



Microland Network Services

Service Definition Document

Table of Contents

Microland Network Services.....	3
Network Consulting and Assessment Services.....	3
Network Transformation Services	6
Intelligeni NetOps platform – Transformation Excellence.....	6
RACI.....	9
Wired and Wireless Networks (LAN).....	10
SD-LAN	10
Cloud Wi-Fi	10
Traditional LAN	11
SDN for Data Center	11
SD-WAN and SASE	12
SD-WAN services	12
Secure Access Service Edge (SASE)	12
Digital Experience Management	13
Private 5G - Building the Foundation - Network Build	13
Managed Network Services	14
Operating Model.....	14
Typical Incident Flow	15
Managed Network Services Delivery Functions	17
Service Model	19
Network Automation Services.....	19
NetDevOps	20
Private 5G - Ensuring Peak Performance - Network Management.....	20
Network as a Service	22
Service Management.....	24
Service Governance.....	24
Quality Assurance	24

Service Performance Reporting	25
RACI.....	26
Service Level Agreements	30
Service Level Calculations	32
Exclusions from SLA	32
Exclusions & Assumptions for Managed Service	32
Customer Obligations	34
Business Continuity Plan (BCP)	34

Microland Network Services

Enterprise workflows are evolving significantly, resulting in heightened intricacies within network structures. Today's networks are reshaping businesses into seamless digital entities, offering access anytime, anywhere, by anyone, and in any way possible, thereby introducing fresh networking demands.

To meet these evolving needs, we present the Microland Intelligent Network Experience framework. It comprises a comprehensive range of services spanning consulting, industrialized transformation, and managed services, all provided through an innovative as-a-Service model. This is facilitated by our unique Intelligeni NetOps Platform, which enhances user experiences through advanced capabilities in AIOps, Analytics, Automation, and Transformation Acceleration.

Network Consulting and Assessment Services

Microland's [Network Consulting Services](#) unlocks the potential of the network as a true business enabler. Microland Intelligent Network Experience suite of Network Consulting Services provides end-to-end consulting and assessments for Next-Gen transformations and benchmarking as-is network operations enabling customers to meet the growing business needs for agility and flexibility and enhancing user experience.

Microland Intelligent Network Experience suite of Network Consulting Services includes:

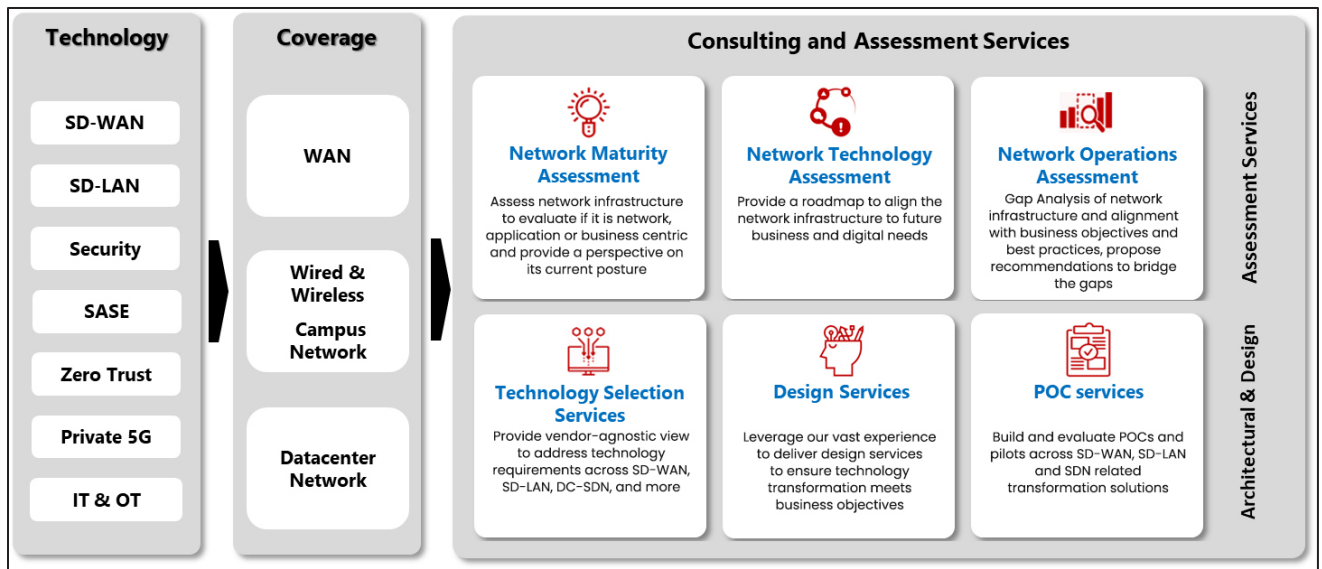
- **Technology Services Selection** provides a vendor-agnostic approach to identify technology solutions like SD-WAN, SD-LAN, SDN-DC, SASE, Zero Trust Network Access, Private 5G, etc. which meet the key business and technology requirements of the customer.
- **Design Consulting Services** provides customers with an appropriate network transformation roadmap to align IT infrastructure to meet future business needs and digital adoption through network consulting.

- **PoC Services** are conducted to build, test, and integrate SD-WAN, SD-LAN, SASE, Zero Trust Network Access, and Private 5G-related solutions, which provide fitment and flavor of the solution before undertaking network transformation.

Network Assessment Services

Microland's Network Assessment Services are offered to baseline the customer's current IT infrastructure and provide recommendations for improving network performance with network consulting for the objective of enhancing employee productivity and customers' user experience.

- Network **Maturity Assessment** focuses on the opportunities to align the network with business goals. We embrace superior network consulting strategies to understand the challenges by analyzing the customer's IT infrastructure, identify architecture and technology gaps, and provide recommendations to bridge the technology and operational gaps to meet and beat industry standards.
- Network **Operations Assessment** benchmarks the network performance of the current IT infrastructure, processes, standards, and roadmap for adherence and continuous improvement. Our network consulting services is designed to provide recommendations on process improvements, delivery optimization and technical automation to improve user experience and alignment to network SLAs, XLAs and KPIs.
- Network **Technology Assessment** focuses on identifying architecture gaps, technology readiness, infrastructure age and lifecycle analysis and suggests recommendations on technology refresh and/or network transformation through network consulting. Our network consulting services evaluate the interlinking of business outcomes to technology implementation to drive greater organizational value.



Private 5G Consulting Services

Microland Private 5G services helps clients identify, design, deploy, and manage solutions for enterprise edge connectivity. We work closely with the client's enterprise technology teams to analyze enterprise environments and critically evaluate all available technology choices. As an ecosystem integrator, Microland would bring together the right balance of technology expertise to deliver wireless networks to meet the business requirements and create value in a connected economy.

Our collaborative approach starts with understanding your unique needs. We work closely with your team to:

- **Define Winning Use Cases:** Identify the applications that will flourish with 5G's low latency and high bandwidth. Think real-time data processing, mission-critical control systems, or immersive AR/VR experiences. Together, we'll craft a compelling business model that quantifies the return on investment (ROI) for your private network.
- **Network Assessment & Strategy:** We'll meticulously assess your existing infrastructure to develop a customized deployment strategy. This includes spectrum acquisition recommendations, crafting the optimal network architecture, and prioritizing robust security measures.
- **Spectrum Secured:** Navigating the complexities of spectrum acquisition can be daunting. Microland simplifies the process. We'll help you identify available spectrum bands, conduct feasibility studies, and even assist with license applications.

Network Transformation Services

Microland's [Network Consulting Services](#) unlocks the potential of the network as a true business enabler. Microland Intelligent Network Experience suite of Network Consulting Services provides end-to-end consulting and assessments for Next-Gen transformations and benchmarking as-is network operations enabling customers to meet the growing business needs for agility and flexibility and enhancing user experience.

