



GLOBAL REPORT

BENIN DNS FORUM 2017

3rd Edition

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GLOBAL REPORT

BENIN DNS FORUM 2017

3rd Edition

- Woman DNS Academy Program
- Seminar with the public sector and the private sector on the DNS and its challenges
- Study on the quality of the DNS service in Benin
- DNSathon (Collaborative Hackathon on the DNS)
- Public Communications Forum Workshops-Demos and Tutorials

FROM NOVEMBER 21 TO 25, 2017
COTONOU - BENIN



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The organizing committee of Benin DNS Forum 2017 sends its sincere thanks:

- to the Minister of Digital Economy and Communication (MENC);
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- Gold partner Sud Telecom Solutions;
- silvers partners;
- partner sponsors;
- to all national and international stakeholders;
- to all participants;
- and to all those who have contributed in some way to the realization of the different activities of the BDF 2017.

Your support, commitment and involvement reflect all the interest you give to the question of the internet in Benin and we are very pleased to know that the cause is shared and supported by many.

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FOREWORD

The Domain Name System (DNS) has gradually been established over the years as the heart of the Internet, in terms of its use by the general public. It is based on addressing of the Internet through its IP numbers (IPv4 and IPv6) to allow name resolution. This is the lever on which users rely to easily identify and access online resources.

This crucial role that the DNS plays as well as several other critical resources in the way the Internet currently works stress the urge to give importance to its governance.

This is one of the reasons that inspired the community of different countries to implement frameworks for exchanging and sharing experiences on issues related to technical, economic and political aspects of open Internet technologies.

The criticality of the Internet and that of its DNS Infrastructure raises a number of problematic in terms of their organizational, governance and security aspects.

Benin is today developing a true digital ecosystem that builds considerably on the Internet. It stands as an epicenter of the digital economy across different stakeholders's programs (Government, Private Sector, Community) all by working on the development of the Internet in different areas of activity. The exponential boom in recent years of the Internet and the digital technologies allows for more and more ownership of remarkable digital habits at the population level and especially among professionals. This leads to the development of Internet access infrastructures, and an increasing demand for resilience and quality of service. The ecosystem of technical actors (Telecom Operators, Internet Service Providers, Service Providers) is growing.

The DNS and all the critical resources of the Internet being the base of the good functioning global internet, the enlargement of the circle of technical actors demonstrates the opportunity to mobilize the public sector and the private sector around the same crucible to better enable the discussions, while allowing a global understanding of how the Internet works.

This is what motivated the introduction of new items for the 2017 edition of Benin DNS Forum such as the Public Sector-Private Sector Seminar and the DNSathon (Collaborative Hackathon on the DNS).

The evolution of Internet-related content is creating a need among end-users of the Internet for a better quality of the Internet service. This requirement is also necessary for the development of a country's digital economy which also requires the latter because quality of Internet service has a major impact on the attractiveness of digital services and the development of digital economy in several sectors of activity. This motivated, as part of this edition 2017, the completion of a study on the quality of the DNS service in Benin.

The BENIN DNS Forum in accordance with local needs, tries to provide more accurate and relevant answers to the development and resilience of the Internet by strengthening it via promoting dialogue between stakeholders and sharing best practices.



BENIN DNS FORUM

What is it?

The BENIN DNS Forum is the major meeting on Internet issues and especially the DNS and the critical resources of the Internet in Benin. It's an annual organized event based on several activities. All the items that make up the quintessence of this forum are primarily focused on the economy and governance around the DNS, the critical resources of the Internet, domain names, DNSSEC and DANE, Internet security as well as IP resources involved in the construction and operation of the Internet in Benin.

For three (03) years, non-profit support organizations have joined forces to contribute to the organization of each edition.

After two (02) successful editions settled by the internet community in Benin and in the region of France, this project is designed to meet the needs of farmers and businessmen.

New elements are now adapted to the expectations of the technical and economic community, as well as of the public sector actors.

This third edition of the Benin DNS Forum took place over five (05) days: from 21 to 25 November 2017.

The traditional Public Communications Forum, workshops-demos and tutorials and the program of Woman DNS Academy training were kept on the agenda of this third edition. Three other activity items enrich the agenda.

They are as follows:

Seminar with the public sector and the private sector on the DNS and its challenges: it aims to raise awareness and to share good technical and organizational practices with regard to DNS.

Study on the quality of the DNS service in Benin and on the attractiveness of .BJ, which allows to take stock of QoS DNS in Benin in order to better contribute to improvement points

DNSathon (Collaborative Hackathon on the DNS) which allows the realization of a prototype end-to-end DNS infrastructure and the development of a roadmap.

The Benin DNS Forum wants to be a melting pot of exchanges and consultation where the different technical and economic actors of the Internet world in Benin exchange, develop skills and share their experiences on implementation, exploitation and development of IP and DNS infrastructures.

The Forum, open with free participation, is non-profit and unrestricted. The different contributions are public to best serve the community.



BENIN DNS FORUM

A local DNS Forum for what impact?

The DNS is now present in the heart of the Internet through Internet addresses and domain names. Since the advent of Internet governance, communities countries work to put in place frameworks for exchange and sharing of experiences on issues related to technical, economic, political and technological aspects Internet.

Benin is among the first African countries to have known the Internet. The country is located as a digital crossroads and works towards the development of the Internet and in a number of sectors. The Internet in Benin has grown exponentially in recent years, with the consequent increase in ownership of digital habits by the population. This momentum manifests its daily impact in the habits of the population and especially in professional circles.

The above-mentionned growth is also manifested by the creation of several companies; which makes it possible to densify the networks and to enlarge the access infrastructure as well as the Beninese technical community around the Internet.

Given the important role that DNS and IP play in the functioning of the Internet, it would be appropriate to mobilize the Beninese technical community of the Internet around issues that affect the critical resources of the Internet. This will allow in a first time, to create a framework of exchange on the selfless development of the DNS and the Internet in Benin, and in a second time to share good practices which will contribute to a strong resilience of the Internet in Benin.

Capacity building through the Woman DNS Academy program and the DNSathon makes available efficient business in the domain of DNS for the private sector.

By allowing a free exchange between the private sector and the public sector, Benin DNS Forum promotes better dialogue for better multi-stakeholder governance of the Internet, while sharing and disseminating best practices.

The different activity items of the BENIN DNS Forum aim to prepare also the local community for its active participation and full commitment to regional and global Internet communities such as Africa DNS Forum, Africa Internet Summit, IGF, IETF, ICANN, etc.



3rd Edition of Benin DNS Forum

The main activities

For this third edition of the BENIN DNS FORUM, four (04) major axes make up all activities spread over five (05) days, from Tuesday 21 Saturday, November 25, 2017. Each of the activities is defined specific goals and oriented towards a well-defined target.

PUBLIC COMMUNICATIONS FORUM, WORKSHOPS-DEMOS AND TUTORIALS

The public forum takes place over a day and brings together about 300 people and ten presentations on the theme 2017 «Quality of DNS Service in Benin». The Public Forum is held in two big parts:

Part One: Communications, Demos Workshops

The presentations are classified by thematic panel. Each panel is chaired by a moderator having transverse visibility on the subject.

At the end of these events, the participants will be able to learn about the exchange of ideas with participants for contributions, questions and comments.

Part Two: Tutorial Presentation/Training

The second part of the public forum is essentially composed of tutorials on technologies oriented towards the critical resources of the Internet (Domain name, DNS, IP, Internet Standard, etc.).

WOMAN DNS ACADEMY PROGRAM

The Woman DNS Academy Program (WDA) is the training activity of Benin DNS Forum for women primarily and dedicated to the initiation, implementation and administration of a DNS service. The training is essentially technical and practical. It consists of the setting up by each participant of a virtual network of 5 virtual machines:

- **a firewall with 2 network interfaces**
- **a primary DNS server**
- **a secondary DNS server**
- **a Linux client workstation and a Windows client test station.**

This program also addresses business models around domain names and entrepreneurship in the DNS sector. It aims to offer not only in-depth knowledge DNS technologies, Internet protocols and around the DNS, but also to create a real craze within the female gender. It helps to get women interested in the issues related to the technologies of the Internet. The training took place over 4 days.

Seminar with the public sector and the sector on the DNS and its issues.

Public information and sharing seminar with the public sector and the private sector on the DNS and its stakes are implemented towards ICT players engaged in these two complementary sectors. It aims to raise awareness and share good technical and organizational practices with regard to DNS.

REALIZATION OF A STUDY ON THE QUALITY OF DNS SERVICE IN BENIN

A study in preparation for the third edition of the Benin DNS Forum has been conducted. This study allows to take action on the quality and security of the DNS service offered by the ISPs of Benin to their customers.

The study is carried out under the aegis of the B6 (BENIN IPv6 Task Force) and BDSEC (BENIN) working groups. DNSSEC Task Force) and also looked at the attractiveness of the .BJ extension to determine the perception of Beninese Internet users about national digital identity.

DNSATHON (COLLABORATIVE HACKATHON ON DNS)

The DNSathon (Collaborative Hackathon on the DNS) is one of the new axes of this third edition of the Benin DNS Forum which mobilizes several people of different profiles over 2 days (About 36 hours of work). It was introduced in the program of the Benin DNS Forum following the interest shown by the community to learn and understand the technical implementation of prioritization of the DNS.

This Hackathon under the aegis of the B6 and BDSEC working groups, is very collaborative and allows all participants to contribute to the implementation of a prototype of the DNS Infrastructure end-to-end (Root, Registry, Registrar) with the implementation of the DNSSEC security extension.

MACRO AGENDA FOR THE 3RD EDITION

The week of Benin DNS took place over five days as shown in the table below:

Jours	Activités		
Jour 1 : 21 Novembre 2017	Woman DNS Academy		
Jour 2 : 22 Novembre 2017			
Jour 3 : 23 Novembre 2017		Séminaire avec le secteur public et le secteur privé sur le DNS et ses enjeux	DNSathon (Hackathon Collaboratif sur le DNS)
Jour 4 : 24 Novembre 2017			
Jour 5 : 25 Novembre 2017	Forum public de communications, Tutoriel, Ateliers-Demos		DNSQuiz Show Résultat de l'Étude sur la Qualité de service DNS

BENIN DNS FORUM

Who organizes it?

Supports' organization of the 2017 edition

The Benin DNS Forum is organized through the collaboration of Support Organizations that are non-profit structures. At the first edition, the initiative was supported by two (02) organizations of support. The number of organizations committed to the success of the Benin DNS Forum has gradually increased over the precedent editions. For this third edition, five non-profit organizations have invested in the success of the Forum.



IGB@NET
www.igbanet.org

NGO IGB@NET

Created in 2011 from the experiences gained within the Cotonou-Wireless association, IGB @ Net works for the promotion and availability of the Internet in homes in Benin. It also works for the promotion and defense of the free resources of the mobile, the Internet and open standards.

It also contributes to the promotion of sustainable partnerships that can foster development or the use of free software and resources between the various voluntary or commercial actors concerned with free software and resources and open standards.

Through its activities, IGB @ Net organizes and coordinates working groups on topics related to free-resources and open standard of the Internet.

