



## **Client Service Description**

# **Managed Collaboration Services**

30 September 2019 | Document Version 5.1

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## 1. Our Managed Services strategy

### 1.1. The need for Managed Collaboration Services

As organizations embark on digital transformation initiatives that result in an increased volume of diversified end user communications devices - and the desire for businesses to provide a wide range of communications channels to their customers, business partners and staff – the challenges of managing the collaboration environment are intensifying, as a more intelligent infrastructure is a necessity. The desire to take advantage of new collaboration technologies while still managing the existing environments, to support the changing nature of the workplace, has led to the need to manage new hybrid IT environments.

Our industry is going through extensive transformation. We understand how increasingly complex it is to manage hybrid collaboration architectures, with many collaboration solutions extending from on-premises to private cloud and even public cloud deployments. Managed Collaboration Services offers a single managed service across your entire collaboration environment, with a focus on Cisco and Microsoft technologies. We bring these technologies together to give you access to an integrated suite of communication and collaboration tools. Our service manages many combinations of technologies, including:

- NTT Cloud – where NTT provides the cloud solution or hosts the infrastructure on your behalf.
- On-premises – where you host the infrastructure in your data center or a third-party hosted data center you utilize.
- Vendor cloud (public cloud) – Cisco Webex Calling and/or Cisco Webex Teams with IM&P, Calling and Voicemail in Scope. Microsoft Office 365 with the Skype for Business Online and/or Teams with Voice (Phone System), IIM&P, and voicemail in scope.

To meet the requirements of your hybrid collaboration environment, NTT has built service features designed to focus on the best mix of features based on the type of technology you use in your business. Our pricing model is then aligned to the appropriate deployment model of your collaboration technologies. We have foundational services across all of our Managed Services that can be further augmented with additional management options, as described in sections 2.1 and 2.2 respectfully.

#### 1.1.1. Improving service levels

When service affecting problems do occur, the quicker they can be resolved the better to ensure minimum business impact. Our managed service clients have seen improvements in timescales to incident resolution typically a 69% reduction in detection and a 29% reduction in resolution (NTT Network Barometer Report). It makes sense that the more the organization depends on collaboration technologies, the more available they are expected to be.

#### 1.1.2. Certified engineers available when and where you need them

Our engineers hold the highest levels of certification and are available to support our clients at global, regional and local levels every day of the year, 24 hours a day.

#### 1.1.3. Ensuring the benefits of hybrid IT are fully optimized to deliver business value

Many businesses now utilize a combination of on-premises collaboration tools, hosted solutions and cloud-based offerings like Office365. Ensuring availability and quality performance of the end-to-end communications channels results in new management challenges. We can support clients to optimize investments and address the key management challenges for hybrid collaboration environments.

#### 1.1.4. Investment in management systems

Complete management solutions require the implementation and integration of multiple systems, software, and functional elements including:

- a Service Desk
- dedicated DevOps teams
- a manager of managers
- polling and discovery tools
- asset and configuration tools
- performance and capacity management tools
- reporting tools
- event correlation and automation tools

- element managers

NTT is committed to the continuous investment in the development of tools, automation, processes and people which our clients can rely on.

#### 1.1.5. Timely management of change requests

The Enterprise Management Associates research organization indicates that as many as 70% of service impacting incidents and problems have their roots in unanticipated side effects resulting from deliberate infrastructure configuration changes. It's been estimated that up to 75% of opex budgets can be consumed by the need to undertake and manage these tasks. Our Managed Collaboration Services help deliver measurable operational efficiencies by taking over the remote implementation of change requests across the collaboration infrastructure, in a timely and responsive manner.

#### 1.1.6. Event management

Management systems need to be configured to correlate actual events and eliminate noise to ensure the right actions are taken to the right events. Our experienced vendor certified engineers and event automation enhance the management and correlation of these events drawing on their multivendor experience to troubleshoot when necessary.

### 1.2. Service overview

Managed Collaboration Services is part of NTT's range of Managed Services, which are designed to simplify the management of day-to-day operations while enhancing IT and business functions. We achieve these outcomes for our clients through improved IT agility, automation and scalability leveraging our service platforms.

At NTT, our focus is on how we:

- Keep your IT operations up to date, with the latest IT and services through building smart automations to deliver improved IT outcomes across your different technology and multivendor environments. Today NTT supports 88 of Fortune 100 companies across 150+ countries.
- Provide a highly automated managed services platform to manage hybrid IT infrastructure that supports mission-critical workloads.
- Provide an integrated view of your hybrid IT environment through our award-winning Manage Centre portal, with data analytics to help you make business decisions.
- Focus on the continuous development of new capabilities, platforms and delivery models, supported by an annual US \$2 billion R&D commitment across the NTT Group.
- Drive innovation with 100 prestigious industry awards recognizing our commitment to innovation and client centricity.
- Provide a consulting-led approach to apply real-world experience to architect the right managed service solution.
- Develop our people with 22,000+ professionals in our global services organizations, our focus in on accreditation with more than 2,400 ITIL Foundation certified individuals, 140 ITIL experts and over 3,800 collaboration certifications.
- Provide multivendor expertise – we are Cisco's #1 global partner and almost every major vendor's #1 or #2 partner with 30,000+ certifications across 36 technology vendors. Supporting over 80 vendors across technology domains.

Our Managed Services are built on a common foundation we call Operate: remotely delivered, standardized, optimized and automated operations of hybrid IT environments, continuously refined through proactive analytics:

- Adhering to our world class ITIL Standardized Managed Services Operations (SMSO) process framework.
- Enabled by our global Managed Services Platform – a suite of IT operations management tools for monitoring, management, automation and analytics of information technology environments.
- Delivered through our Global Managed Services Delivery organization with a focus on keeping clients at the center of everything we do.

Using this common framework, NTT can provide consistent Managed Services designed to meet daily IT operational needs, optimize IT environments, and manage your as-is technologies while transforming your IT

environment.

### 1.3. Driving value

Today, more than ever, NTT sees our clients facing the dual challenges of increasing their pace of technology transformation to meet the digital demands of their business, while dealing with the pressures of their day-to-day operations. The adoption of cloud and software-based technology solutions and evolution of hybrid IT has led to the need for IT organizations to put increasing focus on updating the end-to-end IT environment.

At the same time, the requirement to ensure IT environments remain available and performing to support 365/24/7 business needs and new services is also increasing. The new hybrid IT infrastructure must be monitored, measured, and reported across on-premises, hosted and cloud-based environments which is often the responsibility of key staff who now have to focus on delivering service to the business in addition to supporting technology.

NTT has developed its approach to managing hybrid IT with these factors in mind. Our Managed Services are focused on driving world class operational standards to manage the daily operations of client infrastructures through:

- Building on a core of proven industry best practice processes.
- Understanding the need to drive automation to enable higher levels of availability and enable enhanced and consistent user experience.
- Ensuring a culture of continual service improvement and enabling clients with the information to make business decisions about their IT environment through data collection, analysis and dissemination.
- Focusing the NTT Global Managed Services Delivery team on driving automated operations, governance and compliance, through a remotely delivered operating model.
- Centralized service delivery that is combined with local resources to provide support when and where needed.
- Combining our cross-competencies in network, workplace and collaboration, data center and security to provide an integrated and standardized end-to-end managed service experience across the entire IT estate.

### 1.4. Our critical success factors

NTT views it as vital that our Managed Services achieve certain critical success factors:

- Easy to consume standard offerings – evolving from traditional managed services to a ‘best in class’ portfolio, including clearly defined modular offerings with customizable elements, and are in line with the market and your needs.
- A modernized digital platform – creating a smooth path to fast results through a focus on analytics & automation.
- Near real-time actionable insights through our Manage Centre portal – bringing managed services delivery closer to you.

### 1.5. Managed Collaboration Services portfolio

Managed Collaboration Services from NTT helps you get more from your investment in collaboration technology, and your existing resources, under one contract. We monitor and operate your Unified Communication and Collaboration (UC&C) ecosystem, taking care of the day-to-day IT operations so you can focus on business outcomes, digital transformation and innovation. Our technology tools and portals automate and simplify user management, and have monitoring, logging and reporting features to help you meet compliance and governance requirements.

We support a range of collaboration solutions, from leading technology vendors like Cisco and Microsoft, and a host of complimentary Unified Communications and Collaboration ecosystem vendors, on any deployment model: public and private cloud, hosted, on-premises, and hybrid.

To ensure the security of your data, we have designed the network, and via remote connectivity, operate the tools used by MCS to comply with the internationally recognised Information Security Standard (ISO 27001:2013).

### 1.5.1. Managing multiple deployment models and pricing construct

Managed Collaboration Services monthly recurring charge (MRC) has two main components for each of the deployment models, or hybrid combinations of them:

1. There are 2 user types within the MCS Service per-user, per month pricing: Standard UC User which includes operations support for calling, voicemail, associated user devices and IM&P. The second user type is an IM&P User which supports only IM&P Applications. and typically reserved for those e client user personas that don't have voice enabled as part of their collaboration strategy. These user types can be either On Premises, Hosted in NTT's Cloud or part of a Vendor Cloud Configuration.
2. Per-Configuration item (CI), per-month pricing covers the costs to manage functional devices like voice gateways, session border controllers (SBC), collaboration appliances (physical and/or virtual) or other elements that complement the core collaboration platforms covered in the Per-User Pricing. For on-Premises Servers, NTT provides support and manages at the "operating system" and application layers only (If you require physical server and hypervisor monitoring and management, this can be added per server). If your collaboration solution is multi-cluster (Cisco) or Multi-front-end Pool (Microsoft), you will need to add Per Virtual Machine CIs (Voice, IM&P and Voicemail) in the clusters and device pools subsequent to the largest and first Cluster/Front end Pool. The Per User Per month caters only for the costs associated with these applications (voice, IM&P and Voicemail) in the first/largest Cluster/front end pool only.

Configuration Items are classified into 1 of four types:

- **Simple Device** – are typically endpoints not associated to a user profile or user account (examples include kitchen phones, elevator phones, conference phones, etc.).
- **Premium Device** – are typically endpoints requiring special attention (examples include an executive device or immersive video devices needing monitoring).
- **Advanced Device** – are typically purpose-built devices that support multiple users and have a material impact if failures occur (examples include voice gateways, Servers and/ or collaboration appliances deployed on-premises).
- **Complex Device** – are typically purpose-built devices that support multiple users, are complex in nature, and have a material impact if failures occur (examples include session border controllers (SBC), Cisco Expressway and video bridges/switches).

Managed Collaboration Services can support a wide variety of industry-leading collaboration solutions, including, but not limited to, Cisco, Microsoft, Poly (formerly Plantronics/Polycom), Oracle, Audio Codes and Ribbon Communications.

In addition to the collaboration voice- centric workloads, you can "add on" a productivity bundle to Standard UC Users (Vendor Cloud) which includes support for workloads from Microsoft Office 365 including Exchange Online, SharePoint Online and OneDrive. For more details, please see Appendix F.



## 2. Managed Collaboration Services design

Our Managed Collaboration Service (MCS) consists of the following:

- **Operate**—the common, standardized foundation included in all our Managed Services.
- **Additional management option** — an optional offering. It incorporates availability management, capacity and performance management, and release and deployment management to provide additional proactive operations for your collaboration environment.