Microland modernized network transformation services include:

- WAN modernization and transformation including SD-WAN, Secure Access Service Edge (SASE), firewall and security, and UTM using the Smart Branch solutions
- Data center modernization and transformation includes legacy to SDN-DC (Software-defined network for data center), hybrid cloud data center, and multi-cloud data center networking
- Access network includes LAN modernization, Wi-Fi transformation to Wi-Fi 6, secure network access control (SD-LAN)
- IT/OT convergence and OT security transformation services.
- Adjacent services like voice as part of unified communications

Intelligeni NetOps platform – Transformation Excellence

Microland [Intelligeni NetOps](#) platform a custom-built platform for network infrastructure, is a network transformation services wrapper that enables service acceleration and assurance. The platform includes vendor management, analytics, and automation modules. The various modules integrate with existing tools in the client's ecosystem for baselining, reporting, and continual service improvement.

Intelligeni NetOps platform consists of a Project dashboard, design & deployment templates, and deployment simulations which help provide a personalized experience through real-time dashboards, automated rollouts with zero-touch provisioning, project cost estimates, and project workflow management. The Intelligeni Insights module in the Intelligeni NetOps platform helps deliver service analytics and estimates risks.

The key activities in the Transformation phase are:

Phase	Key Activities	Key deliverables
Plan	• Create an end-to-end deployment plan including the prioritization of site rollout • Track site readiness including Hardware & Circuit delivery status • Identify change windows and ensure onsite resource availability. • Raise change requests for each site	• End-to-end deployment plan
Deploy – central controllers/ orchestrators/ analytics components.	• Deploy and configure headend Controller and Analytics system. (common offline activity for all sites) • Configure routing and security policies as per the site categories – as per the design document. • Enable the required technology features • Create configuration templates to be pushed on the network devices. • Create automation scripts to be executed during the deployment. • Set performance metrics and thresholds (Application performance, latency, jitter, packet loss etc.)	• Successful deployment and configuration of the centralized controller/orchestrator and analytics components. • Low-level design document

Phase	Key Activities	Key deliverables
Deployment	- Physical installation of the network devices and basic configuration of devices with the circuit - Replace existing EoL hardware with new devices or SD-WAN and establish connectivity with the hub. - On-board the network devices for centralized management - Push configurations & policies on devices through the controller. - Monitor and measure network and application performance along with the user experience - Test and confirm that reporting requirements are being met - Functional testing for business applications and Central IT services over network. - Decommissioning of existing Router / CPE & Circuits (If any) - Track and provide periodic updates on the deployment progress through dashboards / reports. - Provide warranty support for agreed period	- Successful installation and configuration of network devices either SD-WAN or tech refresh within the approved change window. - End of test results signed off by the customer - Deployment of customer policies - Configuration documents - Inventory documents

The key activities in the Handover phase are:

Once the solution has been successfully deployed and tested to meet the technical and business requirements, it will be handed over to BAU support teams.

Phase	Key Activities	Key deliverables
Handover	- Handover HLD and LLD Documentation, Access details, Risk and Issue log, Standard operating procedures, Asset details per site - Act as an escalation point to the BAU team for a pre-agreed period	Handover kit with the necessary technical and operational documents.
Knowledge Transfer	- Create a knowledge transfer plan - Knowledge transfer to BAU support team	- Knowledge transfer - Training

RACI

Service Function	Customer	Microland
Prepare end to end Build & deployment plan	C, I	R, A
Review & Approve Build & Deploy Plan	R, A	I
Procurement & timely delivery of links & Network Hardware, Software	R, A	C, I
Site Readiness	R, A	I
Define the site-specific acceptance criteria	C	R, A
Identify site SPOC & enable access to the site	R, A	I
Approve the change request and change window	R, A	C, I
Plan the onsite activities and resource availability	R, A	C, I
Build and configure central controller/ orchestrator / Analytics	C, I	R, A
Prepare policy templates to be pushed on devices	C, I	R, A
Deploy network devices at the site	R, A	C, I
Mount / Rack-Stack, power, connect the devices	R, A	CI

Push the routing & Security policies to the Devices	I	R, A
Functional performance testing	I	R, A
Site cutover sign-off	R, A	I
Prepare detailed technical documentation	I	R, A
Handover to BAU Support	I	R, A
Knowledge transfer	I	R, A
Provide periodic updates on the overall deployment project status through reports and dashboards	I	R, A

Wired and Wireless Networks (LAN)

SD-LAN

Microland offers NextGen software-defined Local Area Network (SD-LAN) solutions with cloud-based architecture to deliver exceptional mobility and performance through centralized policy-based administration, plug-and-play provisioning of WLAN devices, and proactive performance management. Further augmenting these advantages are our solution capabilities with Wi-Fi 6, Bluetooth Low Energy (BLE) integrated solutions, with use-cases specific for industry verticals like manufacturing, retail, logistics, etc., and our Platform first approach delivery using Intelligeni NetOps Platform to accelerate service adoption and assurance. Our SD-LAN solution enables remote workers to connect to the corporate LAN either through cloud-managed access points at temporary sites or home offices or through WLAN-enabled VPN clients hosted on end-user systems.

Our wireless LAN design and deployment services are well supported with a global capability to provide onsite services for the installation and maintenance of the infrastructure. Our SD-LAN solutions help establish standardized policy-driven open programmable networks, with micro and macro segmentation to onboard users through automated processes and enable consistent user experience across the LAN network. Telemetry and analytics provide additional insights to enterprise stakeholders.

Cloud Wi-Fi

Microland's Cloud Wi-Fi offers cloud-controlled Wi-Fi 6 capabilities with the objective to enhance digital business and end-user experience by leveraging AI and location-based service capability, delivered in a "Wi-Fi as a service" offering that is powered by Microland's Intelligeni NetOps Platform. Through our Intelligeni NetOps, we optimize the management of Wi-Fi networks by leveraging automation, analytics, AIOps, and business intelligence for our customers to make faster insights-driven decisions. The Intelligeni Transform module of our Intelligeni NetOps provides a scalable factory model of deployment for Cloud Wi-Fi solutions which helps in faster go-to-market, quality assurance, excellent end-user experience, and cost savings.

Microland's Cloud Wi-Fi services help customers to achieve 2x improved experience with reduced issues in connectivity, and significant cost savings of up to 30% by moving to wireless and faster OT and IT connectivity with increased resiliency and security to the OT estate. With Intelligeni NetOps integrated analytics and telemetry from Wi-Fi controller platforms, we provide faster transformation to wireless state with hyper-automation, visibility, performance benchmarking, and optimization of user experience thus increasing the productivity of the business users.

Traditional LAN

Microland Intelligent Network Experience framework offers end-to-end services across consulting, assessment, and transformation to the management of traditional and software-defined LAN (SD-LAN) managed services. As the LAN networks are rapidly transforming towards cloud-controlled and software-defined, Microland helps customers to undergo digital transformation both from a technology and operations perspective. We are committed to protecting our customers' existing investment in their LAN infrastructure and transforming their operations to derive maximum benefits from existing investment. With Microland's Intelligeni NetOps, we help customers accelerate their LAN transformation and improve their operations by bringing hyper-automation using Intelligeni Bots, transformation to bring about better user experience.

Microland LAN services include 24x7 monitoring and management of both cloud and on-premises controlled LAN estate, along with adjacency services such as IP address management (IPAM), DHCP and DNS management, authentication, LAN security, and network access control (NAC). The Managed LAN services cover the LAN estate across the branches, remote offices, and Data centers.

SDN for Data Center

Microland's DC (Software-defined network for data center) services offer comprehensive support for hybrid cloud networking and on-premise networks for data centers. The SDN for DC provides centralized monitoring and management with a single pane of glass of visibility and control with application-based policy implementation, performance assurance, and visibility.

Microland Intelligent Network Experience framework offers end-to-end services from consulting and assessment to transformation to management of data center networks. The consulting includes analysis of technology, operations, and architectural gaps in the data center network, cloud migration approaches for networking, network security approaches, and best practices. The SDN for DC transformation services includes migration from a legacy DC network to an SDN Network, with automation-based zero-touch deployment. The SDN for DC managed services includes 24x7 centralized cloud-based monitoring and management with standardized policy management.

Microland accelerates the transformation to SDN for DC and optimizes operations by leveraging the hyper-automation capabilities of Intelligeni NetOps to enhance the application performance of business-critical applications and user experience.

