Usage of IXP Universal Platform For Mobile Operators

Alexandr Ilin
CTO MSK-IX

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MSK-IX

MSK-IX accelerates communications between Internet companies by providing neutral Internet eXchange for IP peering and global distributed DNS platform for top-level domains.

More than 500 organizations use MSK-IX services on a daily basis to enhance network connectivity in 10 cities in Russia. MSK-IX participants include ISPs, social networks, search engines, cloud providers, corporate and educational networks.

10
CITIES

500+
MEMBERS NETWORK

TRAFFIC
2,8Тбит/с

42
PoPs

21
DNS NODES

PHYSICAL LINKS UP TO
100G

MSK-IX

IXP #1 at Russia
Peering, MIX

**M9.PLUS –
Datacenter MSK-IX**
Colocation

Partner services integration
IP-transit, Cloud, Anti-DDos

Ethernet Infrastructure
L2 Infrastructure, SLA

TV Signal Delivery
For TV broadcasters,
For Network Operators

DNS
DNS Peering, DNS Hosting

AUTHORITATIVE DNS

Fast, secure and reliable anycast DNS cloud for your domain zones and websites.

MSK-IX operates a global distributed cloud of DNS-servers that powers top-level domains and popular web sites. Originally designed to host RU and РФ TLD data, our DNS network is currently used by TLD administrators, state agencies and companies requiring high-availability name servers.

22 PoPs in Europe, Asia, North And South Americas, including 10 PoPs in Russia

Anycast technology for optimal reachability of DNS-server from Any internet location

Resilent hardware and network design

Continuous monitoring and 24x7 Customer support
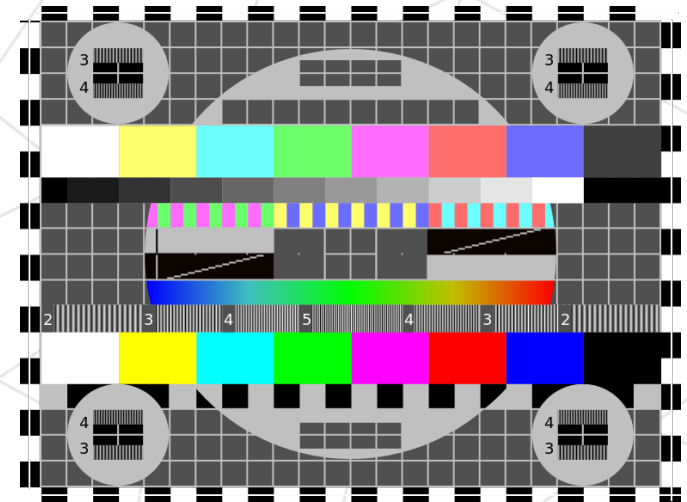
Regular security audits and DDos-protection

# MSK-IX: Medialogistics – SLA guaranteed service

Medialogistics – modern project of MSK-IX. Management of the flow of Media (TV) traffic between signal source from broadcasters and cable, satellite, OTT, IPTV operators critical