### 2.1. Common foundation – Operate

All NTT Managed Services are built on a common foundation - Operate. This foundation is comprised of four disciplines:

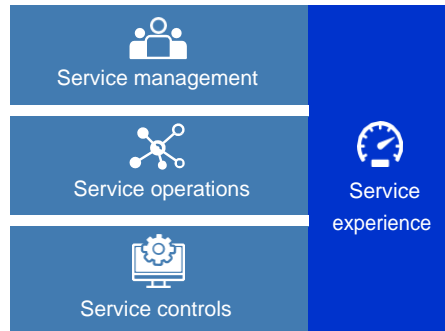


Figure 1: Four disciplines of Operate

- **Service experience** — aimed at maximizing the value you receive through our service, NTT applies the latest technology using its Managed Services Platform for Service Desk, effective communications and reporting, to enhance your service experience and provide analytical insights to enable your decision-making.
- **Service operations** — through the application of ITIL best practices, NTT utilizes automated operations and analytical insights to manage your IT environment to support your business outcomes. This includes, where applicable, performing daily operational tasks for the good housekeeping of technology, monitoring and event management, incident management, problem management, and request fulfilment.
- **Service controls** — to support effective IT operations and a culture of continual improvement, NTT applies foundational controls across your infrastructure. Using asset and configuration management to discover, track and analyse your IT environment, change management for controlled implementation of configuration changes to minimize business impact, and knowledge management to leverage from lessons learnt across NTT's wider client base.
- **Service management** – to provide accountability for NTT's service delivery and maintain alignment of our IT operations to your needs. NTT focuses on measurement, review, action and communication to assure service quality and achieve good governance throughout the life of the service contract.

A more detailed description of these disciplines is provided in Section Three of this document.

#### 2.1.1. Key benefits

NTT's Managed Services provides the following key benefits to you:

- Our service is designed to ensure we build and maintain a strong relationship between our clients and NTT, in a true partnership model. You can rely on NTT to keep you consistently informed about the health and performance of your IT environment and maintain the relevance of our operations.
- Ability to add this service, along with other services like network, security and data center, for a more complete end-to-end managed service.
- Understanding your business objectives and managing the estate to maximize the benefits of your technology solutions.
- Through the delivery of automated operations, built on a foundation of best practice processes, NTT delivers managed services to maximize availability of infrastructure and minimize business impact. Operational efficiency is increased by utilizing a platform-driven approach to IT operations.

- You have multiple methods of communication into NTT to suit your needs, but with a single point of interaction via our Service Desk and a single point of accountability through your assigned local Service Delivery Manager.
- Information is made available online through the Manage Centre portal, so that you have the information you need at your fingertips to review, analyse and make business decisions.

## 2.2. Additional management option for Managed Collaboration Services

Managed Collaboration Services (MCS) offers an additional option for collaboration optimization which we believe is critical to delivering proactive operations for a managed collaboration services engagement. The additional management option includes:

- **Availability management**—to ensure the collaboration platform supported by NTT's Managed Collaboration Services is available and operating at an agreed level as measured within a calendar month.
- **Capacity and performance management** – assists you in providing cost-justifiable capacity and performance to your business. Capacity and Performance Management is designed to anticipate and prevents situations where demand for collaboration services exceeds the mutually agreed capacity threshold; and
- **Release and deployment management** – used for the remote distribution of software updates for the configuration items under NTT management, to reduce operational risk in your collaboration environment.

### 2.2.1. Key benefits

The additional management option within the MCSs provides the following benefits to your organization:

- Transparency and value-add through detailed reporting on service performance and current/future capacity requirements.
- Reduced risk of business impacts through availability, capacity, performance and patching issues within your collaboration infrastructure.
- The ability to evaluate risks versus investment needs and make more informed business decisions about your collaboration estate.

A more detailed description of this feature is provided in **Section Four** of this document.

## 2.3. Supported technologies

Managed Collaboration Services can support a wide variety of industry-leading collaboration solutions, including, but not limited to, Cisco, Microsoft, Poly (formerly Polycom & Plantronics), Oracle, AudioCodes, and Ribbon Communications.

## 2.4. Prerequisites

Managed Collaboration Services relies on Collaboration/Unified Communications (UC) appliances, Collaboration/UC servers, Collaboration/UC Gateways/ SBCs, and/or Collaboration UC Server Management Software being covered by valid hardware and software maintenance contracts, with service levels and response times that align to the service levels provided by Managed Collaboration Services. There are two scenarios in which the hardware and software maintenance contracts and the managed services will work together:

### 2.4.1. Scenario 1 – NTT Uptime Service (recommended)

In this scenario you either have an existing Uptime Service Contract with NTT or you will purchase one in addition to Managed Collaboration Service. With this option, NTT manages the collaboration environment and takes care of the hardware and software related contracts with the relevant vendors, to provide an end-to-end service.

**2.4.2. Scenario 2 – Third-party maintenance contract**

In this scenario, you procure the Managed Collaboration Services from NTT and have a third-party contract in place with an incumbent for the maintenance of all configuration items that are collaboration appliances, servers, Gateways/SBCs, and/or Server Management Software. NTT provides third-party incident management, with a Letter of Authorization function to streamline the incident management process. To ensure seamless service delivery, you will need to provide details of any third-party maintenance contracts to NTT during service transition.

**2.5. Service level commitments**

NTT’s Managed Services include a standard set of service level commitments based on the operations and IT technologies included within the service. Service level achievements are measured by calendar month:

Service availability is provided for the Managed Collaboration Services only with the Additional Management Option. Service availability means a Service Level Calculation that uses data from NTT’s Managed Services Platform to determine what percentage of time, in a calendar month, was the Managed Collaboration Service available for your end users to use. Service Availability has three sub- elements associated with the supported applications, defined by the scope of services included within the per-user, per- month construct:

1. ‘Calling Service Availability’ – defined as users within the on- net environment (excludes VPN connected endpoints) being able to place and receive phone calls (VoIP and/or PSTN).
2. ‘Messaging Service Availability’ - defined as users being able to see User Presence Information and the ability to send and receive instant messages in their software-based clients and approved hardware devices.
3. ‘Voicemail Service Availability’ – defined as the ability for the in-scope voicemail system to receive and store voicemail messages for the users when they don’t answer their extensions.

For NTT to commit to service level targets, we also require your IT infrastructure to be configured with minimum architecture standards which can support these service levels. These minimum architecture standards can be found in the Appendix A of this document.

In situations where third-party solutions are used, like in Vendor Cloud Configurations (Cisco Webex, Office 365 and Microsoft Teams), those vendor service level agreements are directly negotiated between you and the third-party provider and do not impact the service level commitments being contracted by NTT (issues and/or incidents related to those providers are removed from our calculations).

Service element	Service sub-element	Action	Priority	Service level	Service credit threshold	Service calendar	Measured
Incident management	Reported by client	Response	P1	15 minutes	95%	24/7	Monthly
			P2	30 minutes	95%	24/7	Monthly
	Detected by monitoring	Client notification	All	15 minutes	95%	24/7	Monthly
	All	Restore	P1	4 hours	95%	24/7	Monthly
			P2	8 hours	95%	24/7	Monthly
			P3	24 hours	95%	24/7	Monthly
Request fulfillment	Request for information	Response	All	24 hours	100%	24/7	Monthly
		Fulfillment	All	48 hours	100%	24/7	Monthly
	Standard change	Response	All	24 hours	100%	24/7	Monthly
		Fulfillment	All	48 hours	100%	24/7	Monthly
Service availability	N/A	N/A	N/A	99.95%	100%	24/7	Monthly

## 2.6. Our Managed Services Platform

At the heart of NTT's Managed Services is our Managed Services Platform: an integrated suite of monitoring, management and automation solutions leveraging both software packages and microservices to enable platform-driven operations of IT environments:

- **Global IT service management** platform for ITIL-based workflow automation.
- **Unified monitoring and operations** framework for integrated monitoring, event collection and correlation.
- **Operations automation** incorporating autodiscovery, automated service activation, event enrichment, incident resolution, task fulfilment and workload management.
- **Omnichannel** technology for integrated, context-based communications with clients.
- **Data lake and analytics** to collect, collate, analyse, and inform on the performance across technologies.
- **Privilege access management** for auditable, secured access to privileged accounts for the management of your IT infrastructure.
- **Manage Centre Portal** to provide a single interface in the health and performance of your IT environment.

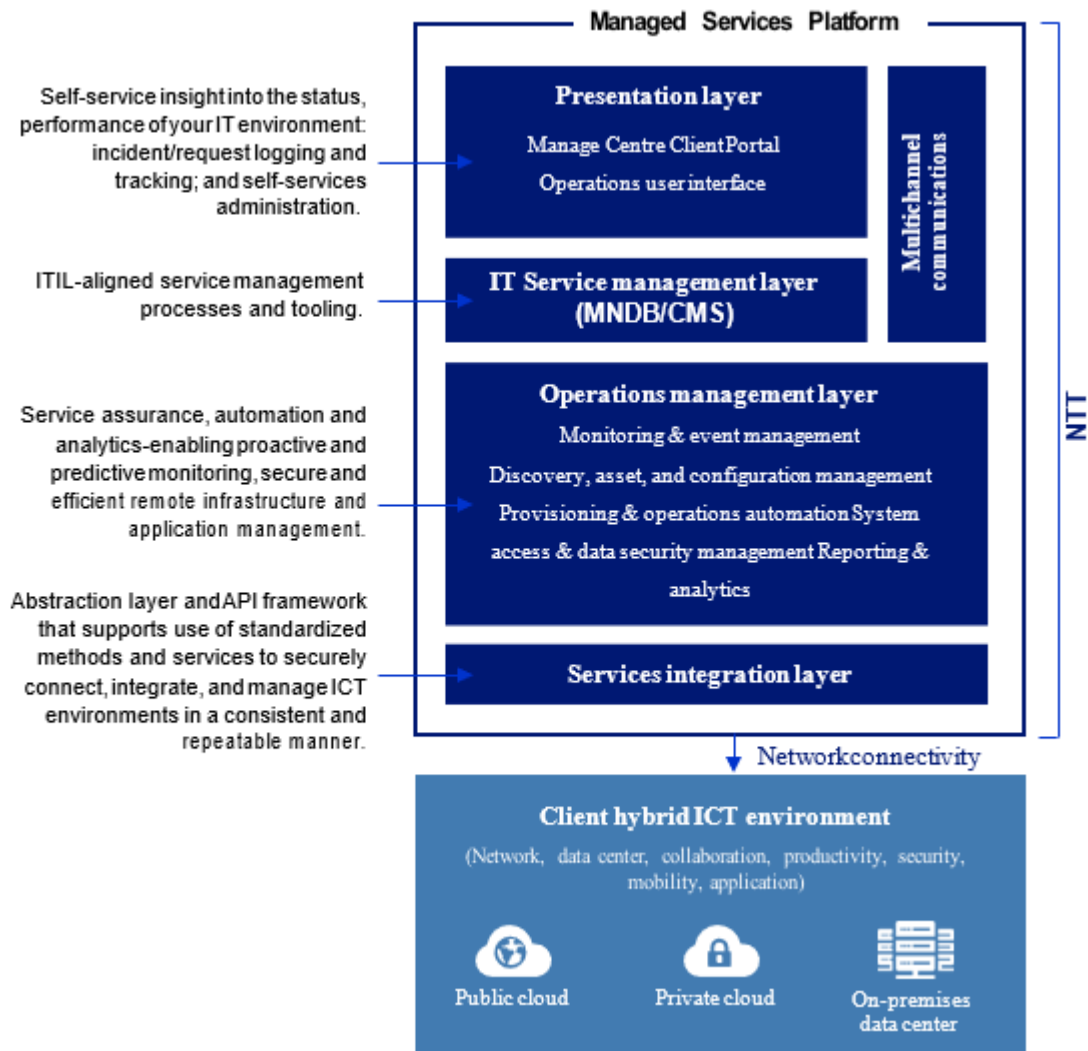


Figure 2: NTT's managed service platform

The Managed Services Platform consists of four key layers:

- **Presentation layer** – Manage Centre is your primary portal into our IT operations, which provides dashboards and interactive reporting, self-service capabilities, news and notifications, and is your online interface to NTT and the health of your collaboration environment under management. The presentation layer also includes technology specific sub-portals that you can access to perform administrative changes to your IT assets.
- **Service management layer** – drives ITIL process adherence into our IT operations. It includes the Configuration Management Database (CMDB), process-driven forms, workflows and automation. The service management layer is continually being enriched to streamline and optimize service delivery and management processes and provides a key source of operational data on the performance of your collaboration environment.
- **Operations management layer** – consists of a range of infrastructure and workload operational management applications. These include IT estate discovery, monitoring and event management, orchestration, and task automation. The tools are enhanced by in-house developed customizations, integrations and microservices leveraged across hybrid environments to automate a range of operational functions. An API suite has been developed to enable functional use of most elements within the application layer across the MS Platform, and to enable client integrations more securely and efficiently. Data is collected into a data lake for analytics and reporting.
- **Service integration layer** – enables secure access, integration and interoperability with your collaboration environment. An Event Message Routing bus is used as the common intelligent communications bus between all applications within the Managed Services Platform, and between the platform and your collaboration environment. It is also where identity and access management is controlled throughout the platform, metadata is stored and utilized, and data lakes and analytics engines reside, to be called upon by the other layers within the platform.