SD-WAN and SASE

Microland's NextGen Software-Defined Network (SDN) based infrastructure management solution that caters to the complete branch network and security needs via a simplified as-a-service model. Microland's unique Intelligeni NetOps Platform enables CIOs to effectively transition to the digital age. The solution unlocks the possibility of leveraging existing investments using automation and analytics, as well as scaling the power of IT to deliver tangible business efficiencies.

SD-WAN services

Microland Smart Branch SD-WAN services can address your challenges. Built on our expertise in every leading SD-WAN solution available in the market today, supported by our experience with 1000s of SD-WAN site rollouts, and augmented with our proprietary SD-WAN services acceleration IP, Microland Smart Branch SD-WAN services are a one-stop shop solution for every SD-WAN requirement. Our services range from Software Defined-WAN proof-of-concepts to design, deployment, and managed services, offering a complete lifecycle solution delivered in an "as a service" model.

Solution flexibility is at the core of Microland solutions. Be it hardware options on appliances / britebox / white-box or multiple network service consolidation requirements with NFV and service chaining at WAN edge or cloud access with DIA and cloud on-ramp for SaaS, IaaS, and co-location, our Smart Branch SDN solution fulfills all your needs. With leading SD-WAN services and products, we deliver the right network performance, intelligent traffic management and visibility, policy-based WAN administration, Telecom and Transport independence, Direct Internet Access and Cloud on-ramp, full stack branch security, and finally overall TCO reduction with CAPEX avoidance. Our solution also includes secure SD-WAN remote access for remote users to connect to the branch network with all the benefits of SD-WAN and reliable connectivity through SD-WAN client hosted in endpoint devices.

With our proprietary SD-WAN Transformation Accelerator in our Intelligeni NetOps Platform, we deliver 2x faster delivery of SD-WAN Transformation. Intelligeni NetOps helps further improve operational efficiencies and speeds up transformation with unique in-depth analytics and pre-built automation use cases.

Microland has built extensive capabilities on Fortinet technologies to enable accelerated network transformation and efficient operations to drive improved business outcomes for our customers.

Secure Access Service Edge (SASE)

Microland Smart Branch SASE provides 24x7 monitoring of a customer's Network, Security, and Cloud estate against malicious events, enterprise-wide user traffic analysis, proactive management, and response to threats including initial containment and incident response to mitigate threats. For our solution, we are leveraging the Zscaler platform integrated with a NextGen SIEM to monitor business-critical applications and sensitive data on the cloud.

Digital Experience Management

Microland's Digital Experience Management solution combines their Intelligeni NetOps Platform and Zscaler Digital Experience (ZDX) with a robust UX module. This integrated solution equips organizations with powerful capabilities to assess, control, and proactively identify issues in user satisfaction, location dissatisfaction, end-user experience, and application performance indicators. Microland's Intelligeni NetOps Platform Analytics and User Experience Management solution provides customers with a comprehensive view of service status, compliance, and user experience.

Our platform-based approach provides comprehensive experience visualization, allowing organizations to quickly identify trends and patterns. It also offers historical performance dashboards for tracking and benchmarking performance over time and continuous experience improvement capabilities to make informed decisions that enhance user satisfaction. Furthermore, the platform supports eXperience Level Agreement (XLA) reporting, enabling organizations to monitor and report their performance against user experience targets and commitments.

With this module, Microland delivers a comprehensive suite of capabilities to effectively monitor, manage, and optimize user experience in digital network deployments. Enterprises can gain valuable insights, make data-driven decisions, and continually enhance user satisfaction, thereby maintaining a competitive edge.

Private 5G - Building the Foundation - Network Build

Microland is a private 5G solution integrator with the experience and expertise to co-ordinate an ecosystem of network equipment providers, solution providers and device manufacturers, to design, build and operate private 5G solutions. As an end-to-end network service provider, Microland offers a suite of wireless solutions and services built on networking technologies such as SD-WAN, SD-LAN, NFV, Wireless Backhaul, SASE, Network-as-a-Service, and SDDC that enable seamless implementation and management of private 5G networks.

With a clear roadmap in place, we translate strategy into action:

- **Tailored 5G Network Design:** Our team designs a private 5G network that perfectly aligns with your requirements. This includes defining the network architecture, selecting the most suitable equipment, and meticulously configuring the system for optimal performance.
- **Deployment Expertise:** We handle the entire network build process, from installing equipment to configuring software and rigorously testing the network's functionality.
- **Radio Readiness:** Microland ensures seamless radio integration. This encompasses installing radio equipment, configuring them for peak performance, and provisioning the devices that will leverage the network's capabilities.

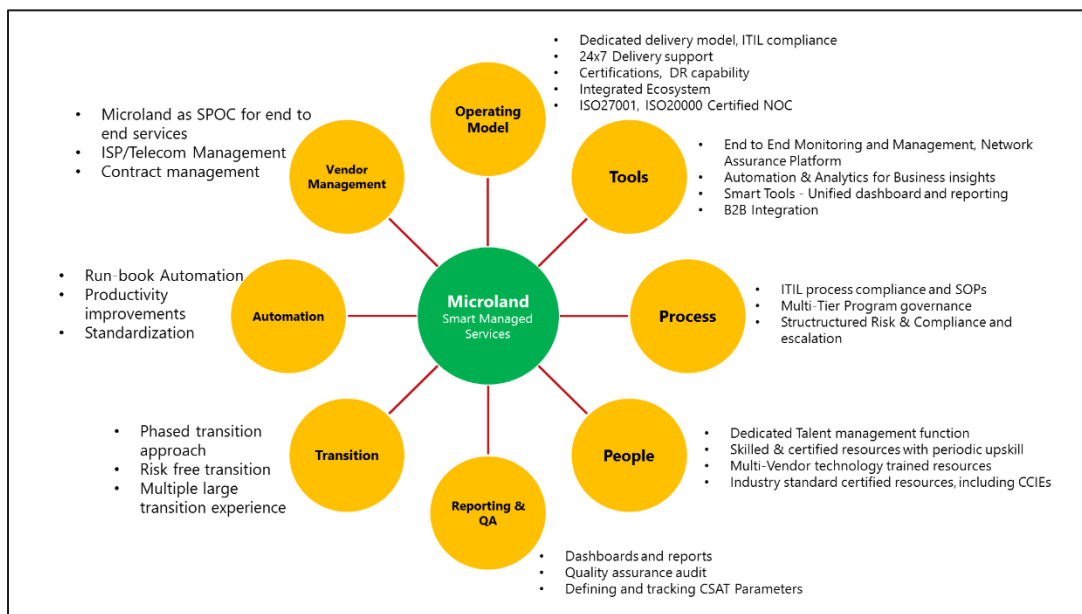
- **Device Onboarding:** We ensure a smooth transition for your devices, whether it's smartphones, tablets, laptops, or a vast array of IoT devices, all seamlessly integrated into your private 5G ecosystem.

Managed Network Services

Microland's [Managed Network Services \(MNS\)](#) is designed to provide end-to-end network management including proactive monitoring with Self Remediation and self-heal qualities for seamless operations. MNS is built to ensure that network operations and transformation initiatives are aligned to improve the customer's business-critical processes & improve the customer's end-user experience.

Our proposed operating model for MNS involves the right balance of skilled resources both onsite, near shore, and offshore to meet the service quality expectations, governance, and escalation needs at optimal pricing to bring significant TCO savings to our customers. While the NOC and most of the NOC support team will be primarily offshore or nearshore, Microland will retain an onsite presence at one or more customer locations to ensure governance and identify opportunities for service improvement by working closely with the customer's key stakeholders.

