Arcstar Universal One Delivery Handbook

NTT DOCOMO BUSINESS, Inc.

Ver2.1

Table of Contents

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Purpose

- This document describes the standard procedure of maintenance for our global network services.

- The purpose of this document is to facilitate the provision of our global network services by clearly indicating what we would like the Customer to understand and what we require cooperation with.

- For more information or questions, please contact the NTT PM or sales representative.

About Arcstar Universal One

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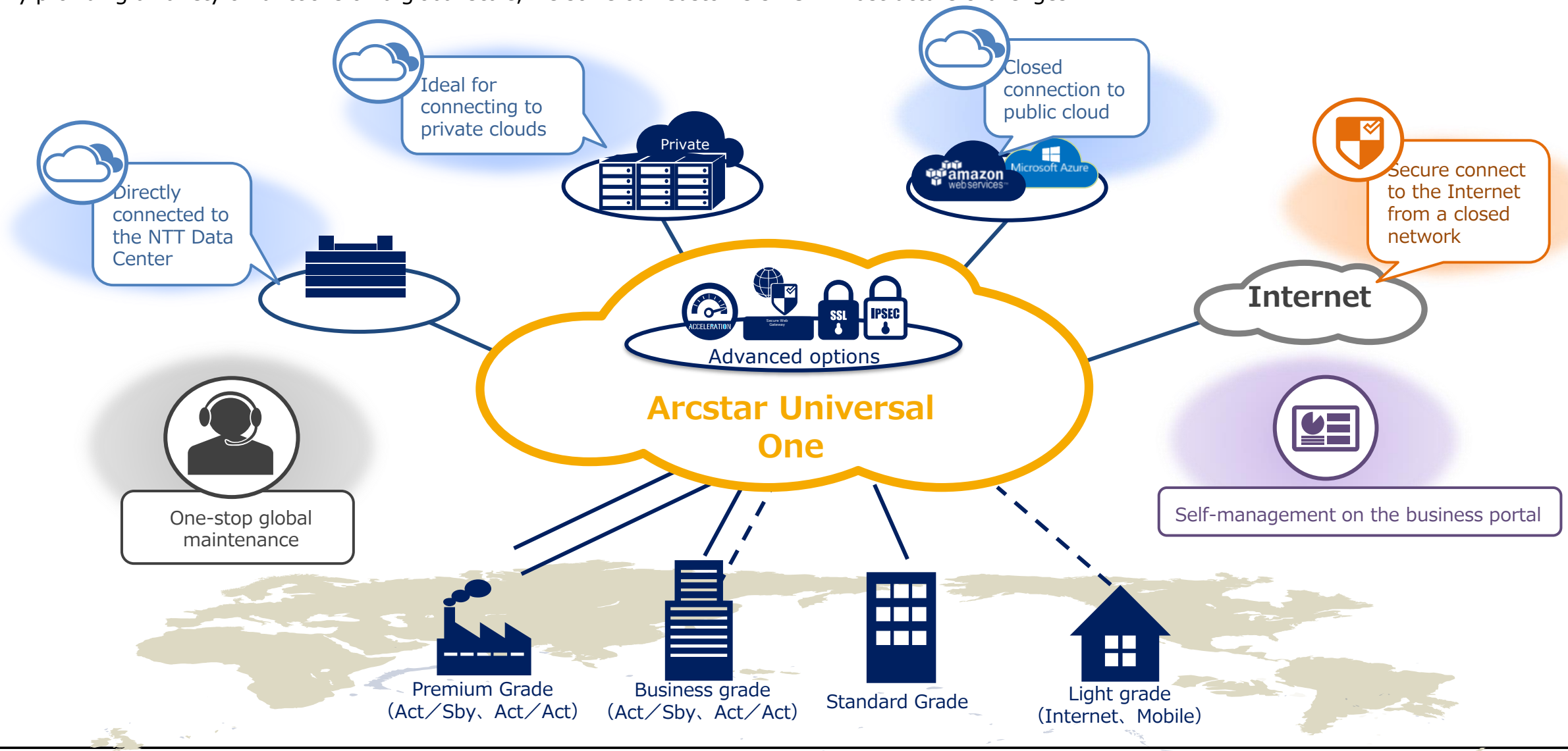
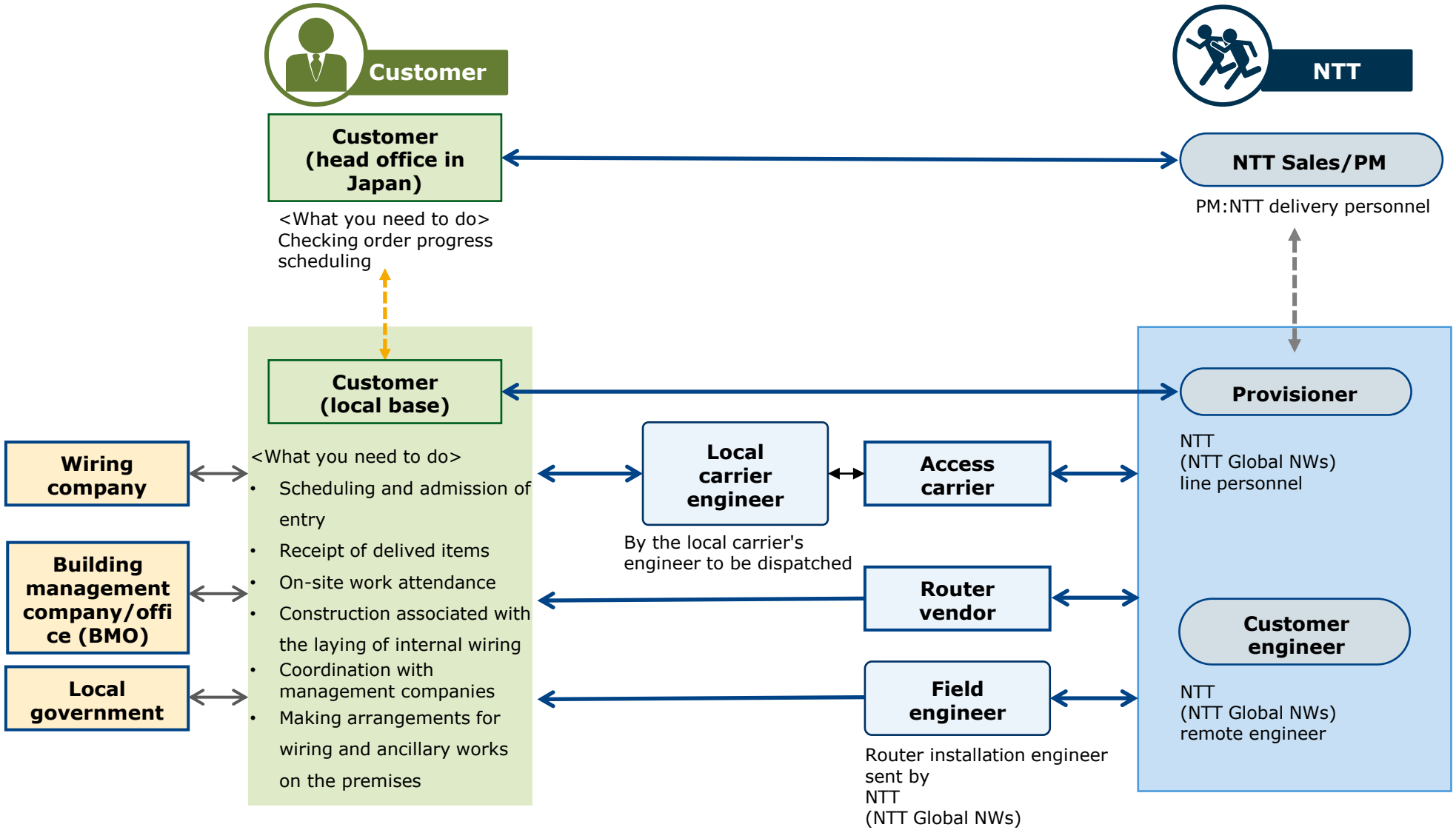
Arcstar Universal One is a high-quality, high-reliability network service that offers seamless service in Japan and abroad with high-quality telecom carriers.