We have invested into the evolution of the Managed Services Platform as core to our approach to remotely delivered, automated IT operations for you, and is integral to our long-term vision as a managed services provider for hybrid network environments, including your collaboration infrastructure.

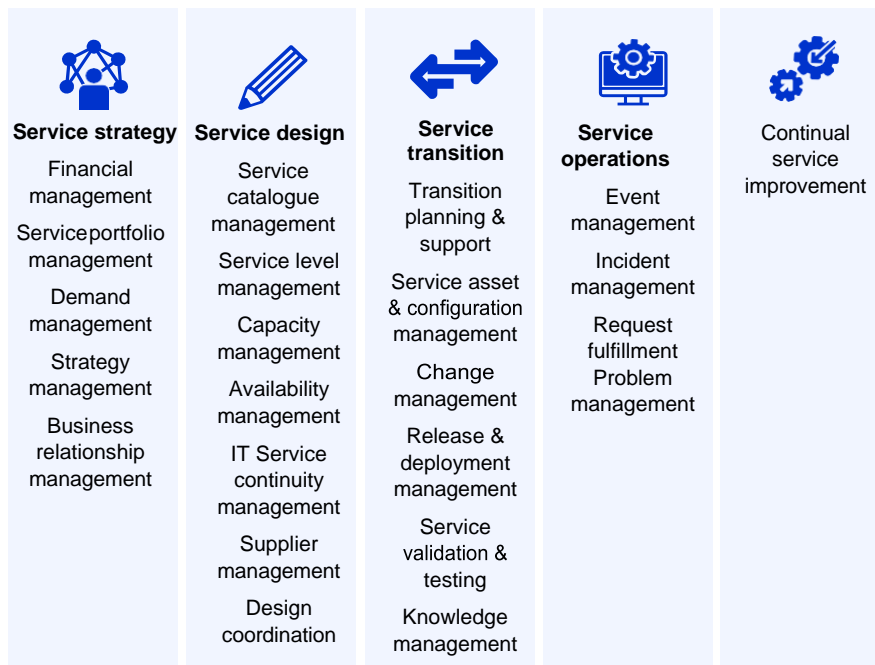


Figure 3: NTT's Standardized Managed Services Operations Framework

## 2.7. Standardized Managed Services Operations (SMSO) best practice process framework

ITIL is the global de facto framework of best practices for IT Service Management. NTT has developed our SMSO process framework that aligns to ITIL best practice foundations. SMSO defines the policies, principals, processes, work instructions, measurements and metrics we use to apply structure and governance to our Managed Services for consistent optimized delivery of manage services to our clients globally, regardless of

technologies under management.

NTT's Managed Services leverage all or part of the SMSO framework based on the scope of the managed service offering. As part of our common foundation of Operate, all NTT Managed Services include:

- Event management
- Incident management
- Problem management
- Request fulfilment
- Access management
- Change management
- Service asset and configuration management
- Knowledge management
- Service level reporting

As part of the service transition, NTT works with you to identify how best to interlock our operational processes with yours, to ensure end-to-end communications in the daily operations of your IT environment.

## 2.8. Delivery structure

NTT delivers these services through our ISO27001 certified Global Managed Services Delivery organization.

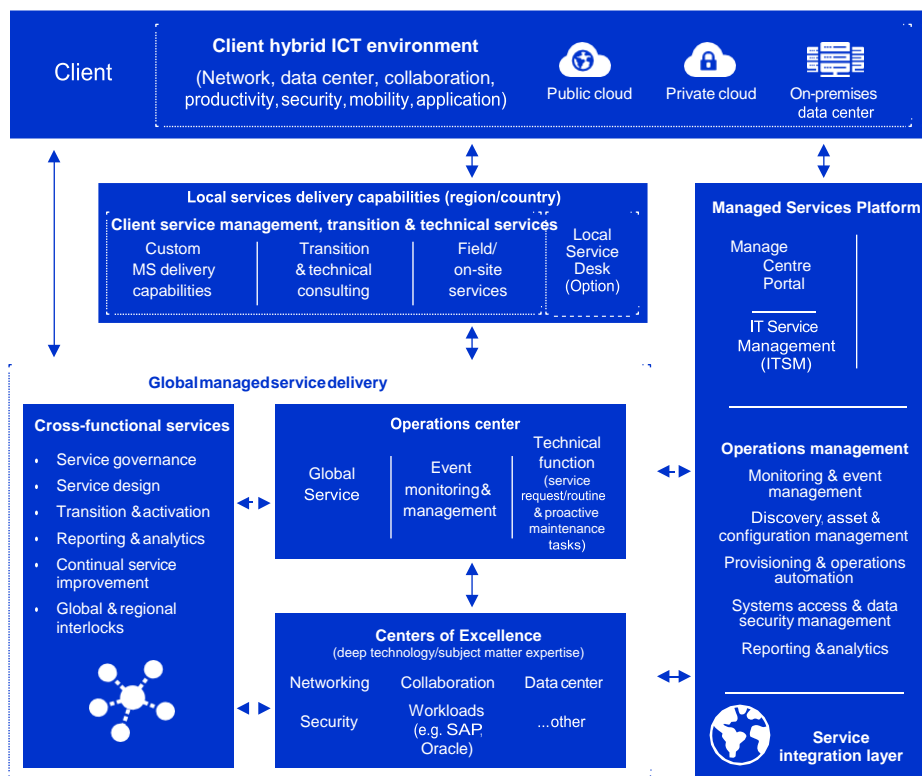


Figure 4: Global Managed Services Delivery Environment

The Global Managed Services Delivery organization is responsible for the consistent delivery of managed services to clients around the world. The organization consists of three core functions:

- Operations Center
- Centers of Excellence
- Cross Functional Services

The service is augmented by local teams to provide points of contact with our clients for service transition and service delivery management. Where local language requirements exist, the regional Service Desk becomes

the primary interface to you.

### 2.8.1. Operations Center

The Operations Center is the cross-technology operations team that is responsible for providing first and second level operations functions that include:

- **Service Desk** – handling initial queries, requests and incidents received from you; providing automated updates on progress of tickets; performing notifications on planned/unplanned outages.
- **Monitoring and Event Management** – responsible for processing monitoring events and the creation of incident tickets where actions are required.
- **Incident Management** – receiving incidents via automated event monitoring or from you; ticket tracking through to resolution; incident investigation, diagnosis and where possible resolution of incidents; escalation to the relevant centers of excellence (COEs) where subject matter expertise is required to assist on an incident.
- **Request Fulfilment** – receiving service requests that cannot be automatically fulfilled, liaison with requestors where additional information is required, and fulfilling requests. Where approvals may be required e.g. access requests, ensuring those approvals have been received. Transfer requests to relevant COEs when deeper subject matter expertise is required.
- **Operational tasks** – ensuring automated operational tasks are performed following the regular schedule across clients' IT environments.

A goal of the Operations Center is to resolve incidents and service requests without the need to escalate tickets to COEs to minimize client impact and optimize service delivery.

### 2.8.2. Centers of Excellence

The Operations Center is supported by a range of Centers of Excellence (COEs) located across the globe. COEs consist of senior engineering staff with subject matter expertise in one or more technology disciplines. They are responsible for:

- **Deep incident diagnosis and resolution activities** – for incidents escalated from the Operations Center, or when a major incident has been declared, relevant SMEs from one or more COEs will be assigned to work through the incidents to resolution.
- **Problem Management** – for potential problems identified through incidents, or via event trend analysis, COEs will perform root cause analysis, identify known errors, and recommend options for permanently fixing the errors. Where a client agrees to implement a recommendation, the COE will be responsible for the implementation following change management.
- **Change impact analysis, planning, testing and implementation** – for changes, COEs will perform technical impact analysis of changes to help identify any potential issues with requested configuration changes. Where clients have test environments available, the COE will test implementation steps based on the defined plans. COEs are also responsible for implementing changes into the IT environment, although where changes can be automated, the Operations Center may perform the automated change.
- **Knowledge articles** – the COEs are responsible for creating new knowledge articles, and for reviewing and refining knowledge articles generated by the Operations Center.
- **Continual Service Improvement** – the COEs work on improvement activities identified through incident management, change management, and operations reviews.
- **Service Transition** – the COEs assist the transition team with technical expertise during the transition of a client onto a managed service. The transition team includes central and region technical and back-office resources, with governance provided by Cross Functional Services.

### 2.8.3. Cross Functional Services

The Operations Center and COEs are supported and governed by the Cross Functional Services (CFS) organization. The CFS organization provides 'umbrella' governance and control functions across all central operational teams and delivery functions. The CFS ensures standards alignment and delivery consistency across the Global Managed Services Delivery Organization. It is also responsible for continually assessing, identifying and implementing improvements to service delivery. The CFS is responsible for maintaining,

enhancing and enforcing standards, policies and processes across the Global Managed Services Delivery organization. The functions of the CFS organization includes:

- **Service governance**—including operational assurance.
- **Transition and activation**—to establish your monitoring and management functions for a new managed service contract for operational readiness.
- **Reporting and analytics**—for internal service improvement and service- related reporting.
- **Continual service improvement** — to continually measure, identify and improve the processes and structure of the Global Managed Services Delivery organization to improve efficiency, effectiveness and optimization.
- **Process ownership** — across NTT's SMSO ITIL processes for consistent application and adherence across the Operations Center and Technical Centers of Excellence e.g. change control authority, problem management, knowledge management, incident escalation, Service Asset and Configuration Management, security and compliance, service continuity.

### 2.9. Our critical success factors

To bring successful design to our Managed Services, NTT focuses on:

- A standard service offering to be delivered centrally, with incremental service elements provided locally as per your requirements, to improve your ROI goals.
- A unified service portfolio with client success management and continual service improvement embedded in design, optimized for a consistent service experience, more ready consumption of our services and faster outcomes for your business.
- Using analytics and insights to delight our clients — at every step of the client experience.



### 3. Our approach to service transition

The NTT transition approach aims to ensure that both organizations enter the transition with a clear idea and understanding of the goals and objectives of the transition.