Benin Chapter of Internet Society

ISOC Benin whose contributions for the promotion and the development of the Internet in Benin are remarkable, has been in place since 06 and 13 March 1999.



Benin Chapter

It aims to promote the use of the Internet in Benin by highlighting the experiences acquired by providing a first level of information and promoting interaction between members.

ISOC Benin encourages active participation of its members in the work of the global ISOC. This participation is expressed through the engagement of members in all types of cooperative projects, local or international, private or public.

ISOC Benin participates and contributes to all meetings and conferences, working groups and commissions, formal or informal, as well as any work and publication using or not using electronic means, Internet, in line with its purpose.

With regard to capacity building and skills development, Isoc Benin regularly organizes training sessions for internet stakeholders and also takes an active part in FGI Benin and DNS Forum activities.



Forum for Internet Governance at Benin (FGI Benin)

The Internet Governance Forum in Benin is a multi-stakeholder framework for Internet Governance in Benin.

The organization of forums on internet governance in the different countries are inspired by the mission assigned to the United Nations

Nations to hold an annual Internet Governance Forum as a platform for global multi-stakeholder dialogue on current and future issues of internet governance.

Since 2011, Benin has been represented in forums on internet governance at WAIGF (Internet Governance Forum in West Africa), AfIGF (Governance Forum Internet in Africa) and IGF (Forum on Internet Governance Worldwide). Armed with this experience at the international level on the governance of the internet, it was possible to organize the first national forum on internet governance (FGIB) in 2012.

The FGI Benin has set itself the requirement to involve all players in the Internet ecosystem in Benin, in a national dialogue on the current findings of dissatisfaction, the proposed solutions of Internet Service Providers and Regulatory Channels of the Internet and its Related Services, e-commerce, online content, personal data, digital with 3G and 4G, social networks, etc.

Woman & ICT at the service of development (FemTICDev)

FemTICDev is a non-profit organization created in 2012 whose main vision is the empowerment of women through ICTs as a guarantee of sustainable development. Its mission is to increase interest and strengthen an active participation of women in the ICT sector through the change of mentalities and the elimination of negative stereotypes of girls and women in ICTs.

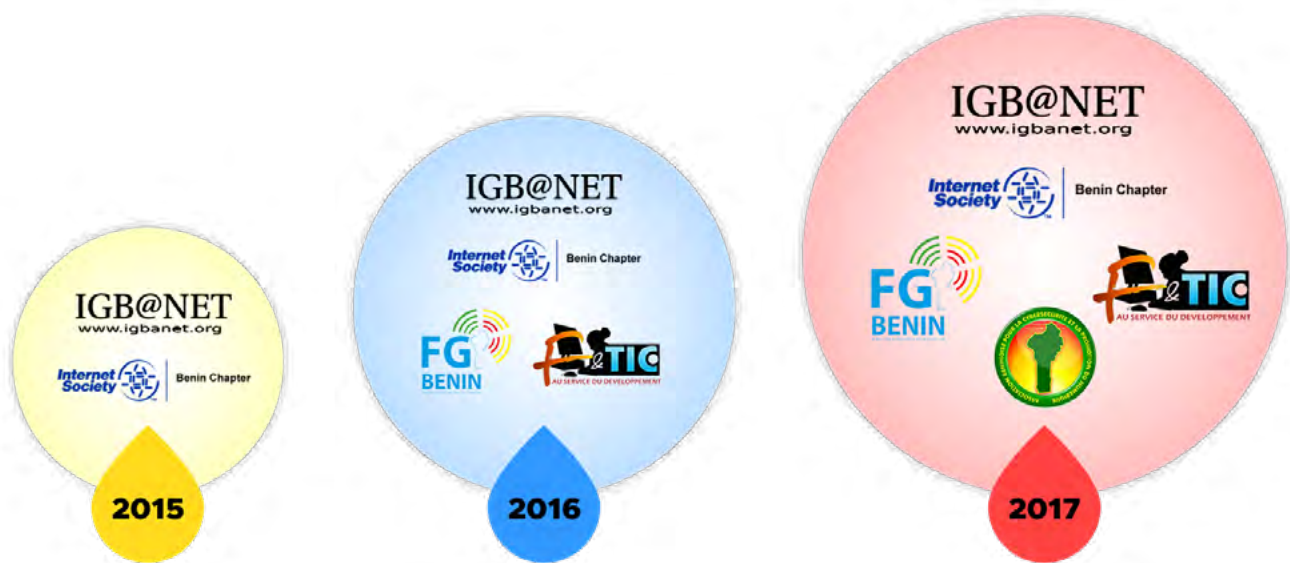
FemTICDev contributes to the development and promotion of digital culture for the benefit of female community. It works to increase the use of the internet among girls by initiating and motivating girls to become true digital players and by organizing tweets up discussions around themes and training on technology and gender.



Beninese Association for Cybersecurity and the Digital Promotion (ABC-PN)

Beninese Association for Cybersecurity and Promotion of Numérique (ABC-PN) is an Association created in 2016 which is interested in different forms of illegal use of ICT. It is also responsible for identifying the threats, the risks associated with the use of these modern tools.

Dedicated to the best of the world, the best of the best in the world of the use of enjoyment, training and opportunities related to the Digital Economy.



Evolution of the number of support organization over the years

BECOME A **SUPPORT-ORGANIZATION** OF
THE **2018 EDITION OF BENIN DNS FORUM**

Envoyez votre déclaration d'intérêt à :

contact@dnsforum.bj

www.dnsforum.bj

BENIN DNS FORUM

Some figures of the 2017 edition

05 axes d'activités	450+ participants	19 Woman DNS Academy
20 intervenants	12 partenaires locaux	04 partenaires internationaux

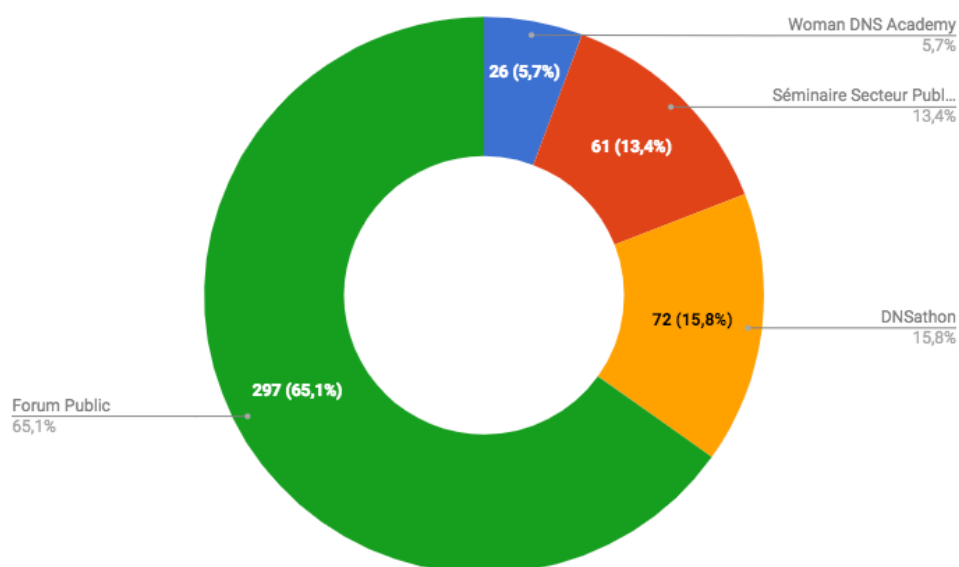
Two editions later, the BENIN DNS Forum continues to generate major interest in the local and regional community. It already enjoys a place of choice in the range of events related to the Internet and the digital economy in Benin.

The continuous increase in the number of participants in the Public Forum and the interest of the different corporations such as the Public-Private Sector Seminar and the DNSathon are remarkable proves that the activities undertaken as part of the 3rd edition of this forum are useful and provide answers to the needs expressed by the multi-stakeholder community.

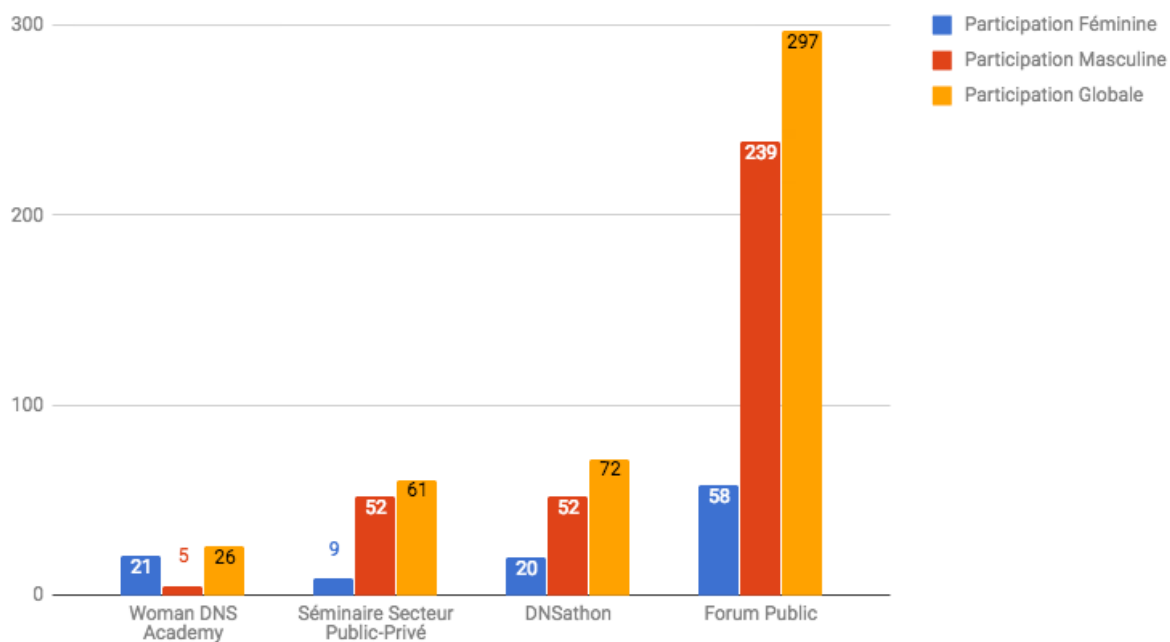
Participation in the 2017 Edition

Number of participants

This 3rd edition saw 456 participants on all the activities. The graph below specifies the number of participants per activity.



