

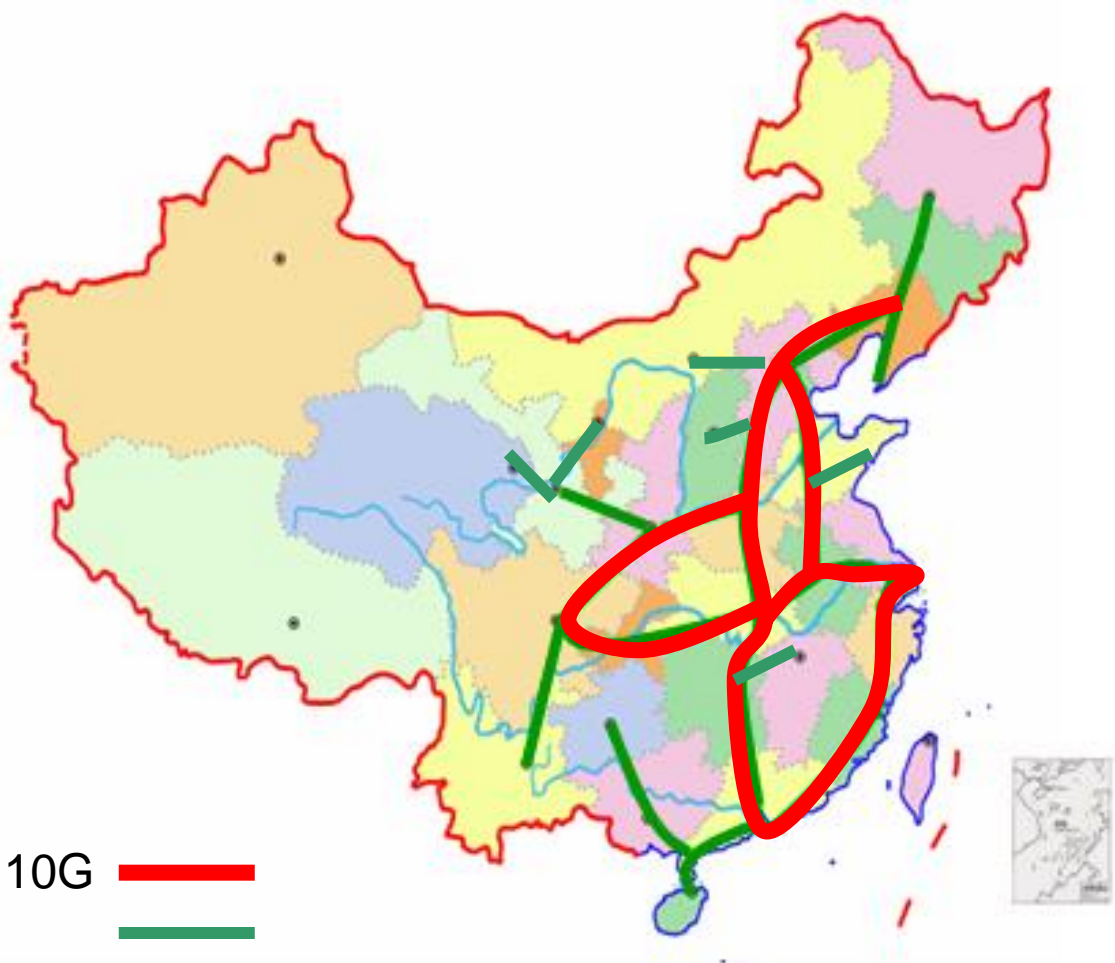
CERNET Updates

Zhonghui Li

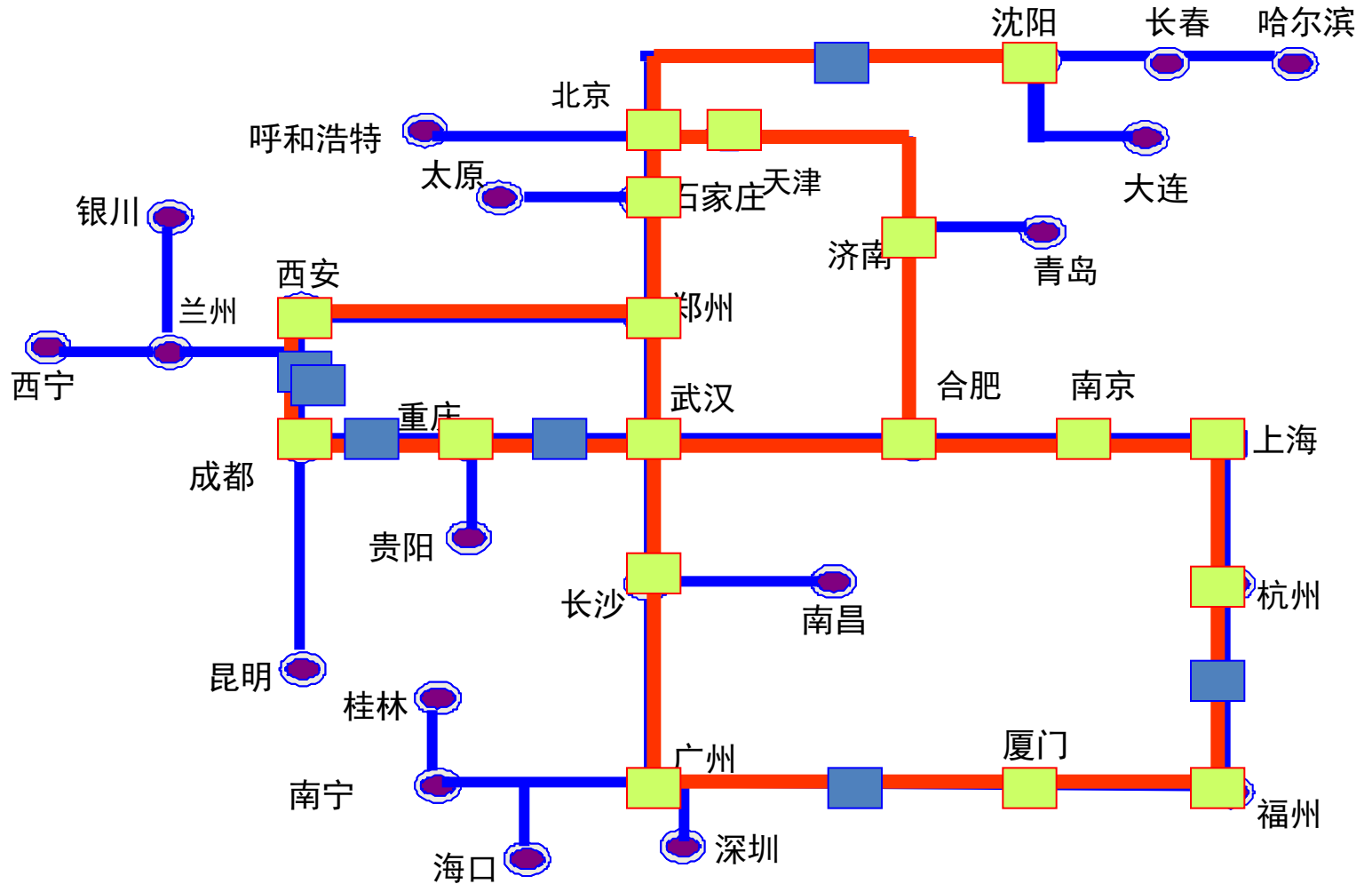
CERNET 3rd 211 Project

- Support for 100G DWDM (transport layer)
- Support for 100G Routing (IP layer)

CERNET 100G-enabled DWDM



DWDM Topology



Huawei Optix OSN 8800 (11,438 km)

ZTE ZXONE 8300 (10,370 km)