#### 3.1. Objectives of service transition

- To ensure the absolute minimal business disruption during the transition of the managed service;
- To facilitate a smooth and trouble-free transition;
- To determine and manage realistic transition timeframes;
- To establish an operational baseline for the Global Managed Services Delivery organization that will be responsible for delivering the service post-transition;
- To facilitate and conclude the contracting process;
- To develop and build a sound business relationship from the onset;
- To align your expectations with service delivery capabilities and constraints; and
- To ensure our people understand your business from the onset to deliver reliable, stable and excellent service

#### 3.2. Transition methodology

NTT uses a formal transition methodology, called the Transition Implementation Methodology (TIM), developed in-house from industry-leading best practices and years of practical experience with the transition of operations from its clients and/or incumbent service providers. It is a formal methodology that allows flexibility for adjustment to cater for a wide spectrum of operational services, assets, staff, policies, process, standards and architectures to be transferred to NTT. We see three common scenarios with client transitions:

- Existing clients who have been utilizing NTT's Support Services and have decided to commence the journey into Managed Services;
- Existing clients who originally requested a bespoke outsourcing construct in the past, but are now wishing to take advantage of standardized, optimized and automated operations service; and
- New clients joining NTT to take advantage of our Managed Services.

Our transition methodology caters for all these scenarios and provides us with the flexibility to bring your IT environment under the operations of our Managed Services in a seamless manner.

TIM recommends that the transition project is planned and executed over five phases – Inception, Definition, Build, Deployment and Close. Each phase has clearly defined activities, deliverables and accountabilities, described later in this section.

The following diagram outlines the TIM process and how it interrelates to our service onboarding process:

NTT's local service transition manager is responsible for managing the transition process with you and your organization following TIM and coordinating back with our Center of Excellence (CoE) Onboarding Team. The CoE Onboarding Team is responsible for running the service onboarding process to enable our service operations. As part of the service onboarding process, the tools and systems are setup and activated for the managed service to go-live.

Our methodology is supported by a suite of transition tools to enable us to optimize activation of our service into your environment:

- Autodiscovery tools that enable NTT to validate and enrich your asset listings as we populate your environment into our CMDB;
- Automated deployment tools, where applicable, to build the monitoring and management domain within our Managed Services Platform specific to your environment and to commence monitoring activities;
- Predefined monitoring plans to establish the event criteria most appropriate for monitoring the CIs within your environment, and with the ability to tune thresholds based on your needs.

#### 3.3. Service transition phases in detail

The following subsections provide more detail of NTT's transition phases, as summarized in Figure 5 below.

### 3.3.1. Sales engagement phase

The following high-level activities will be performed during this phase and are typically those activities we perform before the transition commencement date and contract signature.

- Due diligence. The objective of the Due Diligence is to verify all information received, confirm solution and pricing proposed, and to collect sufficient information to complete the detailed transition planning.
- Contract negotiations: Define, negotiate and agree all legal agreements between you and NTT. This includes service schedules, definitions and commercial terms.
- Detailed transition planning: The initial phase of the NTT transition project is the planning and preparation phase. The success of the transition relies heavily on the time and effort spent on various assessments, implementation of transition governance, and ultimately detailed planning.

### 3.3.2. Transition program inception phase

The inception phase is where we kick-off the transition and engage the required stakeholders.

The transition manager will conduct the kick-off workshop with you to understand the transition requirements and then with internal teams for the sales handover and drafting the transition plan.

### 3.3.3. Service definition phase

During the Definition phase, the transition timelines and the infrastructure design is reviewed and agreed with you. Design of the connectivity to your environment is also completed in this phase.

Configuration of the Managed Services Platform is initiated for activation of the service.

### 3.3.4. Service build phase

The Build phase covers the monitoring and management tool activation, along with establishing connectivity to your environment.

A standard service operations manual is created, and knowledge articles are created, reviewed and loaded into the ITSM system.

The asset list of your infrastructure is reconciled with device information scanned by our autodiscovery tool, where applicable, to produce the Configuration Management Database (CMDB). The CMDB will feed our monitoring, service management and billing systems with the required device information.

### 3.3.5. Service deployment phase

During the Deployment phase, knowledge transfer sessions are held with you, your incumbent provider and implementation teams. You are provided with training materials and any necessary training sessions are scheduled, including familiarization with our Manage Centre portal.

Configuration Items are loaded into the monitoring tools using autodeployment systems where possible, and thresholds (e.g. capacity) are configured for event monitoring.

Operational Readiness Testing is completed and signed off prior to Service go-live. Service go-live communications and welcome pack are also shared.

### 3.3.6. Transition program close phase

The objective of the Closure phase is to ensure the managed service is stable and delivering as per agreement, implement corrective actions, complete final operational documentation, and to formally close the service transition.

Activities during this phase include:

- Ensuring all documentation is updated and stored safely
- Documenting lessons learnt from a Post-Transition review
- Your sign-off on completion of the transition

Transition Implementation Methodology (TIM)

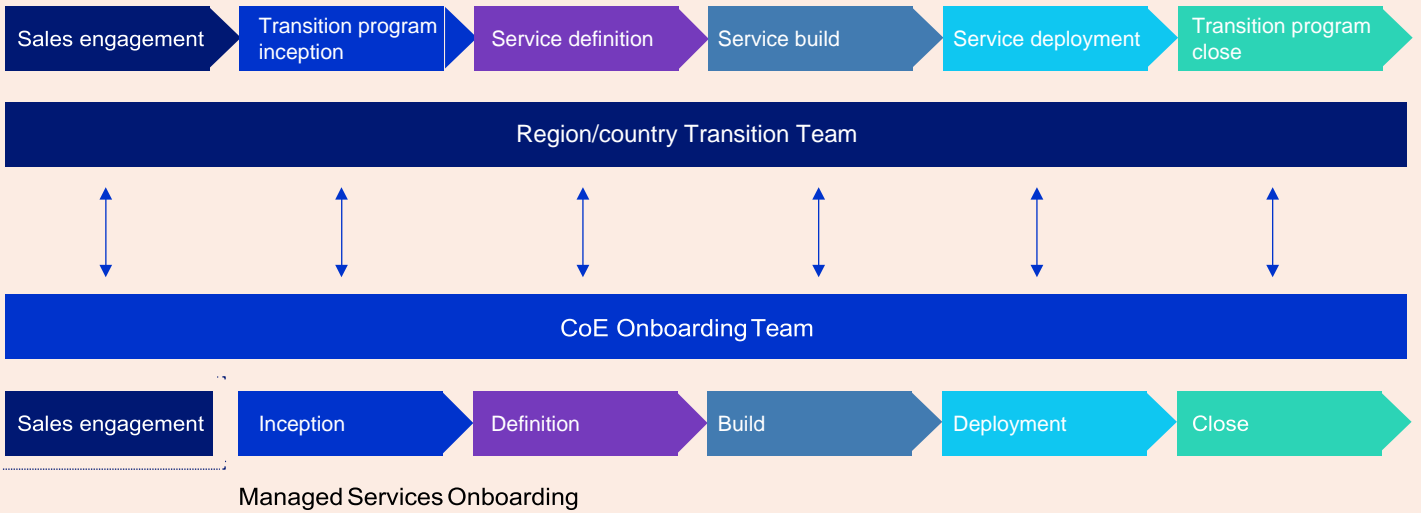


Figure 5: Transition Implementation Methodology and Service Activation Process

**3.4. Our critical success factors**

NTT collects metrics and performs analytics on all service transitions, to review our critical success factors for service transitions, and to identify opportunities to improve our approach. Critical to our success is:

- Utilizing automated discovery and automated activation — to reduce the lead time to on-board our Managed Services into your environment;
- Leveraging our Manage Centre to have an open engagement with you and to communicate clearly and regularly; and
- Using a clear set of acceptance tests to ensure a successful operations handover from your IT organization to NTT.

## 4. Our approach to service operations

Operate is a tightly integrated service offering controlled by process, driven by a highly skilled organization, and powered by our Managed Services Platform, to provide a consistent service experience across NTT's Managed Services.

### 4.1. Service experience

NTT's desire is to maximize the value you receive from our Managed Services through effective engagement, communication and information sharing. Our focus is to enhance your service experience and provide your organization with insights – to enable your business decisions.

#### 4.1.1. Service Desk

The Service Desk provides the daily communications interface between you and NTT. NTT operates a tier two Service Desk designed to communicate with your IT staff.

The Service Desk records tickets for tasks e.g. incidents, requests, changes on your behalf via telephone or email, receives tickets raised online through our Manage Centre portal, and targets closure on first contact.



Figure 6: Manage Centre Portal

They track progress of all tasks to be performed and ensure ticket closure, including updated actions and closure details have been captured. The Service Desk also issues notifications and provides updates for incidents.

#### 4.1.2. Manage Centre Portal

As part of our managed service, you are provided access to NTT's Manage Centre portal. Manage Centre provides online access to:

- Log incidents and problems and submit requests and changes.
- Track, view, and submit comments within incidents, requests, change and problem tickets.
- View and interrogate asset and configuration data for your IT environment;
- View contract data.
- Access dashboards, charts, and reporting.
- Browse and search NTT's knowledge base.
- Access the online document repository – e.g. for contractual documentation, procedural documentation, and meeting minutes.



Figure 7: Dashboards and reports

#### 4.1.3. Online dashboards and charts

Reporting is provided via NTT's Manage Centre portal, through a mixture of interactive dashboards, charts and downloadable reports. Through Manage Centre, your IT staff can:

- View summaries and drill down into the detail for analysis.
- Focus in on specific time periods.
- Apply a range of filters e.g. location, technology class, make/model, priorities, status, root cause, etc.
- Export the underlying data for offline analysis or reformatting.

Interactive reporting is available for:

- service levels
- service assets and configuration items
- task-related data e.g. incidents, problems, requests, changes
- availability, capacity, and performance data

Dashboards and charts are provided through four functions within the portal:

- **Interactive charts** – provides a range of CI, task, availability and performance charts with ability to group, filter and drill into the details.
- **Dashboards** – summary snapshots for specific views of information about your environment e.g. service levels, device health, and asset details. These also enable you to drill into the details.
- **CI-Specific charts** – when you are viewing a specific infrastructure configuration item, you also have the option to drill into task, availability and performance charts specific to that CI.
- **Library** – the library provides a document repository, where electronic documentation and reports are stored for viewing and download.

#### 4.1.4. Omnichannel communications

NTT utilizes omnichannel technologies to provide you with a variety of ways to communicate with NTT for a seamless service experience:

- Telephony
- Email
- Manage Centre Portal

Omnichannel technologies enables the context of discussions to be identified, to streamline communications between your IT staff and NTT, and so avoid the need for repetitive interactions.

Our omnichannel platform interfaces with our ITSM system to ensure all interactions are captured and appropriate ticketing is auto created and updated for tracking and analysis.

#### 4.1.5. Key benefits

- Provides you with the ability to communicate via a channel that suits your practices.
- Multiple channels ensuring you will always be able to contact NTT's Service Desk.
- Enables a query, issue or request to be easily tracked as the user moves from one channel to another.

- Provides you with a window into the health and performance of your IT environment.
- You have access to the information about your IT environment and the quality of NTT's service online, to view, drill into, and download anytime.
- Provides you with the data to enable more informed business decisions.
- Ready access to documentation associated with the delivery of your service.
- Reporting is designed to be simple and intuitive.

## 4.2. Service operations

Through the application of our ITIL Standardized Managed Services Operations (SMSO) process framework, NTT utilizes automated operations and analytical insights to maximize the availability of your IT environment to support your business outcomes. This includes performing daily operational tasks for the good housekeeping of technology where applicable, monitoring and metrics collection, event management, incident management, problem management, and request fulfilment.

### 4.2.1. Automated operations

Automation is at the heart of efficient and quality-based IT operations of hybrid IT environments. IT operations consists of many routine, repetitive, but necessary activities to keep infrastructure available and reliable. The use of automation is designed to:

- Reduce operational errors and time to diagnose incidents and enable faster incident resolution times for improved availability.
- Optimize productivity through cost efficient operations, faster request fulfilment times and ability to process higher volumes of your requests.
- Provide greater insights into the health and performance of infrastructure through automated data collection and data enrichment.

