Testbed

<table>
<tr>
<td>**Research Themes**
Testbed
Working Groups</td>
<td>To build and utilize Testbed Environment automatically, we use OpenStack and SDN. The testbed can be used for perform technical verification, evaluation of the function, establish the reference model, publish documents, etc.</td>
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Test bed is extensively utilized as the common infrastructure of Okinawa Open Lab members for various fields such as technical verification of next-generation ICT base technologies, use cases, Proof of Concept of new technologies, show case of multi-vender products, hands-on environment, etc.

Launching the testbed as online service of providing bare-metal resource with topology configurable.
・Topology can be configured by OF-Patch (OpenFlow Application that emulates Patch-Panel)
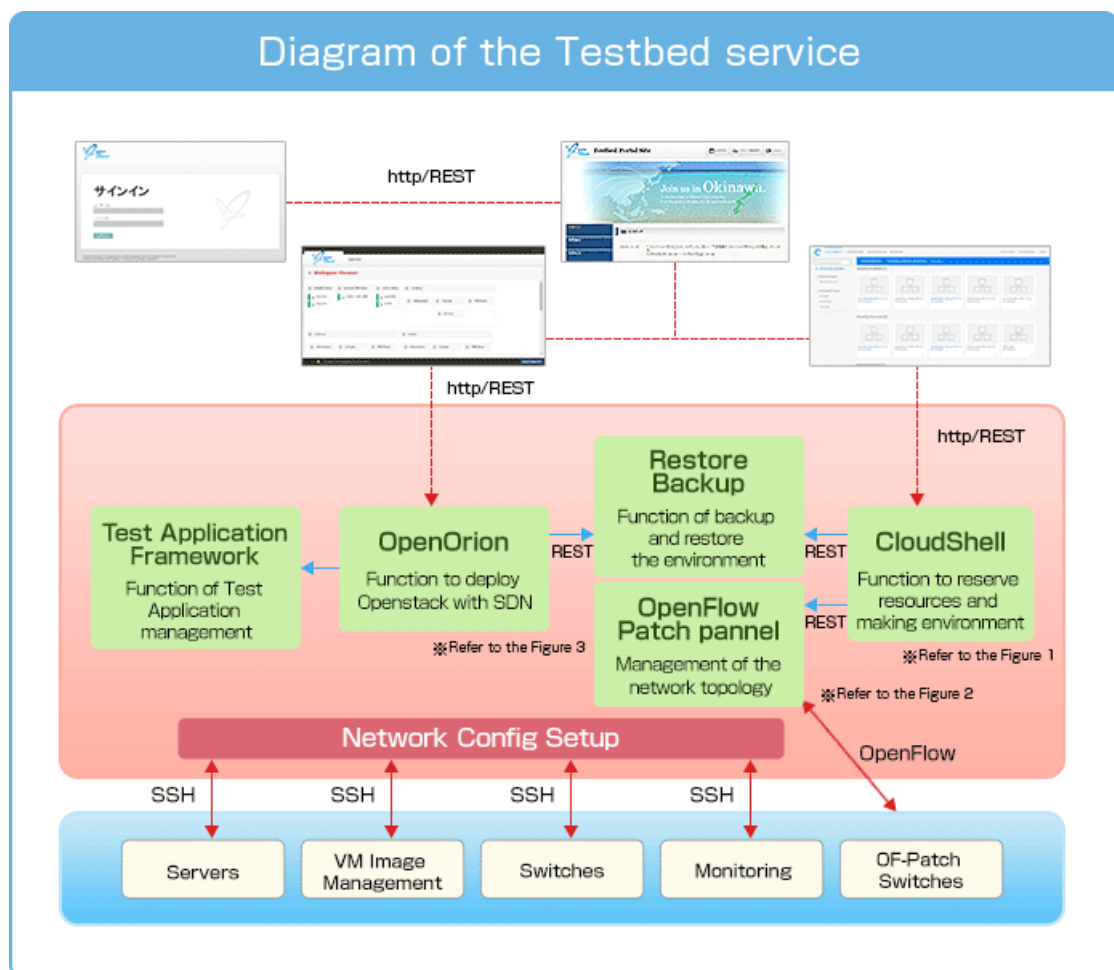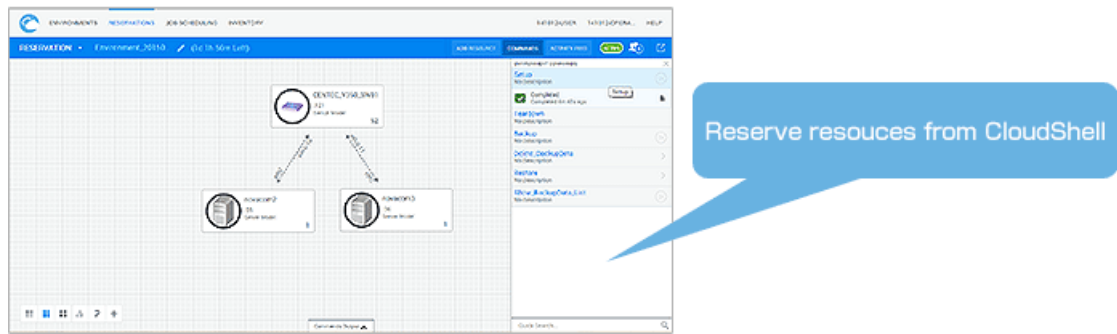・OpenStack and SDN environment can be automatically deployed.

