

Managed Internet Connectivity: Managed Service Delivery Technology Service Description

1 Overview

- 1.1 Managed Internet Connectivity (MIC) is a supplementary Service made available to Client's receiving NTT DATA's Managed Campus Network (MCN), Network-as-a-Service (NaaS), or other qualifying base service from the Managed Network Services (MNS) portfolio of NTT DATA ('**Base Services**').
- 1.2 Through the MIC Services, NTT DATA leverages its portfolio of ISPs to provide Client with connectivity between its in-scope Sites and the public Internet, with NTT DATA managing the procurement, installation and activation of the relevant Access Circuits, as well as providing ongoing operational support to Client during the lifespan of the associated internet service.
- 1.3 This Technical Services Description (TSD) addresses the ongoing network operations support activities provided in respect of those Access Circuits that are in-scope for the MIC Services and the decommissioning services provided at the end of a given Access Circuit's deployment as part of the MIC Services.
- 1.4 An accompanying **Managed Internet Connectivity: Service Fulfilment TSD** addresses the procurement, installation, activation, and transition activities of the MIC Services.

2 Supported Configurations

- 2.1 The Internet access made available through the MIC Services can be connected to devices on premises, in the Client's data center, or Client's colocation data center, but in order to enable the MIC Services, the Internet access at each in-scope Site must terminate on a device managed (with full administrative access) by NTT DATA as part of the Base Services.
- 2.2 Through the monitoring of this device managed by NTT DATA (as part of the Base Services), NTT DATA will:
 - (a) monitor the internet service from an availability and performance perspective;
 - (b) provide reports and analytics via monthly reports or the NTT DATA Service Portal (as applicable); and
 - (c) diagnose, respond to, and resolve Incidents related to availability or performance;
 in each case, as set out or described further in this TSD.
- 2.3 The MIC Service demarcation point of the Access Circuit is the client-facing LAN interface on the provider's NTE (network terminating equipment) at the relevant Client Site.
- 2.4 The support Internet access types include:
 - (a) Dedicated Internet Access (DIA): a dedicated, non-contended, symmetric Access Circuit with guaranteed bandwidth and network performance;
 - (b) Broadband Internet Access (BIA): a shared, contended, symmetric or asymmetric Access Circuit with best efforts bandwidth and network performance; and
 - (c) Wireless Internet Access (WIA): a shared, contended, asymmetric Access Circuit delivered over a cellular (4G/LTE/5G) or radio network with best efforts bandwidth and network performance.
- 2.5 A range of different ISPs and last mile access providers are utilized to deliver the MIC Services on a global basis. The available options and features vary from location to location and are dependent upon the underlying ISP and access provider and are subject to Feasibility Checks (as set out in more detail in the relevant SOW and Specific Terms).
- 2.6 The following features may be requested and are subject to availability, Feasibility Checks and possibly additional charges:

Feature	Description
Access bearer technology	The access technology options include: xDSL, fiber (FTTx), Ethernet, cable, wireless (radio, 3G/LTE/4G/5G). Available access technologies will vary from site to site and are subject to Feasibility Checks. The access bearer is the circuit between the Client Site and the ISP PoP and may be provided by the ISP itself or one of its partners.
IP Address assignment	The default option is static IP address allocation: Each service is provided with at least one fixed public IPv4 address for Client use. This will be a /31 or above IPv4 subnet. The Client may request a specific subnet size per Site. Larger WAN IPv4 subnets can be provided on request and subject to availability. LAN IPv4 subnets can be requested subject to availability and an additional charge.

Feature	Description
IP Routing	Static routing is supported as standard. BGP routing can be requested and is subject to availability and technical validation.
Diversity	A range of diversity options are available. These are subject to site feasibility checks.
Hand-off	The hand-off refers to the presentation at the customer-facing LAN interface on the provider's NTE (network terminating equipment) at the client site. This LAN hand-off will be an RJ45 ethernet by default. A fiber interface can be requested at point of order and maybe subject to additional charge and availability. There may be instances where an NTE will not be provided, for example at data centers.

3 Network Operations Support

3.1 Except as detailed in the table below, the Service Features applicable to the network operations support for the Base Services will, as part of the MIC Services, be provided by NTT DATA for in-scope Access Circuits. For purposes of applying such Service Features to the MIC Services, any reference to a 'Configuration Item' in the incorporated terms of the Service Description for the Base Services will be deemed to reference an in-scope Access Circuit.