### 4.2.2. Operational tasks

Some technologies require a range of daily, weekly, monthly, quarterly and/or annual tasks be performed to maintain good operational performance of the infrastructure. NTT reviews supplier recommendations to identify key operational tasks required for the most common technologies. For example, these may include activities such as:

- system health checks
- confirming backup completion

NTT reviews the technology used within your IT environment, and as part of the service transition, where applicable, will agree on any standard operational tasks to be applied for the operational maintenance of the environment based on our standards. Where possible, these activities will be automated.

### 4.2.3. Monitoring and event management

We take responsibility for monitoring your IT environment. We monitor a range of key collaboration infrastructure indicators:

- **Events** – generated by your infrastructure e.g. Simple Network Message Protocol (SNMP) traps, that may indicate there is an issue within the environment.
- **Availability** – when your infrastructure may have become unresponsive or stopped e.g. unresponsive to SNMP requests or using Internet Control Message Protocol (ICMP). Availability related events (whether informational or exceptions, such as a component failure) are recorded and managed, and if required (in the case of exceptions), logged and addressed as an incident. When you inform us of scheduled planned downtime for a collaboration CI, we will typically suppress events for the specified period to avoid unnecessary incident recording and notification.
- **Capacity** – to detect where infrastructure may be consuming resource capacity above acceptable limits for extended time periods. We proactively monitor CI capacity utilization by setting thresholds as mutually agreed. Where you may be unsure of the appropriate thresholds, we assist your organization in determining the best threshold setting for each configuration item.
- **Performance** – to detect where infrastructure may not be performing within acceptable parameters. Where you may be unsure of the appropriate thresholds, we assist your organization in determining the best threshold setting for each configuration item.

As part of monitoring, we focus on events that signify that a real or potential incident is impacting the environment. To achieve this:

- We use active noise suppression to remove non-actionable events e.g. informational messages, so that we can focus on business-impacting issues.
- Automated event correlation assists in identifying where multiple events or for a device or incident may be related, or where events across multiples devices may be related: to more readily focus on the cause of the issue.
- Automated event enrichment gathers additional information about the status of the device to assist in validating and diagnosing the event.
- Incident identification to promote an event to an incident where applicable, so action can be taken to investigate and resolve.

We conduct event trend analysis to identify negative trends and abnormalities in event data that may indicate underlying problems within your environment, so action may be taken to prevent future incidents before they occur. These abnormalities are then recorded as problem records for further root cause analyses and action.

Telemetry collected through monitoring, e.g. availability, capacity, and performance data, is stored and utilized for reporting. As part of our common operations foundation, we publish charts and dashboards for availability, capacity and performance data online via our Manage Centre portal.

#### **4.2.4. Incident management**

We target proactive incident identification through monitoring and event management.

Incidents are prioritized based on their urgency and impact to your business. Automated incident diagnosis, enrichment and resolution is utilized for more common incidents with a standard cause and resolution approach, to reduce business impact.

Where an incident occurs within your collaboration infrastructure environment to a CI (voice gateway, session border controller (SBC) and optionally a telecom circuit providing PSTN or SIP Trunking) that is managed by NTT, but the responsibility for repair falls under a 3rd party supplier -- e.g. a 3<sup>rd</sup> party support & maintenance supplier, telecom service provider, NTT will coordinate resolution via a Letter of Authorization with these supplier(s) through to incident resolution. Telecom circuits to be managed by NTT must terminate on a router (CI) that is also managed by NTT. See Appendix G for more details around the optional telecom service provider 3<sup>rd</sup> party incident support. For business-critical incidents, NTT will jointly invoke the major incident process with you, so that:

- All relevant technical teams work closely as a virtual major incident Team through to incident resolution.
- Notifications and escalations occur in a coordinated manner.
- Regular communications are provided to you.

When a major incident is declared, NTT assigns relevant technical subject matter experts to work through the incident as a virtual major incident team until incident resolution.

A Business Incident Review is conducted post the resolution of the major incident, to identify the root cause, actions required to prevent re-occurrence, and actions to improve the way the incident was diagnosed and resolved, if required.

#### **4.2.5. Problem management**

NTT uses analytics to assist in proactively identifying underlying problems within your IT environment. We detect where similar incidents may be occurring repetitively and generate a problem record for our staff to investigate.

Analysis is used to identify abnormal trends or anomalies within event and incident data to highlight potential problems that may result in incidents.

Problems may also be identified through incidents, where workarounds are applied but no root cause can be established during incident diagnosis and resolution.

NTT's operations staff review and validate these problems, perform root cause analyses and investigate solution options. NTT works with you on the available solution options, for you to make an informed business decision on whether to fix, work-around, or accept the known error.

#### **4.2.6. Request fulfilment (standard changes)**

NTT takes responsibility for fulfilling service requests for work on your IT environment. The primary method for requesting work is through online service requests via the Manage Centre portal.

Where feasible, automated request fulfilment is utilized to reduce operational overheads and improve time to fulfil, making your IT organization more responsive to your business.

Requests for information are also provided.

NTT has combined our self-service knowledge base with request fulfilment, so that as an online user fills in the general request form in Manage Centre, optional knowledge entries will be provided to assist your IT staff in fulfilling their request.

NTT assigns a value of 'service units' to service requests as a measurement of the anticipated effort associated with fulfilling the requests. Clients purchase a quota of service units as part of purchasing the managed service. The consumption of these service units is then tracked against the total service units included in your managed service.

The types of standard service requests which NTT can fulfil as part of the service can be viewed in Appendix C of this document.

#### **4.2.6.1. Client IT 'self-service' user provisioning/autoprovisioning automation in MCS**

Managed Collaboration Services provides the ability, through our service portal, for client IT staff to make changes to the system. Through our service portal, we give access for your IT staff to make changes to user accounts in an easy to use, intuitive portal without requiring detailed knowledge of the underlying OEM solution. The complexity of the underlying solution is abstracted and provided through this portal for you to use as much as you want. The changes made by your IT staff do not consume any service units and allows changes to certain policies for Cisco and Microsoft. As part of our Agile development process, we will continue to add new functionality to this portal.

In addition, we can set up 'autoprovisioning' whereby changes will be automatically be made based on changes that we monitor in a client's Active Directory. Again, this automation does not consume any service units. It is critical that the client's Active Directory is ready for such automation and during transition, we will run checks to see if it's possible. If remediations to Active Directory are required, it will be at an additional cost to the client if we are to remediate.

Both self-service provisioning via our service portal and autoprovisioning will be discussed and addressed during service transition. For details on what can be changed using these methods, please see Appendix C of this document.

#### **4.2.7. Key benefits**

NTT's approach to service operations brings the following key benefits:

- Automated, ITIL process-driven operations designed to minimize the impact to business from standard operational tasks and production incidents.
- Removing the need for your business to invest in monitoring tools for hybrid IT environments, our automated monitoring and event management facilitates the rapid identification, notification and targeted diagnosis of priority 1 and 2 incidents to reduce the time to resolution.
- Proactive problem management through analysis helps to identify potential problems in your IT environment before they result in incidents.
- The online service request function, combined with NTT's knowledgebase, provides the opportunity to find answers and fulfil needs faster.

#### **4.3. Service controls**

To support effective IT operations and a culture of continual service improvement, NTT applies foundational controls across your infrastructure. Using asset and configuration management to discover, track and analyse your information technology environment; change management for controlled implementation of configuration changes to minimize business impact; and knowledge management to develop relevant knowledge as well as leverage lessons learnt across NTT's wider client base.

##### **4.3.1. Service asset and configuration management**

The foundation to effective IT operations is Service Asset and Configuration Management. As part of the service transition to the Managed Service, NTT works with you to collect the details of the CIs within the IT environment, whether they be physical assets, virtual environments, logical entities, or software-based



assets. This information is then further enriched during service transition by utilizing automated discovery tools in your IT environment.

Automated discovery enables NTT to collect the latest configuration details of CIs for accuracy within our Configuration Management Database (CMDB). It also aims to identify many of the relationships between CIs so that these can be populated into our CMDB.

This information is then made available to you through the Manage Centre portal.

NTT reviews the latest vendor notifications and advises you of notifications relevant to your IT infrastructure.

Where available, NTT will also record the end-of-service/end-of-life information about your IT infrastructure within our CMDB and make this information available via Manage Centre.

NTT provides automatic configuration backups using its Managed Services Platform to eliminate the risks associated with configuration errors. We store configuration backups that include the two most recent configurations. This minimizes the need to reconfigure a device from scratch or deal with the associated errors.

To review configuration files backed up by technology, please refer to the Appendix D of this document.

#### **4.3.2. Change management**

NTT takes operational responsibility for remote configuration changes to the IT environment as part of our managed service. Our focus is to implement changes to configurations to meet your business needs, while minimizing the business impact during and after the implementation of change.

This is achieved following standardized methods and procedures for recording, evaluation, authorization, prioritization, planning, testing, remote implementation, documentation, communication and review of changes, as well as updates to the CMDB following configuration changes.

Where you have test environments available, NTT will test change implementations to validate implementation plans. If you do not have an equivalent test environment, NTT will review implementation plans against vendor recommendations.

A schedule of changes (or change calendar) is maintained online through the Manage Centre portal for your review. You also have the ability to review change requests online.

Normal changes will consume the 'service units' which have been included in your managed service or can be billed as an additional charge on a time and materials basis.

#### **4.3.3. Knowledge management**

NTT utilizes knowledge management to ensure that the right information is available at the right time for use by our teams to deliver on operational outcomes to you e.g. for enriching incident-related information for improved incident resolution times; technical impact analyses of changes; and providing information to your staff in a timely manner.

We combine procedural documentation, third-party data from suppliers, and the wealth of historical knowledge collected from previous activities performed across our client base to build a knowledge base of information to analyse and apply to our operations.

This information is leveraged by both our staff and automation tools within our service operations, and we make access available to you through our Manage Centre portal.

#### **4.3.4. Access management**

We manage all privileged access to the CIs in your collaboration environment covered by our Managed Services. This is a requirement for us to be able to operate your collaboration environment in-line with the contracted operational service levels i.e. through access management, we control who can access which CIs, and what operational management or administrative rights /permissions they have on those components.

All of our access to your collaboration infrastructure under our support is authenticated, authorized, and logged using an NTT access management system. You may request a report of all access activities for a specific period.

Privileged access requests are logged as service requests. Requests by your staff for 'write' access to CIs will be converted into change requests and must be associated with a valid configuration change being performed by your staff, and 'write' access will be limited to the change duration. Any request for privileged access will be handled as a normal change.

Upon a request from you during service transition, we will provide you SNMP read-only access to CIs under NTT management. Post service transition, you may request SNMP read-only access via a request fulfillment

standard change.

As part of service transition, we will work with your team on establishing the interlocks required for effective access management for your collaboration environment.

#### 4.3.5. Key benefits

Through NTT's approach to service asset and configuration management, combined with discovery and automation tools and enrichment through third-party data, there is more meaningful asset and configuration information, to:

- Identify the potential impacts of incidents and changes to your collaboration environment.
- Identify risks to your business from aging assets, un-supportable assets, or exposure to security/bugs.
- Make more informed business decisions on where to prioritize enhancements and/or remediation within your IT environment.
- Structured change management practices supported by automation to minimize business impact.
- Access to NTT's knowledge base provides you with the ability to answer queries sooner, while enabling NTT to identify root causes of incidents sooner and fulfil requests more efficiently.

#### 4.4. Service management

We provide you with a single point of accountability in the delivery of our Managed Services, in the form of an assigned local Service Delivery Manager. Our standard management cadence allows for regular review of the operations of your IT environment covered by our service, and our service performance.

##### 4.4.1. Service delivery management

The key functions of the local service delivery management function are:

- Be a primary interface who will manage the service delivery relationship between your organization and NTT;
- To conduct operational reviews following a defined management cadence; and
- Act as a key point of escalation for the service, e.g., through major incidents escalations.

