Service Description

Cloud Voice for CX

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List of abbreviations

Abbreviation	Meaning
Business-Days	NTT Business-Days start on Monday and finishes on Friday
CLI	Calling Line Identifier: The phone number used by a calling party using the PSTN
Contract	Means the agreement concluded between NTT and Client pursuant to which NTT provides Client with the Services described in this Service Description
Client	Means the Party contracting with NTT for purchasing the Service(s) described in this Service Description
Datacenter	A Datacenter is a facility used to house computer systems and associated components, such as telecommunications and storage systems
DDI	Stands for “Direct Dial In” and means the PSTN E.164 numbers as supplied by NTT as part of its Calling Plans Service
Emergency Call Services	Means calls requesting emergency services giving the calling party fast and easy means of giving information about an emergency to the appropriate Emergency Services Centers which are routed to the emergency services in accordance with applicable regulations.
Emergency Maintenance Window	Exceptional maintenance operation required to react to a critical issue that need to be remedy promptly.
Go Live Date	Means the date that NTT declares the service is being delivered to Client and the date from which billing will commence.
Key Performance Indicators	Means a quantifiable measure used to evaluate the success of the Services
MACDs	Moves, Adds, Changes and Deletes requests
PSTN	Public Switched Telephone Network
Scheduled Maintenance Window	Maintenance operations scheduled in advance by NTT to implement a specific change on the NTT infrastructure.
Service-Desk	Service-Desk means a single point of contact (SPOC) for communication between NTT and its clients and business partners.
Service Number	Means a phone number from a national PSTN numbering plan meant to be assigned to a CX/Contact Center application
Self-Care	Self-Care means the provisioning portal which permits Client to administrate its solution and its options
SIP	Means “Session Initiation Protocol” and is a signaling protocol used for initiating, maintaining, and terminating real-time sessions
SKU	Stands for Stock Keeping Unit and is a distinct type of item for sale
SOF	Stands for Service Order Form
Special Numbers Destinations	Special Numbers are PSTN destinations only reachable within a country and for which a specific tariff applies.

Abbreviation	Meaning
Tenant	A Tenant is a group of Users who share a common access with specific privileges.
TTD	Time To Deliver is the NTT' objective for delivering a service expressed in Business Day(s)
User	Means a Client's employee, partner or another person having an account declared on a UCaaS platform or any communication platform connected to Cloud Voice services. This is sometimes referred to as "end-User".
WAN	Wide Area Network is a telecommunications network that extends over a large geographic area for the primary purpose of computer networking.

Document history

Issue	Date	Comments
1.0	April 1st, 2020	Initial document
1.1	March 15th, 2022	- Added Webex Contact Center in the list of supported CX platforms
1.1.1	December 29th, 2022	- Power Dialer mode for Genesys Cloud - Updated Service Policy - Update of the Incident Management section - Minor updates
1.2	March 23rd, 2023	- Added Dynamics365 in the list of supported CX platforms - Added description of GIOC Service Desk - Fix some numbers in the SLA description (typo) - Added description of Default Cloud Voice setup fees
1.2.1	July 15th, 2023	- Updated Cisco WBX CC platform integration locations
1.3	August 15th, 2024	- New NTT Data formatting - Update of SLA section - Update of Billing section - Removal of default support for "Refer" as a SIP method

1. Cloud Voice for CX – Description

The Cloud Voice for CX Product is specifically designed to provide a cloud-based Voice solution for CX/Contact-center platforms. The service provides both inbound calls collect from a large set of countries and number types as well as the ability to place outgoing calls towards worldwide PSTN destinations.
The service is natively integrated with leading CX cloud-based solutions but can also be consumed with on-premises CX solutions.

1.1. Inbound Calls collect - Service Numbers

Service Numbers are specifically designed to cover for important needs in call-concurrency capacity in a Customer eXperience (CX) context.

1.1.1 Service Number types

Depending on the country, NTT can provide the below types of Service Numbers:

- National Toll-Free
- Geographic
- National non-geographic

Upon request and feasibility study, the below number types can also be made available:

- Shared-Costs
- Premium
- Short-codes

1.1.2 Geographic availability

Cloud Voice for CX coverage spans across many countries and territories. Given the regulated nature of this solution, feasibility study is required to confirm local number availability at the time of the order. This is notably recommended for CX numbers coverage in countries where Universal Calling Plans product is not available.

Client should refer to its account manager for getting the latest list of available countries and number types.

1.1.3 Limitations

Usage

Service numbers which do not generate more than 1 hour of traffic over a 6-month period may be unilaterally disconnected by NTT and its suppliers.

Capacity management

NTT's Cloud Voice network can accommodate high fluctuations in call-concurrency and constantly monitor its network to ensure an adequate response to demand; however, in case of foreseen extreme variations and/or seasonality of inbound call-concurrency in a specific location, such specifics must be shared with NTT as early as possible.

Emergency Calls routing

Service Numbers do not support Emergency call routing. As such they should not be assigned to a physical person nor used as a PSTN telephony replacement solution.

1.2. Bring Your Own Numbers (BYON)

1.2.1 Description

NTT Cloud Voice BYON permits Client to register external Phone Numbers (sourced from a Voice Carrier different than NTT) onto NTT Cloud Voice network.
In such case Client keeps its contract with its local Voice Carrier but benefits from NTT Cloud Voice integration with leading Cloud Communications platforms.

