

The image features a 3D isometric cube in the center, rendered in two shades of blue. The front face of the cube is a lighter blue, while the top and right faces are a darker blue. The word "ixia" is printed in white lowercase letters on the front face. The letter 'i' has a small red horizontal bar above it, and the letter 'a' has a small dark blue horizontal bar above it. The background is a solid medium blue with a faint, repeating pattern of light blue hexagons. The entire scene is set against a dark blue background with a subtle gradient.

ixia

# НОВЫЙ ПРОДУКТ IXIA DEVELOPER

# РЕАЛЬНОСТЬ КОМПАНИИ-РАЗРАБОТЧИКА

## Различные модели разработки – одинаковые проблемы



# РЕЗУЛЬТАТ – ПЛОХАЯ ЭФФЕКТИВНОСТЬ

- Бюджет найден поздно, а поздно найденные баги очень дорого исправлять.
- Баги обычно сложно анализировать инструментами, ориентированными на QA.



**\$59.5 Billion**

Annual Cost of Bugs to U.S. Economy

## EARLY DISCOVERY SAVES MONEY

Data from NIST and Ponemon Institute

**\$80/defect**

**DEVELOPMENT**

**\$240/defect**

**BUILD**

**\$960/defect**

**QA/TEST**

**\$7,600  
/defect**

**1 Defect**  
For Every 2k  
Lines of Code

**PRODUCTION**



# ЧТО, ЕСЛИ БЫ МЫ СМОГЛИ...

- *увеличить эффективность?*
  - Легкое решение, доступное всем.
  - Находить баги раньше.
  - Расследовать проблемы быстрее.
  - Радоваться богатым возможностям генератора трафика.
  - Никакого дорогого железа.
- *дать ощущение разработчикам, что они часть сообщества?*
  - Прямой канал для отзывов.
  - Прозрачный roadmap, на который вы можете повлиять.
  - Внесите свой вклад!



# НО ЕСТЬ ЖЕ БЕСПЛАТНЫЕ ИНСТРУМЕНТЫ...

Здорово, если они работают, но...

- Ограниченная поддержка или ее отсутствие.
- Ограниченная функциональность.
- Редкие обновления.
- Часто требуется пересобрать и адаптировать.



```
root@bt: /pentest/sniffers/tcpreplay
File Edit View Terminal Help
root@bt:/pentest/sniffers/tcpreplay# ./tcpreplay --intf=eth0 test.pcap
sending out eth0
processing file: test.pcap
Actual: 263 packets (196705 bytes) sent in 7.72 seconds.      Rated: 2
5479.9 bps, 0.19 Mbps, 34.07 pps
Statistics for network device: eth0
  Attempted packets:      263
  Successful packets:     263
  Failed packets:         0
  Retried packets (ENOBUFS): 0
  Retried packets (EAGAIN): 0
root@bt:/pentest/sniffers/tcpreplay#
```

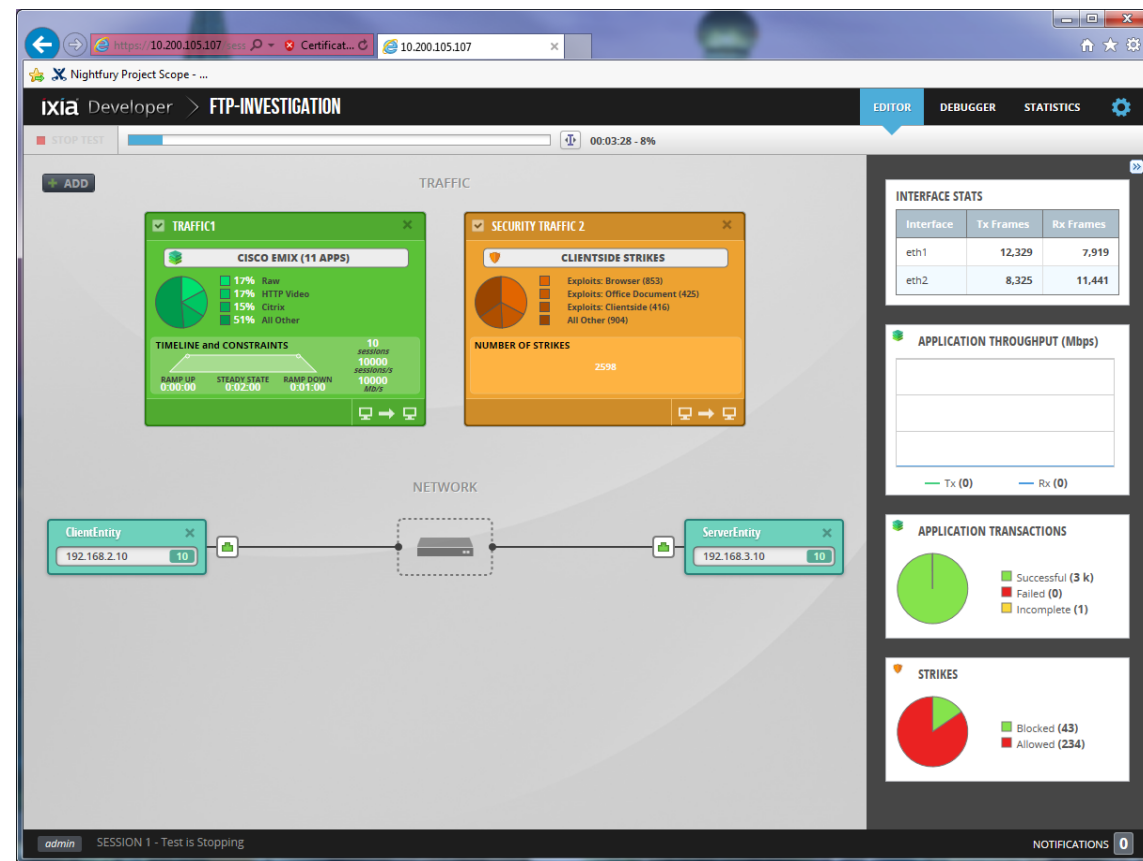
```
C:\Windows\System32\cmd.exe - server.bat
C:\Iperf>iperf -l 8942 -p 5001 -w 1048576 -M 8942 -s -i 5
Server listening on TCP port 5001
TCP window size: 1.00 MByte

[1868] local 192.168.2.1 port 5001 connected with 192.168.2.20 port 53925
[ ID] Interval      Transfer      Bandwidth
[1868] 0.0- 5.0 sec   376 MBytes    631 Mbits/sec
[1868] 5.0-10.0 sec   568 MBytes    953 Mbits/sec
[1868] 10.0-15.0 sec   579 MBytes    972 Mbits/sec
[1868] 15.0-20.0 sec   582 MBytes    977 Mbits/sec
[1868] 20.0-25.0 sec   581 MBytes    976 Mbits/sec
[1868] 25.0-30.0 sec   576 MBytes    967 Mbits/sec
[1868] 30.0-35.0 sec   585 MBytes    981 Mbits/sec
[1868] 35.0-40.0 sec   582 MBytes    976 Mbits/sec
[1868] 40.0-45.0 sec   579 MBytes    972 Mbits/sec
[1868] 45.0-50.0 sec   583 MBytes    979 Mbits/sec
[1868] 50.0-55.0 sec   584 MBytes    980 Mbits/sec
[1868] 55.0-60.0 sec   583 MBytes    978 Mbits/sec
[1868] 60.0-65.0 sec   467 MBytes    783 Mbits/sec
[1868] 65.0-70.0 sec   585 MBytes    981 Mbits/sec
[1868] 70.0-75.0 sec   589 MBytes    988 Mbits/sec
[1868] 75.0-80.0 sec   582 MBytes    977 Mbits/sec
```

# ПРЕДСТАВЛЯЕМ IXIA DEVELOPER!

Легкий тестовый инструмент разработчика, который станет незаменимой частью жизненного цикла.

- Генерация реалистичного трафика приложений с подмешиванием атак.
- Специальные функции для разработчиков: отладчик, breakpoints, захват.
- Именная лицензия.
- Быстрый цикл релизов.
- Встроенный механизм обратной связи.
- Классный HTML UI и классический CLI.
- Расширяется плагинами.



# РАЗВОРАЧИВАНИЕ IXIA DEVELOPER

- Легкое виртуальное решение:
  - одна VM (<1GB),
  - не надо разворачивать порты,
  - вписывается в типовое окружение разработчика.
- Быстро разворачивается:
  - Менее 2 минут
- Online-авторизация.