NTT focuses on measurement, review and action. Reporting is made available online through our Manage Centre portal. The Manage Centre portal is also used to conduct regular reviews by the Service Delivery Manager. The outcome of these reviews results in activities for NTT to consistently achieve your service objectives and deliver your outcomes as measured through service levels.

##### 4.4.2. Management cadence

Operational reviews occur on a schedule mutually agreed to by you and NTT and are designed to allow for a regular review of service reports, service operations and planning for any actions required to maintain service quality. These sessions include:

- Review of monthly service level achievements and other key performance indicators for your collaboration environment;
- Review of any major incidents from the previous month and any associated service improvement activities required to prevent re-occurrence;
- Review of identified problems, root cause analyses, known errors and permanent fixes planned;
- Review of changes implemented within the previous month and highlighting any issues or concerns with the planning or implementation of changes;
- Review of potential areas of escalation or concern and action plans to remediate; and
- Identification of any tactical improvements to service delivery.

The operational statistics and reporting provided during the review sessions, including meeting minutes and any action plans are made available online through our Manage Centre portal.

**4.4.3. Key benefits**

- Ensures strong communication channels between you and NTT in a true partnership model.
- Enables regular interaction between you and NTT to review the health and performance of the IT environment, to identify any adverse trends and take remediation actions.
- Provides a forum for discussing the performance of the service, identify issues, take corrective actions to avoid service dissatisfaction, and also react to any changes within your business which may impact the delivery of the service.

**4.5. Service performance reporting**

We provide you access to reports, online dashboards and charts throughout the life of the service to review the health and performance of your IT environment, as well as the performance of our service to you:

Report	Description
<b>Service transition</b>	The transition report is designed to provide you with progress updates on key metrics as we on-board our managed service into your IT environment: <ul style="list-style-type: none"> <li>• Transition % progress by stage.</li> <li>• Average onboarding time.</li> <li>• Autodiscovered CIs vs assets supplied.</li> <li>• Automated activations of CI monitoring.</li> <li>• Operations handover review.</li> </ul>
<b>Monthly operations summary</b>	The monthly operations summary is designed to provide you with an overview of the performance of your IT environment for the past calendar month. It is designed to highlight: <ul style="list-style-type: none"> <li>• Service level achievements, identified breaches and detail on the associated incidents / requests.</li> <li>• Incident statistics and trends.</li> <li>• Service request statistics and trends.</li> <li>• Change listing for previous month and trends.</li> <li>• Problem listing for previous month and trends.</li> </ul>

As part of our client success management strategy, we also track key performance indicators on internal dashboards throughout the lifecycle of your service, to identify where we can improve your service experience and maximize adoption of our services to achieve your business outcomes.

Dashboard/chart	Description
<b>Service level dashboard</b>	<ul style="list-style-type: none"> <li>• Service level dashboard — viewed by service</li> <li>• Previous achievement by calendar month.</li> <li>• Achievement Trends for previous 12 months.</li> <li>• Drill down to individual service level commitments.</li> <li>• Drill down to individual breached tasks.</li> </ul>
<b>Asset listing and configuration charts</b>	<ul style="list-style-type: none"> <li>• Ability to list and view all assets and associated configuration information.</li> <li>• Configuration summary chart — with drill down to listings.</li> <li>• Configuration items by lifecycle.</li> </ul>
<b>Incident charts</b>	<ul style="list-style-type: none"> <li>• Incident summary — current open tickets.</li> <li>• Closed incident summary.</li> <li>• Historical incident trends.</li> <li>• Incidents by age.</li> <li>• Mean time to respond.</li> <li>• Mean time to restore.</li> <li>• Incidents by age.</li> <li>• Incidents closed in last 30 days.</li> </ul>
<b>Problem charts</b>	<ul style="list-style-type: none"> <li>• Problem summary — current open tickets.</li> <li>• Closed problem summary.</li> <li>• Historical problem trends.</li> <li>• Problems by age.</li> <li>• Problems closed in last 30 days.</li> </ul>
<b>Request</b>	<ul style="list-style-type: none"> <li>• Request summary — current open tickets.</li> <li>• Closed request summary.</li> <li>• Historical request trends.</li> <li>• Requests by age.</li> <li>• Requests closed in last 30 days.</li> <li>• Average time to close.</li> </ul>
<b>Change</b>	<ul style="list-style-type: none"> <li>• Change summary — current open tickets.</li> <li>• Closed change summary.</li> <li>• Historical change trends.</li> <li>• Changes by age.</li> <li>• Changes closed in last 30 days.</li> <li>• Planned changes.</li> </ul>
<b>Availability dashboard</b>	<ul style="list-style-type: none"> <li>• Company-wide infrastructure availability exception summary, allowing identification of availability issues.</li> <li>• Drill down to view impacted CIs.</li> </ul>
<b>Availability charts</b>	<ul style="list-style-type: none"> <li>• For infrastructure CIs, ability to select a specific CI and view availability trend for a selected date period.</li> </ul>
<b>Capacity dashboard</b>	<ul style="list-style-type: none"> <li>• Company-wide infrastructure capacity and performance exception summary, allowing identification of capacity and/or performance issues.</li> <li>• Drill down to view impacted CIs.</li> </ul>

<b>Capacity charts</b>	<ul style="list-style-type: none"> <li>• For infrastructure CIs, ability to select a specific CI and view capacity and performance indicators' trend for a selected date period.</li> </ul>
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As part of our client success management strategy, we also track key performance indicators on internal dashboards throughout the lifecycle of your service, to identify where we can improve your service experience and maximize adoption of our services to achieve your business outcomes.

#### 4.6. MCS additional management option

The Managed Collaboration Services offers an additional option that builds upon the foundational Operate capabilities. These features are covered in the following subsections:

##### 4.6.1. Availability Management

The availability management feature is designed to ensure that the configuration items supported by NTT's Managed Collaboration Services are available and operating at an agreed level as measured within a calendar month. Availability Management enables your organization to sustain the service availability required to support your organization's needs. The primary measure of CI availability is the uptime/downtime of the configuration item as mutually agreed to by your organization and NTT. The primary measure for service availability is the downtime recorded when a collaboration service was unavailable as part of a priority one incident.

During service transition, NTT sets initial thresholds for availability monitoring as agreed with you and conduct an analysis of the first three months of availability data. The results are compared against the initial thresholds to assist in determining what (if any) future actions should be taken to ensure the appropriate thresholds for availability are maintained. If there are planned changes in your environment that could impact the availability of the CI, availability management includes the review of the planned changes to ensure the agreed availability levels can be maintained.

NTT analyses CI or Service availability data on a monthly basis, and if there are any identified issues, provides you with information and recommendations related to:

- Possible root causes for missing availability targets.
- Recommended action to be taken (which could include the recommendation to do a more detailed investigation).
- Estimated cost of the recommendation, if requested by you.
- An updated collaboration availability plan, if you move forward with our recommendation.

On a quarterly basis, we review your overall platform availability, first internally and then together with representatives from your organization. Based on your platform and configuration item availability requirements, NTT will create/ update an availability plan, and have it signed off by your organization.

NTT remotely implements availability related changes on configuration items where they are within the scope of the service under change management.

##### 4.6.1.1. Key benefits

Availability Management ensures that availability matches the evolving needs of your organization. The availability of your collaboration environment directly influences your users' satisfaction and the reputation of your organization.

The key benefits of availability management are:

- Increased service availability to end users and your customers.
- Leverages NTT's complex system of monitoring, management, and data reporting tools, saving you the related operational expenses as well as software development and integration costs.
- Allows for prioritization of significant organization-impacting incidents.
- Less demand on internal teams resulting in a potential cost reduction.

#### 4.6.2. Capacity and Performance Management

The Capacity and Performance Management feature assists you in providing cost-justifiable collaboration capacity and performance to your business.

Upon completion of the initial service transition process, NTT performs a three- month baseline analysis of your current capacity and performance needs for your collaboration configuration items. By setting mutually agreed thresholds at the configuration item level, we proactively monitor key capacity and performance indicators and technology service performance.

On a monthly basis, NTT analyses all available capacity and performance data and provides you, if required, with recommendations on:

- Possible root causes for capacity and performance events and incidents from the current month.
- Recommended action to be taken (which could include the recommendation to do a more detailed investigation).
- Estimated cost of the remediation/ recommendation, if requested by you.
- An updated capacity and performance plan, if required.

On a quarterly basis, NTT reviews the monthly capacity and performance data. Based on the past trends, projections of future demand, and recommendations that are evident from the data, NTT will then create/update a capacity and performance plan. The capacity and performance plan details the agreed performance targets, capacity and performance related changes, configuration changes, and other capacity or performance related tuning activities recommended for the configuration items to achieve your required capacity and performance thresholds.

NTT remotely implements recommended capacity changes, performance configuration changes, or changes to configuration items according to the agreed capacity and performance plan. All changes are implemented following change management.

Capacity and performance change implementation exclude changes that require additional hardware, additional software, and/or on-site attendance.

If requested, NTT will implement any changes that are out of scope, require a platform redesign, additional hardware, additional software, and/or on-site attendance at an additional charge via a billable professional service engagement.

##### 4.6.2.1. Benefits

Capacity and performance management provides your organization with a consistent experience across your collaboration estate that increases productivity and reduces user complaints. With the necessary information being provided on current and planned resource utilization, future demand and capacity requirements of individual supported configuration items, your organization will be enabled to decide with confidence:

- Which collaboration technologies to upgrade (i.e. more memory, faster processors, and greater, increase in network bandwidth).
- The inter-relationship of the capacity required, on an end-to-end basis, to deliver collaboration services to the business and end users.
- How much the upgrade will cost—this feeds into your budgetary lifecycles, ensuring planned investment is covered.
- How to achieve a balance between the cost of a configuration item and the value of the organizational outcomes it supports through demand management.

#### 4.6.3. Release and deployment management

Release and deployment management is used for the remote distribution of software updates for the configuration items under NTT management. Release and deployment management is responsible for integration testing and the control of deploying release packages into the production environment.

As part of release and deployment management, NTT will design deployment procedures for the distribution and installation of changes within a release package to supported configuration items, perform a risk assessment prior to deployment and ensure the deployment follows mutually agreed processes.

The following is included in release packages:

- Technology updates (patches) - software updates comprised of code inserted (or patched) into the code of an executable program. Typically, a patch is installed into an existing software program. Patches are often temporary fixes between full releases of a software package.

- Minor releases (software updates and dot releases) — also known as maintenance releases, which include corrections, extensions, or fixes to an existing release.
- The current software in your environment must be within one major release (current minus one) of the deployable software currently supported by the vendor for NTT to apply technology updates and minor releases.
- This service includes a maximum of two technology updates and/or minor releases per CI per year. All additional support will be a separate, billable professional services project.

There may also be cases where a technology update or a minor OS release requires a system hardware upgrade to comply with current manufacturer's specifications. Such hardware upgrades are not provided as part of release and deployment management (unless the hardware is included as part of the service offering to you either as part of a NTT capital expenditure service or NTT Cloud Service offering). NTT will handle these as a billable engagement and provide you with a statement of work (SOW) for your review and approval prior to deploying any hardware or software upgrades for configuration items under support. You will be responsible for acquiring any required hardware that NTT cannot directly source.

NTT monitors for technology updates (patches and security updates) as part of Service Asset and Configuration Management (SACM) support. When technology updates are identified, NTT reviews the manufacturer's notes and make a recommendation to you as to what action should be taken relative to the technology update. When requested by you, NTT deploys the updates during the agreed change window. All updates will follow the change management and release and deployment management processes for the service.

