

Monitor and Operate Services

Service Description



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1. Introduction

1.1. Overview

The NWN Carousel team provides secure, end-to-end visibility, proactive operational management, insights, and support of your critical cloud communications environments and its supporting infrastructure. Our commitment is to ensure that your critical business communications are available and operational when they are needed most.

We support the world's most complex and dynamic environments and can monitor and operate your critical applications delivered on-premises or in the cloud. Our team of highly skilled engineers are dedicated to ensuring the highest levels of system security, integrity, and availability for your business.

1.2. Purpose of this document

This Customer Service Description (CSD) provides you with an overview of the NWN Carousel Monitoring and Operations Support Services. It describes the features of the service, NWN Carousel's deliverables, and your responsibilities as the Customer.

We recommend that this document be read in conjunction with your services quote, statement of work, and master agreement to understand how these elements have been scoped to support your specific business needs.

1.3. Statement of Confidentiality

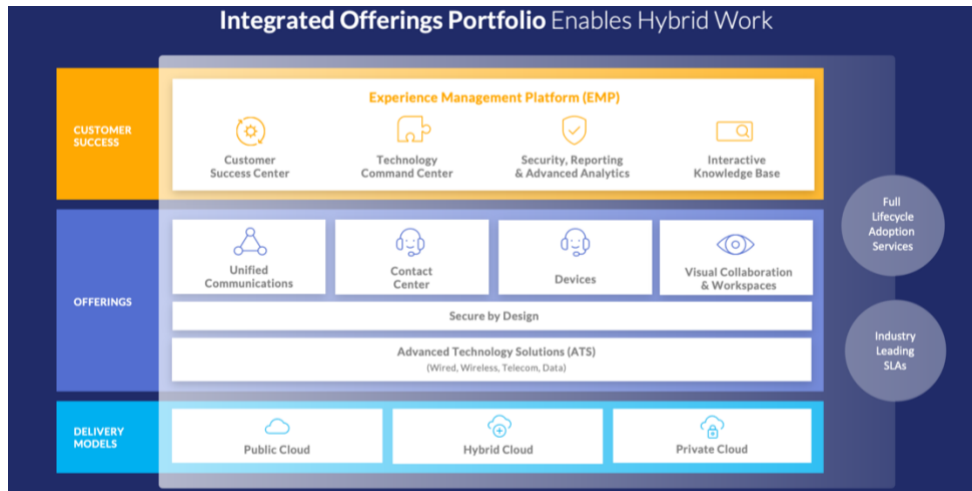
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2. NWN Carousel Offerings

2.1. NWN Carousel Offerings Overview

NWN Carousel uses a consultative approach to understanding our Customer’s (“subscriber”, “you”, “your”) current environment and any challenges you may experience. We then work to help you define what your future state goals are, to design a solution that delivers the capabilities required to achieve to deliver positive business outcomes. We organize our technology solutions around six core offerings:



- **Unified Communications:** NWN Carousel’s Unified Communications Offering is a solution as a service that integrates all modes of communication into a unified end user experience. With NWN Carousel Unified Communications & Collaboration, organizations can transform how things get done by adopting the latest collaboration technology that best aligns to the organization’s needs.
- **Contact Center:** NWN Carousel’s Contact Center offering is adaptable and collaborative, leveraging intelligent automation and knowledge to deliver business value and competitive advantage. NWN Carousel’s Contact Center experts architect solutions that enable a shift from reactive Customer service to proactive Customer engagement.
- **Advanced Technology Solutions:** We leverage deep expertise and experience in advanced networking, data center and connectivity technologies to deliver these offerings, and we provide a flexible delivery model that enables Customers to consume these offerings based on their delivery model preference, whether that is on-premises or hybrid, public cloud, or private cloud.
- **Devices:** NWN Carousel Devices offering provides a simplified way to deploy, manage and protect endpoints with integrated end-user support, via tech-enabled solution bundles
- **Security:** NWN Carousel’s Security Offering focuses on solving the architectural and operational challenges integrating Security into the foundation of each of our offerings. We help Customer focus on managing business risk with a comprehensive security architecture that mitigates manual effort and provides rich context for reporting and incident management.
- **Visual Collaboration & Workspaces:** NWN Carousel’s Video Collaboration & Workspaces Offering is a solution that integrates all modes of meeting, presentation, and collaboration end user experiences. With NWN Carousel Video Collaboration & Workspaces, organizations can transform their collaboration environment by adopting advocated Audio-Visual collaboration technology that best aligns to the organization’s needs.

2.2. Offering Bundles

NWN Carousel’s offerings are divided into easy to understand and easy to consume bundles. These bundles include the required capabilities you need to get the most out of your technology investment. Each bundle builds upon the other, allowing you to do as much, or as little, or the work yourself, while leaving the rest to us. An example of our offerings is illustrated below:

	Essentials	Core <small>Everything ESSENTIAL plus</small>	Complete <small>Everything CORE plus</small>
Technology & Licensing	X	X	X
Assessment Services	X	X	X
Design & Implementation Services	X	X	X
Monitor & Operate	X	X	X
Centralized Administration & Control		X	X
Periodic Health Checks		X	X
Connectivity		X	X
Technology Lifecycle & Adoption Services		X	X
Insights & Analytics		X	X
Software Defined Integrations			X
Advanced Security Integrations			X
Advanced Analytics			X

Each offering is divided into three bundles:

- **Essentials** includes all the basic requirements to deliver the solution including technology & licensing, assessments, design, and implementation, and 24x7 infrastructure monitoring to ensure that the Customer can maintain a healthy environment.
- **Core** adds 24x7 infrastructure operations, connectivity options, and advanced analytics and adoption services. NWN Carousel ensures the health and updates of the infrastructure and provides visibility into environment with analytics.
- **Complete** provides advanced services, software integrations, and advanced analytics based on Customer’s unique needs.

Each offering defines their own unique features and capabilities. For more information on what features are available by offering, please visit: www.nwncarousel.com

3. Services at a Glance

3.1. Overview

The NWN Carousel Operations Services are broken down into service deliverables outlined in the matrix below. Depending upon which service package you purchase, and the offering being supported, the deliverables may change. NWN Carousel Monitor Only Services

3.2. NWN Carousel Monitor Only Services

The NWN Carousel's Monitor Only services provide customers with visibility into the day-to-day events impacting their infrastructure. NWN Carousel collects event information from covered devices and correlates, filters, and notifies the Customer of critical events that they need to be aware of. The customer is responsible for all remediation related to the events parsed.

3.3. NWN Carousel Monitor and Operate Services

The NWN Carousel Monitor and Operations Services provides Customers with a proactive, outcome-based service that monitors the customer environment and takes actions to correct faults as they occur. The specific deliverables of the Monitor and Operate service our outlined below. are broken down into service deliverables outlined in the matrix below.