The key features of our Managed Network Services are:



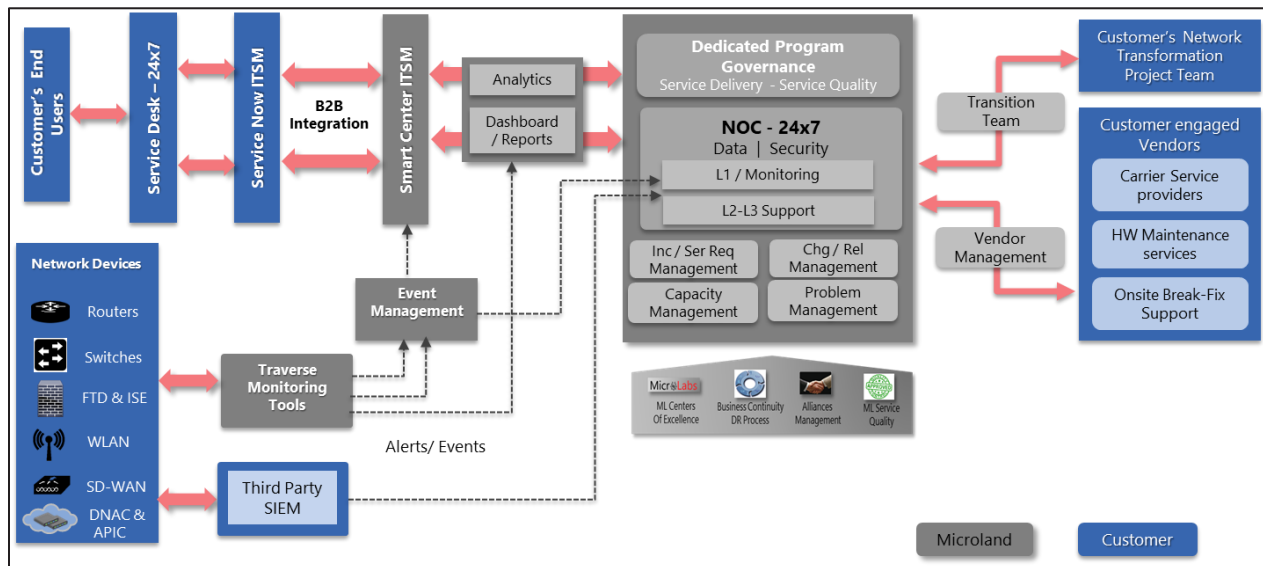
Operating Model

The objective of the proposed operating model is to provide customers with complete operational and network infrastructure support services. Microland support teams will own the resolution for all support incidents related to infrastructure support and change management activities for network services.

Microland's Managed Network services offering includes:

- 24x7 service window and in certain situations opted by customer for 9x5, 16x5, 16x7 based on the business needs.
- Hybrid operating model (Onsite/ near shore + Offshore)
- Onsite / Onshore services to comply with any contractual obligations
- Flexible to align with the respective service level and contractual obligations
- ITIL framework-driven operations.

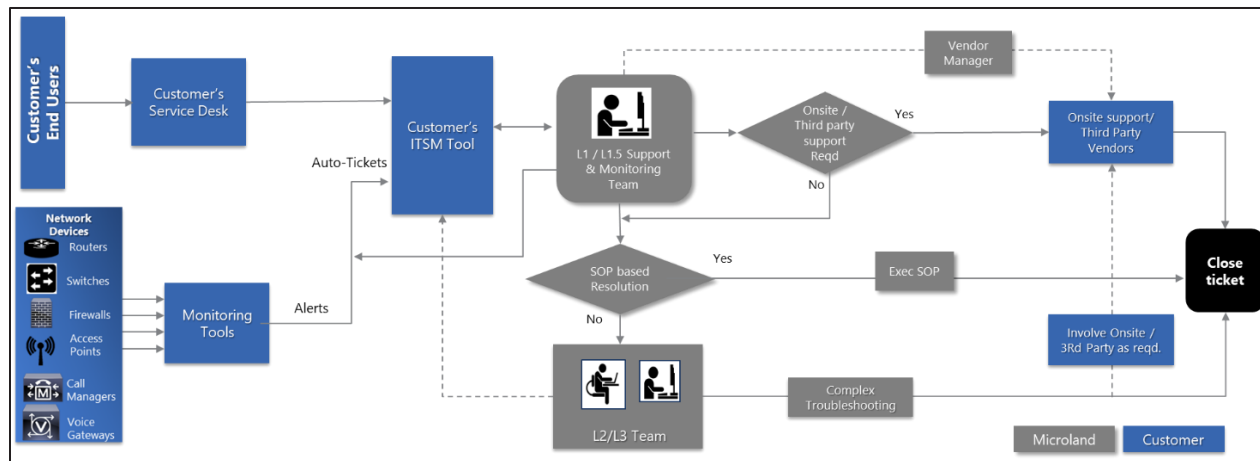
The following illustration provides an overview of Microland's proposed operating model.



Microland will deliver the support services using a combination of Microland's suite of industry best tools integrated with an automation platform alongside tools invested by the customer. The service delivery model is based on the ITIL framework.

Typical Incident Flow

The below diagram depicts the ticket flow for incidents.



- As and when the alerts are realized for network services-related infrastructure, the operations team of the customer service desk team will assign the ticket to the Microland L1 team.
- Based on the criticality of the ticket, the Microland L1 team will check for SOP-based resolution for the assigned ticket.
- If available SOP is executed and the ticket is closed.
- Otherwise, the ticket will be assigned to the Microland L2/L3 support team for resolution.
- Any updates or subsequent logs on these tickets will also be available for checking the status and maintaining end-to-end ownership of the tickets.
- Based on the incident, break-fix support, and maintenance support teams will be engaged to ensure quick resolution and adherence to committed SLAs
- If the issue is not resolved by the L3 teams, the issue will be escalated to OEM support.
- Once the issue is addressed and resolved, end users are notified, the ticket is closed, and the knowledge base is updated.

Managed Network Services Delivery Functions

Function	Service scope
Network Operations Center (NOC)	• 24x7x365 monitoring or as determined along with the customer of network infrastructure spread across various customer's offices, including HQ, Branch sites, etc. leveraging monitoring tools. • Adherence of Response & Resolution SLAs. • Attempt to resolve the incidents using SOPs / Knowledge base. • Triage / escalate incidents to expert Support (L2/L3) • Dispatch and coordinate with onsite support resources till resolution. • Logging tickets with third-party vendors – Telco for link outages/performance degradation. • Raise Part replacement request with the Maintenance service provider. • Engage the customer's local IT SPOC / partner for onsite technical support required. • Engage third-party vendors for any service request fulfilment as required. • Ticket updates and closure in the ITSM tool.
Network SME	• Provide Technical support to the NOC team to ensure speedy resolution. • Intervene to ensure quick initial troubleshooting and qualification of the ticket for further escalation. • Train the NOC team with Knowledge base / SOPs periodically and based on the KB updates. • Train & update the team with technology changes within the customer's infrastructure (Through projects/acquisitions, etc.)
Change Coordination	• Collaborate closely with the Customer's Change manager. • Co-ordinate with the NOC team for Change implementation. • Co-ordinate with multiple vendors to ensure change implementation as per the schedule. • Communicate/update change activities to the relevant entities within NOC as well as Customer's IT & Business leadership.
Incident Coordination / Problem Management	• Strict adherence to Incident, Major Incident process already defined/implemented by Customer. • Work closely with the Incident Management & Service Quality Assurance team within the customer's IT department. • Ensure incident closure within the agreed service levels. • Ensure timely updates/communications in the ITSM tool as well as relevant entities within the customer's organization. • Drive Major incidents (P1 tickets) till closure. • Generate incident reports and provide analysis. • Drive SOP-driven resolution to improve ticket closure % at the NOC. • Ensure the Problem ticket is created for the P1 ticket after service restoration through a workaround and trigger the RFO / problem management process.
Knowledge Management	• Ensure knowledge base / SOP is updated periodically. • Ensure the KEDB / Knowledge base is made available to all NOC team members. • Collaborate with the customer's Expert support team as well as third-party suppliers (e.g. Telco) for Root Cause Analysis (RCA) report and relevant documentation. • Update the Knowledgebase / SOP based on the RCA / permanent resolution to ensure avoidance of the incidents due to the same cause.