#### **4.6.3.1. Key benefits**

The key benefits of release and deployment management are:

- Keeping configuration items current with all OS releases and patches to reduce technical and security risks.
- Fewer release roll backs.
- Control over your configuration items for improved reliability.
- Lower demand on internal IT teams and potential for cost reduction.
- More stable configuration items with software bugs and security breaches fixed via the release and deployment process.

#### **4.7. Our critical success factors**

To provide efficient service operations for your IT environment, NTT focuses on the following critical success factors:

- Our Standardized Managed Services Operations process framework provides clear and conjoined processes governing each of the core service operation.
- Centralized global operations for cost effective service delivery.
- Specialized Centers of Excellence, possessing extensive expertise and leveraging our global knowledge base and automations to improve productivity and efficiency.

## 5. Continual service improvement

NTT has designed its global Services organization with a culture of continual service improvement embedded into all facets of our operations. From defining our Managed Services strategy, through to design and development of our services, and into the transition and delivery of managed services to our clients.

Our approach is built on metrics collection and data analytics across the lifecycle of our services, client relationships and partner engagements; measurement against service performance, service level objectives and critical success factors: to identify opportunities to:

- Refine our services strategy to meet the changing demands of our clients' business needs and the evolution of technologies used in the market.
- Enhance our services to more accurately match the types of relationships are requiring from NTT as their services partner.
- Improve our sales engagement through to service transition to provide a smoother journey for clients adopting our services.
- Continuously innovate our operations to provide consistent, efficient delivery of services to clients.

We seek to refine our Managed Services Platform, our MS Global Delivery organization and the underlying Standard Managed Services Operations process framework through continuous measurement, reporting and improvement – which in turn is then reflected into our services to our clients.

We drive this continual service improvement against three critical success factors:

- Our measurement, analytics and reporting capabilities remain aligned to our business goals, and the goals of our clients.
- We utilize communications and learning programmes across our company to encourage continual service improvement, including staff skills development.
- We can measure positive trends in client satisfaction and employee satisfaction on a year-on-year basis.

### 5.1. Our critical success factors

NTT measures the success of continual service improvement with a clear set of critical success factors in mind:

- Four categories of performance measures to drive success – Transition, Operations, Service Improvement and Adoption. Focused on communicating what is important to drive client experience and to measure how well we are meeting the expectations of our clients.
- Continually improving service delivery performance using data & analytics, to encourage client loyalty and client value creation.
- Achieving a positive trend in our analysis of client satisfaction and employee satisfaction on a year-on-year basis.



## 6. Client success management

Today's clients aren't buying the latest technology simply for technical new features but are instead investing in products and services that will solve their biggest business problems. As a leading Systems Integration and Managed Services provider, NTT is making a promise to our clients that their investment in our solutions and services will lead to them overcoming those problems.

Client success management covers the activities related to helping our clients achieve their goals through Adoption Services. We have adoption offers that help drive deeper client engagement over time. Our Adoption Services is an emerging category of client success offers that includes the following broad categories:

- Adoption planning
- Consumption monitoring
- Consumption optimization & process consulting

For example, our consumption monitoring service portfolio include the following:

- Adoption/usage monitoring
- Adoption scoring
- Adoption benchmarking vs. industry peers
- Business KPI monitoring
- Business KPI scoring
- Business KPI benchmarking vs. Industry peers
- Industry-specific business metric
- dashboards
- Performance monitoring
- Capacity analysis

NTT has collected telemetry across industries and geographies for many years, and by combining this data into data lakes and applying machine learning, we can assist your business in identifying trends and/or abnormalities in technology adoption and performance compared to peers, and partner with you to plan adoption and consumption strategies that will enhance your business outcomes.

### 6.1. Our critical success factors

To optimize the benefits to our clients through client success management, NTT analyses critical success factors to continually enhance our client success strategy:

- Assigning client success managers and utilizing client success management services for rapid adoption.
- Evolving our Adoption Services as an emerging category of client success offers: adoption planning, consumption monitoring, consumption optimization, and process consulting.
- Creating success plays — our client success managers will use success plays to build and create a culture of successful adoption, improved client experience and drive results for your business.

## Appendix A Minimum architecture requirements

In order for NTT to be able to manage the Unified Communications (UC) solution and meet our standard service level commitments, the UC application and associated IT environment must meet minimum architectural and deployment standards. An overview of the major standards NTT would expect to be implemented are documented below. A document describing these standards to a greater level of detail can be provided on request.

During the service onboarding phase, a due diligence exercise will be carried out to confirm that the minimum requirements have been met. In the case where the requirements are not met, NTT will continue delivering a best effort service but won't be delivering the service to a punitive SLA.

A UC solution is defined as the UC infrastructure that the client (customer) and NTT have mutually agreed will be managed under the services contract.

UC infrastructure is defined as the communications server and gateway (software and optionally hardware), depending on the contract scope that NTT will be responsible for managing.

The following section will outline requirements around UC Infrastructure, Endpoint Devices and Software, Systems & Data Security, Client or 3rd Party contracted managed infrastructure, Quality of Service (QoS) and Documentation.

### Appendix A.1 UC Infrastructure

Major software versions of the server and gateway infrastructure must be at a level that will NOT reach an end-of sale or support state within the contract period. All minor software releases including patch releases should be at an n-1 level or later.

All core infrastructure (hardware and software) must be deployed such that a single infrastructure failure does not affect the capacity, performance or availability of the UC application services it provides i.e.;

- That there are no critical single points of failure that prevent client meeting availability objectives or commitments to the business.
- That the infrastructure has been deployed in accordance with the UC vendor's, and where appropriate industry, best practices.
- The appropriate maintenance contracts with the vendor or authorized 3rd party are in place to ensure systems remain current and achieve RTOs.
- The appropriate licensing has been procured with sufficient headroom to meet business capacity peak usage and growth needs.

The backend server software must be compatible with other application and operating system software it is co-located with or installed on respectively.

### Appendix A.2 Endpoint devices and software

UC software clients (versions) and endpoints devices must be certified as compatible and supported for use with the version of deployed backend server application software.

Software client versions must be compatible with the other application and operating system software that the client is co-located with or installed on respectively.

All software/firmware versions and associated releases should be at an n-1 level as a minimum when the management of the UC application transitions across to NTT's managed service. This software or firmware must not reach an end-of-support status during the agreed service contract term.

For the devices that are to be managed by the Service that need to be SNMP enabled to facilitate the discovery and management. SNMP must be configured to provide the relevant level of access to our discovery and management toolsets while at the same time not exposing the environment to any unauthorized access via SNMP browsers.

The NTT recommended SNMP configuration is:

- SNMP v3 enabled with password encryption.
- Not be configured with common and or vendor specific community strings such as 'public' or 'private.'
- Not allow read-write access via SNMP to any device.
- Passwords should be comprised of eight or more characters that must include at least one upper case character, one number and one special character.

Where it is possible via the site-to-site management connection, NTT will configure the configuration items per the above, including enabling and configuring SNMP trap events to be sent to the NTT management system. When physical access to the CI is required to set up monitoring support, your on-site personnel will need to configure the configuration items based on instructions provided by NTT. If you are unable to do this, NTT can offer this support as a separate billable professional services project.

**Appendix A.3 Systems and data security** Where the UC infrastructure is located on client premises or data centers (whether the client's or a third party) the client is responsible for ensuring:

- The physical security of the UC infrastructure.
- That the equipment has appropriate environmental protections such as uninterrupted power, cooling and the like.

It is also assumed that the client has implemented appropriate measures to ensure the UC systems and data are protected from inappropriate access, loss and in the case of data leakage; i.e.:

- Remote access to infrastructure systems and data is controlled/limited to authorized personnel.
- The ability to view data is controlled/ managed to meet any applicable governance and regulatory requirements.
- That appropriate Malware protections are in place including ensuring malware updates /signature files and the like are always current.
- That configuration and application data is backed up at a frequency to meet relevant RTO and RPO objectives.

NTT's automation systems make use of the client's Active Directory environment; therefore, it is expected that the client accurately maintains their Active Directory environment with the required information as well as remove stale information and accounts.

#### **Appendix A.4 Client or contracted third-party managed infrastructure**

The client must ensure that all reasonable effort is made to ensure the health, availability, capacity and performance of all IT facilities and services upon which the NTT managed UC solution depends. NTT shall not be responsible for UC services degradation or disruption arising from IT facilities or services provided by the client or their contracted third parties.

This unless otherwise agreed would for an on-premises deployed solution would typically include server hardware and storage, client directory services (AD / Azure AD), local and wide area network facilities (including wireless, internet and hybrid Wan services), telecommunications services such as SIP trunks, enhanced 911 related services, firewall facilities / services, data center facilities and the like.

#### **Appendix A.5 Quality of Service (QoS)**

In order to deliver an acceptable user voice call experience the required QoS setting need to be configured on the network to give voice traffic the required prioritization. The accountability of the end-to-end QoS configuration lies with the client.

Further requirements:

- ≤ 150 ms of one-way latency from mouth to ear.
- ≤ 30 ms jitter.
- ≤ 1 percent packet loss.
- 17 to 106 kbps of guaranteed priority bandwidth per call (depending on the sampling rate, codec, and Layer 2 overhead).

**Appendix A.6 Documentation**

The client must maintain the necessary documentation including diagrams, configuration and build documents of the component that the UC solution is dependent on. This could include components of the LAN, WAN, Firewall, Gateways, underlying hardware/Hypervisors, IP addressing, Directory Services, E911 Services etc.

**Appendix B Manage Centre Collaboration Reports**

In addition to the standard reporting, you can also access a range of charts and reports online via the collaboration portal accessed by Manage Centre:

Cisco	Skype for Business
<ul style="list-style-type: none"> <li>• Busy Hour Call Attempt</li> <li>• Busy Hour GoS</li> <li>• Call Failure Ratio</li> <li>• Call Statistics</li> <li>• Calls Other Failures</li> <li>• Calls Rejected</li> <li>• Cause Code Statistics</li> <li>• CPU Utilization</li> <li>• Degraded Voice Quality Erlangs</li> <li>• Degraded Voice Quality Streams</li> <li>• Device Call Statistics</li> <li>• Gateway Device Availability</li> <li>• Gateway Device Degraded Time</li> <li>• Gateway Device Down Time</li> <li>• Gateway Device Utilization</li> <li>• Gateway Devices Impacted</li> <li>• License Utilization</li> <li>• Long Duration Calls</li> <li>• Network Causes</li> <li>• Overall Gateway Device Availability</li> <li>• Overall Route Pattern Availability</li> <li>• Overall Trunk Availability</li> <li>• Overall Voice Quality Erlangs</li> <li>• Overall Voice Quality Streams</li> <li>• Phones Configured and Registered</li> <li>• Phones Inactive</li> <li>• Phones Utilization</li> <li>• Route List Gateway Utilization</li> <li>• Route List Trunk Utilization</li> <li>• Route Pattern Availability</li> <li>• Route Pattern Degraded Time</li> <li>• Route Pattern Down Time</li> <li>• Route Patterns Impacted</li> <li>• Telepresence Utilization</li> <li>• Trunk Availability</li> <li>• Trunk Down Time</li> <li>• Trunk Utilization</li> <li>• Voice Quality Erlangs</li> <li>• Voice Quality Exception Log</li> <li>• Voice Quality Exceptions</li> <li>• Voice Quality Streams</li> </ul>	<ul style="list-style-type: none"> <li>• Adoption Summary</li> <li>• Audio Call Volume</li> <li>• AV Meeting Exceptions</li> <li>• Call Quality Summary</li> <li>• Conference Volume</li> <li>• Enterprise Voice Call Summary</li> <li>• IM Volume</li> <li>• Meeting Exceptions</li> <li>• Meeting Quality Summary</li> <li>• Meetings</li> <li>• Meetings User Summary</li> <li>• Sessions</li> <li>• Utilization by Modality</li> <li>• Video Call Volume</li> </ul>

