

# **The State of Fixed-Line Telephone Services Going Forward**



November 6, 2015

## ■ Continue providing currently used fixed-line telephone services\* by gradually migrating from PSTN to IP networks

\*Analog telephone services and INS-Net (voice) provided via PSTN (Public Switched Telephone Network)

- Continue offering basic voice services  
(In addition to basic calls, will offer ISDN call mode, call waiting, caller ID display, public telephones, etc.)
- Enable customers to continue using their existing phones and other devices without need for additional on-premises installation
- Maintain basic monthly charges at current levels to the extent possible (continue using existing copper lines)
- Provide more reasonable call rates by taking advantage of non-distance sensitive rates of the IP network
- Announce the timing of migration to IP networks separately in the future, after discussions with other relevant business operators, in light of the fact that our tandem/signal transfer switches will approach their limits of useful life around 2025

- **In order to maintain fixed-line telephone services while minimizing the burden on customers, after migration IP networks in principle will not be equipped with the PSTN-specific functions historically provided, indicated in the Appendix.**
- **In addition to the above, we will revise the method of providing fixed-line telephone services to allow for efficiency to the extent possible.**

(Examples)

- Use of optical fiber and wireless in response to requests from local governments to lay utility cables underground, without having to reinstall copper lines
- Adjust the high level of call-quality standards (latency conditions, etc.) required of fixed-line telephones to the call-quality level of mobile phones

# Migration of PSTN-Specific Functions to IP Networks

## Inter-connectivity functions

- Hub function  
(Interconnection through NTT East/NTT West PSTN) → Direct interconnection between major carriers
- Complex inter-carrier access charge settlement  
(Time usage-based access charge settlement among multiple carriers) → Simple inter-carrier access charge settlement

## Functions introduced when fixed-line telephone was the primary telecommunications service

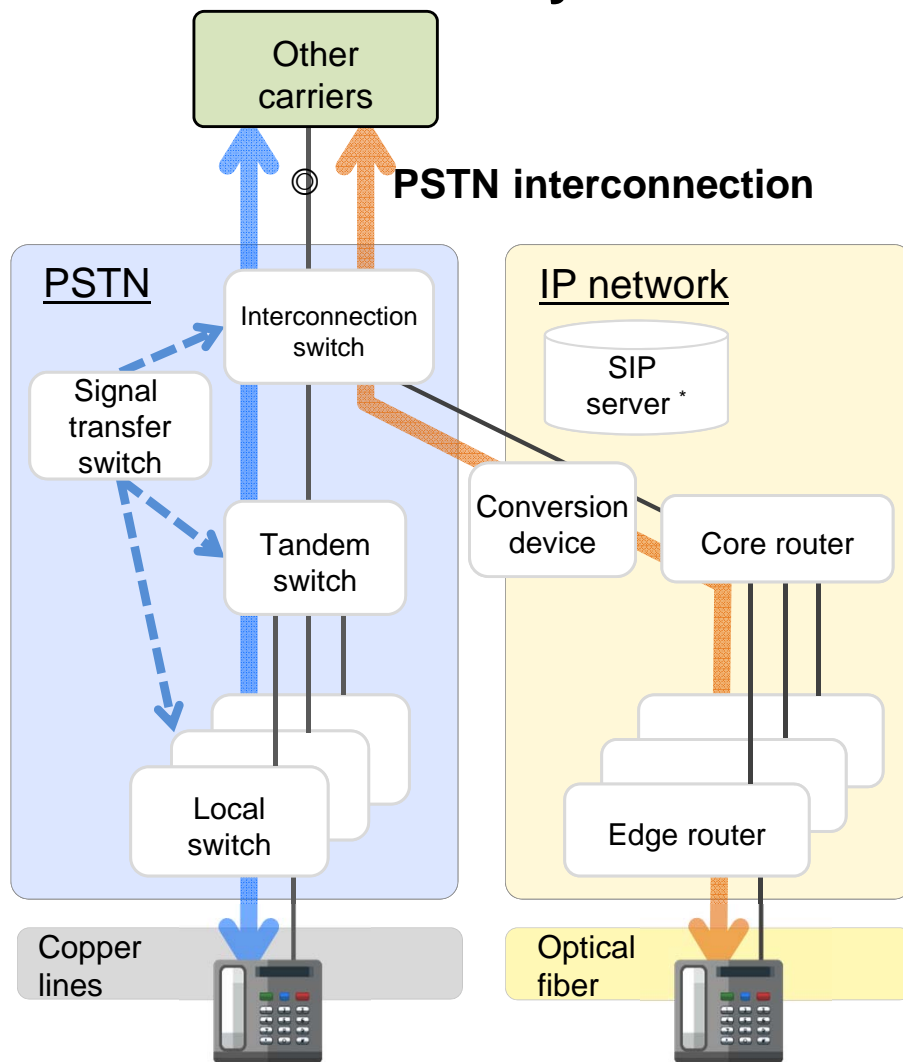
- Carrier preselection function (MYLINE)/  
relay carrier selection function → Not provided
- One-way number portability  
from NTT East/NTT West to other carriers → Bidirectional number portability between operators  
similar to mobile number portability
- Rates for calls from public telephones to mobile  
phones set by each carrier → Uniform rates for all carriers