Total 21,724 km

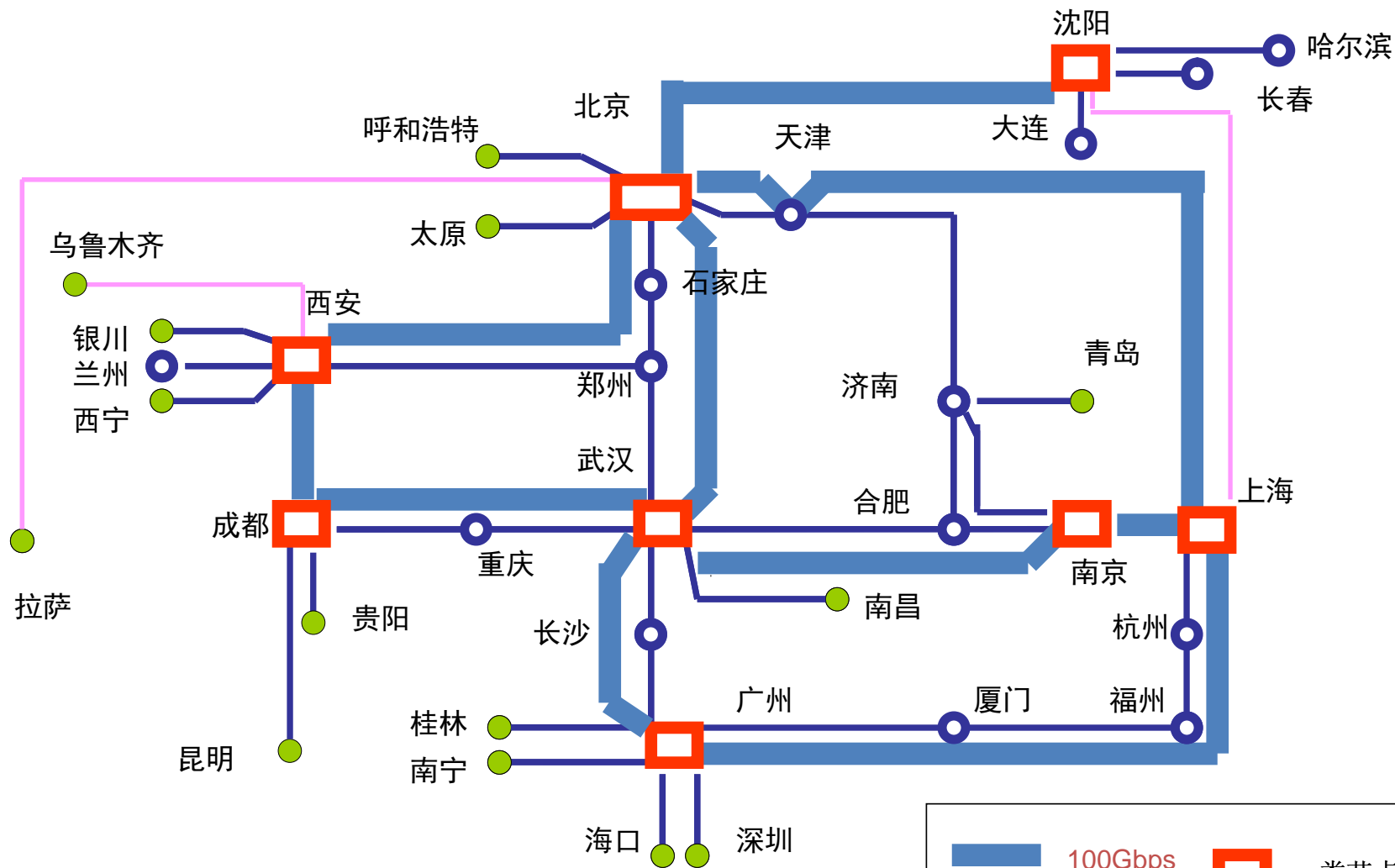
DWDM Stations



CERNET 100G-enabled IP Backbone



IP Topology