3.4. Service Deliverable Matrix

Ref	Service Deliverable	Monitor Only	Monitor & Operate
4.0	Case Management	✓	✓
	<ul style="list-style-type: none"> Service Desk Case Classification and Prioritization 	✓ ✓	✓ ✓
5.1	Proactive Monitoring	✓	✓
	<ul style="list-style-type: none"> Monitoring Tool Incident Creation and reporting 	✓ ✓	✓ ✓
5.2	Event Management	✓	✓
	<ul style="list-style-type: none"> Event Correlation and Suppression Event Capture, Validation and Recording Event Notification and Escalation for Monitor and Operate entitlements 	✓ ✓ ✓	✓ ✓ ✓
5.3	Incident Management	-	✓
	<ul style="list-style-type: none"> Triage & Troubleshooting Incident Classification Incident Notification Incident Resolution Third-Party Engagement Carrier management 	- - - - - -	✓ ✓ ✓ ✓ ✓ ✓
5.4	Root Cause Analysis	-	✓
	<ul style="list-style-type: none"> Root Cause Analysis 	-	✓
5.5	Change Management	-	✓
	<ul style="list-style-type: none"> Change Classification Change Process 	- -	✓ ✓
5.6	Patch Management	-	✓
	<ul style="list-style-type: none"> Server Patch Management Network Device Release Management Application Release Management Storage Release Management 	- - - -	✓ ✓ ✓ ✓
5.7	Configuration Management	-	✓
	<ul style="list-style-type: none"> Network Backup Application Backup Routines (supported applications only) 	- -	✓ ✓
5.8	Reporting	-	✓
	<ul style="list-style-type: none"> Incident reporting Scheduled Maintenance reporting Change request reporting Monthly analysis reporting 	- - - -	✓ ✓ ✓ ✓
6.0	Customer Experience Management		✓
	<ul style="list-style-type: none"> Delivery Stewardship (Escalation) Continual Service Improvement Customer Experience Manager (Designated) Customer Experience Manager (Dedicated) 	- - - -	✓ ✓ ✓* Optional

* - if requirements met

4. Case Management

4.1. Overview

Customers may engage with NWN Carousel through our world class Network Operations Center (NOC.) The NOC employs highly trained professionals, specialized in technology support. Our NOC Service Desk will act as your single point of contact for all assigned cases opened with NWN Carousel and working alongside engineering they will ensure that all cases are resolved quickly and professionally. Customers may interact with our NOC via our Service Desk, e-mail, or through our EMP Support portal.

4.2. Service Desk

NWN Carousel's Service Desk will provide 24x7x365 live access to meet the communication needs of Customer IT staff. Our service desk is the focal point for reporting and updating status for existing issues, opening new cases, and initiating a change or service request. Customers may engage the NOC via multiple communication channels. These channels are listed in the table below:

Priority	Definition
Phone Support	NWN Carousel's Service Desk will provide 7x24x365 live access to meet the communication needs of Customer IT staff. Our service desk is the focal point for reporting and updating status for existing issues, opening new cases, and initiating a change or service request.
e-Mail Support	Customers may submit cases via email to the e-mail provided in your welcome pack. Cases submitted by e-mail are considered P3 or P4 and prioritized accordingly. If your case involves a critical issue, please call the Service Desk directly.
EMP Support Portal	Customers may submit cases via the NWN Carousel Experience Management Platform (EMP.) Customers have 7x24x365 access to open tickets via the support portal in EMP. Cases submitted via the support portal are reviewed on a regular basis and assigned based on time received and completeness of the request. If your case involves a critical issue, please call the Service Desk directly.

4.2.1. NWN Carousel Service Desk deliverables:

- Act as a single point of contact for all cases opened with the NOC
- Answer incoming calls and review e-mail and Online Support cases
- Triage first call and create the appropriate case in NWN Carousel Case Management System
- Determine and assign an initial case severity by assessing urgency and impact
- Review and capture valid information in the NWN Carousel Case Management System
- Escalate cases as appropriate in our Case Management System
- Provide timely communication of case status through closure

4.2.2. Customer Responsibilities:

- Provide relevant information to aid in case triage including:
- Location Information
- Affected System information
- Designated point of contact for future case updates and interactions
- Identification of the Urgency and Impact of the Case being opened if applicable.
- Act as, or designate the appropriate point of contact for case updates
- Respond to follow up queries as needed

4.3. Case Classification

When a case is opened, it is important that the appropriate priority is assigned to reflect the current service impact. Case priority is primarily formed out of its Impact and its Urgency. There are also additional elements used to determine priority like size, scope, complexity, and resources required for resolution.

- **Impact:** The Impact of the incident is the measure of the criticality of the incident to the business. Traditionally, Impact is tied to the number of users or business processes affected.
- **Urgency:** Urgency is a measure of the necessary speed Cases will be prioritized and assigned a severity based on the information provided by the Customer.

These two values will help determine the priority level assigned to the case. The following chart below is leveraged to assign the appropriate Priority level.

		Impact		
		High	Med	Low
Urgency	High	1	2	3
	Med	2	3	4
	Low	3	4	4

4.4. Case Prioritization

Once a case is classified, it is assigned a priority. These priorities drive the activities of the NOC as they work to resolve cases.

Priority	Definition
P1 (Critical)	Occurs when there is critical impact to the business operations and urgent action is required to resolve the incident. For example, network is unavailable, a site is partially down and/or impacting a significant part of the business operations and no work-around is available.
P2 (Major)	Occurs when performance of a supported service or environment is severely degraded causing a high to medium level of impact. Functionality may be noticeably impaired, but most business operations continue. P2 incidents have a high to medium level of urgency requiring responsiveness, the activation of SOPs, on-call procedures, and invoking vendor support.
P3 (Minor)	Occurs when operational performance is impaired while most of the business operations remain functional. Limited devices (PC, printer, terminal, video rooms, extensions) are not operational. There is degradation of services although the issue is not mission critical. P3 incidents are responded to using standard operating procedures and operating within the standard workflow and operational structures.
P4 (Information)	Occurs when you require information or assistance on NWN Carousel-provided product capabilities, installation, or configuration. There is clearly little or no impact to your business operations. P4 incident are responded to using standard operation procedures as time allows.

5. Service Features

5.1. Proactive Monitoring

5.1.1. Overview

Proactive Monitoring is the process of collection of information from covered assets including devices, applications, and services. The NWN Carousel Service Delivery Platform monitors identified elements 24x7x365, utilizing standard SNMP data collection, SNMP trap receiver, syslog monitoring and available APIs to receive specific information, alerts, alarms, faults, and performance data. Examples of the types of attributes we capture for devices include but are not limited to:

- Interface up/down
- Interface utilization thresholds
- CPU/Memory utilization thresholds
- Environmental thresholds (fan, power, etc.)
- Reboots (cold start, warm start)
- Device Availability
- Synthetic transactions (based on entitlement)

5.1.2. Monitoring Tool

As part of the proactive monitoring, NWN will perform the initial setup of the monitoring tool as well as the ongoing maintenance of the tool. This includes reviewing the current threshold levels, making updates based on best practices and Customer specific requirements, and keeping the tool current to the latest revision.

