www.franceix.net

ANNUAL REPORT

2018

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1 Corporate outlook

“

France-IX is the Premier Internet Peering Service Provider in France, offering public and private interconnection services through its carrier and data centre neutral exchange points in Paris and Marseille.

Founded in June 2010 with the support of the French Internet community, France-IX is a member-based association whose core values are neutrality, sustainability and constant improvement of the Internet.

”

1.1 CHRISTIAN KAUFMANN

FRANCE IX ASSOCIATION BOARD PRESIDENT

> “Hello and welcome to the France-IX Annual Report. The past 12 months seem to have progressed in the blink of an eye yet when we cast our minds back over the past year we realise just how much the passionate support of its membership.”

I want to take this opportunity to thank all the staff on our growing team at France-IX and our board members Benoît Plessy and Yvan Lyko who left last year for their years of service to France-IX and the community.

A big welcome goes to the first two female board members: Rebecca Stanic from RETN and Florence Lavroff from Google. Boards should reflect the communities they support, and it is well-documented that organisations with more diverse leadership teams and employees will perform more effectively than its less diverse counterparts. Rebecca and Florence bring both commercial as well as technical experience to France-IX and I am sure they will contribute greatly to our continued success. As indeed will all our staff and board members.

The developments we're seeing at France-IX reflect some of the positive changes we're seeing in wider society. Of course other developments outside the control of France-IX have had an impact on our organisation over the past year. As markets and technology evolve, we're seeing an ongoing decline in the price of IP transit. Competition is also intensifying as new IX players emerge.

Another major trend that is undoubtedly affecting France-IX is the growing dominance in terms of traffic of a small group of larger content players. The French regulator ARCEP estimates that 53% of IP traffic from the main ISPs in France comes from Netflix, Google, Akamai and Facebook..

As a non-profit Internet Exchange Point whose purpose and strength comes from the community it serves, this concentration of traffic among a small handful of players is not entirely desirable, because while traffic is increasing the size, and therefore strength, of the community is being diminished. It seems, though,an unavoidable global trend particularly prevalent in more highly developed markets.

However, France-IX does have a growing number of smaller players among its membership base and remains committed to serving these players with the same best-in-class quality at the best possible price as the larger international organisation.

This concentration of traffic among larger players has had an impact on peering. The IP interconnection market during the past year has demonstrated a sharp rise in peering share vs IP transit, due to the increase of PNIs between the Large ISP and Access Providers, and main content providers mentioned earlier. At the end of 2017, the proportion of peering and transit of the total inbound traffic volume (from the four main ISPs in France) reached equality for the first time: 50% peering and 50% transit. At the end of 2018, the proportion was still the same.

Something unique happened in 2018 in terms of Internet access in France: while FTTH deployment continues to grow quickly (+31% in fibre deployment nationwide), for the first time, in France, mobile access to the Internet exceeded fixed access. ARCEP reports that as of December 2018, 55% of French users connect to the Internet from home on their mobile network (through various devices: mobile phone, digital tablet, desktop or laptop), +13 points since 2016. The end of roaming in Europe mid-2017 had a huge impact on mobile data usage: in one year, voice traffic was up by 28%, whereas data traffic doubled in 2018 according to ARCEP.

France continues to be a great place to do business. Foreign investment in the country is still doing very well, especially in technology. A total of 1,323 investment decisions by foreign companies were recorded in France in 2018 - a record level for the past 11 years. Much of this foreign investment originates in the US – in fact 18% of all new business investment in France is made by American companies and much of it is in research and development.

> “If you are new to France-IX we welcome you to our family, if you've been with us for longer, we aim to serve you to the best of our ability for many more years to come.”

1.2 FRANCK SIMON

PRESIDENT, FRANCE IX SERVICES

THE YEAR 2018

> “2018 was a great year for France-IX. We accelerated our growth, increased value for our members and positioned ourselves as the market leader in the French interconnection landscape.”

France-IX enjoyed sustained growth throughout 2018 in both Paris and Marseille, collecting more than 380 members in Paris and reaching the milestone of its 50th connected member in Marseille.

On the 1st of January we applied a global price decrease for all our offers, as indeed we have done for many years now. Furthermore to encourage upgrades to 100G ports we developed new offers that consist of providing 100G ports with differentiated bandwidth subscription for more flexibility (10G, 20G, 40G).

Development in Marseille has been consolidated by the activation of a 3rd point of presence (Interxion MRS2), in addition to Interxion MRS1 and Jaguar Network datacentre. In order to sustain traffic growth in Marseille and help deliver even greater value, the board of directors has validated a project to provide interconnection between Paris and Marseille, enabling Marseille members to reach Paris members without the requirement to move to Paris, avoiding a potential chicken and egg issue of prospects waiting for a bigger critical mass in Marseille before joining locally.

Our Marketplace has also continued to grow, reaching 11 sellers, allowing a wider diversity in terms of services.

France-IX remains committed to ensuring the optimum quality of service for its members. This resulted in the creation of quality of service statements which were published to provide members with guarantees in terms of service delivery and stability of the infrastructure, whatever the type of contracts and ports signed.

We’re pleased to report thatour on-going commitment to provide a highly reliable service has been met (objective of 99.995%), with the annual availability for Paris in 2018 at 99.997% and 99.998% for Marseille.

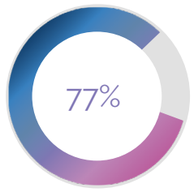
Furthermore, since one of our key requirements as an organisation is to listen to our community, match its expectations, and make sure we provide a professional service for a fair price, it was a great honour to be recognized as a leading European Internet Exchange, winning second place at the 2018 Global Carrier Awards in London.