- Inbound calls get routed on-net throughout NTT Cloud Voice network towards destination Cloud Communications platform.
- Outbound calls from Cloud Communication platform can be routed towards NTT PSTN carrier-set and benefit from NTT Global Price-List.
- Calls between BYON and other NTT provided User Numbers or CX Numbers are considered as on-net and will be rated as such.

Registered external Phone Numbers will be behaving the exact same way as NTT Phone Numbers from a functional standpoint.

1.2.2 Pre-requisites

BYON requires Client (or its underlying Voice Carrier) to deploy SIP trunking integration with NTT Cloud Voice network.

1.2.3 Limitations

In most countries, routing of outbound domestic calls will have to be done through Client's BYON Voice Carrier for preserving some features (such as Call Termination, CLI-Presentation, etc.)
Limitations may apply with regards to Cloud Communication platform integration and CLI handling depending on country and number-type, Feasibility study should be sought from NTT as presales stage.
By using this BYON solution, NTT does not become the local Voice Carrier of Client for the relevant calls, and NTT shall not be liable to comply with any related local Telecommunications provider's obligations. Emergency calls routing shall be handled by Client's Voice Carrier.

1.3. Outbound Calls - Pay-as-you-go

The Pay-as-you-go service permits to place outgoing calls to worldwide PSTN destinations. The Pay-as-you-go service works in conjunction with Service Numbers. Outgoing calls will be charged on a per-minute basis and according to the NTT Pay-as-you-go rate-card.
Pay-as-you-go service includes the below features:

- CLI-Presentation and CLI-Restriction
- Toll-Free Destinations calling

Access to Short-Codes and other special ranges of national numbering plan is not available with this service.

1.4. Number Ordering and Porting

1.4.1 New numbers ordering

NTT offers Client to order new numbers in the local area(s) of its choice.
Feasibility study must be conducted prior to assignment of Service Numbers to Client to confirm availability of requested number type.

1.4.2 Number Porting

Number Porting, when available, enables Client to keep using its existing Service Numbers.
Depending on the number type and the country Service Numbers may or may not be eligible for porting. Porting requests will be studied and feasibility confirmed by NTT on a per request basis.
Unless otherwise stated in writing, the date and time for the transition to NTT will happen at the go live date, as agreed between the parties.
By default, Number Porting operations occur during Business Hours.

1.4.3 Timelines and country specifics

Timelines for each country vary depending on whether the enquiry is for new numbers ordering or porting of existing numbers. These timelines may also vary over time as practices or regulation may change in a given country.
When it comes to porting, default figures as may be provided by NTT are assuming standard porting operations during local business-hours and which can very on a per-country basis.
Timelines provided by NTT always apply "post-order validation", meaning once NTT has received and validated the order and all necessary documents (including Letter of Authorization).
Ordering new numbers can extend timelines beyond initially communicated values should stocks in required local numbering area be empty. NTT recommends discussing foreseeable needs in terms of local numbering resources as early as possible.

1.4.4 Non-standard porting operations

By default, porting operations are conducted by NTT:

- During local business hours
- Range(s) from 1 losing carrier at a time

Should Client however request to have porting operations conducted outside of local business-hours and which can very on a per-country basis, or have several sites, from several losing carriers ported at one time, this can be studied on a case-by-case basis and managed via NTT Professional Services teams.
Additional charges for non-standard porting operations apply.

1.5. Call Routing capabilities

1.5.1 Call-Forwarding

Description

Client can request enablement of call-forwarding settings on a Service Number basis.
N.B. Call-Forwarding calls will be rated using the 2 legs of the call (Inbound Call + Outbound Call) and respective charges be applied as overage if applicable.

Limitations

The Call-Forwarding service is only available from and to countries where Cloud Voice services are available.
The Call-Forwarding service may present limitations in some jurisdictions, notably for fraud protection reasons.
Limitations often involve CLI-manipulation rules to prevent identify theft and other fraudulent behavior.

1.5.2 On-net call routing

NTT Cloud Voice natively enables on-net call routing and rating for Universal Calling Plans.
All calls between 2 Phone Numbers registered on NTT Cloud Voice network will be routed as being an on-net call and rated as such.

NTT will rate calls as being “on-net” in the below use-cases:

From / To	Off-net PSTN number	On-net non-registered number[1]	NTT EX number	BYON EX	NTT CX number	BYON CX
Off-net PSTN number	N/A	N/A	Incl.	Incl.	CX Dial-in	CX Dial-in
On-net non-registered number[1]	Dial-out	Dial-out	Dial-out	Dial-out	On-net CX DI	On-net CX DI
NTT EX number	Dial-out	N/A	On-net DO	On-net DO	On-net CX DI	On-net CX DI
BYON EX	Dial-out	On-net DO	On-net DO	On-net DO	On-net CX DI	On-net CX DI
NTT CX number	Dial-out	N/A	On-net DO	On-net DO	On-net CX DI	On-net CX DI
BYON CX	Dial-out	On-net DO	On-net DO	On-net DO	On-net CX DI	On-net CX DI