5.1.3. NWN Carousel Deliverables for Proactive Monitoring

The following list represents NWN Carousel's deliverables:

- Data Collection to support monitoring for covered devices
- Configuration of the Monitoring Tool
- Customization of Monitoring thresholds for Customer specific situations
- Creation of an Incident Record
- Notification of customer via e-mail of incident.
- Maintenance of the monitoring tool

5.1.4. Customer Responsibilities for Proactive Monitoring

The following list represents the responsibilities of the Customer:

- Provide device details to support configuration of the monitoring tool including but not limited to:
 - IP Addressing / FQDNs
 - SNMP configurations
 - Account and password information
 - Circuit IDs
- Unless otherwise noted, configure device and application specific features to enable the required monitoring.
- Responds to alerts and notifications as required
- Provides a point of contact for monitoring and alert notifications

5.1.5. Service Package inclusion for Proactive Monitoring

- Monitor Only Services
- Monitor and Operate Services

5.2. Event Management

5.2.1. Overview

Event Management is the process that monitors all alarms, alert, and events related to the operation of the IT environment. Our Operations Center will detect alarms, alerts, and events from covered devices and applications, analyze them, and determine if the event is actionable. Where an event results in an incident that requires additional action, NWN Carousel will create a case in the NWN Carousel Case Management System.

NWN Carousel will notify the Customer via automated email response that will contain the Case number, details collected during the event identification process, along with other information which may include effected device, system, service, and location information. Any time a case is opened, updated, and closed; an automated email notification is sent to the Customer."

5.2.2. Event Correlation and Suppression

Our Service Delivery Platform has a powerful event correlation and suppression engine which uses advanced technology for evaluating many events and pinpointing the few events that require attention. Events that do not require further attention or action are automatically suppressed, while only the most important events are sent for notification or escalation.

5.2.3. Event Notification

NWN Carousel will notify the Customer via automated email response that will contain the Case number, details collected during the event identification process, along with other information which may include effected device, system, service, location information, and, if applicable, any actions taken.

5.2.4. Event Escalation (Monitor and Operate Only)

For Customers who have purchased Monitor and Operate, the case will be transferred to the incident management team for triage.

5.2.5. NWN Carousel Deliverables for Event Management

The following list represents NWN Carousel's deliverables:

- Process incoming events
- Notify Customer of any events that require their attention
- Escalate actionable events to incidents based on defined event correlation and suppression rules
- Assign a priority to events that are escalated to incidents in the Case Management System
- Clear events that do not require further attention
- Configuration and maintenance of event-based filters and automations

5.2.6. Customer Responsibilities for Event Management

The following list represents the responsibilities of the Customer:

- Review pertinent event information and provide feedback accordingly
- Notify NWN Carousel of any corrective action taken to clear the event.
- Provides a point of contact for event notifications

5.2.7. Service Package inclusion for Event Management

- Monitor Only Services
- Monitor and Operate Services

5.3. Incident Management

5.3.1. Overview

Incident Management is designed to help restore normal service operation within a reasonable time to help contain the adverse impact on the Customer's business operations, service quality and systems availability. When an incident is opened, it is important that the appropriate priority is assigned to reflect the current service impact. As ITIL defines it, incident priority is primarily formed out of its Impact and its Urgency. There are also additional elements, like size, scope, complexity, and resources required for resolution.

5.3.2. Incident Triage and Troubleshooting

Our service delivery team executes step-by-step instructions that are used to achieve predictable, standardized, and desirable results to quickly restore any unplanned interruption. This function covers the following:

- Incident Detection
- Recording
- Classification
- Analysis
- Diagnosis
- Resolution and Recovery

Once the NWN Carousel incident management team receives a service ticket, an engineer will follow step-by-step instructions to achieve predictable, standardized, and desirable results to quickly restore any unplanned interruption.

5.3.3. Incident Classification

Incidents will be classified using a predefined prioritization model mentioned in section 7.3 Case Prioritization. Based on the assigned priority, standard operating procedures (SOP) and escalation processes are executed.

5.3.4. Incident Resolution

NWN Carousel's engineers will work with the Customer contact to implement a solution to the identified incident. This may include replacement of hardware through OEM Maintenance engagement, application of a configuration change, or implementation of a software patch. We will work with the Customer to restore prior functionality within reasonable effort.

5.3.5. Third party Engagement

For the supported environment, NWN Carousel owns identification, troubleshooting, and resolution of third-party vendor related issues. NWN Carousel drives the third-party vendor escalation process and provides follow-up of a supported vendor related issue. When required, NWN Carousel creates a ticket directly with the third-party vendor on the Customers behalf. NWN Carousel will drive the third-party vendor to identify the issue, troubleshoot the defined issues, and ultimately obtain resolution.

NWN Carousel notifies and communicates all third-party vendor issues with the Customer including ongoing status, available work arounds, and expected time of resolution. NWN Carousel will work the incident through closure, and if available, obtains the root cause. When required, NWN Carousel drives the escalation processes to resolve configuration, software, and hardware anomalies, manage hardware replacement, , implementing workaround for fixing software bug and patch management as defined in section 5.6, and on-site engineering dispatch.

Note: Customer is required to sign LOA (Letter of Authorization) for each third-party vendor during the service transition process for 3rd Party Engagement.

Note: NWN Carousel SLAs do not apply to third party services engagements. All SLAs will be paused during the time the work is being completed by a third party.

5.3.6. Carrier Management

For the supported environment, NWN Carousel owns identification, troubleshooting, and resolution of Carrier related issues. NWN Carousel acts as an agent of the Customer and drives Carrier escalations for MPLS, Ethernet, broadband, dedicated Internet, SIP trunks, PRIs, or analog circuits in the event of link down, service outage, timing & slips, or high interface errors.

- Customer is required to sign LOA (Letter of Authorization) for each carrier not purchased through NWN Carousel during the service transition process for 3rd Party Engagement.
- Customer is responsible for providing all Circuit information including account number, Circuit and LEC ID, service address and terminating device/interface.
- NWN Carousel SLAs do not apply to carrier services engagements. All SLAs will be paused during the time NWN Carousel is working with the carrier.

5.3.7. Major Incident Management Leadership

During the ordinary course of IT operations, significant incidents can occur, which can have an extreme impact on the steady-state operation of the business/organization. Our Services team may initiate the Major Incident Management (MIM) process in cases where a customer is experiencing an ongoing and severe hinderance to business operations.

When necessary, the Major Incident procedure could include the dynamic establishment of a separate Major Incident Team subject to the direct leadership of a NOC Manager. The NOC Manager ensures that adequate resources and focus are provided for finding a resolution. The NOC Manager will, as needed, organize, facilitate, and drive crucial meetings with the purpose of reviewing progress and determining the best course of action.

5.3.8. NWN Carousel Deliverables for Incident Management

The following list represents NWN Carousel's deliverables:

- Process incoming events and triage as needed
- Assign a priority to events that are escalated to incidents in the Case Management System
- Drive escalation with the appropriate third-party vendors
- Notify the customer of the issue including ticket number, time of outage, and expected time of restoration
- For RMA hardware replacement, drive the replacement process until replacement is shipped, received, installed, configured IP addressing and restore last known configuration
- Update the NWN Carousel Incident as required
- Validate the resolution of the incident
- Handoff to Change and Problem management

5.3.9. Customer Responsibilities for Incident Management

The following list represents the responsibilities of the customer:

- Review pertinent event information and provide feedback accordingly
- Notify NWN Carousel of any corrective action taken to clear the incident.
- Provides a point of contact for troubleshooting and resolution
- Package and ship faulty equipment and receive replacement RMA equipment.