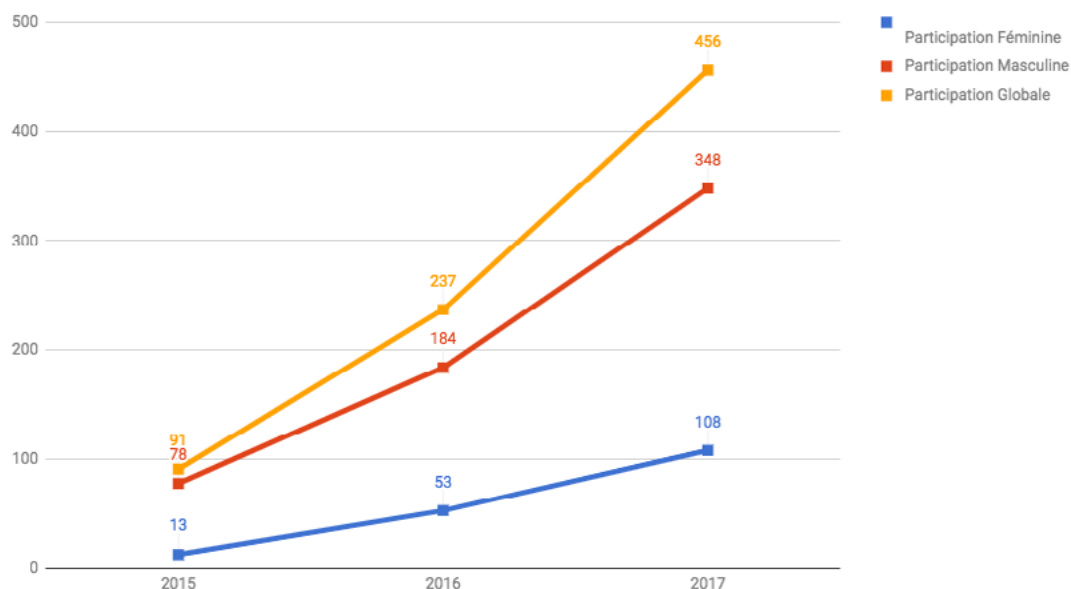
Graph of participation in all activities.



Graph of participation in BENIN DNS FORUM according to gender

For the past three years, participation in the DNS Forum has been growing. Women get more mobilized on issues related to the critical resources of the Internet.

In 2017, the diversification of activities with specific targets led to a peak in participation.



Evolution of the participation in Benin DNS Forum from 2015 to 2017

NB: These graphs also take into account the speakers at each activity

BENIN DNS FORUM

Participation à l'Édition 2017

Stakeholders (Speakers / Moderators)

For this 3rd edition, the quality of the content of the Forum has been a high priority for the committee organization. To reach a relevant level of content, the committee paid a particular attention to the themes that were presented and discussed, as well as the quality of the interventions. The diversification of the business lines made it possible to associate a large number of high level speakers.

● Forum Public ● Woman DNS Academy ● SÉminaire Secteur PrivÉ-Public ● DNSathon



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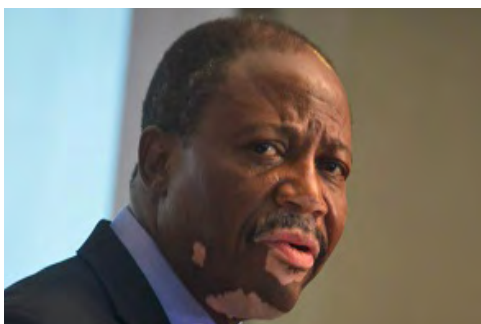
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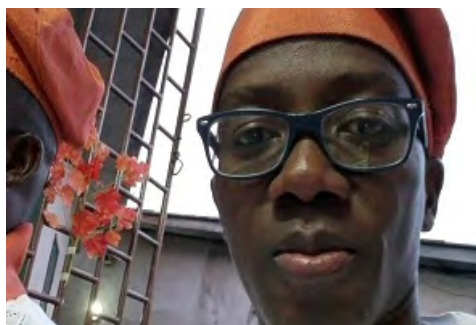
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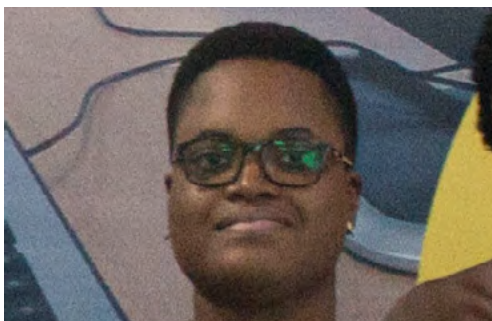
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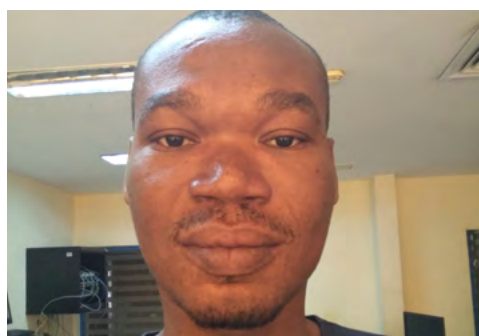


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Theme of the 2017 edition

« Quality of the DNS Service in Benin »

Each year, the organizing committee chooses a central theme around of which the reflections and the activities of the forum are articulated. For this 3rd edition, the committee was particularly interested in the quality of the Internet service, especially that of the DNS, hence the theme «Quality of the DNS Service in Benin »for the 3rd edition of the BDF. Indeed, this theme fits with the different axes that were discussed during this edition, precisely the realization of a study on the quality of the DNS service of the different ISPs in Benin. This study was also focused on the extension «.BJ» in order to determine the perception of the Beninese citizens on the national digital identity.

The quality of Internet service has a significant impact on the attractiveness of digital services and national digital growth in several sectors activities. The interest shown by the Benin DNS Forum in the quality aspects of the Internet is part of the dynamic of taking stock of the QoS.

DNS to better contribute to improvement points.



WOMAN DNS ACADEMY PROGRAM (WDA)

Presentation of the program

Woman DNS Academy (WDA) is the training program of Benin DNS Forum exclusively intended for women and dedicated to the initiation, implementation and administration of a DNS service. This program has thus addressed the major issues of the DNS economy and business models around domain names. It has also been enriched by the sharing of experiences from professional women in the field.

The training is essentially practical and aims to offer not only in-depth knowledge on DNS, DNS and Internet protocols, but also to create a real enthusiasm within the female gender, while encouraging women to show an interest in DNS and its infrastructure. For its second edition, the program ran over four (04) days. The selection of the candidates followed an open call for applications. Candidates fulfilling the minimum selection conditions were invited to participate in the program.

Participant's profile

For this second edition of the Woman DNS Academy, the trainees of the program are mostly from Cotonou and Abomey-Calavi. Aged 18 to 30, they have a knowledge of the field of computer science and Internet; and demonstrate a great passion for computer systems of network types and Unix/Linux systems.

Twenty (20) young women were selected under this program and followed four (04) training days from 21 to 24 November 2017 in Cotonou (Benin). It is important to clarify that, following the launch of the call for applications for the selection of participants, we have received a total of seventy-eight (78) applications.

Among the seventy-eight (78) applications, many applicants came from the French-speaking countries of the subregion (Togo, Niger, Senegal, Chad, Cameroon). Since the program is dedicated in first time for women in ICT in Benin and the committee does not have an organizational budget allowing the support of foreign participants, we unfortunately could not accept all applications.

Benin DNS Forum appreciates the momentum of young women's interested in ICT and issues that affect DNS. This opens up ways for reflection in order to extend the program as early as next year (in accordance with the organizational budget) to other French-speaking countries in the sub-region.

Training content

Woman DNS Academy has a diverse content. Even if the main part of the training is accentuated on the technical aspects of the DNS, the program also addresses the economic aspects and entrepreneurship around the DNS. Thus, this year, three (03) aspects have been addressed and mainly focused on the technical and economic aspects of the DNS and the sharing of experiences.

Content of DNS technical aspects

- Installing a Debian operating system
- Presentation of the functioning of the DNS and the Internet
- Installing a Primary DNS Server with BIND
- Getting started and configuring BIND files
- Presentation of a Zone file
- Installing a secondary DNS server (primary clone)
- Principles of replication
- Zone Transfer
- Security around the DNS
- Secure zone file transfer (with a TSIG signature)
- DNSSEC basics
- Getting started with the DIG command

Content of economic aspects around the DNS

- Domain name market
- Register and registrar, what difference?
- Registrar Accreditation by ICANN

Sharing experiences

- Shared experience of a network administrator (her journey - her challenges ...)
- Sharing experience of a professional woman (woman & leadership)
- Presentation of the new publishing layer on the Internet Frogans

Panel of Trainers

For the Woman DNS Academy program, a panel of trainers has been formed. This panel is composed of national and international experts in the field of Internet and DNS. These experts have worked in order to offer some contents in line with the local context and to train the trainees.

The trainers of this edition are:

- **Hervé Hounzandji (SIKARIA Consulting - France)**
- **Mathias Hougbo (IGB @ NET)**

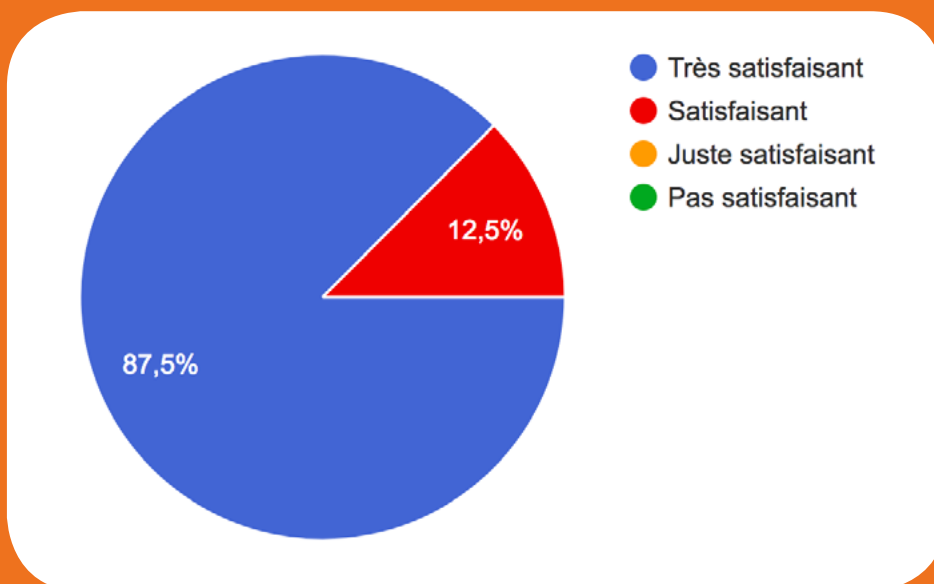
Stakeholders in the Program

- **Yaovi ATOHOUN (ICANN)**, he gave a talk on the economy related to the names of field.
- **Ornella GANKPA (Isocel Telecom)**, she shared her experiences as a female administrator system with the participants of Woman DNS Academy
- **Mireille GUEDOU MADODE (CCIB)**, she shared her experiences as a professional woman evolving in Benin with the participants of Woman DNS Academy.
- **Jean-Marc Ehouman (Frogans Community of Côte d'Ivoire)**, he presented the new protocol of publication on the Internet Frogans and a description of the FSDL language while putting forward the Ivorian experience in setting up Frogans community. During his speech, he was also interested in the economic opportunities that exist within Frogans technology.

