

7. Collaboration Using SINET3

SNET is the network for the collaboration research built on SINET3 by MPLS-VPN (L3 VPN). SINET3 is the academic network operated by National Institute for Informatics (NII). SNET directly connects the universities, research institutes and National Institute for Fusion Science (NIFS). NIFS has operated SNET for the category of "LHD experiment remote participation" since March 2002. The categories of "Remote use of supercomputer system" and "All Japan ST research program" were added to SNET in FY 2005.¹⁻⁵⁾ The number of sites is on the increase, seventeen sites participate to the SNET as shown in Fig. 1.

"Graduate School of Sciences, Nagoya University of Tokyo" was newly joined to SNET as 5th site of "remote use of Supercomputer" in FY 2007. The network configuration of Nagoya University was reconstructed to extend the Gigabit network to research room separate from the main research room at Graduate School of Engineering.

The monitoring video server for "LHD experiment remote participation" was connected to SNET's L3 switch for LHD/ST remote in FY 2007. This server will deliver the video of the main screen in the LHD control room during the LHD experimentation. The image will be sent the remote site of "LHD experiment remote participation" with *multicast*.

Since FY2005, "Simulation scientific research" and "ST

Japan Research Program" has joined the SNET. About the latter, the Kyushu University's spherical tokamak experiment equipment (QUEST) is scheduled to be operational in FY2008. The measurement data of QUEST would be collected to NIFS's data acquisition system (LABCOM) via SNET and distributed to remote sites of SNET. The problem of the data transfer speed between Kyushu Univ. and NIFS was also considered in FY 2007 and the throughput could be kept about 300 Mbps using the bandwidth utilization appliance.⁶⁾

In the category of "Simulation scientific research" program, SNET directly connects the network of the remote site with the gateway server of the supercomputer. The researcher can transfer the results of the simulation from supercomputer to their terminal with high speed.

- 1) Tsuda, K., et al., Ann. Rep. NIFS (2003-2004) 400.
- 2) Tsuda, K., et al., Ann. Rep. NIFS (2004-2005) 383.
- 3) Tsuda, K., et al., Ann. Rep. NIFS (2005-2006) 408.
- 4) Horiuchi, R., et al., NIFS-MEMO-51, 2006.
- 5) Tsuda, K., et al., Ann. Rep. NIFS (2006-2007) 402.
- 6) Nakanishi, S., et al., Ann. Rep. NIFS (2007-2008).

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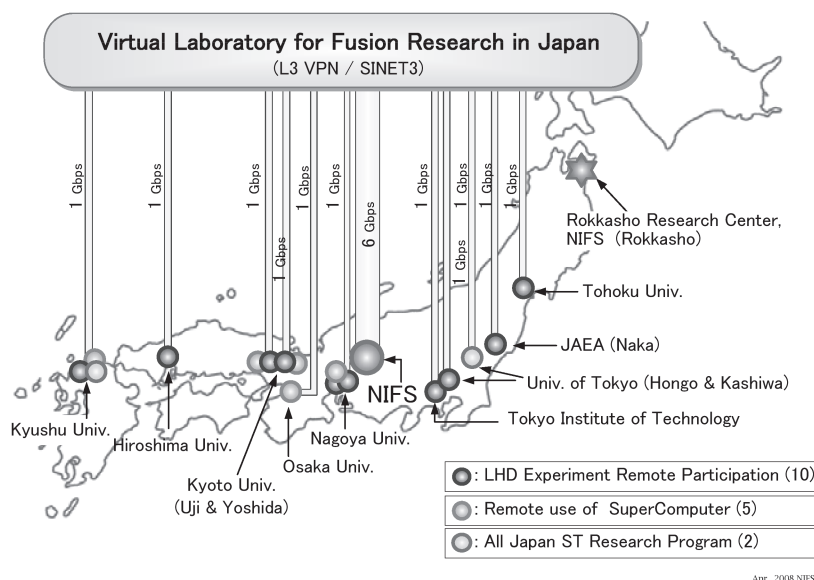


Fig.1 Connection map of SNET