
Internet Topics

JANOG 41 Meeting - The First Hosted by IJJ

The JANOG 41 Meeting held in Hiroshima between January 24 and January 26, 2018, was the first JANOG Meeting*1 hosted by IJJ. Although there was a light dusting of snow during the event, the weather was generally fine. At final count there were 1,171 participants at the main session, and 725 at the social function. These were the highest attendance numbers since the JANOG Meeting was first held, so the event ended in a great success. Here, we will discuss IJJ's initiatives as host of the JANOG 41 Meeting.

■ Our Role as Host

The JANOG Meeting is a conference held by JANOG (Japan Network Operators' Group), an organization made up of engineers who manage the Internet in Japan. The JANOG Meeting where engineers gather twice a year is organized by an executive committee selected from among JANOG members, but host companies take turns at arranging the venue and coordinating other related matters. The host company goes to great lengths to prepare a venue with suitable amenities to entertain the attendees that come together from all over the country. With IJJ acting as host this time, we focused on the network facilities available at the venue. Because the JANOG Meeting is a hands-on conference concerning Internet-related matters, we naturally use the Internet during the event. The engineers gathered at the venue are also active personnel who handle operations. Although some engineers stay back at the office to hold the fort, at times work is carried out at the venue on a temporary basis. To meet these needs a network environment is required, but there are significant obstacles to implementing this.

■ High Density and Short Construction Period

Each year the number of JANOG Meeting attendees has been rising, and for the past few years there have consistently been over 600 participants. The event that IJJ hosted had over 1,000 people in attendance. Almost all engineers gathered at the venue use a laptop computer, and in many cases an attendee will use multiple devices such as a smartphone or tablet. It is rare to have such a high density of users gathered in the confined space of a conference hall.

The amount of time that can be spent preparing the network is also quite limited in comparison to the network scale. Because usage fees are expensive for halls that can accommodate 1,000 people, they are only rented for the three days that the JANOG Meeting will be held. That means there was the major constraint that only the morning of the first day of the event could be set aside for preparing the venue network. It is also necessary to pack up equipment promptly after the conference ends.

■ Providing Internet Access at the Venue

Amidst these constraints, IJJ aimed to provide a pure network experience with high performance.

IJJ's backbone network extends throughout Japan, and we have an NOC in Hiroshima that serves as a base for this. In coordination with Energia Communications, a local provider and fellow JANOG participant, we brought a fiber-optic line that connects directly to the IJJ Hiroshima NOC (Figure 1) into the International Conference Center Hiroshima venue. This fiber connection operates with 10 Gbps of bandwidth using a WDM system installed by IJJ.

We used an IPv4/IPv6 dual stack for the venue network. In coordination with JPNIC, which manages network resources in Japan, IPv4 addresses were configured to distribute global addresses to each device. It is common to use private addresses within a LAN to cut down on IPv4 addresses and ensure network security, but we took this approach because we intended to take on the challenge of constructing a large-scale LAN based on IPv4 global addresses.

■ Wireless LAN Equipment at the Venue

Because the many attendees take turns using the network, it is essential to construct a wireless LAN network at the venue. In this case we used many SA-W2 wireless LAN-compatible devices developed independently by IJJ. The SA-W2 is a device

*1 JANOG: Stands for JApan Network Operators' Group. This is a group aimed at contributing to Internet engineers and users in Japan by discussing, evaluating, and introducing Internet-based technology and related operational matters.

that can be integrated with the SACM (Service Adapter Control Manager) device management system that IIJ develops and operates. It incorporates mechanisms for reducing the operational burden, such as sending operating status notifications to a management server automatically by simply connecting network and power cables. We used this equipment with the goal of having network construction completed in a short time. We also collaborated with the local Hiroshima City University to provide wireless LAN for the conference. The university aims to improve the efficiency of wireless LAN network utilization, and is researching techniques for estimating the communication quality of wireless access points. For this reason, we set up a device for measuring wireless LAN at the JANOG 41 meeting in the main hall and collected information. For this collection task we use an SA-W2 with special firmware implemented. IIJ has provided wireless LAN at several events and evaluated the service in the past. However, by conducting joint research with Hiroshima City University this time, we expect to gain new insight into techniques for estimating communication quality in wireless LAN networks.