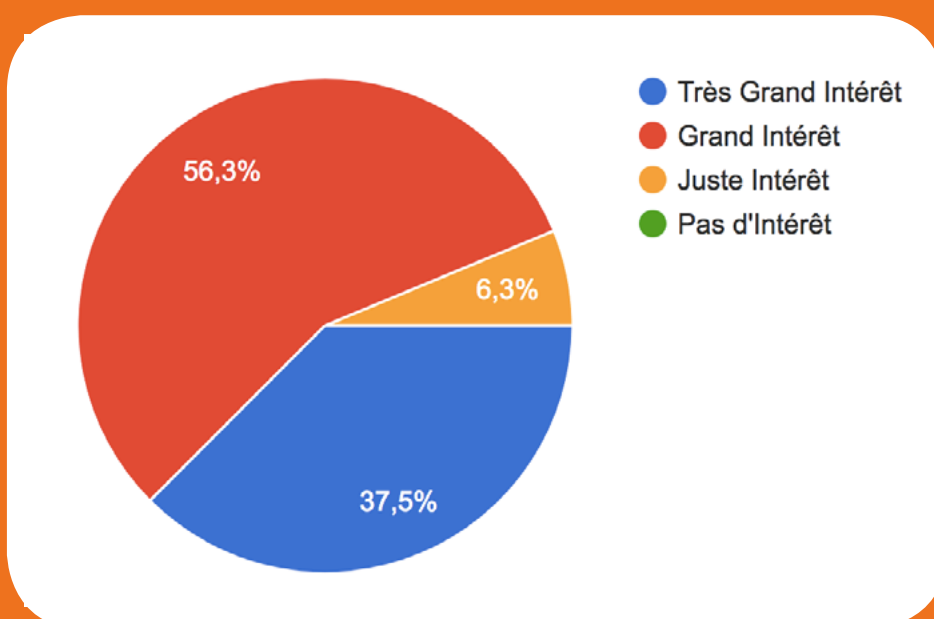
Evaluation of the program by the participants

At the end of the training, trainees completed an anonymous evaluation form which allowed them to give their opinion on the organization of the training and its contents.

This evaluation also made it possible to identify ways and prospects for improvements in the program of the next editions.



This graph reveals the level of overall satisfaction of the participants, which shows that the Woman DNS Academy's quality training is praised by 100% of participants who have found it satisfactory; 87.5% of the participants / more than ¾ of the trainees have even declared that they were very satisfied.



This graph shows that the diversification of the content of the training through the different communications is very much appreciated by the participants and that the sharing of people's experiences and resources with the participants is an important complement and of great interest for the latter. More than half of them, 56.3% find the formation of great interest and 37.5% of a very large interest.

Appreciation of the participants

Participants in their evaluation of the training noted some strong points:

- The very practical nature of the training;
- The listening skills, availability and quality of trainers for better monitoring;
- The ease of assimilation of certain notions following the personalized follow-up done by the trainers;
- The use of Open Source applications as part of the training;
- Presentation on the economic aspects and the DNS market;
- The discovery of the ICANN Organization;
- The sharing of experiences that highlighted the fact that it is possible to have a good career in as an ICT professional and that the challenges are surmountable.

Some points of dissatisfaction were also noted by the participants:

- Some practical work related to DNS security could not be completed by trainees;
- Very limited time for sharing experiences;
- The lack of participants from certain regions of Benin.

Some of the participants' suggestions for improvement state as follows:

- The evaluation of the participants by a multiple choice questionnaire;
- The selection of participants from all geographical regions of Benin;
- The notification to the selected trainees just one week before the formation to the technical concepts should be revised;
- The organization of the DNSathon after the training to enable them to participate;
- The establishment of a Woman DNS community in Benin.

NB: The evaluation data and suggestions for improvement are issued during the evaluation.

WDA Outlook for 2018

The Benin DNS Forum, aware of the important role that women can play in ICTs and Resilience of the Internet, reiterates once again its intention to perpetuate the Woman DNS program Academy.

In view of the findings and proposals for improvement that have been collected, the following areas of will be implemented with the support of our partners for a more ambitious program and quality, providing an enriching experience for trainees.

These axes are:

- Expand the WDA program to 5 days of training;
- Expand the participation of young women in ICT to other localities in Benin and French-Speaking African countries;
- Broadly focus on entrepreneurship around the DNS;
- Introduce an assessment (MCQ) of the participants;
- Invite more women professionals to share experiences.

Thanks :

Sincere thanks to the International Organization of La Francophonie (O.i.F), the Agency for National Computer Security (ANSI) ex ABETIC and the Regulatory Authority of Electronic Communications and Post Office (ARCEP) who accompanied this program.

Thank you to all the women who actively participated in this program: **ADJIBI DEDJINOU F.O. Honorine, ZOSSOUNGBO Fernandiane Alvine Sedegbe, BAMBELOU Yenoukoumè Germaine, WORLD S. Merveille, GOHOUE Rose, KOMBIENI Kandjiema Augustine, COSSOU Dedji Frida, KEMAVO Christelle, ZOUMAROU WALIS Faizath Jedida, ARABA Benedict, DANGNIVO Carmen, N'TCHA Ariane Katia, TOGNON TCHEGNONSI Gloria, TOHOUNGNAN Julienne Micrette A., AMOUSSOU S.D. Ghislaine, DASSI Carmen, ADJAO Roulfath, ZANNOU Solange, ASSOGBA WOUNON Valerie Zita Alida Murielle of God.**

A special thanks to the Minister of the Digital Economy and Communication (MENC) of Benin, Aurelie ADAM SOULE ZOUMAROU, for agreeing to close the Woman DNS Academy by giving the certificates to the participants but also for her words of encouragement at the Public Communication Forum.

FOR MORE INFORMATION ON THE
WOMAN DNS ACADEMY

WWW.womandns.academy



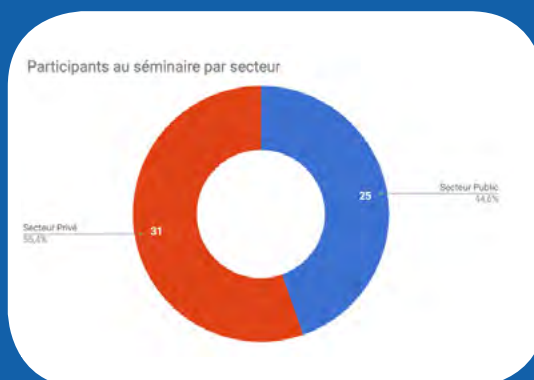
SEMINAR WITH THE SECTOR PUBLIC AND THE PRIVATE SECTOR ON THE DNS AND ITS ISSUES

The Seminar of information and sharing with the public sector and the private sector on the DNS and its stakes brought together actors from both sectors around the same table. It aims to sensitize and share good technical and organizational practices regarding DNS.

Around the same table, about fifty actors of digital focal points in the private and public administrations, consumer associations and lawyers have reflected on major technical, economic and legal issues related to digital, DNS and Internet .

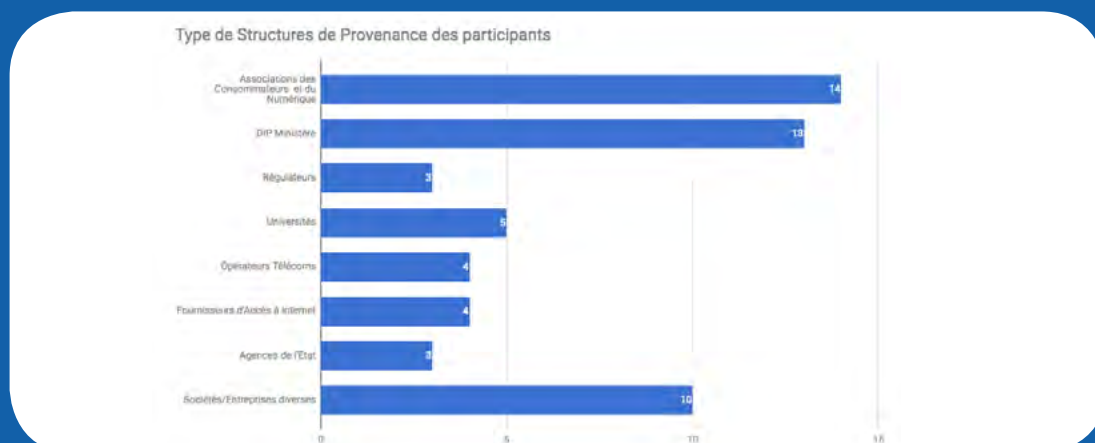
This Seminar was held at the Azalai Hotel on Thursday 24th November 2017, and it was an opportunity for real exchanges of high level between different actors in Benin.

General Managers of National Agencies and ISPs, IT Directors of several Ministries, Presidents of Consumer Associations, head of Universities studies: there were 56 participants in total at this seminar, whose theme is «the challenges of DNS in public and private administration.



Graphique de participation au Séminaire par secteur

In total, 4 panels and one communication enriched the exchanges. The level of discussions, the relevance of the interventions and the enthusiasm of the participants clearly indicated how much they have appreciated the seminar. Along with good practices of DNS in business, the turnover of KSK keys in the DNS root, the new gTLDs and their impacts on the domain name economy, the new digital code in Benin and the commitment of the private sector in the economy in Benin were the debated topics which captivated the attention of participants. They have also expressed their desire to see the initiative perpetuated.



Graphique de structures de provenance des participations

Panel 1: Good technical practices on DNS and focus on the study of the quality of DNS service by ISPs in Benin.

Moderator :

Ramanou BIAOU

World Internet Labs

Panellists :

- **Alfred HOSPICE AROUNA**
ISOCEL TELECOM
- **Victor OYETOLA**
University of Abomey-Calavi

For a little over an hour, the explanations of Victor OYETOLA and Alfred AROUNA convinced the assembly on the need to deploy DNS resolvers in business. This need becomes a requirement when it comes to an internet service provider. Yet, the finding issued as part of the study on the quality of DNS service in Benin is very clear as the moderator, Ramanou BIAOU, has reminded so well : Some ISPs do not have a DNS resolver in their infrastructure. He recommended that ARCEP should regulate the sector under its responsibility as it is not correct that ISPs do not have a resolver in their network to handle the DNS queries of their clients.

Consumer associations have also been instructed to further advocate for topics related to good practice and not to focus their battle only on prices as they usually do. However, to understand that they must defend the good technical practices, it is up to them to inform themselves; hence the invitation to act so, addressed by the organizing committee of the Benin DNS Forum in the framework of this seminar. It is also up to us, actors of technical world, to explain it to them so that they understand the necessity to conduct and apply good technical practices in our different networks.

Panel 2: Racine KSK Key Bearing: Implications and actions in Internet infrastructures in Benin.

Moderator :

Yazid AKANHO

IGB@NET

Panellists :

- **YAOVI ATOHOUN**
ICANN
- **Ramanou BIAOU**
World Internet Labs

Always in the wake of operators and Internet access providers, the KSK keys rolling in the DNS root is a major issue in this end of 2017 year.

If the transaction of 11 October 2017 was postponed to a further date by ICANN, the fact remains that it will still have to be implemented, even if some operators still lag behind.

For now, ICANN continues to raise awareness and show the need to perform the necessary updates at the DNS servers operators to prevent the 745 million internet users to become effectively cut off from the world if their respective operators did not make the said changes as soon as possible explained Ramanou BIAOU and Yaovi ATOHOUN during this panel.

Panel 3: Digital Code in Benin: What Changes in the national ecosystem?