[1] Number on-net from a VoIP/SIP trunking standpoint but not registered/unknown to NTT Cloud Voice systems

List of rates classification:

- N/A: Not Applicable
- Incl.: No charges associated
- CX Dial-in: Dial-in PAYG rate for Service Numbers (Cloud Voice for CX)
- Dial-out: PAYG rate for outgoing PSTN calls and rated according to Client subscription
- On-net DO: On-net per minute rate for outgoing calls
- On-net CX DI: On-net per minute rate for incoming calls to CX numbers

1.6. CLI specifics

1.6.1 CLI-Presentation

Calling Line Identifier (CLI) must be formatted using E.164 global format. This CLI should normally be placed in the FROM header of the SIP INVITE which initiates the call for being presented correctly. Any calls where a valid CLI is not set, may be classified as a spoofing attempt and blocked.

NTT cannot guarantee the CLI being delivered but ensures transmitting it, provided end-users are not using CLI-Restriction methods.

For International inbound calls, NTT cannot guarantee the validity of the CLI presented.

1.6.2 CLI-Manipulation

NTT does not provide a CLI-Manipulation service but ensures transmitting manipulated CLI(s) when the desired CLI to be presented belongs to Client and is supplied by NTT.

Should Client require to present a CLI other than one of the Numbers held by Client, then advice should be sought from NTT regarding the specific requirements as the capabilities and obligations vary by country.

1.6.3 CLI-Restriction

If Client wishes to apply CLI-Restriction (CLIR) when an outbound call is sent, then Client should configure its CX platform (or Session Border Controller) to use the privacy header (as described in RFC 3325).
To set CLI-R, Client should manipulate signaling on an outbound call so that:

1. The privacy header is set to privacy: id
2. The FROM header is set to sip:anonymous@anonymous.invalid
3. The valid CLI should be set in the P-Asserted Identity header

1.7. Caller ID Name (CNAM)

The Caller ID Name Service (or CNAM Service) is a service enabling customer to setup CNAM value for outgoing calls. This service is limited to Geographic numbering resources.
This service is only available in the USA and is subject to feasibility study as some very specific locations in the USA are not available to date.

1.8. Voice codecs

As a prerequisite, Client must support the G.711 PCMU and/or PCMA codecs.
By default, audio transcoding is not supported as a standard feature.

1.9. SIP-level failover mechanisms

For on-premises SIP platforms, Cloud Voice provides SIP Hunting capabilities which permit the definition of a set of failover SIP routes to reach the main SIP target.
This mechanism requires customer’s SIP estate to support SIP Options Ping requests.

1.10. Standard compatibility with CX platforms

Our Cloud Voice services are compatible with the below listed Global CX platforms. Benefitting from Cloud Voice services with standard CX platforms does not require to build a dedicated SIP trunk prior to rolling out the services.

1.10.1 Genesys Cloud

Genesys Cloud Clusters supported

All available Genesys Cloud clusters hosted on Amazon Web Services are supported except:

- Mumbai (India)

Dialer modes

Several Dialing modes are made available with Genesys Cloud. For more information on the different modes, please reference Genesys’ own material.
Cloud Voice for CX supports the following Genesys PureCloud dialer modes:

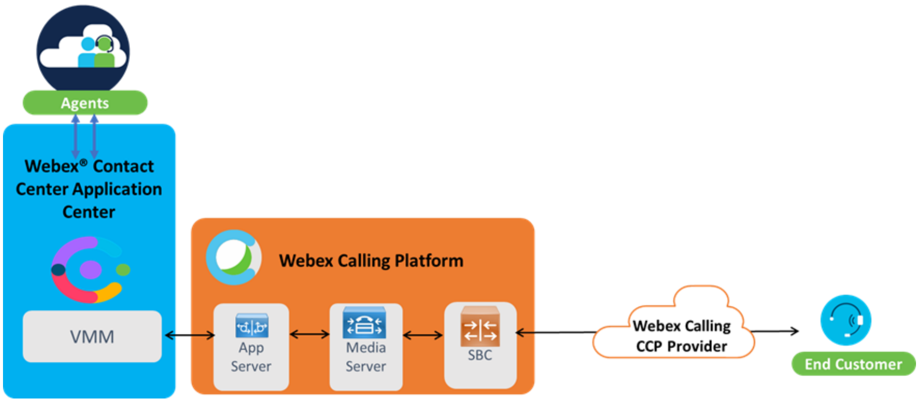
- Agentless
- Preview
- Progressive
- Predictive
- Power

Cloud Voice for CX fair use-policy applies to prevent abuses and potential risks for the whole service and other NTT customers.

It is recommended for Clients need to engage with NTT to specifically review relevant metrics when important loads of outgoing calls campaigns are foreseen.
This solution supports the Global Media Fabric feature-set of Genesys Cloud. Setting-up such call path optimization technology requires Professional Services engagement.

1.10.2 Cisco Webex Contact-Center

Webex® Contact Center is a next-generation cloud contact center solution built as a Software-as-a-Service (SaaS) cloud solution.
Webex Platform for Contact Center is directly connected to Webex Calling platform, as an open and flexible multi-tenant cloud infrastructure and leverages Cloud Calling features, its scalability, and flexibility with multiple PSTN options.
NTT recommends and supports only the Cloud Connected PSTN (CCP) option for PSTN connection.



