2023.1–12

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JP Domain Name Registry Report

JPRS
Japan Registry Services Co.,Ltd.

Introduction

As technology advances, the Internet is being used in more broad and diverse areas of society. The Internet has become an integral part of society as services provided over the Internet, such as teleworking, online learning and telemedicine, have taken root in people's lives, and as AI technology and the digital transformation continue to advance. The communications infrastructure supporting Internet-based services and technologies, as well as the Domain Name System (DNS) and domain names underpinning the Internet, are also becoming even more important.

With this background, the total number of JP domain name registrations surpassed 1.75 million as of January 2024. Of those, 1.19 million are registered as General-use JP domain names, accounting for about 70% of total registrations. 550,000 names are Organizational Type JP domain names, the domain name space categorized by organizational type of registrants. Over 470,000 names are registered under "co.jp," making it the most registered category in Organizational Type JP domain names; many companies are using "co.jp" domain names.

JPRS continued its efforts in 2023 to improve JP domain name services, develop systems and carry out promotional activities to facilitate the use of JP domain names and deliver greater value to users.

Incidents and crises that threaten the stable operation of the Internet, such as vulnerabilities in DNS software, continue to occur. In such circumstances, JPRS, as a company that supports the basis of the Internet society through domain names and DNS, tackles the challenges and risks and provides information in a timely manner.

JPRS also actively contributes to discussions on global issues and conveys relevant information to the community in Japan to make the Internet safe for everyone to use.

The management and administration of JP domain names requires a high level of commitment to enhancing the public interest and staying ahead of the competition. Recognizing this vital nature of its services and influence on society, JPRS carries out its tasks and publishes the annual "JP Domain Name Registry Report" on its management and administration of JP domain names.

JPRS will continue to ensure that JP domain names remain useful and contribute to the development of the Internet society.

Koki Higashida
President
Japan Registry Services Co., Ltd.

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01·1 Goal of JPRS as the JP Domain Name Registry

Our main objectives as the registry are: to continuously improve the value of JP domain names; to gain stronger support from the local and global Internet community; and to provide domain names as well as management and administration services that contribute to society in an environment where JPRS competes and collaborates with other registries of TLDs *1 and similar service providers.

JPRS defines the following Four Pillars as the core concepts for its services including the management and administration of JP domain names.

Reliability: establishing services with social credibility
Stability: operating and administering stable systems
Usability: providing user-friendly services
Fee Performance: setting reasonable service fees

With the mission of supporting the Internet infrastructure, JPRS considers it important to ensure reliability and stability while pursuing a good balance with usability and fee performance.

*1 TLD: Top Level Domain

01·2 Major Topics of 2023

In 2023, JPRS continued to contribute to the development of the Internet and worked to enhance its JP registry services and the value of JP domain names in cooperation with the JP Registrars and other related organizations.

Publication of "Internet White Paper 2023" with JPRS Participating in Planning and Editing (February)

Internet White Paper 2023

"Internet White Paper" is a yearbook that summarizes the current state of the Internet from various perspectives including that of business, society and technology. Its 2023 edition, "Internet White Paper 2023 (subtitle: A Fragmented World and Internet Governance)," was published. JPRS has been collaborating with Impress Corporation*1, IAjapan*2 and JPNIC*3 in the Internet White Paper Editorial Committee in planning and steering the White Paper since 2013.
In addition, "Internet White Paper 2022" published in 2022 was added to "Internet White Paper ARCHIVES," the website organized and operated by the Internet White Paper Editorial Committee. "Internet White Paper ARCHIVES" is a compendium of Internet White Papers, which are published annually and span from 1996 to the previous year's edition. The archive is publicly available free of charge. Going forward, the white paper that becomes a back issue in the year following its publication will also be added to the archive.

- **https://jprs.co.jp/topics/2023/230222.html (in Japanese)**
- **https://jprs.co.jp/topics/2023/230228.html (in Japanese)**

Support for the 25th Japan Junior/Senior High School Web Contest (February)

JPRS supported the "25th Japan Junior/Senior High School Web Contest*4," a Web contest that was held by JAPIAS*5 for junior and senior high school students. Forty-eight General-use JP domain names (ASCII and Japanese) were provided free of charge to the 24 semi-finalist teams.
JPRS also presented the "Best Domain Naming Award" to the team who had chosen the most effective domain name to increase the appeal of their work.

- **https://jprs.co.jp/press/2023/230220.html (in Japanese)**

*1 Impress Corporation
https://www.impress.co.jp/ (in Japanese)
*2 IAjapan: Internet Association Japan
https://www.iajapan.org/index-en.html
*3 JPNIC: Japan Network Information Center
https://www.nic.ad.jp/en/
*4 Japan Junior/Senior High School Web Contest
http://webcon.japias.jp/ (in Japanese)
*5 JAPIAS: Japan Association for Promotion of Internet Application in School Education
http://japias.jp/ (in Japanese)

Visit to Elementary and Junior High Schools to Conduct Classes (March and September)

As part of its Internet-related educational support activities, JPRS visited Senri International School of Kwansei Gakuin Middle School in March 2023 to conduct a class entitled “Understanding How the Internet Works to Support Today’s and Tomorrow’s Society.”
In the class, students presented their ideas for solving social issues using the Internet, and JPRS demonstrated its information education website, “Ponta’s Internet Class,” to describe the mechanisms that underpin the Internet with various stakeholders involved.
In addition, JPRS visited Teikyo University Elementary School in September 2023 and gave a class titled “Great Adventure in the World of the Internet: Finding Just One Website,” where students learned how domain names are used to access websites and were introduced to ccTLDs*6.

Support for IETF 116 (March)

JPRS supported IETF 116*7 held in Yokohama City, Kanagawa Prefecture as a sponsor and helped to organize the meeting.
At “Host Equipment Demos,” an event where hosts and sponsors introduced their products and services using IETF technologies, JPRS exhibited technical information such as “Points to Note about Using DNS to Check the Administrative Authority of a Domain Name,” distributed materials, and showcased “Ponta’s Internet Class,” an information education website that it had created.

Host Equipment Demos

- **https://jprs.co.jp/topics/2023/230315.html (in Japanese)**

*6 ccTLD: Country Code Top Level Domain
*7 IETF 116
https://ietf116.jp/ (The official site of the 116th IETF Meeting Japan Organizing Committee; in Japanese)

Free Graphical Comic-style Booklet on the Internet System Sent to Junior and Senior High Schools and Technical Colleges across Japan (May–June)

As part of its Internet-related educational activities, JPRS set up channels including a special website “https://マンガで学ぶ.jp/” (Learn from Manga) where junior and senior high school and technical colleges could apply to receive educational materials from May 15 to June 30, 2023. Recognizing the growing importance of Internet-related education and the shortage of teaching materials in schools, JPRS has worked on this project since 2010. A total of over 350,000 copies have been distributed through this activity to date.
The material that JPRS gave out is a graphical comic-style booklet entitled “Ponta’s Great Adventure in the Network.” It contains a story with many illustrations to help readers learn easily how to reach websites and how a “domain name,” an Internet address, as well as HTTPS, a secure means of communication for exchanging information, work.
JPRS also runs a website called “Ponta’s Internet Class” which is linked to the contents of the booklet. The site explains domain names as well as DNS and suggests study guidelines that conform to the Course of Study for junior high schools.

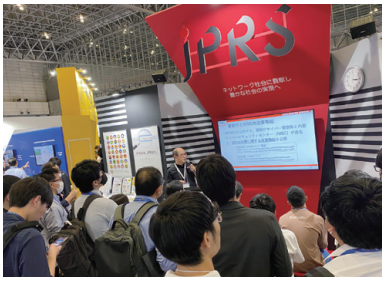
Ponta’s Great Adventure in the Network

● **https://jprs.co.jp/press/2023/230515.html (in Japanese)**

Participation in Interop Tokyo 2023 (June)

JPRS ran a booth at the “Interop Tokyo 2023” exhibition, an event where visitors can experience the latest ICT and related solutions.
The JPRS booth provided information, including the basics of domain names, DNS and server certificates as well as key points for improving the availability of authoritative DNS servers. In addition, JPRS provided information to visitors through a panel exhibition and by distributing technical documents.

● **https://jprs.jp/related-info/event/2023/0630_interop.html (in Japanese)**



JPRS booth

Support for "Oshigoto Hakubutsukan," a Career Education Support Program by Asahi Shimbun (June)

Recognizing the importance of career education for the children who will lead the next generation and the benefits of understanding the Internet infrastructure at an early age, JPRS co-sponsored "Oshigoto Hakubutsukan*8 (Occupations Museum)," a career education support program conducted by Asahi Shimbun Company. JPRS also provided the program with educational materials regarding domain names.
Under the program, "Oshigoto Nenkan (Occupations Yearbook)" is distributed to schools free of charge, and clearly explains to students how businesses and institutions work. The yearbook complies with government guidelines on education and can be used as a teaching tool. A total of 75,000 copies of the 2023 yearbook were donated to about 20,000 elementary schools and 10,000 junior high schools across the country, and the contents are also published on the web version of "Oshigoto Hakubutsukan."

Oshigoto Nenkan 2023

● **https://jprs.co.jp/topics/2023/230616.html (in Japanese)**

Support for Internet Week Showcase in Sapporo (June)

Internet Week Showcase is a free event that features carefully selected programs of the previous year's Internet Week, a conference held by JPNIC in Tokyo every year around November.
JPRS supported Internet Week Showcase in Sapporo as a sponsor and gave a presentation entitled "Looking Back at DNS's Weaknesses and Looking Ahead to its Future: Lunch with DNS."