— Critical to Delay, Jitter, Packet Lost.
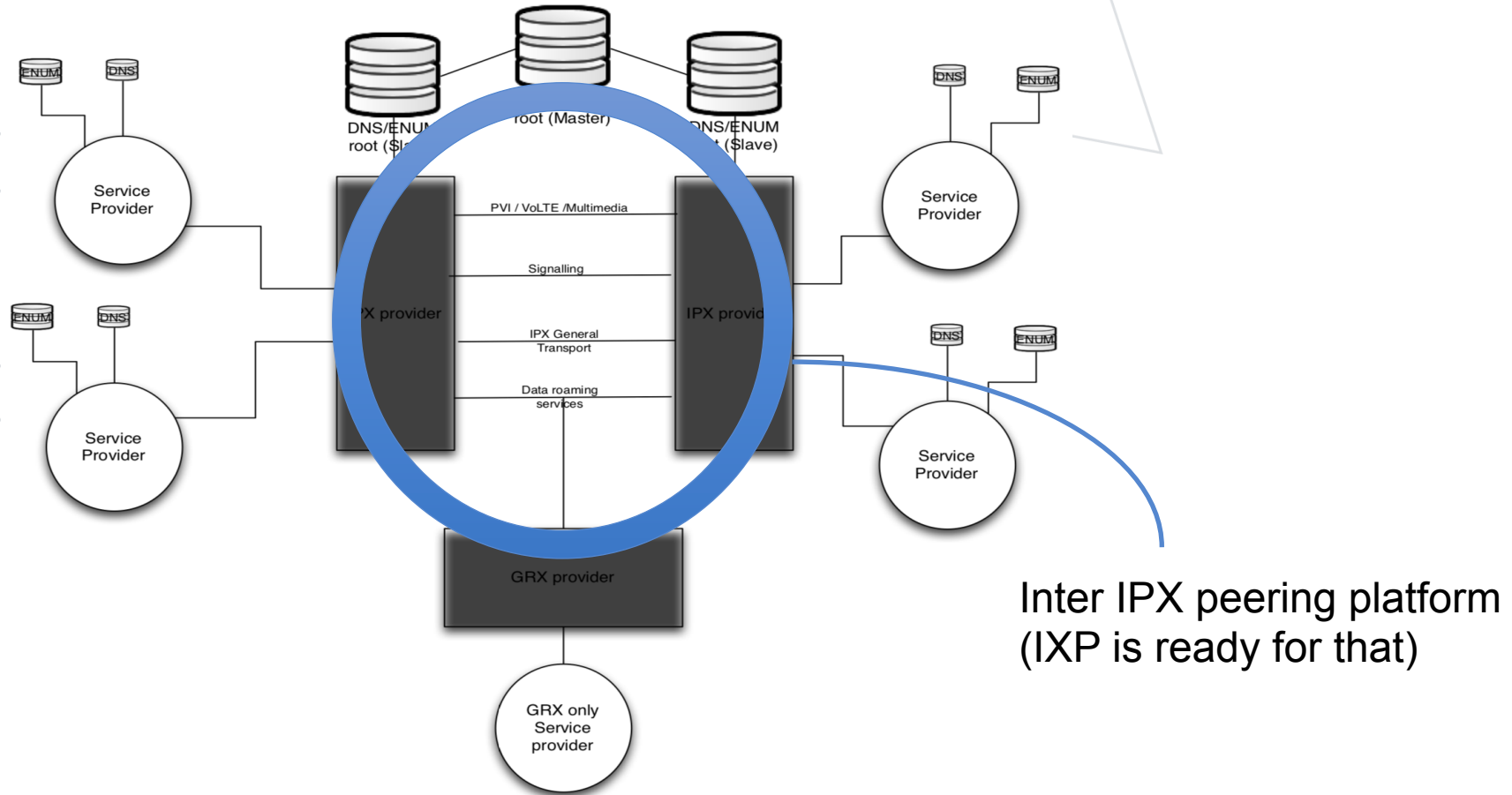— Uninterruptable
— High SLA requirements