Function	Service scope
	Track and improve the usage of Knowledgebase / SOP to resolve incidents at NOC.
Vendor Coordination	- Co-ordinate with the customer's identified Network specific vendors to ensure service delivery as per the contractual agreements. - Collaborate closely with vendors (such as Carrier providers / HW Maintenance services / Cabling vendors / UPS maintenance, etc.) to ensure timely service restoration/resolution. - Track the RMA status and progress. Drive vendors for timely services as agreed. - Co-ordinate and ensure timely fulfillment of the service requests raised by Customer's IT / Business units. - Track and measure vendor performance based on the ticket closure as per the agreed service levels. - Provide vendor performance reports as per mutually agreed frequency. (e.g. – quarterly) and provide analysis/recommendations. - Track Contract terms and inform the customer's IT/procurement team well in advance of the renewals. - Track asset and license/assign and release of asset/license.
Service Delivery Management	- End-to-end service accountable for the contractually agreed scope. - Single point of contact / First Escalation points for Customer. - Ensure service delivery as per the agreed Service Levels - Host / participate in regular service reviews. - Prepare & present performance reports and analysis. - Drive service Improvement initiatives within the NOC scope. - Collaborate closely with the customer's IT management for feedback / additional support required.

Service Model

Service Feature Set	Gold	Silver	Bronze
Incident Management	Yes	Yes	Yes
IT - Operations Management	Yes	Yes	Yes
Problem Management	Yes	Yes	No
Change Management	Yes	Yes	No
Tools & Automation Services	Yes	No	No
Vendor Management	Yes	No	No
Service Window	24x7 or Custom coverage	Custom Coverage	Custom coverage
Type of Service	NoC E2E + Tools	NoC E2E	NoC L1

Per device-based pricing with separate pricing for different network devices like routers, SD-WAN edge devices, switches, WAPs, WLAN controllers, Firewalls etc.

Network Automation Services

Powered by the unique and purpose-built Intelligeni NetOps Platform that brings together automation through various Intelligeni Bots, NOC services ensure self-healing and fault prediction in operations through AIOps. All these translate into better application visibility and enhanced user experience.

With our focus on user experience, productivity and cost control, our managed network services (MNS) are built with reusable automation use cases in event management, processes, and technical task execution, analytics for insightful inferences, and best-in-class tools integration for performance measurement vis-à-vis user experience. Our integrated global managed network services are offered from certified delivery centers across the globe, render right-shored, follow-the-sun model, and BCP/DR compliant services across every dimension of the network infrastructure-Branch/Campus LAN and Wi-Fi, WAN, unified communications, data center and cloud.

Clients using our managed network service expertise realize faster time-to-value through accelerated service transition, "Network-as-a-service" adoption, and accelerated automation forming the foundation for AIOps.

NetDevOps

The infrastructure networking world is transforming at a high scale into software defined networking and cloud networking. It is important for network operation to scale and move along with this change. While network automation can help accelerate network operations to some extent, it is imperative to move to a mature and self-sufficient model. Application of DevOps principles to network operations would significantly aid scale up operations.

Microland's Intelligeni NetOps Platform delivers NetDevOps and network automation for enterprises without worrying about adoption barriers. Microland developed the NetDevOps approach based on the NetOps 2.0 framework and integrated the same with its Intelligeni NetOps. This enables enterprises to take network automation to the next level to help create robust automated operations. Microland NetDevOps approach helps enterprise achieve an agile state of change management, increased resiliency to the network environment with new age skills of programmability by the site reliability engineers.

Private 5G - Ensuring Peak Performance - Network Management

Your private 5G network is now operational, but our commitment doesn't end there. We provide ongoing support to guarantee its continued success:

- **24/7 Monitoring & Operations:** Our vigilant team continuously monitors your network's performance and security. We proactively address any issues and perform regular maintenance to optimize efficiency.
- **Actionable Insights:** Microland empowers you with edge analytics and insightful reporting. Gain valuable data-driven perspectives to streamline operations, identify new opportunities, and make strategic business decisions.
- **Testing & Readiness:** We conduct rigorous testing to ensure your private 5G network consistently meets your service level agreements (SLAs). Additionally, we collaborate with you to guarantee your use cases are fully optimized for flawless deployment on the network.
- **Knowledge Transfer:** Microland offers comprehensive technical support to equip your team for self-management. We provide training programs so your staff can confidently manage the network, ensuring long-term sustainability.

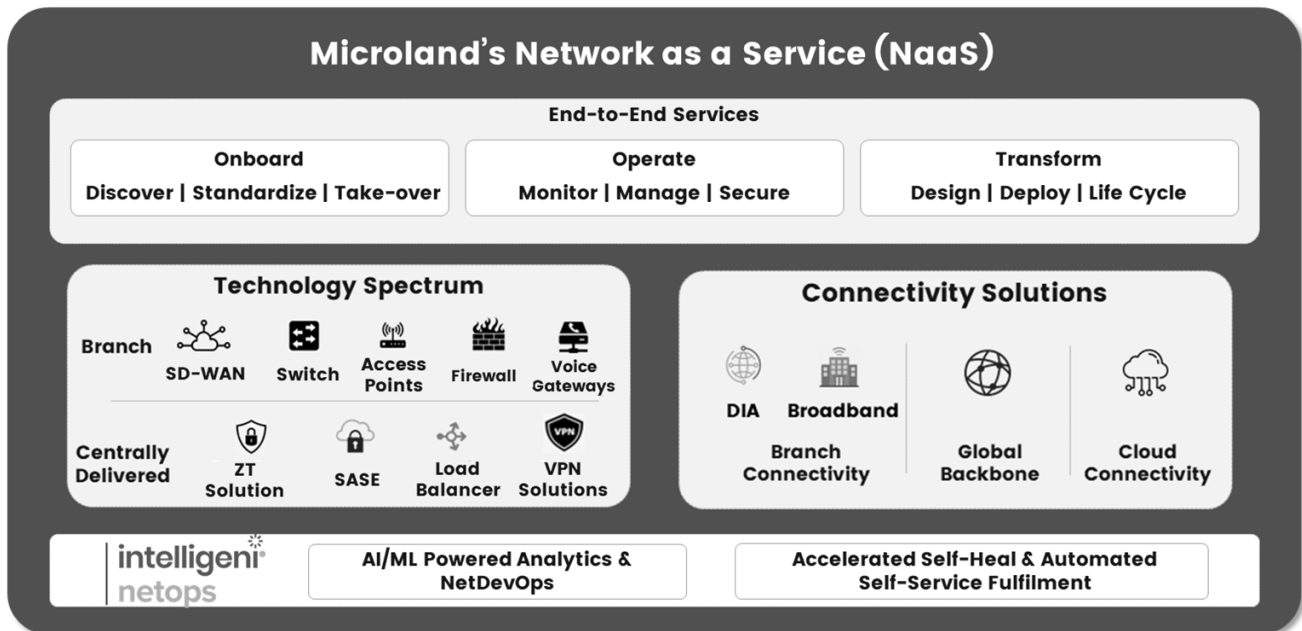
Microland NetDevOps – Key capabilities:

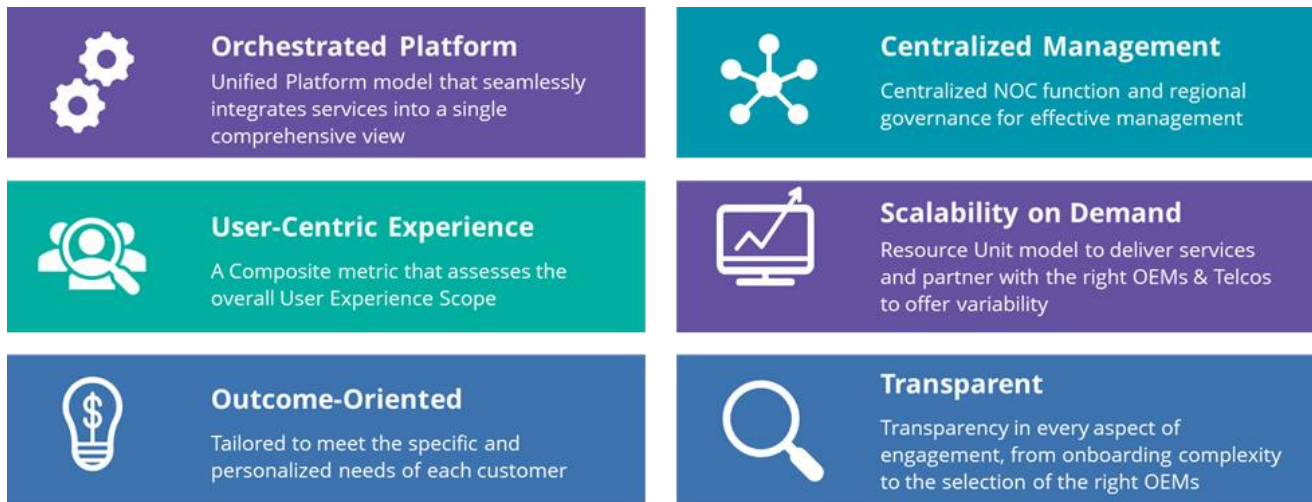
- Helps abstract network infrastructure, OEM, and technology complexity
- Simplifies operations for network engineers
- Standard template and catalog-driven
- Single source of truth for policy, code & state of network
- Best-in-class modular tools
- Integration of 3rd party tools
- Post validation and roll back (if required)
- Creates complete audit trail
- Integrates telemetry with AIOps systems
- Integrates with service management tools and platforms
- Role based access control
- Centralized governance
- Increased level of collaboration and communication
- Microland can help customers progress in their NetDevOps journey through a step-by-step approach

Network as a Service

Microland's [NaaS](#) is a comprehensive solution that allows organizations to consume Network services that include the underlying Operating Platform, Services, and Hardware and Software footprint.