● **https://jprs.co.jp/topics/2023/230714.html (in Japanese)**

JPRS Held the 14th ".jp DNSSEC Key Ceremony" (September)

In public-key cryptography, a key ceremony is a procedure in which a unique pair of private and public keys is generated. In JPRS, ".jp DNSSEC Key Ceremony" is a procedure for creating key- and zone-signing keys and signing the jp zone.
It is vital for the reliability and stability of DNSSEC that the procedure for generating and managing the key pairs is properly and securely executed. For this reason, JPRS invites External Witnesses, who are not affiliated with JPRS, to the .jp DNSSEC Key Ceremony. Two External Witnesses observed and confirmed the process in the 14th ceremony held on September 19, 2023.

● **https://jprs.co.jp/en/topics/2023/230920.html**

*8 Oshigoto Hakubutsukan
https://www.oshihaku.jp/ (in Japanese)

AuthCode Made Mandatory in the JP Registrar Change Process (November)

JPRS made “AuthCode” mandatory on November 13, 2023. AuthCode, originally introduced on November 13, 2022, is a measure to prevent changes of JP Registrar (including domain name transfers with a change of JP Registrar) from occurring without the intention of the JP domain name registrant.
A registrant can obtain an AuthCode through the current JP Registrar and use it to make sure that a request for a change of JP Registrar has been made genuinely and in accordance with the registrant’s intent.

- **https://jprs.jp/about/dom-rule/agent-change/index.html (in Japanese)**

Support for Internet Week 2023 (November)

JPRS supported Internet Week 2023 as a sponsor and sent Kazunori Fujiwara and Kazuki Ikeda to serve on the Program Committee and contribute to the planning of DNS-related sessions.
In addition, Shimpei Abe, Yuri Takamatsu and Kazunori Fujiwara of JPRS introduced domain names, DNS and other related topics in the program called “DNS DAY.”
Yasuhiro Morishita and Naoki Isonami of JPRS also gave a presentation entitled “Revisiting Glue Records: Lunch with DNS” as part of the lunchtime and teatime seminars.

Lunchtime Seminar at Internet Week 2023

- **https://jprs.co.jp/topics/2023/231108_2.html (in Japanese)**

Lecture and Hands-On Training on DNS at Kyushu Sangyo University (November and December)

JPRS conducted a lecture and hands-on training on DNS for the Faculty of Science and Engineering at Kyushu Sangyo University to raise awareness of the company and to promote understanding of and interest in domain names and DNS.
In the November lecture, Kazuki Ikeda, Hikaru Yoshino and Kento Gatto of JPRS spoke to more than 100 students, using “Textbook to Understand DNS Well,” a book authored by JPRS engineers. They explained the basics of domain names and DNS and demonstrated DNS and Whois services.
They also held hands-on training in December and provided more practical coursework mainly to students who belonged to the laboratory. Through the training, students built their own full-service resolvers as well as authoritative DNS servers and performed zone transfers between DNS servers.
The feedback received from students after the course was positive, with many commenting that learning about the DNS, which they are rarely exposed to, was a good opportunity to learn about its mechanism as well as its importance.


Hands-on training

DNS Course at International Christian University (December)

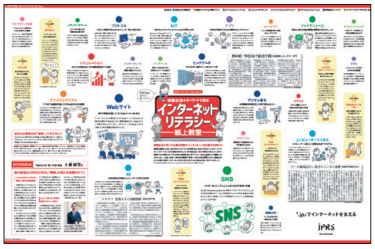
As part of its efforts to make itself better known and to stimulate understanding and interest in domain names and DNS, JPRS conducted a lecture on DNS at the College of Liberal Arts, International Christian University.
Many international students participated in the course along with local students, which reminded us that domain names and DNS are technologies of global interest.
Masakazu Funato, Kento Gatto and Naoki Isonami of JPRS used “Textbook to Understand DNS Well” to give the lecture, where they explained the basics of domain names as well as DNS and let the students set up their own DNS and mail servers for sending and receiving emails.
Many students eagerly asked questions during and after the lecture, making it a highly interesting class.

Lecture on DNS

Distribution of “Poster to Acquire Internet Literacy” and “Desk Pad to Learn about ccTLDs” Free of Charge to Educational Institutions across Japan (December)

JPRS distributed a poster entitled “Paper Classroom for Internet Literacy” and a desk pad named “World Domain Travelogue Special Edition,” which it had produced as part of its Internet education support program, free of charge to educational institutions such as junior high schools, high schools and technical colleges nationwide.
The purpose of this project was to help students understand domain names, which they handle daily but are rarely aware of, by using the poster and desk pad as learning tools.
The poster covers the keywords studied in “Information I” in the information technology course in high schools and explains the essential knowledge required in an information society and the mechanisms for safe and secure use of the Internet, citing newspaper articles. The desk pad is designed to help students learn about ccTLDs by answering quizzes on the countries or regions to which those domains are allocated.

● **https://jprs.co.jp/press/2023/231212.html (in Japanese)**



Paper Classroom for Internet Literacy (poster)

World Domain Travelogue Special Edition (desk pad)

Support for SECCON 2023 (until December)

SECCON 2023*9 was a series of events held from June to December 2023 with the aim of recruiting and training information security personnel and providing a place for hands-on experience with related technologies. JPRS supported SECCON 2023 as a sponsor. It agrees with the purpose of SECCON and has cosponsored it since 2014.

- **https://jprs.co.jp/topics/2023/231220.html (in Japanese)**

Events and Seminars for JP Registrars

JPRS organized the events and seminars for JP Registrars in a hybrid format, with both in-person and online attendees. Video recordings and handouts were published for JP Registrars after each session.

"JP Registrar Seminar: An Introduction to Domain Name Registration and Administration" (May)

JPRS explained the basics of JP domain names, how to register and administer them, as well as the fundamental structure of DNS to newly accredited JP Registrars and the staff of JP Registrars who recently started handling JP domain names.

"JP Registrar Seminar: DNS Basics for Domain Name Service Representatives" (June)

JPRS spoke about the basic mechanism of DNS to newly accredited JP Registrars and the staff of JP Registrars who recently started handling domain names.

"JPRS Partners' Meeting" (October)

JPRS described the latest developments in the domain name industry, future service changes as well as information useful for day-to-day operations to those staff members who were handling domain names in JP Registrars.

*9 SECCON 2023
https://www.seccon.jp/2023/ (in Japanese)

01·3 International Relations

1. Participation in ICANN

ICANN*1 is a private non-profit organization established in the United States in 1998 to coordinate globally the resources underpinning the Internet, such as domain names and IP addresses.

ICANN78

Since its foundation, JPRS has been actively participating in the organization of ICANN and various policy discussions and supporting the facilitation of Internet resource management led by the private sector, with ICANN playing the central role. In 2002, JPRS signed a “ccTLD Sponsorship Agreement” with ICANN and has since been entrusted by ICANN to serve as the registry of Japan’s ccTLD “.jp.”

By participating in various organizations established within ICANN, as well as by giving presentations and information exchanges at various sessions, JPRS participates in policy development and implementation planning to cope with issues facing ICANN and registries. As the .JP registry and one of the operators of the Root DNS Server (hereinafter called Root Server), JPRS is sharing its experience with the global community via ICANN, thereby contributing to the development of the Internet as a whole.

ICANN holds three public meetings each year to enable stakeholders from every country and region of the world to participate and discuss Internet resource management and related rules. In 2023, ICANN76 was held in Cancun, Mexico in March, ICANN77 in Washington, D.C., USA in June, and ICANN78 in Hamburg, Germany in October, all in a hybrid format with both in-person and online attendees.

With the participation of numerous parties interested in ccTLD and gTLD*2, ICANN meetings have long been an important forum for information-sharing and discussions on policies and governance concerning domain name management. The meetings provide a platform for the cross-community exchange of ideas on topics of interest to individual Supporting Organizations (SOs) and Advisory Committees (ACs), as well as subjects related to Internet resources. As the year 2023 marked ICANN’s 25th anniversary, ICANN engaged in a special effort to serve as a good example of the multistakeholder model throughout the meetings and the decision-making process. A commemorative logo was displayed at the meeting venue, while the participants reviewed ICANN’s past achievements and discussed the significance of the multistakeholder model and the need to sustain it.

The following reports JPRS’s activities in the SOs and ACs within ICANN.

*1 ICANN: Internet Corporation for Assigned Names and Numbers
https://www.icann.org/

*2 gTLD: Generic Top Level Domain

(1) ccNSO

ccNSO*3 is one of the Supporting Organizations set up in ICANN to assist its activities. The role of ccNSO as an alliance of ccTLD managers is to cooperate with the other Supporting Organizations in ICANN, form a consensus in the ccTLD community on global issues concerning the entire ccTLD space and to make recommendations to the ICANN Board. JPRS prepared for the establishment of the ccNSO in 2003 and has been a member since then. Hirofumi Hotta of JPRS served as a member of the ccNSO Council from its establishment to March 2020. Also, Atsushi Endo of JPRS is a member of the SOPC (ccNSO Strategic and Operational Planning Standing Committee)*4 which submits a petition regarding ICANN's "Five-Year Operating and Financial Plan" and "Annual Operating Plan and Budget." Yuri Takamatsu is taking part in the MPC (ccNSO Meetings Programme Standing Committee)*5 which designs programs for the ccNSO-related meetings as well as ccPDP4*6 which develops policy proposals for IDN*7 ccTLDs.

The ccNSO celebrated its 20th anniversary in 2023. It was established in 2003 as a result of the dissolution and reorganization of the DNSO (Domain Name Supporting Organization) following the structural change of ICANN's Supporting Organizations.

The ccNSO meetings in 2023 commemorated the 20th anniversary and were attended by the past ccNSO Chairs who shared memorable events from their tenure to help the members learn more about the history and the basic concept of the ccNSO. In addition, a small-group discussion on the topics of future importance to the ccNSO, which had been solicited from the meeting participants, and exchange of ideas for future ccNSO-wide activities were held to re-evaluate the ccNSO in a variety of ways.