5.3.10. Service Package inclusion for Incident Management

- Monitor and Operate Services

5.4. Root Cause Analysis (Problem Management)

5.4.1. Overview

Our service delivery team conducts root cause analysis to determine the underlying cause of an incident, document the findings and take appropriate corrective action. Root cause analyses are performed to understand the cause of critical outages, prevent future incidents from occurring, eliminate chronic incidents, and minimize future impact to problems and outages.

5.4.2. Request Process

Customers may request a root cause analysis after a P1 or P2 incident has been resolved. Only incidents that are resolved by NWN Carousel are eligible for Root Cause Analysis.

5.4.3. Findings

Our service delivery team will review the following:

- Incident records
- Event records
- Device logs
- Customer feedback

Once the review is completed the NWN Carousel engineer will provide feedback to the Customer within seven (7) business days. This will be in the form of a case update with recommended actions. Implementation of any recommendations is not included in this service. Any implementation of recommended changes should be submitted via a change request and are subject to the same limitations as any other change request.

5.4.4. NWN Carousel Deliverables for Root Cause Analysis

The following list represents NWN Carousel's deliverables:

- Perform root cause analysis for individual P1 and P2 incidents upon customer request
- Analyze case and device data
- Perform problem determination review
- Provide recommendations, if any, to avoid the problem in the future
- Update Case notes as required

5.4.5. Customer Responsibilities for Root Cause Analysis

The following list represents the responsibilities of the Customer:

- Review pertinent event information and provide feedback accordingly
- Implement change recommendations or submit appropriate change requests to implement recommended changes if any are provided.
- Notify NWN Carousel of any corrective action taken to clear the problem
- Provides a point of contact for troubleshooting and resolution

5.4.6. Service Package inclusion for Root Cause Analysis

- Monitor and Operate Services

5.5. Change Management

5.5.1. Overview

NWN Carousel’s change management function uses a standardized set of procedures to promptly handle all requests for service or change. All changes are recorded, assessed, approved, prioritized, and deployed in a manner that meets business requirements and protects the stability and reliability of critical IT systems.

5.5.2. Change Classification

The main objective of change management is to control the lifecycle of while minimizing disruption to IT services. Service or change request can be broadly classified as “Standard”, “Complex” and “Emergency.”

Priority	Definition
Standard	A Standard Change follows an established path, is relatively common, and is the accepted solution to a specific requirement or set of requirements. Standard changes follow templates and do not require approval from our Change Approval Board (CAB). An example of a Standard Change is a scheduled low-risk server reboot.
Complex	Complex change request is pervasive, less defined, and the impact of the request is not known. Complex request could change the configuration of an existing feature, enable existing capabilities, or focus resolving a known issue. Complex requests require Change Advisory Board (CAB) approval, and the specification of a maintenance window. Complex change requests are always scoped as a separate engagement. Complex Changes, also called Normal Changes, may have varying levels of risk and complexity. Complex Changes require a risk analysis, change plan, backout plan, and test plan. In addition to customer approval, our CAB must approve the change plan before it is implemented. Common examples of Complex Changes are patches or configuration changes which may cause service impact and require testing.
Emergency	Emergency change requests need to be executed immediately to resolve imminent Critical/Sev-1/P1 incidents that threaten business continuity. Emergency request requires approval from the eCAB and will follow the workflow defined in the emergency change request. During an outage our team may proceed with verbal approval to implement an Emergency Change and a record is created subsequently as an artifact.

5.5.3. Change Control Process

NWN Carousel uses ITIL best practices and will conform to the Customer’s change management process as agreed upon. NWN Carousel will utilize Change Management System within the NWN Carousel ServiceNow system to document changes. NWN Carousel’s standard Change Management process for changes is as follows:

1. Accept Request
 - 1.1. The request is completed by NWN Carousel or the Customer.
2. Complete and Submit Change control request
 - 2.1. Submit request for review by the Customer during regular change control meeting. Requests at a minimum should include:
 - 2.1.1. Potential impact of change (from user perspective)
 - 2.1.2. Detailed change procedure
 - 2.1.3. Back-out plan if change is unsuccessful
 - 2.1.4. Test plan to make sure environment is not impacted and change is complete
 - 2.1.5. A proposed schedule and change control window for the change (during regular change windows set during setup process unless change is an emergency)
3. Change Control Meeting

- 3.1. The Customer will approve or reject accept a change request via Change Record email approval
4. Execute Change
 - 4.1. Change is executed. If the change falls out of the approved window, it must be backed out unless the Customer explicitly extends the window.
5. Test
 - 5.1. The change is tested for completion and for potential adverse impact to the environment and the users. Determination is made whether to back the change out.
 - 5.2. Customer is responsible for providing testers for UAT (user acceptance testing) of the change during the approved change window, without users for UAT, testing is best effort and may require backout outside of change window
6. Back Out Change
 - 6.1. The change is backed out as documented in the change control request.
7. Customer Notification
 - 7.1. The Customer is notified of the results of the change.

5.5.4. Change Requests that are treated as a Billable engagement or a Project

All complex changes require comprehensive planning, documentation, workflow analysis, and governance. If the request is determined to be high-risk, the CAB must decide whether, when and how the request will be implemented or if the complex change request needs to be billed separately and, in some cases, treated as a project. The Customer will be directed to their sales team and Solution Architect, if assigned, to work with them to develop a scope of work and associated quotes. The following list of criteria is used to determine if the complex change request should be treated as a project:

- **On-site** - When the service/change request requires onsite NWN Carousel engineers to complete the request.
- **Testing** - When the service/change request requires extensive testing by our engineering team, Customer's team, or a combination of both.
- **Expansion** - When the service/change request adds new devices, locations, or features that fundamentally change the nature of the supported environment.
- **Design** - When the service/change request changes the fundamental design, architecture, or the operations of the supported environment.
- **Platform** - When the service/change request impacts multiple supported platforms across the supported environment.
- **Coordinate** - When the service/change request requires the NWN Carousel team to coordinate multiple resources – vendors, people, locations, or multiple phases of change implementation

Upgrade – When the service/change request requires a Major or Minor upgrade to the environment requiring extensive planning, significant engineering effort or coordination.

5.5.5. Customer Responsibilities for Change Management

The following list represents the responsibilities of the Customer under Change Management:

- Review pertinent Change information and provide feedback accordingly
- Submit timely and complete change requests via phone, portal, or e-mail
- Review and adhere to Change Management procedures
- Provide user to test change during the change window

5.5.6. Service Package inclusion for Change Management

- Monitor and Operate Services

5.6. Patch Management

5.6.1. Overview

NWN Carousel will provide proactive audit, notification, and recommendation on a periodic basis for software patches available on the devices under “Monitor and Operate” coverage. Patches will be defined as software to stabilize the code based upon reported bug related issues or to correct/harden a potential security vulnerability.

Patch Releases are typically designated as a change in the digit to the right of the second decimal point (for example version 8.1.1.3, n.y.[Z] where Z=3)). Upon request, NWN Carousel will follow the change management methodology described above in section 5.5 to implement the appropriate patches.