By end of 2018, and following several years of team growth, office expansion was required. France-IX moved to much larger premises, still inside Paris, to remain easily reachable both for the employees and our visitors.

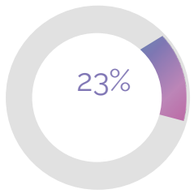
1.3 2018 KEY STATISTICS

GLOBAL MEMBERSHIP ACQUISITION

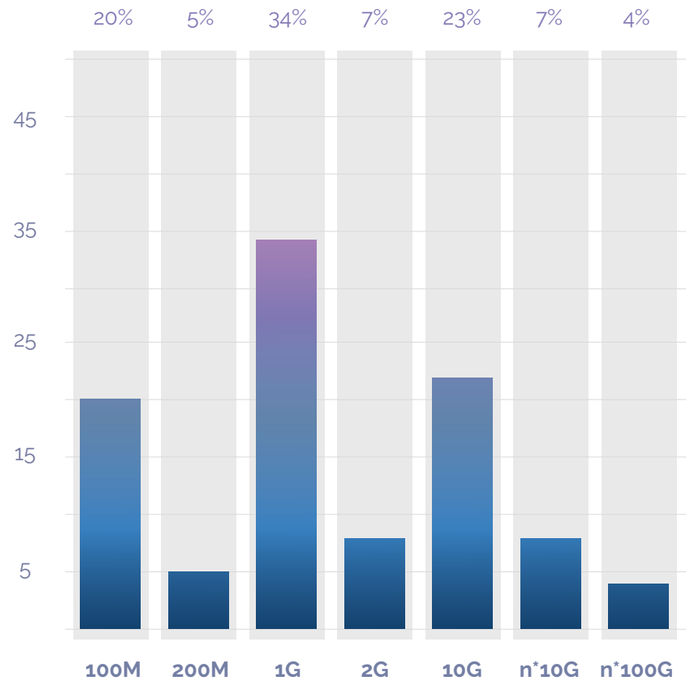
44
Total new connected Members



34
Direct members

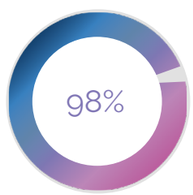


10
Members via Resellers

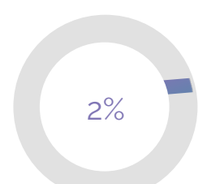


GLOBAL MEMBERSHIP UPGRADE

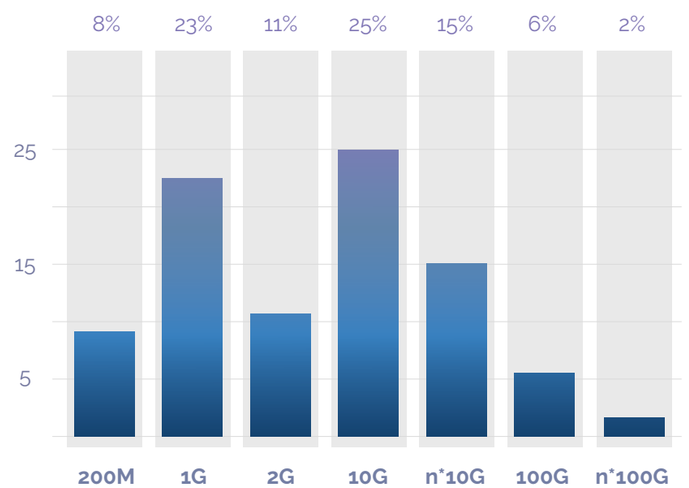
48
Total upgrades from existing members



47
Upgrades from direct members



1
Upgrades from members via resellers



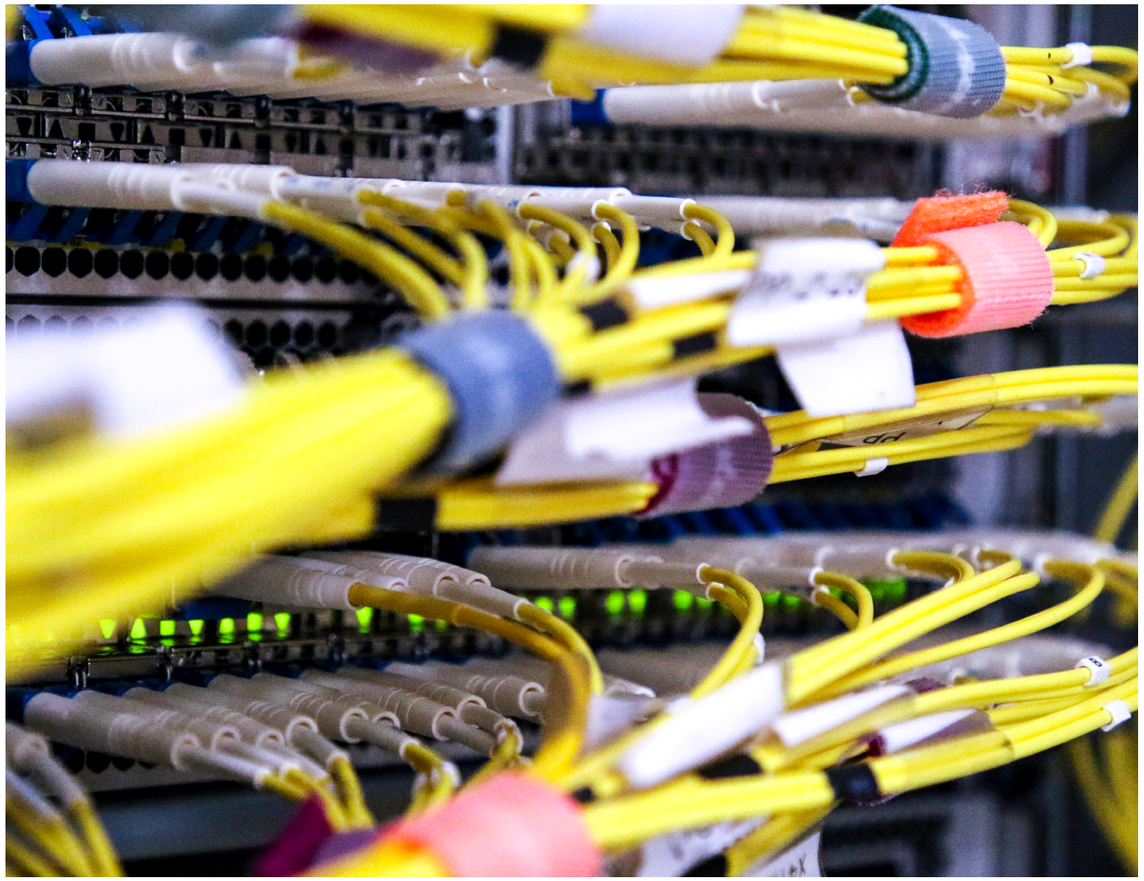
ANNUAL SERVICE AVAILABILITY

PARIS

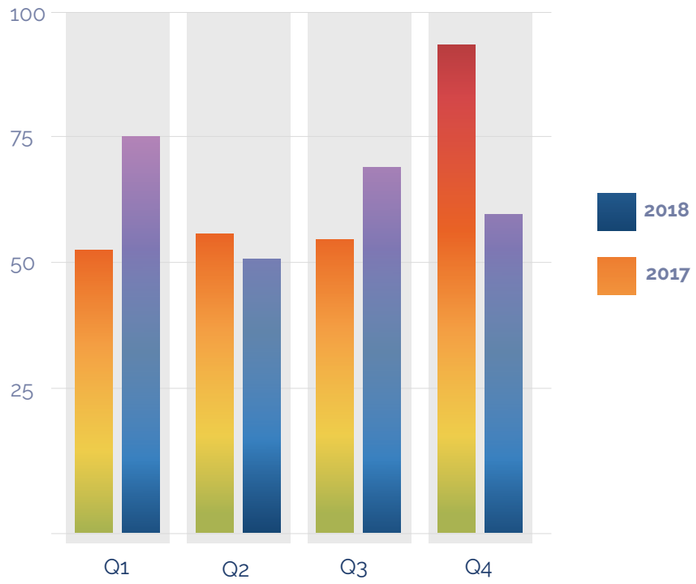
99.9967794%

MARSEILLE

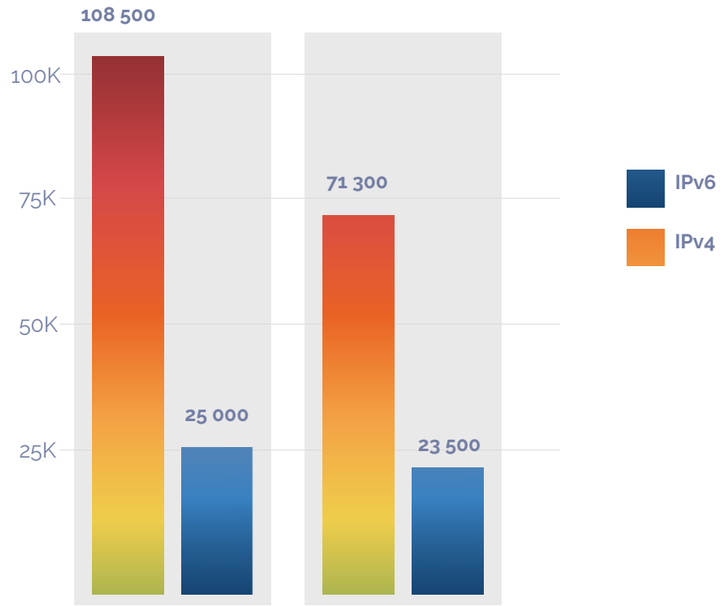
99.9979465%



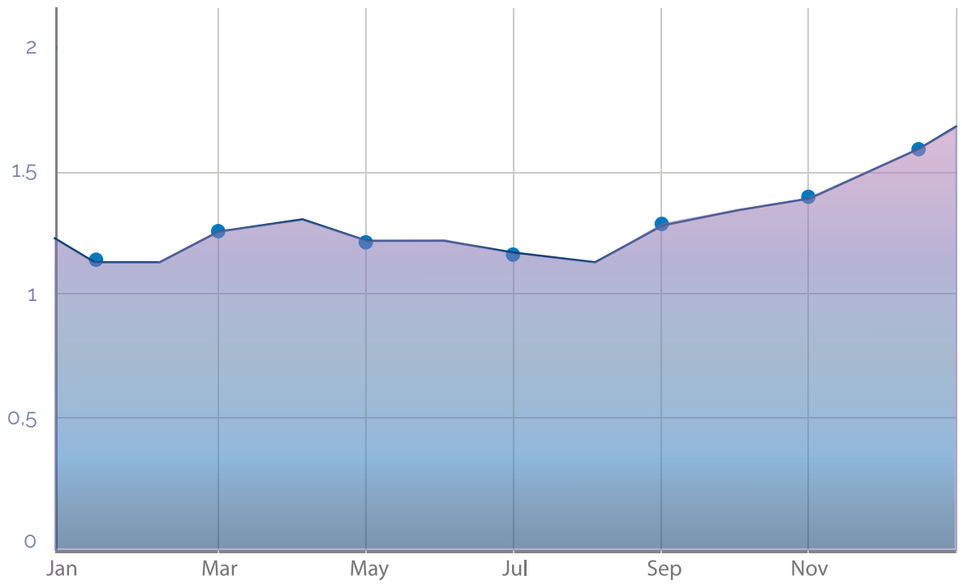
NUMBER OF TICKETS MANAGED BY THE NOC



TOTAL NUMBER OF ROUTES ON RS

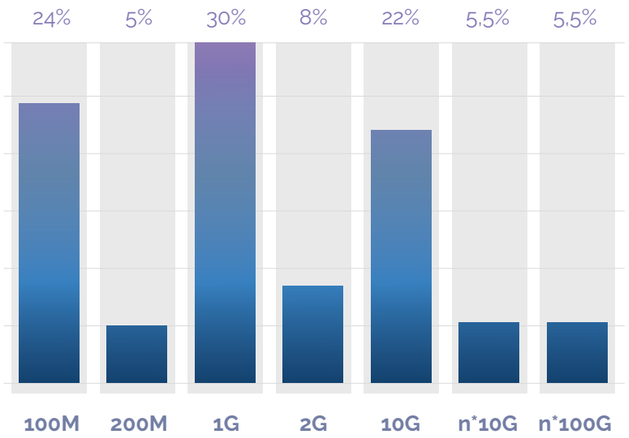


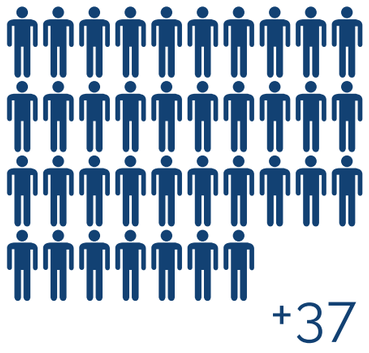
PEAK TRAFFIC (Tbps) IN 2018



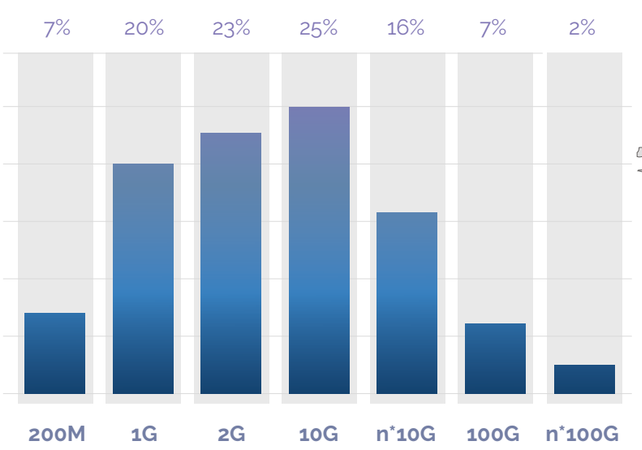
FRANCE-IX PARIS

MEMBERSHIP ACQUISITION



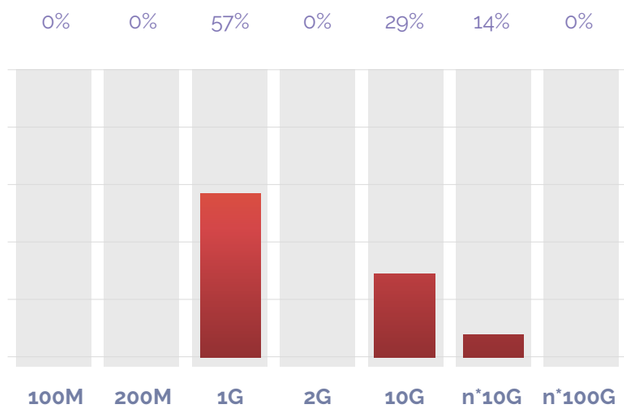


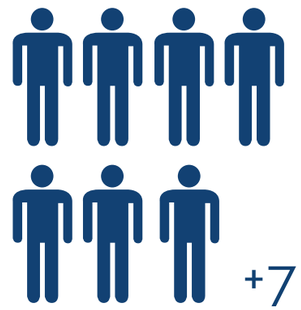
MEMBERSHIP GROWTH



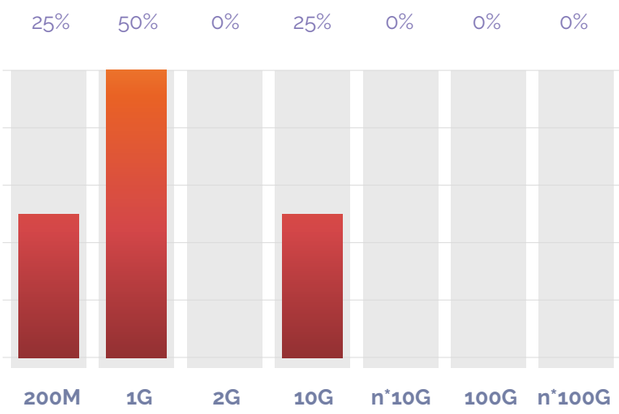
FRANCE-IX MARSEILLE

MEMBERSHIP ACQUISITION





MEMBERSHIP GROWTH



1.4 FRANCE-IX TIMELINE

2018

- **380th** member milestone for Paris
- **50th** member milestone for Marseille
- **22nd** active reseller worldwide
- **1.5 Tbps** peak traffic in Paris
- Route server **filtering policy** implemented
- **12th PoP** opening (Interxion MRS2, Marseille)
