

## Infrastructure Management - Common Functions

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 Infrastructure 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 Infrastructure Devices, if available on the hardware and software:

Monitor	Description	Alerts	Performance Info	Resolution
<b>Ping / Network</b>	Time taken for responding to a Ping from a poller and packet loss	Yes	Graphs for Round Trip Time and Packet Loss	Engineering Teams will attempt to diagnose, try to solve the issue and escalate to the Client if needed
<b>Hardware Error</b>	Existence of a problem or error in any hardware component	Yes	N/A	Engineering Teams will attempt to diagnose, try to solve the issue and escalate to the Client if needed.

#### 1.2 Client Notification

Method	Description
Email message	Generation of an email message with the following information: <ul style="list-style-type: none"> <li>· System that generated the alert</li> <li>· Configured Thresholds</li> <li>· Threshold that caused the error</li> <li>· Additional diagnostic information</li> </ul>
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 fulfillment 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 interfaces (ports)	Creation and changes in the network interfaces parameters (IP addresses, gateways, etc.)
Log subsystem configuration	Management of the log information resending to a syslog server (if any)
Management of manufacturer's guarantee	Management of hardware or firmware errors with the manufacturer; 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 Infrastructure Devices:

Task	Frequency	Description
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Firmware review and apply	Once per Year	Notify the Client of any outstanding critical firmware patches 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 or bugs). If the Client chooses to proceed with the upgrade, the process defined for firmware patching of 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 Infrastructure 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 Service Specific Operations**

Service specific operations are contained in the Service Descriptions for the individual services as defined in the Statement of Work.

**3 Service Transition**

3.1 Tasks Included in the Standard Transition

As part of the Service, only the following tasks are included in the setup fee for all Infrastructure Devices:

- (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 NTT 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

3.2 Takeover Tasks Included in the Service

As part of the Service, the following tasks are included in the setup fee for taking over existing Client Solutions.

- (a) Inventory of the device
- (b) Review of the configuration of network interfaces
- (c) Review of firmware upgrades/patches installation of latest supported versions as agreed with the Client (See Client Service Description for Patch Management 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

3.3 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

(c) Configuration of other connected devices not managed by the Engineers as part of the service.

(d) Any task requiring physical access

#### 3.4 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

(f) Any task requiring physical access