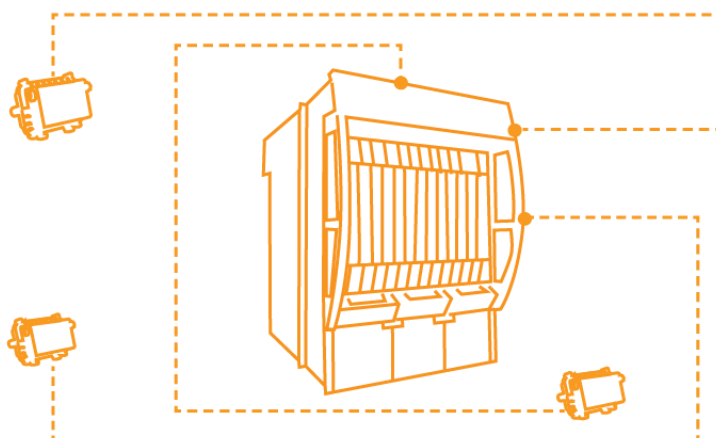


Distributed Access Architecture Services Suite

Professional Services

BENEFITS

- Leverage ARRIS expertise for seamless upgrades
- Assurance of highest quality
- Timely management of resources and materials
- Focus staff on business as usual
- Manage execution across multiple sites to mitigate risks and ensure success



SERVICE OVERVIEW

As the newest step in the continuing evolution towards an all-digital headend, Distributed Access Architecture (DAA) extends the digital portion of the headend/hub domain out to the fiber optic node and places the digital/RF interface at the optical/coax boundary. This strategic move offers many benefits, including increased bandwidth capacity, improved fiber efficiencies (wavelengths and distance), simplified plant operations with digital optics, decreased loads on facility space and power systems, and directional alignment with FTTx systems of the future.

Implementing DAA involves installing Remote PHY Devices (RPD's) in ARRIS form-fitting nodes, supported by a Gen 2 E6000 chassis acting as an electronic Core (eCore.) Managing this deployment across many headends and dozens or hundreds of nodes is a time-consuming, potentially service-affecting activity that must be approached with careful planning and execution.

With decades of experience, ARRIS Professional Services can help cable operators plan, design, implement and operate the changes required in their network to achieve a flexible, sustainable network. ARRIS's skilled Project Managers, Deployment Engineers and Technicians can manage and execute the transition to DAA, allowing cable operator personnel to stay focused on business as usual.

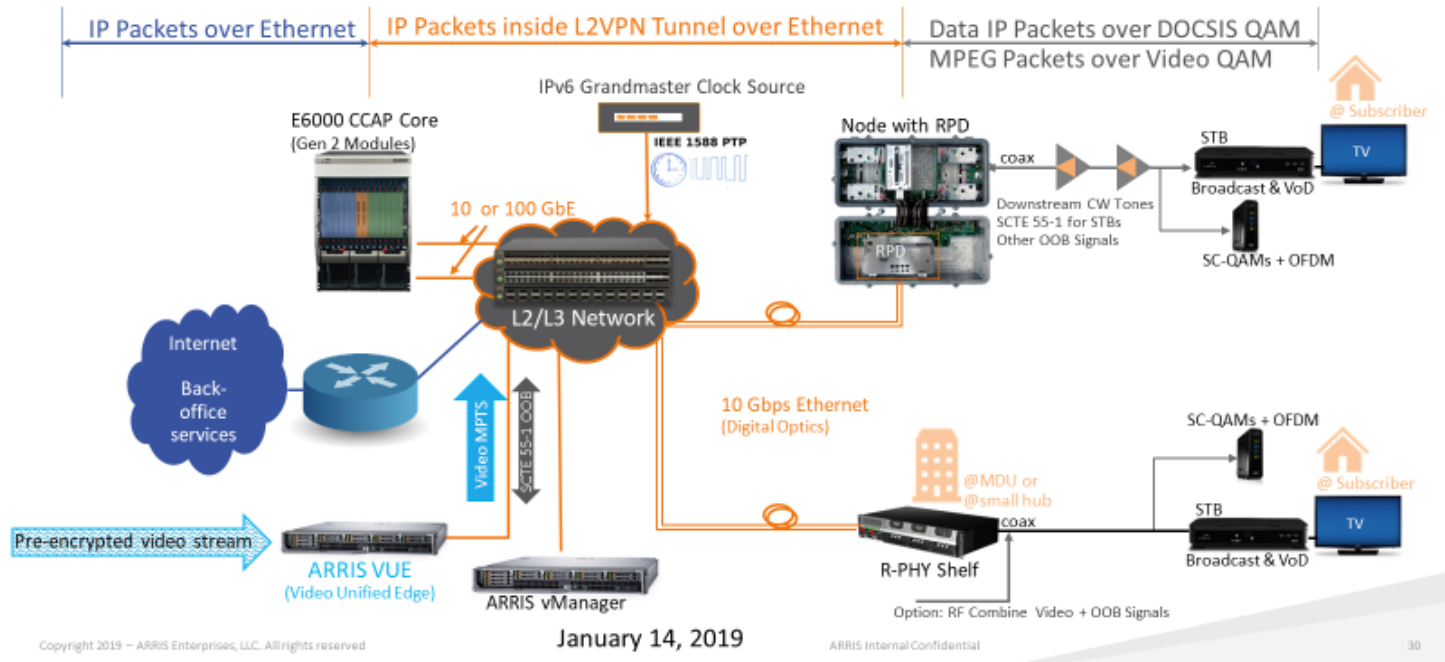
Four Categories of ARRIS DAA Services Suite

Distributed Access Architectures impact the Core and Edge Network by changing the functionality of the Core and moving some functions to the Edge, closer to the Aggregation Network where the connection between the edge and outside plant occurs, and the Access Network where services are delivered to the customer. ARRIS has arranged its DAA Services Suite to align with these three network segments. In addition, ARRIS offers services that cut across the entire network project.

