About "JAPAN Roaming™"

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1. Introduction

The Telecommunications Carriers Association (TCA) was established in 1987 with the aim of contributing to the sound development of the telecommunications industry and improving convenience for the public by addressing issues common to telecommunications carriers. The Association has established committees, working groups, and other bodies composed of personnel responsible for practical operations at member telecommunications carriers to facilitate discussions among carriers on addressing common or mutually related issues.

Building on this framework for collaboration, the Association has participated in discussions led by the Ministry of Internal Affairs and Communications (MIC) and promoted the related initiatives. As a result, five mobile carriers; namely, NTT DOCOMO, INC., KDDI CORPORATION, Okinawa Cellular Telephone Company, SoftBank Corp., and Rakuten Mobile, Inc., launched "JAPAN Roaming™" on April 1, 2026. JAPAN Roaming™ is an intercarrier roaming service under which the five carriers mutually provide network access when the network of one mobile carrier becomes unavailable due to a major disaster, communications outage, or other emergency.

This article provides information on where to find technical documents and other reference materials related to "JAPAN Roaming™," explains its technical aspects, and describes how to obtain the logo and other materials.

2. Technical documents and other information related to "JAPAN Roaming™"

The following are technical documents related to "JAPAN Roaming™" covering both the network and terminal sides. Of particular use is the following partial report, which summarizes the results of discussions held by the MIC IP Network Facilities Committee from August through December 2024 on the "Technical Conditions for Telecommunications Equipment Related to Intercarrier Roaming of Mobile Phone Services in Emergencies."*1 (The links for the documents and other information are added below for reference.)

- Partial Report from the Information and Communications Council on "Technical Conditions for Telecommunications Equipment Supporting the Transition to IP-Based Networks" (December 17, 2024)
  https://www.soumu.go.jp/menu_news/s-news/01kiban05_02000351.html

On the basis of this partial report, the Information and Communications Administration and Postal Services Administration Council issued its report in March 2025 on the proposed amendments to ministerial ordinances concerning technical standards for terminal facilities. The following ministerial ordinance and notices were subsequently promulgated.

[Ministerial ordinance (May 29, 2025)]
https://www.soumu.go.jp/menu_hourei/s_shourei.html (in Japanese)

- Ordinance Partially Amending the Ordinance for Regulating Telecommunications Business Facilities and the Ordinance for Regulating Terminal Facilities (MIC Ordinance No. 54 of 2025)
  Overview: https://www.soumu.go.jp/main_content/001011941.pdf (in Japanese)
  Ordinance: https://www.soumu.go.jp/main_content/001011932.pdf (in Japanese)
  Date of promulgation: May 29, 2025
  Effective date: October 1, 2025, except Article 4 of the Supplementary Provisions (Article 4: date of promulgation)

[Notices (May 29, 2025)]
https://www.soumu.go.jp/menu_hourei/s_kokuji.html (in Japanese)

- Notice Partially Amending the Notice Prescribing Testing Methods for Technical Standards Compliance Certification, etc., for Terminal Facilities (MIC Notice No. 174 of 2025)
  https://www.soumu.go.jp/main_content/001011959.pdf (in Japanese)
- Notice Partially Amending the Notice Prescribing Electrical Conditions, etc., for Fixed Telephone Terminals and Terminals of Dedicated Telecommunications Line Facilities, etc. (MIC Notice No. 175 of 2025)
  https://www.soumu.go.jp/main_content/001011951.pdf (in Japanese)

*1 The documents reflect the information compiled at the time of the respective discussions. For the latest information, please refer to the TCA website and other sources.

- Notice Partially Amending the Notice Prescribing Internet Protocol Mobile Telephone Terminals, etc., for Which Compliance with the Ordinance for Regulating Terminal Facilities Is Significantly Unreasonable, and the Conditions, etc., Thereof (MIC Notice No. 176 of 2025)
  https://www.soumu.go.jp/main_content/001011952.pdf (in Japanese)
- Notice Prescribing Functions Related to Intercarrier Roaming in Emergencies for Internet Protocol Mobile Telephone Terminals and Self-Operated Telecommunications Facilities Connected to Internet Protocol Mobile Telephone Facilities (MIC Notice No. 177 of 2025)
  Date of promulgation: May 29, 2025
  Effective date: October 1, 2025
  https://www.soumu.go.jp/main_content/001011953.pdf (in Japanese)

In addition, MIC has prepared guidelines on the scope of certification and other procedures and review methods for functions related to "JAPAN Roaming™" to ensure a common understanding among relevant parties, including registered certification bodies and terminal equipment manufacturers. The guidelines provide further details, including the correspondence between the aforementioned partial report and the relevant ministerial ordinances and notices.

