



AVIAT NETWORKS

MICROWAVE AND IP/MPLS SERVICES— BETTER TOGETHER



THE CHALLENGE

Moving to all-IP networks is proving to be the right solution when addressing new requirements of any business such as scaling the network infrastructure and introducing new applications. For small, medium and large Enterprises, it is the need to carry new applications and data streams – voice, video, rich media – that highlight a host of new risks and security requirements that need to be managed. For network operators, it's more wireless capacity or investing in advanced 3G/HSPA mobile broadband services and/or deploying 4G/ LTE networks. IP networks inherently are not predictable when it comes to guaranteeing delivery of traffic, nor can security and resiliency be taken for granted. When migrating from legacy environments such as TDM to IP, functionality and predictability around QoS, Security and Resiliency have to be carefully built into the design.

Using MPLS we can have a solution designed to provide predictable circuit behavior within IP networks. MPLS allows you to have multiple virtualized networks - securely segmenting multiple organizations, services and applications within a single network infrastructure.

PLANNING YOUR JOURNEY

Our desired outcome is obviously having one network infrastructure but multiple virtualized networks. Each of these networks has their own QoS requirements, unique user and security requirements. Every network potentially has defined what their most important application is and what else they need to carry.

So when planning a migration to IP/MPLS networks, we need to go through a planning process where we analyze and assess the current requirements. Typical steps involved in gathering requirements include:

- Knowing and maintaining the current network boundaries
- Evaluating security zones; user functions
- Evaluating traffic separation requirements
- Evaluating compliance requirements, such as HIPAA, Sarbanes-Oxley, NERC CIP, PCI
- Defining management and ownership of applications and networks

Then there are quite a few decisions to be taken. Typical decision points involve:

- Choice of routing protocols including choice of IGP
- Decision on convergence behavior and acceptable convergence timings for each part of your network
- Choice of traffic engineering mechanisms and related protocols – LDP, FRR, RSVP, BFD etc.

Managing these tasks while implementing a seamless change requires the experience and expertise of many talented individuals backed by the knowledge and best practices of how this has been done before. From a technology perspective, migrating from TDM technology to an all-IP infrastructure of the future requires a strong understanding of the existing microwave wireless infrastructure technologies supplemented with working knowledge of IP/MPLS and security technologies to provide a complete end-to-end solution.

Your design and operations teams need a smooth transformation in understanding the new technologies while managing their day jobs. Partnering with a vendor who has the collective experience of managing these migrations over multiple installations will not only help you get to market faster but ensure a low risk project plus timely and efficient knowledge transfer.

If you manage this change using your existing resources, it means significant investments in:

Advanced training for staff on process and technology – taking them away from their day jobs

Staffing increases to meet round-the-clock and rapid deployment expectations of the business

Managing vendors and partners to meet multiple service expectations

Implementing security requirements to ensure the new network is safer and better

SOLUTION: ENGAGE AVIAT EXPERTS FOR COMBINED IP NETWORKING AND MICROWAVE LIFECYCLE SERVICES

Aviat Networks provides a complete product portfolio of wireless solutions to minimize the risk and cost of migrating backhaul networks from today's TDM technology to the all-IP/MPLS infrastructure of the future.

Aviat's advanced mobile backhaul solutions provide flexible support for all forms of TDM, Hybrid, and All-IP backhaul, supporting high capacity, superior network resilience, advanced Ethernet networking and synchronization, and a host of other related features.

Aviat's product portfolio strength is supplemented by a qualified team of migration experts (i.e. with an extensive background in IP networking AND microwave technologies) who specialize in the successful implementation of life-cycle services for a converged Microwave-IP/MPLS solution.

These life-cycle services start at the beginning of your project—from Planning and Assessing your business and technical requirements, DESIGNING your network, rapid implementation DEPLOYMENT and ongoing maintenance and optimization CARE. We do all this while ensuring your investment in the existing infrastructure is safe and your new investments are deployed in the shortest time. Additionally, we take care to ensure the new infrastructure is secure and optimized to deliver on the business and technical goals of your organization.



IP SERVICES BUILDING BLOCKS – THE OFFERING

Aviat Networks’ provides a very flexible approach to meet your organization’s requirements for migrating to IP technologies. Our staff’s expertise is available to help you assess, design, deploy, install and maintain all aspects of any complex project. These services can be treated as building blocks that can be engaged at any phase depending on when and how you want our experts engaged on the project.



AVIATPLAN SERVICES

The first step towards implementing any network change is to have a sound understanding of your current network baseline and mapping that information to the future business as well as technical goals for your organization.