By providing a variety of functions on a global scale, we solve our Customers' ICT infrastructure challenges.



Overview of Communication Lines for Service Start

The roles in terms of standard communication procedure for global network service delivery are as follows.



Major Steps to Service Delivery

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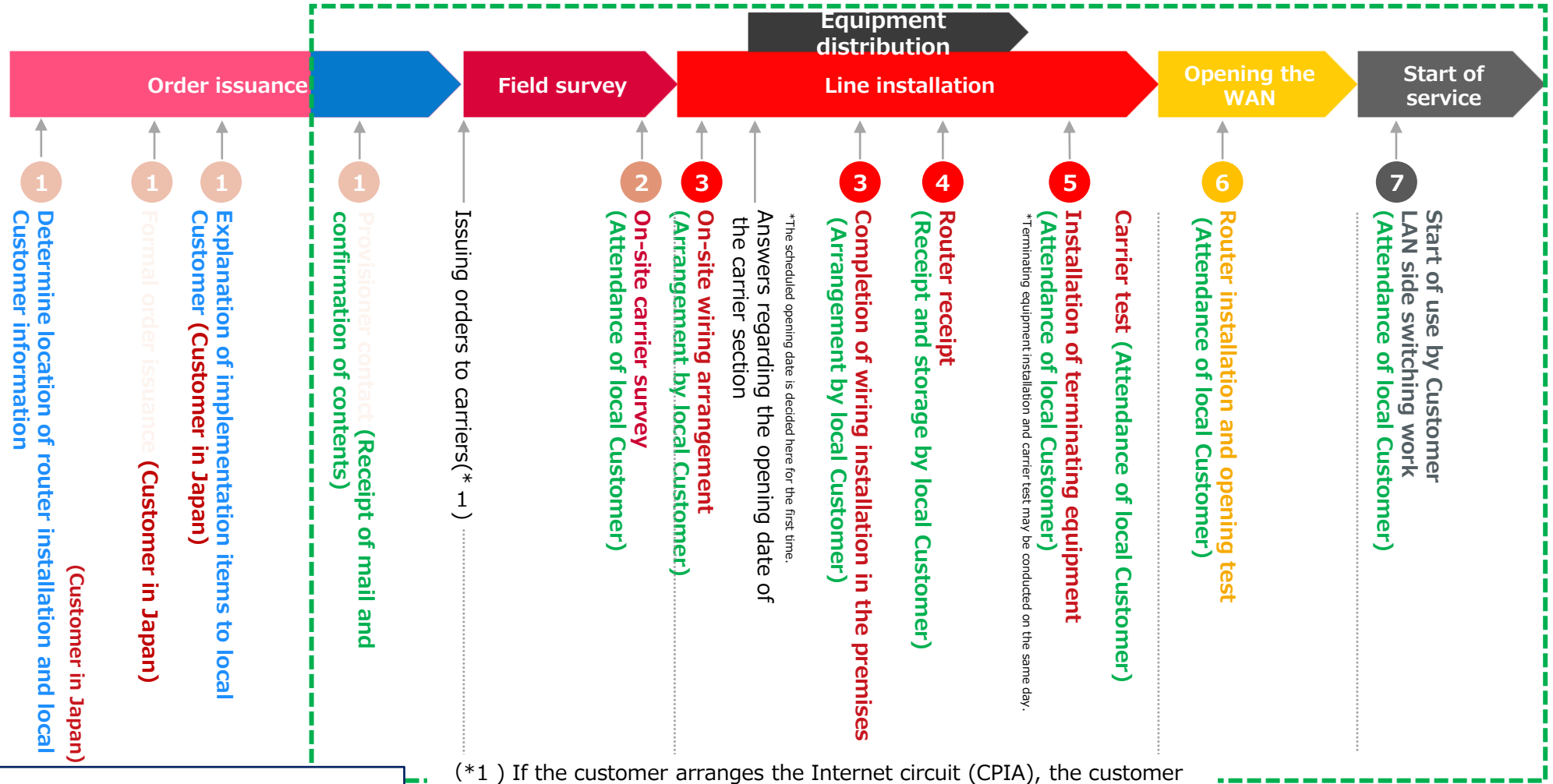
- Collaborating with our customers is very important when it comes to delivering our services. It is a prerequisite for launching global network services.
- Each of the processes 1 to 7 needs to be performed by the Customer, so please get the Japanese Customer to explain the tasks to their local Customer in advance at the site.



<Legend>
Green letters indicate the scope of work by local Customer.

(*1) If the customer arranges the Internet circuit (CPIA), the customer is responsible for issuing the order to the carrier and managing the delivery date until the connection is opened.

Explanation of work items on page 7

Flow of Main Processes Until Service Start
~Tasks for and Communication Workflow of Local Customer~

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	Tasks for local Customer	Language	Communication workflow
1	**Contact from Provisioner** * Receiving mail * Confirming Customer-side work	English	Provisioner → Local Customer
2	**On-site carrier survey in Customer premises** * Scheduling and admission procedures * Attending and checking wiring in the premises	English / local language	Local Customer ↔ Local carrier engineer
3	**Wiring and ancillary works in Customer premises** * Order and construction of wiring in the premises * Communication upon completion of wiring work in the premises	English / local language	Provisioner ← Local Customer ↔ Building management company or wiring owner
4	**Receipt and storage of router equipment** * Receipt of shipment communication * Receipt and storage of goods * Reply acknowledging receipt	English	Provisioner ↔ Local Customer ← Carrier
5	**Carrier line installation on Customer premises** * Scheduling and admission procedures * Observing and confirming the location of the line	English / local language	Local Customer ↔ Local carrier engineer
6	**Installation of routers at Customer premises** * Scheduling and admission procedures Attending and signing work completion confirmation	English / local language	Provisioner ↔ Local Customer ← Field engineer
7	**LAN side switching and opening of Customer service** * Schedule adjustments * LAN side connection, confirmation test by Customer	Japanese	NTT Sales/PM ↔ Customer in Japan ↕ ↕ Customer engineer — Local Customer

7 Please contact our Sales/PM after arrangements between the Japanese Customer and the local Customer regarding the schedule for starting the service have been made.
Between 1 ~ 6 our company sales representative will interview Japanese customers about NW design information.