VMWare ESX

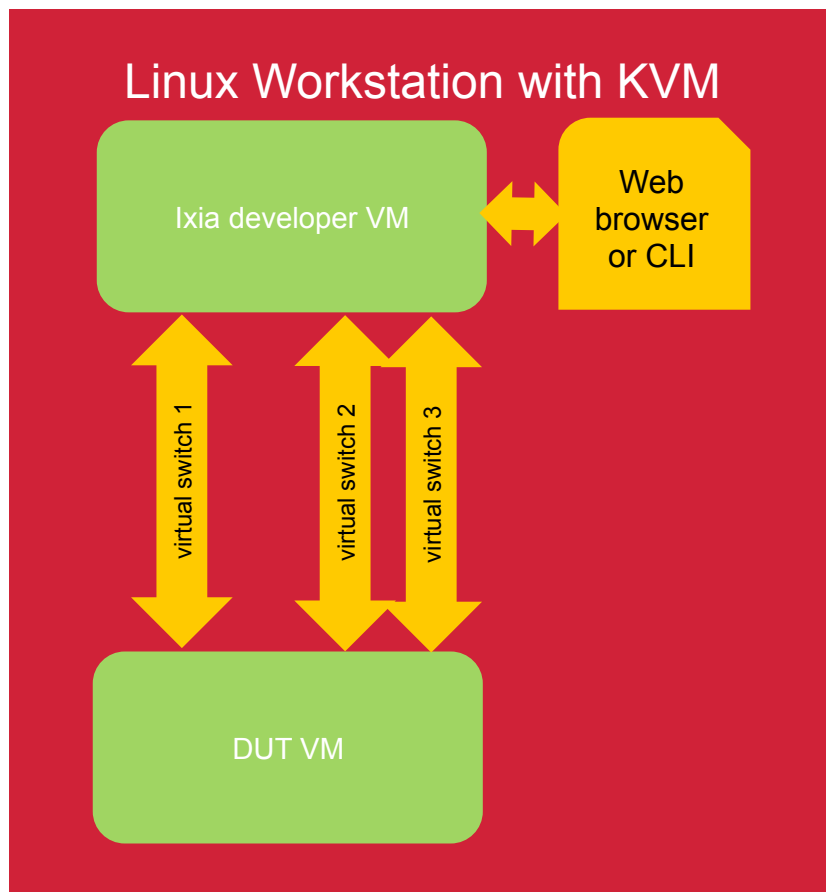


VMware Fusion

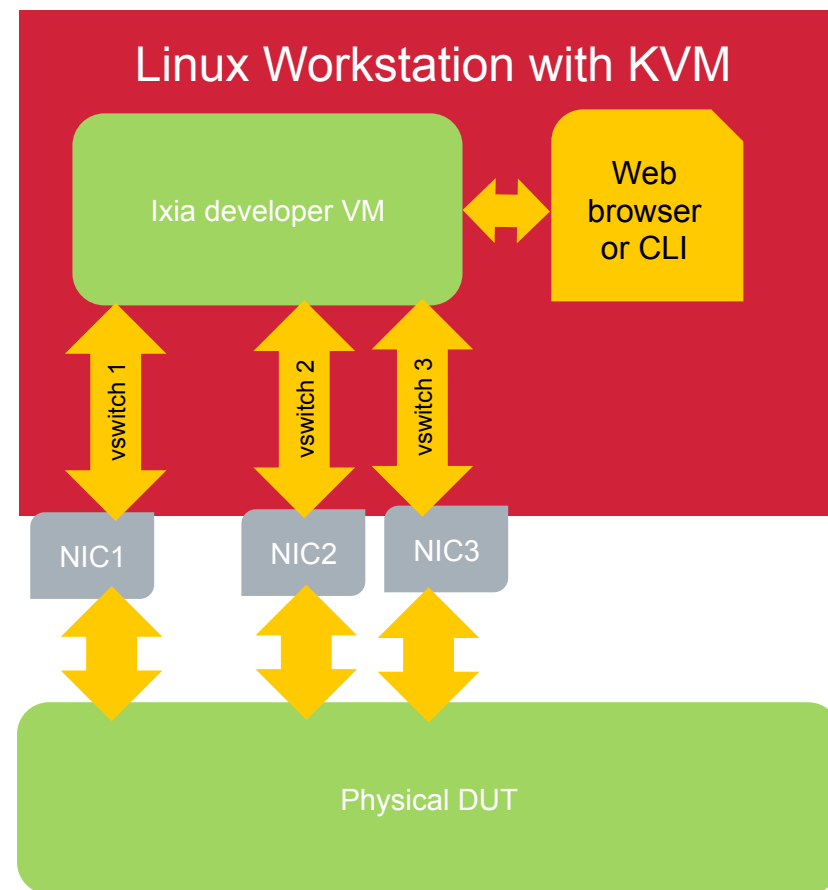




# СХЕМА ВЗАИМОДЕЙСТВИЯ



Тест внутри виртуальной среды



Тест физического устройства

# ВЗАИМОДЕЙСТВИЕ С СООБЩЕСТВОМ

The screenshot displays the Ixia Developer Dashboard in a web browser. The browser's address bar shows the URL `https://10.200.105.107/` and the page title is "Nightfury Project Scope - ...". The dashboard header includes the "ixia Developer" logo and a "DASHBOARD" tab. A settings gear icon is located in the top right corner.

The main section is titled "FEATURE ROADMAP" and includes the text "Version 1.0.0.1505 currently installed". It features a timeline with numbered milestones (5 through 11) and corresponding feature cards:

- 5** (2015-05-11): **DEBUGGER - APPS** Breakpoints / Single Step
- 6** (2015-06-25): **CLI** Command Line Interface
- 7** (2015-07-30): **SECURITY** Run Exploits with Apps
- 8** (2015-08-08): **PCAP REPLAY** As-Is Packet by Packet
- 9** (2015-09-18): **DEBUGGER - PCAP** Breakpoints / Single Step
- 10** (IN DEVELOPMENT): **PCAP REPLAY** Modify PCAP / Replay L4
- 11**: **VOTE FOR THE NEXT FEATURE!**

Below the roadmap, there are three columns:

- ENJOY**: A paragraph about creating scenarios, followed by a link to <http://www.youtube.com/ixiadeveloper> and two buttons: "NEW TEST" and "BROWSE TESTS".
- TELL US**: A paragraph asking for feedback, followed by thumbs up and down icons.
- SHARE**: A paragraph about the referral program, followed by a "Refer a friend" link.

A "SESSIONS" section shows "1 ACTIVE/1 RUNNING". Below this, a session card for "FTP-investigation" (SESSION ID: 1) is displayed, indicating it has been "ACTIVE FOR: 01d 00h 44m 12s" and is currently "RUNNING".

The footer contains the text "© 2016 IXIA AND/OR ITS AFFILIATES. ALL RIGHTS RESERVED.", a user profile for "admin", session statistics "SESSIONS: 1 | ACTIVE: 1 | ABNORMALLY STOPPED: 0", and a "NOTIFICATIONS 0" badge.

ПРОСТО!



# ОТЛАДЧИК И BREAKPOINTS

10.200.105.107

10.200.105.107

Nightfury Project Scope - ...

ixia Developer > FTP-INVESTIGATION

EDITORDEBUGGERSTATISTICS

STOP TEST

00:02:14 - 73%

TRAFFIC

TRAFFIC1

CISCO EMIX

Citrix

eDonkey Data Transfer

FTP

HTTP Video

HTTP Audio

HTTP Text

SIP/RTP Direct Voice Call (TCP Tran...