Aviat Networks provides a broad array of Migration Assessment Services that will help in establishing this baseline in terms of IP performance, security and resiliency. Each of the Migration Assessment Services offerings provides a thorough audit of existing check points and sets the stage for dialogue on improvements that need to be part of the upcoming design.

Our Migration Assessment Services include the following steps:

- **Data collection:** Detailed information is gathered by interacting with key architects, and owners of your technical and business requirements.
- **Analysis:** Our expert consultants will map the data collected and run it through our list of best practices and check points.
- **Recommendations and Readout:** A detailed assessment report documenting the findings will be presented. Each finding is supplemented with recommendations that can be used by customers in fine tuning their requirements or input to the upcoming high level design.

Examples of Migration Assessment Services include:

- TDM to IP/MPLS migration assessment
- IPv6 Readiness assessment
- Network management and process engineering assessment
- End-to-End IP QoS assessment
- IP/Ethernet Backhaul assessment



AVIATDESIGN SERVICES

Network Design and Engineering Services organizes the approach to Network Design, by creating new plans, or take existing plans and assessments, and complete or convert them into tangible, actionable plan for the utilization of equipment and resources.

High-Level Design

Establishing the business and technical requirements of an organization is the key to implementing a successful network change. The High-Level Design service builds a level of communication with your business and technical team owners to assess requirements. From there our team of experts will build a physical and logical topology that will deliver on those requirements. A high-level design document with the proposed topology, protocols and QoS approach used along with detailed recommendations and guidelines for devices and connectivity will be delivered to the customer.

High-Level Design Review

If you have a team that has already built a high-level design, then engaging Aviat Networks experts to review the design may be the right approach for you. This High-Level Design Review service involves a workshop to review and understand the plan of record design document. Based on our experience across a broad range of customers and network topologies we will bring best practice recommendations to your internal process. Our experts will work with your team to verify the design will deliver on the proposed business and technical goals. Lastly we will provide a level of recommendations across people, process, and tools which will aid you in addressing any enhancements the project may require.

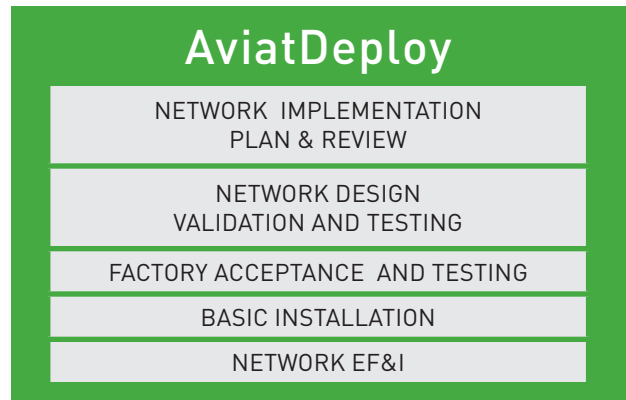
Detailed Design

Detailed Design service helps the customer get clear guidance on the detailed design necessary to implement the defined solution. This includes a verification workshop

where Aviat experts will work with the customer to review any previously defined High-Level Design Document. This is primarily focused on understanding the context and content from the High level Design that must be incorporated into the next level of detail. It is this next level of detail that Aviat Networks will provide. From our work with the existing design plus our ability to bring 50 plus years of experience to implementing complex, wireless networks customer is assured of getting the most from that next level of detail. This Detailed Design Document is then generated that provides detailed network topology, addressing, protocol design and network device configurations. Additional guidance on high availability, manageability, scalability and security policy are part of the recommendations provided. All of this is built on our extensive experience doing these types of projects on a global basis for all categories of customers.

Detailed Design Review

If your teams have already developed a Detailed Design Document, we recommend engaging Aviat Networks teams to review the details and provide guidance. Aviat brings experts with an in-depth understanding of latest designs along with the experience of identifying any risks involved. It's your best bet to getting clear guidance on the detailed design and ensures the stated business and technical goals will be met without costly rework at a later stage. Take advantage of our extensive knowledge and experience in this area by letting us provide best in class approaches to solving real problems with your Detail Design package. It is just another way Aviat Networks can help you redefine how you implement industry leading solutions.



AVIATDEPLOY SERVICES

This category of Service collects both the factory-based services and the on-site services.

Network Implementation Plan

A major step in ensuring a smooth network change is to have a detailed plan that outlines process steps, tasks, milestones and roles and responsibilities for the teams and individuals involved. The Network Implementation Plan service provides you with expert project planners who review the High-Level Design and Detailed Design and prepare a Network Implementation Plan document that will implement the planned change in the most efficient manner with minimum disruption to your existing services. Our designated consultants will provide guidance on synchronizing the plan deliverables into your existing project plan in case this network change is part of a wider project rollout. Leveraging experts from Aviat will minimize your risk and ensure quality deployment with a faster turn-up of your new infrastructure elements.