Tasks to be Implemented by Local Customer (Details)

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	Key processes/milestones	Tasks to be implemented by local Customer
1	**Receipt of formal order**	
2	**On-site status check (Customer)**	Our Provisioner will email the local Customer (please see the next page). Contents of circuit delivery and tasks that need to be implemented by the Customer must be confirmed by the Customer.
2	**On-site survey (Customer attendance required)**	After the carrier order is issued, the local carrier will contact the local Customer and arrange the date for local survey. The Customer must attend the on-site survey by the local carrier engineer. *Depending on the carrier's facilities, on-site inspections may not be conducted.
3	**On-site wiring arrangement (Customer)**	If necessary (based on the result of on-site survey), the Customer must ask the BMO/wiring contractor to make arrangements for laying the wiring in the premises.
		If necessary (based on the result of on-site survey), applications for cable installation etc. may be submitted to the local government.
3	**In-house wiring completion (Customer)**	The Customer must inform the Provisioner of the completion of wiring in the premises.
4	**Receipt of routers and other equipment (Customer)**	The Customer must take receipt of the equipment, such as the router from the equipment vendor.
5	**Terminal equipment installation (Customer attendance required)** **Carrier test (Customer attendance required)**	The Customer must coordinate with the local carrier regarding the schedule for terminal installation/carrier test, and be present at the time of installation and test.
6	**Router installation and opening test (Customer attendance required)**	The Provisioner will schedule the router installation. The Customer must be present when a field engineer visits to install the router.
7	**Switch to Customer (Customer attendance required)**	The Customer must contact NTT Sales/PM regarding the date of the LAN switch.
	Start of use by Customer	

Provisioner Contact Email to Local Customer

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Mail Subject

Subject: Customer Name | Circuit ID of Main Line | Circuit ID of Backup Line

Hello <LCON>,

My name is <Provisioner Name> (NTT Provisioner for subject cited order) and I am currently working on the delivery of your order placed to NTT.
We are delivering a new data circuit to your location through our contracted vendor, <Vendor>.

I wanted to take the time to introduce myself and give you my contact information.

Based on the order details, we have started processing the order for the delivery of the new connection.

Your address and contact details:

<Customer company name and address>

Contact information for local Customer

Local Contact:
<LCON>
Tel: <LCON phone number>
Mobile: <LCON mobile number>
Working Hours: <Site/LCON business hours>

Demarcation Details:
<Demarcation details as per order details>

Location of the router

Details of the circuit being delivered:
Service:
Speed:

Contents of the line to be laid

For your reference, the following is an outline of the order progression and site contact responses:

1. **Project initiation**
2. **Carrier order**
3. **Site survey for local loop**
4. **Hardware shipment and delivery**
5. **Site readiness**
6. **Local loop installation**
7. **WAN installation, turn-up and testing**
8. **LAN migration**

Tasks requested of local Customer (title)

Please feel free to contact your NTT Provisioner in case you have any queries or need any clarifications.

Provisioner Email to Local Customer (Details)

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Tasks requested of local Customer (body)

1. **Project initiation**
- Providing information about access to capabilities such as Data Centers/site location to NTT Provisioner
- Preparing in-house cabling between the circuit delivery demarcation point and the network room, rack space, power, shelf board, and screws for the network equipment
- Providing a single analog line for remote access to the network equipment

2. **Carrier order**
- (Local loop provider may contact the Customer to confirm order details)
- Confirming site address and details such as access to capabilities
- Preparing required authorization or security clearance for local loop provider technician

3. **Site survey for local loop**
- Access to capabilities, wherever applicable
- Verification of circuit delivery point along with carrier technician
- Preparing in-house cabling from the circuit delivery demarcation point to the rack where the network equipment (Customer-Premises Equipment: CPE) should be installed. Working with building management for in-house cabling.

4. **Hardware shipment and delivery**
- Informing NTT Provisioner of any special instructions for hardware shipment, receiver applicable
- (Network equipment will be shipped by the approved vendors or suppliers of NTT or any of its affiliates, and the Customer will be provided shipping information and estimated arrival date.)
- Ensuring equipment is received and stored safely in the networking room or other secure place

5. **Site readiness**
- Confirming in-house cabling, rack space and power readiness

6. **Local loop installation**
- (Local loop provider may directly reach out to the Customer to fix appointments for site visits/installations.)
- Preparing required authorization or security clearance for the local loop provider technician
- Providing escape, if required
- Enclosure of carrier terminal circuit at the circuit delivery point agreed on during site survey

7. **WAN installation, turn-up and testing**
- Confirming circuit delivery and in-house cabling completion to NTT Provisioner
- Working with NTT Provisioner to fix WAN turn-up schedule
- Preparing required authorization or security clearance for technical viewing on behalf of NTT for equipment installation
- Escorting technician for the activity
- Handing over the network equipment package
- Identifying where the circuit is delivered to and the rack where the network equipment should be mounted
- Providing a single analog line for remote access to the network equipment
- Allowing time for newly provided service to be tested and coordinating with HQ contacts to schedule a migration window

8. **LAN migration**
- Being available at the time of migration to connect LAN and test applications to ensure everything is working properly

Sharing of Tasks Between the Customer and NTT (Roles and Responsibilities)

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The standard procedure from subscription to activation (of our line and router offerings) for the provision of our global network services is as follows:.

#	Category	Tasks to be implemented by Customer	Tasks to be implemented by NTT
	General		• PM assignation per project • Confirming requirements and parameter information required for the NW design presented by the Customer and summarizing it as order information • Reporting by email or phone on whether or not any major milestones have been changed or completed • Making arrangements with the local carrier as well as taking alternative and provisional measures if the schedule is based on the standard lead time set by NTT and there is a risk of a delay in circuit delivery (not applicable to delays caused by Customer); and rescheduling the preferred delivery date with the Customer if it is difficult to respond to either of these requests
1	**Order Issuance**	**[Customer at the head office]** • Providing NTT with detailed contact information, installation address, and router address before applying • Explaining the outline of the order, the process until the product is ready, and the contents described below to the local Customer in advance • Specifying the person who is permanently stationed at the site, in case Customer at the head office is a local contact; Specifying additional support (need not be a local resident) if IT support is required • Providing information necessary for considering a migration method if there is a change in the existing network **[Local Customer]** • Reviewing the order details and tasks that need to be performed by the local Customer in the email from Provisioner (see page 9 “Provisioner Email to Local Customer (more)”.	• Confirming the scope, schedules, risks, etc. of the order with the Customer • Sending an order to the local carrier for laying the circuit based on the Customer's application information • Procuring equipment such as routers to be installed at the Customer's local site and arranging delivery to the Customer's designated address • Emailing the local Customer about the order and tasks that need to be implemented by the local Customer (see “Provisioner Contact Email to Local Customer" on page 8.)