Network as a Service (NaaS) by Microland is built on its unique platform-centric delivery model that ensures network services are provided on a modular, centrally orchestrated, open & extensible consumption-driven model. Microland's Intelligeni NetOps Platform embraces best-of-breed solutions such as Observability, AIOps, and NetDevOps with a specific focus on enhancing user experience and productivity through its network services measured through XLAs over the traditional Network SLAs. With our plug-and-play architecture, customers can leapfrog into their NaaS journey by seamlessly onboarding and integrating their existing investments in tools and technologies.





NaaS by Microland uses platform-first approach that picks up data from telemetry systems and processes it on an AIOps layer to deliver predictive and preventive network management. Our approach combines NetDevOps enabling better policy-based change and service request orchestration.

Microland, being a vendor-agnostic provider, enables enterprises to choose the right technology provider for their global requirements. Our solutions are tailor-made for each customer's business requirements ensuring performance optimized for the business and delivering superior user experience.

Overall, our NaaS solution and services provide a single pane of glass for cloud-controlled management. Through our Network Functions Virtualization (NFV) services, Microland combines the best-of-the-breed hardware, virtualization layer, and infrastructure software elements leveraging Microland's Platform-First architecture.

Service Management

Service Governance

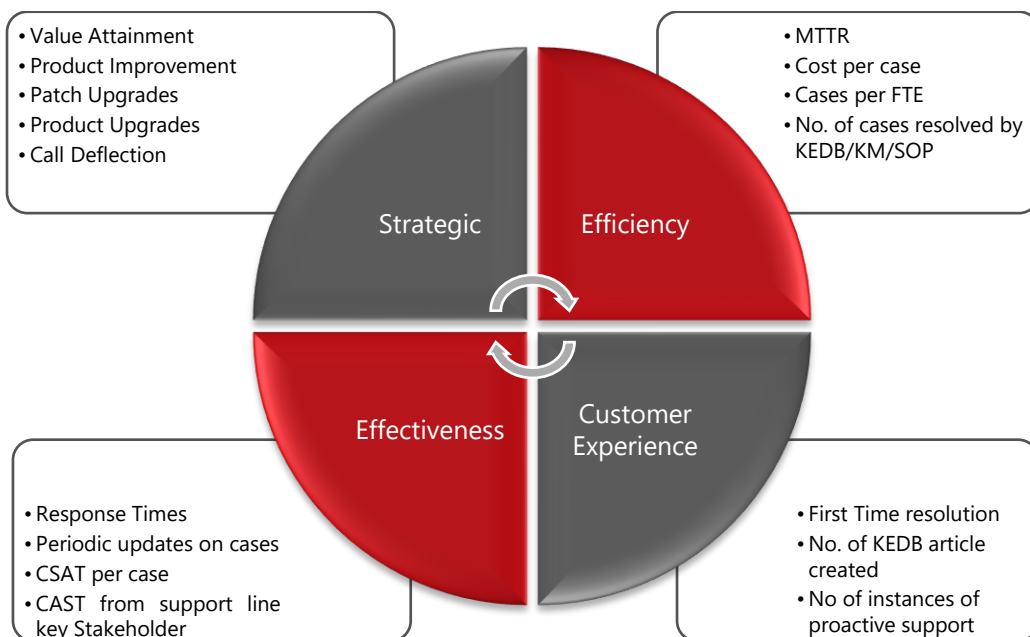
Microland and the Customer will jointly ensure that a strict service management discipline is adhered to at all times. This will be managed via a tightly defined set of service management policies and procedures that must be adhered to by both parties involved in the delivery of services.

Service Governance requirements are as follows:

S. No.	Deliverables	Customer	Microland
1	All Service Management Policies will be adhered to at all times	A	R
2	Weekly Service Reports to be produced as part of current weekly reporting structure	C	R
3	Weekly Service Reviews to be held	A	R
4	Monthly Performance Dashboard to be produced. This will contain information relative to SLA's and OLA's	C	R
5	Monthly Performance Review to be performed	A	R
6	Continual Service Improvement to be demonstrated	C	R

Quality Assurance

The balanced scorecard followed by Microland, in outsourced technical support engagements of this nature, is a comprehensive and detailed scorecard and measures performance related KPIs.



Microland focuses on 4 key aspects of engagements, to capture the overall performance:

- **Strategic** - This dimension covers strategic aspects of value attainment, Customer retention and growth strategies, and product support improvement like call deflection methodologies etc. This is one of the critical areas of the engagements.
- **Efficiency**– The measurement of the relevant parameters in this dimension reflects the engagement performance in the key areas of service improvement, process maturity, productivity improvements and technology automation.
- **Customer Experience** – This covers aspects which lead to Customer delight, e.g. self-help articles, first-time resolutions etc.
- **Effective** – The measurement of the relevant parameters in this dimension reflect the performance in terms of support quality like CSAT results, proactive and periodic updates on cases, better response times etc.

Each block will have appropriate metrics that are key to performance measurements. Each of the metric listed will have different weightages, in line with product line expectations. The top metrics will become the SLA and the remaining be measured as KPI for quality and sustainability.

When a particular KPI or SLA with a low performance is identified, the following actions are taken to improve it:

- **Reviews:** Feedback and reports are reviewed periodically for service improvement opportunities. The triggers include SLA breaches, process breaches, etc. to take remedial action, resulting in improved productivity, reduced cycle time, etc.
- **RCA & Trend analysis:** Trend analysis of the received Customer requests to ensure the issues the fixed permanently at the root level.
- **Customer Feedback:** Engagement-specific feedback and Customer satisfaction responses are considered for improvement opportunities. Variations in satisfaction levels are investigated, understood, and considered as input to support improvement. A lower satisfaction rating is considered a breach and corrective action is taken, e.g. training the particular technical support engineer, having knowledge articles created for a certain recurring problem, etc.
- **Customer Complaints:** Customer complaints are analyzed periodically to identify trends leading to improvement opportunities for specialized support in certain areas.
- **Internal / External Audits and Assessments:** Non-conformances and observations reported as a part of Internal / External assessments are analyzed to feed into service improvement programs for the particular issues.

Service Performance Reporting

Microland will submit Full Service & Quality check reports periodically, based on the status of the program. Typically, these reports will be provided on weekly, fortnightly and monthly basis in formats that will be as per Customer guidelines. These reports will include:

- Service delivery performance with respect to the Service Level Agreements (SLAs)
- Critical incidents that had an impact on the availability of IT services or user satisfaction and plans to prevent/handle such incidents in future
- Highlights and issues / concerns

- Analysis of service performance reports and improvement actions
- Customer/user complaints or escalations and the corrective and preventive actions

Microland's Service Delivery Manager will schedule and conduct a monthly management review meeting. The participants from Customer organisation may include Project Manager, Tower Leads, Service management executives and any other key executives. The review includes performance against service levels, critical incidents and resolution and open problems, if any. The agenda for such meetings will include:

- Highlights of the past month's performance, on major issues reported any service delivery trends and service achievements.
- Explanation on outstanding matters from previous periods and, in particular, issues which have been or are about to be escalated
- Customer satisfaction and trends
- Review of the scheduled workload
- Suggestions for improvements in service delivery
- Issues with contract management, billing / invoicing and other financial matters

In addition to the monthly reviews, Microland will hold quarterly and annual reviews, around the structure of services delivered to the Customer, to ensure their relevance and alignment to the business goals.

