Component-based system for management of multilevel virtualization of networking resources

System komponentowy wspomagający wielopoziomową wirtualizację zasobów sieciowych

Robert Boczek   Dawid Ciepliński
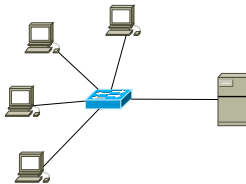
prof. dr hab. inż Krzysztof Zieliński

10.05.2011

The environment

1. „Physical"
   5 Logical Domains connected with a vswitch:

   - dedicated NFS server node (virtual appliance snapshot storage)
   - 4 worker nodes

2. Software = JMX-enabled Monitoring System (JIMS)

   - Solaris resource monitoring & management (containers)
   - peer discovery
   - shared codebase

The environment

1. „Physical"
   5 Logical Domains connected with a vswitch:
   - dedicated NFS server node (virtual appliance snapshot storage)
   - 4 worker nodes
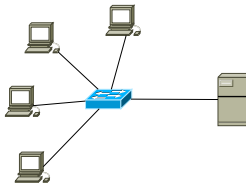

2. Software = JMX-enabled Monitoring System (JIMS)
   - Solaris resource monitoring & management (containers)
   - peer discovery
   - shared codebase

Native libraries

`libdladm`- and `libflowadm`-based native libraries.

- ▶ lib-link
- ▶ lib-etherstub
- ▶ lib-flow
- ▶ lib-vlan

Allow for higher-level operations (CRUD) for etherstubs, (V)NICs, VLANs and flows. Still native, with minimum external dependencies.

MBeans

Two kinds:

1. managers: entity discovery & general management
2. entities: fine-grained control (properties, statistics)

Bidirectional operations.

Components (simplified)

go here

Remaining work

1. statistics, charts (ongoing)
2. parallelization
3. usability improvements
4. bug fixing