Marc **Bruyere**

COMPUTER NETWORKING · SOFTWARE DEFINED EXPERT

Paris/Toulouse - France || Tokyo - Japan

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"The researcher's mindset to drive innovation of impactful open networking solutions and services."

Skills

Computer Networking Architecture	Network Design and Implementation, Conduct Proof-of-concept, Operational Research
Software-Defined Networking (SDN)	P4 Language, Tofino, Open vSwitch, OCP SAI, Network Automation tools
Open-source software and hardware	BIRD, FRR, Grafana, FAUCET, NetFPGA, ContainerLab, ...
Languages	English (Bilinguale),French (Native), Italian (Native), Japanese (Basic)

Education

PhD in Computer Networking
Toulouse, France

LAAS CNRS
Oct. 2012 - Jul. 2016

- Thesis title: "An outright open source approach for simple and pragmatic Internet exchange"
- Advancing IXPs beyond traditional vendor limitations using open networking and automation.

Master Degree in computer networking and telecom
Toulouse, France

UPSSITECH SYSTEM TELECOM AND RÈSEAU INFORMATIQUE - UNIVERSITY PAUL SABATIER
Sept 1998 - June 2001

- Telecommunications Systems and Computer Networks (STRI).

Certificates

Cisco Certification Internetworking Expert in Routing and Switching #16656
Brussels, Belgium

CISCO TRAINING AND CERTIFICATION
Oct 2002 - PRESENT

- The CCIE certifies the skills required of network engineers to plan, operate and troubleshoot complex, converged network infrastructures on a wide variety of Cisco equipment.
- Recertified with written 350-080 Data Center in August 2015, and Emeritus CCIE Status until

Professional experience

Internet Initiative Japan Lab
Tokyo - Japan

SENIOR RESEARCHER
Nov. 2018 - present

- Designed and developed the Holist-IX full stack solution - Tofino P4 switches.
- Supervised two Post-Doc on A.I. for computer networking projects
- Conducted People-Centric research
- Conducted Internet Measurement research

The University of Tokyo - Japan French Laboratory of Informatics
Tokyo - Japan

POST-DOC
Nov .2016 - Oct. 2018

- Extended work on SDN IXP for the WIDE Project - PIX-IE: A Programable Internet eXchange In Edo.
- Collaborated with local IXPs in Japan JPNAP - JPIX on SDN project.
- Presented at many Operators meeting my works on SDN.

Snootlab SAS
Toulouse -France

CO-FOUNDER
Jan. 2010 - Nov. 2019

- Designed the carrier grade 100Gbps Optical Amplifier - Snootlab Range Extender product for AMS-IX.
- Snootlab designs and develops electronic products with an Open Hardware and Open Source approach.
- Snootlab is specialized in the design of new shields for Arduino, Raspberry PI and others platforms.
- Snootlab disrupts maker, hacker and artist use electronic.

Laboratory for Analysis and Architecture of Systems - CNRS
Toulouse - France

PHD STUDENT
Oct. 2012 - Jul. 2016

- Invented the Umbrella IXP switching fabric and deployed it at the Toulouse IXP and operated it from 2015 to 2021.
- Main contributor with the Umbrella architcture to the ENDEAVOUR H2020 EU project - Towards a flexible software-defined network ecosystem
- Main contributor with the DELL split-data plane to the ALIEN FP7 EU project - Abstraction Layer for Implementation of Extension Programmable Networks

DELL - Force10
EMEA

SENIOR TECHNICAL CONSULTANT
Jul. 2011 - Jun. 2015

- Contributed with SDN Open Hardware to DELL networking CTO office for the EU ALIEN FP7 project.
- Leading the research contribution for DELL-Force10 Alien .
- Provided technical support to all EMEA sales team for the largest EMEA customers.

Force10 Networks
London UK

TECHNICAL ENGINEER
Jul. 2007 - Jul. 2011

- Conducted various PoC for IXPs : DE-CIX, BNIX
- Fully Invested for the CERN & LHCb & Atlas and the Computer Center networks teams.
- Technical support for Telefonica, American Express, NYSE EuroNext.
- Leading the beta testing program for the 3rd generation high density chassis Exascale at CERN.
- Staged and installed HPC networks for EPFL, ETH Zurich, Phillips Morris International and the King Abdulha University Science and Technology in Saudi Arabia.
- Provided technical support to all EMEA sales team for the largest EMEA customers.

AIRBUS - Dimension Data
Toulouse France

TECHNICAL TEAM LEADER
Dec. 2005, Jul. 2007

- Designed with the best Eng. from Airbus a new data center architecture.
- Supervised the proof of concept at Cisco - San Jose & London, as a poertry.
- CCIE Airbus LAN Campus 1700 active L2/L3 devices with RC-OSPF, NTP, RSTP, TACACS features.