Sharing of Tasks Between the Customer and NTT (Roles and Responsibilities)

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#	Category	Tasks to be implemented by Customer	Tasks to be implemented by NTT
2	On-site Carrier survey	**[Customer at the head office]** • Informing NTT of prior application for local admission procedures when applying (*Data Centers, etc.) **[Local Customer]** • Confirming with the BMO in advance the location of their rooms or carrier rosettes, and the procedures for admission in the case of passengers with carrier facilities (MUX, patch panel, etc.); Informing the Provisioner in advance if there are special conditions for admission • (The local carrier will contact the Customer directly (local language) when they conduct a site survey) • Applying for admission of the local carrier engineer at the entrance and observing the visitors (*NTT cannot investigate if the Customer is not present) • Confirming with local carrier engineers through on-site inspections the wiring, materials, and responsibility demarcation points required to install the line terminating equipment (see "Information to be Reviewed by Local Carriers for On-Site Wiring Arrangements" on page 16.) *Each local carrier has a different standard for whether or not to conduct a field survey. If necessary, on-site inspections of the installation site and carrier equipment in the building will be conducted to determine whether or not to provide equipment. Depending on the carrier,NTT may not conduct a field survey (as, for example, in the United States).	• Determining the scheduled opening date based on the local carrier's response following the field survey • Discussing an alternative solution with the Customer if the local carrier determines, based on the results of the field survey, that the service cannot be provided according to the Customer's requirements

Sharing of Tasks Between the Customer and NTT (Roles and Responsibilities)

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#	Category	Tasks to be implemented by Customer	Tasks to be implemented by NTT
3	**Wiring in the premises & other ancillary work**	• Making arrangements with the BMO/wiring company if site survey by local carrier reveals the need for arranging wiring cables and equipment in the premises/building • Completion of wiring in the premises and ancillary tasks (preparing rack/rack space, power, etc.) before installation of the carrier line; Other preparations if any as per designation from the local carrier. • Contacting the Provisioner when the wiring and ancillary works are completed	
4	**Router equipment delivery and receipt**	**[Local Customer]** • Informing the Provisioner in advance if the shipping address is a Data Center and performing the necessary procedures (Data Center interception procedures, feedback of Data Center ticket numbers to Provisioner, etc.) • Keeping the router or other devices in a safe place after receipt, without opening until an NTT field engineer visits • Cooperation, if required, with customs clearance procedures and preparation of documents in connection with the shipment of equipment from overseas depending on the country or region (the Customer is not required to pay taxes)	• An NTT Group company, "NTT Global Networks," or a local vendor will ship the router, following the rules if the destination is a Data Center. • Notifying the local Customer of the shipment and confirmation of receipt by e-mail.

Sharing of Tasks Between the Customer and NTT (Roles and Responsibilities)

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#	Category	Tasks to be implemented by Customer	Tasks to be implemented by NTT
5	**Carrier work/installation of circuit termination equipment**	**[Local Customer]** • Coordinating schedules for line installation with the local carrier, who will contact the local Customer directly; Contacting the Provisioner for any questions/inquiries • (Note that if a local engineer is in the vicinity of the site, he/she may visit the Customer site without prior notice) • If necessary, obtaining permission from the BMO to enter the building and its interior (including carrier rooms) • Being present on the day of installation (NTT cannot perform the task without the presence of someone from the Customer side) • Checking the location of the local carrier's line terminator	• Providing progress updates on access line delivery (by Provisioner) • (Provisioner) Working with local Customer until the line is laid and the equipment is delivered, installed and tested

Sharing of Tasks Between the Customer and NTT (Roles and Responsibilities)

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#	Category	Tasks to be implemented by Customer	Tasks to be implemented by NTT
6	**Router installation**	**[Local Customer]** • *Obtaining permission from the BMO for the NTT field engineer to enter the building and its interior (including carrier rooms) • Informing the field engineer of the following in advance: ✓ All items shipped locally ✓ Location of the rack where the router or other equipment is to be installed ✓ License location for the line installed by the local carrier • Signing the completion confirmation after the installation	• (Provisioner) Coordinating with the local Customer regarding the field engineer's admission • (Field engineer) Installing the router and connecting the lines (the line connection test has to be performed remotely by a Customer engineer) • Scheduling work for 4 hours per vehicle *The field engineer may borrow an Internet environment (separated from the Customer's LAN) for troubleshooting. *In the case of unmanaged routers, the information to be set on the Customer router is provided after the circuit connection test.
7	**Service opening (Customer toggles)**	**[Customer at the head office]** • Contacting NTT Sales/PM regarding the date of the LAN switch (at least 3 business days after equipment installation, adjusting schedules to ensure it is a weekday in the country/region in question) • **[Head office Customer and local Customer]** • Connecting the LAN cable and conducting a Customer test • (If necessary) Checking for power failure, checking the LED of the terminating equipment, and restarting the router in the event of a failure; Providing information such as the location of the router and the terminal equipment and how to enter the place where the installation work was done	• (NTT PMs and Customer engineers) Working remotely with the Customer (NTT will not dispatch a field engineer on the LAN side switching date) *In the case of an unmanaged router, since the router is managed by the Customer, no remote support is provided • (The maximum wait time, including Customer engineer time, is 4 hours. If the Customer needs more time than that, they must specify this at the time of the quotation.)

NTT also offers an optional menu of services to support the local Customer in the above tasks.
For details, see "Local Support Options" on page 23 -24

Equipment to be Prepared by the Customer

The Customer is required to make arrangements for the following at their own expense when using our global network services at overseas locations

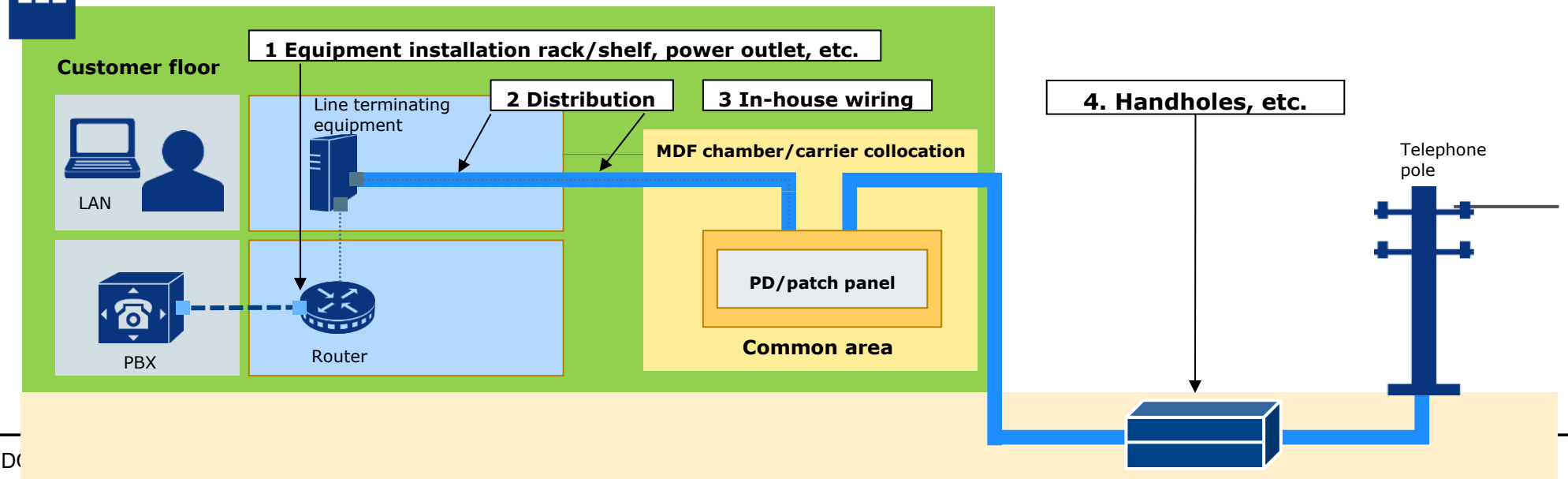
1	2	3	4
Equipment rack/shelves, power outlets, etc.	**Distribution**	**Inhouse wiring**	**Handholes, etc.**
Rack and rack space for equipment (terminating equipment, routers), shelves, power *1 (about 2 servings), grounding, etc.	Pipe *2 (The Customer may also need to use these for the phone line (2))	Inhouse Wiring *2 Local carrier demarcation point (PD/patch panel to line terminator)	Different kinds of quipment for laying cables on Customer premises *2 Handholes, yard columns, wall punches, external wall hooks, etc.