As part of its effort to mitigate DNS abuse, the DNS Abuse Standing Committee*8, which has been active since 2022, launched a repository of relevant materials and information and started a dedicated mailing list to help ccTLD Managers exchange information on DNS abuse with each other. The committee presented these tools at the ccNSO meetings and encouraged the participants to utilize them.

*3 ccNSO: Country Code Names Supporting Organisation
https://ccnso.icann.org/
*4 SOPC
https://ccnso.icann.org/en/workinggroups/sopiwg.htm
*5 MPC
https://ccnso.icann.org/en/workinggroups/mpwg.htm
*6 ccPDP4
https://ccnso.icann.org/en/workinggroups/idn-cctld-strings.htm
*7 IDN: Internationalized Domain Name
*8 DNS Abuse Standing Committee
https://ccnso.icann.org/en/workinggroups/dasc.htm

(2) RSSAC

The RSSAC*9 is one of the Advisory Committees within ICANN that advises the ICANN community and the Board on matters relating to operation, administration, security, and integrity of the Root Server System. As one of the operators of the M-Root DNS server, JPRS has been participating in the activities of the RSSAC in collaboration with the WIDE Project*10, the other operator.

In 2023, the RSSAC continued its work on the new governance model through discussions and deliberations at each ICANN meeting and during regular conference calls. In addition, as part of the review of existing papers, "Advisory on Service Expectation of Root Servers" (RSSAC001) and "Advisory on Measurements of the Root Server System" (RSSAC002) were updated.

Hirofumi Hotta of JPRS has been playing an active role in these discussions representing both two M-Root DNS server operators. Moreover, Yoshitaka Aharen, Shinta Sato, Kazunori Fujiwara and Hirofumi Hotta of JPRS are on the RSSAC Caucus tasked with considering and drafting proposals to the ICANN Board and the community. They were involved in the publication of RSSAC001v2*11 and RSAC002v5*12 and the work of the RSS Security Incident Reporting Work Party.

In addition, Hirofumi Hotta has been appointed by the RSSAC to the 2023 ICANN NomCom member and concluded his role for a one-year term beginning after the annual general meeting during ICANN75 held in September 2022.

The NomCom is an independent committee, in accordance with the ICANN Bylaws, tasked with selecting key ICANN leadership positions, including some members of the ICANN Board of Directors and the PTI*13 Board, as well as the ALAC*14, the ccNSO Council and the GNSO*15 Council. The RSSAC elects one member to the NomCom as the RSSAC Liaison from the RSSAC Caucus which is in charge of developing RSSAC documents, such as reports and recommendations regarding the Root DNS Servers.

*9 RSSAC: Root Server System Advisory Committee
https://www.icann.org/groups/rssac
*10 WIDE Project
https://www.wide.ad.jp/index_e.html
*11 RSSAC001v2
https://www.icann.org/en/system/files/files/rssac-001-root-service-expectations-01aug23-en.pdf
*12 RSSAC002v5
https://www.icann.org/en/system/files/files/rssac-002-measurements-root-22jun23-en.pdf
*13 PTI: Public Technical Identifiers
https://pti.icann.org/
*14 ALAC: At-Large Advisory Committee
https://atlarge.icann.org/
*15 GNSO: Generic Names Supporting Organization
https://gnso.icann.org/en

(3) Discussions on the Development of a Future Governance Model for the Root Server System

The Root Server System consists of 13 sets of root DNS servers called A-M and is comprised of over 1,300 instances. These root DNS servers are operated stably by 12 Root Server Operators working together on a voluntary basis.

As the importance of the Internet continues to grow, there are increasing calls for improved stability and assured reliability for the operation of the Root Server System. Against this backdrop, the Root Server Operators took the initiative in the RSSAC, one of ICANN's Advisory Committees, to propose a more robust governance model that could underpin the foundation of the Internet into the future.

The results of the discussion were submitted to the ICANN Board as RSSAC037*16 in June 2018, whereupon the direction for deliberation based on RSSAC037 was approved by the ICANN Board. Subsequently, the ICANN Root Server Governance Working Group (RSS GWG) was established in January 2020 to develop a concrete governance model according to the direction for deliberation.

The RSS GWG initially consisted of ten members (two each from the ccNSO, ICANN Registry Stakeholder Group and the IAB*17/IETF*18; three from the Root Server Operators and one from the ICANN SSAC*19) and three liaisons (one each from IANA, the ICANN Board and the Root Zone Maintainer). However, as the discussions progressed, some Root Server Operators demanded that all the operators should participate in the discussions in the RSS GWG as parties concerned. As such, all Root Server Operators have been taking part in the RSS GWG since March 2022. Hirofumi Hotta of JPRS has engaged in the RSS GWG representing the M-Root DNS server operator.

The RSS GWG continues to work on the proposed conditions for a new governance structure to be submitted to the ICANN Board and the ICANN community by the end of 2024, and Hirofumi Hotta is participating in these discussions.

*16 RSSAC037
https://www.icann.org/en/system/files/files/rssac-037-15jun18-en.pdf
*17 IAB: Internet Architecture Board
https://www.iab.org/
*18 IETF: Internet Engineering Task Force
https://www.ietf.org/
*19 SSAC: Security and Stability Advisory Committee
https://www.icann.org/groups/ssac

2. Participation in IETF

The IETF was established in 1986 by the IAB to promote standardization of Internet technologies. There are a number of working groups (WGs) in the IETF that are developing standards in various technology areas. Discussions and other activities of the IETF are handled via its mailing lists. The IETF also holds meetings three times per year, and engineers gather from every region across the world to attend these meetings.

IETF 117

In 2023, IETF 116 was held in Yokoyama in March, IETF 117 in San Francisco, USA in July, and IETF 118 in Prague, Czech Republic in November.

JPRS is participating in the standardization activities in the IETF by suggesting solutions to the issues related to DNS operations and proposing standardization of the technologies employed by registries. The following reports on JPRS's activities in the IETF.

(1) dnsop WG

The name of the dnsop WG*1 derives from DNS Operations. The working group aims to compile a guideline for DNS operation in general, including administration of DNS servers and registration data.

JPRS has actively participated in the dnsop WG with its expertise as the JP DNS operator to point out the ambiguity in the DNS protocol, present the issues caused by misconfigurations of DNS servers and discuss the operational method of DNSSEC. Besides that, JPRS engineers co-authored RFC 4074, RFC 7719, RFC 8198 and RFC 8499, and these RFCs were issued thus far.

In 2023, discussions progressed on "draft-ietf-dnsop-avoid-fragmentation," a proposal co-authored by Kazunori Fujiwara of JPRS and Paul Vixie to avoid IP fragmentation in DNS. The document was submitted to the IESG*2 in October after several revisions. Subsequently, another update was made in December.

Deliberations also progressed on "draft-ietf-dnsop-rfc8499bis," a revision of RFC 8499 co-authored by Paul Hoffman of ICANN and Kazunori Fujiwara of JPRS. Following several amendments, the draft was approved for publication as a BCP RFC on September 26.

*1 dnsop WG: Domain Name System Operations Working Group
https://datatracker.ietf.org/wg/dnsop/

*2 IESG: Internet Engineering Steering Group
https://www.ietf.org/about/groups/iesg/

3. Participation in Registry Associations

(1) APTLD

APTLD*1 is an association composed of ccTLD registries mainly in the Asia Pacific (AP) region. JPRS has been a member of APTLD since 2002. As the JP registry, JPRS proposes improvements of APTLD activities, provides information and exchanges views at presentations and discussions so that the ccTLD community in the AP region can gain experience and expertise and raise the level of service standards. In addition, Yuri Takamatsu of JPRS has been serving a key role of APTLD as a member of the APTLD Board of Directors since 2022.

In the APTLD meetings held twice a year, the groups and the organizations related to the region introduced their activities and the participants explained what they were implementing and considering, such as the service of each ccTLD registry and efforts to improve the security of domain names, which led to active discussions.

In a session on capacity building within organizations at the APTLD meeting held in February 2023, Keisuke Mii of JPRS introduced its intra-company initiative to reinforce disaster response capacity by sharing operational knowledge and expertise. In a session sharing examples of and concerns about visually similar characters in various scripts, Hirofumi Hotta of JPRS shared examples in Japanese and the results of field research. At the September APTLD meeting, Fumihiko Yoneda of JPRS talked about the company's efforts and experiences in a session on how registries should engage with registrars to build and sustain relationships. In addition, Hirofumi Hotta and Yuri Takamatsu of JPRS each moderated a session and contributed to mutual understanding and discussion among the members.

(2) CENTR

CENTR*2 is an association consisting of ccTLD registries mainly in Europe. As an Associate member, JPRS shares information and exchanges opinions with other CENTR members. In addition, CENTR conducts surveys and information-sharing among members, so JPRS is actively taking part in these activities to consider its future services in the light of what it learns in CENTR.

In 2023, Keisuke Mii of JPRS gave a presentation at the Admin Workshop held in February and September and discussed JPRS's approach to handling disasters. Sumika Uchikawa of JPRS also shared JPRS's recent efforts at the Marketing Workshop.

*1 Asia Pacific Top Level Domain Association
https://www.aptld.org/

*2 CENTR: Council of European National Top Level Domain Registries
https://www.centr.org/

4. Other International Activities

(1) Participation in the Internet Governance Forum (IGF)

IGF*1 is an international conference organized under the auspices of the United Nations (UN) and has been held annually since 2006. IGF 2023 was held in Kyoto, Japan from October 8 to 12 in a hybrid format, allowing both in-person and online participation. Hirofumi Hotta and Yuri Takamatsu of JPRS participated in the conference, and JPRS ran a booth to showcase its activities as a ccTLD registry and a Root Server Operator.

Under the overarching theme of the "Internet We Want — Empowering All People," IGF 2023 featured approximately 300 sessions based on eight themes, including "AI & Emerging Technologies," "Cybersecurity, Cybercrime & Online Safety," "Data Governance & Trust," "Digital Divides & Inclusion," "Global Digital Governance & Cooperation," "Human Rights & Freedoms" and "Sustainability & Environment."