Credit Suisse First Boston Italy
Milan Italy

NETWORK ENGINEER CONTRACTOR
Jul. 2002, Dec. 2004

- Maintained and improved the Italian LAN, MAN, WAN and nomads solutions.
- Configured and Deployed the network for a new data center with its disaster recovery remote site.
- Migrated Milan MAN and the 35 italian agencies Frame-Relay and ISDN.

Brainshare EMEA Novell Barcelone
Barcelona Spain

NETWORK ENGINEER CONTRACTOR
May. 2002, Jun. 2002

- Staged and deployed and operated the guest, registration and the Corporate WLANs.

Vivendi Universal Networks
Paris France

NETWORK OPERATION CENTER ENGINEER CONTRACTOR
Feb. 2002, May. 2002

- NOC team member for the massive world wide network managed through HP openview, CiscoWorks for MPLS, Frame Relay, ATM, Leased Line and ISDN.
- Documented new procedures.

Cisco Systems
London UK

NETWORK ENGINEER CONTRACTOR
Jul. 2001, Oct. 2001

- Design, stagged, configured, deployed and operated the Cisco events networks.
- CIO Summit Monaco Grimaldi Forum Nov. 2000 - 500 attendees.
- Sales Meeting Paris Palais des Congrès Sep. 2001 - 1500 attendees.
- Networkers CCIE CLC BellaCenter Copenhagen Oct. 2001 – 4000 attendees.

Cisco Systems
Paris France

SYSTEM ENGINEER JUNIOR
Jun. 2000, Jun. 2001

- Wrote technical replies for different RFP and RFI.
- Offered handson sessions for the new service providers for CPE and xDSL solutions.
- Documented CPE xDSL solutions.

Club Internet
Paris France

HOTLINE TECHNICIAN AND SALE REPRESENTATIVE
May. 1996, Apr. 1998

- Launched the french south west computer reseller sales network.
- HotLine technician support.

Publications ━━━━━━━━━━━━━━━━━━━━━━━━━━━ PUBLISHED

Find below just a small selection of my academics papers.

If you want to access all my publications https://marc.bruyere.io

2023	**For a joint operator-centric approach to assessing network management effort.**, **Bruyere, M.**, Tuncer D.	*SIGCOMM - ACM*
2021	**HolistIX: a zero-touch approach for IXPs.**, C. Visser, S. Yamamoto, T. Takashi, Y. Sekiya, and **Bruyere, M.**.	*CNSM - IEEE*
2018	**Rethinking IXPs Architecture in the Age of SDN.**, **Bruyere, M.**, Antichi, G., Fernandez, E., Moore, A. W., Uhlig, S., Owezarski, P..	*JSAC - IEEE*
	ENDEAVOUR: A scalable SDN architecture for real-world IXPs, G. Antichi, I. Castro, M.Chiesa, E. L.	
2017	Fernandes, R. Lapeyrade, D. Kopp, Jong Hun Han, **Bruyere, M.**, C. Dietzel, M. Gusat, A. W Moore, P. Owezarski, S. Uhlig, M. Canini	*JSAC - IEEE*

Program Committees

Present **Workshop Intent-Based Networking - NetSoft**, Co-chair
Present **EURO-IX**, Forum program committee member and co-chair from 2015
Present **IEEE TNSM committee**, Reviewer
2017-22 **FAUCET Foundation**, Board member

Extracurricular Activity

TETANEUTRAL.NET
Toulouse -France

Co-Founder of the non-commercial ISP Tetaneutral.net ASN197422
Oct. 2010 - PRESENT

- TetaNeutral.net has hosting services and it is providing internet access with its own wireless MAN and ADSL to a large community of members around Toulouse City.
- TetaNeutral.net is part of the DIY ISP community to have citizens taking back their own local network.
- TetaNeutral.net strongly support Free Software and Hardware.

THSF : The largest french HackerSpace event
Toulouse - France

Co-founder of the Toulouse HackerSpace Festival
Mai. 2009 - PRESENT

- Launched on the model of the Chaos Computer Congress in Germany, an event mixing Artists, Hackers, and Makers coming from different horizon.
- Organized the 2-3 days conference program of all editions.

Rocketry & Aeronautics projects
Toulouse - France

Founder and president of the Space Concept association
1986 - 1992

- Cooperated to the project Cylina with The "Institut de Mécanique des Fluides de Toulouse" (IMFT) an academic research laboratory.
- Experimented Taylor–Couette flow in weightlessness in the Caravelle ZeroG flight for the project Cylina.
- Constructed the French-Russian rocket Olga with confirmed russian engineers. Olga was launched in the World Wide Launching Campaign (WWLC) 1992 in Mourmelon le Petit in France.
- Experimented reduced-gravity effect with 3 different rockets Baka I & II and Ohka.
- Won the first prize with the rocket TOP-X in the CNES design, make a launch rocket contest.

Astrophysics & Cosmology
Earth

Enthusiast about space and astronomy from my early age
1985 - present

- Passed in 1995 a degree at the university of Orsay in astrophysics & cosmology to broad my knowledge.
- Part-time Astro-photographer when the sky and clouds want.