*1 If the power cable connector is different from the national standard, it is necessary to confirm at the quotation stage whether such a connector can be provided or not. The Customer must, therefore, confirm the shape of the connector and inform the NTT sales representative.

*2 Arrangements must be made based on the results of the on-site survey. If the Customer is moving into a tenant building, they must consult with the BMO.

Configuration example for An analog fixed telephone line

<<Buildings occupied by Customer>>



[References] CPE Size and Power Consumption Information

The following table shows the space and power consumption required to install the CPE.
Please check and prepare the applicable model.

	C1111-8P*	C1121X-8P	C8200L-1N-4T	C8300-1N1S-6T
rack size / U	1U	1U	1U	1U
external dimensions / mm (W.D.H)	323※230※45	275※200※42	438※299※44	445※413※44
weight / kg	1.98	1.58	4.5	9.1
power / W	66	66	100	250

C1111-8P

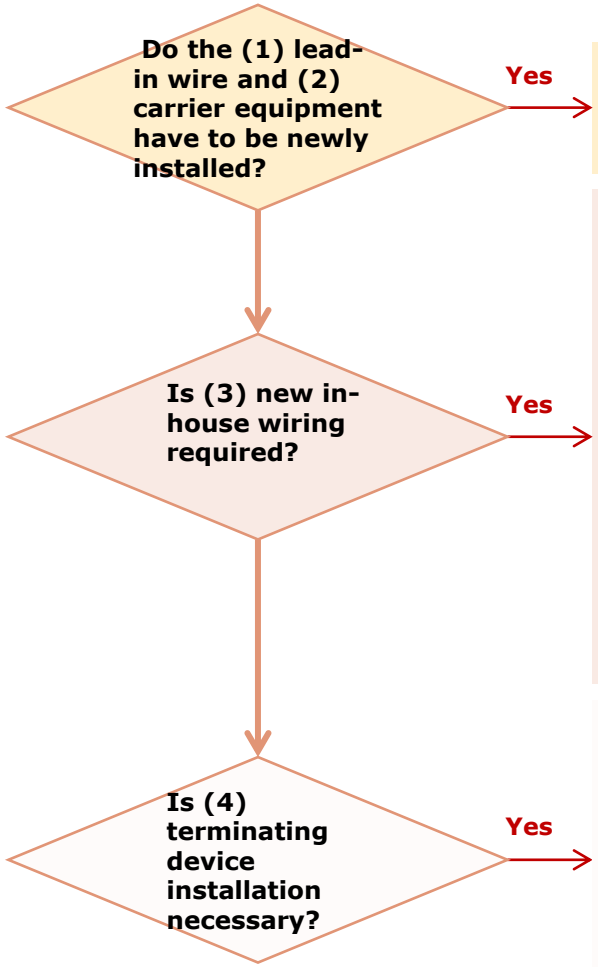
C8200L-1N-4T

C8300-1N1S-6T

*The new procurement of Cisco ISR 1000 series C1111-8P is currently suspended in India due to recent policy changes by the Indian government regarding the certification of telecom/communication equipment (MTCTE certification), which has resulted in the C1111 series not being approved in India.

Information to be Reviewed by Local Carriers for on-Site Wiring Arrangements

The field survey by the carrier confirms what in-building equipment the Customer needs to make arrangements for, so the Customer must confirm with the local carrier according to the confirmation flowchart below.



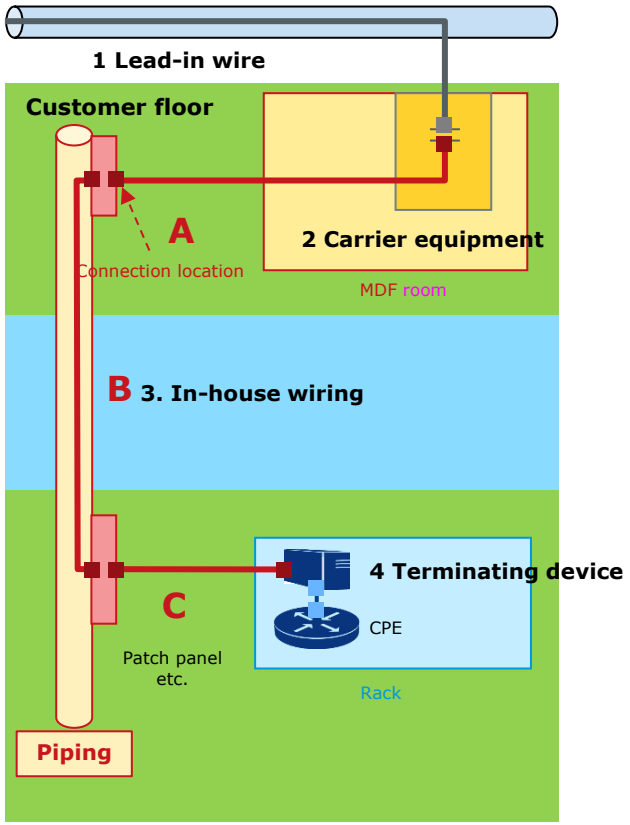
◆ They are installed by the carrier. However, it is necessary for the carrier, the Customer, and the building manager to agree on the location, construction schedule, and construction method.

◆ The Customer must check with the carrier at the time of the site survey to see which among the wiring sections in the premises of A, B and C in the figure to the right need to be arranged by the Customer. Additionally, please confirm the following information, as it is required when the Customer places an order with the BMO:

- Cable type (optical/metal)
  Optical: single mode/multi-mode, connector shape: LC/SC
  Metal: copper/CAT6, interface (copper/RJ 45)
- Connection location information
  Depending on the building, the connection location, terminal number, and other information may be required
  Example: 1st Floor - patch panel # 3 - terminal # 20
- Utility piping specifications
  The Customer may need to apply to the BMO for these

◆ It is installed by the carrier.