SAP

SMTP Email

Telnet

Raw

NETWORK

ClientEntity

192.168.2.10

10

ServerEntity

192.168.3.10

10

TRAFFIC1 >> FTP

CONTINUE

SINGLE STEP

	COMMAND	ACTION	FLOW	CLIENT	DNS SERVER	FTP SERVER
1	Resolve	DNS				
2	Welcome Banner	FTP				
3	Login	FTP				
4	Directory Listing	FTP				
5	CWD	FTP				
6	Download	FTP				
7	Upload	FTP				
8	QUIT	FTP				

BREAKPOINTS

STEP DISPLAY

	ID	TRAFFIC ITEM	ACTIO	SUPERFLOW
	3	traffic1	Login	FTP

INTERFACE STATS

Interface	Tx Frames	Rx Frames
eth1	14,689	10,195
eth2	10,196	14,682

APPLICATION THROUGHPUT (Mbps)

Tx (0)

Rx (0)

APPLICATION TRANSACTIONS

Successful (4 k)

Failed (2)

Incomplete (0)

admin

SESSION 1 - Test is Running

NOTIFICATIONS 0



# ИНТУИТИВНЫЙ CLI

```
10.200.105.107 - PuTTY
(1/ApplicationTraffic1/FTP)# show actions
  id name          flow  from      to
-----
  1 Resolve         DNS   Client    DNS Server
  2 Welcome Banner  FTP   FTP Server Client
  3 Login            FTP   Client    FTP Server
  4 Directory Listing FTP   Client    FTP Server
  5 CWD              FTP   Client    FTP Server
  6 Download         FTP   Client    FTP Server
  7 Upload           FTP   Client    FTP Server
  8 QUIT             FTP   Client    FTP Server

(1/ApplicationTraffic1/FTP)# set breakpoint 3
(1/ApplicationTraffic1/FTP)# debug

(1/ApplicationTraffic1/FTP)||
A breakpoint was hit! To debug the paused appsim instance you can go to the scope '@/session:1/ApplicationTraffic1/FTP/instance:1'.
(1/ApplicationTraffic1/FTP)|| @instance:1
(1/ApplicationTraffic1/FTP/instance:1)|| show

id      : 1
state   : paused
actionid : 3
actionName : Login
frozenBy  : breakpoint
source   : 192.168.3.105:8732
destination: 192.168.2.104:21

(1/ApplicationTraffic1/FTP/instance:1)|| next
  id name          flow  from      to
-----
  2 Welcome Banner  FTP   FTP Server Client
  * 3 Login            FTP   Client    FTP Server
  > 4 Directory Listing FTP   Client    FTP Server
  5 CWD              FTP   Client    FTP Server
  6 Download         FTP   Client    FTP Server

(1/ApplicationTraffic1/FTP/instance:1)||
```

## ATI Research Center

Security and  
DPI Testing



BreakingPoint



Perfect Storm

Network Assessment



IxLoad



Ixia  
Developer

Application  
Visibility



Application & Threat  
Intelligence  
Processors

Inline Security



ThreatARMOR™

# И ЭТО ТОЛЬКО НАЧАЛО...

Ежемесячные обновления.

- Условные breakpoints.
- Отладчик.
- Произвольные статистики.
- ...



## ОПЦИИ И ЦЕНЫ

Ixia Developer 1.0 – предварительный прайс (US)

Виртуальное решение.

**\$1,495** в год на пользователя.

Включен 1Гбит/с.





# IXIA DEVELOPER КАК ЭТО РАБОТАЕТ

FILEMESSAGE

IgnoreDeleteReplyReply AllForward

JunkDelete

Quick Steps


Move

Assign Policy

Mark UnreadCategorizeFollow Up

Translate

Zoom



Tue 1/5/2016 9:28 AM

ixiadeveloper

Welcome to your Ixia Developer account!

To

You can now take advantage of the new Ixia Developer, a new virtual based product built by developers for developers. It allows users to generate and replay application traffic along with malicious traffic. Reduce costs, increase agility and improve efficiency by performing your development testing directly in your personal virtual environment, without waiting for a shared physical test setup.

- Investigate issues faster using our network traffic debugger, breakpoints and built-in traffic capture
- Enjoy rich and realistic application library - more than 290 applications included
- Ensure network security resiliency - more than 30,000 security strikes included
- Use our simple HTML5 interface, or classic command line interface
- Automate test execution and results analysis with REST API
- Access a continuous stream of application and security updates

It takes only a few minutes to deploy:

- If you don't have a hypervisor, download and install [Virtual Box](#) or enable [Qemu/KVM](#)
- Download and deploy an image for your virtual platform
  - [OVA](#) for all VMWare hypervisors and Oracle VM Virtual Box
  - [Qcow2](#) for KVM/Qemu
- Start the VM and direct your web browser to the IP address of the VM: <https://<ipaddr>/>

An account has already been created for you. Please use the following credentials to log in:

Account name: [allupu@ixiacom.com](mailto:allupu@ixiacom.com)  
Temporary password: Ix1a\$08BBEC39  
You will be asked to set a new password when you log in for the first time.


For more detailed instructions, please consult our deployment guides:


FILE MESSAGE

Ignore X Delete Reply Reply All Forward

Delete Respond

Tue 1/5/2016 9:28 AM

 **ixideveloper**  
Welcome to your

To  Alina Lupu

Retention Policy Sent Email Never Deleted

[Salesforce](#)

You can now take advantage of  
users to generate and replay app  
Reduce costs, increase agility and  
environment, without waiting for

- Investigate issues faster
- Enjoy rich and realistic a
- Ensure network security
- Use our simple HTML5
- Automate test execution
- Access a continuous stre


It takes only a few minutes to d

- If you don't have a hype
- Download and deploy a
  - [OVA](#) for all VM
  - [Qcow2](#) for KVM
- Start the VM and direct

An account has already been cre

Account name: [allu](#)  
Temporary password  
You will be asked to set a new password when you log in for the first time.

For more detailed instructions, please consult our deployment guides:

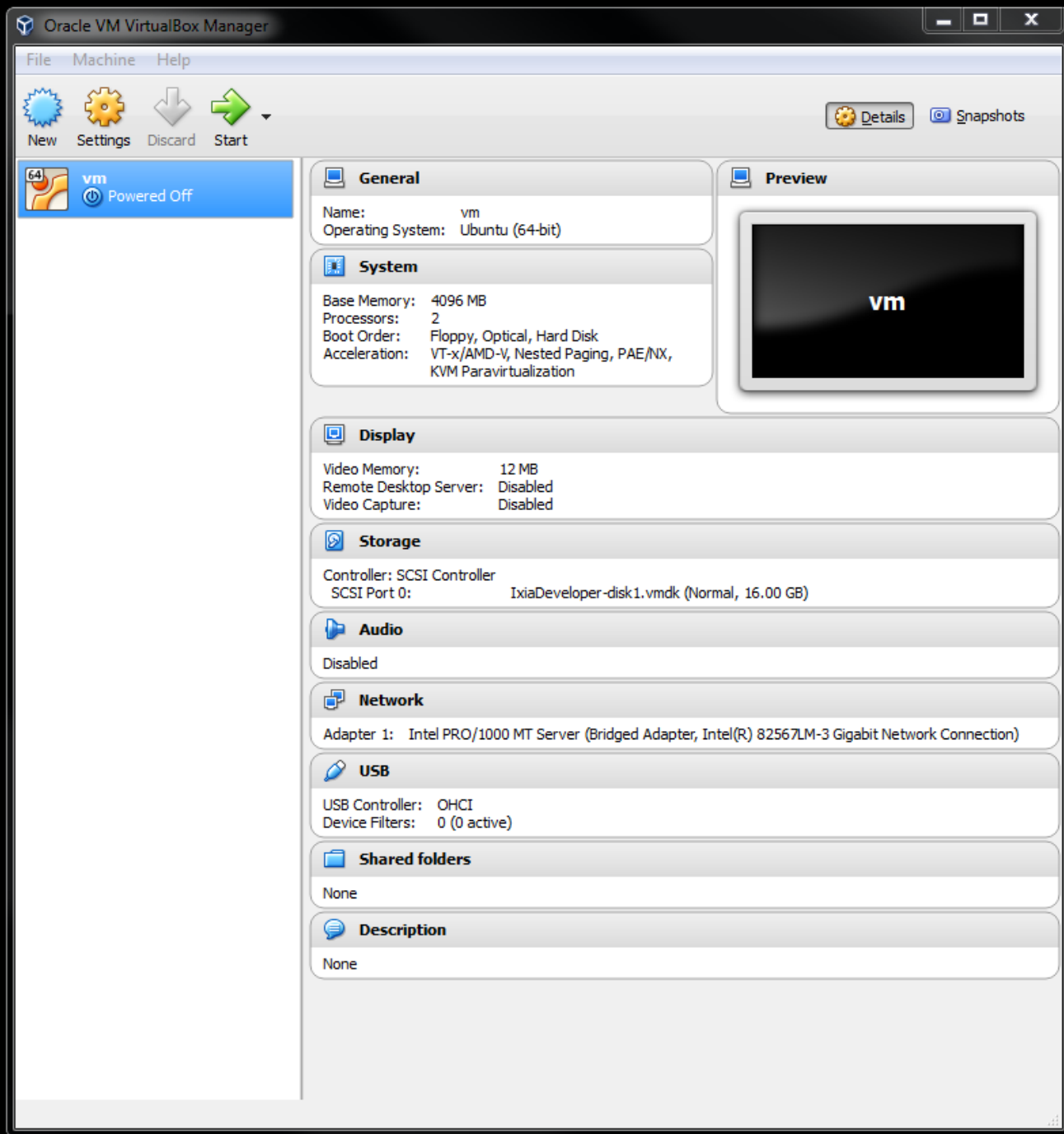
 **ixideveloper** Ixia Developer password reset