All inbound PSTN calls come in via the Cloud Connected PSTN (CCP) service that the enterprise has subscribed to. After getting contact center treatment, call is sent to the agent (Webex Calling endpoint) via the Webex Calling Access SBC.

Webex Contact Center is available as part of the Cisco Collaboration Flex Plan.
To activate the Webex Calling platform, it is necessary to purchase at least one Webex Calling license, in addition of the concurrent Agents licenses.

Cloud Voice for CX interconnection with Webex Contact-Center CCP are available on following Webex clusters:

- Americas: Chicago, Atlanta
- EMEA: London and Frankfurt
- AUNZ: Sydney and Melbourne
- APAC: Singapore and Tokyo

1.10.3 Dynamics 365 Contact-Center

Dynamics 365 Contact-Center includes many different features and functionalities that call-center agents and supervisors can use. Microsoft frequently updates its features-set and documents it online.

Microsoft Licensing requirements

Client is responsible for procuring all necessary licenses from Microsoft.

Azure Communication Services (ACS)

Providing NTT Cloud voice into D365 Customer Service requires Client to have ACS subscriptions in place with Microsoft.

1.10.4 Standard compatibility with Client specific platforms

Benefitting from NTT Cloud Voice services with on-premises CX platforms does require to build a dedicated SIP trunk terminating into Client's owned SBC(s) prior to rolling out the services.
Our Cloud Voice services solution has been tested and validated with the below SBCs:

1. Audiocodes Mediant session border controllers
2. Oracle Communications session border controllers
3. Ribbon session border controllers

SIP trunking specifics

Client's SIP trunking peering equipment must be compatible with NTT SIP Profile and SIP exchange, as described in this document.
Audio Real time traffic doesn't tolerate high network latencies (quality drops after 150ms).
NTT recommends that the following requirements are met:

Criteria	Thresholds
One-way delay	< 150 ms to ensure a good level of quality for most conversations
Jitter	< 40 ms
Packet Loss	< 2%

Client is required to share information describing the brand, model and hardware or software version of the SIP peering device(s) which terminates the SIP trunk(s) to NTT.

SIP features

NTT SIP profile is compliant with SIPv2 standards and a large variety of SIP features. Features out of below lists can be studied upon request.

Number formatting

The default numbering format is international +{E.164}.

SIP signaling

RFC Standard	Control Plan	Supported
[RFC3261]	IETF RFC 3261 "Session Initiation Protocol (SIP)"	Yes
[RFC2327]	IETF RFC 2327 "Session Description Protocol (SDP)"	Yes
[RFC3264]	IETF RFC 3264 "An Offer/Answer Model with the Session Description Protocol (SDP)"	Yes
[RFC3311]	IETF RFC 3311 "The Session Initiation Protocol (SIP) UPDATE Method"	Yes
[RFC4028]	IETF RFC 4028 Session Timers in the SIP	Yes

Media coding

RFC Standard	Media	Supported

[ITU-T G.711]	ITU-T Recommendation " Pulse code modulation (PCM) of voice frequencies"	Yes
[RFC2833]	IETF RFC 2833 Telephone Events	Yes
[RFC4733]	IETF RFC 4733 "RTP Payload for DTMF Digits, Telephony Tones and Telephony Signals"	Yes

Transport protocol

- UDP 5060: Default
- TCP: Supported

SIP methods

Method name	Supported
Invite	Yes
Re-Invite	Yes
Update	Yes
Ack	Yes
Bye	Yes
Cancel	Yes
Options	Yes

SIP response codes

SIP	Answers	Supported
1xx	100 Trying	Yes
	180 Ringing	Yes
	183 Session Progress	Yes
2xx	200 OK	Yes
3xx	302 Moved	Yes
4xx	400 Bad Request	Yes
	401 Unauthorized	Yes
	403 Forbidden	Yes
	404 Not Found	Yes
	405 Method Not Allowed	Yes
	406 Not Acceptable	Yes
	408 Request Timeout	Yes
	413 Request Entity Too Large	Yes
	414 Request-URI Too Long	Yes
	415 Unsupported Media Type	Yes
	416 Unsupported URI Scheme	Yes
	480 Temporarily Unavailable	Yes
	481 Call/Transaction Does Not Exist	Yes
	482 Loop Detected	Yes

	483 Too Many Hops	Yes
	484 Address Incomplete	Yes
	486 Busy Here	Yes
	488 Not Acceptable Here	Yes
	487 Request Terminated	Yes
6xx	600 Busy Everywhere	Yes
	603 Decline	Yes
	604 Does Not Exist Anywhere	Yes
	606 Not Acceptable	Yes

1.10.5 Load-balancing

NTT can deliver below load-balancing routing options:

4. Main-Backup/Top-Down routing
5. Round-Robin (i.e., 50/50) routing

1.11. Network access to the service

In case of on-premises systems having to interconnect directly with NTT's Cloud Voice network, the below network access options are available.

1.11.1 Public Internet

By default, Cloud Voice for CX is available over the Internet and connectivity is made secure thanks to SIP-TLS and Secure RTP based encryption.
Cloud Voice for CX is a redundant and multi-regional service where traffic can be collected and steered on several IP PoPs within each region.