- To secure rack space, the Customer must check with the local carrier regarding the location, dimensions, power consumption, power plug shape and number of plugs.
- Multiple terminating devices may be installed depending on the carrier.
- If the wiring distance between the terminating equipment and the CPE is 1.8 meters or more, this wiring must be provided by the Customer.



* The red sections must be confirmed by the customer.
* NTT will prepare the router/CPE.
* A terminator (4) may be installed in the MDF room at the location of the carrier equipment (2).

※ Other buildings may require patch panels or media converters. Customer may need to apply to the BMO.

※ The Customer may incur expenses related to procuring equipment used in each process. Check with local carrier and BMO.

Standard Lead Time

Defining Standard Lead Times

In the case of global network services, a standard lead time is used as an indication of the lead time for each country based on past performance. However, this lead time is highly dependent on the situation of the local carrier and does not guarantee the Customer the date of service.

(Note)The standard lead time is for new line installation in Ethernet Access.

The day the customer signs the service order form is the date from which the standard lead time is calculated (see the next page).

<Information required for opening the service>

Location of the terminal

Floor, room and rack numbers

*If there is a change in the address of the installation site or the building, a re-estimation is required.

Contact information of local staff

Name, phone number (office, mobile), email address

*In the case of local staff, the contact details of a the person who can handle the line in the country or region where the line is installed must be provided.

Site details

In-house wiring information (completion confirmation)

*The end date of the standard lead time is the construction completion date (WAN service: router installation completed) + 5 calendar days.

(Note: For new orders with access lines + managed routers)

* If the Customer wishes to have a shorter than standard lead time,NTT can adjust the lead time but may not be able to meet the request.

Standard Lead Time Listing (Major Countries)

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When the access line is Ethernet, the standard lead time is as follows:

* Asia and Oceania

Country	Standard Lead Time (Calendar Days)
Australia (Australia)	105 -125
China (China)	90 -105
Hong Kong (Hong Kong)	80 -95
India (India)	110 -145
Indonesia (Indonesia)	100 -120
Japan (Japan)	105 -145
Korea (South Korea)	95 -130
Malaysia (Malaysia)	145 -175
Philippines (Philippines)	135 -175
Singapore (Singapore)	75 -110
Taiwan (Taiwan)	100 -115
Thailand (Thailand)	90 -115
Viet Nam (Vietnam)	110 -150

* Americas

Country	Standard Lead Time (Calendar Days)
Brazil (Brazil)	195 -215
United States (America)	130 -180

* Europe

Country	Standard Lead Time (Calendar Days)
Belgium (Belgium)	110 -135
Czech (Czech Republic)	105 -125
Denmark (Denmark)	105 -125
Finland (Finland)	105 -125
France (France)	155 -175
Germany (Germany)	140 -180
Hungary (Hungary)	105 -125
Ireland (Ireland)	105 -125
Italy (Italy)	145 -180
Netherlands (Netherlands)	135 -165
Norway (Norway)	155 -185
Poland (Poland)	105 -125
Russia (Russia)	125 -155
Spain (Spain)	115 -140
Sweden (Sweden)	185 -215
Switzerland (Swiss)	115 -140
Turkey (Turkey)	185 -215
United Kingdom (United Kingdom)	125 -180

*The standard lead time represents the 75%-90% tile of past achieved lead times.
*The standard lead time is regularly reviewed based on track record.

Potential Risks Related to Service Start

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Category	Examples of scenarios resulting in delayed opening dates and additional costs * *
Order issuance	• There are errors in subscription information received from Customer or changes in content after the subscription (for example, changes to site address, local Customer contact information, etc.) (these entail risks including late opening dates and additional costs) • After the order is issued, the service is unable to be provided according to the specified requirements as a result of the construction design of the local carrier • The order is cancelled for Customer's own reasons (resulting in a cancellation fee)
Carrier field survey	• Depending on the progress of the building interior work, the local carrier is unable to conduct the site survey • A local carrier engineer cannot enter the premises due to the lack of entry procedures • The local carrier's on-site survey shows that the service cannot be provided due to the status of the Customer's base or carrier equipment • The local carrier's field survey shows that additional work is required at a Customer site or carrier facility • The local Customer is absent or the local situation is not known
Line installation	• Construction permission from the government or local government is required • It takes time to obtain permission from the BMO for the in-house wiring work by the carrier • Delays in interior and wiring work by the BMO or local Customer • A change in Customer requirements (order content change) at the construction stage • The local carrier discovers a physical fault at the Customer's site during line installation (lack of space in racks for equipment installation and cabling) • The distance from the point of demarcation of responsibility (line terminating equipment) of the carrier to the location of the router is too far (approximately 1.8 m or more), and it is necessary for the Customer to make separate cabling arrangements
Router arrangement *Delivery	• It takes time to deliver the equipment due to the inventory status of the equipment • There are impeding import/export regulations on service startup • The Customer failed to inform NTT of special delivery procedures required, such as at Data Centers, in advance • There is a change in order content when arranging equipment such as routers

Potential Risks Related to Service Start

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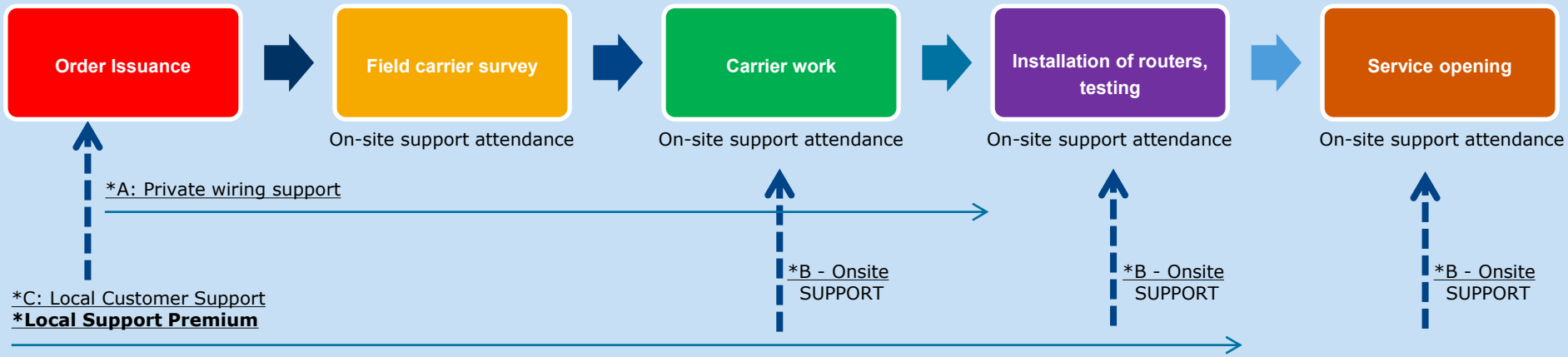
Category	Examples of scenarios resulting in delayed opening dates and additional costs * *
Router installation	• Site information provided by the Customer is incorrect • The field engineer cannot enter due to insufficient admission procedures • The arrival of the field engineer is later than the scheduled time due to local conditions • Access line trouble (disconnection of circuits, communication quality, etc.) occurs during router installation work • Data Centers, etc. require special power connectors different from national standards • Internet environment for remote connection is not available at the base (In the case of the preceding paragraph)
Customer toggle	• There is a problem with equipment such as an access line or a router at the time of Customer switching • The setting is reset to the initial value if the problem cannot be solved remotely in the above case (ordinarily, the problem can be solved quickly) • Router installation and Customer switchover are scheduled for the same day • Customer switchover is rescheduled to a different date to troubleshoot with the local carrier or the equipment vendor due to a problem occurring prior to the Customer switchover (an unlikely event)
Other	• The provision of services may be delayed due to various circumstances such as regulations and freezes in each country. ✓ Suspension period for service orders during the Christmas season ✓ Chinese Lunar New Year in Greater China, National Convention in China, etc. ✓ License application to the local government for cable laying work in each country/region ✓ In case of a force majeure, such as a natural disaster, the service may be delayed • The Laws of the country where Company's principal place of business is located, govern the construction and enforcement of the Agreement. Customer must comply with them even if the Laws or official notes will be changed during service delivery or quotation.