5.6.2. Types of Patches

The following table defines the types of patches evaluated as part of Patch Management:

Priority	Definition
Major Software Release	Major Release is a major change to the software that introduces new optional features and functionality. Major Releases are typically designated as a change in the digit(s) to the left of the first decimal point (for example, [N], y.z) are out of scope.
Minor Software Release	A Minor Release is a change to the software that introduces a limited number of optional features and functionality. Minor Releases are typically designated as a change in the digit to the right of the first decimal point (for example, n.[Y]. z) and are out of scope.
Patch Release	Patch Release is a change to the software to stabilize the code based upon reported bug related issues or to correct/harden a potential security vulnerability. Patch Releases are typically designated as a change in the digit to the right of the second decimal point (for example, n.y.[Z]) and are included as part of release management.

5.6.3. Limitations

The following limitations apply to patch management services delivered by NWN Carousel:

- If NWN Carousel determines the patch is appropriate, it will follow Change Management procedures and policies.
- Additional installation, implementation and/or customization services necessary to implement software releases are not included in this service and are defined as projects.
- Customer must retain entitlement to receive software and/or firmware updates from their manufacturers. NWN Carousel does not provide an alternative to upgrade entitlement or leverage NWN Carousel entitlements on Customer’s behalf.
- NWN Carousel does not supply any software or firmware of any kind other than for NWN Carousel owned equipment and systems.

5.6.4. Patching approach by technology

The following table details how we evaluate patches by technology. Patching only covers contracted devices.

Priority	Definition
Server Patch Management	Our Service Delivery team follows an industry best practice methodology of Scan, Assess, Approve and Install for updating Microsoft and Linux Server patches. We provide monthly assessment, notification, and recommendation of patches. We provide monthly patch implementation or more immediate patching if service effecting or security related.

Priority	Definition
Network Device Release Management	Our Service Delivery team follows a semantic versioning model for Network Device Patch Management for supported devices. The semantic versioning model is defined as MAJOR.MINOR.PATCH. We provide quarterly assessment, notification, and recommendation of patches. We provide semi-annual patch implementation or more immediate if service effecting. NWN Carousel will report on MAJOR.MINOR.PATCH, but will only implement on PATCH.
Application Release Management	Our Service Delivery team follows a semantic versioning model for Release Management for selected business enablement applications. The semantic versioning model is defined as MAJOR.MINOR.PATCH. We provide quarterly assessment, notification, and recommendation of patches. We provide semi-annual patch implementation or more immediate if service effecting. NWN Carousel will report on MAJOR.MINOR.PATCH, but will only implement on PATCH.
Storage Release Management	Our Service Delivery team follows a semantic versioning model for Release Management for select business enablement applications under support. The semantic versioning model is defined as MAJOR.MINOR.PATCH. We provide semi-annual assessment, notification, and recommendation of patches. We provide annual patch implementation or more immediate if service effecting. NWN Carousel will report on MAJOR.MINOR.PATCH, but will only implement on PATCH.

5.6.5. NWN Carousel Deliverables for Patch Management

The following list represents NWN Carousel’s deliverables:

- Perform a review of the patch prior to implementation
- Align patch to NWN Carousel and Customer’s agreed change management process
- Provide feedback to Customer on applicability of patch and any risks associated with implementation
- Perform patch in accordance with industry best practices
- Provide feedback upon successful implementation of patch
- Refer complex patches to the Customer’s Solution Architect for further scoping

5.6.6. Customer Responsibilities for Patch Management

The following list represents the responsibilities of the Customer:

- Review pertinent event information and provide feedback accordingly
- Support the patch and change management processes
- The customer may be required to complete a post-patch test plan

5.6.7. Service Package inclusion for Patch Management

- Monitor and Operate Services

5.7. Configuration Management

5.7.1. Overview

Configuration Management is the process of enabling the backup of critical device and application data to aid in the reconfiguration or restoration of service after an outage. Various devices and applications have their own configuration management features and capabilities. NWN Carousel provides two types of Configuration management: Network Device Backup and Application Backup Assurance. These features may or may not apply to all covered devices.

5.7.2. Network Device Configuration Backup

Network and some security devices typically maintain a text configuration file, useful for the backup of device level settings. NWN Carousel monitors supported devices and checks for new configurations weekly. Upon detecting a change, our cloud-

based platform will retrieve and store the latest configuration for each device. We will also archive the last three months of configuration files for each covered device.

5.7.3. NWN Carousel Deliverables for Network Device Configuration Management

The following list represents NWN Carousel's deliverables:

- Configure Network Device Backup parameters in the NWN Carousel service Management Platform
- Collect new configurations when a change is detected
- Archive the last three months of configurations
- Provide archived configuration or configuration backup as requested by Customer
- Use stored configuration to facilitate service restoration as required

5.7.4. Application Backup Assurance

Applications and operating systems typically maintain their own backup tools and processes. Our Service Delivery Team can monitor the backup process on select applications and operating systems and alert you if those schedule backup events do not occur or result in an error. The Customer is responsible for supplying a backup destination and selecting and configuring the backup schedule.

5.7.5. NWN Carousel Deliverables for Application Server Configuration Management

The following list represents NWN Carousel's deliverables:

- Configure monitoring of the server OS or application backup process
- Alert the Customer when the backup process fails
- Provide support to the Customer in configuring proper monitoring and event management.

5.7.6. Customer Responsibilities

The following list represents the responsibilities of the Customer:

- Review Supported Device Matrix
- Configure devices, applications, and operating systems to support the required backup or backup assurance parameters
- Support troubleshooting of backup and backup monitoring

5.7.7. Service Package inclusion Configuration Management

- Monitor and Operate Services

5.8. Reporting

5.8.1. Overview

Tracking and reporting are key components of our Monitor and Operate services. Reporting provides the Customer with insights into the health and operations of their critical IT infrastructure. On a periodic basis, NWN Carousel will provide a set of summary reports that detail work performed to maintain and operate the environment. These reports include:

- Proactive Maintenance Reporting
- Incidents
- Scheduled Maintenance
- Change Requests
- SLA Reporting

5.8.2. Report Types

The table below defines the different report types available on demand.

Priority	Definition
Incident	Incidents are captured in the ticketing system. On a monthly basis a snapshot is taken of what incidents have been completed over the course of the month as well as what incidents are currently outstanding.
Schedule Activity Report	Scheduled Maintenance activities are captured in the ticketing system. A snapshot is taken of what scheduled maintenance has been completed over the course of the month as well as what schedule maintenance is currently outstanding.
Change Request Reports	Change requests are captured in the ticketing system. We capture the change requests that have been completed over the course of the month as well as what change requests are currently outstanding.
Monthly Analysis	The customer will receive an analysis report of the critical information captured with regards to the customer's environment along with a technical summary about the key statistics. These reports can be utilized to identify preventative maintenance activities as well as future planning on the technical direction for the environment.

5.8.3. NWN Carousel Deliverables for Reporting

The following list represents NWN Carousel's deliverables:

- Configure Reporting
- Provide reports on the designated schedule via e-mail or via EMP if applicable
- Review reports with the Customer during regular review meetings (as governed by customer success management.)

5.8.4. Customer Responsibilities

The following list represents the responsibilities of the Customer:

- Review reports as delivered
- Provide feedback if applicable

5.8.5. Service Package inclusion for Reporting

- Monitor and Operate Services

6. Customer Experience Management

6.1. Overview

The success of every customer is NWN Carousel's primary goal. Our services are designed to help manage complex IT environments to help Customers achieve positive business outcomes from their investment in Cloud Communications and associated technologies. Constant engagement between NWN Carousel and our customers is key. To help facilitate this engagement, NWN Carousel provides various features under the umbrella of Customer Success Management (CSM) to ensure you get the outcomes committed to you by our service offerings. Customer Success Management provides customers with an established framework for communications, reporting, procedural and contractual activities for the Services.