## Other PSTN-specific functions

- “Hold-the-line feature” of emergency calls  
such as 110 and 119 → Simple “call back,” the same as making  
calls from a mobile or IP phone

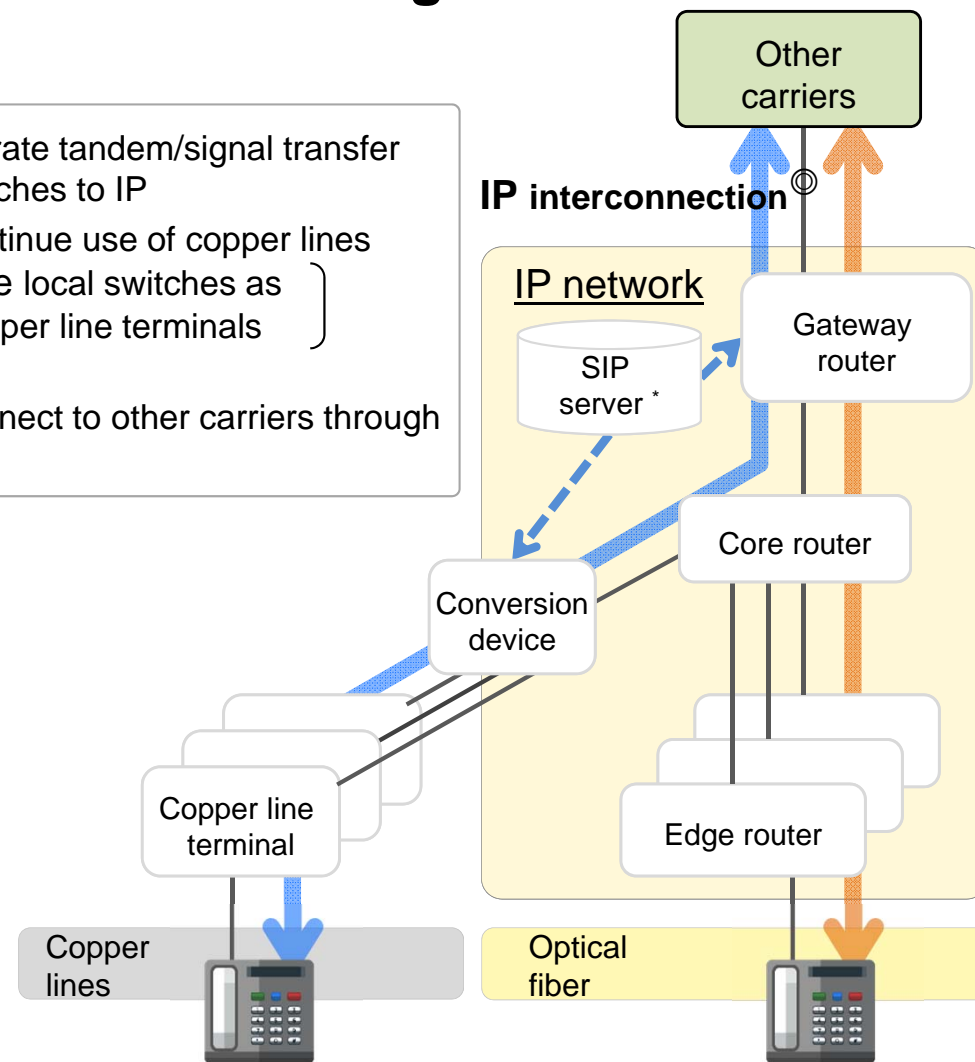
# Reference 1. Migration from PSTN to IP Networks