[Reference] Local Support Options

An NTT engineer can be dispatched for operations that are within the scope of tasks to be implemented by the local Customer (for a fee).
*Please refer to the following page for the countries and regions where these services are available.

Options		Option details
A	Local wiring support	The division of responsibilities between carriers and Customer is investigated for the local Customer, and on-site wiring is coordinated with BMOs and third-party vendors. This support option does not include the arrangement of in-house wiring in the premises.
B	On-site support (Delivery) *	An NTT engineer is dispatched to provide support at the time of carrier line construction, router installation construction, and opening construction. We coordinate the work of field engineers from carriers and vendors on behalf of the local Customer to make the installation go smoothly. We also provide support with switching Customer LANs.
C	Local customer support	We respond to installation-related inquiries from the local Customer. If the Customer is unable to speak English or needs local language support, we support communication with the PM and the local carrier.
	Local support premium	Options A, B and C + Single Point of Contact (SPOC) feature, which provides a single point of contact (local support engineer) with the local Customer on behalf of the person responsible for each phase (our PM, the local carrier, the vendor, the onsite engineer).

Service flow



*Option B must be combined with option C.
*Local support premium includes options A, B, and C, so no combination with other options is required.

Reference] Local Support Options (List of Countries Where Available)

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A. In-house wiring support　B. Onsite Support (Delivery) C. local Customer support

Region	Country	A	C	A + C	B + C	A + B + C	Premium
Asia	Australia	Available	Available	Available	Available	Available	Available
	China	Not Available	Available	Available	Available	Available	Available
	Hong Kong	Available	Available	Available	Available	Available	Available
	India	Available	Available	Available	Available	Available	Available
	Indonesia	Available	Available	Available	Available	Available	Available
	Malaysia	Available	Available	Available	Available	Available	Available
	Singapore	Available	Available	Available	Available	Available	Available
	South Korea	Available	Available	Available	Available	Available	Available
	Taiwan	Available	Available	Available	Available	Available	Available
	Thailand	Available	Available	Available	Available	Available	Available
	Cambodia, Laos	Available	Available	Available	Available	Available	Available
	Vietnam	Available	Available	Available	Available	Available	Available

(Note 1) Charges for each option are available in each country. Contact your sales representative for more information.
(Note 2) Different rates apply for Option B/Premium depending on whether during business hours or off business hours.
(Note 3) For availability and fees in other countries, please contact us separately.
(Note 4) Premium offers and prices are quoted on a case-by-case basis.
(Note 5) The language can be English or the local language.

Router Installation Day Workflow (Rental CPE, WAN Installation)

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The following apply when: **Using a rental CPE provided by NTT**

Communication flow until the line is open, language _ global line

	Task	Language	Communication system	
6	**Installation of routers on Customer premises** (Schedule coordination and attendance)	English / local language	The NTT person in charge of opening (Provisioner) The NTT field engineer	⟷ Local Customer

The approximate schedule of the router installation work is as follows. About 4 hours of work is planned per unit.

	Task details	Requests to and supplementary information for the Customer
Pre-entry preparation	1. Entry of workers 2. Delivery of advance goods 3. Checking the location of the router	• Please attend at the entrance. • Please inform us in advance if an application is required for the work details or workers. • Please tell the worker where to install the router. Note that you cannot move the router after the work is completed.
Opening the WAN	1. Racking Customer's router 2. Connecting an access line to router 3. Setting up the router (remote) 4. Circuit test	• The line test is conducted remotely using a worker's PC. • Routers will be collected at a later date if need be.
	1. Preparation of a report on the completion of work and the withdrawal of workers	• Please sign the work completion report. • The LAN will be opened three business days after the completion of WAN installation. • If replacing the existing rental router, the LAN will also be opened on the same day.

Router Installation Day Workflow(Customer CPE, WAN Installation)

Pre-considerations on this page apply when: **Customer is using their own router as managed CPE**

1. Things to prepare

The Customer is required to make the following arrangements in connection with the router (hereafter referred to as "CPE"):
- The CPE must be in the standard enclosure and configuration pattern for Arcstar Universal One (combination of modules, IOS licenses, etc.)
- Perform CPE single unit test (check the equipment's health, such as by turning the power on/off)
- Contract Cisco SNTC or equivalent vendor for CPE maintenance

Other components required for connection to the access line (LAN cables, etc.) shall be supplied by the Customer.

2. Communication flow and language until the circuit is installed

	Task	Language	Communication system	
6	**Preliminary circuit test before router installation at Customer premises** (Schedule coordination and attendance)	English only	The NTT person in charge of opening (Provisioner)	⟷ Local Customer

6 <Workflow for Customer site router installation>

1. NTT will conduct a circuit test before installing the router. After arranging the schedule with the Provisioner and local Customer, we will send a technician to test the quality using our PC.
   *If the interface of the access line is optical, the preliminary circuit test may not be performed. In this case, we will ask for the login and conduct the test remotely using the router on the day of installation.

2. Since field engineers are not dispatched on the day of router installation at the Customer site, it is Customer's responsibility to perform rack mount, setting, connection, and speed/duplex testing. Our Customer engineer can access the Internet remotely in order to check that everything is normal on the work side, so the Customer is requested to cooperate in enabling remote access to the site.

Flow to LAN switching

Schedule adjustment of LAN switching and flow of LAN switching date.
It may change depending on the actual situation and customer environment.

Communication Flow and Language for LAN Switching

	Work Items	Language	communication system
7	schedule coordination	Japanese English	Customers in Japan ⇔ NTT Sales ⇕ Local customers
	LAN connection, customer verification test	Japanese English	Customers in Japan ⇔ NTT Sales ⇔ Customer Engineer ⇕ ⇕ Local customers NTT PM

<schedule coordination>

- After the opening of the WAN,NTT will coordinate the schedule of the switchover with Japanese customers.
  We ask Japanese customers to coordinate with local customers.