19% of IxiaDeveloper.ova downloaded

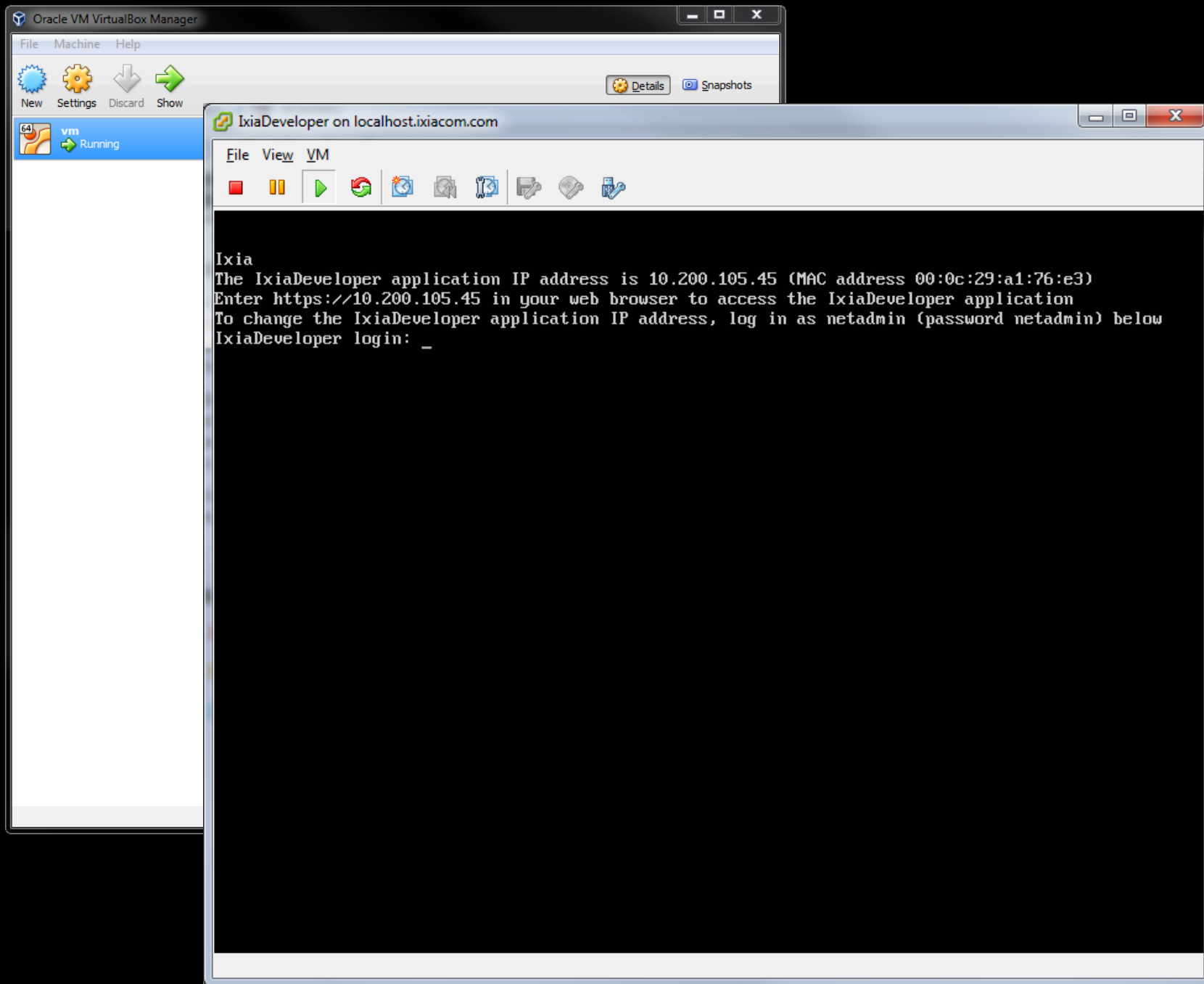
View and track your downloads

Name	Location	Actions
<b>IxiaDeveloper.ova</b> public-cdn.ixiacom.com	969 MB Downloads 19% at 6.86 MB/sec 1 min 54 sec remaining	<input type="button" value="Pause"/> <input type="button" value="Cancel"/>

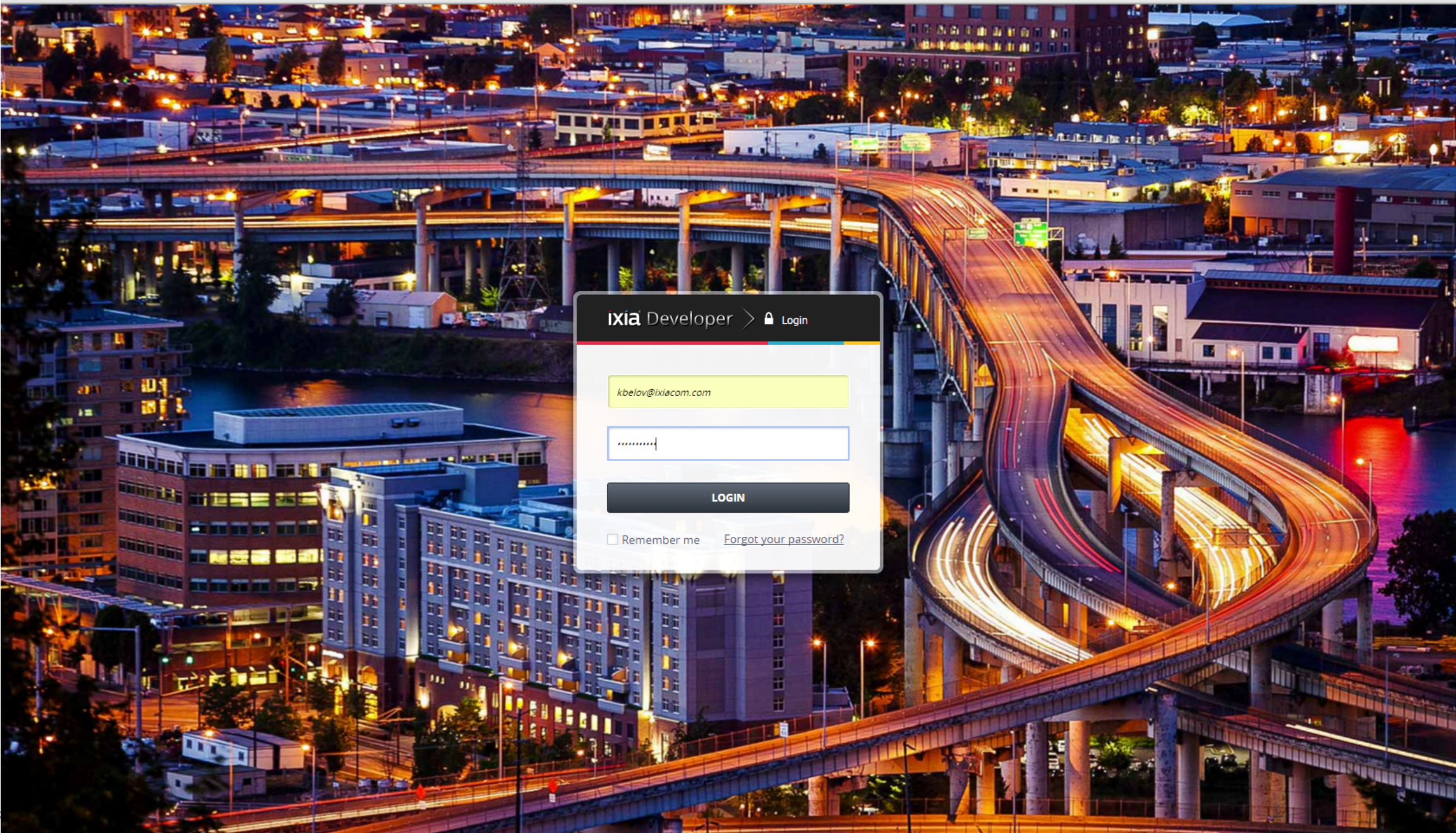
[Options](#)











ixia Developer > Login

kblov@ixiacom.com

\*\*\*\*\*

LOGIN

☐ Remember me

[Forgot your password?](#)



# Configure network in VirtualBox

You currently don't have any external network interfaces. You can still run tests, but you will need to follow the steps below to connect this VM to your device. For a detailed walk-through, see the [Getting Started](#) page.