■ Future Considerations

At the time of writing, the JANOG 41 Meeting has ended, and IIJ has finished providing network services. We are currently evaluating the data gathered through these initiatives, and we will report on the results in the IIJ Engineers Blog^{*2}.

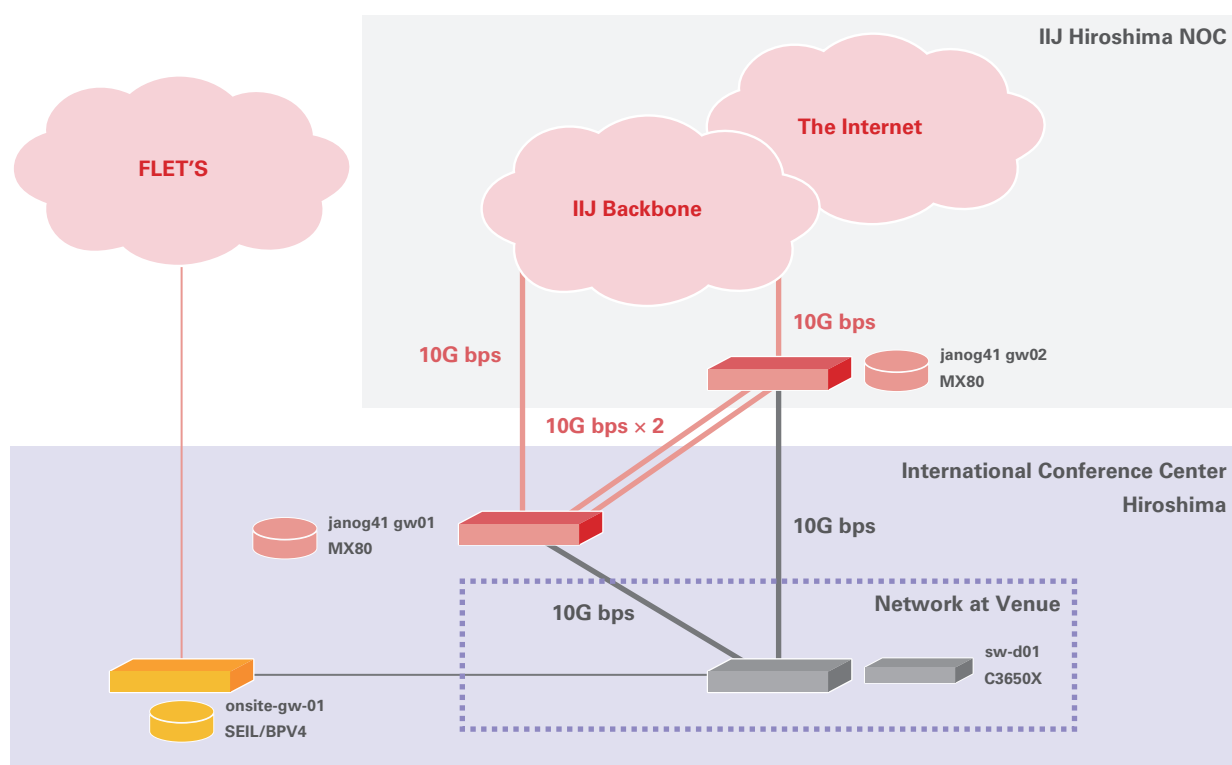


Figure 1: JANOG 41 Meeting Network Configuration



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^{*2} IIJ Engineers Blog (<http://eng-blog.iij.ad.jp/>) (in Japanese). An official blog written by engineers working in the areas of development and operation.