- Guidelines for Certification of Terminal Equipment Standards under the Telecommunications Business Act (Third Edition) https://www.soumu.go.jp/main_content/001033053.pdf (in Japanese)
  (Guidelines published October 1, 2025) https://www.soumu.go.jp/menu_news/s-news/01kiban05_02000380.html (in Japanese)

The following material also provides an explanation of these regulatory developments and should be consulted as a reference.

- MIC IP Network Facilities Committee
  Working Group on Intercarrier Roaming in Emergencies, Meeting 4
  https://www.soumu.go.jp/main_sosiki/joho_tsusin/policyreports/joho_tsusin/02kiban05_04000706.html (in Japanese)
  Distributed Materials (Document 4-3)
  https://www.soumu.go.jp/main_content/001013678.pdf (in Japanese)

3. Operation of "JAPAN Roaming™"

With "JAPAN Roaming™," one of two service provision methods—the full-roaming system or the emergency-calls-only system—is selected depending on the nature of the communications outage. This chapter explains each system.

3.1 From the occurrence of a communications outage to the request for relief, confirmation of the service provision method, and commencement of relief network provision

In the event of an emergency such as a communications incident or disaster resulting from natural hazards, the affected operator, after assessing the situation, requests the relief operators to provide a relief network through "JAPAN Roaming™" and discusses the arrangements with them. The service provision method, service areas, and other details are then coordinated. In principle, each relief operator agrees to provide a relief network through "JAPAN Roaming™" insofar as doing so does not affect its own subscribers.

3.2 Provision of a relief network under the full-roaming system

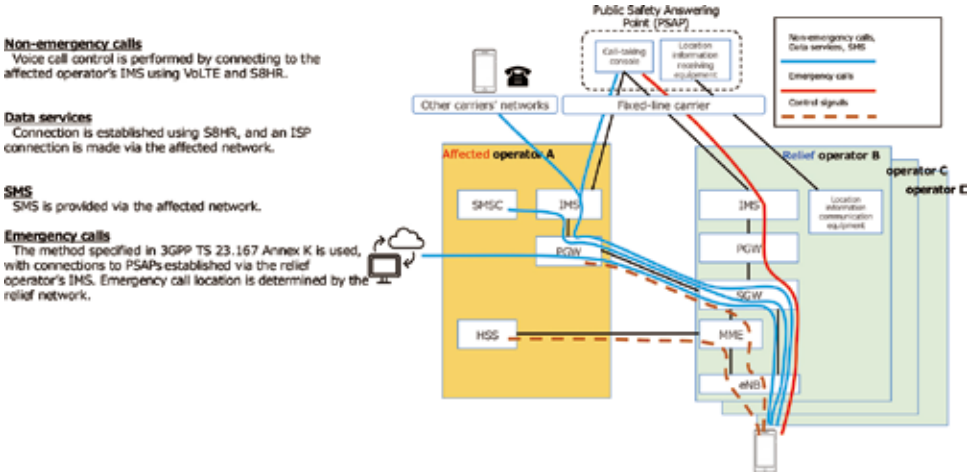
In the case of relief provided in the full-roaming system, the affected operator's core network must remain operational. The following services are provided: non-emergency calls, emergency calls, data services, and SMS.

The connection architecture for the full-roaming system is illustrated below (Figure 1).

The carrier network to which a terminal connects is identified by its Public Land Mobile Network (PLMN) ID. A PLMN ID identifies the network provided by a telecommunications carrier and consists of a five- or six-digit number formed by combining the Mobile Country Code (MCC), which identifies the country (440/441 for Japan), and the Mobile Network Code (MNC), which identifies the domestic carrier's network.