1.11.2 Dedicated Network connectivity

The Cloud Interconnect service can also be used, both single and dual access options, to consume our Cloud Voice services.
In case of dual-access, both the Main/Back-up and the Load-Balancing methods are available.

1.11.3 NTT Global Network services

Client can consume Cloud Voice services directly from its NTT Global Networks-based WAN or SD-WAN solutions without the need to purchase Cloud Interconnect service.

1.11.4 Hybrid network access

The service can be accessed using a mix of the above access types.

1.12. Service Use Policy

NTT maintains a Service User Policy detailing more specifically the limitations of its Cloud Voice services. NTT's Cloud Voice for CX service is designed to support CX use of PSTN voice services. Normal, reasonable use of Cloud Voice for CX in accordance with this Service Use Policy, our Terms of Service and consistent with the types and levels of usage by typical customers on the service. Unauthorized or excessive use beyond that normally experienced by other business customers may result in service suspension or termination.

Cloud Voice for CX cannot, under any circumstances, be used for personal phone system solution (i.e. PBX-like systems with individual phone numbers), fax blasting, telemarketing (including without limitation charitable or political solicitation and/or polling), transcription services, junk faxing, fax spamming, broadcast fax, or other faxing purposes.

NTT may determine that abnormal, unreasonable, or impermissible usage is occurring, and may take appropriate steps, including but not limited to suspension or termination of service, when a customer’s calling patterns during more than one month reflect excessive:

- Frequency of call forwarding/transferring,
- Excessively high proportion of short duration calls,
- Number of calls terminated and re-initiated consecutively, which, in the aggregate, result in excessive call lengths during a specific time frame; or
- Other calling patterns indicative of an attempt to evade enforcement of this Fair Service Use Policy

2. Service Operations

2.1. Service Management

Support for Customer’s own communication platform (e.g. IPPBX, Contact-center, UCaaS solutions) is not included when the Customer only subscribes to the Cloud Voice for CX product.
The scope of the support provided as part of Cloud Voice for CX is limited to the elements under NTT’ control. These elements include:

- NTT’ backbone network
- NTT’ voice infrastructures
- NTT’ connectivity to partner carriers
- NTT’ connectivity to standard CX platforms listed in this Service Description

2.2. Global Integrated Operations Centre (GIOC) service-desk

The NTT Global Integrated Operations Centre operates currently as a single virtual team with engineers based in Barcelona (Spain) and South Africa.
The NTT Global Integrated Operations offers English language support on a 24hours/365 days basis.
The NTT Global Integrated Operations Centre is responsible for:

- Being the first point of contact for Customer Authorized Administrator
- Tracking, managing and completing Services and Incident Requests
- Responding to phone calls and service portal requests
- Manage requests with other vendors and internal escalation teams.

N.B. Service requests and incidents must be raised by a Customer Authorized Administrator.
Customer Authorized Administrators are one or more named individuals or a named Service Desk that are authorized to log cases to NTT.

2.3. High Availability

Conscious of the importance of providing a highly reliable Cloud Voice service, NTT has made strong investments in effectively deploying a highly redundant Cloud Voice network relying on a fully meshed high-speed L2VPN backbone network.

2.3.1 In-DC N+1 redundant design

The Cloud Voice network relies on high availability clusters: Our VoIP platforms are all made on-site redundant. These clusters offer high availability service delivery with stateful failover which allows preservation of calls in-progress in many failover scenarios.

2.3.2 Geo-Redundancy

In case of a full DC outage, our Cloud Voice network platforms provide alternate routes via different locations to reach a destination, notably thanks to multi-homing of upstream carriers’ connectivity, and multi-homing of connectivity to Cloud Voice platforms.

2.4. Service Monitoring

The Cloud Voice network is monitored on a 24/7 basis by our globally distributed NOC/L2/L3 teams.
SIP service state is monitored using SIP Options requests.
In case of standalone deployments (i.e. on-premises platforms), Client must answer to SIP Options request to benefit from this monitoring service. As per Failover implementation, SIP service will continue even if one network link is down.

In the case of Cloud Interconnect or NTT Global Network services type of accesses are used, then BGP-peering state is monitored.

2.5. Incident Management

Incidents are defined as “unplanned interruption to service or reduction in the quality of service provided”. When it comes to Universal Calling Plans Product, the below specifics apply.

2.5.1 Incident priority definition

Incidents are prioritized according to the below matrix table:

	Large scale	Medium scale	Small scale
High impact	P1	P1	P3
Medium impact	P2	P2	P3
Low impact	P2	P3	P3

Request for Information (RFI) are classified as P4

Large scale: Entire Site impacted / Several groups of end-users. A site is a company business office.
Medium scale: Group of several end-users. Can be a business department, a site floor, several users in different sites.
Small scale: A couple of users or Remote Workers.

High impact: Service not available (i.e. no calling / one-way audio)
Medium impact: Service partially available (i.e. Unable to reach some PSTN destinations, some outbound calls are failing, etc.)
Low impact: Poor service quality (i.e. Voice quality is not good, Ringback tone is strange, etc.)