- **99.9967%** service availability in Paris and **99.9979%** in Marseille
- **10GE** port monthly cost to go below the €1k mark and launch of a first sub-100GE offer
- Marketplace active with eleven sellers
- **Interconnection** Paris-Marseille voted by the board of directors
- Challenger for the Best Internet Exchange at the **2018 Global Carrier** Awards (second place)
- Paris office **expansion** to welcome new employees

2017

- **350th** member milestone for Paris
- **40th** member milestone for Marseille
- **19th** active reseller worldwide
- **1 Tbps** peak traffic in Paris
- 10x**100G** ports delivered
- Third infrastructure full upgrade allowing higher
- density of 100Gbps ports
  Route server filtering policy voted by the members
- **99.9977%** service availability in Paris and
- **99.9998%** in Marseille
- First step towards automated provisioning of peering services
- Marketplace active with nine sellers
- Winner of the **Best Internet Exchange Innovation** at the 2017 Global Carrier Awards

2016

- **300th member** milestone for Paris and Marseille
- **Tenth** active reseller worldwide
- 600 Gbps peak traffic in Paris
- **100 Gbps** peak traffic in Marseille
- **Marketplace** programme launch with five sellers
- New **blackholing** service
- **100 Gbps** port first provisioning in Marseille
- **Tenth** employee milestone
- Paris office expansion to welcome new employees
- Strategic partnership with the London Internet Exchange (LINX)
- Ranking in the top five IXPs in Europe

2015

- **20th** member milestone in Marseille
- **50** Gbps peak traffic in Marseille
- **30%** of the shortest Internet paths reachable via France-IX (RIPE study)