IGF 2023, hosted by the government of Japan, featured many sessions with a particular focus on AI, where participants actively discussed the challenges of AI and possible framework for international rulemaking. There were also several other sessions aimed at sharing information and raising awareness about the WSIS+20 review process which is coming up in 2025. Technical organizations, including ccTLD registries, have increased their participation in the IGF, indicating a growing recognition among them that they should also play an important role in Internet governance. It was announced that IGF 2024 would be held in Riyadh, Saudi Arabia.

JPRS will make good use of the information gained from the discussions in the IGF and will stimulate related discussions in Japan.

(2) Participation in AP* Retreat

AP* (APstar*2) Retreat is a meeting that is held twice a year in principle and gathers the Internet-related associations in the Asia Pacific region as well as the participants representing the organizations playing key roles in the Internet in each country and region. At the AP* Retreat meetings, the participants share the activities and concerns of each participating organization and discuss how the Asia Pacific community as a whole should address the issues related to the Internet.

In 2023, AP* Retreat was held in Manila, the Philippines in February and in Kyoto, Japan in September in a hybrid format with online and in-person participation. Hirofumi Hotta and Yuri Takamatsu of JPRS participated in both retreats, and Hotta co-chaired the September meeting.

*1 IGF: Internet Governance Forum
https://www.intgovforum.org/
*2 APstar: The Community of Asia Pacific Internet Organizations
https://www.apstar.org/

(3) Participation in Root DNS Server Operation

JPRS and the WIDE Project collaboratively operate the M-Root DNS server, one of the root DNS servers, for the purpose of ensuring the reliability and stability of DNS operations.

The 12 root DNS server operator organizations from around the world meet in conjunction with IETF meetings which are held three times a year, and JPRS has been participating in these meetings as one of the organizations in charge of the operation of the M-Root DNS server. At these meetings, attendees share information principally on the stability of server operations and topics related to the latest technology.

The M-Root DNS server has been expanding its deployment in the AP region with the cooperation of APNIC and APNIC Foundation since 2020. In 2023, the M-Root DNS server started operating in Kaohsiung (Taiwan), Jakarta (Indonesia), Ulaanbaatar (Mongolia), Hong Kong (China) and Phnom Penh (Cambodia).

Making good use of its experience as the .JP registry, JPRS has been contributing to the global and the AP regional Internet communities while also building on the JP Domain Name services with the knowledge it has gained in the operation of the root DNS server.

(4) Participation in DNS-OARC

DNS-OARC*3 is an international organization established in 2004 for the purpose of improving the stability and quality of DNS through various activities related to operation, analysis and study of DNS, the system widely used on the Internet. DNS-OARC conducts the annual DITL*4, which involves collecting and evaluating server packets of DNS including the root servers once a year for 50 hours.

In 2023, DNS-OARC held workshops in February and September, in which JPRS participated.

*3 DNS-OARC: The DNS Operations, Analysis, and Research Center
https://www.dns-oarc.net/

*4 DITL: Day In The Life of the Internet
https://www.dns-oarc.net/oarc/data/ditl

(5) Participation in W3C

W3C*5 is a non-profit organization founded in 1994 to develop a series of technical standards for the World Wide Web. JPRS participates in W3C and plays an active role in enhancing Web security and internationalization of identifiers.

(6) Activities in Academic Societies

JPRS continues to participate in academic societies through its study and research on DNS and other related areas of study. Takeshi Mitamura of JPRS sits on the Special Interest Group on Business Informatics within the Japanese Society of Artificial Intelligence as an expert member, while Kazunori Fujiwara serves as an expert member of the Technical Committee on Internet Architecture of EIC Communication Society.

*5 W3C: World Wide Web Consortium
https://www.w3.org/

01·4 Activities in Japan

(1) Participation in JANOG

JANOG*1 is the organization established to promote the smooth operation of networks through discussions and information-sharing among network operators to contribute to Internet users and engineers. The members discuss various issues on the mailing list and gather at JANOG Meetings held twice a year. JANOG also convenes Interim Meetings as necessary between regular JANOG meetings.

JANOG51 Meeting

In 2023, both JANOG meetings were held in a hybrid format accommodating in-person and online attendance. The JANOG51 Meeting was held in Fujiyoshida City, Yamanashi Prefecture in January and the JANOG52 Meeting in Nagasaki City, Nagasaki Prefecture in July.

JPRS participates in discussions on the mailing list as well as at the meetings of JANOG and continues to support the meetings as a sponsor. It also runs an exhibition booth at the meeting venue to distribute technical information materials about domain names, DNS and server certificates.

(2) Participation in DNSOPS.JP

DNS Operators Group, Japan (DNSOPS.JP)*2 was established in 2006 with the intention of contributing to the stable operation of the Internet through the administration of DNS. Yasuhiro Morishita of JPRS participated in the establishment as one of the founding members. DNSOPS.JP serves as a forum for DNS operators where they can exchange and share information and discuss related issues. Takayasu Matsuura, Kazuki Ikeda and Yuri Hirabayashi of JPRS serve as the secretariat of the Executive Committee that manages the organization of DNSOPS.JP.

DNSOPS.JP holds a BoF (Birds of a Feather) annually for technical presentations and discussions. It has also organized “DNS Summer Day,” in which participants share their efforts related to DNS and give lightning talks, every summer since 2012.

Yasuhiro Morishita of JPRS gave a presentation entitled “Technical Information Provided by JPRS (July 2022–June 2023)” at the DNS Summer Day 2023 held in a hybrid format in June 2023. He shared some of the technical advice, including information on DNS vulnerabilities, that JPRS had disseminated over the past year.

DNSOPS.JP has a volunteer Managed DNS Service Survey Team that has been active since 2020. The work of the team was also shared at the DNS Summer Day 2023.

*1 JANOG: JApan Network Operators’ Group
https://www.janog.gr.jp/en/html/

*2 DNSOPS.JP: DNS Operators Group, Japan
https://dnsops.jp/ (in Japanese)

(3) Participation in ICANN Readout Sessions

ICANN Readout Session is an event that has been organized jointly by JPNIC and IAjapan from 2001 to 2017 and by JPNIC from April 2017 onward. JPRS has been participating in the ICANN Readout Sessions and reporting to the Japanese community about the development of the ccNSO and other relevant topics.

In 2023, ICANN Readout Sessions were held in April, August and November. Yuri Takamatsu of JPRS gave an update on the ccNSO and related efforts, and Hirofumi Hotta as a Root Server Operator reported on the developments concerning the DNS Root Server System. Ayaka Horie also talked about her participation in APIGA*3.

(4) Participation in ISOC-JP

ISOC-JP*4 was established in August 1994 and has made various efforts to promote the Internet in Japan as the Japan Chapter of the Internet Society (ISOC*5).

ISOC-JP and JPNIC jointly organized two IETF Update Meetings in 2023. At the IETF 117 Update Meeting, Kazunori Fujiwara of JPRS reported on the developments of various WGs including dnsop WG over the past year and discussions in IETF 117.

(5) Participation in ICT-ISAC

ICT-ISAC*6 was established in 2016 to contribute to the formation of a secure society underpinned by information and communication technology (ICT). It has been working together with businesses and organizations from a wide range of fields related to ICT to keep the distribution and communication of information stable, thereby improving security countermeasures and achieving a higher level of responses. JPRS has been participating in ICT-ISAC as a member since 2017.

ICT-ISAC undertakes activities through various working groups consisting of its members. JPRS is taking part mainly in the Cyber Attack Defense Exercise WG (CAE-WG), Rapid Response to DoS Attacks WG (DoS-WG), Special Interest Group for DNS Operators (DNS-SiG) and Society of Network Abuse Response WG (SoNAR-WG) to contribute to enhancing the security related to ICT.

*3 APIGA: Asia Pacific Internet Governance Academy
https://community.icann.org/display/GSEAPAC/Asia+Pacific+Internet+Governance+Academy

*4 ISOC-JP: The Internet Society Japan Chapter
https://www.isoc.jp/

*5 ISOC: Internet Society
https://www.internetsociety.org/

*6 ICT-ISAC: ICT Information Sharing And Analysis Center Japan
https://www.ict-isac.jp/english/index.html

(6) Participation in the Rejuvenation Team of the National IGF in Japan

The Rejuvenation Team of the National IGF in Japan for IGF 2023 was formed in May 2021 to prepare for the Internet Governance Forum (IGF) to be held in Japan in 2023. The team met about once every three weeks to stimulate IGF activities in Japan through planning and organizing events and encouraging various Internet-related stakeholders to participate.

In 2023, the team held the IGF 2022 readout session in February, the "Japan Internet Governance Forum 2023" in September and the IGF 2023 readout session in December. Hirofumi Hotta and Yuri Takamatsu of JPRS actively participated in the planning of these events. In addition, Takamatsu shared her experience of participating in-person in IGF 2022 as a panelist at the February readout and moderated the "Japan Internet Governance Forum 2023" in September.

JPRS participates in event planning and discussions about team operations as well as post-IGF 2023 initiatives on the team's mailing list and at every meeting.

(7) Participation in the Council of Anti-Phishing Japan

The Council of Anti-Phishing Japan*7 is a council tasked mainly with collecting and providing information on phishing and issuing alerts. Atsushi Endo of JPRS has been contributing to the overall operation of the Council as a member of its steering committee since 2020.

The Council has published the "Anti-Phishing Guidelines" for service providers and consumers. It also has a working group (Technology and Legal System WG) to consider refining the guidelines every year, taking into consideration the current threats. Atsushi Endo and Toshihiro Sasaki of JPRS took part in the working group as members for drawing up the 2023 edition of the guidelines*8 and engaged in the awareness campaign and educational activities about domain name abuse.