INLINE DEVICE PASSIVE DEVICE

Adapter 1 Adapter 2 Adapter 3

☒ Enable Network Adapter

Attached to: Internal Network

Name: vSwitch 1

Advanced

Adapter 2 Adapter 3 Adapter 4

Network Adapter

Attached to: Internal Network

Name: vSwitch 1

Adapter 2 Adapter 3 Adapter 4

Network Adapter

Attached to: Internal Network

Name: vSwitch 2

**Step 1**

First, shut down your VM, but don't close this page as you'll not be able to reload it while the VM is down. You will need to enable Adapter 2 and Adapter 3 - they will be used as test interfaces. Adapter 1 will serve as the management interface, connected to the Internet.

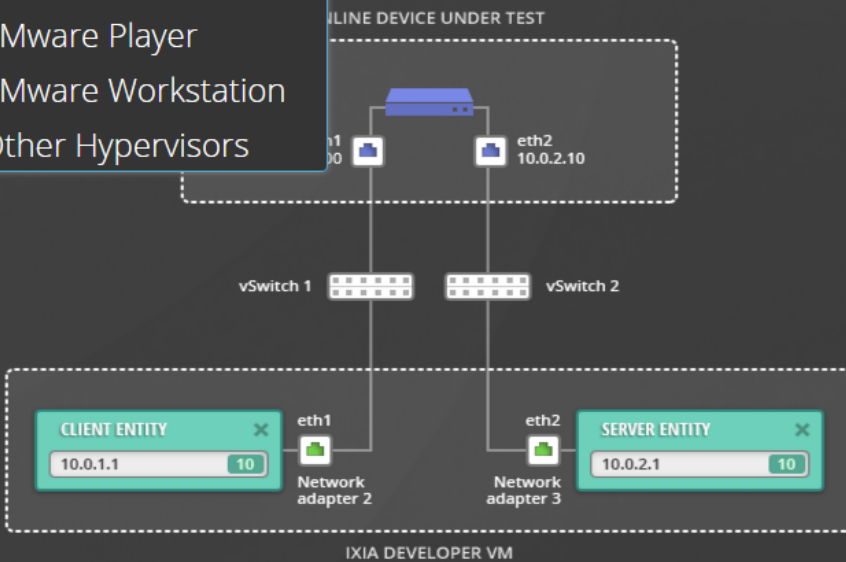
**Step 2**

After enabling it, attach Adapter 2 to an Internal Network named 'vSwitch 1'. To connect it to an Adapter on your device, make sure that the Internal Network Name matches. Also make sure to set Promiscuous Mode > 'Allow All'.

**Step 3**

Perform the same steps for Adapter 3. To pass traffic through your device, make sure to connect Adapter 3 to a different Internal Network, one also connected to a different DUT interface (you can label it 'vSwitch 2'). Finally, start your VM back up.

- KVM / QEMU
- VMware ESXi
- VMware Fusion
- VMware Player
- VMware Workstation
- Other Hypervisors



FEATURE ROADMAP Your evaluation period expires in 14 days

2015-05-11

5

DEBUGGER - APPS  
Breakpoints / Single Step

2015-06-25

6

CLI  
Command Line Interface

2015-07-30

7

SECURITY  
Run Exploits with Apps

2015-09-10

8

PCAP REPLAY  
As-Is Packet by Packet

2015-10-15

9

DEBUGGER - PCAP  
Breakpoints / Single Step

IN DEVELOPMENT

10

APPLICATION TRAFFIC  
Edit Superflow

11

VOTE FOR THE NEXT  
FEATURE!

ENJOY

Ixia Developer allows you to create scenarios that can generate an unlimited number of network traffic possibilities. If you need help getting Ixia Developer up and running try our videos at: <http://www.youtube.com/ixiadeveloper>

DEMO TEST

TELL US

Let us know what you think about our product. Tell us if you encounter any problem using it or if you feel it's just awesome the way it is. Your feedback is greatly appreciated. It helps us improve and offer you a better product.

👍

👎

SHARE

If you find Ixia Developer useful, why not tell others about it? You can recommend the application to somebody else by nominating them for the referral program, which provides free trial licenses. They'll thank you for it, and we'll thank you for it.

[Refer a friend](#)

ixia

https://10.200.105.45/sess...