When "JAPAN Roaming™" is provided, the relief operator's Home PLMN (HPLMN) is likely to have been configured as forbidden for SIMs issued by other carriers, meaning that those terminals would be unable to connect. In addition, it would not be possible to impose access restrictions while distinguishing between the carrier's own users (users of the relief operator) and users of other carriers (users of the affected operator).

Figure 1: Connection architecture (Full roaming)
[Adapted and excerpted from materials accompanying the Partial Report (December 17, 2024).]



Therefore, each carrier has newly obtained one PLMN ID specifically for "JAPAN Roaming™." The PLMN IDs assigned to the relief networks are shown below.

Table: PLMN IDs assigned to relief networks

PLMN ID	Carrier	Carrier name display	
		In 10 characters	In 8 characters (For terminals with small displays, etc.)
44091	NTT DOCOMO, INC.	JPN-ROAM D	JpnRoamD
44092	KDDI CORPORATION	JPN-ROAM K	JpnRoamK
44093	SoftBank Corp.	JPN-ROAM S	JpnRoamS
44094	Rakuten Mobile, Inc.	JPN-ROAM R	JpnRoamR

Added to information on PLMN ID assignments published by MIC.
https://www.soumu.go.jp/main_content/000749615.pdf (in Japanese)

Once a relief network is provided in the full-roaming system, the PLMN ID of the relief network is broadcast in System Information Block Type 1 (SIB1) transmitted by base stations within the designated service area. At the same time, cellReservedForOperatorUse is set to notReserved, allowing terminals of other carriers eligible for relief to connect to the network.

3.3 Terminal connection when the full-roaming system is provided

When a communications outage occurs on the affected operator's network and the terminal (User Equipment, UE) loses its connection to the affected operator's HPLMN, the terminal is assumed to repeatedly search for available PLMNs to connect to. If data roaming is enabled on the terminal, it is expected to detect the PLMN of the relief network provided through "JAPAN Roaming™" and attempt to connect to it.

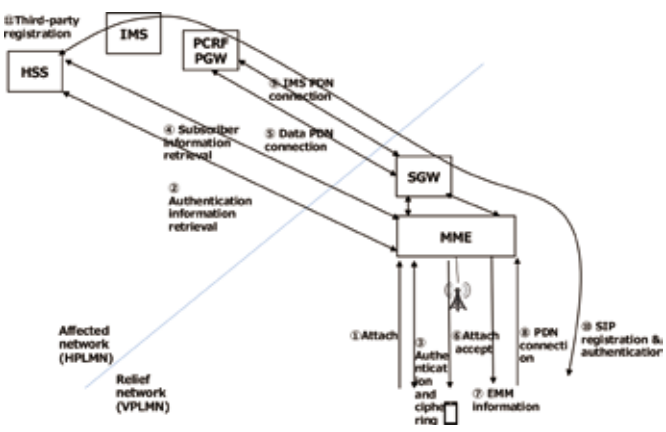
Once the terminal connects to the relief network and the Packet Data Network (PDN) for data communications can connect to the affected network's Packet Data Network Gateway (PGW) via the S8 interface between the relief and affected networks (⑤ in Figure 2), data roaming becomes available. This is the roaming connection procedure specified by 3GPP, in which the relief network serves as the Visited PLMN (VPLMN) and the affected network as the HPLMN.

At present, data communication speeds are limited to a maximum of 300 kbps for both uplink and downlink.

Once the terminal has connected to the relief network and the terminal's location registration information has been registered with the Home Subscriber Server (HSS) on the affected network (Figure 2), non-emergency calls also become available through roaming. Non-emergency calls are made and received via the IMS of the affected network, and the caller's telephone number can also be transmitted when making a call. However, while relief is being provided through "JAPAN Roaming™," the service-area information of the relief network cannot currently be appropriately translated into the information required for the destination network. As a result, calls cannot currently be made to service numbers (0120, 0800, 0570, etc.) or short codes (#7119, #9110, etc.).

SMS is also provided via the affected network.

Figure 2: Full-roaming system
[Excerpted from materials accompanying the Partial Report (December 17, 2024).]