In addition, Kazumitsu Shiraiwa of JPRS has been on the working group charged with sharing information about phishing scams and discussing collaboration between organizations (Hazard Info WG). Moreover, Hayato Machida of JPRS participated in the working group for promoting knowledge about server certificates (Certificate Promotion WG).

*7 Council of Anti-Phishing Japan
https://www.antiphishing.jp/ (in Japanese)

*8 Anti-Phishing Guidelines (released in June 2023, in Japanese)
https://www.antiphishing.jp/report/guideline/antiphishing_guideline2023.html

(8) Participation in Telecom Services Association

Telecom Services Association*9 was founded for the purpose of promoting the sound evolution of information and telecommunication businesses in the competitive market, thereby contributing to the development of the industry as a whole and enhancing the benefits to citizens as well as public welfare.

The Service Ethics Committee within the Telecom Services Association is tasked with addressing ethics and other related issues in network services. It works on improving the Internet use environment by exchanging opinions and information on the laws and regulations related to network services and the challenges facing providers. In 2023, Takaharu Ui of JPRS participated as a member of the committee in discussions on various issues, including the response to the amendments to the Provider Liability Limitation Act.

(9) Participation in KEIDANREN (Japan Business Federation)

The Committee on Digital Economy of KEIDANREN (Japan Business Federation)*10 is the body tasked with deliberating and making policy proposals about issues such as promoting the use of personal data and measures to ensure the free flow of data across national borders. In 2023, Hirofumi Hotta of JPRS took part in wide-ranging discussions in the Planning Subcommittee within the Committee on the Digital Economy.

*9 Telecom Services Association
https://www.telesa.or.jp/en
*10 KEIDANREN (Japan Business Federation)
https://www.keidanren.or.jp/en/

01·5 Overview of this Term's Activities and Challenges for the Future

JPRS has constantly worked to strike a proper balance among reliability, stability, usability and fee performance, which constitute the basis of JP domain name registry services and JP DNS operation, while also improving each of the four values.

In an effort to improve the reliability and usability of the JP domain name services, JPRS made AuthCode, originally introduced in 2022, mandatory in 2023 to ensure that JP Registrar change requests do not occur without the intention of the registrant.

JPRS also continued to tap into its expertise as the .JP registry to disseminate information related to domain names and DNS and to promote understanding of industry trends at domestic and international events and meetings. Furthermore, in keeping with its goal of contributing to the development of the Internet as a whole, JPRS made progress in expanding the M-Root DNS server instances through the partnership with the WIDE Project and APNIC and continued to establish international cooperative relationships.

The year 2023 continued to witness many challenges threatening the stable operation of the Internet, such as vulnerabilities in DNS software. JPRS has responded to these problems through its information provision activities, including security alerts and educational programs.

As part of its Internet-related educational support activities, JPRS continued to distribute a free booklet on how the Internet works to educational institutions across Japan. It also visited an elementary school and a junior high school to give classes using its information education website and distributed a free poster and desk pad to educational institutions nationwide to help students enjoy learning about ccTLDs. JPRS continued to offer free domain names in the web production contest for junior high and high school students. In addition, it conducted a DNS course and hands-on training at multiple universities to promote understanding of and interest in domain names and DNS.

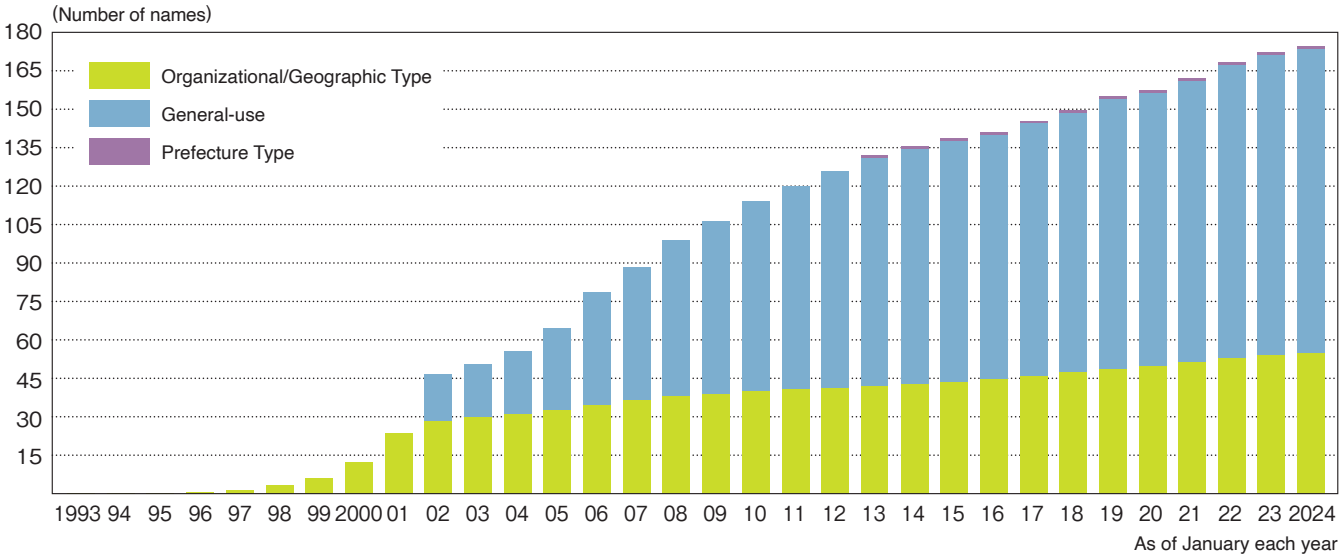
With the ongoing digital transformation of society, JPRS will strive to create an environment in which people can use the Internet with more confidence. Toward that end, it will continue to work with relevant organizations and the JP Registrars to disseminate technical information and issue security alerts, while addressing vulnerabilities in the entire DNS and responding to new threats.

The expanding use of the Internet and changes in corporate and social activities have led to ever-increasing societal demands for the stability of communications infrastructure. Recognizing this, JPRS is committed to ensuring service continuity and enhancing the stability and reliability of its own DNS and registry system. It will therefore actively upgrade its equipment and organizational structure for greater monitoring, security, fault tolerance and anti-attack capabilities. JPRS will also conduct drills for various contingencies and strengthen system stability to speed up service restoration and improve reliability.

As the JP registry, JPRS will continue its efforts to provide better and stable services.

02·1 Change in the Number of Registered JP Domain Names

As of January 1, 2024, the number of registered JP domain names reached 1,756,107, an increase of 34,970 in one year.



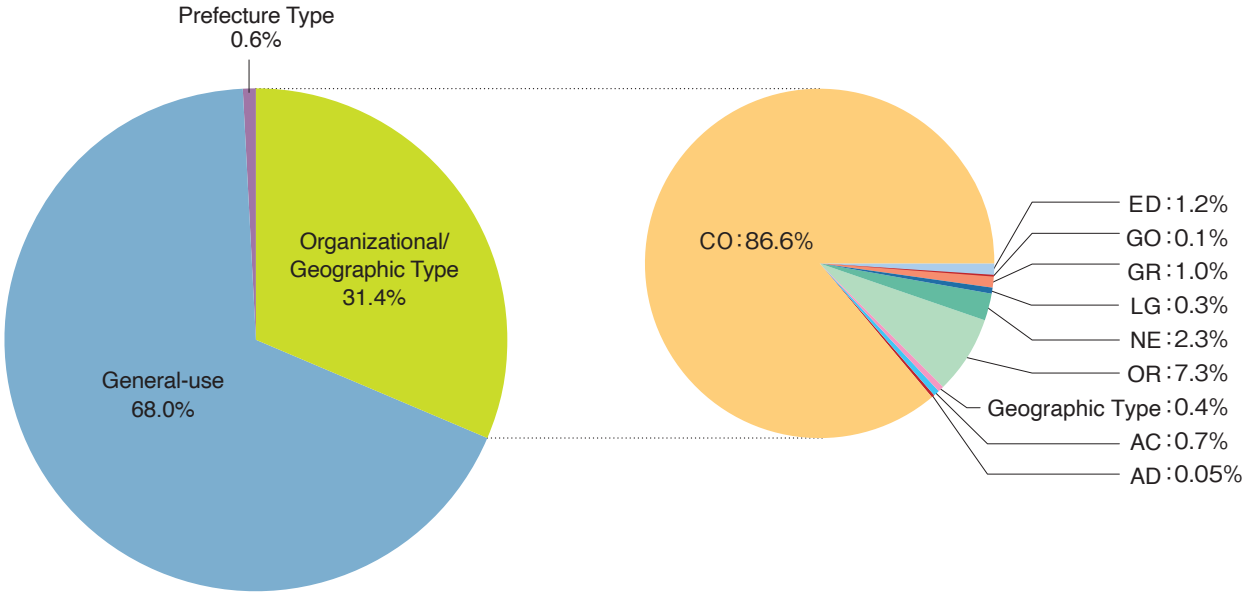
(Number of names)