<Flow on the day of LAN switching>

The maximum waiting time is 4 hours.

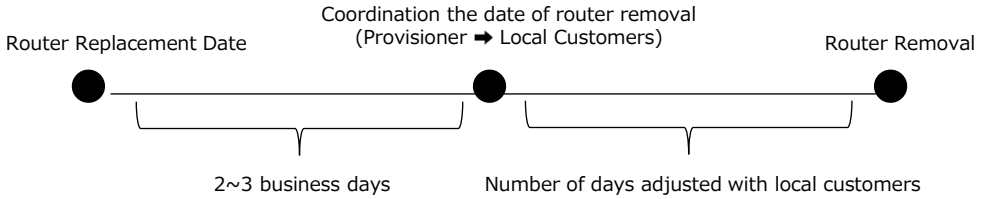
- Please connect the cable to the router by the customer based on the request of NTT PM.
- Based on instructions from NTT PM, a customer engineer remotely sets the switch and performs a verification test.
- After the confirmation test on the our company side is completed, if there is a confirmation test by the customer, please conduct it.
- When the LAN switch is completed, NTT PM will report the completion of work to the customer in Japan and the our company sales representative.

Router Removal Flow

Flow of each case for router removal.

Router Replacement (Router EoL or Replacing to a Higher Model)

・After the completion of the router replacement work, the provisioner will ask the local customer about the collection date. After coordinating the schedule with local customers, a field engineer will be dispatched to the site for removal and collection.



Router Replacement at the same time as site relocation

There are two patterns as below.

Pattern (1) Router removal at new site:

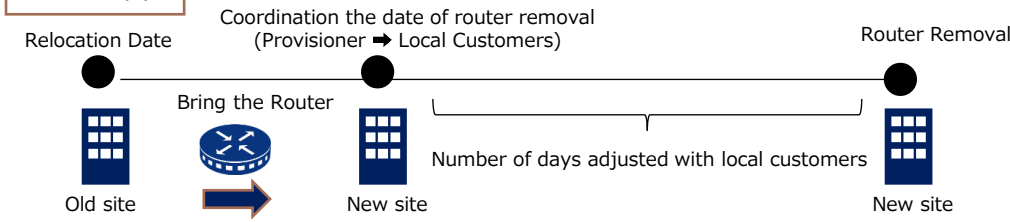
If the customer change a router at the same at the relocation, the customer must bring the old router to the new site and we will send a field engineer to the new site to collect it. The provisioner will ask the local customer about the collection date.

*If the collection address is different from that of the new site, please inform it to the sales representative.

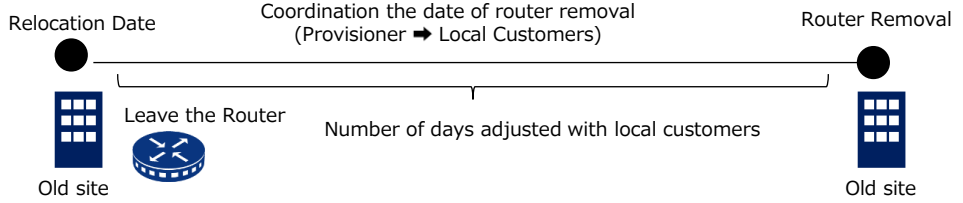
Pattern (2) Router removal at old site:

If the old site remains after the relocation and the old router is retained, We will send a field engineer to the old site to remove and collect it.

Pattern (1)



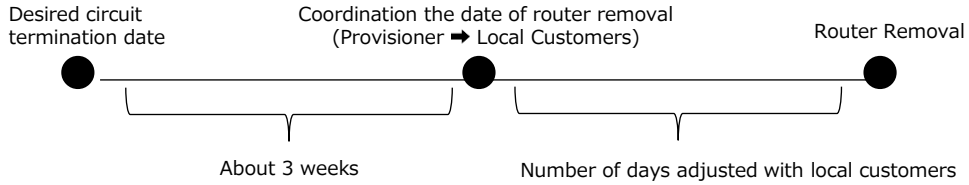
Pattern (2)



Router Removal at circuit Termination

・After the desired termination date is set, provisioner will ask local customer about the date of collection. Once the collection date is decided, the field engineer will be dispatched to the site for removal and collection.

*If the customer wants to remove the router on or before the terimination date, please contact your sales brepresentative.



Points for the Customer to Consider when Procuring an Internet Line

The notes on this page apply to the following case:

The Light Grade Service Broadband Internet Access Type (BIA) is selected, and the Customer procures an Internet line

Preparation: Global lines

The Customer will be responsible for providing an Internet line that meets the following two conditions.

- IPSec communication must be allowed
- Must be able to issue at least one properly acquired static global IP address
  (Set the interface on the WAN side)

Communication flow and language until the line is open: About the global line

1. The Internet line must be opened three business days before the CPE is installed.
   If the opening cannot be confirmed, the construction date may be postponed and additional construction costs may occur.
2. The CPE must be located directly below the Customer's ISP modem.

Notes on Configuring Access Control Lists(ACL)

The notes on this page apply to the following case:

When using Broadband Internet Access/Dedicated Internet Access via the Internet in the access section

1. Notes

To ensure proper security settings, all packets passing through the CPE from the external Internet are blocked by the WAN I/F ACL (Access Control List) for the WAN side interface of the managed CPE connected to the Internet line, except for communications used by our company. We have blocked all packets from the external Internet passing through the CPE by using WAN I/F ACL (Access Control List).In case the customer arranges the Internet line (CPIA) or outsources the operation to an external company, the customer needs to apply for the communication to be allowed for the operation monitoring from the contracted ISP or external operation outsourcing company.

Please note that if there is no application, the connection will be blocked.

Notes on the abolition

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The notes on this page apply to the following case:

schedule about when abolish the line

1. How to contact for line abolition

・Since the discontinuation request must be submitted at least 60 days prior to the desired discontinuation date, please ensure that the discontinuation order is issued by then.

* Deprecation application period may differ depending on local carrier specifications.

・In the case of a rental router, we will contact the local customer about the equipment collection adjustment.

Using a rental carrier device (ONU) may depending on the carrier, and in some cases, customers may be responsible for disposing of the device.

* Depending on the local carrier, it may take about 1 ~ 2 months from the date of abolition to the removal..

2. About Cell Routers and Customer Asset Routers

・ We do not collect cell routers and customer-owned routers, as the asset owner is the customer. After abolition, customers are requested to properly dispose of the information.

• When reusing the router, it is necessary for the customer to initialize the router to the factory defaults.(*1)

(*1) At the customer's request, we can also initialize on the customer's behalf by submitting a SoftMAC / Simple setting change Order at the same time as the disconnection order.

(*)Reference : Router initialization procedure

①Connect a PC with terminal software (e.g. TeraTerm) installed to the console port.

②Reboot router.

③Pressing the break key ([Alt] and [b] key)* several times while # is displayed during router boot will display the prompt telnet>.

*The break key may vary depending on the terminal software. If it does not work, please go back to ②.

④The following message is displayed, please press "y" to return to the factory settings.

“Do you want to reset the router to factory default configuration and proceed [y/n]”