digital video to ensure the OM and DSP Split Services are planned, tested, executed, and validated prior to completion and acceptance test.

Services Deliverables - Downstream Plant Split Services

Executing a downstream plant with minimal system downtime and the greatest cost efficiencies Downstream Plant Split requires coordinating the efforts of both ARRIS and customer personnel.

Based on the assumptions and prerequisites noted below, ARRIS will:

- Provide project leadership and coordinate project activities, including:
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 - Create and maintain a project plan jointly with the customer's project management team
 - Create a detailed cutover procedure in cooperation with the customer
 - Track and report weekly on status and action items
 - Identify risk items and mitigation strategies
- Perform all pre-implementation planning and configuration:
 - Verify completion of all requirements of the VOD vendor and the customer for installation
 - Review and approve the customer's design for the new downstream plant and VOD system
 - Configure the components of the new plant, including the upstream and downstream plants, Network Controller (NC), and Out-of-Band Modulator (OM)
 - Configure existing Return Path Demodulators (RPDs) and Advanced Return Path Demodulators (ARPDs)
 - Update the SmartStream Device Manager (SDM) with the new configurations
 - Perform initial testing
- Execute all tasks associated with the split:
 - Reconfigure the components
 - Monitor the new configurations to verify functionality with NCs, OMs, RPDs, ARPDs, and VOD
- Conduct acceptance testing and review the results upon completion

Assumptions and Prerequisites

This list of assumptions and pre-requisites is not intended to be exhaustive. Prior to the commencement of services and thereafter, 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 personnel will have the required access to customer resources, including billing and other systems as appropriate, headend components, fiber transmitters, routers, and switches
- Customer resources will be available on a timely basis
- ARRIS will provide services only for the work described above. Other issues should be handled through normal escalation methods

Prerequisites

The customer will:

- Provide a list of contacts, including the technical leads, for each critical department
- Ensure that all equipment required for the split is racked and cabled
- Ensure that all VOD equipment is in place and that VOD services are ready for the split
- Ensure that VOD, the Electronic Program Guide (EPG) vendor, and VOD services launched to digital set-top boxes (STBs) have been verified by Acadia
- Provide the final design and documentation for the VOD system and headend
- Provide IP addresses and routing information for provisioning headend equipment
- Provide Electronics Industry Association (EIA) channels on the physical plant, and ensure that they are clear and available at the time of integration
- Support all post-split testing of digital STBs, data providers, queuing devices, headend equipment, etc.

Services Deliverables - Out-of-Band Modulator Split Services

The OM Split Services execution requires the coordinated support of ARRIS personnel, customer site Digital Addressable Controllers (DAC) personnel, and customer network personnel. Based on the assumptions and prerequisites noted below, ARRIS will:

- Confirm that the customer's network matches information from preliminary questionnaires and resolve discrepancies.
- Provide project leadership and coordinate project activities, including:
 - Create and maintain a project plan jointly with the customer's project management team
 - Create detailed cutover procedure in cooperation with the customer
 - Align roles, responsibilities, and exit criteria with the customer
- Verify readiness of the network, including:
 - Verify completion of all of the customer's requirements necessary for the installation
 - Perform a backup of the DAC database and host file and current OM and NC configuration files
 - Select "Master" OM to be split and add up to 9 "Slave" OM Internet Protocol (IP) addresses
- Execute Out-of-Band Modulator Split:
 - Configuration of single "Master" OM and up to 9 "Slave" OMs
 - NC re-configuration
 - DAC Host file update
 - Enable RADD for multicasting
- Conduct acceptance test and review results upon completion.

Assumptions and Prerequisites

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

Assumptions

- ARRIS and Customer will provide a single point of contact for the project.
- ARRIS will provide services only for the work described above. Other issues should be handled through normal escalation methods.
- The "Master" OMs and "Slave" OMs to be split are co-located.

Prerequisites

The customer will:

- Provide access and support for all billing interface, headend networks, fiber transmitters, routers and switches
- Provide space, power, cooling, racking and stacking for the equipment necessary for integration and to have that same equipment prepared, prior to the start of the project
- Wire and terminate all cables associated with this project
- Ensure that routers support multicast and that RADD and OMs are on the same network segment (common network switch)
- Provide multicast addresses for configuration
- Ensure availability of a span port on the router for multicast testing
- Ensure completion and availability of Network/System Design prior to execution
- Ensure availability of OMs and spares at the work location prior to the start of the reconfiguration
- Ensure Emergency Alert System (EAS) system must be capable of feeding the newly added OMs
- Ensure Guide source has a transmit multicast address and User Datagram Protocol (UDP)



ARRIS Global Services Values

Accelerate time to market:

Stay competitive with rapid deployment of new services

Reduce costs:

Contain costs on deployment, integration, and support

Maximize revenue and profits:

Optimize operations, ensure service quality, increase customer loyalty, grow revenue and profit margins

Why ARRIS ?

Multi-technology experience that is unique in the industry:

ARRIS has designed, delivered, and optimized end-to-end network solutions for service providers.

Flexible business model and approach:

ARRIS can build a customized operations solution for virtually any network operations requirement.

World-class support:

ARRIS provides support from committed and highly trained, experienced professionals, complete with state-of-the-art local support centers, test labs, and repair depots.

Voice, Data, and Video Technology leadership:

ARRIS has a wealth of experience and expertise in introducing and operating new technology network systems.

Downstream Services

To order these services, contact your sales representative.

ORDERING INFORMATION

| Part Number | Description |
|---------------|--|
| 476666-048-00 | DOWNSTREAM PLANT (DSP) SPLIT SERVICES |
| 476666-072-00 | OUT-OF-BAND MODULATOR (OM) SPLIT SERVICES |

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