

## Activity Report of Asia-Pacific Medical Network Project in Kyushu University Hospital

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<https://doi.org/10.15017/8300>

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出版情報：「超高速ネットワークを利用したアジア遠隔医療プロジェクト」 TEMDEC活動報告. 1, pp.1-114, 2005-03. AQUA事務局

バージョン：

権利関係：



### 3. Network structure

The network at Kyushu University Hospital is part of the Kyushu University Campus Network. Communicating with external networks is carried out through the SINET (Science Information Network) of the MEXT (Ministry of Education, Culture, Sports, Science and Technology) for most of the traffic of the Kyushu University network, but communication for the research network is implemented through the network for the research and development, QGPOP (Kyushu GigaPOP Project). Thus, communication with the research institutes in Korea is carried out through QGPOP. The bandwidth of the backbone-network in Kyushu University is 1 Gbps but the end is 100 Mbps. Kyushu University and QGPOP are connected at a speed of 1 Gbps. Therefore the maximum bandwidth to and from each segment at Kyushu University Hospital to QGPOP's trunk line is 100 Mbps.

QGPOP is the network for research and development. QGPOP has dedicated IPv4 (Internet Protocol version 4) address space (133.69.0.0/16) and dedicated AS (autonomous system), the number of which is 2523. The external network comprises SINET, WIDE (Widely Integrated Distributed Environment), APAN-JP (Asia-Pacific Advanced Network- Japan) and KOREN (Korea Advanced Research Network) and is interconnected by the Border Gateway protocol. QGPOP is connected, at 1 Gbps, to almost all networks other than IJ which is a commercial based network. QGPOP's network is shown in Figure 3-1. As for QGPOP, because of its multi-home configuration using a Border Gateway protocol, the connection with external networks can be determined according to QGPOP's own policy, but the route paths are usually determined by the AS path length only.

The joint part of QGPOP and KOREN is specifically called Genkai network. As shown in Figure 3-2, the optical fiber which connects Fukuoka and Busan without relaying, called KJCN (Korea-Japan Cable Network) is used. The Genkai network is one part of the APII (Asia-Pacific Information Infrastructure) which connects Tokyo and Seoul at higher speed. It has been in service since 2003 and still continues to operate today. The Genkai network has made possible high-speed communication at 1 Gbps between the main research institutes in Japan and Korea.