Moderator :

Kossi AMESSINOU

FGI - BENIN

Panellists :

- **Serge ADJOVI**
ADN - BENIN
- **Dr Karel DOGUE**
ERSUMA / UEMOA Space

The new digital code, voted a few months ago by the Assembly Of Benin and not yet abrogated, has also been the subject of curiosity of the participants who wanted to know especially what should effectively change in the digital ecosystem in Benin thanks to this code. At this main concern, Karel DOGUE, Dr. in Law, and Serge ADJOVI, Director General of the Agency for the Development of Digital, provided some answers. First, the code reinforces existing structures in the digital economy and create those which did not exist yet. This is the case, for example, with ANSI, Agence National Computer Security, which should see the light of day.

This code also clarifies the doubts about the management of the name resource domains that belong to ARCEP even if the communications code in 2014 already specified it. Several other novelties are also made in that code as explained by Dr. DOGUE. the moderator Kossi AMESSINOU's questions, the two panellists through concrete examples, went through different articles and provisions contained in the new code. Serge ADJOVI finally confirmed that the code will be widely popularized after its promulgation, notably via traditional communication channels such as radio broadcasts and television programs, seminars, exchange sessions with specific sectors such as start-ups for example. He already counts on support for activist associations in the digital sector to also participate in this activity in a timely manner.

Panel 4: Private Sector Engagement in the Digital Economy in Benin

Moderator :

Kossi AMESSINOU

FGI - BENIN

Panellists :

- **Donatien AKPO**
JENY SAS
- **Carl ANIAMBOSSOU**
SOUTH TELECOM SOLUTIONS

This panel was an opportunity for the managers of the two ISPs that are South Télécom Solution and JENY SAS to present their current activities, the development and diversification projects in which they are engaged and the difficulties they face and which are holding back their ambitions. This is what justifies the complaint of Donatien AKPO advocating in the name of ARCEP for fairer regulation to ensure greater access by all parties to national resources for telecommunications, resources such as fiber optic and point exchange Benin IX, functional since December 2013 but which has not experienced new participants since then. According to Donatien AKPO, certain actors are privileged to the detriment of others in the access to national resources.

Carl ANIAMBOSSOU, for his part explained the steps that his structure has to follow vis-à-vis the national operator Benin Telecom Infrastructure and shared the difficulties encountered as well as the slowness in the actions by Beninese authorities in general. It appeared, following these realities lived by these private ISPs, that the ARCEP was solicited by the participants to take measures to address this inequality and to contribute to accelerate the various processes currently under way in the digital sector, like the process of setting up the charged structure, in order to ensure the inclusive governance of Benin IX, which would allow new players to participate in the exchange point.

Communication of the Seminar: New gTLDs and potential impacts on the economy domain names

Moderator :

Yaovi ATOHOUN

ICANN

After several years of discussion and reflection within ICANN, the program introducing new gTLDs into the DNS root has been launched in 2012 with the submission of proposals. The first New gTLD delegations were held in October 2013 and to date, more than 1,200 new gTLDs have been authorized by ICANN.

.AFRICA is one of the new top-level domains whose delegation was validated in 2017. Through its communication, the presenter explained that this program aims to improve innovation, competition and offer more choice to the user.

The seminar participants wanted to know if these NgTLDs would not be a harmful competitor for African ccTLDs which for the most part are not very consumed.

To this concern, the presenter recalled that one of the objectives of the new gTLD program is to offer more choice to registrants and therefore the spirit of competition is inevitable. However, it will be the duty of the registry that manages each TLD to prepare and adapt itself to the arrival on the market of these new top-level domains.

Key recommendation of the Seminar

1. ARCEP should extend its role as regulator to the effective verification and the monitoring of the deployment of DNS resolver in the network of ISPs and Internet operators in Benin;
2. ARCEP should further regulate the access to national telecommunications resources such as optical fiber so that the current climate of frustration, injustice and inequality of access fades away;
3. ARCEP should accelerate the process of setting up the structure that will be responsible of the governance of the Benin IX Internet Exchange Point;
4. Each ISP operating in Benin should adopt good practice in general in their network design, especially with regard to the DNS, and should have resolver DNS in their network
5. Consumer Associations, regardless of the usual battles fought over issues related to communication costs, should also defend every topics related to the good practice techniques among the networks.



STUDY ON THE QUALITY OF DNS SERVICE IN BENIN

The realization of a study on the quality of the DNS Service in Benin is an activity inscribed in the program of the 2017 edition of Benin DNS Forum. It is unpublished because such a study had never been carried out in Benin. This study was conducted over four (04) weeks and allowed to take measures on the quality and security of the DNS service in Benin and to carry out an online survey on the attractiveness of the .BJ DNS extension.

The study was conducted under the umbrella of the Benin IPV6 Task Force (B6) and Benin DNSSEC working groups. Task Force (BDSEC). The study does not in any way aim to denounce the weaknesses or inadequacies of a provider but rather to establish a picture of the implementation of the DNS and the various cases of uses in Benin with the aim of proposing some accompanying solutions for improvement if necessary. No commercial identity was revealed in this study. The results of the study were presented at the Public Forum and are available in the final report of the study published by the BENIN DNS Forum.

Focus of the study

Three major axes were discussed during this study. It is :

- **The study of the quality of the DNS service of the ISPs:** this study focused on the configurations of the DNS resolvers of the different ISPs in Benin in order to know if they meet the specifications and standards (especially good practices) for DNS resolver server implementation.
- **Study on the NS of .BJ sites:** the objective of this axis of study is to highlight the origin (Geographic, AS) of authoritative servers (NS) for domains that are declared in the .bj and to analyze the configuration of zone files. A sample of 80 domains in .bj were used for this study.
- **Study on the attractiveness of the .BJ ccTLD service among end-users of the Internet in Benin:** this axis of study has allowed the appropriation of the perception of Beninese netizens on identity National Digital Library (.BJ) via a large online survey. This survey was also the opportunity to appreciate the expectations of netizens Benin for a more attractive .BJ. Two hundred fifty-four (254) people from all regions of Benin and even out of the territory participated in this online survey consisting of twenty-three (23) questions.

Methodology

For the realization of this study, several tools were used. These include:

- metrics tests with Atlas-RIPE probes located in Benin and outside Benin. (<https://atlas.ripe.net/>);
- configuration verification robot and DNS parameter classification developed within the workgroups; the ZoneMaster tool (<https://www.zonemaster.fr>);
- online survey form.

Participation in the survey on the attractiveness of .BJ

This online survey has seen the participation of all the departments of Benin as well as of Beninese netizens from the diaspora. In total we received 254 responses.

Summary of results from the study

At the end of the different phases of this study: elaboration of the needs in useful and necessary information, data collection, analysis and interpretation, we can underline:

Some positive points:

1. . multiple ISPs and operators have their own DNS resolver for resolution of DNS queries from their clients
2. Many of these ISPs and operators have more than one resolver, which reduces the probability of unavailability of DNS resolution service which is a potential cause of unavailability of the internet;
3. Most proprietary resolvers are configured to respond only to DNS queries from their clients
4. Some ISPs and operators with more than one DNS resolver put them in different subnets;
5. multiple .bj domains have more than one NS for domain management; for some, the NS are located in Benin, which is a good practice to encourage ;
6. there is a market with high potential for .bj: the national extension is well known by the Beninese netizens, the latter are ready to buy a .bj domain at a relatively reduced cost, provided that the slowness of the procedures is removed.

Some points of vigilance or improvement:

1. Some ISPs do not have an internal resolver and use the DNS public 8.8.8.8, which could pose privacy issues since the processed requests can be used for commercial purposes;
2. Some ISPs with more than one DNS resolver do not have them in distinct subnets;
3. It is still very difficult to obtain information that is supposed to be public;
4. Difficult cooperation with the current .BJ registry;

Some key recommendations:

1. ISPs and operators must deploy and make functional DNS resolvers for fast processing of DNS queries from their customers;
2. ISPs are requested to deploy DNS resolvers in different networks;
3. NS server configurations of certain .bj domains have to be improved to comply with standards and good practices;
4. In the absence of having all NS located in Benin, it would be fair that at least one NS (the main one) is located in Benin.

Download the detailed study report on :
www.rapport.dnsforum.bj



WATCH THE VIDEOS AND NEWS
REPORTS OF THE **3RD EDITION** OF
BENIN DNS FORUM

www.videos.dnsforum.bj





DNSATHON (HACKATHON COLLABORATIVE ON THE DNS)

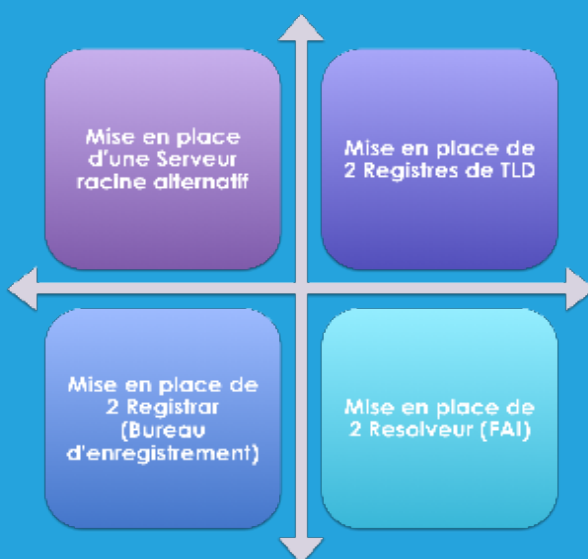
The DNSathon (Collaborative Hackathon on the DNS) is one of the main activities within the Benin DNS Forum. He has mobilized around 80 participants from different profiles to build together a prototype of End-to-End DNS Infrastructure (Root, Registry, Registrar, Resolver) with an Alternative Root and the implementation of the DNSSEC security extension.

The whole process that allowed the realization of this prototype is recorded on a White Book(downloadable free of charge on the Benin DNS Forum website), whose monitoring will allow the creation of the same prototype by other communities. Source codes and configurations are also available on the BENIN DNS FORUM GIT.