- **100 Gbps** port first provisioning in Paris
- Migration of copper to fibre connections
- New PoPs *(Saint Denis; Telehouse 3, Magny-les-Hameaux; Jaguar Network, Marseille)*
- New public **weathermap** and new advanced looking glass
- Deployment of new out-of-band network and security filters policy to improve resiliency
- Partner for the future launch of the **Casablanca** Internet Exchange (CASIX) and the **Senegalese** Internet Exchange (SENIX)

2014

- **250th** member milestone for Paris and Marseille
- **300 Gbps** peak traffic in Paris
- **Sixth** active reseller in France and Europe
- One new PoP (Iliad DC3, Vitry)
- Second infrastructure full upgrade allowing higher density of **10 Gbps** port and **100 Gbps** deployment
- Ranking in the top **10 IXPs** in Europe

2013

- **200th** member milestone for Paris and Marseille
- **200 Gbps** peak traffic in Paris
- **Fifth** active reseller in France and Europe
- Launch of **France-IX Marseille** with the first PoP in
- Interxion MRS1, Marseille
- **Partner** of the AXIS project with the Internet Society (ISOC) to run regional IXP training sessions in Guinea and Comoros

2012

- **150th** member milestone
- **160 Gbps** peak traffic in Paris
- Free **100 Mbps** interconnection for any TOP-IX and TOUIX members
- **Reseller programme** launch
- First infrastructure **full upgrade**
- Development of in-house information system
- Launch of customer **web portal** (tools.franceix.net)

2011

- **100th** member milestone
- **PANAP** members one-night migration to France-IX in Paris and official closing of PANAP
- **Two new PoPs** (Telecity Condorcet and Iliad
- DC2)
  Free **100 Mbps** interconnection for any