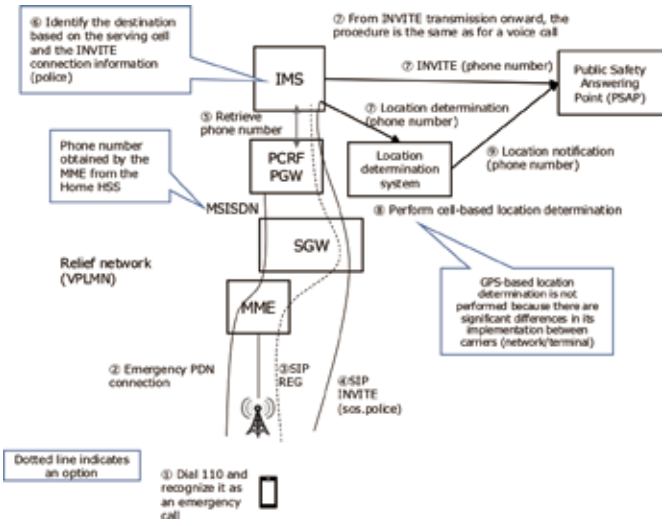


3.4 Making emergency calls under the full-roaming system

Next, the procedure for making emergency calls is described. When connected under the full-roaming system (i.e., once the terminal has attached to the PLMN), emergency calls are classified into two types: UE-detectable emergency calls and non-UE-detectable emergency calls.

A UE-detectable emergency call is an emergency call that the terminal recognizes as such when the number is dialed. A non-UE-detectable emergency call is one that the terminal does not recognize as an emergency call when the number is dialed. The source of information used by the terminal to identify an emergency number when dialing is the Emergency Number List (ENL), which is transmitted to the terminal via NAS signaling while it is attached to a PLMN. With "JAPAN Roaming™," when a terminal attaches to the PLMN of a relief network, the numbers 110 (police), 119 (fire and ambulance), and 118 (Japan Coast Guard) are transmitted to and stored by the terminal. The terminal retains these numbers as emergency numbers and identifies calls to them as emergency calls.

Figure 3: UE-detectable emergency call
[Excerpted from materials accompanying the Partial Report (December 17, 2024).]



(1) UE-detectable emergency calls

For emergency calls made while roaming, local breakout (LBO) is used, employing the method described in 3GPP TS 23.167, Annex K, which enables connection to an emergency call-handling organization (Public Safety Answering Point, PSAP) through the relief network alone.

When a UE-detectable emergency call is made (① in Figure 3), the terminal connects to the Emergency PDN via the relief network's PLMN (② in Figure 3), and then connects to the PSAP through the relief network's IMS (④ and ⑦ in Figure 3).

(2) Non-UE-detectable emergency calls

Even for a non-UE-detectable emergency call, the terminal ultimately recognizes the call as an emergency call and connects from the relief network to the PSAP using local breakout. However, as the term non-UE-detectable emergency call indicates, numbers such as 184110, which are not included in the ENL used to identify emergency calls, cannot be recognized by the terminal as emergency calls when dialed. Accordingly, the call is initially placed as a non-emergency call to the affected network's IMS (② in Figure 4). The terminal then receives a redirection instruction (③ and ④ in Figure 4), recognizes the call as an emergency call, and places it again (⑤ and ⑧ in Figure 4). This second call follows the same procedure as a UE-detectable emergency call.

For both (1) UE-detectable emergency calls and (2) non-UE-detectable emergency calls, when a PSAP calls back the telephone number of the terminal that made the emergency call, the call must pass through the affected network, as is the case for an incoming non-emergency call. Therefore, under the emergency-calls-only system described below, where the affected carrier's core network is assumed to be impaired, call-backs cannot be made.

3.5 Provision of relief and emergency calls under the emergency-calls-only system

When relief is provided under the emergency-calls-only system, the affected operator's core network is impaired, and only emergency calls are provided.

The connection architecture for the emergency-calls-only system is illustrated below (Figure 5).

Figure 4: Non-UE-detectable emergency call
[Excerpted from materials accompanying the Partial Report (December 17, 2024).]