## Appendix C Service Requests (standard changes)

This section provides a list of the standard changes treated as service requests as part of the Request Fulfilment service in this managed service offering. Standard changes are defined as 'pre-approved' by the client and NTT standard change management process. They are simple well-defined requests that are not subject to Change or Release & Deployment Management (RDM) processes. These can be requested via Manage Centre, Email or by calling NTT to perform these changes on your behalf at a cost (service unit consumption). These are performed remotely by NTT. If the standard change is available via our self-service portal, you can perform these changes yourself without any cost (Service Unit Consumption) to you:

### Appendix C.1 Standard changes for Cisco

Description	Available via self-service portal	Available via autoprovisioning	Service unit consumption
Request for information	Y	Y	0
Create standard user	Y	Y	1
Disable user	Y	Y	1
Create handset	Y		1
Disable handset	Y		1
User enabled for voice	Y	Y	1
Removal of voice	Y		1
User enabled for voice on desktop	Y		1
Removal of voice on desktop	Y	Y	1
User enabled for voice on android mobile	Y	Y	1
Removal of voice on android mobile	Y	Y	1
User enabled for voice on iPhone mobile	Y	Y	1
Removal of voice on iPhone mobile	Y	Y	1
User enable voicemail account	Y	Y	1
Removal of voicemail account	Y	Y	1
User enabled for extension mobility	Y	Y	1
Removal of extension mobility	Y	Y	1
User enabled for instant messaging & presence (IM&P)	Y	Y	1
Removal of IM&P	Y	Y	1
User enabled for simultaneous ring	Y	Y	1
Removal of simultaneous ring	Y	Y	1
User enabled for Webex Meeting Center	Y		1
Removal of Webex Meeting Center	Y		1
Modify user extension	Y	Y	1
Modify speed dial template			1
Create new speed dial template			3
Modify call pickup groups			1
Create new call pickup groups			3
Modify IP telephony services			1
Create new IP telephony services			3
Modify calling search space	Y		1
Create new calling search space			3
Modify password/pin administration			1
Apply call partitions & region changes			2
Adding new attendant/receptionist console			3
Modify Pilot Point only			1
Modify Hunt List only			1
Modify Line Group only			1
Modify On-Hold of an existing Music On-Hold user			1
Modify an existing Dial Plan			1

Add new dial plan			3
Modify Softkey template configuration			1
Request access report			2
SNMP Read-Only Access Request to a Collaboration Infrastructure Device			1

**Appendix C.2 Standard changes (Skype for Business server)**

Description	Available via self-service portal	Available via autoprovisioning	Service unit consumption
Request for information	Y	Y	0
Create standard user	Y	Y	1
Disable user access	Y	Y	1
Create IM&P user	Y	Y	1
Modify user extension	Y	Y	1
User enabled for unified messaging (voice mail)	Y	Y	1
Removal of unified messaging (voice mail)	Y	Y	1
User enabled for persistent chat			1
Removal of persistent chat			1
User enabled for mobility	Y		1
Removal of mobility	Y		1
User enabled for IM&P	Y		1
Removal of IM&P	Y	Y	1
User enabled for external access & federation	Y	Y	1
Removal of external access & federation	Y	Y	1
User enabled for enterprise voice	Y		1
Removal of enterprise voice	Y		1
User enabled for conferencing	Y	Y	1
Removal of conferencing		Y	1
Request access report			2
User enabled for archiving	Y		1
Assign policy for archiving	Y		1
Request access report			2
SNMP read-only access request to a collaboration infrastructure device			1

**Appendix C.3 Standard Chnges (Skype for Business online)**

Description	Available via self-service portal	Available via autoprovisioning	Service unit consumption
Request for information	Y	Y	0
Create standard user	Y	Y	1
Disable user access	Y	Y	1
Create IM&P user	Y	Y	1
Modify user extension	Y		1
User enabled for unified messaging (voice mail)	Y		1
Removal of unified messaging (voice mail)	Y		1
User enabled for persistent chat			1
Removal of persistent chat			1
User enabled for mobility	Y		1
Removal of mobility	Y		1
User enabled for IM&P			1
Removal of IM&P	Y		1
User enabled for external access & federation	Y		1
Removal of external access & federation	Y		1
User enabled for enterprise voice			1
Removal of enterprise voice			1
User enabled for conferencing	Y		1
Removal of conferencing	Y		1
Request access report			2
User enabled for Office 365 Conferencing	Y		1
User disabled for Office 365 Conferencing	Y		1
User enabled for archiving	Y		1
Assign policy for archiving	Y		1
Request access report			2
SNMP read-only access request to a collaboration infrastructure device			1

## Appendix D Configuration backups

As part of the managed service, NTT will ensure there are active backups available for the technology under our management. In the case of client on-premises equipment, the client will be required to provide an on-site server (Secure FTP) for the purposes of storing backup configuration files (NTT will ensure the backups are successfully stored on the server). For the purposes of backing up devices in NTT's Managed Cloud Platform (MCP) or hosting facility, NTT will ensure those backups are executed and available.

## Appendix E Scope of services

### Appendix E.1. Included in the per-user, per-month pricing

Capability	ITIL process	In scope		
		NTT platform	On-premises	Vendor platform
<b>Service Management</b>				
Service Delivery Management	Service Level Management	Y	Y	Y
Management Cadence		Y	Y	Y
<b>Service Experience</b>				
Service Desk	N/A	Y	Y	Y
Manage Centre Portal		Y	Y	Y
Omnichannel Communication		Y	Y	Y
Reporting and Analytics		Y	Y	Y
<b>Service Operations</b>				
Automated Operations	Multiple processes	Y	Y	
Monitoring and Event Management	Event Management	Y	Y	
Incident Management	Incident Management	Y	Y	Y
Problem Management	Problem Management	Y	Y	Y
Request Fulfilment	Request Fulfilment	Y	Y	Y
<b>Service Controls</b>				
Service Asset and Configuration Management	Service Asset and Configuration Management	Y	Y	
Change Management	Change Management	Y	Y	
Knowledge Management	Knowledge Management	Y	Y	Y
Access Management	Information Security Management	Y	Y	Y

### Appendix E.2. Included in the per device per-month pricing

Capability and ITIL Processes		Simple UC device	Premium UC device	Advanced & complex UC device
Service Delivery Management	Service Level Management	Y	Y	Y
Management Cadence		Y	Y	Y
Service Desk	N/A	Y	Y	Y
Manage Centre Portal		Y	Y	Y
Omnichannel Communication		Y	Y	Y
Reporting and Analytics		Y	Y	Y
Automated Operations	Multiple processes			
Monitoring and Event Management	Event Management		Y	Y
Incident Management	Incident Management	Y	Y	Y
Problem Management	Problem Management	Y	Y	Y
Request Fulfilment	Request Fulfilment	Y	Y	Y
Service Asset and Configuration Management	Service Asset and Configuration Management	Only vendor updates	Y	Y
Change Management	Change Management		Y	Y
Knowledge Management	Knowledge Management			Y
Access Management	Information Security Management			Y
Availability Management	Availability Management			Y
Capacity Management	Capacity Management			Y
Release & Deployment Management	Release & Deployment Management	Y	Y	Y



## Appendix F Productivity Add on to Vendor Cloud Standard Users (Microsoft Teams)

Every team is different; there's no one-size-fits-all approach to collaboration. Office 365 is designed to meet the unique needs of every team, empowering people to communicate, collaborate, and achieve more with purpose-built, integrated applications. Microsoft Teams is the "Hub for Teamwork" and in addition to the management and operation of the voice centric capabilities of Microsoft Teams provided by Managed Collaboration Services (MCS), we can also manage and operate the other key workloads in Office 365 that are tightly integrated with Microsoft Teams through an "add on service" to a Standard UC User (Vendor Cloud). The workloads contained within this add on bundle include:

**Microsoft Groups** - Office 365 Groups is the cross-application membership service in Office 365. At the basic level, an Office 365 Group is an object in Azure Active Directory with a list of members and a loose coupling to related workloads including a SharePoint team site, Yammer Group, shared Exchange mailbox resources, Planner, Power BI and OneNote.

**Exchange Online** - is a hosted messaging solution that delivers the capabilities of Microsoft Exchange Server as a cloud-based service. It gives users access to email, calendar, contacts, and tasks from PCs, the web, and mobile devices. It integrates fully with Active Directory, enabling administrators to use group policies, as well as other administration tools, to manage Exchange Online features across their environment.

**SharePoint Online** - for sites, portals, intelligent content services, business process automation, and enterprise search. SharePoint keeps content at the center of teamwork, making all types of content easily shareable and accessible across teams. Tight integration with Outlook, Yammer, and Teams enables seamless content collaboration across conversation experiences.

**OneDrive** - for storing files and sharing them with people that a user invites. Content that a user saves to OneDrive for Business is private until the user shares it with others, making it the best option for storing personal and draft documents that are not intended to be shared or not ready to be shared.

**Yammer** - to connect people across the organization. Drive company-wide initiatives, share best practices, and build communities around common topics of interest or areas of practice. Crowdfund ideas to foster open discussions with people across the company.

The Productivity Add on provides the same service deliverables as described in Appendix E.1 for Vendor Cloud for the workloads listed above.

## **Appendix G WAN Carrier Circuit Monitoring (Optional)**

Managed Collaboration Services will monitor a WAN carrier circuit's link state connectivity from a NTT managed device to a wide area network service provider. Network capacity and performance of a WAN carrier circuit will also be monitored from the physical interface of a device (CI) that is being managed by NTT to the agreed upon thresholds. Should an issue be related to performance of a WAN carrier's circuit, NTT will work on behalf of the client with the WAN carrier to resolve the issue. For sake of clarity, a WAN circuit is defined herein as a circuit providing voice services (i.e. SIP trunk or T1/PRI/BRI). Note: individual voice lines, such as 1FBs or POTS lines are not included as part of the Carrier Circuit Monitoring service option.

### **Availability Monitoring**

As part of Managed Collaboration Service, NTT will monitor the availability of a client's contracted carrier WAN carrier circuits that terminate on a device managed by NTT. We will record, log, and manage as an incident all availability and performance related events.

### **Incident Management**

Managed Collaboration Services Incident Management is an end-to-end process owned by NTT from the moment a failure or degradation of service (performance issue) occurs – either detected by NTT or the client -- until service has been restored to normal operation. NTT's managed services platform will continuously monitor a client's WAN carrier circuits that terminate on an NTT managed device 7x24x365.

Examples of carrier circuit specific incidents include but aren't limited to circuit down as monitored at the device interface, high error rates, flapping circuit(s), and high packet loss.

When an incident has been detected, NTT will create and own the incident until service restoration. An incident notification will be sent to a client's designated service desk or point of contact within the timeframe established for notification of an incident for a specific priority, given its severity level and business impact. NTT will own the entire resolution process and will manage incidents with a client's contracted carrier(s) through a Letter of Agency.

### **Capacity and Performance Monitoring**

As part of Managed Collaboration Service, NTT monitors the utilization of a client's WAN carrier circuits that terminate on an NTT managed device. The Service provides access to near real time data and provides service dashboards for the capacity monitoring of and reports for a client's carrier circuits. Capacity monitoring provides a client with the necessary information on the actual utilization of a client's WAN carrier circuits that will enable a client to make well informed decisions regarding changes, upgrades, increases or reductions of their WAN carrier circuits. For example, network bandwidth changes may need to be made to satisfy the business requirements and match the capacity necessary to support end user application performance expectations.

### **Additional Management Option (AMO)**

If the MS Additional Management Option (AMO) is included in a client's management support, the Service will provide monthly recommendations for service improvements that are based on historical performance and capacity data and availability incidents for a client's WAN environment that we manage.



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