- LU-CIX, LYON-IX and SFINX members
  Fifth employee milestone

2010

- **Commercial** and **technical** launch of France-IX in Paris
- **Six founding members:** Akamai, Jaguar Network, Neo Telecoms (now Zayo France), Interxion, Google and Bouygues Telecom
- **Six PoPs** operational from day one in Paris (Interxion 1, 2, 5, Telehouse 1, 2, Telecity
- Courbevoie)
  Two full-time employees

2009

- Creation of working group called **"Pheon-IX"** driven by **Neo Telecoms** (now Zayo France), **Google**, **Jaguar Network** and **Akamai**
- Survey suggested a strong expectation for an IXP to federate all French operators in Paris and to provide a high quality of service

1.5 2018 BOARD MEMBERS

CHRISTIAN KAUFMANN

President
2017-2020

JEROME FLEURY

Treasurer
2017-2020

CLOUDFLARE

CLEMENT CAVADORE

Vice-President
2017-2020

REBECCA STANIC

Member
2018-2021

FLORENCE LAVROFF

Secretary
2018-2021

STEPHANE BORTZMEYER

Member
2018-2021

GREGOIRE VILLAIN

Member
2017-2020

KENTIK

NICOLAS STRINA

Member
2016-2019

TWITCH

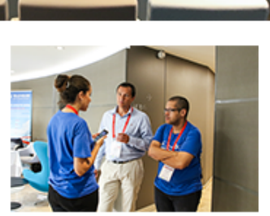
Corporate seats

Individual seats

1.6 2018 ANNUAL GENERAL MEETING

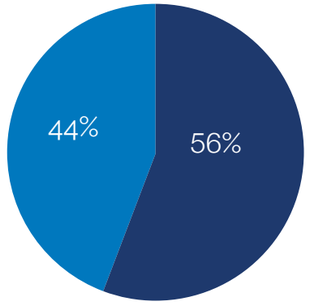
France-IX held its annual General Meeting on September, 20th in a brand new venue: the Business Center Paris Trocadéro. As in previous years, the event provided France-IX with the opportunity to gather in one day all the players who build the France-IX ecosystem whether they are members, future members or partners, in order to close its financial accounts, choose the new board members but also to look back over the achievements that marked the past year and explore new growth perspectives all together.