6.2. Stewardship

From service transition to run state, the communication cadence between the Customer and the Customer Experience Management team is established. These service focused touch points will discuss upcoming service requests, change requests, patch and release management status and significant projects. As they occur, the Customer Success Management Team will review and update any organizational changes, process changes, and modification to Customer response procedures. Stewardship includes:

6.2.1. Trusted Strategic Advisor:

Drives lifecycle adoption by following the adoption stages while capturing customer feedback. These include:

- Awareness
- Conversation
- Activation
- Training
- Recommendation

6.2.2. Delivery Leadership:

Ensure offerings are delivered according to the outcomes and metrics defined in the value-based engagement. Including:

- Optimization
- Capacity Management
- Life-Cycle Planning,
- Availability Management
- Environmental stability
- Management and Oversight of the contact between the "Customer" and NWN Carousel
- Managing customer engagements to achieve business outcomes, mitigate risks
- Accurately forecast, track and report on all recurring service-based customer engagements across our core offerings

The Customer Experience Manager (CEM) will engage the account team to provide insight on Customer's business goals, business outcomes, overall performance, and leads for new products and services.

6.2.3. Service Package inclusion for Customer Experience Management

- Monitor and Operate Services

6.3. Customer Experience Manager

6.3.1. Overview

The CEM focus is on maintaining service excellence each day by working closely with the Customer's leadership to translate essential business requirements to the broader support team such as business changes, critical system sensitivity, blackout periods for change, etc. The following are some of the responsibilities of a Customer Experience Manager:

6.3.2. Customer Experience Manager Assignment

NWN Carousel's CEM is assigned to work within the standard hours of operations (Monday through Friday, 08:00 to 17:00 Local Customer Time based on where the Customer's headquarters or primary contact is).

Customers are only assigned a Customer Experience Manager when their total annual spend for managed services with NWN Carousel (excluding Maintenance contracts) is equal to or exceeds One-Hundred and Fifty Thousand dollars (\$150,000.)

6.3.3. Customer Experience Manager Deliverables

In addition to the above deliverables, the CEM will:

- General service/business escalation management
- Remote Service Review meetings
- Customer incident escalation and arbitrage
- Customer billing inquires and issue resolution
- Emergency and Complex Change Planning and Approval
- As needed report review and interpretation
- Custom report generation and delivery
- Root Cause Analysis reporting and recommendations
- Conduct two (2) bi-annual service review meetings.
- Act as a Single point of Contact between the Customer and the NWN Customer Success Team

6.3.4. Service Review Meetings

Service Review meetings are used to review the current state of the Monitor and Operate Services being delivered to the Customer. NWN Carousel's CEM will review a summary of the monthly reporting and identify areas for mutual improvement. These meetings will cover:

- Delivery metrics
- SLA Attainment
- Service Request History
- Contract Updates and Renewal information
- NWN Carousel Updates as applicable
- Customer Updates on initiatives
- Topics to be determined

6.3.5. Service Package inclusion for Customer Experience Manager

- Monitor and Operate Services (must meet criteria above.)

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6.4. Dedicated Customer Experience Manager (optional)

On a case-by-case basis, or at the desire of the customer, NWN Carousel may recommend the purchase of a dedicated Customer Experience Manager. This resource would be scoped and costed as an additional annual charge and operate across your entire install base of services.

6.4.1. Dedicated Customer Experience Manager Deliverables

A dedicated CEM will perform all the duties of the designated CEM as well as these additional deliverables:

- Professional Services Project Reporting and coordination
- Site Cutover and Planning Support
- Quarterly or Monthly Service Reviews
- Annual Executive Business Review
- Customer Business Planning
- Participation in Customer's change Management process and regular planning activities

6.4.2. Executive Business Reviews

EBR is scheduled and conducted by the assigned Customer Experience Manager. This briefing is not the time or place to discuss the details of specific service issues, support questions or the status of projects. Instead, the CEM will lead a conversation to gain a deeper understanding of the Customer's business and plans, and to strategize as to how NWN Carousel can deliver more value based on those factors. At the same, the CEM will provide insight on NWN Carousel's business goals and objectives, overall performance, and new solution sets. Also, the CEM will provide comprehensive insight on overall service delivery performance, areas for improvements, capacity planning recommendation and life-cycle management advice.

This meeting is intended to help the two organizations understand their strategic initiatives and how we can help the Customers achieve their specific business outcomes. This is not the time for service metric review

6.4.3. Service Package inclusion for Customer Experience Manager

- Monitor and Operate Services (if dedicated CEM purchased)

7. Service Transition (On-Boarding)

7.1. Overview

NWN Carousel's Service Transition (or on-boarding) team works closely with the customer support team to document and understand the current state operating environment and how, if any, current project activities will change that environment. If support services are following implementation of a project, NWN Carousel utilizes a synergistic approach to the engagement by partnering internal teams together toward a common goal. NWN Carousel follows a project-based approach to transition engagements

7.2. Service Transition Process

NWN Carousel will manage and perform the following transition phases in which activities required for delivery are planned, designed, and implemented:

7.2.1. Initiate Phase

The NWN Carousel Onboarding Manager or, if you are deploying a new solution, your assigned Project Manager, will work with your organization to begin the onboarding process.

7.2.2. Assess Phase

The NWN Carousel Onboarding Manager team will work to collect vital data to aid in the onboarding of your infrastructure into the new service. Including collecting device configurations, security requirements, and operational procedures.

7.2.3. Execution Phase

NWN Carousel will quickly get supported items loaded and configured in the monitoring tool, validate connectivity and response. This phase includes:

- Connectivity Setup: This activity is to establish remote connectivity between NWN Carousel and the customer site. It includes configuration of the associated devices as well as any secure connections/VPN Tunnels.
- Monitoring Setup: This activity is to load all of the supported devices to be monitored into the NWN Carousel monitoring tools. The execution of this task is dependent on the successful completion of the documentation activity as well as the connectivity setup activity. At the completion of this task all devices would be loaded and initial monitoring parameters would be set.

7.2.4. Quality Assurance/Testing Phase

A full quality and testing review of the proposed solution with refinement and enhancements. Tuning of the environment to eliminate noise, false positives and ensure that the monitoring and reporting functions are optimized and working as expected. Additionally, NWN Carousel will finalize all delivery process and procedures

7.2.5. Steady-State Phase

This is the final preparation to make sure NWN Carousel is set to support the customer environment. At the completion of this activity is the official customer “go-live” where NWN Carousel is live with supporting the customer environment. NWN Carousel will deliver the services purchased.

7.2.6. Customer Responsibilities

The following list represents the responsibilities of the Customer:

- Designate a single point of contact for all transition activities
- Provide device information including:
- IP Addressing and Name Service information
- As Built Documentation
- Current and backup configuration files (if available)
- Security and access information as required
- Additional information as required.
- Participate in onboarding meetings and testing/go-live activities

7.2.7. Service Package inclusion for Onboarding

- Monitor Only Services
- Monitor and Operate Services

8. Service Levels

8.1. Overview

NWN Carousel deliver services based on a pre-configured set of Service Level Objectives (SLOs). These govern how we deliver our service offerings within the NOC. The start of these processes may originate from the monitoring system, event management, or Customer opened cases.