The DNSathon ran from 23 to 24 November 2017

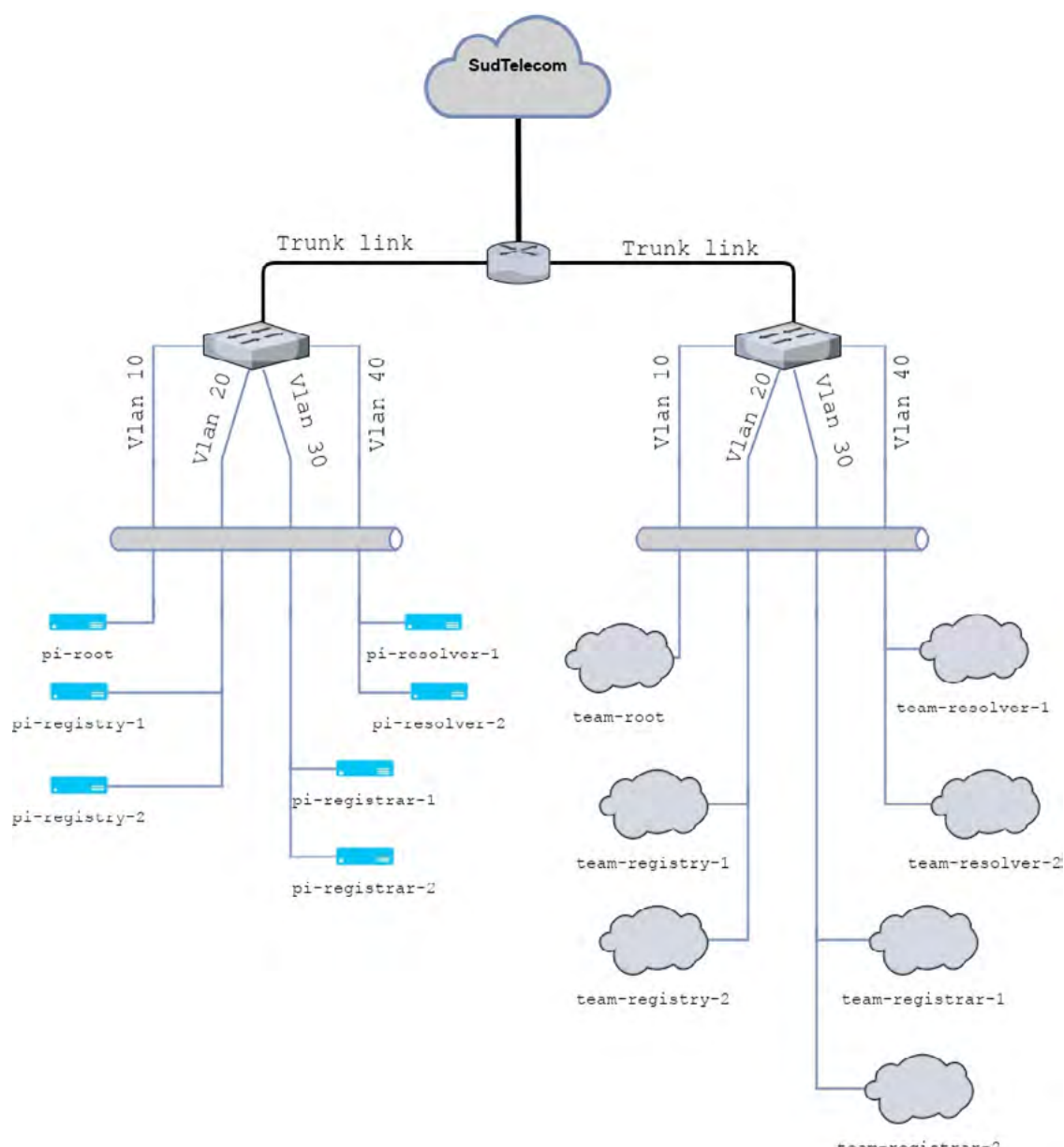
What did we achieve?

The prototype of the completed DNS infrastructure consists of the following elements:



The following types of equipment were used for the realization of the prototype: Cisco swiches, and Mikrotik as a router. Ethernet connection cable, Raspberry-Pi, computers laptops and Internet connectivity provided by Sud Télécom.

The prototype diagram is as below



During the course of the Hackathon, each component of the prototype of the infrastructure is managed and conducted by a team of 6 to 8 participants. At the end of the DNSathon the prototype allowing to make the Two TLD resolution of our alternative root was presented. But before it, several sessions of brainstorming took place between the coaches and the participants.

The DNSathon's White Book available for download allows the realization of a prototype of the DNS infrastructure with an alternative root. This book could help you get back on track in place of this prototype with your community.

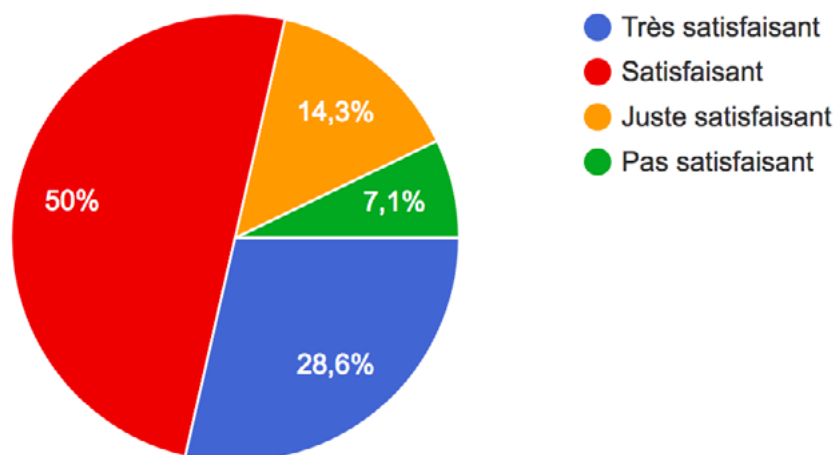
The Benin DNS Forum is keenly willing to provide its expertise if you want to achieve a DNSathon in your community.

The DNSathon was coordinated by System and Network Engineer Alfred Hospice HAROUNA (System Developer and Network Administrator, BGP and DNS specialist) supported by members of B6 BDSEC working groups.

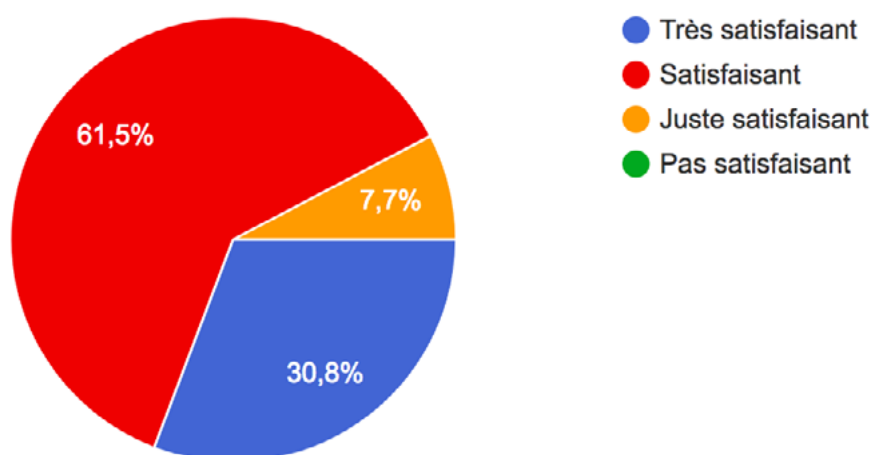
Download the White Paper DNSathon on:
www.rapport.dnsforum.bj

Appreciation of the DNSathon activity by the Participants

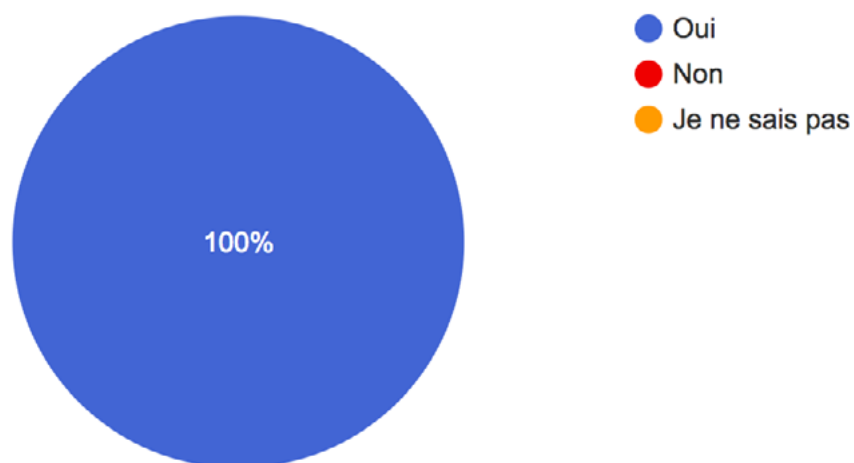
From the evaluation of this activity by the participants, an overall assessment emerges as satisfactory.



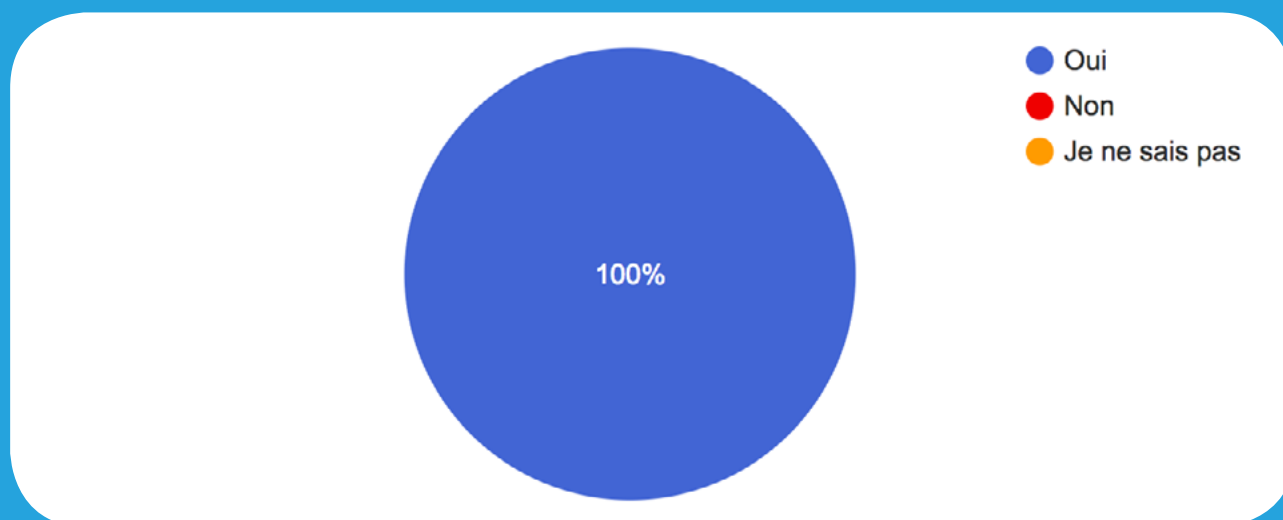
The collaborative model of the hackathon was also very much appreciated by the participants. The assessment reveals an overall appreciation of this model.



One of the most important elements that emerges from this assessment is the desire shown by participants (100%) of the DNSathon renewal.



