

# Testbed Project

## Project period

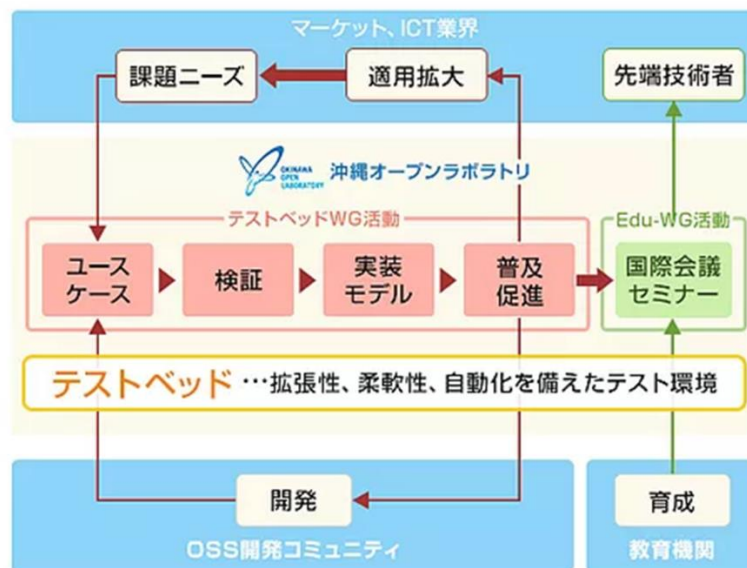
October 2014 ~

## Project overview

- OOL prepares a testbed environment of tens of servers as a common foundation for research and development activities, and utilizes it to verify and develop technologies in technical research projects.
  
- What is it like?
  - Demonstration experiment environment of neutral SDN/Cloud fusion technology built and managed by OOL
  - Construct cloud and NW automatically with OpenStack with SDN as a Service (OS3)
  - Lend laboratory-owned verification equipment (servers, switches, testing machines, etc.)
  - Lend bare metal resources online per hours
  - Lend network switches as bare metal resources per hours as well
  - Configure topology freely
  - Backup and restore the configuration itself
  - Wide-area network environment that interconnects laboratory environments in Japan and overseas
  
- Usage
  - Use by OOL members, hands-on, POC, etc.
  - Bringing in equipment and collaborating on remote connections in OOL environment
  - Confirmation of interconnectivity and performance (mutual use of member's equipment and software)
  - Use as a demonstration environment at exhibitions, etc.

## Role of Testbed

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## Features of Testbed

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- Test environment with scalability, flexibility and automation
  - Scalability/Flexibility
    - ◇ Building a network infrastructure for verification using SDN (OF-Patch, etc.)
    - ◇ Verification configuration and equipment connection can be changed remotely and freely
  - Automation
    - ◇ Automate every process from resource reservation to use
    - ◇ Expand resource reservation function, automatic construction function and setting function
  - Core features are built by open source

## Changes in Testbed

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- Mar 2014 Testbed 1.0 offline service launched
- Oct 2014 Online service launched
- Mar 2015 Network configuration changes to expand topology formation
- Jul 2015 Expansion of base to Okinawa Information and Communication Center
- Mar 2016 Server resource expansion
- Sep 2017 Testbed 2.0 release
- May 2021 Introduction of SMART Gateway provided by Bosco Technologies Co., Ltd.