Mobile Operators & Global IXPs

IXP infrastructure is ideal place for critical application and services: like GRX/IPX Exchange
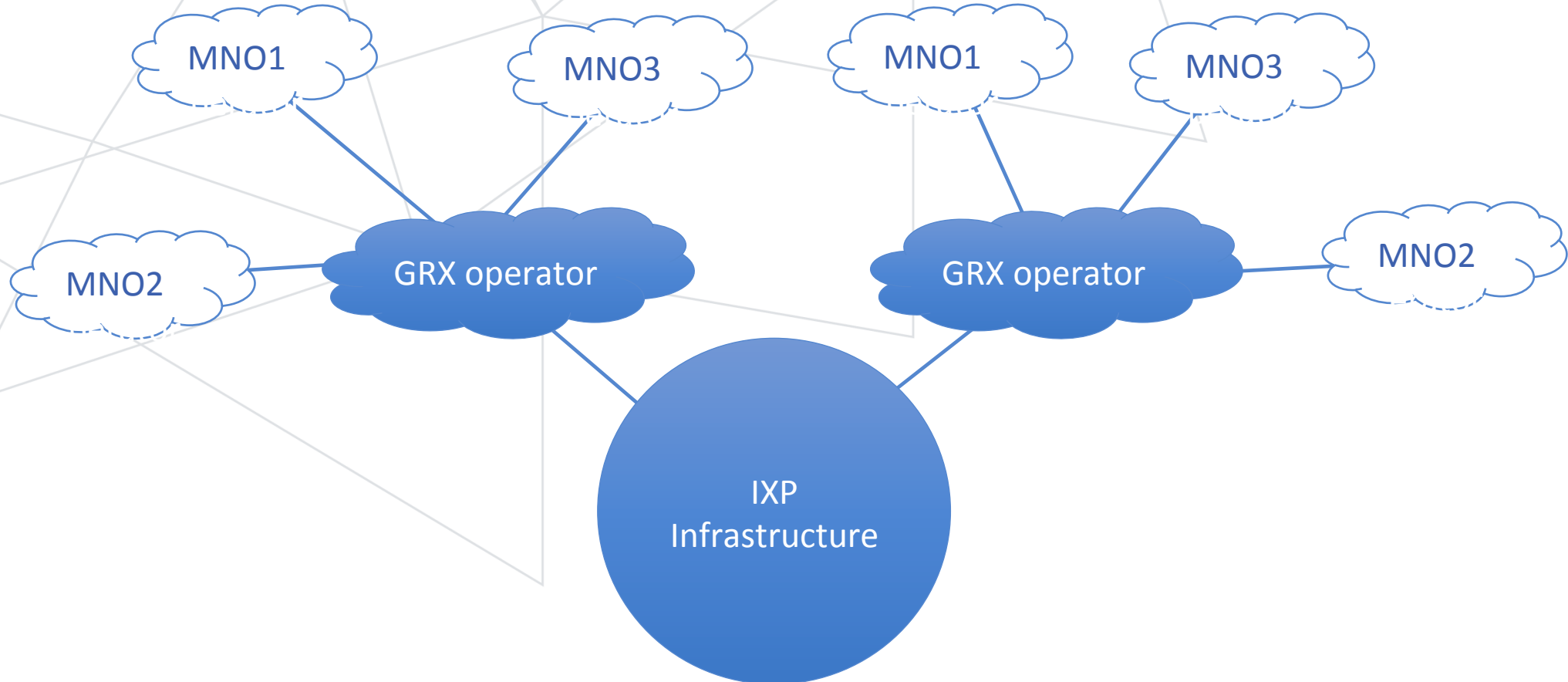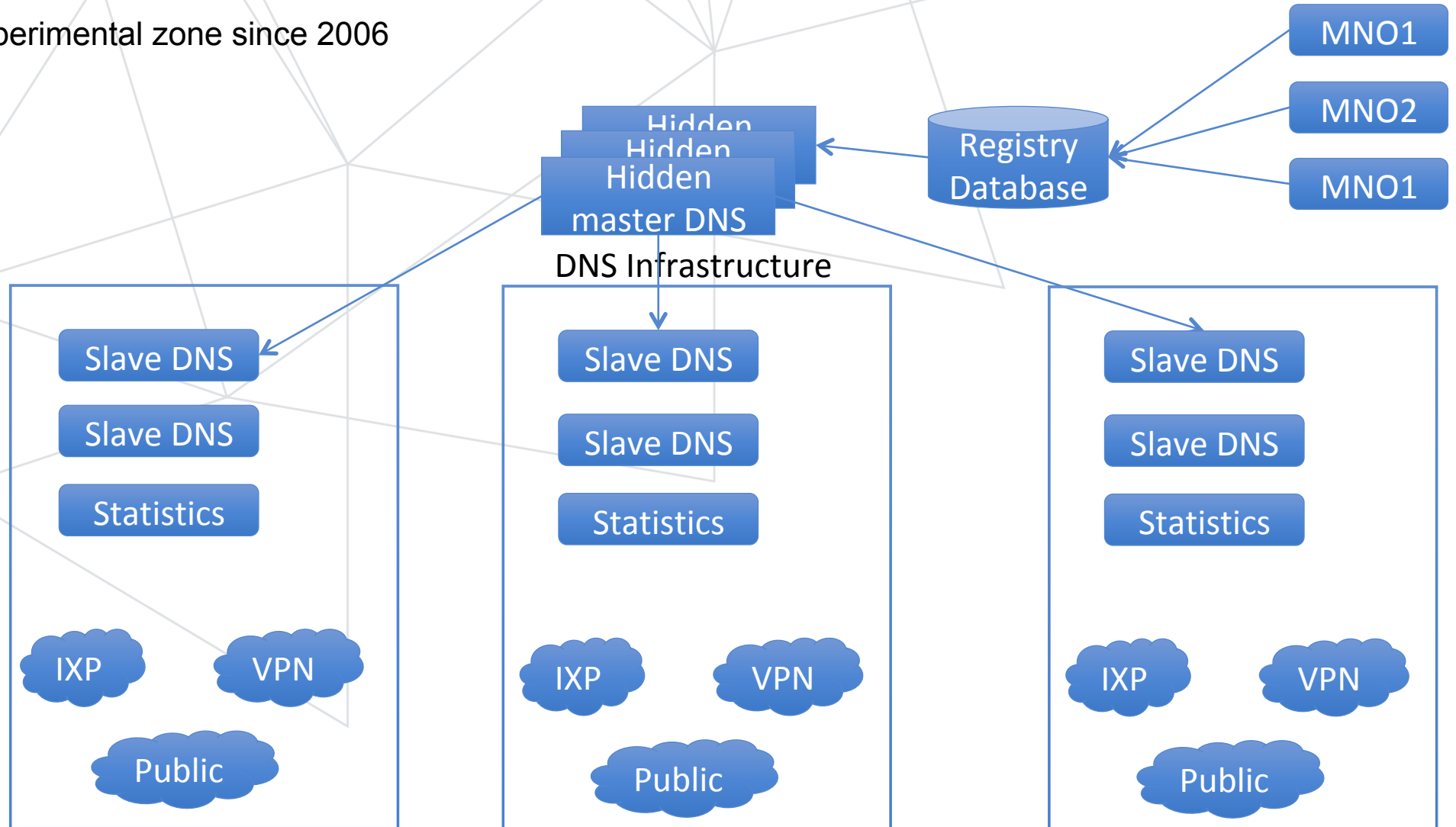
Mobile Operators & Global IXPs