← → ↻

https://10.200.105.45/sessions/2/config

☆

≡

ixia Developer

> Ixia Developer Test 2

EDITOR

DEBUGGER

STATISTICS

⚙

▶ START DEMO TEST

+ ADD

TRAFFIC

+

ADD TRAFFIC TO YOUR TEST

These are the major sections of the app

Stats sidebar

NETWORK

ClientEntity

10.0.1.1

10

Demo interfaces

ServerEntity

10.0.2.1

10

Demo interfaces

This is your network

Hover over interface elements to see more information

Don't show this again

OK

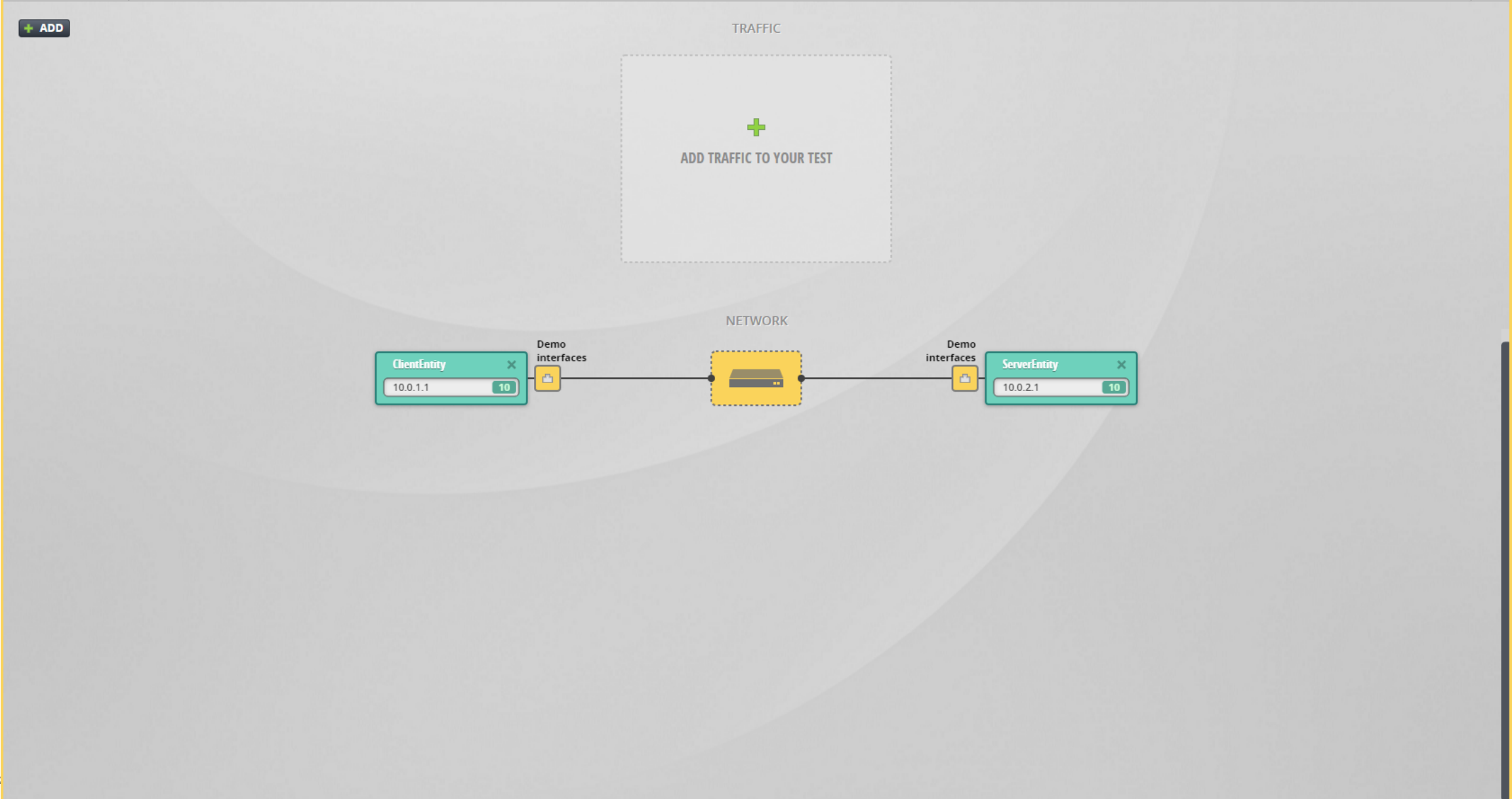
You add elements to your test from here

Traffic goes here

This is your network

a

▶ START DEMO TEST






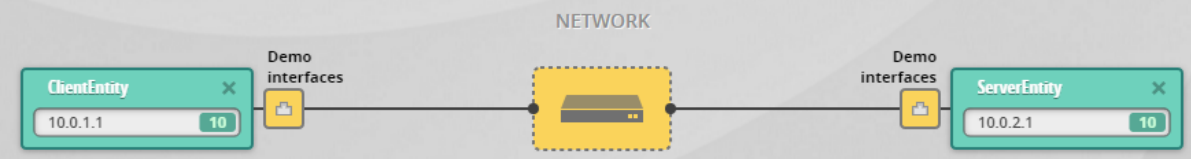
▶ START DEMO TEST

- APPLICATION TRAFFIC
- SECURITY TRAFFIC
- REPLAY TRAFFIC
- NETWORK ENTITY

TRAFFIC



ADD TRAFFIC TO YOUR TEST



+ ADD

TRAFFIC


+

ADD APPLICATION TRAFFIC

SEARCH APPLICATION MIXES

Name
Bandwidth
Bandwidth HTTP
Blog Post 2010-08-20 HTTP DoS
Blog Post 2010-08-20 HTTP DoS Evil
Blog Post 2010-08-20 HTTP DoS Legit
Business User
CISCO EMIX

Traffic modeled after Cisco's Enterprise mix (EMIX).



- 17% Raw
- 17% HTTP Video
- 15% Citrix
- 12% SAP
- 39% All Other

Page 1 of 8

Displaying 1 - 25 of 194

OK CANCEL

TRAFFIC

✓ APPLICATIONTRAFFIC1

CISCO EMIX (11 APPS)

17% Raw

17% HTTP Video

15% Citrix

51% All Other

TIMELINE and CONSTRAINTS

RAMP UP  
0:00:00

STEADY STATE  
0:09:00

RAMP DOWN  
0:01:00

1000 sessions  
20000 sessions/s  
10 Mb/s

🖥 → 🖥

NETWORK

ClientEntity

10.0.1.1 10

Demo interface

Demo interface

ServerEntity

10.0.2.1 10

INTERFACES

Interface	Tx Frames	Rx Frames
DemoEth1	20,394	11,314
DemoEth2	11,314	20,394

APPLICATION THROUGHPUT (Mbps)

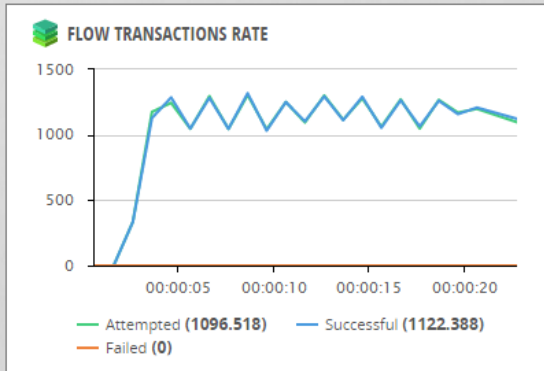
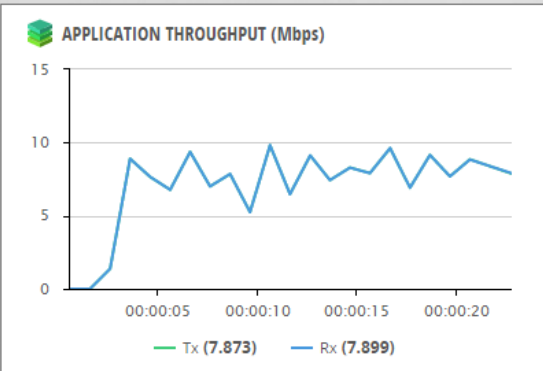
— Tx (9.811) — Rx (9.819)

FLOW TRANSACTIONS

Successful (9 k)

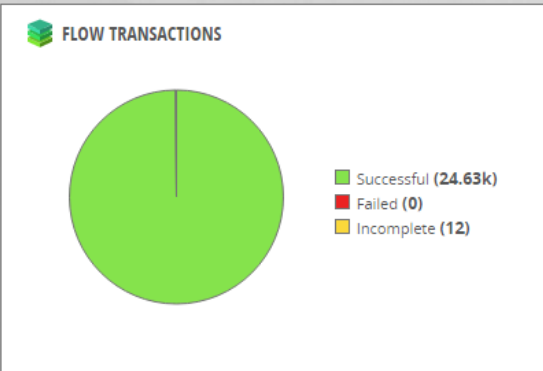
Failed (0)

Incomplete (17)



### FLOW EXCEPTIONS

Time	Message
------	---------

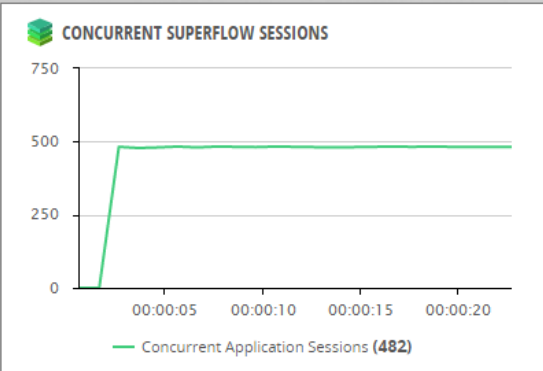


### FLOW TRANSACTION DETAILS

Flow	Successful	Failed
RTCP	0	0
RTP	0	0
SIP	0	0
Citrix	3	0
FTP	73	0
Raw	3,782	0

### FLOW THROUGHPUT DETAILS

Flow	Rx Throughput (Mbps)
SAP	1.110
Raw	0.897
eDonkey	0.118
Citrix	1.413
DNS	0.007
FTP	0.095

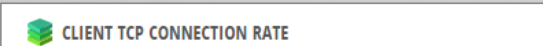


### SUPERFLOW SESSION DETAILS

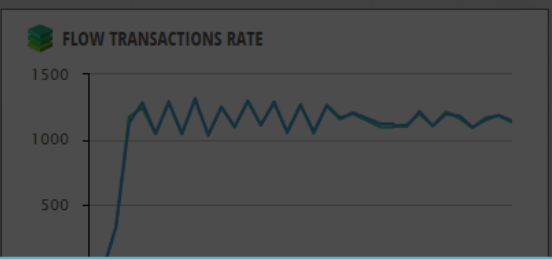
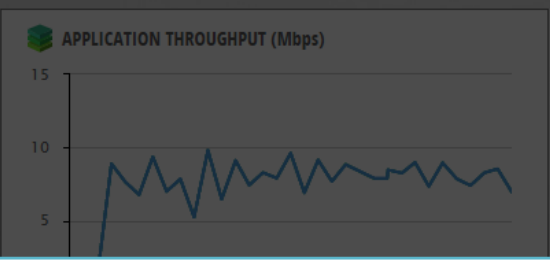
Superflow	Successful	Failed
SIP/RTP Direct Voice Call...	0	0
Citrix	3	0
HTTP Audio	3	0
FTP	6	0
HTTP Video	6	0
eDonkey Data Transfer	22	0

### SUPERFLOW THROUGHPUT DETAILS

Superflow	Rx Throughput (Mbps)
SAP	1.291
Raw	1.123
eDonkey Data Transfer	0.127
Citrix	1.542
FTP	0.103
HTTP Audio	0.730



### INTERFACE THROUGHPUT DETAILS

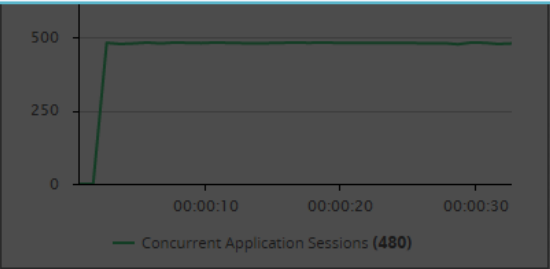


FLOW EXCEPTIONS

Time	Message
------	---------

FLOW TRANSACTION DETAILS

Flow	Attempted Rate	Successful Rate	Failed Rate	Attempted	Successful	Failed	Incomplete
Citrix	0.0	0.0	0.0	7	5	0	2
DNS	3.0	3.0	0.0	357	357	0	0
eDonkey	1.0	1.0	0.0	76	76	0	0
FTP	1.0	2.0	0.0	106	104	0	2
HTTP	1.0	5.0	0.0	228	228	0	0
Raw	184.9	189.9	0.0	5,671	5,671	0	0
RTCP	0.0	0.0	0.0	0	0	0	0
RTP	0.0	0.0	0.0	2	2	0	0
SAP	940.7	940.7	0.0	29,561	29,561	0	0
SIP	0.0	0.0	0.0	4	2	0	2
SMTP	0.0	1.0	0.0	25	25	0	0
Telnet	2.0	3.0	0.0	88	88	0	0



SIP/RTP Direct Voice Call...	2	0
HTTP Audio	4	0
Citrix	5	0
FTP	9	0
HTTP Video	10	0
eDonkey Data Transfer	35	0

SAP	1.282
Citrix	1.437
eDonkey Data Transfer	0.128
FTP	0.008
HTTP Audio	0.737
HTTP Text	0.046

TRAFFIC

APPLICATIONTRAFFIC1

PAUSED

▶

CISCO EMIX

☒ Citrix

☒ eDonkey Data Transfer

☒ FTP

☒ HTTP Video

☒ HTTP Audio

☒ HTTP Text

☒ SIP/RTP Direct Voice Call (TCP Tran...