2.5.2 Incident priority matrix

Incident priorities are defined according to the below matrix table:

Incident Priority	Response Target (Auto)	Ticket Status Update	Time to Restore
P1	15 mins	2 Hours	4 Hours
P2	30 Mins	4 Hours	12 Hours
P3	4 Hours	24 Hours	72 Hours
P4	N/A	N/A	N/A

2.6. Monthly Service Availability Service Level Agreement (SLA)

2.6.1 Description

NTT Cloud Voice Monthly Service Availability SLA applies from within Cloud Voice service boundaries (notably the NTT Cloud Voice network, its connectivity to our ingress PSTN carriers and the interconnection with standardized CX cloud platforms). Any outage outside of this perimeter will not be taken into account to compute this SLA (i.e. the terminating operator’s network or the Client’s real-time communication platform).

Monthly Service Availability is computed using the following formula:
MSA = (Total Monthly Minutes – Valid Downtime)/Total Monthly Minutes

Valid downtime includes, and is limited to the below events:
- End-user is unable to receive PSTN calls (IN)

- End-user is unable to place domestic PSTN calls (OUT)[1]

Valid Downtime excludes downtime linked to Standard, Emergency and Scheduled Maintenance Windows. Downtime linked to these events shall be excluded from the calculation of the Monthly Service Availability. Downtime starts from the point at which a relevant priority incident is logged to the Service-Desk and ends when Client is notified that the incident has been resolved.

2.6.2 Scope

The Monthly Service Availability is calculated on a per Service-Number basis.

For example, should Client have 10 Service Numbers and the service becomes unavailable for 1 Service Number during 100 minutes, Then 100 minutes would be counted as Valid Downtime and withdrawn from the Total Monthly Minutes of 43 920 x 10 = 439 200 minutes.

Resulting MSA would be 99.98%.

2.7. Patch Management

NTT implements critical and security patches in a maximum 30-days timeframe from the release of the vendor.

2.8. Data Management

Data Management specifics are detailed in the NTT Fact Sheet for the Cloud Voice for CX product.

2.9. Data security policies

2.9.1 Datacenter security policies

NTT hosts its platforms in 3rd party Datacenters where a set of certifications such as SSAE16 (Statement on Standards for Attestation Engagements) and ISO 27001 are available. This guarantees the implementation of a rigorous set of global standards covering physical, logical, process, and management controls.

2.9.2 Remote access to Cloud Voice network management layer

Remote access to Cloud Voice network management layer is prohibited. Accesses are only permitted from within the NTT CC's internal network and secure remote access facilities with multi-factor authentication.

2.9.3 Vulnerability scanning and penetration testing

NTT performs external and internal vulnerability scanning on a monthly basis. Risk based reviews are performed based on scan results and are addressed in accordance with NTT Group policy. In addition, annual penetration tests are performed to evaluate the security of the NTT' external cloud footprint. The penetration tests are scoped to include all identified external IP ranges and align with testing based on industry standard methodology.

2.9.4 Traffic encryption

For Internet-based accesses to the service, NTT TLS encryption settings are the below ones:

- TLS version 1.2
- TLS Key: 2048 bits

- Encryption algorithm: AES-256 (256 bit key, 128 bit block)

Authentication mode: encrypted credentials (login/password) and SSL Certificate.

2.9.5 At-rest data encryption

All at-rest Personal Data stored by NTT for a period over 1 hour are encrypted using the AES-256 (256 bit key, 128 bit block) algorithm.

2.9.6 Backup policies

NTT operates and maintains a data protection infrastructure to prevent loss of data and permit timely restoration of services in the case of a disaster or catastrophic system failure.

2.9.7 Limitations and Exclusions

NTT's data protection infrastructure is NOT meant to maintain a versioned history of data.

Restoration of Client data shall be at Client's sole cost and expense, unless the need for the restoration was due solely to a failure or error of NTT.
NTT shall delete all information related to a User from its databases as soon as a User is deleted by Client on the Self-Care.

2.10. Personnel Security

NTT implements a security policy framework influenced by ISO/IEC 27001. The security policies are communicated and made available for all NTT' employees. The policies are reviewed by the Security Officer on a yearly basis

3. Security and fraud management

Our Cloud Voice product is fully featured with state-of-the-art Fraud Management systems to protect our clients against the main voice fraud schemes.

3.1. Main fraud schemes managed

Amongst the various fraudulent activities which may occur in voice networks, the below listed ones are usually quite impactful for enterprises. Our solution is designed to prevent such frauds.

3.1.1 Toll-Free fraud/Toll-Free traffic-pumping

Toll-Free fraud involves making multiple calls to a Toll-Free number—and staying on the call as long as possible, often navigating the automated IVR prompts and avoiding connecting to a live operator.

3.1.2 Call transfer fraud

In this scenario, the fraudster hacks into a PBX and uses that PBX's services to make free long-distance calls. By instructing the compromised PBX to transfer the call to the hacker's own phone service, subscribers to the fraudster's phone service can speak to their international destinations through the hacked PBX.

3.1.3 Telecom denial-of-service (TDOS)

Telecom denial-of-service (TDoS) attacks are typically made of a huge number of phone calls to one organization's set of User Number(s), keeping them up for long durations, and overwhelming the capacity of an organization's phone network.