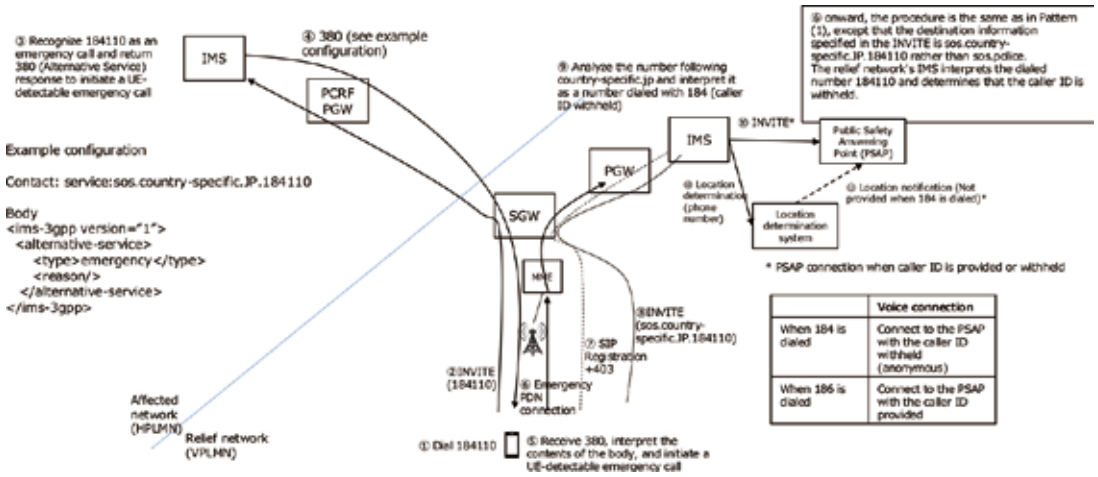


Figure 5: Connection architecture (Emergency-calls-only system)
[Excerpted from materials accompanying the Partial Report (December 17, 2024).]

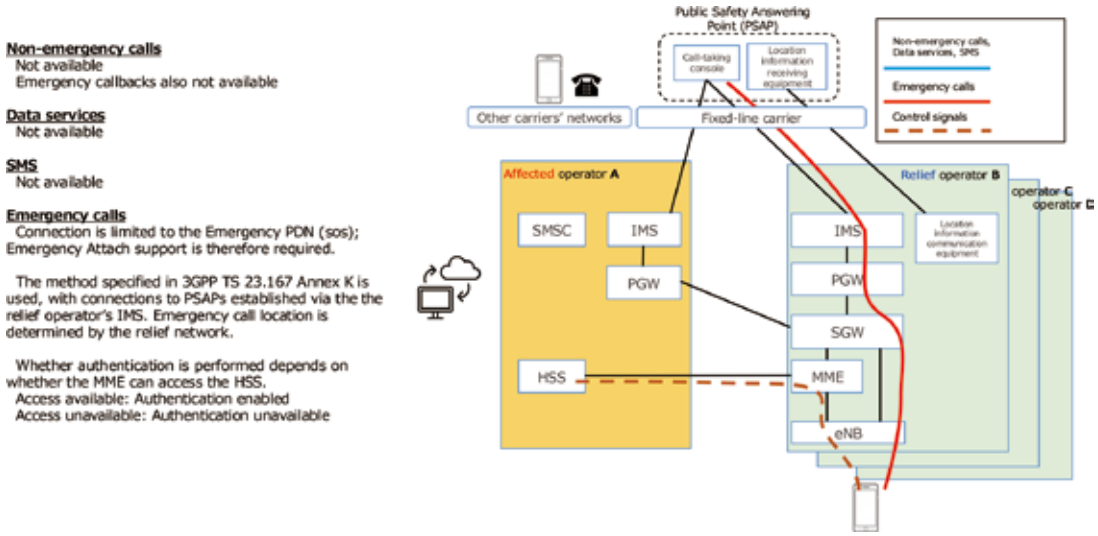
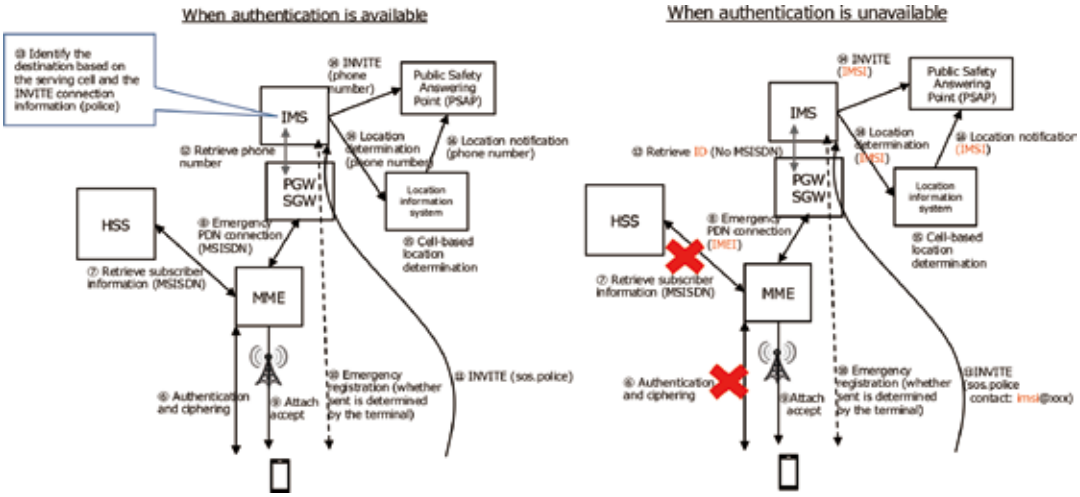