8.2. Service Level Objectives by Case Type

Commitment	Definition	Priority	Objective	Quarterly Measurement
Speed to Answer				
Speed to Answer is measured across all Customer calls.	Service Desk live answer		<=20 Seconds	90% Aggregate
Incident Response (Monitor and Operate Only)				
Incident Response is measured from receipt of notification via email, call, or alarm.	Notification to Incident	P1	<=15 Minutes	90% Aggregate
	All Emails considered as P2 by default	P2	<=30 Minutes	
		P3	<=30 Minutes	
		P4	<=30 Minutes	
Incident Assignment (Monitor and Operate Only)				
Incident Assignment period is measured from the time the incident has been opened.	Incident to Engineer Assignment	P1	<=30 Minutes	90% Aggregate
		P2	<=1-hour	
		P3	<=4-hour	
		P4	<=8-hour	
Incident Resolution (Monitor and Operate Only)				
Incident Resolution period is measured from the time the incident has been opened.	Incident Creation to Incident Resolution	P1	<=4-hour	80% Aggregate
		P2	<=8-hour	
		P3	<=4 Business Days	
		P4	<=10 Business Days	
Problem Management (Monitor and Operate Only)				
Problem Management is measured from time of Customer request for RCA.	Root Cause Analysis (RCA) Inputs	Delivery	7 Business Days	80% Aggregate
Change Management Response (Monitor and Operate Only)				
Change Management Request Response is measured from receipt of the request to the creation of the Service Request (SR).	Emergency Change Critical	P1	<=15 Minutes	90% Aggregate
	Emergency Change Default	P2	<=30 Minutes	
	Complex Change Default	P3	<=30 Minutes	
	Standard Change Default	P4	<=30 Minutes	
Change Management Implementation (Monitor and Operate Only)				
Change Management Implementation is measured from the time of the change approval or from the start of the authorized change window.	Emergency Change Critical	P1	<=2-hour	80% Aggregate
	Emergency Change Default	P2	<=Same Bus Day	
	Complex Change Default	P3	<=Next Bus Days	
	Standard Change Default	P4	<=3 Business Days	

9. Appendix A – Assumptions, Exclusions and Limitations

This document is governed by the Master Services Agreement between NWN Carousel and the Customer. Modifications to the services detailed in this document may be superseded by specific language agreed by both parties in a separate scope of work document. The following assumptions and exclusions apply.

9.1. Exclusions

9.1.1. General

1. Deliverables not mentioned in this Service Description are not included
2. Any project-based remediation work is not included.
3. We assume that all solutions under this agreement are designed, configured, and implemented correctly and any redesign, reconfiguration, or re-implementation are out of scope.
4. This agreement is a remote managed service offering and by default does not provide on-site support, engineering, and consulting. Any on-site requirements are out-of-scope unless clearly defined elsewhere.
5. Providing the following is excluded:
 - a. Any custom errors, logs, and/or parameters to monitoring.
 - b. Any customizations to NWN Carousel standard monitoring templates.
 - c. Investigation and analysis of root cause of problems for P3 and P4 issues.

9.2. Delivery Assumptions

9.2.1. General

1. Customer agrees to designate a single point of contact to work with NWN Carousel for the duration of this contract. This contact shall be available during normal business hours (Monday through Friday 8:00am to 5:30pm local time, excluding NWN Carousel observed holidays).
2. Customer agrees to provide remote access to the network to facilitate remote configuration and troubleshooting as required independently.
3. Customer agrees to provide proper security clearances and configure security controls to facilitate remote monitoring and operations.
4. Customer agrees to provide secure access via password or other authentication agreed by both parties to the systems being operated.
5. Customer agrees to provide any special safety equipment if required for sites visited by NWN Carousel personnel or sub-contractors
6. Customer will be responsible to have complete backups of any data prior to commencement of our services. NWN assumes no responsibility for lost data.
7. Customer agrees that any delays caused by the customer are not the responsibility of NWN Carousel. Further, any additional time or expense incurred because of said delays will be subject to a change order and additional charges.
8. If systems are not supportable in their current state, customer is responsible for making any changes required to bring systems into compliance. These services may also be provided by NWN Carousel at the customer's expense.
9. All work will be performed remotely from NWN Carousel Operation Centers located in the United States and India.

10. Any desk side assistance required to diagnose or resolve infrastructure issues will be performed by Customer.
11. Performance issues or application failure due to faulty hardware or improperly configured or faulty software caused by Customer is outside the scope of the services agreement and will be the responsibility of Customer to remedy. NWN Carousel will make reasonable efforts to work with Customer to troubleshoot and rectify problems.
12. We assume that all solutions under this agreement are designed, configured, and implemented correctly and any redesign, reconfiguration, or re-implementation are out of scope.
13. Customer will provide network and system documentation and any network topology diagram for the existing network infrastructure if available.
14. Customer agrees to ensure that proper environmental conditions are met, including, but not limited to: proper power equipment grounded to code, backup power source if required, cooling, rack/floor space, and any external monitoring equipment required.
15. Customer agrees to provide all supporting technologies including DHCP, DNS, or other systems required for normal functioning of the solution.
16. Customer shall be responsible to specify, order and ensure the provisioning of an adequate amount of circuit bandwidth and/or SIP trunks to support the operation of the system under normal and peak usage periods.
17. Customer will cooperate with NWN Carousel as reasonably necessary for NWN Carousel's performance of its obligations, including:
 - a. providing NWN Carousel with full, free, and safe access to its facilities.
 - b. providing telephone numbers, network addresses and passwords necessary for remote access.
 - c. providing interface information for Supported Items and necessary third-party consents and licenses to access them.
 - d. Customer shall provide to NWN Carousel a technical resource or onsite contact person who shall assist NWN Carousel Technicians, Engineers, and Support Staff in remotely troubleshooting issues, including, but not limited to providing data logs, or assisting in reboots/ resets of certain components.
18. Customer will reasonably use, safeguard, and return to NWN Carousel any items that NWN Carousel loans to Customer ("NWN Carousel Tools") for the purpose of providing Services under this CSD, such as, but not limited to, the Service Delivery Gateway ("SDG"). NWN Carousel Tools shall not be considered Products.
19. Except for NWN Carousel hosted facilities, Customer will provide all Supported Items, Supported Systems and Supported Sites. NWN Carousel continuously represents and warrants that the customer is either the owner of, or is authorized to access and use, each of them; and that NWN Carousel, its suppliers, and subcontractors are authorized to do the same to the extent necessary to provide the Services in a timely manner.
20. Customer will notify NWN Carousel in advance before moving Supported Items. NWN Carousel may charge additional amounts to recover additional costs in providing the Services because of moved Supported Items.
21. Where NWN Carousel is to instruct or request products or services on Customer's behalf from third party vendors under Customer's supply contracts with third-party vendors ("**Vendor Management**"), Customer will provide NWN Carousel upon request a letter of agency or similar document, in form reasonably satisfactory to NWN Carousel and Customer, permitting NWN Carousel to perform the Vendor Management. Where the third-party vendor's consent is required for NWN Carousel to be able to perform Vendor Management in a timely manner, Customer will obtain the written consent of the vendor and provide NWN Carousel a copy of it upon request.
22. In the event one or more network address(es) to be monitored by NWN Carousel are associated with systems owned, managed, and/or hosted by a third party service provider ("**Host**"), Customer will: (i) notify NWN Carousel of the Host prior to commencement of the Services; (ii) obtain the Host's advance written consent for NWN Carousel to perform the Services on the Host's computer systems and provide NWN Carousel with a copy of the consent upon request; and (iii) facilitate necessary communications between NWN Carousel and the Host in connection with the Services.

