

DC Network Management - Common Functions

Data Center Network Management

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

- **Client Service Description** –service delivery operations that are common to all NTT Managed Services
- **Common Operations**– service delivery operations that are common to all services within the category of Network Management (the following section)
- **Service-Specific Operations** – service delivery operations that are specific to each service. These operations are additive to the *Client Service Description* and Common Operations.

1 Common Operations

- 1.1 Monitoring
- Monitoring will be performed in accordance with the process described in Event Management (see *Client Service Description*).
- The following monitors can be configured by default for all Network Devices, if supported by the device and software:

Monitor	Description	Alerts	Performance Info	Resolution
Ping / Network	Time taken for responding to a Ping from a poller and packet loss	Yes	Graphs of Round Trip Time and Packet Loss	Engineering Teams will attempt to diagnose and troubleshoot the issue
CPU	CPU usage of the network device	Yes	Graphs of CPU use	Engineering Teams will attempt to diagnose and solve the issue, and escalate to the Client if needed.
Memory	Memory usage of the network device	Yes	Graphs of RAM use	Engineering Teams will attempt to diagnose and solve the issue, and escalate to the Client if needed.
PSU (1)	Existence of a problem in the power supplies (if redundant)	Yes	N/A	Engineering Teams will attempt to diagnose and troubleshoot the issue
Fans (1)	Existence of a problem in the device fans	Yes	N/A	Engineering Teams will attempt to diagnose and troubleshoot the issue
Temperature (1)	The alarm is triggered if the temperature is out of the defined range	Yes	N/A	Engineering Teams will attempt to diagnose and troubleshoot the issue

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

- 1.2 Client Notification

Method	Description
Email message	Generation of an email message with the following information: <ul style="list-style-type: none">· System that generated the alert· Configured Thresholds· Threshold that caused the error· Additional diagnostic information
Phone call	As requested by Client, phone call to a defined number, notifying the client of the error condition and all applicable background information

- 1.3 Service Requests
- As part of the Service, the fulfilment of the following types of requests are included:

Task	Description
Creation of users/groups	Creation of users and groups in the device, including password maintenance
Management of network	Creation and changes in the network interfaces parameters (IP addresses, gateways, etc.)

interfaces (ports)	
Log subsystem configuration	Management of the log information resending to a syslog server or SIEM solution if in Scope on the SOW (if any)
Management of manufacturer's guarantee	Management of hardware or firmware errors with the manufacturer; for any devices not supplied by NTT, Client must possess a valid contract for manufacturer support and provide authorization for the Engineers to open a support case
Configuration Management: Restore of data	Restore device configuration

1.4 Periodic Maintenance Tasks

As part of the Service, the following periodic maintenance tasks are included for Managed Network Devices:

Task	Frequency	Description
Firmware/OS updates review and apply	Once per year	Notify the Client of any outstanding critical firmware patches/ OS updates released by vendor that need to be applied to the device. These notifications are based on cases where some vulnerability may impact the current service under the current firmware (security exploits, bugs, etc). If the Client chooses to proceed with the upgrade, the process defined for firmware patching in the <i>Client Service Description</i> for Infrastructure Devices will be followed.
Configuration Management	Daily	Review of the correct execution of the associated configuration backup; in case of an error with the execution of a backup configuration, resolution will follow the process for Incident Management.

1.5 Configuration Management

An integral part of the Service is the management of the backup policy and execution of restore 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 that shall not exceed any retention requirement in the Agreement.
Restore of System Configuration	Restore of system configuration from the backup policy.

2 Out of Scope:

Client access to Network Devices is out of scope for any shared infrastructure, and for dedicated devices,

3 Service Specific Operations

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

- (a) Networking Management – Managed Advanced Firewall
- (b) Networking Management – Managed Basic Firewall
- (c) Networking Management - Managed Web Application Firewall (WAF)
- (d) Networking Management – Managed Load Balancers

4 Service Transition

4.1 Tasks Included in the Standard Transition

As part of the Service, the following tasks are included in the setup fee for Infrastructure Devices specifically in scope in the SOW:

- (a) Inventory of the device
- (b) Initial accesses setup - configuration of network interfaces
- (c) Application of firmware upgrades to the latest recommended level
- (d) Creation of administrative and supervisor users required for supplier management and the Client
- (e) Configuration of syslog parameters (if a syslog exists)
- (f) Configuration of high availability (if 2 devices exist)
- (g) Monitoring setup

- (h) Configuration management set up and implementation of security standards
- (i) Documentation of the device which shall not be a Deliverable

4.2 Takeover Tasks Included in the Service

As part of the Service, the following tasks are included in the setup fee when taking over existing solutions.

- (a) Inventory of the device
- (b) Review of the configuration of network interfaces
- (c) Review of firmware upgrades/OS updates installation of latest supported versions as agreed with the Client (See Patch Management section of the Client Service Description for details)
- (d) Change of the credentials required by the administrative and supervisor users, to be used by the Engineers and the Client
- (e) Review and change of the configuration of syslog parameters (if a syslog exists)
- (f) Review and documentation of the device configuration
- (g) Issue of recommendations after the initial review by the Engineering Team
- (h) Creation and review of the Monitoring in the monitoring tool
- (i) Backup configuration and implementation of security standards; and
- (j) Documentation of the device which shall not be a Deliverable

4.3 Tasks Not Included in the Standard Transition

The following tasks are not included in the standard transition:

- (a) Rack mounting of the device
- (b) Physical setup (cabling of ethernet and power cords and labelling) of the device or any task requiring physical access;
- (c) Configuration of other connected devices not managed by the Engineers as part of the service;
- (d) any task specifically not identified as In Scope in the SOW

4.4 Takeover Tasks Not Included in the Standard Service

The following tasks are not included as standard when taking over an existing installation and may require additional charges, unless otherwise stated in the Statement of Work. The following are just a sample:

- (a) Physical activities at the premises where the device is installed
- (b) Audit and review of the physical premises where the device is installed
- (c) Review of the configuration or actions of other connected devices not managed by the Engineers as part of the service
- (d) Analysis and redesign of the topology unless otherwise stated in the SOW (additional charges may apply)
- (e) Remediation activities to be conducted after the audit unless otherwise stated in the SOW; additional charges may apply