☒ SAP

☒ SMTP Email

☒ Telnet

☒ Raw

NETWORK

ClientEntity

10.0.1.1

10

ServerEntity

10.0.2.1

10

APPLICATIONTRAFFIC1 >> SMTP EMAIL >> #1

▶ CONTINUE

▶ SINGLE STEP

STATE: ACTIVE

INSTANCE: 1 - 10.0.1.2:9599 > 10.0.2.4:25 AT 4

	COMMAND	ACTION	FLOW	CLIENT	DNS SERVER	SMTP SERVER
○ 1	Resolve		DNS		→	
○ 2	Client connect		SMTP			→
○ 3	Server connected		SMTP	←		
● 4	Send EHLO		SMTP			→
○ 5	Server 250 Hello		SMTP	←		
○ 6	Send FROM		SMTP			→
○ 7	Sender OK		SMTP	←		
○ 8	Send RCPT		SMTP			→
○ 9	Send DATA		SMTP			→
○ 10	354 Start		SMTP	←		
○ 11	Message Data		SMTP			→
○ 12	250 Queued		SMTP	←		
○ 13	Send QUIT		SMTP			→

BREAKPOINTS

STEP DISPLAY

INTERFACE CAPTURE

<input checked="" type="checkbox"/>	ID	TRAFFIC ITEM	ACTION	SUPERFLOW
<input checked="" type="checkbox"/>	4	ApplicationTraffic1	Send EHLO	SMTP Email

INTERFACES

Interface	Tx Frames	Rx Frames
DemoEth1	128,949	73,113
DemoEth2	73,113	128,949

APPLICATION THROUGHPUT (Mbps)

Tx (8.29) Rx (8.406)

FLOW TRANSACTIONS

Successful (58 k)

Failed (0)

Incomplete (7)



```
login as: kbelov@ixiacom.com
kbelov@ixiacom.com@10.200.105.45's password:
Loading modules... ok
Initializing connection... ok
Authenticating... ok
```

You currently don't have any external network interfaces.  
You can still run tests but the traffic won't leave the VM.  
Please access the web interface to see how to connect this VM to your device.

Ixia Developer 1.0.1.16  
Application and Threat Intelligence 252607

Your version is up to date.

Welcome! You are now in the root of the Ixia Developer CLI.

Here's what you can do here:

```
show sessions      - see all your Ixia Developer sessions
create session     - create a new Ixia Developer session
?                  - see the list of available commands,
                    or use after a command for more help
```

If there are available sessions you can enter in any of them by typing:

@session:<sessionId>

Commands can be executed in the scope of a particular session without entering it, e.g.:

@session:<sessionId> show

```
@..  - navigate to parent scope
@<   - navigate back one step in history scope navigation
@>   - navigate forward one step in history scope navigation
@/   - navigate to root scope
@~   - navigate in the scope of the current session
```

# create session

```
name : Ixia Developer Test 3
id   : 3
state: Active
```

(3)# █

```
login as: kbelov@ixiacom.com
kbelov@ixiacom.com@10.200.105.45's password:
Loading modules... ok
Initializing connection... ok
Authenticating... ok
```

You currently don't have any external network interfaces.  
You can still run tests but the traffic won't leave the VM.  
Please access the web interface to see how to connect this VM to your device.

```
Ixia Developer          1.0.1.16
Application and Threat Intelligence 252607
```

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```
@session:<sessionId> show
```

```
@..  - navigate to parent scope
@<   - navigate back one step in history scope navigation
@>   - navigate forward one step in history scope navigation
@/   - navigate to root scope
@~   - navigate in the scope of the current session
```

# create session

```
name : Ixia Developer Test 3
id   : 3
state: Active
```

(3)# add replay traffic Capture\ Sample