Juniper T4000
Cisco CRS-3

IP Routers



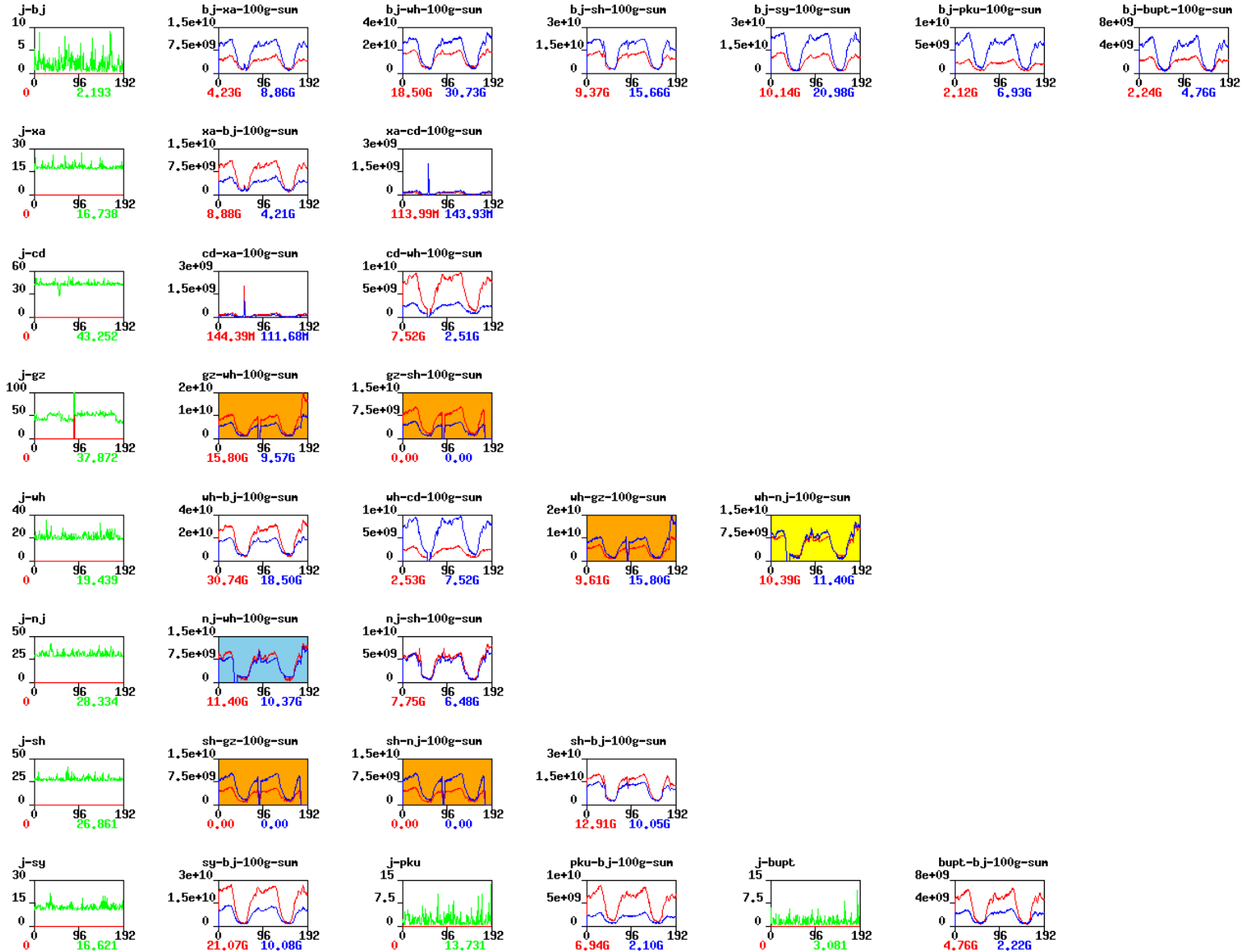
Juniper T4000

IP Routers (cont.)