Diagram of the Testbed service

Figure 1

Reserve resouces from CloudShell

Figure 2

Configure the network connectivity of physical resources with OpenFlow-Patch
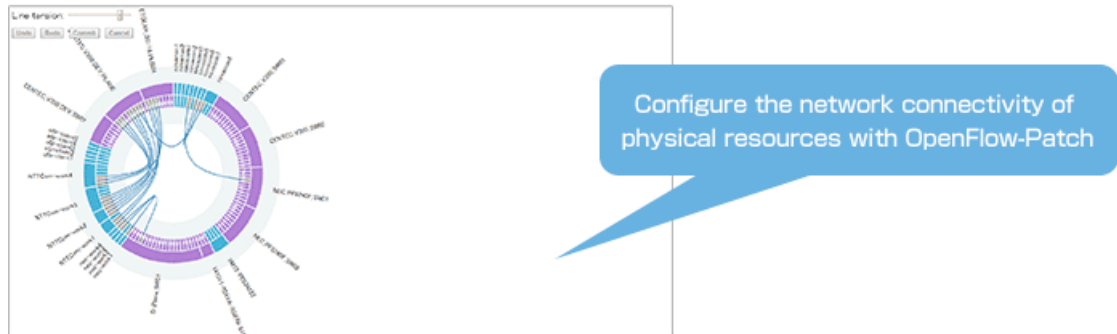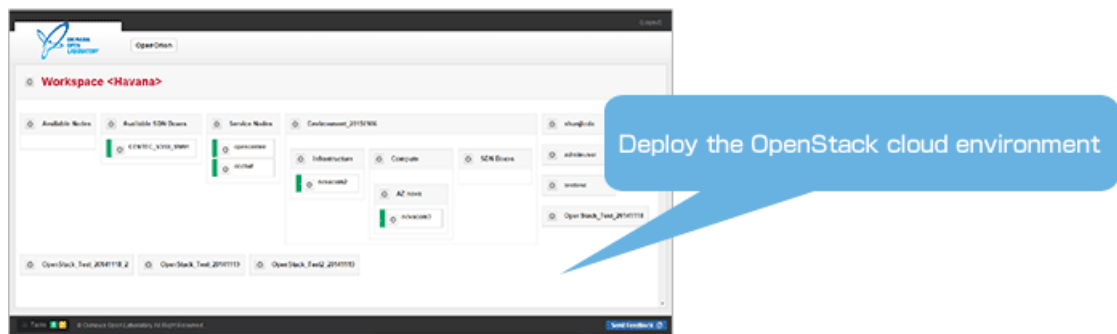
Figure 3

Deploy the OpenStack cloud environment

Overview of Activities

About the utilization of SDN and cloud computing technologies in user companies, although there is an expectation that they might enable new technologies quickly and with low cost, and consequently there is a significant needs for these technologies, the utilization is not so progressed because of the difficulty of acquiring the know-hows of the operation on their own. In order to overcome the challenge and expand the utilization of SDN and cloud computing, we plan to perform technical development for designing, structuring, and utilizing the infrastructure to opterate the virtual network and computer resources efficiently and automatically.
All development result is open-sourced or published as documents.
The testbed is structured and operated in order to confirm whether the developed or evaluated technolgy and the published technology can be combined to function as solutions to resolve the challenges, and appeal the findings to the world by executing substantiative experiments. It is also in the scope that we interconnect with the testbeds of other R &D Institutes to clarify the challenges in the field operation, to enhance the application technology, and to developcompanionship with other organizations related to SDN or cloud computing or open-source communities.