3.1.4 Wangiri fraud

Wangiri, in Japanese, means “one and cut.” That is, one ring and a cut off phone call. A Wangiri phone fraud scheme relies on this single ring method. A fraudster will set up a computer to dial many phone numbers at random. Each rings just once, then hangs up. This leaves a number as a missed call on the recipients' phone. Users often see the missed call and believe a legitimate call was cut off, or are simply curious as to who called, so they dial the missed number. The number turns out to be a premium rate number.

3.1.5 Revenue sharing fraud

Revenue share fraudulent activities are those which abuse carrier interconnect agreements. The fraudster's goal is to pair up with a destination that can charge high rates, and then inflate traffic to his numbers at little or no cost to himself. It often involves compromising a PBX or an auto-attendant system.
These types of schemes can occur within a country, or across international borders.

3.2. Security and Fraud management mechanisms

Several mechanisms have been put in place to prevent fraudulent activities such as the ones described above.

3.2.1 SIP Proxy: Real-time traffic patterns monitoring

Traffic patterns are monitored in real-time with call attempts, call minutes and costs compared to thresholds to detect fraudulent activities.
In case of an unusually high volume of calls to a destination, within a short period of time, or an unusually high call duration for calls to a destination, can be detected in real-time and may result in calls to that destination

being suspended temporarily (60 minutes by default on a per destination-basis – can be customized on a per Client-basis as a PS engagement).

3.2.2 Central Black and White-lists management system

NTT subscribes to live fraud protection data, updated multiple times per day, which dynamically adjusts blacklists and whitelists with high-risk phone numbers compiled from research, industry sources, and national numbering plans.
NTT also maintains its blacklists and whitelists based on monitoring telephony services across its network.
Lastly, the 24/7 NOC and support teams are able to make changes to this in near real-time when appropriate based on reports from the outbound routing system, and incidents.

3.2.3 SIP Analytics

The SIP Analytics technology permits to detect and automatically block telecom fraud attacks without impacting legitimate calls. By analyzing SIP messages before the call is set up, the system can quickly detect an attack—much faster than other systems that use call detail records (CDRs), which are typically created after calls are completed.
SIP Analytics include the following tools:

- TDoS mechanisms
- SIP normalization and protocol validation
- Back-to-Back User Agent (B2BUA)

3.2.4 IP White-listing

At IP level, all SBC public interfaces are configured with white-listing of trusted peers.

3.2.5 STIR/SHAKEN

These acronyms stand for:

- STIR: Secure Telephony Identity Revisited. A framework for authenticating and verifying caller ID.
- SHAKEN: Secure Handling of Asserted information using toKENs. A specific framework built on top of the STIR framework that details how tokens should be used.

In a nutshell, this technology allows for verification that calls are coming from a real caller ID instead of a spoofed or fake caller ID .
STIR/SHAKEN is actively being used by NTT in USA and Canada.

3.3. Client Obligations

Although NTT makes every effort to detect and block fraudulent calls on its network, Client must always:

- Ensure that only authorized people use the Cloud Voice connected phone system to make and receive calls
- Take sensible precautions regarding security and access to systems, such as enforcing the use of strong passwords and PINs where applicable, to prevent unauthorized usage.

Additionally, NTT requires that Client use a valid CLI in the FROM or P-Asserted Identity headers on outbound calls. Generally, this CLI must be one of the User Number DDIs provided by NTT and presented in E.164 format. If Client originates outbound calls without a valid CLI, or with a CLI which is not among Client's assigned User Numbers, NTT may block the call as this scenario may be considered by PSTN carriers as an attempt to "spoof" a CLI. It may be possible to present a different CLI, by arrangement with NTT.

4. Reporting and QoS

By default, Client gets access to a set of online reporting elements on NTT's selfcare portal via the "Digital Collaboration Services" app.
Here-below are the main reporting elements provided with current release:

- Usage, Consumption and Quality of Service dashboards
- Custom reports (with ability to generate and download these reports)

NTT also measures several KPIs to track QoS, including the below:

4.1. Mean Opinion Score (MOS)

NTT measures the quality of speech by monitoring calls placed on the Cloud Voice network. This measurement provides a qualitative indicator between 1 (lowest perceived quality) and 4.5 (highest perceived quality possible). The maximum values obtained highly depend on the Codec being used for the call. For example PSTN calls using the G.711 codec (most commonly used codec for PSTN calls) have a maximum value for MOS of 4.4.
The Mean Opinion Score (MOS) will be measured as the average of all qualitative indicators for the calls placed on the Cloud Voice Network during the month.

The targeted Mean Opinion Score (MOS) for Cloud Voice (G.711) is ≥4.1

4.2. NTT MOS Degradation

The NTT MOS Degradation is a KPI measuring the impact of NTT Cloud Voice network on the end-to-end Mean Opinion Score of a PSTN phone-call.
This KPI is computed on a per-CDR basis and covers the call path between the NTT Cloud Voice ingress SBC to the NTT Cloud Voice egress SBC.
The targeted NTT MOS Degradation score for Cloud Voice is <0.4.