Cisco CRS-3

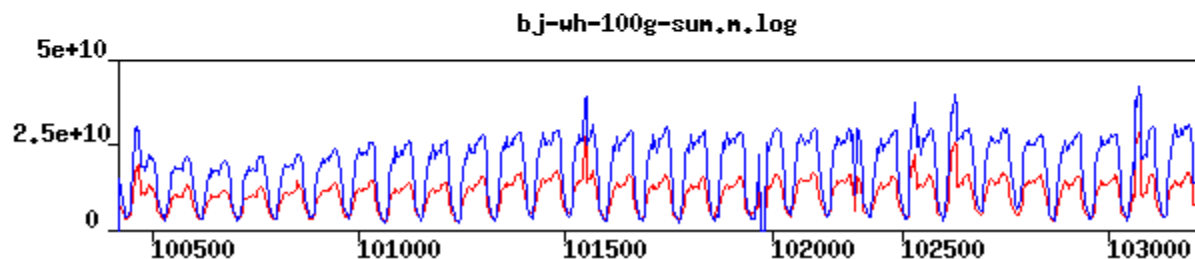
IP Traffic over 100G link



IP Traffic over 100G link (cont.)

```
bj-wh-100g-sum.m.log in. act= 16.2953G (668/704) [max= 28.7256G med= 11.1421G min= 0 ] {ave= 10.4131G dev= 4.66098G skw= 0.222035 }  
bj-wh-100g-sum.m.log out act= 29.4988G (668/704) [max= 41.9159G med= 21.1046G min= 0 ] {ave= 18.3498G dev= 9.29759G skw= -0.346478 }
```

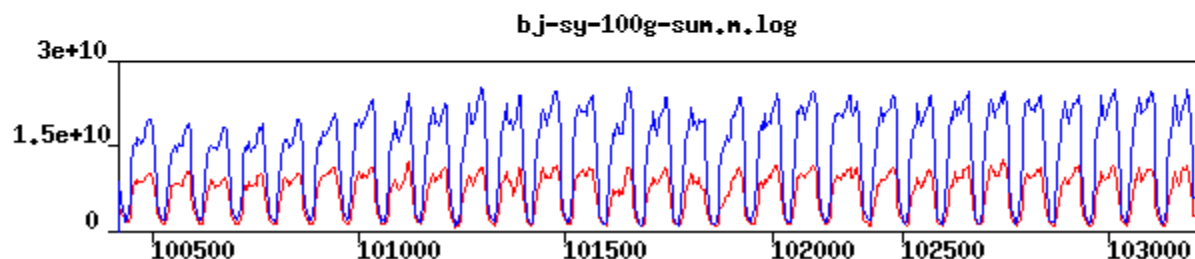
```
bj-wh-100g-sum. 100100 7.74527e+09 1.54696e+10  
bj-wh-100g-sum. 110100 7.4107e+09 1.41513e+10  
data
```



**100G link between
Beijing and Wuhan**

```
bj-sy-100g-sum.m.log in. act= 11.1613G (668/704) [max= 12.5948G med= 7.99449G min= 0 ] {ave= 6.60764G dev= 3.56811G skw= -0.329269 }  
bj-sy-100g-sum.m.log out act= 23.6468G (668/704) [max= 25.2102G med= 16.3411G min= 0 ] {ave= 13.8733G dev= 7.79275G skw= -0.420707 }
```

```
bj-sy-100g-sum. 100100 4.61749e+09 8.64479e+09  
bj-sy-100g-sum. 110100 2.84567e+09 6.09591e+09  
data
```



**100G link between
Beijing and Shenyang**

Next Step

- 100G for IDC
- 400G trial
- OTN
- SDN



Future Internet Testbed