Month/Year	Organizational/ Geographic Type	General-use (Japanese domain name)	Prefecture Type (Japanese domain name)	Total
1993/1	953	———	———	953
1994/1	1,341	———	———	1,341
1995/1	2,206	———	———	2,206
1996/1	4,781	———	———	4,781
1997/1	15,477	———	———	15,477
1998/1	33,739	———	———	33,739
1999/1	58,549	———	———	58,549
2000/1	124,573	———	———	124,573
2001/1	234,294	———	———	234,294
2002/1	283,340	183,499 (61,507)	———	466,839
2003/1	297,413	205,493 (51,544)	———	502,906
2004/1	309,193	245,100 (45,402)	———	554,293
2005/1	327,742	317,455 (63,324)	———	645,197
2006/1	346,340	439,784 (116,602)	———	786,124
2007/1	363,768	518,557 (124,153)	———	882,325
2008/1	378,903	609,983 (141,858)	———	988,886
2009/1	389,598	674,133 (134,921)	———	1,063,731
2010/1	399,339	740,820 (133,754)	———	1,140,159
2011/1	406,856	791,249 (123,711)	———	1,198,105
2012/1	413,332	845,054 (119,337)	———	1,258,386
2013/1	421,606	888,657 (122,394)	8,452 (1,915)	1,318,715
2014/1	428,467	915,854 (126,182)	11,781 (2,948)	1,356,102
2015/1	435,390	940,427 (120,801)	11,684 (3,117)	1,387,501
2016/1	446,004	953,041 (113,521)	11,202 (2,612)	1,410,247
2017/1	458,947	984,270 (114,130)	11,419 (2,524)	1,454,636
2018/1	472,906	1,010,615 (107,363)	11,956 (2,524)	1,495,477
2019/1	486,956	1,052,832 (99,869)	11,569 (1,953)	1,551,357
2020/1	499,366	1,065,561 (95,123)	11,480 (1,829)	1,576,407
2021/1	513,038	1,095,928 (90,494)	11,237 (1,612)	1,620,203
2022/1	529,032	1,139,718 (87,921)	11,923 (1,733)	1,680,673
2023/1	541,212	1,169,261 (85,536)	10,664 (1,400)	1,721,137
2024/1	551,058	1,194,633 (83,335)	10,416 (1,327)	1,756,107

*Please refer to “Statistics” (https://jprs.co.jp/en/stat/) for the latest information.

02·2 Breakdown of JP Domain Name Registrations by Name Space

*As of January 1, 2024



(Number of names)

JP Domain Name Types		1 Jan 2024 Number of Registrations	1 Jan 2023 Number of Registrations	Difference
Organizational/ Geographic Type	AC: Higher education institution	3,837	3,816	+21
	AD: JPNIC Member	251	251	+0
	CO: Company	477,259	467,842	+9,417
	ED: Primary school, junior and senior high school	6,457	6,348	+109
	GO: Japanese government	805	773	+32
	GR: Group	5,327	5,543	−216
	LG: Japanese local authority	1,908	1,898	+10
	NE: Network service	12,731	12,839	−108
	OR: Corporation other than company	40,423	39,811	+612
	Geographic Type	2,060	2,091	−31
General-use (Japanese domain name)		1,194,633 (83,335)	1,169,261 (85,536)	+25,372 (−2,201)
Prefecture Type (Japanese domain name)		10,416 (1,327)	10,664 (1,400)	−248 (−73)
Total JP Domain Name Registration		1,756,107	1,721,137	+34,970

*Please refer to “Statistics” (https://jprs.co.jp/en/stat/) for the latest information.

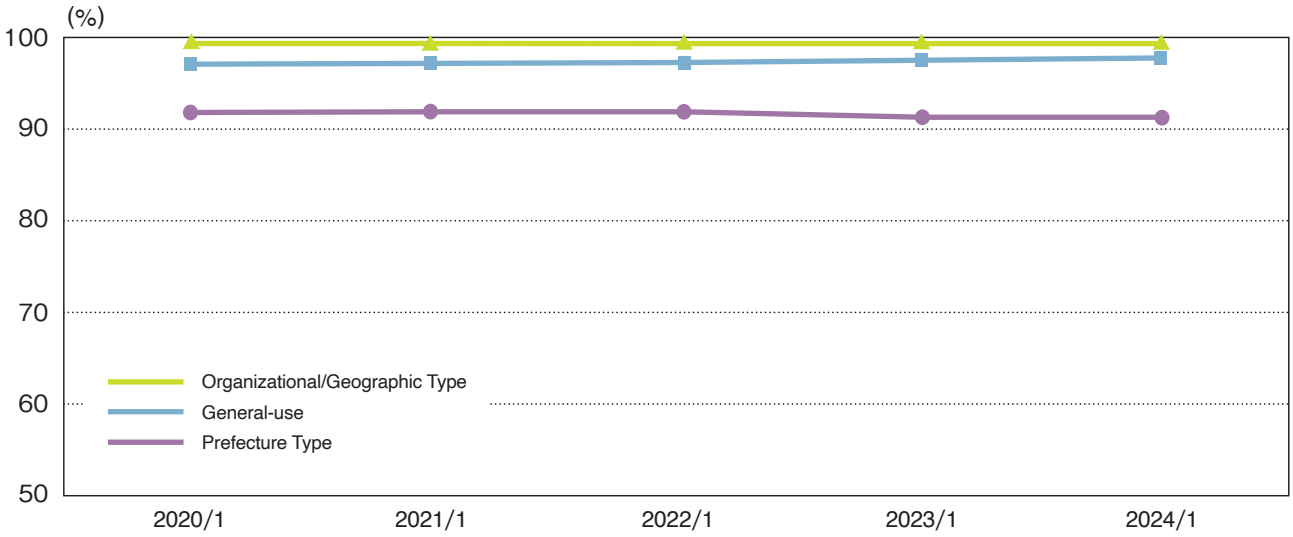
02·3 Number of JP Domain Name Registrations by Prefecture

*As of January 1, 2024

Prefecture	Organizational/ Geographic Type	General-use	Prefecture Type
Hokkaido	2.8%	2.1%	2.7%
Aomori	0.5%	0.3%	0.6%
Iwate	0.4%	0.3%	0.6%
Miyagi	1.3%	0.8%	0.8%
Akita	0.4%	0.3%	0.6%
Yamagata	0.6%	0.3%	0.4%
Fukushima	0.9%	0.5%	0.5%
Ibaraki	1.4%	1.0%	0.7%
Tochigi	1.0%	0.6%	0.8%
Gunma	1.1%	0.7%	2.2%
Saitama	4.4%	2.8%	2.7%
Chiba	3.3%	2.3%	2.5%
Tokyo	32.4%	42.2%	35.5%
Kanagawa	6.6%	4.9%	3.5%
Niigata	1.1%	0.7%	0.9%
Toyama	0.6%	0.4%	0.6%
Ishikawa	0.7%	0.6%	0.6%
Fukui	0.5%	0.4%	0.4%
Yamanashi	0.5%	0.4%	0.4%
Nagano	1.3%	0.9%	1.4%
Gifu	1.1%	0.7%	1.2%
Shizuoka	2.1%	1.5%	1.4%
Aichi	5.4%	3.7%	2.6%
Mie	0.8%	0.5%	1.2%
Shiga	0.7%	0.5%	1.2%
Kyoto	2.0%	2.4%	6.5%
Osaka	9.4%	15.1%	9.5%
Hyogo	3.1%	2.3%	1.7%
Nara	0.6%	0.7%	1.5%
Wakayama	0.4%	0.4%	0.5%
Tottori	0.2%	0.2%	0.4%
Shimane	0.3%	0.3%	0.3%
Okayama	1.1%	0.7%	0.9%
Hiroshima	1.6%	1.0%	1.2%
Yamaguchi	0.6%	0.4%	0.2%
Tokushima	0.3%	0.3%	0.3%
Kagawa	0.5%	0.3%	0.5%
Ehime	0.6%	0.4%	0.7%
Kochi	0.3%	0.2%	0.4%
Fukuoka	3.3%	2.7%	3.4%
Saga	0.3%	0.2%	0.5%
Nagasaki	0.5%	0.4%	0.7%
Kumamoto	0.8%	0.6%	0.9%
Oita	0.5%	0.4%	0.9%
Miyazaki	0.4%	0.3%	0.5%
Kagoshima	0.6%	0.4%	0.7%
Okinawa	0.7%	0.7%	1.8%

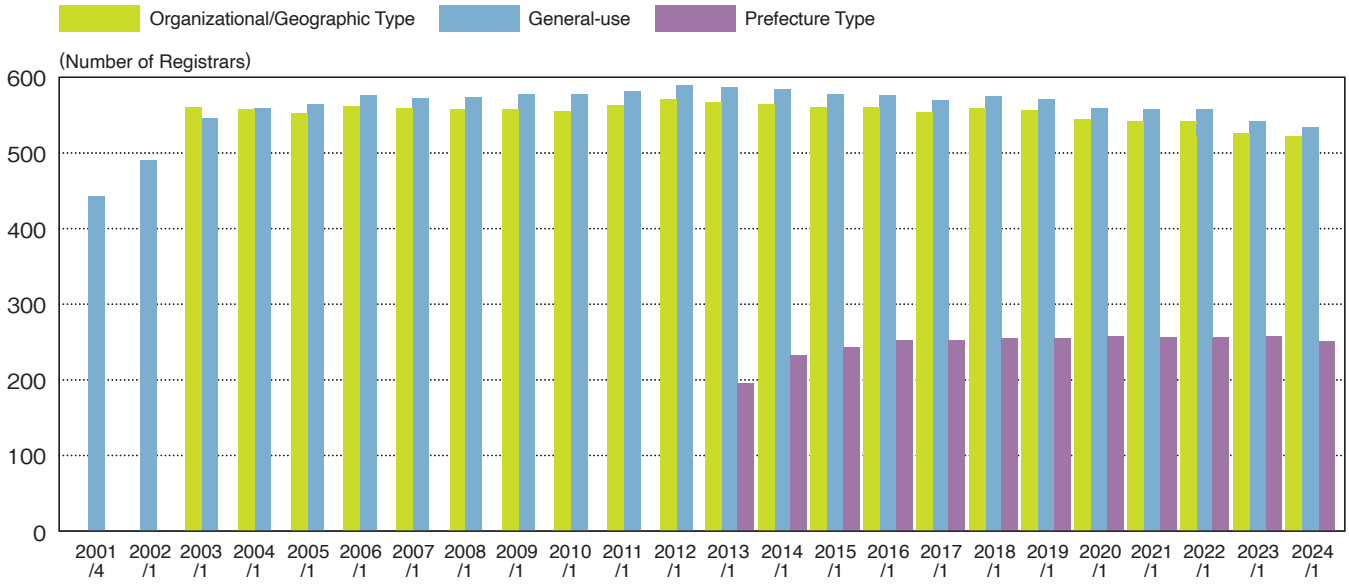
02·4 Transition of DNS Configuration Rate

