

Elastic Network Interfaces, Elastic IPs, and Internet Gateways Part 1



Brock Tubre

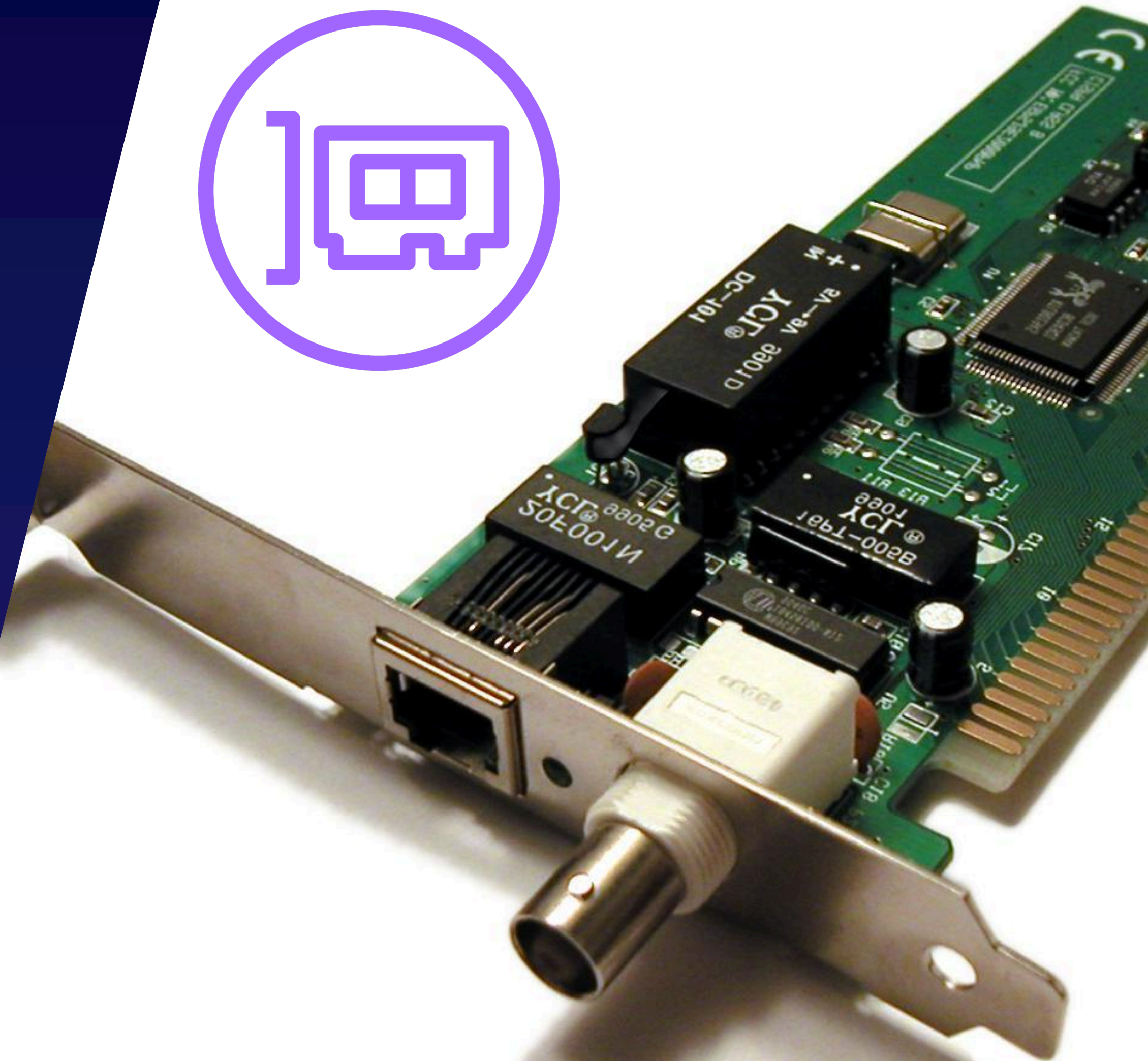
TECHNICAL INSTRUCTOR

Elastic Network Interface (ENI)