GSMA PathFinder is a real-time telephone number information service that authoritatively identifies the world's in-use fixed and mobile numbers by operator

Inter IPX peering platform
(IXP is ready for that)

MSK-IX experience with mobile world

MSK-IX ENUM Experimental zone since 2006

MNO1

MNO2

MNO1

Registry Database

Hidden Hidden Hidden master DNS

DNS Infrastructure

Slave DNS

Slave DNS

Statistics

IXP

VPN

Public

Slave DNS

Slave DNS

Statistics

IXP

VPN

Public

Slave DNS

Slave DNS

Statistics

IXP

VPN

Public

ENUM DNS E.164 format

$ORIGIN 1.6.2.3.4.2.9.5.9.4.7.e164.arpa.

Class	Type	Order	Pref.	Flags	Service	Regexp	Rep
IN	NAPTR	100	10	"u"	"E2U+sip"	"!^.*$!sip:ilin@msk-ix.ru! "	.
IN	NAPTR	100	10	"u"	"E2U+msg"	"!^.*$!mailto:ilin@msk-ix.ru!"	.
IN	NAPTR	100	10	"u"	"E2U+http"	"!^.*$!http://msk-ix.ru!"	.

Query class (Internet)

Query type

Order

Preference

Flag: Output is URI

Service name (E164 to URL) and protocol

Greedy search

Replacement NAPTR Resource Record for next DNS resolution

Delimiter

ENUM results & our experience

— IXP infrastructure completely ready to ENUM implementation

— Could be implemented with private zone, not require to use Geographical ENUM zone

— QoS parameters ready. Service meets requirements and in some cases exceeds GSMA specifications (GSMA IR.34)

— Architecture is ready for providing DNS cloud, GRX/IPX infrastructure

— Only small part configuration is needed

— Hardware and software implementation working with time-critical services and ready for additional service

— ENUM is ready to work as "out of the box solution"

Russian mobile operators

— More than 60 assigned licences for international and long-distance connection

— More than 380 assigned licences for intrazonal communication

— 379 assigned licences for mobile radio communication

— Major Russian mobile operators already connected to MSK-IX

Mobile Future

— Voice traffic not growing anymore.

— End users uses VoD, OTT players

— Speed for mobile Internet is growing so fast

    (2G, 3G, 4G, 5G)

— Users need fastest access to services

    without any delays

— LTE require QoS infrastructure

Our suggestions

— Use IXP infrastructure more widely for mobile services (IXP support QoS!)

— Use secure DNS services for fast lookup and search

— Make mobile world more resilient, secure, robust and independent from vendor technologies

Thank you. Questions?

Alexander Ilin
CTO MSK-IX

 Facebook.com/msk.ix   @mskixru

msk-ix.ru

+7 (495) 737-92-95