Network Implementation Plan Review

Having an expert review any existing Network Implementation Plan document will definitely help identify any gaps or risks that may have not been highlighted. The Network Implementation Plan Review service provides this additional level of diligence needed to ensure project tasks are optimally planned and deliver on the promise with minimum risk.

Network Design Validation and Testing

Customers have the option of having Aviat Networks Engineering team test the solution prior to shipment. The goal is to identify any interoperability issues faster

MICROWAVE AND IP/MPLS SERVICES

and with proven testing processes before sending the equipment to the field sites. Our Network Design Validation and Testing service leverages the Network Implementation Plan to build, configure and test system at factory. Based on documented Test Plans and lab topologies, the team performs intensive system wide and sub-system testing to proactively identify and make design modifications if needed. This team will generate a test report documenting the findings. Customers can benefit immensely from this service that will enable a “plug-and-play” installation at field sites based on the detailed system integration testing documentation provided. Proven best practices show that having issues identified at the factory saves customers time and money when it comes to getting your network solution online.

Factory Acceptance and Testing

Another option available for customers is to visit Aviat factory sites where the system integration has been conducted to have test plans performed in their presence. The Factory Acceptance and Testing service requires the Network Design Validation and Testing service as a pre-requisite and will provide customers the satisfaction and assurance of the sub-system level functionality and performance meeting their requirements. Once the customers have verified that the system has undergone rigorous tests, it enables a faster implementation at field sites with minimum risk. Even the simplest level of testing at the factory can save you headaches in the field later.

AviatDeploy also includes off-site Installation and Commissioning Services that can be sequential or independent of the Assembly, Integration and Testing Services.

Installation and Configuration

When it's time to deploy equipment at field sites, customers can rely on experienced engineers to provide installation options ranging from Installation and Configuration Services for rack and stack type activity to Network Deployment (EF&I) Service for turnkey installation, testing and turn-up.

Installation and Configuration Services provides the essential preparation of equipment at site (unpack, inspect, inventory) along with onsite expert installation services covering labeling, connection, initial configuration and power-up and system tests on Aviat Networks products and other OEM equipment in your

complete solution. Testing as per acceptance standards and best practices is conducted making sure the solution is compliant, secure and safe to operate. The Aviat team will initiate actions to correct any faults on a timely basis.

Turnkey Network Deployment

Network Deployment (EF&I) Service provides a turnkey solution for installation of Aviat Networks and OEM equipment. This includes networking equipment installation, antenna installation alignment, cabling and waveguide installation. Experts conduct power, grounding and safety checks and setup the equipment and shelter alarm and monitoring connections needed. The service provides sub-system inter-connection and configuring of devices for traffic routing, router and switch configuration, EMS / NMS addressing, customization and additional checks as needed.

PROGRAM AND PROJECT MANAGEMENT

Engaging Aviat Networks to provide services for your network migration has its clear benefits. You are involving experts with the know-how and experience of deploying microwave and IP networks on a global basis. The Program and Project Management Service provides a single point of ownership with experienced Program Managers, Project Engineers, Field Engineers and Supervisors assigned to the project. These are Aviat Networks trained experts that ensure deployment, regulatory, compliance and engineering issues are dealt with expeditiously and timely project updates on milestones achievement and status are communicated to the customer teams. Program managers are empowered to marshal and manage all aspects of planning, design and project engineering activities to ensure customer success. Our team comprises PMP Certified Professionals with extensive experience in managing IP and microwave networks.

AviatCare

PROTECT

MAINTAIN

EDUCATE

AVIATCARE SERVICES

Aviat Networks offers industry-leading maintenance and support services which are focused on optimizing the investments you have made in your network infrastructure. From Extended Warranty to the full outsourcing of your network support infrastructure, Aviat Networks offers you a proven history in delivering a quality solution at a cost effective price. Within AviatCare, the three fundamental service offerings are the AviatCare Protect, AviatCare Maintain and AviatCare Educate service portfolios.



AVIATCARE PROTECT

Our Aviat Protect portfolio is focused on customers who need basic maintenance services to support their network. Generally, this encompasses the key areas of repair of products, software maintenance and technical support from our experts when needed. We offer the following levels of support into this portfolio.

Extended Warranty

We offer customers the opportunity to extend the warranty support offered at the time of purchase. This service is "ideal" for customers looking for continued protection of their investment that ensures that units will be repaired when you need them without the administrative hassles of individual PO's.