The 2018 edition reached the highest participation ever with 136 attendees and 44% of voter turnout.



WHO ATTENDED?

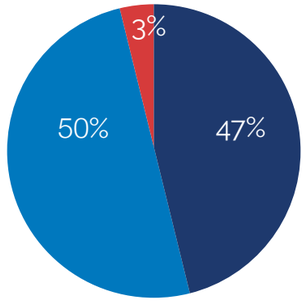
PROFILE



Non Technical **44%**

Technical **56%**

RESPONSIBILITY



50% Senior, Manager

3% Other

47% C-level President

SVP/VP Director Head

GENERAL MEETING IN NUMBERS

136 Attendees

86 Attending Companies

12 Presentations

2 Panels

18 Industry Leading Speackers

3 New Elected Board Members

5 Sponsors

15 Sponsors since creation

SPONSORS

kentik

TELEHOUSE
HOME TO YOUR GLOBAL ICT SOLUTIONS

ACCORUS
NETWORKS

interxion

FLEXOPTIX

VOTE RESULTS AND BOARD MEMBERS CHANGES

For 2018, the number of voters reached 150 participants for 340 electors, representing 44% of our members and thus exceeding the requested quorum of 25%. At the end of the vote, the 2017-2018 accounts were approved (128 yes, 0 no, 22 abstentions) and 3 members of the Board Committee were elected, marking the first time in France-IX's history that the Board sees women joining in. The 3 members who were elected (all as individuals) are the following:

2018 BOARD MEMBERS

Elected as individuals

STEPHANE BORTZMEYER

FLORENCE LAVROFF

REBECCA STANIC

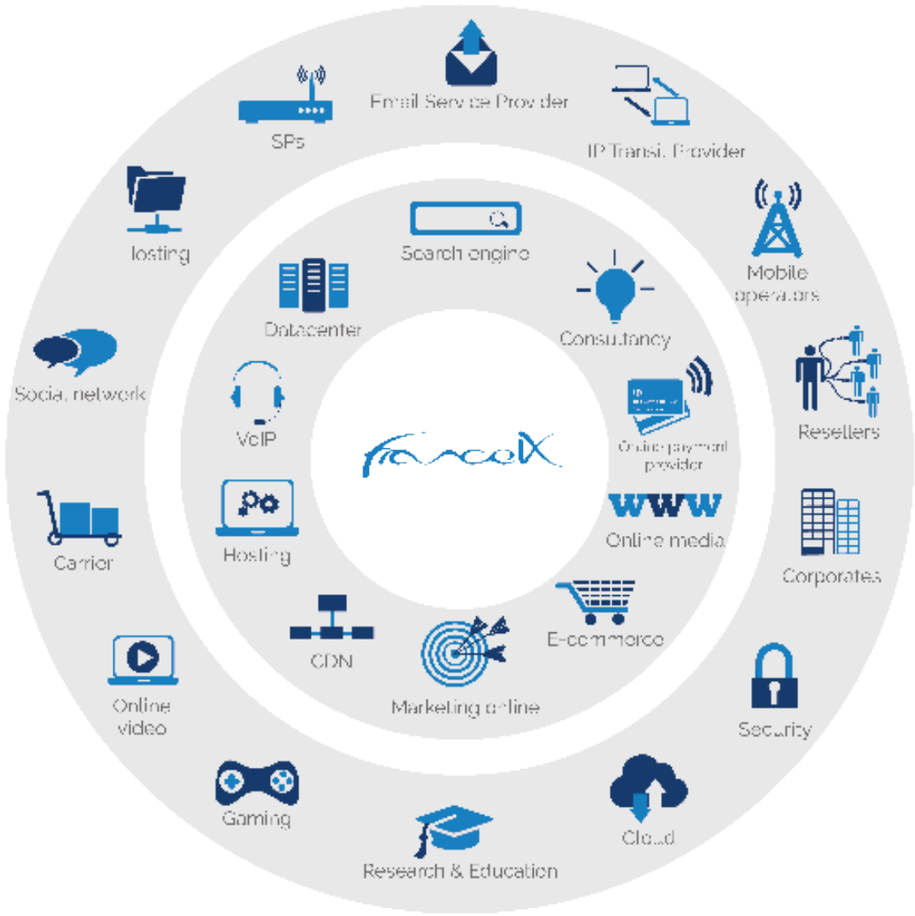
The General Meeting also gave France-IX an opportunity to thank outgoing board members Yvan Lyko and Benoît Plessy for their dedication and contribution over the past three years.

2 Community development

France-IX interconnects several hundreds of telecommunications carriers, ISPs, content providers, content delivery networks and all other Internet networks worldwide with significant traffic in the Internet French market.

2.1 OVERVIEW

France-IX interconnects several hundreds of networks from all over the world, representing real diversity in terms of profiles:



GEOGRAPHY

France-IX members are mostly based in France but a growing number originate from other European countries, the Middle East, Africa, USA and Asia Pacific.