Table legend	In-scope Service Feature	Out-of-scope Service Feature
	✓	✗

Managed Internet Connectivity Service Features			
Base Services Service Feature	In-scope / Out-of-scope	Subject to amendment	MIC-specific amendment (if applicable)
Event management	✓	No	
Incident management	✓	Yes	In relation to the MIC Services, where an Incident cannot be resolved remotely, NTT DATA will coordinate the dispatch of a field services engineer by the relevant ISP to investigate and restore the Access Circuit at Client's Site.
Field services and third-party incident coordination (NaaS only)	✗	Not applicable <i>NTT DATA's obligation in relation to the MIC Services is solely as set out in the incident management section above.</i>	
Service request fulfilment	✓	Yes	The only Service Requests in-scope for the MIC Services are requests generated by Client or NTT DATA for information. Any Service Requests other than request for information (including requested changes or modifications to any Access Circuit) will be treated as NOT in-scope for the contracted MIC Services and will require the parties to enter into a new order or amendment to the existing order setting out the terms governing the fulfilment of such request (including any application of additional charges or fees).
Availability management	✓	Yes	In relation to the MIC Services, NTT DATA will monitor and report the Availability of each Access Circuit using NTT DATA-specific

			<p>monitoring tools, as reported at the WAN Edge device under NTT DATA management.</p> <p>NTT DATA will make Availability statistics for the Access Circuits available as part of monthly reports.</p> <p>Notwithstanding the terms of the Service Description for the Base Services, Availability improvement recommendations are expressly out-of-scope for the MIC Services and will NOT be provided as part of monthly reports.</p>
Capacity and performance management	✓	Yes	<p>In relation to the MIC Services, NTT DATA will monitor and report the bandwidth utilization of each Access Circuit using NTT DATA-specific monitoring tools, as reported at the WAN Edge device under NTT DATA management.</p> <p>NTT DATA will make bandwidth utilization statistics for the Access Circuits available as part of monthly reports.</p> <p>Notwithstanding the terms of the Service Description for the Base Services:</p> <ul style="list-style-type: none"> • NTT DATA will NOT resolve capacity and performance events automatically or create an Incident for investigation and resolution in connection with the Access Circuits supported as part of the MIC Services; and • capacity improvement recommendations are expressly out-of-scope for the MIC Services and will NOT be provided as part of monthly reports.
Service asset and configuration management	✓	Yes	<p>In relation to the MIC Services, NTT DATA will only record the relevant Access Circuits in the Service Management System during the provisioning process.</p> <p>All other activities and obligations of the service asset and configuration management Service Feature are out-of-scope for MIC Services, and NTT DATA does NOT record details of ISP equipment within the Service Management System (as these are not subject to direct monitoring by NTT DATA).</p>
Problem management	✓	No	
Change management	✓	Yes	<p>In relation to the MIC Services, the change management Service Feature will apply with respect to any changes necessary for the ISP to resolve an incident or problem impacting an Access Circuit. Any such changes may incur additional charges on a time and materials basis or require a professional services engagement, the scope and pricing of which will be agreed with Client and set out in a separate order.</p> <p>Any other requested changes to an Access Circuit requires the parties to enter into a new order or amendment to the existing order setting out the terms governing the fulfilment of such change (including any application of additional charges or fees).</p>