23. To receive manufacturer support or gain access to intellectual property such as software patches and updates, manufacturers may require an end user to maintain manufacturer-direct content in the form of licensing or software subscriptions, or another type of manufacturer-direct entitlement. It is the responsibility of the customer to ensure that all subscriptions, licensing fees, software support agreements, and other manufacturer entitlements are active and up to date at commencement of, and always during the term of the service.

10. Appendix B - Data Security and Management

10.1. Data Collection

NWN Carousel collects and stores only data necessary to perform IT operations management and support functions on devices that it manages.

Type of Data	Data Collected	Data Storage and Security
Performance Statistics	System level information necessary to monitor the performance and health of managed devices: <ul style="list-style-type: none"> • CPU and Memory utilization • OS Events • Hardware Events 	Device performance statistics are stored only in the NWN Carousel ITOM Cloud. The Agent and Gateway collect and transmit this data to the NWN Carousel ITOM Cloud
Events and SNMP Traps	Operating System events and traps generated by SNMP agents.	The Monitoring Gateway and Agent processes events and traps locally and send resultant alerts to the ITOM Cloud via a secure channel. Raw event data is not stored in the Cloud.
Device Configuration and Device Metadata	System level information necessary to asset device configuration status: <ul style="list-style-type: none"> • DNS Names • Make/Model • OS and Application Configuration Parameters 	The Monitoring Gateway and Agent sends configuration data to the ITOM Cloud via a secure channel.
Device Credentials	Credentials (username / password) necessary to discover devices, access performance and configuration data, and log into devices to run automation scripts.	Device credentials are stored in the NWN Carousel Enterprise Password Vault, using industry standard FIPS level encryption.
Support Information	Information needed to support Incident, Problem and Change Management <ul style="list-style-type: none"> • Contact Information • Asset Information 	

10.2. Types of Data NWN Carousel Does Not Collect

NWN Carousel does not collect, and has no means to collect, any data processed by applications that NWN Carousel monitors. Examples of such data includes data within database tables, content of application transactions, user credentials of applications, etc.

10.3. Data Management

Type of Data	Description
Data Classification	NWN Carousel only collects and stores data required for IT operations management on devices and applications managed by it. Data that NWN Carousel collects is limited to device performance metrics, performance and failure events, and configuration information.
Data Isolation	NWN Carousel implements strict multi-tenancy controls to ensure data access is strictly isolated between customers.
Data Encryption (in-flight)	All data transmitted between the NWN Carousel Agent/Gateway and the NWN Carousel Cloud is encrypted with SSL and TLS/SSH (for gateway).

Type of Data	Description
Data Encryption (at-rest)	Device credentials stored in the NWN Carousel cloud is encrypted using 1024-bit RSA encryption.
Authentication	NWN Carousel Cloud offers SAML and OAuth2 based authentication. NWN Carousel additionally supports third party authentication services such as OneLogin, Okta and ADFS. NWN Carousel Cloud offers two-factor authentication.
User Access Management	NWN Carousel has extensive role-based access controls. NWN Carousel access controls are granular to the managed device, user, and feature.
APIs	NWN Carousel provides REST APIs for integration with NWN Carousel cloud. NWN Carousel REST APIs are backed by OAuth2 based authentication.
Regulatory and Compliance Requirements	NWN Carousel does NOT collect any Personally identifiable information (PII). NWN Carousel is hosted in co-location facilities provided by two U.S based data center providers. Each provider has their own security certifications including SAS and SSAE.

10.4. Data Security

NWN Carousel supports an extensive set of security features to ensure that management data collected by NWN Carousel is accessed only by authorized users.

Type of Data	Description
Encryption	All sensitive data is encrypted to FIPS (Federal Information Processing Standards) in NWN Carousel. Customer data (inventory, metrics, alerts, and tickets) is logically partitioned and stored under the Customer tenant. Customer data is accessible, via Role-based Access Controls (RBAC) only to authorized users of the tenant.
Role Based Access Control (RBAC)	NWN Carousel supports comprehensive Role-based Access Controls. Users' access to devices and actions within NWN Carousel is controlled by fine-grained permissions. Permissions are assigned based on users' roles.
Identity Management	NWN Carousel provides multiple options to manage user identity: <ul style="list-style-type: none"> Built-in user management system within NWN Carousel Integration with Microsoft Active Directory Integration with single sign-on service OneLogin via SAML 2.0.
Authentication and Passwords	NWN Carousel follows standard practices for passwords: <ul style="list-style-type: none"> NIST based rules of password strengths CAPTCHA code-based validation Automated lockout after multiple unsuccessful login attempts NWN Carousel supports two-factor authentication using, FortiToken, Google Authenticator and Yubico YubiKey.

10.5. Data Retention

Data Retention is Defined based on the type of Devices being supported. They include:

10.5.1. Active and Inactive Devices

- A managed device is considered inactive if it meets all of the following criteria for 90 consecutive days or longer:
 - No metrics are collected.
 - No consoles are launched.
 - No jobs, scripts, patches, or anti-virus updates are applied.
- An active device is one that does not meet the above criteria

10.5.2. Active and Inactive Devices

- A Customer is considered inactive if they meet one of the following criteria for 90 consecutive days or longer:
- Customer has no active devices.
- Customer has been marked as inactive within our systems.
- An active Customer is one that does not meet the above criteria.

10.5.3. Retention by data type

The following Data Retention timelines is listed by data type

Type of data	Criteria	Retention
Devices	Inactive devices	90 days
Customers	Inactive Customers	90 days
Tickets	Closed tickets	12 months
Metrics	Metrics collected from managed devices	12 months
Alerts	Suppressed and closed alerts	90 days
	Open alerts	For as long as alert is open
Graphs	Graphs with no data	15 days
Reports	Recurring reports	Last 5 generated reports
	One-time reports	90 days
Job, Script, and Patch Activity	Jobs results	90 days
	Custom script results	90 days
Patches	Missing patches, once detected, but not re-detected for 180 consecutive days or longer	90 days

10.5.4. Data Security at Contract Expiration

Upon contract expiration NWN Carousel inactivates the Customer "tenant" in the NWN Carousel ITOM Cloud. An inactive tenant's instance inventory, metrics, and alerts data will be available in passive state, however, monitoring, alerting and other management functionality is no longer available.

Based upon an agreement between NWN Carousel and the Customer, NWN Carousel will delete all the tenant information from the NWN Carousel ITOM Cloud. Due to a ninety-day data archival retention policy, deleted tenant data will be available in archival repository for ninety days.