BUSINESS SIZE

France-IX members range from Fortune 100 companies to non-profit organizations.

BUSINESS SECTOR

France-IX members can be classified into more than 20 business segments serving the residential, enterprise, wholesale and public markets.

2.2 2018 MEMBERS

NEW MEMBERS IN 2018

PARIS

- Altitud
- Apple
- Appliwave
- Arte
- Blade
- Congo Telecom
- CPRO Networks
- Diabolocom
- Ecoband GbR
- Enter
- EPT Grand-Orly Seine Bièvre
- ETG Integrated Services (Dolphin Telecom)
- euNetworks SAS
- Figaro Classifieds
- Flowbird
- Gigalis
- L'ile aux surfeurs
- Le Bon Coin
- LEVELSYS
- Netalis
- Numlog
- Omantel
- one.com A/S
- Orne THD SPL
- Parabone Reunion
- Qwant
- Saudi Telecom Company STC
- Slashme BV
- Smart AD Server
- SNCF
- Sonatel/Orange Senegal
- Startnix
- TAQNIA Space Co
- TELERYS Communication
- THALES Services SAS
- TOT Thailand
- Ubisoft International

MARSEILLE

- ebay
- Etisalat
- Lasotel
- Liquid Telecommunications
- Netiwan SAS
- Ooredoo Tunisie
- Yahoo!

MEMBERS WITH EFFECTIVE UPGRADE IN 2018

PARIS

- Acorus Networks
- Acropolis Telecom
- AFR-IX Telecom SL
- Akamai
- Amazon
- Aqua Ray SAS
- AXA Tech
- Blue Infra
- Bretagne telecom
- CELESTE
- Cisco Open DNS
- Cloudflare
- Coriolis Telecom
- Cyllene
- Dailymotion
- Direct Info Service
- E-TF1
- Flex Network
- Hexanet
- HISI
- Iguane Solutions
- K-net
- Keycom
- Keyyo
- Lasotel
- Le Bon Coin
- Leaseweb
- Monaco Telecom
- NET1C
- Neuronnexion
- NFOrce Entertainment BV
- NXO France
- PCH
- Rezocean
- SNC MOET HENNESSY
- Talsion
- TELIN
- Trinaps
- Verizon France SAS
- We Access
- Zayo France
- Zeop Reunicable
- Zscaler

MARSEILLE

- Fullsave
- Hurricane Electric
- VCTech

2.3 REMOTE PEERING

France-IX would like to thank all of our remote peering partners for their continuous activity and for their efforts to promote France-IX during 2018 in France and abroad.

WELCOME TO CONGO TELECOM, EPSILON AND NETALIS

THANKS ALSO TO AFR-IX TELECOM, ANGOLA CABLES, BICS, BLUE INFRA, EDX NETWORK, ENTER, GTT, IELO-LIAZO, INTERCLOUD, INTEROUTE, IP-MAX, IX REACH, NL-IX, PHIBEE TELECOM, RASCOM, RETN, SOFIA CONNECT, TELECOM ITALIA SPARKLE AND ZAYO FOR YOUR LOYAL PARTNERSHIP OVER THE YEARS.

2.4 MARKETPLACE

PARTNERSHIPS REINFORCED

France-IX's Marketplace was launched in 2016 with six sellers: Hurricane Electric, Kentik, Orange International Carriers (AS 5511), Orange Wholesale France (AS 3215), Telecom Italia Sparkle and Zayo. In 2017, Expereo/Border 6, Net1C and Hopus came on board.

In 2018, France-IX's Marketplace continued its development by adding two new sellers, thus strengthening the Marketplace offering in terms of diversity of services and providers, offering a greater choice along with cost efficiencies:

- Acorus Networks, providing access to a range of non-intrusive high-capacity anti-DDoS services for network and application-layer protection
- BICS, providing IP Transit, Cloud Direct access, Ethernet transport, remote peering and IP voice services.

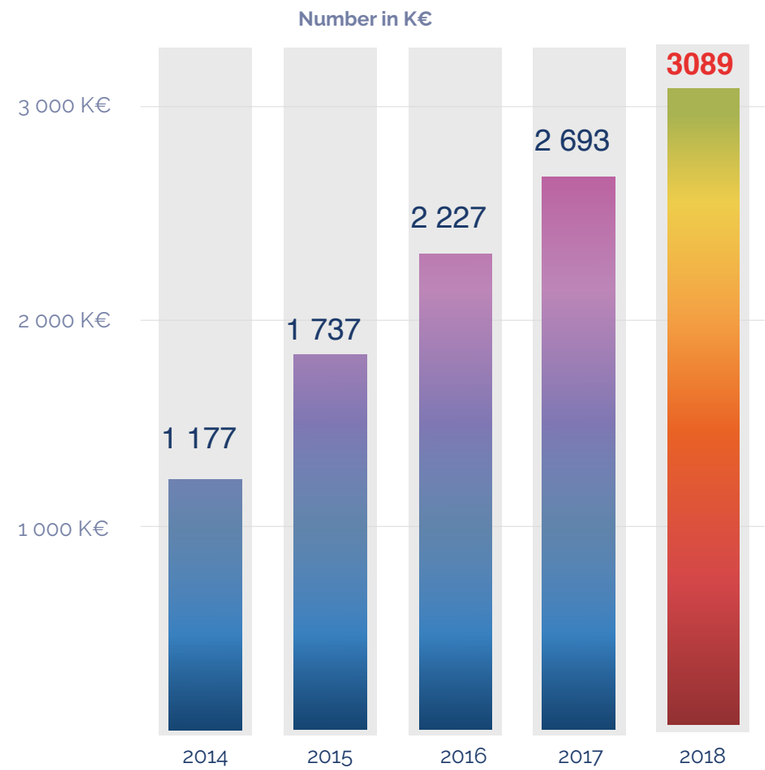
www.franceix.net

3 Financial report

"France-IX is a member-based organisation, able to sustain its operational expenses in the long run without threatening the company solvency."

