Common Network Management Technical Service Description

Overview of Service

This service provides configuration, monitoring and management that is common to all network devices in the Client's on-premises or colocation data center.

Client Responsibilities and Prerequisites

- The Client must be in possession of an active hardware service contract for the network device(s) under management with the vendor, or a vendor approved third party such as NTT Uptime Support Services.
- The Client must grant authority to NTT's engineers to contact the device vendor (or third party) directly for the purposes of the managed service.
- Any management of licenses, if required.
- Any software or firmware operating on the device must be a version currently supported by the vendor.
- Simple Network Management Protocol (SNMP) must be enabled and configured for devices to be managed as part of the service.

Service Design

The complete service is defined by the combination of the following items:

- **Managed Campus Network Service Operations**- service delivery operations that are common to all Managed Campus Network Services. See *MCN Statement of Work*, latest version.
- **Common Operations**- service delivery operations that are common to all services within the category of Network Management. See *MCN Statement of Work*, latest version.
- **Service-Specific Operations**- service delivery operations that are specific to this service. These operations are additive to the *MCN Statement of Work* and Common Operations.

Common Operations

Monitoring

Monitoring will be performed in accordance with the process described in Event Management (see *MCN Statement of Work*).

The following monitors can be configured by default for all Network devices:

Monitor	Description	Alerts	Performance Info	Resolution	Poll Interval (sec)
Ping / Network	Time taken to respond to a ping packet from a poller and the packet loss	✅	Graphs of round-trip Time and Packet Loss	Engineering Teams will solve the issue	60
CPU	CPU usage of the network device	✅	Graphs of CPU utilization	Engineering Teams will diagnose and try to resolve the issue and escalate to the Client if needed.	60
Memory	Memory usage of the network device	✅	Graphs of RAM utilization	Engineering Teams will diagnose and try to resolve the issue and escalate to the Client if needed.	60
PSU (1)	Existence of a problem of the power supplies (if redundant)	✅	N/A	Engineering Teams will resolve the issue	600
Fans (1)	Existence of a problem of the device fans	✅	N/A	Engineering Teams will resolve the issue	180
Temperature (1)	The alarm is triggered if the temperature exceeds the defined range	✅	N/A	Engineering Teams will resolve the issue	120

(1) Only if monitoring of the element is supported by the vendor

Client Notification

Method	Description
Email message	Generation of an email message with the following information: • System that generated the alert • Configured Thresholds • Threshold that caused the error

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Sensitivity Label: General

	• Additional diagnostic information
Phone call	Phone call to a defined number, notifying the client of the error condition and all applicable background information

Service Requests

As part of the Service, the fulfilment of the listed types of requests are included.

Common Network Management Service Requests

Task	Description	Included
Firmware upgrade / downgrade	Upgrade or downgrade firmware to a specified version and or feature set.	✅
Configuration Restoration	Restore a device configuration backup to a specified iteration.	✅

Periodic Maintenance Tasks

As part of the Service, the following periodic maintenance tasks are included for Managed Campus Network devices unless explicitly described to the contrary in the Technology Service Description:

Task	Frequency	Description
Firmware review	Continuous process	Notify the Client of outstanding critical firmware upgrades which address vulnerabilities that may affect the Service, such as security exploits or bugs. If the Client chooses to proceed with the upgrade, follow the process defined for firmware patching in *the MCN Statement of Work*. Upgrade of firmware is not considered the same as patching, but as an installation of a new operating system version for the device.
Configuration Management	Weekly	Review of the correct execution of the associated configuration, operational and local node backup; in case of an error with the execution of a backup configuration, operational or local node backup, resolution will follow the process for Incident Management.

Firmware Review

Keeping up-to-date on firmware allows administrators to utilize the latest features and ensures that the latest security enhancements are running on their hardware. Admins can upgrade to the latest stable or latest beta firmware. NTT will communicate with the Client to proceed with the firmware update:

- For all the networks in scope
- For a series of networks of the total scope
- For all the devices of a certain type
- For all devices in a certain version, or
- For an individual device

The firmware upgrade will not be executed unless:

- It was previously agreed as part of the Patching Design sessions with the Client (as an example, all the critical security patches must be applied within 24 hours of a firmware release), or
- It was approved by the Client specifically

The firmware upgrade will be executed at an agreed time by NTT engineers. The firmware upgrade process can happen out of business hours if required.

Configuration Management - Backup and Restore

An integral part of the Service is the management of the backup policy and execution of configuration restoration requests. The following tasks are included as part of Network Device Management:

Task	Description
Configuration Backup Policy implementation	When the Service is initially delivered, a Configuration backup policy will be implemented. This policy copies all the configuration data of the managed device so that should a full reinstall of the device be required, all the configuration files can be restored if needed.
Restore of System Configuration	Restore of system configuration from the backup policy.

For details of backup and restore, consult the MCN Managed Configuration Backup Service Description.

Service Specific Operations

The service specific operations are contained in the Technology Service Descriptions for the individual services.

Service Transition

Tasks Included in the Standard Transition

As part of the Service, the following tasks are included in the setup fee:

- Inventory of the device
- Initial access setup - configuration of network interfaces
- Creation and/or change of administrative and supervisor users required for supplier management, NTT Engineers and the Client
- Configuration of syslog parameters (if a syslog exists)
- Monitoring setup
- Configuration management set up and implementation of security standards
- Backup configuration and implementation of security standards; and
- Documentation of the device

Tasks Excluded from the Standard Transition

The following tasks are not included in the standard transition:

- Rack mounting of the device
- Physical setup (cabling of ethernet and power cords and labelling etc.) of the device
- Upgrading and or patching the device firmware
- Configuration of other connected devices not managed by NTT as part of the service
- Audit and review of the physical premises where the device is installed
- Review of the configuration or actions of other connected devices not managed by NTT as part of the service
- Analysis and redesign of the topology unless otherwise stated in the SOW (additional charges may apply)
- Remediation activities to be conducted after the audit unless otherwise stated in the SOW (additional charges may apply)