```
name      : ReplayTraffic1
type      : Replay
txInterface: none
rxInterface: none
capture   : Capture Sample
mtu       : 1500
```

(3)# █

(3) # @ReplayTraffic1 show packets

Number	Time	Source	Destination	Protocols	Length	Info
1	0	1.1.193.36	1.2.199.82	eth:ip:tcp	70	20067 > 5432 [SYN] Seq=0 Win=3960 Len=0 MSS=1460 TSval=170948484 TSecr=0
2	0	1.1.61.75	1.2.67.128	eth:ip:tcp	70	51887 > 5190 [SYN] Seq=0 Win=3960 Len=0 MSS=1460 TSval=170948485 TSecr=0
3	0.000001	1.1.193.87	1.2.198.246	eth:ip:tcp	70	20047 > 5432 [SYN] Seq=0 Win=3960 Len=0 MSS=1460 TSval=170948488 TSecr=0
4	0.000001	1.1.253.202	1.2.3.248	eth:ip:tcp	70	35738 > 139 [SYN] Seq=0 Win=3960 Len=0 MSS=1460 TSval=170948494 TSecr=0
5	0.000015	1.1.203.13	1.2.204.105	eth:ip:udp:rpc:data	108	V3 GETADDR Call
6	0.000027	1.1.156.24	1.2.162.77	eth:ip:udp:dns	86	Standard query 0x8cc9 A server-102b61c.example.int
7	0.00003	1.1.92.143	1.2.99.4	eth:ip:udp:dns	86	Standard query 0x4f90 A server-102766d.example.int
8	0.00003	1.1.92.140	1.2.98.195	eth:ip:udp:dns	86	Standard query 0x4f99 A server-1027616.example.int
9	0.000031	1.1.124.104	1.2.130.160	eth:ip:udp:dns	80	Standard query 0xac1b A receiver-1029666.int
10	0.000031	1.2.198.246	1.1.193.87	eth:ip:tcp	70	5432 > 20047 [SYN, ACK] Seq=0 Ack=1 Win=4344 Len=0 MSS=1460 TSval=170948723 TSecr=170948488
11	0.000032	1.2.199.82	1.1.193.36	eth:ip:tcp	70	5432 > 20067 [SYN, ACK] Seq=0 Ack=1 Win=4344 Len=0 MSS=1460 TSval=170948726 TSecr=170948484
12	0.000033	1.2.3.248	1.1.253.202	eth:ip:tcp	70	139 > 35738 [SYN, ACK] Seq=0 Ack=1 Win=4344 Len=0 MSS=1460 TSval=170948729 TSecr=170948494
13	0.000034	1.2.67.128	1.1.61.75	eth:ip:tcp	70	5190 > 51887 [SYN, ACK] Seq=0 Ack=1 Win=4344 Len=0 MSS=1460 TSval=170948742 TSecr=170948485
14	0.000041	1.2.204.105	1.1.203.13	eth:ip:udp:rpc	86	V3 GETADDR Reply (Call In 5)
15	0.000041	1.1.112.154	1.2.115.35	eth:ip:udp:dns	80	Standard query 0x5018 A receiver-1027b7e.int
16	0.000045	1.1.253.202	1.2.3.248	eth:ip:tcp	66	35738 > 139 [ACK] Seq=1 Ack=1 Win=4344 Len=0 TSval=170948845 TSecr=170948729
17	0.000046	1.1.193.36	1.2.199.82	eth:ip:tcp	66	20067 > 5432 [ACK] Seq=1 Ack=1 Win=4344 Len=0 TSval=170948851 TSecr=170948726
18	0.000046	1.1.193.87	1.2.198.246	eth:ip:tcp	66	20047 > 5432 [ACK] Seq=1 Ack=1 Win=4344 Len=0 TSval=170948854 TSecr=170948723
19	0.000047	1.1.61.75	1.2.67.128	eth:ip:tcp	66	51887 > 5190 [ACK] Seq=1 Ack=1 Win=4344 Len=0 TSval=170948858 TSecr=170948742
20	0.000052	1.2.98.195	1.1.92.140	eth:ip:udp:dns	102	Standard query response 0x4f99 A 1.2.118.22
21	0.000053	1.2.99.4	1.1.92.143	eth:ip:udp:dns	102	Standard query response 0x4f90 A 1.2.118.109
22	0.000054	1.2.162.77	1.1.156.24	eth:ip:udp:dns	102	Standard query response 0x8cc9 A 1.2.182.28
23	0.000055	1.1.203.13	1.2.204.105	eth:ip:udp:rpc	82	V3 NULL Call
24	0.000058	1.2.115.35	1.1.112.154	eth:ip:udp:dns	96	Standard query response 0x5018 A 1.2.123.126
25	0.000065	1.2.130.160	1.1.124.104	eth:ip:udp:dns	96	Standard query response 0xac1b A 1.2.150.102
26	0.000074	1.2.204.105	1.1.203.13	eth:ip:udp:rpc	66	V3 NULL Reply (Call In 23)
27	0.000079	1.1.92.140	1.2.118.22	eth:ip:tcp	70	63530 > 25 [SYN] Seq=0 Win=3960 Len=0 MSS=1460 TSval=170949112 TSecr=0
28	0.000079	1.1.92.143	1.2.118.109	eth:ip:tcp	70	63525 > 25 [SYN] Seq=0 Win=3960 Len=0 MSS=1460 TSval=170949115 TSecr=0
29	0.000079	1.1.156.24	1.2.182.28	eth:ip:tcp	70	14390 > 80 [SYN] Seq=0 Win=3960 Len=0 MSS=1460 TSval=170949119 TSecr=0
30	0.00008	1.1.112.154	1.2.123.126	eth:ip:tcp	70	64720 > 5060 [SYN] Seq=0 Win=3960 Len=0 MSS=1460 TSval=170949123 TSecr=0
31	0.00009	1.1.203.13	1.2.204.105	eth:ip:udp:rpc	108	V3 MNT Call[Malformed Packet]
32	0.000094	1.2.182.28	1.1.156.24	eth:ip:tcp	70	80 > 14390 [SYN, ACK] Seq=0 Ack=1 Win=4344 Len=0 MSS=1460 TSval=170949227 TSecr=170949119
33	0.000096	1.2.118.22	1.1.92.140	eth:ip:tcp	70	25 > 63530 [SYN, ACK] Seq=0 Ack=1 Win=4344 Len=0 MSS=1460 TSval=170949238 TSecr=170949112
34	0.000097	1.2.118.109	1.1.92.143	eth:ip:tcp	70	25 > 63525 [SYN, ACK] Seq=0 Ack=1 Win=4344 Len=0 MSS=1460 TSval=170949251 TSecr=170949115
35	0.000099	1.2.123.126	1.1.112.154	eth:ip:tcp	70	5060 > 64720 [SYN, ACK] Seq=0 Ack=1 Win=4344 Len=0 MSS=1460 TSval=170949267 TSecr=170949123
36	0.000107	1.1.124.104	1.2.150.102	eth:ip:tcp	70	6213 > 5060 [SYN] Seq=0 Win=3960 Len=0 MSS=1460 TSval=170949338 TSecr=0
37	0.000108	1.2.204.105	1.1.203.13	eth:ip:udp:rpc:nfs	114	V3 MNT Reply (Call In 31)
38	0.000109	1.1.92.143	1.2.118.109	eth:ip:tcp	66	63525 > 25 [ACK] Seq=1 Ack=1 Win=4344 Len=0 TSval=170949357 TSecr=170949251
39	0.000111	1.1.92.140	1.2.118.22	eth:ip:tcp	66	63530 > 25 [ACK] Seq=1 Ack=1 Win=4344 Len=0 TSval=170949371 TSecr=170949238
40	0.000115	1.1.112.154	1.2.123.126	eth:ip:tcp	66	64720 > 5060 [ACK] Seq=1 Ack=1 Win=4344 Len=0 TSval=170949403 TSecr=170949267
41	0.000118	1.1.156.24	1.2.182.28	eth:ip:tcp	66	14390 > 80 [ACK] Seq=1 Ack=1 Win=4344 Len=0 TSval=170949428 TSecr=170949227
42	0.000124	1.2.150.102	1.1.124.104	eth:ip:tcp	70	5060 > 6213 [SYN, ACK] Seq=0 Ack=1 Win=4344 Len=0 MSS=1460 TSval=170949463 TSecr=170949338
43	0.000126	1.1.203.13	1.2.204.105	eth:ip:udp:rpc:data	108	V3 GETADDR Call
44	0.000135	1.1.124.104	1.2.150.102	eth:ip:tcp	66	6213 > 5060 [ACK] Seq=1 Ack=1 Win=4344 Len=0 TSval=170949567 TSecr=170949463
45	0.000142	1.2.204.105	1.1.203.13	eth:ip:udp:rpc	86	V3 GETADDR Reply (Call In 43)
46	0.000161	1.1.203.13	1.2.204.105	eth:ip:udp:rpc	82	V3 NULL Call
47	0.000181	1.2.204.105	1.1.203.13	eth:ip:udp:rpc	66	V3 NULL Reply (Call In 46)
48	0.000196	1.1.203.13	1.2.204.105	eth:ip:udp:rpc:nfs	118	V3 GETATTR Call, FH: 0x615b844a
49	0.000216	1.2.204.105	1.1.203.13	eth:ip:udp:rpc	154	V3 GETATTR Reply (Call In 48) Directory mode: 0000 uid: 0 gid: 1
50	0.000232	1.1.203.13	1.2.204.105	eth:ip:udp:rpc:nfs	118	V3 FSINFO Call, FH: 0x82da47fc
51	0.000251	1.2.204.105	1.1.203.13	eth:ip:udp:rpc	206	V3 FSINFO Reply (Call In 50)
52	0.000267	1.1.203.13	1.2.204.105	eth:ip:udp:rpc:nfs	118	V3 FSSTAT Call, FH: 0x9a4c58bd
53	0.000286	1.2.204.105	1.1.203.13	eth:ip:udp:rpc	210	V3 FSSTAT Reply (Call In 52)
54	0.000303	1.1.203.13	1.2.204.105	eth:ip:udp:rpc:nfs:data	222	V3 CREATE Call, DH: 0xd8acb6b8/nerLC37TnKnX Mode: UNCHECKED
55	0.000321	1.2.204.105	1.1.203.13	eth:ip:udp:rpc:nfs:data	374	V3 CREATE Reply (Call In 54)
56	0.000339	1.1.203.13	1.2.204.105	eth:ip:udp:rpc:nfs	844	V3 WRITE Call, FH: 0xb7aed0cf Offset: 0 Len: 0 DATA_SYNC[Malformed Packet]
57	0.000363	1.2.204.105	1.1.203.13	eth:ip:udp:rpc:data	262	V3 WRITE Reply (Call In 56) Len: 0 UNSTABLE
58	0.000976	1.1.51.201	1.2.53.126	eth:ip:tcp	70	47072 > 5190 [SYN] Seq=0 Win=3960 Len=0 MSS=1460 TSval=170956292 TSecr=0
59	0.000976	1.1.53.92	1.2.54.65	eth:ip:tcp	70	47078 > 5190 [SYN] Seq=0 Win=3960 Len=0 MSS=1460 TSval=170956293 TSecr=0

(3) #

## REST API Documentation

### OptionsService

### ApplicationsService

A web service to show the list of installed applications on this server. The returned values can be used as argument to create a session of a specific type

```
api/v1/applicationtypes
```

### CaptureService

A web service to list and allow download of previously saved packet captures. New captures can be created at an application specific url

```
api/v1/captures
```

```
api/v1/captures/{captureId}
```

```
api/v1/captures/{captureId}/file/{fileName}
```

### TestConfigurationService

A web service for managing (import/export/delete) saved test configurations

```
api/v1/configurations/{applicationType}
```

```
api/v1/configurations/{applicationType}/import
```

```
api/v1/configurations/{applicationType}/{configId}
```

```
api/v1/confiaurations/{applicationType}/{configId}/export
```

**ГЛАВНЫЙ ПРИЗ ЛОТЕРЕИ –  
ГОДОВАЯ ПОДПИСКА!**

**НЕ ПРОПУСТИТЕ 😊**

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