## Current system



## Post-migration

- Migrate tandem/signal transfer switches to IP
- Continue use of copper lines  
(Use local switches as copper line terminals)
- Connect to other carriers through IP



**Fixed-line telephone**  
(Analog telephone service, INS-Net)

**Hikari Denwa**

**Fixed-line telephone**  
(basic voice service)

**Hikari Denwa**

\* A server that manages and controls telephone services using an IP network (SIP: Session Initiation Protocol)

## Reference 2. The Changing Environment of Voice Communications

Due to the expansion of mobile broadband, communication methods (e.g., the rapid spread of social media) have become increasingly diversified, which has greatly reduced the presence of fixed-line telephone services

March, 2001

 E-mail

Fixed-line telephone services\*<sup>1</sup>  
63 million

Mobile services  
(Mobile phones + PHS)  
67 million



March, 2015

Social media, Internet calls, etc.



\*2



E-mail

Fixed-line telephone services\*<sup>1</sup>  
24 million



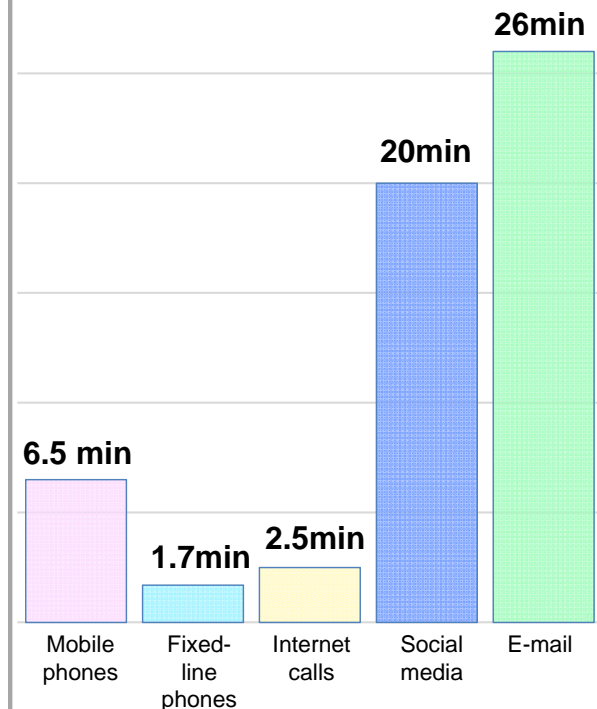
Fixed broadband services



Mobile services  
(Mobile phones + PHS + BWA)  
157 million



**Average daily use  
(FY2014, weekdays)**



Source:  
Ministry of Internal Affairs and Communications. 2014 Survey on Usage Time and Information Behavior regarding Information and Communications Technologies.

\*1 Analog telephone service and INS-Net (voice) provided via PSTN

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