Core/Edge Services	Description
Site Audit and Documentation	Review and updating of existing site-specific physical data required for the design and integration of the ARRIS E6000™ eCore integration.
Market Templates / Golden Configuration / Operator Guideline	Create golden configuration to be applied to the eCore based on existing CMTS and other operator supplied data. Contains information such as SNMP, TOD, NTP and provisioning servers, user accounts, access control lists, and service classifiers.
Site Survey	Review existing infrastructure to understand changes that need to be made to support DAA.
Engineering Design Plans	Create detailed design and wiring plan to document how to install the new products into the operator head end.
Site Specific eCore Configuration	Create site specific configurations on a per eCore basis utilizing information from the node combining plan, other operator supplied data and/or existing CMTS configuration data.
eCore Installation/ Upgrade Service	The eCore Installation/Upgrade Services cover the physical actions of racking and stacking a new chassis or performing a HW/SW upgrade to an existing chassis.
eCore Commissioning + Advanced SG testing	Brings the powered up eCore to a minimal state of operational readiness, and ready for a site specific configuration to be applied.
Maintenance Window Migration Services	Assist with the integration of the new eCore and DAAS network with optional onsite/remote eCore Engineer.
Installation, Configuration, Wiring, Powering plans, Upgrades and Deployment	Services available for third party and ARRIS products including: R-Phy, VUE, vManager / RPD Manager, Video Topology Manager, vCore, eCore, vCMTS, E6000 CCAP, E6000 Gen2
OSS/BSS Integration	Ensure that the Orchestration systems (vManager, RPD Manager, Video Topology Manager) integrate with back office systems.
RPD/vCore Integration	Integrate RPD and vCore to ensure provisioning and all functions and features are enabled.
RF Recombining	Services cover the physical actions of wiring to support the new RF Combining network for migration to the new DAA architecture.

Aggregation Network Services	Description
DAAS Fanout + Mux /DeMux Wiring Plan	Create a DAAS Fanout and Mux/DeMux Wiring Plan based on desired number of deployed RPDs and bandwidth requirements. Will show the network interconnections between the Spine and Leaf switches and between the Leaf switches and Optical Mux/DeMux devices.
DAAS Network Install and Mux Cabling	Installation and cabling of Spine and Leaf switches and optical Mux/DeMux to support eCore functionality.
Engineering Design Plans	Create detailed design and wiring plan to document how to install the new products into the operators head end.
Server Installation and Integration (Leaf and Spine, Timing, RPD DHCP v6)	Services cover the physical actions of racking and stacking a new chassis or performing a HW/SW upgrade to an existing chassis.
Server Integration (Leaf and Spine, Timing, RPD DHCP v6)	Services cover the logical actions of configuration / integration of the servers required in the Aggregation Network.

Access Network Services	Description
OSP Design	Design new elements being added to the network as part of the DAA architecture.
OSP Walkout/Survey	Services to document the Outside Plant as input to the Design process and/or provide As-Builts.
Fiber Characterization & Documentation	Using industry leading analysis tools, we document the physical and logical attributes of each fiber span, measure the quality and continuity of fiber routes from end to end and coordinate with internal resources and external vendors to ensure remediation of any issues found. We also create and maintain documented route and span drawings to help improve efficiency and future serviceability.
ROI and Cost Estimation	Assist operator in determining the Return on Investment and/or Cost Estimates when utilizing the new DAA architecture.
Permitting and Right of Way Engineering	Conduct program activities relating to obtaining permits and right of way required for the DAA project.
RPHY Device/Node Installation Services	Installation of a Remote PHY Device (RPD) into an existing deployed node or the installation of a form fitting node with the existing RPD.



End-to-End Services	Description
Network Evolution Consulting	Expertise, processes and tools to consult on, analyze and plan for network bandwidth capacity. It results in specific architectural and equipment recommendations.
Program Management	The ARRIS Program Management Office establishes governance practices for your project, manages communications between teams, and works with third-party vendors to smooth the integration process, deployment and support. The PM maintains complete, end-to-end control of your solution, from concept to launch with focus on delivering on schedule and on budget.
Construction Management	Construction partner selection, training and management to deliver the whole project.
Multi-Domain Orchestration	Create an overlay of automation that works with device-specific orchestrators or management tools to streamline the activation and management of the DAA network as a whole.
Materials Management & Logistics	Manage the supply chain process to ensure that the required materials are procured, stored, and delivered to the areas needed to complete the work.
Quality Assurance & Testing	Conduct activities to ensure the work being done to support DAA is correct and provides the expected results.
Post Migration – Decommissioning	Logical and physical decommissioning including de-racking, removal, packaging, inventory, testing, reporting, salvage and/or redeployment of equipment + cabling.