*As of January 1, 2024



Month/Year	Organizational/Geographic Type	General-use	Prefecture Type
2020/1	99.4%	97.1%	91.8%
2021/1	99.4%	97.2%	91.9%
2022/1	99.5%	97.3%	91.9%
2023/1	99.5%	97.5%	91.1%
2024/1	99.5%	97.6%	91.1%

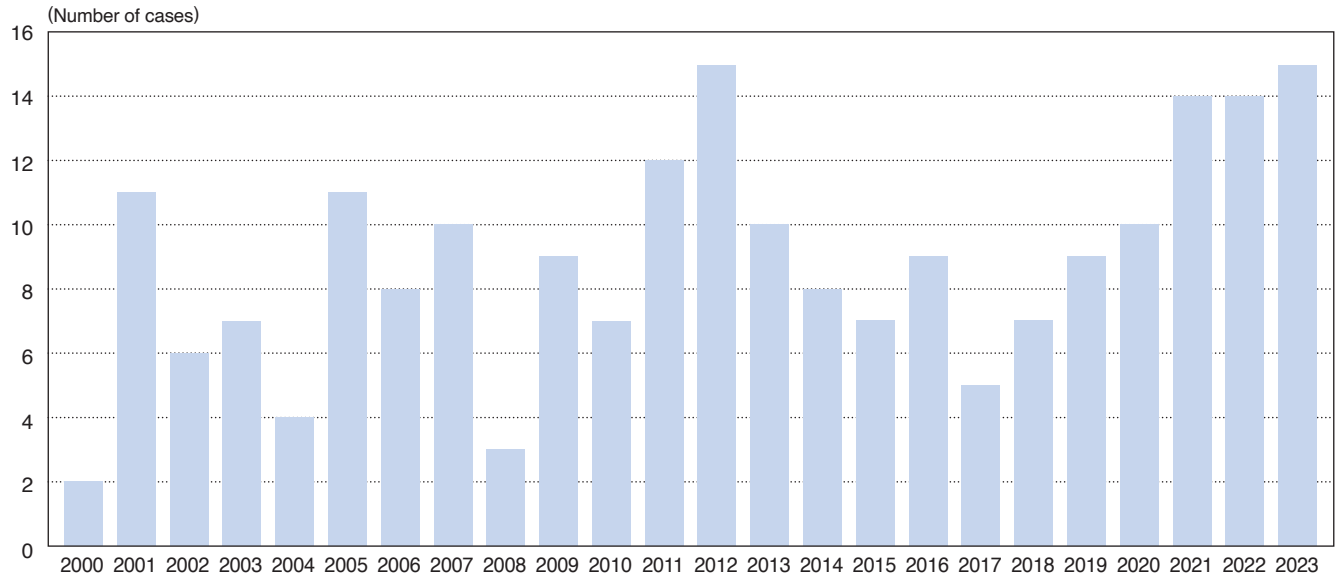
02·5 Number of Accredited JP Registrars



Month/Year	Organizational/ Geographic Type	General-use	Prefecture Type	Cumulative Total
2001/4	———	443	———	443
2002/1	———	490	———	490
2003/1	560	546	———	1,106
2004/1	557	559	———	1,116
2005/1	553	564	———	1,117
2006/1	562	576	———	1,138
2007/1	559	572	———	1,131
2008/1	557	573	———	1,130
2009/1	558	577	———	1,135
2010/1	555	577	———	1,132
2011/1	563	582	———	1,145
2012/1	571	590	———	1,161
2013/1	566	586	197	1,349
2014/1	564	582	227	1,373
2015/1	560	577	241	1,378
2016/1	560	576	252	1,388
2017/1	554	569	252	1,375
2018/1	559	574	255	1,388
2019/1	556	571	254	1,381
2020/1	544	559	257	1,360
2021/1	542	559	256	1,357
2022/1	522	538	254	1,314
2023/1	526	541	257	1,324
2024/1	522	534	250	1,306

*The number of JP Registrars for the Organizational/Geographic Type JP domain names is the figure after April 2002 when management and administration was transferred from JPNIC to JPRS.

02·6 Number of Complaints Based on JP Domain Name Dispute Resolution Policy (JP-DRP)



(Number of cases)

Year	Number
2000	2
2001	11
2002	6
2003	7
2004	4
2005	11
2006	8
2007	10
2008	3
2009	9
2010	7
2011	12
2012	15
2013	10
2014	8
2015	7
2016	9
2017	5
2018	7
2019	9
2020	10
2021	14
2022	14
2023	15

*For details of domain name disputes, please refer to the “Domain Name Dispute Resolution Policy (DRP)” posted by Japan Network Information Center (https://www.nic.ad.jp/en/drp/).

03·1 History

2000	Dec.	JPRS was established.
2001	Feb.	General-use JP Domain Priority Registration Application started.
	Apr.	General-use JP Domain Concurrent Registration Application started.
	May	General-use JP Domain First-Come First-Served Registration Application started.
2002	Feb.	ccTLD Sponsorship Agreement was concluded with ICANN.
	Apr.	Management and administration of .JP TLD was transferred from JPNIC to JPRS.
	Oct.	LG.JP was established.
2003	Jan.	The number of registered JP domain names surpassed 500,000.
	Jun.	JPRS received the approval from ICANN to start IDN service.
	Jul.	RFC-based Japanese JP Domain Name registration service started.
2004	Feb.	IP Anycast technology was introduced in JP DNS service ([a.dns.jp] [d.dns.jp]).
	Jul.	JP domain name started full support for IPv6, for the first time in the world as a TLD.
2005	Dec.	“Eki Machi Guide” (https://駅街ガイド.jp/), which provides information on areas around stations using Japanese JP domain names consisting of station names throughout Japan, started. JPRS started operation of the M-Root DNS server in cooperation with the WIDE Project.
2006	Jan.	JPRS started deleting improper DNS server registrations.
	Apr.	JPRS shortened the processing time for JP DNS update.
	Nov.	The number of registered General-use JP domain names surpassed 500,000.
	Dec.	JPRS published guidelines for making URLs consisting of Japanese domain names clickable in email text.
2007	Mar.	“Procedure for recovering deleted domain name registration” was introduced for General-use JP Domain Name.
	Dec.	IP Anycast technology was introduced to the JP DNS service ([e.dns.jp]).
2008	Mar.	The number of registered JP domain names surpassed 1 million.
	Jun.	JPRS started the real-time application process service for CO.JP Domain Name.
	Oct.	The JP DNS server configuration was changed (c.dns.jp and g.dns.jp added).
2009	Apr.	JPRS announced its participation in the “BIND 10” development project.
	Nov.	JPRS extended the coverage of the real-time application process service.
2010	May	JPRS started distributing a graphical comic-style booklet “How the Internet Works” free of charge to junior and senior high schools across Japan.
2011	Jan.	JPRS deployed DNSSEC to the JP domain name service.
	Feb.	JPRS started providing “gTLD Registration Services.”
	May	JPRS published “DNS Practices,” a book on DNS, written by JPRS engineers.
2012	Jul.	Priority Registration Application of the Prefecture Type JP Domain Name started.
	Sep.	Concurrent Registration Application of the Prefecture Type JP Domain Name started.
	Nov.	General Registration Application of the Prefecture Type JP Domain Name started.
2013	Nov.	The TTL value of the DS RR for JP DNS servers was changed.
2014	Nov.	JPRS introduced Japanese characters into the Prefecture Labels of the Prefecture Type JP Domain Name.
2015	Jun.	JPRS signed an MoU with ICANN and JPNIC on Japanese translation of ICANN materials.
2016	Apr.	JPRS Started Digital Certificates Issuance Services.
	Jun.	JPRS submitted a notification of its telecommunications business in response to the enactment of the partial amendment to the Telecommunications Business Law.
2017	Sep.	The number of registered General-use JP domain names surpassed 1 million.
	Oct.	JPRS started accepting Concurrent Registration Applications for Japanese JP domain names representing school names. JPRS published the report of joint research with 8 ISPs of the electric power corporation group on continued use of the Internet in case of a large-scale disaster.
2018	Feb.	The number of registered JP domain names surpassed 1.5 million.
	Nov.	“Textbook to understand DNS well,” a practical guide to DNS authored by JPRS engineers, was published.
2019	Sep.	JPRS acquired ISO 27001 certification (for the domain registry business).
2020	Jan.	JPRS attained full compliance with the WebTrust criteria that ensure the reliability of Certificate Authorities.
	Aug.	JPRS, the WIDE Project and APNIC agreed to establish a new cooperative relationship for the deployment of M-Root instances.
2021	Jul.	JPRS, HOTnet and QTnet commenced operation of the local nodes for the JP DNS servers.
2022	Jun.	The number of registered JP domain names surpassed 1.7 million.
2023	Nov.	JPRS completed introducing AuthCode (code for the JP Registrar change process) to JP Domain Name services.

03·2 JP Domain Name Advisory Committee

The JP Domain Name Advisory Committee was established in 2002 to maintain fairness and neutrality of the .JP registry operations. The committee members from outside of JPRS with various viewpoints consider policies for JP domain name services.
JP Domain Name Advisory Committee meetings are open to the public, and the minutes and documents are publicly accessible on the JPRS website.

(1) Advisory Committee Meeting

Jul. 20 **74th JP Domain Name Advisory Committee**

It was reported that the JPRS Board of Directors had appointed all the nominees in accordance with the advisory report, “Method for Appointing the Members of the 12th JP Domain Name Advisory Committee” (JPRS-ADVRPT-2022001) as well as the recommendation. It was also informed that the appointees had assumed their positions in the 12th JP Domain Name Advisory Committee. Shinichi Urakawa was elected and appointed as Chair, and Hironao Kaneko as Vice Chair, of the committee.