In addition, as with any of the AviatCare support packages, you will get prioritized access to our Technical Support teams. Given the reliability and stability of our products many customers find this support level is all they need.

WarrantyPlus

For customers who need more specialized or enhanced support services Aviat Networks offers the premium WarrantyPlus service portfolio. This includes 24x7 Technical Support access, Software Maintenance and Support, Advanced Replacement, and Repair Logistics services.

We know many of our customers need more than the basics, yet still need cost effective services that help them reduce their overall operational expenses. With this set of services, Aviat Networks can offer that combination of quality of service plus value that you need to ensure the operational effectiveness of your network investment.

Software Support Program

Following the Standard Software Warranty period, Customer's must purchase one of the Software Support service levels (Plus, Preferred, Premium) in order to get access to technical support and software Updates (maintenance releases) or Upgrades (next main release) for their software integrated with the Aviat products.



AVIATCARE MAINTAIN

Aviat Networks understands that we have a broad base of customers with different cost drivers, operational priorities, and critical success factors. To support these varied levels of customer requirements we have a range of support offerings available to match the needs of our global customers.

The AviatCare Maintain portfolio of services is the most expansive suite of services focused on assisting a customer maintain their network at its peak performance levels. These services go beyond the reactive services of Repair and Technical Support that primarily make up our AviatCare Protect portfolio. You will find in this portfolio a range of more proactive and preventative-based service offerings which build on and enhance the services outlined under our AviatCare Protect portfolio.

These services include Software Installation, Performance Management, Performance Optimization & Consulting, Managed Network Services including remote network monitoring, Preventative and Corrective Maintenance, and Spares Parts Management. When you combine this suite of services with the services we offer under our AviatCare Protect portfolio you can rest assured that your network will be running at its best for years to come.

AVIATCARE EDUCATE



Aviat Networks offers a range of training and certification programs to meet the needs of our customers and partners. Aviat Networks training courses cover a broad range of technologies and products including transmission engineering, path design, microwave networking to IP routing and MPLS.

These training programs are held at Aviat training centers in all major regions, using our hands-on equipment or can be arranged at the your site to suit your needs.

Aviat believes in nurturing a community that thrives on learning about Aviat products and technologies through our certification programs. In addition to imparting knowledge during training sessions, Aviat engages experts to provide ongoing update webinars where our customers can get access to the latest information on the products and technologies relevant to their network.

WHY AVIAT NETWORKS FOR IP SERVICES?

Aviat Networks has a proven track record of quality products and managing a quality customer experience with our services. We have invested heavily in our people, process and infrastructure to create a customer-focused organization that strives to meet the most stringent SLAs for our customers. We understand what it takes to achieve your business and functional outcomes that enhance customer opportunities for you. Aviat Networks has built a portfolio of IP Plan-Design-Deploy Services tailored to meet your network growth and migration requirements.

Engaging Aviat Networks for evolving their network to IP/MPLS has proven beneficial to many of our customers, across a wide spectrum of verticals. These verticals include; public utilities, public services, mobile operators, service providers and Enterprise businesses. Customers have typically experienced:

- Lower costs that are more predictable and manageable
- Fast and rapid rollout of new solutions resulting in faster ROI on the investments
- Significantly lower downtimes due to expertly planned change windows
- Improved network capabilities delivering on the key business and technical requirements and SLAs with their customers

- Significantly lowered stress as the risk of managing the timelines for a complex project is handled by Aviat experts
- More time to focus your staff on delivering core business functions helping enhance the end-user experience
- Compliance with business requirements on security and resiliency of network operations

AVIAT GLOBAL SERVICES

At Aviat we take pride in the level of international and local recognition we have gained on our service capabilities. We may not be the biggest but we are consistently rated the best amongst our customers.

Our expertise and experience working not only in some of the most demanding environments but also extremely demanding industries has allowed us to build a wealth of knowledge on what is required to be successful. Whether it is Low Latency networks where time is literally money or Emergency Response Networks where performance can mean life or death, Aviat has worked with customers to deliver solutions where four and five 9's availability is standard. We can bring that expertise to you as well.

#1 Infonetics rated for Service and Support	#1 Rated Service partner by our largest customers	\$130+ Million FY13 Services business	200+ Dedicated Service delivery resources
5 Regional Technical Support Centers	17+ Countries with extensive local service presence	4 Worldwide Repair and Return Centers	2 NOCs Global Network Operations Centers
80+ Licensed, Certified Professionals on Staff	>50% Project Management pool PMP certified	ISO TL9000 certified	20,000+ Customer Support transactions
210+ Training Sessions conducted yearly	>100 Customer Locations served worldwide	>1000 Individuals trained yearly	9.36 Customer Satisfaction average

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