RACI

Network Architecture and Standards		
Task	Customer	Microland
Define standards and network architecture for SD-WAN or another network transformation	I,C	R,A
Review standards and provide input	A, R	I,C
Implement and deploy new architecture	A,R	I,C
Provide Logical Network Design & Architecture	A,R	I,C
Perform deployments as required based on project requirements	C, I	A, R
Network Operations and Management		
Task	Customer	Microland
Monitor, maintain and manage all in-scope network equipment	I	A,R
Provide Central Service desk services	A,R	I
Provide remote Technical support (Level 1, 2, 3) services	I	A,R
Provide Field support services (onsite troubleshooting, break-fix , part replacement ..etc) within the SLAs.	A,R	C,I

Underlay WAN circuit availability & service restoration within the SLAs	R,A	I
Provide physical network management (devices & circuits)	C	A, R
Provide Logical Network management & support	C, I	A,R
Perform third party vendor support and performance management	C, I	A, R
Provide network reporting	I	A, R
Provide preventive maintenance for both network hardware/software	C,I	A, R
Provide audit logging of all activity with network equipment	C, I	A, R
Perform access control and authorization roles to network equipment & services	I, C	A, R
Provide monthly proactive reporting, analysis, solutions	I	A, R
Maintenance contracts (including part replacement) with the OEMs	R,,A	C,I
Service contracts with Carrier services with backline SLAs	R,A	C,I
Provide Service Lifecycle Management (ITIL Processes ownership)	A,R	C,I
Own the Service delivery and customer management	A,R	C,I

Network Monitoring

Task	Customer	Microland
Perform proactive network monitoring using agreed upon management systems	I	A, R
Respond to alerts using agreed upon toolsets	I	A, R
Monitor, report and investigate bandwidth spikes	I	A, R
Coordinate and monitor Network WAN field specialist support for any CPE failure / unavailability	I	A, R
Monitor network for security incidents	I	A, R

Network Engineering

Task	Customer	Microland
Perform IP Address administration	I	A, R
Perform IP Addressing schematics	I, C	A, R
Oversee third party implementation activities (e.g. circuit related & CPE procurement)	A,R	I,C
Perform ongoing trend analysis to identify points of failure for equipment	I	A, R

Perform analysis to identify network service failures	I	A, R
Perform ongoing analysis for compliance with network policies and procedures	I, C	A,R
Define corrective action for network non-compliance issues	A,R	I
Provide physical network design and architecture for specific solutions	A, R	I
Proactively review the network, identify security risks and recommend solution remediation using customer provided tools	I	A,R

Network Capacity Planning and Management

Task	Customer	Microland
Provide capacity data collection tools	A,R	C,I
Proactively perform capacity data analysis	A, R	I
Perform data collection using agreed upon tools	I	A,R
Provide capacity reporting	I	A,R
Proactively recommend strategies and tools for improving capacity monitoring and management	R	A,R
Develop strategic network performance and capacity architecture	A, R	I
Implement day to day solutions for network performance and capacity problems	I	A,R
Implement solutions for network capacity and performance on a strategic/project basis	A,R	I

Hardware Management

Task	Customer	Microland
Resolve hardware-related problems working with the appropriate vendor and Customer field engineering	I	A, R
Monitor hardware and software support lifecycle	I	A,R
Network Hardware & Software maintenance contracts with the OEM (Including Technical support & Part replacement)	A,R	C,I
Provide spare parts for break-fix / replacement within the agreed SLAs	A,R	C,I
Provide CMDB & Asset Management tool	A,R	C,I
Prepare network equipment for disposal	A,R	I
Perform Asset tracking and reporting	I	A,R
Perform ongoing management of the maintenance contracts associated with the equipment	A, R	I

Perform ongoing identification, testing and management of critical spares	A, R	I
Software Configuration and Firmware Management		
Task	Customer	Microland
Perform software license management	I	A, R
Perform regular maintenance on software	C,I	A, R
Perform regular maintenance on firmware	C,I	A, R
Perform router network device configuration management	C,I	A, R
Perform regularly scheduled backups and offsite storage of the configurations	I	A, R
Maintain current release levels	C	A, R
Perform software and firmware upgrade analysis and subsequent implementation	C	A, R
Perform Asset / Inventory tracking and reporting	I	A,R
Moves, Adds and Changes (MAC)		
Task	Customer	Microland
Determine user requirements	A, R	I, C
Validate MAC requests	C	A, R
Determine site requirements	A, R	I
Provide facility environment, cabling, and wiring	A, R	I
Plan and schedule MACs	I	A, R
Approve the MAC requests through Change management process	A,R	C,I
Procure required MAC services (circuit, hardware, software, & network services)	A, R	I
pre-stage new CPE ready for installation	A, R	I
Installation of new equipment associated with the MAC	A, R	I
Manage installation and configuration of new equipment	I	A, R
Perform test and cutover for devices	I	A, R
Perform onsite hardware MAC activities (Rack/Stack , cabling , part-replacement , Hardware upgrade, circuit testing and connectivity ..etc)	A, R	I
Implement Soft changes (IOS upgrades / patches / configuration changes ..etc)	C,I	R,A
Perform user notification for MAC	I	A, R
Network Security		

Task	Customer	Microland
Approve access requests, access rights lists, and password reset for in scope equipment	A, R	I, C
Implement access requests, access rights lists, and password reset for in scope equipment using policies and procedures	C, I	A, R
Set triggers to recognize security events	A, R	C
Perform ongoing analysis of logged events	I	A, R
Disaster Recovery		
Task	Customer	Microland
Develop DR business plan	A, R	I
Develop and maintain DR plan - Network Portion	A, R	I
Maintain DR environment - Network Portion	A, R	I
Coordinate DR testing	A, R	I
Perform DR testing	A	R
Execute user DR Procedures	A	R
Provide backup, business continuity and disaster recovery procedures	A	R
Execute backup, business continuity and disaster recovery procedures	I	A, R

Service Level Agreements

Microland will adhere to the below Service Level Agreements & KPI's for all in-scope services:

Type	Service Levels	Target (Percentage or Minutes)	Measure	Formula	Measurement Window
Response Time	SLA	Priority 1 Response Time - Each Priority 1 (Critical) calls responded to within 15 minutes	95%	For each Priority 1 (Critical) Incident, from the time the Ticket is logged in the Ticket Management System and queued to Partner, to the time that the assigned resolving team electronically accepts the Incident.	Number of Priority 1 Incidents responded to within 15 minutes in the Measurement Period ----- ----- X 100 ----- Number of Priority 1 Incidents logged within the Measurement Period
					24 x 7

	SLA	Priority 2 Response Time - Percentage of Priority 2 (High) calls responded to within 30 minutes	95%	For each Priority 2 (High) Incident, from the time the Ticket is logged in the Ticket Management System and queued to Partner, to the time that the assigned resolving team electronically accepts the Incident.	Number of Priority 2 Incidents responded to within 30 minutes in the Measurement Period ----- ----- X 100 Number of Priority 2 Incidents logged within the Measurement Period	24 x 7
Resolution Time	SLA	Priority 1 (Critical) Incident Resolution - Each Incident Resolved within 4 hours (240 minutes)	95%	For each Priority 1 (Critical) Incident, from the time the Ticket is logged in the Ticket Management System and queued to Partner, to the time that the Incident is Resolved	Number of Priority 1 Incidents Resolved within 240 mins in the Measurement Period ----- ----- X 100 Number of Priority 1 Incidents logged within the Measurement Period	24x7
	SLA	Priority 2 (High) Incident Resolution - Each Incident Resolved within 8 hours (480 minutes)	95%	For each Priority 2 (High) Incident, from the time the Ticket is logged in the Ticket Management System and queued to Partner, to the time that the Incident is Resolved. Subject to a minimum of 20 tickets per Customer per month	Number of Priority 2 Incidents Resolved within 480 mins in the Measurement Period ----- ----- X 100 Number of Priority 2 Incidents logged within the Measurement Period	24x7
	SLA	Priority 3 (Medium) Incident Resolution - Percentage of Incidents Resolved within 4 Business Days	90%	For each Priority 3 (Medium) Incident, from the time the Ticket is logged in the Ticket Management System and queued to Partner, to the time that the Incident is Resolved. Subject to a minimum of 20 tickets per Customer per month	Number of Priority 3 Incidents Resolved within 3 business days in the Measurement Period ----- ----- X 100 Number of Priority 3 Incidents logged within the Measurement Period	Core UK hours
	SLA	Priority 4 (Low) Incident Resolution - Percentage of Incidents	90%	For each Priority 4 (Low) Incident, from the time the Ticket is logged in the Ticket Management System and queued to Partner, to the time that the Incident is Resolved.	Number of Priority 4 Incidents Resolved to within 5 business days in the Measurement Period -----	Core UK hours