4.3. Post Dialling Delay (PDD)

Post Dial Delay ("PDD") is the time interval between the end of user or terminal equipment dialling and the reception of the appropriate network response.
Post Dialling Delay can be influenced by Client dialling behaviour and/or the types of network, e.g. variable number lengths, that are interconnected, and in some cases, by the type of service that is being carried on the end-to-end telecommunication networks.
NTT measures the average monthly PDD on its Cloud Voice network.
NTT commits on an **average PDD ≤4 seconds**

5. Billing

5.1. Standard Charges types

The Cloud Voice Service as described in this document is structured with the flowing SKU's:

SKU name	Description	Charge type
Voice for CX Plan – Geo or Toll-Free Monthly	Charge applied to all registered CX numbers of the solution	Monthly Recurring Charges
Incoming Service-Number Toll based Consumption	Per minute charges for incoming calls to Toll Service number. Prices may vary depending on the call origin (Landline or Mobile)	Per-Minute Consumption Charges
Incoming Service-Number Toll-Free based Consumption	Per minute charges for incoming calls to Toll-Free Service number. Prices may vary depending on the call origin (Landline or Mobile)	Per-Minute Consumption Charges
BYON CX Number Registration	Per CX DDIs registered on the NTT Cloud Voice network	Monthly Recurring Charges
Pay-as-you-go based Consumption	Per minute charges for overage outgoing calls consumption to the PSTN	Per-Minute Consumption Charges

List of billing charges

5.2. Billing Cycles

NTT billing cycles start on the first calendar day of the month and ends on the last calendar day of the month. Monthly Recurring Charges (i.e. Universal Calling Plans) and overage per-minute pay-as-you-go communication charges are computed on the last calendar day of the Month for invoicing (i.e. Communications of December 2023 are rated on December 31st and invoiced by mid-January 2024).
NTT does not provide pro-rated charges but rather full month rating and invoicing.

5.3. One-Time Charges

5.3.1 Default Cloud Voice setup fee

The default Cloud Voice setup fee covers the below items:

- Creation of Client's in NTT administration systems for selfcare, support and billing
- Provide Client with required porting data collection forms
- Review of port or net new number submission form, as submitted by Client, to ensure all fields are completed
- Port submission with updates on port status
- Net new number acquisition: Ordering of new phone numbers is a streamlined process. Delays in obtaining phone numbers may vary from one country to another and are subject to local numbering resources availability.
- Upload and routing of Client DDIs within NTT's systems

5.3.2 Other One-Time Charges

Additional One-Time Charges are to be charged only once and following conditions described in the SOF or in the SoW if Professional Services (PS) activities are also included.

In case of the latter, the detailed description of what is covered by such charges shall be described in the PS Statement of Work.

5.4. Monthly Recurring Charges

5.4.1 Universal Calling Plans charges

Billing of Monthly Recurring Charges for Universal Calling Plans occurs every month and is based on the observed number and type of Universal Calling Plans on the last calendar day of the month.
Changes made to an Unassigned DDI license (Calling Plan allocation) is taken into account immediately.
Should changes be made to a Calling Plan subscription already attached to one User Number during the course of the billing cycle, then the new subscription assigned to the DDI on the last calendar day of the month is the one which will be taken into account, moving forward in the next billing cycle.
Should a Calling Plan assignment be removed during the course of the current billing cycle, then the entire month is due. The “Unassigned DDI” charge will start in the next billing cycle in replacement of the Calling Plan previously assigned.

5.4.2 DDI renting fees

Unassigned User Numbers

Client shall pay NTT for unassigned User Numbers DDIs on a monthly basis.
Prices for renting unassigned User Numbers DDIs are defined on a per-country basis.

5.5. Pay-as-you-go consumption charges

5.5.1 Call Termination charges

Outgoing PSTN calls not included in the Users Calling Plan will be considered as overage consumption and shall be charged by NTT to Client as Pay-as-you-go service.
Client shall pay to NTT charges calculated using a rate per minute as described in Appendix “Outgoing Calls rate-card” for all calls routed via the NTT Network including calls routed via NTT’ carriers.
Calls are billed in 30 seconds increments. Per CDR charges are rounded to the nearest upper two (2) decimal places (for currencies not featuring decimals rounding is done to the nearest upper integer place).
Minimum call duration is 30 seconds, and all calls will be rated accordingly.
NTT will update its Outgoing Calls rate-card at least once a year to reflect exchange rate fluctuations.

5.6. Minimum Monthly Commitment

Client understands and agrees that NTT is entitled to charge a Minimum Monthly Commitment (MMC) as defined in the Service Order Form (SOF).
Said MMC shall only be charged should the total amount of Monthly Recurring Charges and the Per-minute overage consumption due over a monthly period be inferior to this MMC amount. In such case the MMC only will be charged to Client superseding the sum of the other Cloud Voice charges (excluding One-Time charges).
The MMC is computed at the Billing Account level.

5.7. Other charges

For all charges not listed in SOF, Client must refer to its NTT Account Manager. Should the provisioning of services not listed in the SOF be effective, NTT shall charge such services using its standard Price-List, available on-demand from Client’s Account Manager.

5.8. Billing and Invoicing capabilities

By default, NTT will invoice Client centrally in-country as initially agreed between the two parties.

Specifics

Billing is not available in all countries, nor in all currencies. Feasibility must be checked upfront.
Invoicing of China Calling Plans must be done outside of China.