Mais aussi 100% souhaitent intégrer des Groupes de travail Benin IPV6 Task Force (B6) et Benin DNSSEC Task Force (BDSEC)



Recommendations of the Participants

It appears from the participation in the DNSathon the following recommendations :

- **Large communication of works and achievements with the large public;**
- **Recognition of participation through the issuance of certified attestations to DNSathon participants;**
- **Further organization of DNSathon should preferably held in weekend.**

DNSATHON



COLLABORATIVE Hackathon on
the DNS and Internet Protocols

Participate - Contribute - Share - Learn - Innovate - Broadcast



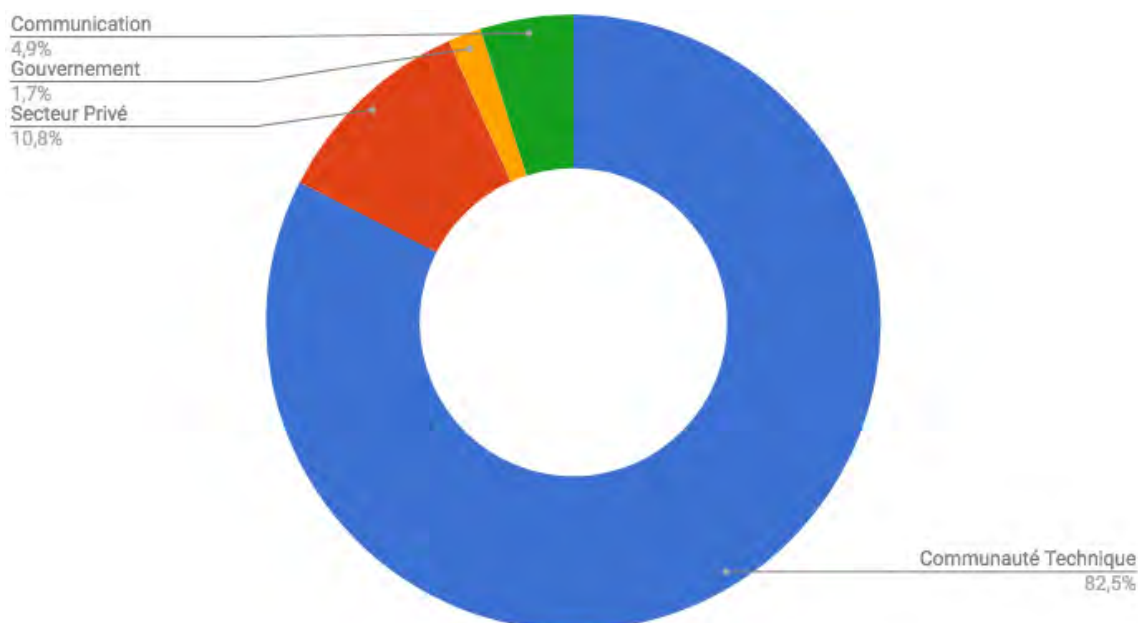
PUBLIC COMMUNICATIONS FORUM WORKSHOPS - DEMOS AND TUTORIALS

Profile of participants in the Public Forum

This year the Public Forum has again mobilized a large number of participants. The rate of participation of this activity is always increasing.

The profile of the participants of the Public Forum of this edition is very diversified. It should however be noted that the technical community was very remarkable with a turnout of about 82%.

The private sector and civil society have been actively involved in the theme of this edition. It also has recorded an increasing participation compared to last year.



Profil des participants au Forum Public du BENIN DNS FORUM 2017



Statement by the Minister of the Economy
Digital and Communication,
Aurélié ADAM SOULE ZOUMAROU

During her speech, the Minister shared her satisfaction with the mobilization of the women in the different activities of the BDF 2017. She later invited women to get more involved and noticed in this sector.

A series of questions was addressed to her by the participants. They wanted to know the Government's perspectives on the quality of the Internet and training in the field of digital professions. Some participants issued the wish to relocate the activities of the sector digital to other beninese locations than Cotonou.

She recognizes that the government has a great role to play. However, she cannot accompany everybody.

She also suggested that the government is committed to a number of reforms that will improve the quality of training and also the Internet.

Content of presentations, papers and tutorials

Three (03) panels have been formed for the Public Forum. The different presentations have been classified in each panel according to their theme.

We have :

- **DNS Theory Panel**
- **Security Panel around the DNS**
- **DNS Services Panel at IXPs and ISPs**

Panel Theory on the DNS

Description of the Panel

This first panel of the Public Forum was mainly focused in the presentation of the DNS, its hierarchical organization, its technical functioning and how it allows the use of the Internet by the general public. This introductory panel to the DNS has been enriched by a communication on trademarks on the Internet which has highlighted the important role of the names of domain in the protection of digital identity online. While remaining very pedagogue, in regard of the diversity of participants profiles within the Public Forum, the panelists, through their presentations, have provided understandable explanations to the general public.

Panel Communications and Presentations

Two (02) presentations were made during this panel titled «Theory on the DNS».

Introduction to the DNS

Ornella GANKPA, Isocel TEIEcom

This communication, the first of the Public Forum, is an introduction to the DNS. She approached the definition of the DNS and its different concepts including the unique identifiers of terminals on the Internet, the translation of the IP into Name and the hierarchical model of the DNS.

The presentation of the different components and terminologies around the DNS as well as the Types (most popular) has provided a comprehensive understanding of the how of the DNS. Difficulties related to a good configuration and management of the DNS as well as the cycle of life of a DNS query have been explained.

Importance of the digital in Economic development (in Africa): the case of protection of names or corporate branding on the Internet

MorlE KOUDEKA, Triooti

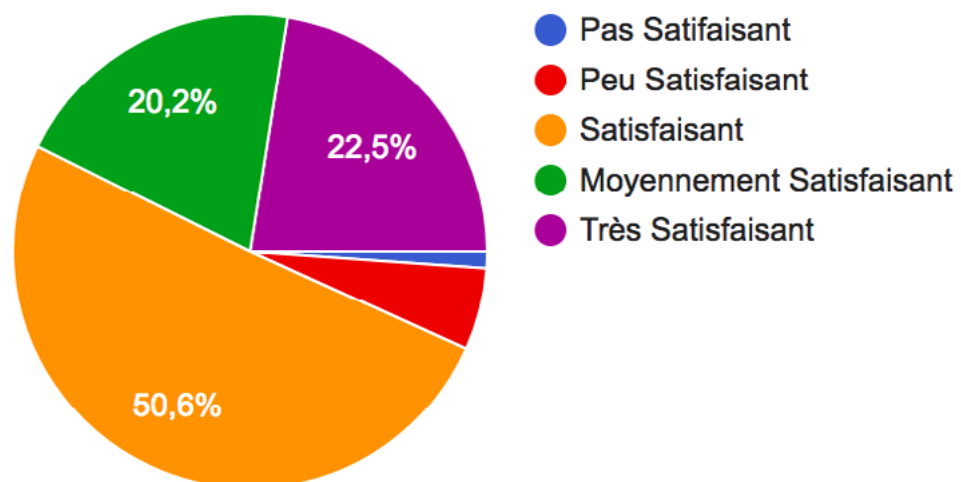
This presentation focused on how the use of domain names has become a real challenge on the global scale to address its activities for the purpose of communication visibility and customer acquisition. Highlighting the important role that the digital plays for development, especially the Economic one, the presenter explained how the domain name can represent a whole activity while ensuring the visibility of a company or online startup.

Therefore, it brings commercial value to domain names and even speculation (Cybersquatting).

The relationship between domain name and rights has also been developed. To protect your domain name from any conflict, you must register it as a trademark because the laws still don't properly protect it. To make this move of a domain name to a brand, there are regulatory institutions in copyright in West Africa, like OAPI.

Appreciation of the Panel Theory on the DNS by the participants

This panel has been very appreciated by the participants with a level of satisfaction superior to 90%.



Security Panel around the DNS

Description of the Panel

The DNS Security Panel discussed issues related to Internet security and especially aspects of privacy. By demonstrating the possible vulnerabilities resulting from a bad configuration of the DNS, the panelists explained how the latter could allow the diffusion on Internet of information of a personal nature. Protection methods and best practices in the field matter were shared.

This panel was also interested in DNSSEC, which was presented to the general public. By showing DNSSEC's importance in DNS security, panelists also explained how it works and the different actors involved in its implementation. The panel was also an opportunity to discuss KSK key roll of the root. During the same panel, the work accomplished and the achievements obtained during the DNSaThon were presented.

Panel Communications and Presentations

Three (03) communications have enriched this security-focused panel.

DNS Security and Privacy

Alfred AROUNA, Isocel Telecom and BJNOG

This presentation focuses on Security and Privacy with the DNS. Related vulnerabilities open resolvers and the mode of detection were presented. The transfer of non-secure zone in TSIG which could compromise the integrity of the areas was exposed while giving some local examples that shows the need to secure.

The security provided by DNSSEC as well as the DNSSEC validating resolvers at the local level were presented. Regarding the privacy with the DNS, the project «DNS Privacy» has also been presented. According to the presenter it is important to send as little information as possible, even to resolver and authoritative DNS servers. Better, it is appropriate that the information sent are encrypted between the DNS client and the DNS resolver. Several test resources and DNS checks were provided.

DNSSEC for Dummies

Hervé HOUNZANDJI, University of Lorraine

This presentation focused on the DNS security extension, DNSSEC. While adopting a very pedagogical approach, the presenter explained to the participants (whose profile was not just technical) what DNSSEC is. Firstly security risks and vulnerabilities related to the DNS were presented. In a second time, the presenter focused on the part of DNSSEC. Through diagrams he explained the chain of trust that allows from root to domain to do DNSSEC validation to secure the response to requests received by the end user.

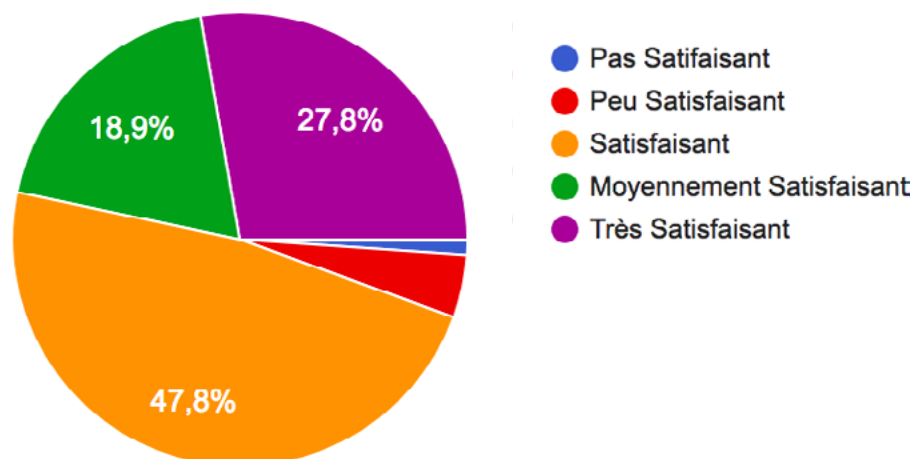
Presentation of the realization of DNSaThon

Alfred AROUNA, Isocel Telecom and BJNOG

Results from the two days of Hackathon work were presented at the Forum Public. This presentation was to present the work of each team classified in Root, Registry, Registrar, and Internet Service Provider.

Appreciation of the Security Panel around the DNS by the participants

This panel has aroused great interest in the Public Forum. The evaluation reveals a high satisfaction rate at about 95% satisfaction.



DNS Services Panel at IXPs and ISPs

Description of the Panel

The final panel of the public forum of the BENIN DNS Forum looked at the DNS service at IXPs and ISP. The panelists first made an introduction to the Internet exchange point in explaining how an IXP works and its different modes of possible governance. The need of an exchange point in a country was also put forward and the case of the exchange point of Internet du Bénin was approached.

The second part of this panel was the sharing of the results of the study on the attractiveness of the Service DNS with Forum participants and assisting authorities.

Panel Communications and Presentations

Two (02) communications constituted this panel on DNS and IXP and ISP services.