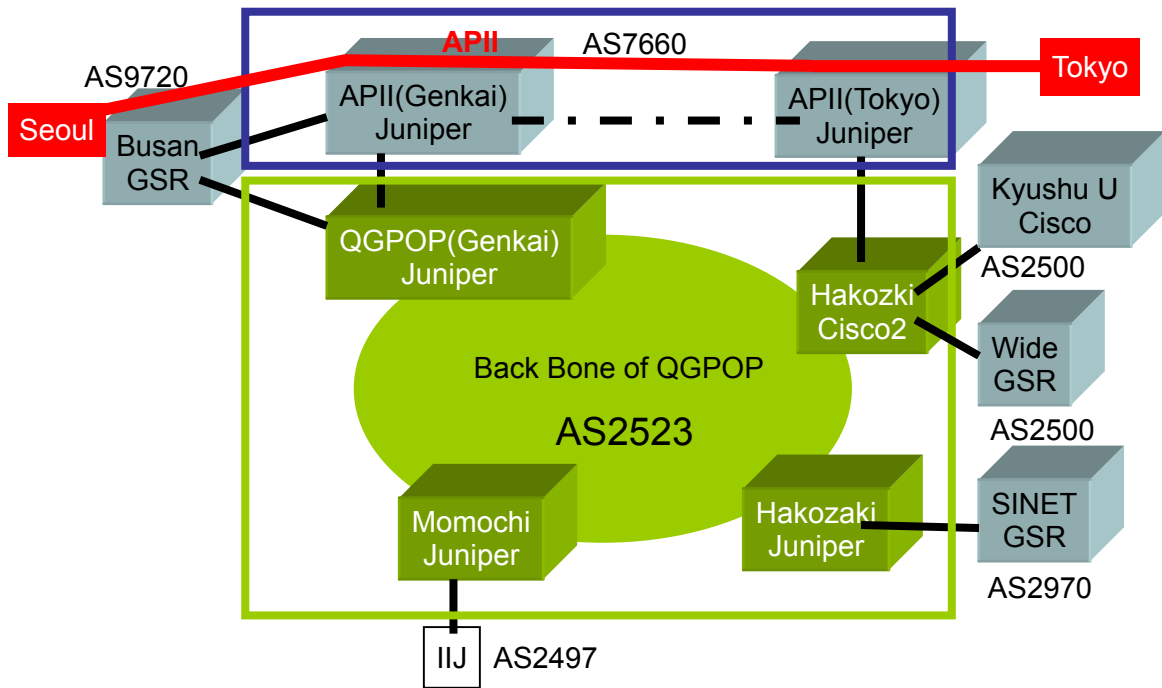


Figure 3-1 QGPOP (Kyushu GigaPOP Project) network

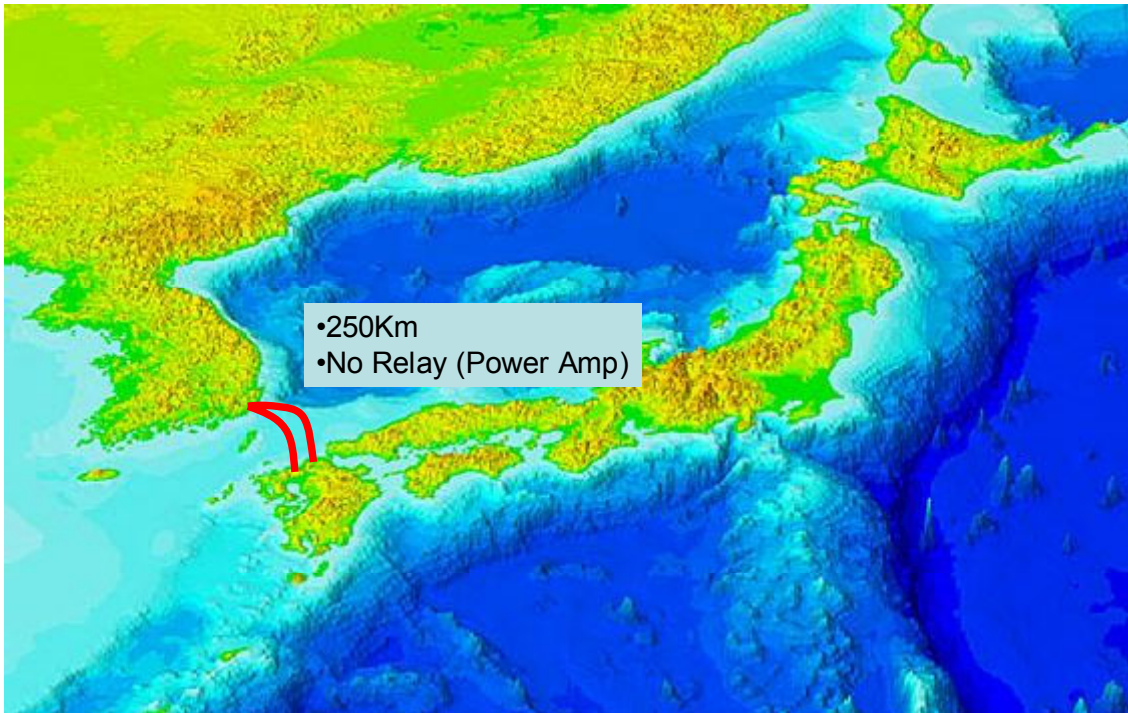


Figure 3-2 Korea-Japan cable network (KJCN)