Release and deployment management	✗	Not applicable	
Service level management	✓	No	
Access management	✗	<p style="text-align: center;">Not applicable</p> <p><i>Access is provided to the WAN edge device under NTT DATA's management as part of the Base Service. NTT DATA does not provide access to any ISP equipment. Access request management and audit reports are therefore out of scope, along with all other activities described in the access management Service Feature.</i></p>	
IT service continuity management	✗	<p style="text-align: center;">Not applicable</p> <p><i>NTT DATA provides IT service continuity management of the WAN edge device under NTT DATA's management as part of the Base Service. NTT DATA does not undertake back up of the configuration files of any ISP equipment and any IT service continuity management of such equipment is performed at the discretion of the selected ISP.</i></p>	
Supplier management	✗	<p style="text-align: center;">Not applicable</p> <p><i>In relation to the MIC Services, NTT DATA's sole obligation in respect of third-party management is set out in the MIC ISP management Service Feature below. The MIC Services do NOT include any coordination or management activities with Third-Party Suppliers (as defined in the Specific Terms).</i></p>	
MIC-specific Service Feature	In-scope / Out-of-scope	Description of Mic-specific Service Feature	
MIC ISP Management	✓	<p>Where a circuit outage or performance issue occurs on an Access Circuit managed by NTT DATA as part of the MIC Services and it is determined that the responsibility for repair falls under the relevant ISP, NTT DATA will coordinate ISP's resolution of such Incident, the following will apply:</p> <ul style="list-style-type: none"> (a) NTT DATA will log the incident to the ISP for resolution; (b) NTT DATA will co-ordinate and provide assistance to the ISP, until the incident is resolved and closed; (c) NTT DATA will provide progress update notifications to Client; (d) NTT DATA will identify, provide or report on the root cause of the incident; (e) NTT DATA will be responsible for all invoice or billing related queries or requests related to the ISP provided services; 	
Decommissioning services	✓	<p>In the event Client wishes to terminate any Access Circuit (in accordance with the terms of the applicable SOW), Client must send NTT DATA written termination notice. NTT DATA will review such termination notice and confirm the details of the Access Circuit being terminated, including whether any charges or fees are associated with such termination.</p> <p>Following NTT DATA's confirmation of the applicable details for terminating the given Access Circuit, NTT DATA will:</p> <ul style="list-style-type: none"> (a) notify the relevant Third-Party ISP of Client's intent to decommission the contracted Access Circuit; (b) schedule decommissioning in adherence with Client's change management process, where possible; and 	

	(c) update the CMDB.
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3.2 **In additional to the amendments and exclusions noted in the table above, any and all Service Features described as optional add-ons made available for the Base Services (e.g., Service Experience Insights) are expressly EXCLUDED from application to the MIC Services.**

4 Technology Specific Operations

Monitors

4.1 NTT DATA utilizes a range of available monitors at the device, interface, SDWAN underlay and overlay (where SDWAN is enabled) to detect availability and performance issues with regards to the internet access service. NTT DATA monitors:

- (a) the status, utilization and performance of the internet transport via the SD-WAN edge routers and controllers under NTT DATA’s management;
- (b) the reachability of the Site via the internet access using ICMP protocol (ping) to validate the status of the link, provided a static IP address has been assigned; and
- (c) interface level availability, utilization, packet drops and errors.

NTT DATA does not explicitly monitor any 3rd party provider equipment.

4.2 The following monitors to detect potential failure of an internet access circuit are configured by default:

Monitor	Description	Alerts	Performance Info	Resolution
ICMP ping for Internet Access circuit availability	Time taken to respond to a ping from a poller The public-IP assigned to the Internet access circuit is pinged.	✓	Graph of the parameter measured over time	Engineering Teams will diagnose and resolve the issue in conjunction with the ISP/Carrier and/or Client as required
WAN interface availability	Up/down status of the Internet Access Circuit endpoint (the WAN-facing interface of the SD-WAN edge router under MCN management.)	✓	Information on status of the interface.	Engineering Teams will diagnose and resolve the issue in conjunction with the ISP/Carrier and/or Client as required.
SD-WAN technology specific monitors	Underlay and Overlay monitors on a per technology basis	✓	Information on status of underlay and overlay tunnels, SD-WAN edge nodes and interfaces	Engineering Teams will diagnose and resolve the issue in conjunction with the ISP/Carrier and/or Client as required.

5 Service Specific Experience

Reporting & Analytics

5.1 Reports and analytics are available via the NTT DATA Services Portal with regards to availability and utilization of the internet access links, along with interface level packet drops and error reports.

6 Standard Service Requests

6.1 No Standard Service Requests have been defined within the Service Request Catalogue for the MIC Service.

7 Limitations

7.1 In addition to any limitations or conditions otherwise set out in the materials comprising the Agreement for the MIC Services, the following limitations apply to this offering:

- (a) NTT DATA does not directly monitor, manage or have access to the ISP equipment or network infrastructure;
- (b) limited monitors and alerts are available in cases where the NTT DATA managed device terminating the Internet Access Circuit is not an SD-WAN device;
- (c) ICMP monitoring is only provided where static IP address assignment is used. It is not supported for dynamic address assignment;
- (d) Availability reporting of Internet access circuits at the service portal provides a view of absolute availability and does not consider excusable breaches or the reason for outage;
- (e) NTT DATA is not responsible or accountable for any link failures due to cabling going through any Client’s internal infrastructure; and

- (f) NTT DATA is not responsible for monitoring and maintenance of any Client provided cabling connected to the Service or used in connection with a Service.