Figure 6: Emergency calls with and without authentication
[Excerpted from materials accompanying the Partial Report (December 17, 2024).]



When relief is provided under the emergency-calls-only system, a terminal cannot perform a Normal Attach to a PLMN for roaming. If a terminal that is not attached makes an emergency call, and imsEmergencySupport-r9 is enabled in the SIB1 broadcast by a base station within the designated area, the terminal performs an Emergency Attach to the PLMN of that base station and makes the emergency call. Once the Emergency Attach has been established, the procedure is the same as that for a UE-detectable emergency call under the full-roaming system: the call is connected to the PSAP through local breakout.

With "JAPAN Roaming™," authentication with the affected network's HSS may either be possible (authentication available) or impossible (authentication unavailable) (Figure 6). When authentication is available, the terminal's telephone number can be transmitted to the PSAP. When authentication is unavailable, the telephone number cannot be transmitted, so the International Mobile Subscriber Identity (IMSI) number is transmitted instead.

4. Trademarks, logo, flyer, and promotional video for "JAPAN Roaming™"

Changing topics slightly from the technical information presented above, this section introduces the trademark, logo, flyer, promotional video, and other materials related to "JAPAN Roaming™."

Figure 7: "JAPAN Roaming™" logo



The trademark and logo for "JAPAN Roaming™" are owned by the TCA so that they can be used commonly by relevant carriers and other parties. Both may be used by MNOs/MVNOs, terminal equipment manufacturers, media organizations, and other relevant third parties, subject to the terms of use provided on the TCA website. In particular, the logo can be used by contacting the TCA by email to obtain the logo usage guidelines and image files.

A flyer providing an overview of how to use "JAPAN Roaming™" is also available from the TCA website. The flyer may be reproduced and redistributed in accordance with the Flyer Usage Guide.

In addition, a promotional video introducing "JAPAN Roaming™" is available at the link below and may also be used.

- TCA website: https://www.tca.or.jp/information/japan-roaming.html (in Japanese)
- Promotional video for "JAPAN Roaming™": https://youtu.be/zsneKf80S_w (in Japanese)

5. Conclusion

This article has provided an overview of "JAPAN Roaming™," including its technical aspects. "JAPAN Roaming™" is a service provided during emergencies that differ from normal operating conditions, such as major disasters or serious failures of telecommunications facilities. In the event of a major disaster, it is possible that the relief operator may also experience an outage, depending on the scale and nature of the disruption. Even under such circumstances, it is extremely important to secure communications between carriers to the greatest extent possible and support people's daily lives and economic activities. On the basis of this shared understanding, the telecommunications carriers agreed on the common goal of working together to secure communications, which ultimately led to the launch of "JAPAN Roaming™."

This initiative is the result of sincere and in-depth discussions among the TCA's member telecommunications carriers, supported by collaboration with MIC and other relevant organizations, as well as various industry stakeholders. We would like to express our deepest respect for the dedication and efforts of everyone involved.