3.1 € FINANCIAL OVERVIEW

France IX Services closure of accounts is effective every 30th of June. The accounts are presented to the France-IX community every year during the annual meeting where members are given the opportunity to place a vote of validation. The numbers shown in this report relate to the time of 1st of July 2017 to 30th of June 2018.



Revenues for France-IX continued to grow in 2018, however, the rate was lower than for previous years, showing a progression of slightly less than 15%, closing at €3089K (while the total invoicing for the entire year was €3693K). The turnover with foreign countries represents €1464K (47%).

The net result (benefits), at the date of closure of accounts (30th of June 2018) is €129K.

On 1st of January 2018 prices for all type of ports decreased both for Paris and Marseille, but still differentiating Paris and Marseille in terms of pricing (Marseille globally 10% cheaper than Paris). For Paris, 1G ports prices were decreased by 10%, 10G ports by 14%, 100G ports by 18%. For Marseille, a decrease of 9% has been applied on 1G ports, 10% on 10G ports, 14% on 100G ports.

OPERATING EXPENSES

The following table shows the top 10 operating expenses, sorted from highest to lowest:

Number in K€

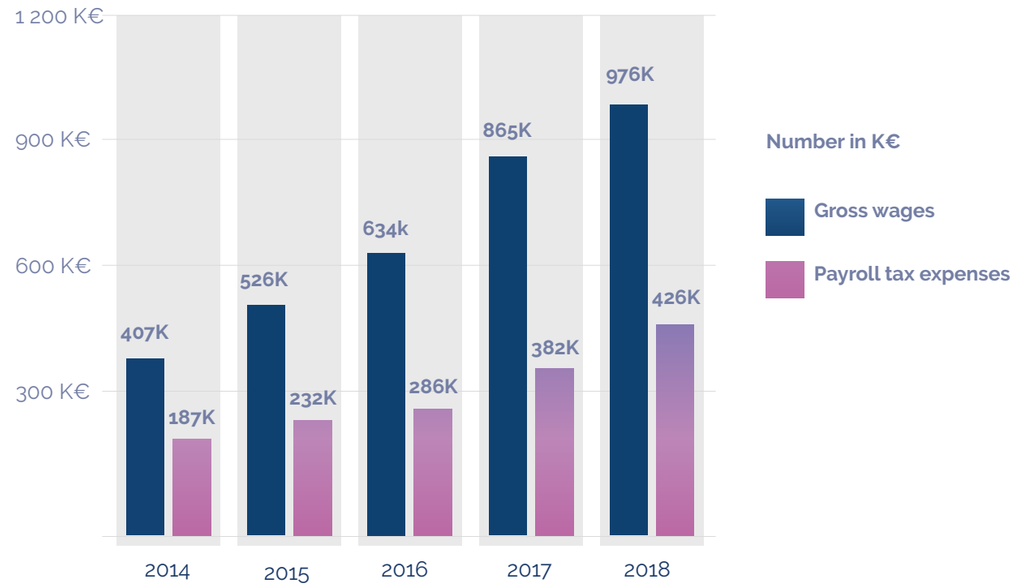
OPERATING EXPENSES	2017/2018	2016/2017
Equipment – leasing (switches, servers) - datacentres	**504**	392
Technical partners (NOC, backbone links)	**151**	103
Intermediary fees (lawyer, external accountant, HR costs, outsourcing of human resources)	**148**	125
Advertising & communication (sponsoring, press releases, press agency, goodies)	**140**	52
Premises - rent	**124**	124
Travel & transportation expenses	**110**	100
Equipment – buying (WDM, optics, out-of-band)	**58**	116
Maintenance	**52**	35
Insurances (equipment, premises, civil insurance)	**16**	18
Telecom expenses	**14**	12

The total amount of operating expenses for 2017/2018 was €1406K versus €1139K for 2016/2017. The main reasons for this increase are the leasing of network equipment (done over 36 months) deployed on France-IX points of presence, and secondly press relations and workshops, and costs of external providers.

For 2018, the advertising & communication expenses increased due to the outsourcing of these resource both for France and internationally..

All level2 and level3 technical teams (technicians and engineers) in addition to commercial and marketing teams are internalized, while the 24/7 NOC, accounting team, legal department and public relations support are all outsourced to third parties.

MANPOWER COSTS



Human resources and staff expenses represent the largest elements of the France-IX budget. Gross wages were €1402K in 2018 (including wages and taxes). However, France-IX does always try to hold such expense, to match it with the need for growth to provide a fair value for money equation to its members, so that for 2018 wages do represent 32% of the turnover, which was also the same ratio for the previous accounting time period.

CASH FLOW

In 2018, the cash flow position increased significantly to stand at €986K on the 30th of June 2018 (date of closure of accounts), versus €550K by end of June 2017. Members payment terms decreased from 51 days to 19 days, showing that they are paying in due time (the requirement being between 30 and 45 days for delay of payment depending on the type of organisation connected to France-IX).

RETAINED CAPITAL

The retained capital remained unchanged, still fixed to €250K.

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Published by France IX Services,
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