Introduction to internet exchange points

Ornella GANKPA, Isocel Telecom

This very interactive communication was made through exchanges with participants in a participatory atmosphere. These exchanges revolved around the IP Transit which is a service, a bandwidth that one buys from a service provider. This IP transit approach has drawbacks such as high response time, poor quality of service, high cost and little control over the data. To mitigate these imperfections, it would be better to have a consultation of the ISPs in order to interconnect via a Internet Exchange Point (IXP). It would be less expensive for both suppliers and users. The architecture, the technical details related to the installation of an Internet exchange point and the other possible services for an IXP were also presented.

Presentation of the report on the quality of the DNS service in Benin

Ramanou BIAOU, World Internet Labs and
Yazid Akanho, IGB@NET

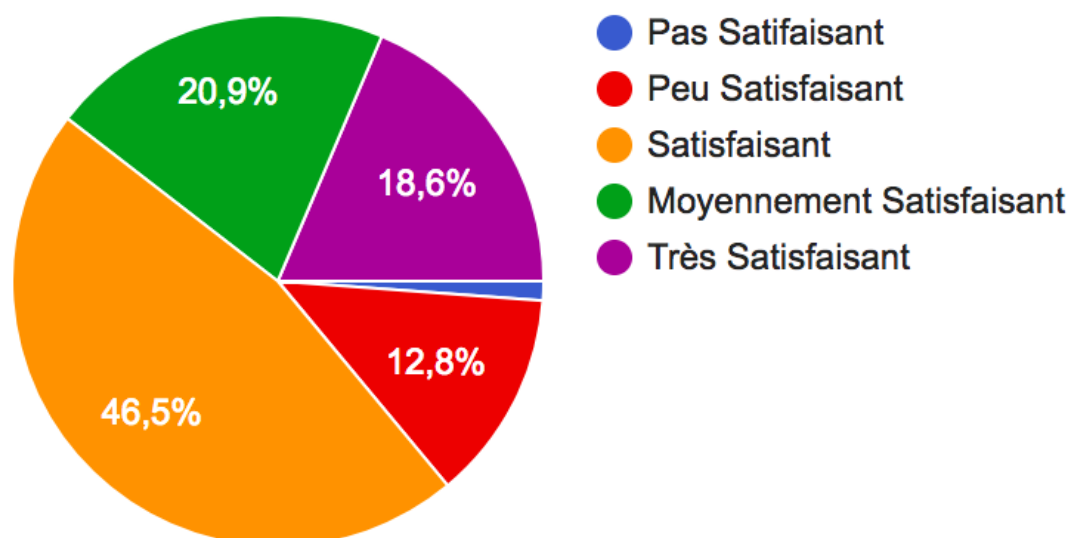
The presentation of the summary of the results of the study on the attractiveness of the DNS Service in Benin was made to the participants.

After this synthesis, the presenters highlighted the main points of the study in particular, such as the interest of the users in preferring the national extension if this one demonstrates an active security in its management and a simplification of its acquisition mode on the one hand.

On the other hand, it was revealed the lack of IPv6 connectivity of DNS resolvers, the existence of resolver DNS of some ISPs (using foreign resolvers for their clients) and the weakness of areas of certain .bj domains that are transferable.

Evaluation of the DNS Services Panel at IXPs and ISPs by participants

Like the other panels, this one was also very appreciated by the participants in the Public Forum. With an overall satisfaction rate at over 80%.



Public forum tutorials

This year, two (02) tutorials were presented at the Public Forum. Focused on the anycast technique with the DNS and the new Internet publishing layer called FROGANS, these tutorials have allowed to give technical demonstrations to the participants.

Deploying Anycast DNS Cache Servers

GrEgoire EHOUMI
Africom

This essentially technical tutorial (explanations, configurations and demonstrations) allowed participants to understand the principle of DNS Anycast and understand how is being deployed. He first introduced what is a DNS Cache server as well as the anycast before giving examples of architecture in the matter.

The Anycast IP configuration model on the servers as well as the deployment of a DNS cache were explained before the demonstration of a practical case study that took place relied on routing configurations and sample scripts to do monitoring DNS Service.

Frogans technology: an open standard of the Internet developing world by local communities

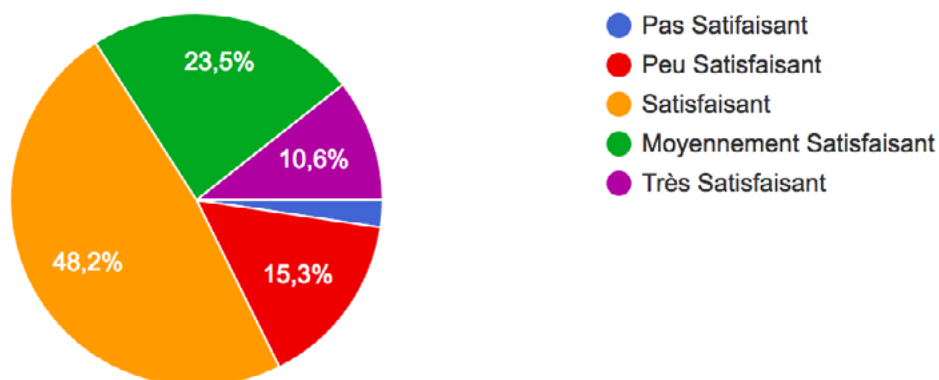
Charlette N'Guessan and Jean-Marc Ehouman
Frogans Community Ivory Coast

This second tutorial of the Public Forum was interested in the new layer of publication on Internet: the Frogans technology. It was introduced as well as its contribution in the ecosystem publishing layers on the Internet including its content publishing security on the Internet, open its simple, secure and natively multilingual addressing system, its ability to display identical content, regardless of the size of the screen or the operating system of the terminal to the creativity of publishers and the service of all Internet users. Through their experiences, the two presenters presented their approach in setting up a Frogans community in Côte d'Ivoire and presenting the benefit and opportunities related to local community development and skills around the technology Frogans.

Addressing Frogans sites, the Frogans site consultation browser, Frogans Player and The FSDL description language was presented and demonstrated to participants.

Appreciation of the tutorials by the participants

The two tutorials of the Public Forum generated a lot of enthusiasm among the participants.





The DNS Quiz Show is the moment of entertainment, evaluation and quarter-hour learning with participants aiming to appreciate their knowledge at the end of the public forum and allow winners to leave with a souvenir gift from Benin DNS Forum.

How does it happen?

Participants answer a series of 10 elective questions multiple on the DNS. All the questions come from exchanges and public forum communications. This is the fundamental reason for which DNS Quiz Show is scheduled at the end of the day.

In a very friendly atmosphere, participants at the 2017 edition individually answered on paper the ten (10) questions asked. The correction is done in pairs, the participants having obtained the best ratings have received awards that have been offered by the sponsors of this third edition. These are free website creation coupons by It-Num, France DNS vouchers and Benin DNS Forum T-shirts

ATLAS probes : **Where are we in Benin?**

Benin is the first country in Francophone Africa for the reception and connectivity of Atlas probes.

Benin DNS Forum actively contributes to connectivity of ATLAS probes and further motivates the community to welcome the probes.

Source : <https://atlas.ripe.net/results/maps/density/>



Based on the overall assessment of the Benin DNS Forum 2017, we are planning for the next edition to:

- organize in March-April 2018, a seminar on the attractiveness of .bj in collaboration with ARCEP by associating the different actors around .BJ;
- maintain and enrich the activities of BDF 2017;
- set up a WDA alumni program for the follow-up of beneficiaries of this program since 2016;
- offer the opportunity to WDA participants 2016 and 2017 to assist trainers in training WDA women 2018;
- allow former WDA participants to take share in the Hackathon;
- make a wide opening of the BDF to the other localities of Benin by relocating certain activities;
- Offer participation scholarships to the Benin DNS Forum to citizens throughout the territory and to the countries of the sub-region for the purpose of obtaining a good diversity of the origin of the participants.



Conclusion

The use of the Internet around the world today is based on protocols and open standards such as IP, DNS, BGP, UDP, TCP, etc. For this purpose, understand the functioning of all these protocols, the ecosystem of their development, and better contribute or know how to contribute to these are details likely to interest a local community user and actress of the Internet.

After the 1st and 2nd edition of the Benin DNS FORUM, this 3rd edition was positioned in order to make all the elements visible raised. By enriching our areas of activity with the DNSathon (Collaborative Hackathon on the DNS), the seminar towards public-private sector and the study on the quality of the DNS in Benin, we are committed to qualitatively improving the content of the Forum while adapting it to local needs. Which allowed a remarkable commitment of the different parties (Government, Private Sector, Start-up, Academic and Technical Community and Consumers Association) in constructive high-level exchanges on Internet issues in Benin.

The results obtained at the end of this forum, as well as the various feedback from the community technical, public and private sectors demonstrate the importance of this Forum in the ecosystem of initiatives that promote the development of the Internet and digital in Benin.

The commitment of local partners and organizations at the international level has allowed to create an inclusive channel of partner sponsors that are sensitive to the objectives of the BENIN DNS Forum and the necessity of the success of its different activities.

The horizon of expectations of the multi-stakeholder community of the Internet widening more and given the central role of the initiative in the Beninese ecosystem, Benin DNS Forum will evolve towards an even more inclusive participatory initiative on the whole Internet technologies. That's why reflections are now engaged to build on our achievements while defining a three-year plan for a resilience of critical Internet technologies and resources in Benin.

Some pictures of the BENIN DNS Forum 2017

WOMAN DNS ACADEMY

21st to 24th November 2017 - ABETIC Ganhi



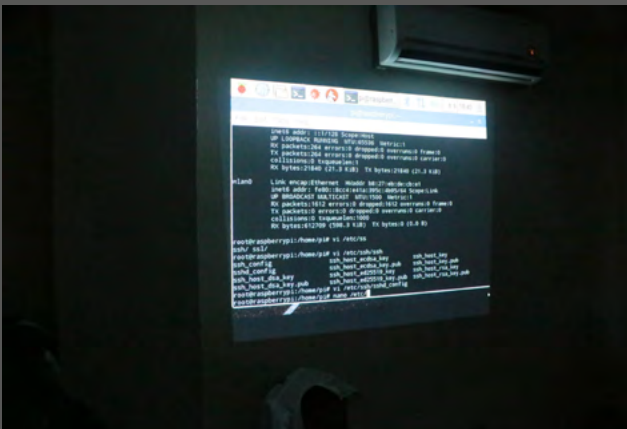
see more : www.photos.dnsforum.bj

Some pictures of the BENIN DNS Forum 2017

DNSAthon

Collaborative DNS Hackathon

from 23 to 24 November 2017 - Hotel KTA



see more : www.photos.dnsforum.bj

Some pictures of the BENIN DNS Forum 2017

Public-private seminar about DNS issues

November 23, 2017 - Hotel AZALAI



see more : www.photos.dnsforum.bj



see more : www.photos.dnsforum.bj

Some pictures of the BENIN DNS Forum 2017

PUBLIC FORUM

November 25, 2017
AZALAI HOTEL in Cotonou Beach





see more : www.photos.dnsforum.bj



www.dnsforum.bj