JPRS outlined the status of .JP and JPRS’s recent activities. The committee then held a question-and-answer session and exchanged opinions.

Chairperson Urakawa gave a presentation on generative AI and the reliability of information on the Internet, which was followed by an exchange of views on the subject.

(2) Consultations and Advisories

Consultation/Advisory	Consultation Date Document No.	Advisory Date Document No.
Method for appointing members of the 12th JP Domain Name Advisory Committee	Dec. 22, 2022 JPRS-ADV-2022001	Jan. 6, 2023 JPRS-ADVRPT-2022001

03·3 Proposals and Presentations

Date	Title	At	Hosted by
Feb. 8	Tour de Table	56th CENTR Administrative Workshop	CENTR
Feb. 11	DNS Terminology Requiring Special Attention	SECCON 2022 Cyber Conference	SECCON Executive Committee
Feb. 21	Nine Open Leadership Positions in ICANN	APTLD 83	APTLD
Feb. 22	Confusing String Similarity from the aspect of Japanese Scripts	APTLD 83	APTLD
Feb. 22	Registry Systems and Admin. Offices in Two Separated Locations	APTLD 83	APTLD
Feb. 26	M-Root DNS Deployment with APNIC Foundation's Support	AP*Retreat	AP*
Feb. 26	Nine Open Leadership Positions in ICANN	AP*Retreat	AP*
Mar. 9	Considerations in Deleting a Domain Name	Technology and Legal System WG Debriefing Meeting, Council of Anti-Phishing Japan	Council of Anti-Phishing Japan
Mar. 9	IETF DNS-related WGs	WIDE 2023 Spring Camp Meeting	WIDE Project
Mar. 13	Cyberattacks against DNS and Countermeasures (Theory)	Internet Week Basic On Demand	JPNIC
Mar. 13	Cyberattacks against DNS and Countermeasures (Practice)	Internet Week Basic On Demand	JPNIC
Apr. 12	Update of ccNSO at ICANN76	66th ICANN Readout Session	JPNIC
May 15	M-Root DNS Update: After 6 months deployment	BKNIX Peering Forum 2023	BKNIX
May 18	Cyberattacks against DNS and Countermeasures: Overview	44th Lecture Session, Cyber Defense Study Group	Cyber Defense Study Group
Jun.14-16	“Names” Are Important on the Internet, Too:Basics of Domain Names and DNS	Interop Tokyo 2023	Interop Tokyo 2023 Steering Committee
Jun.14-16	Secure Your Internet Communications:Basics of HTTPS and Server Certificates	Interop Tokyo 2023	Interop Tokyo 2023 Steering Committee
Jun.14-16	Impact of Attacks on Authoritative DNS Servers and Keys to Increasing their Availability	Interop Tokyo 2023	Interop Tokyo 2023 Steering Committee
Jun. 23	Background to b.root-servers.net's IP Address Change and the Response Required of DNS Operators: A 4-Minute Summary	DNS Summer Day 2023	DNS Operators Group, Japan
Jun. 27	Latency Analysis of JP and Root DNS Servers from Packet Capture Data	COMPSAC 2023 Symposium on Networks, Communications, Internet & Web Technologies	IEEE Computer Society
Jul. 5	DNS Industry Outlook - .jp ccTLD -	APAC DNS Forum	ICANN & HKIRC
Jun.5-7	Background to b.root-servers.net's IP Address Change and the Response Required of DNS Operators: A 4-Minute Summary	JANOG52 Meeting	JANOG
Jul. 21	Looking Back at DNS’s Weaknesses and Looking Ahead to Its Future: Lunch with DNS	Internet Week Showcase in Sapporo	JPNIC
Aug. 1	Update of ccNSO at ICANN77	67th ICANN Readout Session	JPNIC
Aug. 28	Latest Developments on DNS	IETF117 Update Meeting	ISOC-JP/JPNIC
Sep. 7	Relearn the Basics of How DNS Works in 90 Minutes	Internet Operations 101, APNIC 56 Tutorial	APNIC
Sep. 28	Tour de Table	57th CENTR Administrative Workshop	CENTR
Sep. 28	Business Continuity Preparations	57th CENTR Administrative Workshop	CENTR
Oct. 24	WSIS+20 A ccTLD Perspective (.JP)	ICANN78	ICANN
Oct. 24	Internationalized Domain Name (IDN) Implementation Roundtable	ICANN78	ICANN
Nov. 21	DNS Update: Domain Name Overview	Internet Week 2023 DNSDAY	JPNIC

Date	Title	At	Hosted by
Nov. 21	IETF/RFC Update	Internet Week 2023 DNSDAY	JPNIC
Nov. 21	Revisiting Glue Records: Lunch with DNS	Internet Week 2023 Lunchtime Seminar	JPNIC
Nov. 30	Update on Root DNS Server System	68th ICANN Readout Session	JPNIC
Nov. 30	Update of ccNSO at ICANN8	68th ICANN Readout Session	JPNIC
Dec. 26	My Approach to Technical Documentation	DevRel Gathering #2	DevRel Community

03·4 Press Releases

Date	Title
Feb. 20	JPRS Supports “25th Japan Junior/Senior High School Web Contest” to Provide Experience of Using JP Domain Names (in Japanese)
Mar. 29	JPRS Publishes “JP Domain Name Registry Report 2022” (in Japanese)
May 15	JPRS Distributes Free Graphic Comic-style Booklet on Domain Names and DNS to Educational Institutions across Japan (in Japanese)
Dec. 12	JPRS Starts Distributing Poster to Acquire Internet Literacy and Desk Pad to Learn about ccTLDs Free of Charge to Educational Institutions across Japan (in Japanese)

*Please refer to “Press Release” (https://jprs.co.jp/en/press/) for the latest releases in English.

03·5 Provision of Technical Information Related to DNS

As the company supporting the basis of the Internet society through DNS and striving to ensure stable operation of the Internet, JPRS publishes technical information related to DNS such as warnings on the detection of DNS software vulnerabilities and other relevant alerts.

*Original materials are written in Japanese.

Date	Title
Jan. 25	Vulnerability Information on PowerDNS Recursor Posted (CVE-2023-22617)
Jan. 26	(Urgent) Vulnerability of BIND 9.x (DNS Service Outage) (CVE-2022-3924)
Jan. 26	(Urgent) Vulnerability of BIND 9.x (DNS Service Outage) (CVE-2022-3736)
Jan. 26	(Urgent) Vulnerability of BIND 9.x (Causing Memory Shortage) (CVE-2022-3094)
Feb. 3	Vulnerability Information on Knot Resolver Posted
Mar. 17	Vulnerability Information on Windows DNS Server Posted (CVE-2023-23400)
Apr. 3	Vulnerability Information on PowerDNS Recursor Posted (CVE-2023-26437)
Apr. 14	Vulnerability Information on Windows DNS Posted (10 CVE Records including CVE-2023-28223)
Jun. 16	Vulnerability Information on Windows DNS Posted (CVE-2023-32020)
Jun. 22	(Urgent) Vulnerability of BIND 9.x (Causing Memory Shortage) (CVE-2023-2828): Upgrading Is Highly Recommended
Jun. 22	(Urgent) Vulnerability of BIND 9.x (DNS Service Outage) (CVE-2023-2911): Upgrading Is Highly Recommended
Jul. 14	Vulnerability Information on Windows DNS Server Posted (4 CVE Records including CVE-2023-35310)
Aug. 25	Vulnerability Information on Knot Resolver Posted
Sep. 21	(Urgent) Vulnerability of BIND 9.18.x (DNS Service Outage) (CVE-2023-4236): for 9.18.0 through 9.18.18 and 9.18.11-S1 through 9.18.18-S1; Upgrading Is Highly Recommended
Sep. 21	(Urgent) Vulnerability of BIND 9.x (DNS Service Outage) (CVE-2023-3341): Upgrading Is Highly Recommended
Nov. 28	Configuration Change in Response to the IP Address Change for b.root-servers.net (B-Root)
Dec. 15	Vulnerability Information on Windows DNS Posted (CVE-2023-35622)

*For the latest information, please refer to the “Technical Information Related to DNS” (https://jprs.jp/tech/) (in Japanese).

About JPRS

JPRS provides domain name services such as domain name management, administration and distribution, and also performs domain name system (DNS) operations. In addition, JPRS is engaged in research and development of various Internet technologies.

Domain Name Management and Administration

JPRS manages and administers domain names. In particular, JPRS plays an important role as the registry of JP Domain Name, or domain names of Japan. You may have seen addresses for websites and emails such as “https://○○○.jp” and “△△△@○○○.jp.” JPRS manages and administers a part of these addresses, namely, strings in the form of “○○○.jp.” Domain names are the key to accessing the Internet. JPRS is constantly improving its services so that JP domain names will continue to assist the activities of all kinds of Internet users, including companies, organizations, and individuals.

DNS Operation

DNS (domain name system) is a system for identifying computers connected to the Internet using domain names, so it is sometimes referred to as the “phone book for the Internet.”
If DNS were to fail, people would not be able to access websites or exchange emails using domain names. To prevent such a catastrophe, JPRS has established a 24/7 system to ensure stable operation of the “JP DNS” for managing JP domain names.

R&D of Internet Technologies and International Activities to Support the Internet

JPRS takes an active part in the research and development of advanced technologies to promptly respond to changes in the Internet environment and social needs. Specifically, JPRS engages in internationalization of the identifiers used in protocols, devises methods for resolving issues concerning DNS operations and submits proposals to standardize registry technologies. JPRS actively publishes the results of these activities and shares information at IETF and other meetings to contribute to the network society.

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https://jprs.co.jp/en/