		Resolved within 10 Business Days		Subject to a minimum of 20 tickets per Customer per month	----- ----- X 100 Number of Priority 4 Incidents logged within Measurement Period
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Service Level Calculations

1. All SLA measurements will be implemented with the aid of data captured during actual transactions by the Service management system and using analytical capabilities built into the Service management system.
2. SLA's will be measured against defined performance targets during each calendar month operational cycle.
3. At the end of each calendar month operational cycle, the activity counters for compliance and non-compliance shall be reset to zero, and the measurement process of SLA adherence shall begin again.
4. All delays related to non-Microland teams shall be excluded when reporting Microland Operational SLA compliance.
5. Any design-specific issues, hardware issues or product specific issues (like End of Life Products) are excluded from SLA measurement.
6. All incident breaches that cannot be pended due to various dependencies, viz. 3rd Party, non-Microland teams, user feedback etc., are excluded from Microland SLA calculations.

Exclusions from SLA

1. The SLAs are applicable to network support and availability. Circuits & Edge device replacement / break-fix are excluded from the SLAs.
2. The scope includes Level 2/Level 3 support. Customer team will be leveraged for Level 1 Support.
3. Customer Service Desk & Level 1 team will be responsible for Response SLA
4. The time lapsed for an incident, which is pending due to end-user delay in responding to a ticket, will be excluded from the measurement/calculation of SLA Target of Microland as mentioned above.
5. The time lapsed on any other incidents escalated to third-party vendors or other support groups will be excluded from the measurement/calculation of the SLA Target of Microland as mentioned above.
6. The SLA will begin to toll when the third party resolves the open issue, either by addressing the problem or remanding it back to Microland with a solution.
7. The support for all EOS/EOL products will be delivered only on a reasonable endeavor basis and will be excluded from the measurement/calculation of the SLA Target of Microland.
8. Delay due to a Force Majeure event or any acts or omission beyond the control of Microland.

Exclusions & Assumptions for Managed Service

Service Exclusions

1. Contract Management for all hardware and software owned by the customer.
2. The following team functionalities are deemed to be out of the scope of this Statement of Work:
 - a. Smart Hands & Eyes within the datacentre;
 - b. Activities related to planned DR exercise that are not considered BAU;
 - c. Product version upgrades (Version upgrade is defined as an upgrade from a current version of the product to next available/suggested version which requires a focused project-based

- approach to ensure risks are properly analyzed & risk mitigation/minimization activities are carried out while doing an upgrade);
- d. Technology and Platform migrations to new/other platforms;
 - e. Dedicated support request for apps upgrade activity;
 - f. Infrastructure/Product upgrade/hotfix implementation as a prerequisite for a project requirement or requirement from user/business for additional features within the existing product;
 - g. Capacity upgrade or activities based on the outcome of the capacity review to cater to growing demand or new requirements from business, other than those tasks that are accepted through the business as usual change process;
 - h. Any specific reporting requirements from the user/business that are significantly different than standard reports delivered or any new reporting requirements from the user/business or reporting requirements where the Customer has not provided the required toolset to deliver the report;
 - i. Any significant changes to infrastructure design as a result of business or security requirements;
 - j. Manual Monitoring of Key services/applications, excluding services and applications currently monitored and any monitoring that has been agreed to provide during the introduction of new services;
 - k. Generation of Manual reports and collating data from various tools to meet specific business / Customer requirements, excluding reporting on current business and Customer requirements and any reporting agreed to provide during the introduction of new services;
3. Microland shall assist in the planning for the technology revamp / major version upgrades of the Customer estate, however, all tasks performed shall be considered as project work and shall be charged separately;
 4. It is assumed that all tools and software required for performing and enhancing the technical performance and functionality of the support teams shall be provided by the Customer organization
 5. Microland assumes that all necessary enterprise-wide monitoring and management tools are available within the Customer organization to manage the proposed infrastructure. Design, Implementation and documentation of new infrastructure to this environment shall be considered out of scope. However, in the event that Customer does require Microland to perform such Project activities, Microland shall analyze the requirement and propose the necessary charges to the Customer.

Service Assumptions

1. The employees of Microland shall in no event be considered employees or agents of the Customer organization, nor shall they be entitled to or eligible, by reason of the contractual relationship hereby created, to participate in any benefits or privileges given or extended by Customer to its employees.
2. Any dependency on the Customer for completion of the services or delay due to incorrect or incomplete asset information would also be considered as exclusions while measuring Microland SLA compliance. It is the responsibility of Microland to make Customer aware of any asset inaccuracies through active communications.
3. Microland agrees to discuss & deliberate the process and documentation required to support any device found in the infrastructure that is non-standard.
4. Any major upgrade (architecture-related) is not part of the managed services scope. Such requirements would be considered as a separate project and would need to be mutually discussed between the two organisations on the plan.
5. Microland assumes that the Customer's centralized service management teams are responsible for communications of incidents on related infrastructure within the Customer organisation.

6. Microland will also coordinate with vendors/ Customer support teams providing local "hands & eyes" support needed for delivering this service wherein onsite support is needed.
7. Customer shall provide necessary access to all relevant tools to Microland for carrying out the services;
8. No personal data of the Customer will be processed by Microland as part of this agreement;
9. A data security plan will be formulated for every SoW and mutually agreed before the start of delivering the service.
10. All required infrastructure, hardware, software, licenses and certificates will be provided by Customer.
11. Customer will provide required access to the Microland engineers to support the solution.
12. Microland assumes Customer has valid contracts with the principal vendors and Microland can liaise with them in case Level 4 support is required.
13. Customer will identify and assess application compatibility.
14. 01st & 2nd line Support/Service Desk & Hardware break-fix/hardware swap is out of scope for Microland service for Win10

Customer Obligations

1. A Service Management/Ticketing tool will be provided by the Customer.
2. Customer's current hardware service/maintenance contract(s) support 24X7 response time and same or next business day resolution. In the event a problem is identified that requires Microland to engage the appropriate hardware service/software/maintenance vendor, any portion of the committed Microland SLA cycle time where Microland is dependent on the vendor to complete contracted services, would be excluded from the measurement of Microland SLA compliance. This shall apply only where the SLA has been missed by Microland and the Root Cause Analysis (RCA) can relate the miss directly to such vendor.
3. Microland assumes that Customer's Monitoring tools have the required & full capability to carry out monitoring to enable Microland to deliver proactive service.
4. Microland assumes that all service management functions are to be managed by Customer's Service Management teams. Microland assumes that the centralized Customer service management teams are directly involved and also need to be kept informed of all major incidents and changes in the environment.
5. Customer shall provide up-to-date IT Policies such as Security Policy, Backup Policy, and Assets Inventory Policy, etc. to Microland.
6. The Customer will provide Customer Email ID's to Microland resources supporting the infrastructure.
7. Customer shall provide necessary access to all relevant tools to Microland to carry out the services.
8. Customer shall provide secure connectivity channels for Microland to deliver the services.

Business Continuity Plan (BCP)

In the event of a disaster or incidents requiring Microland to invoke service continuity measures, Microland will ensure service continuity in the form of resource availability, network connectivity, and ability to deliver services through intra-city disaster recovery delivery sites.