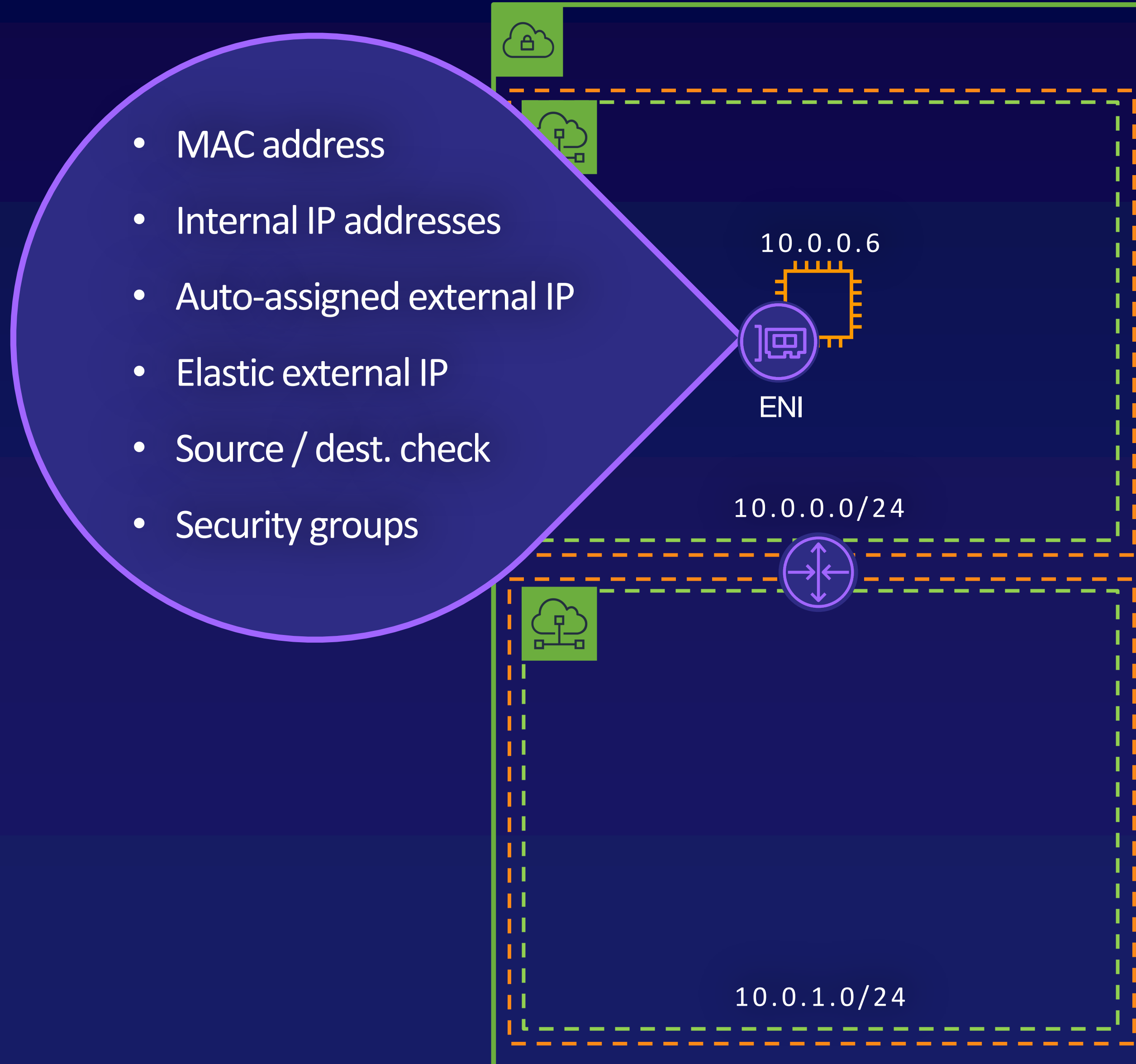
Elastic Network Interface (ENI)

A virtual network interface that you can attach to an instance in a VPC. Upon creation, ENIs are inside a VPC and are associated with a subnet.

- Primary IPv4 address
- MAC address
- At least one security group

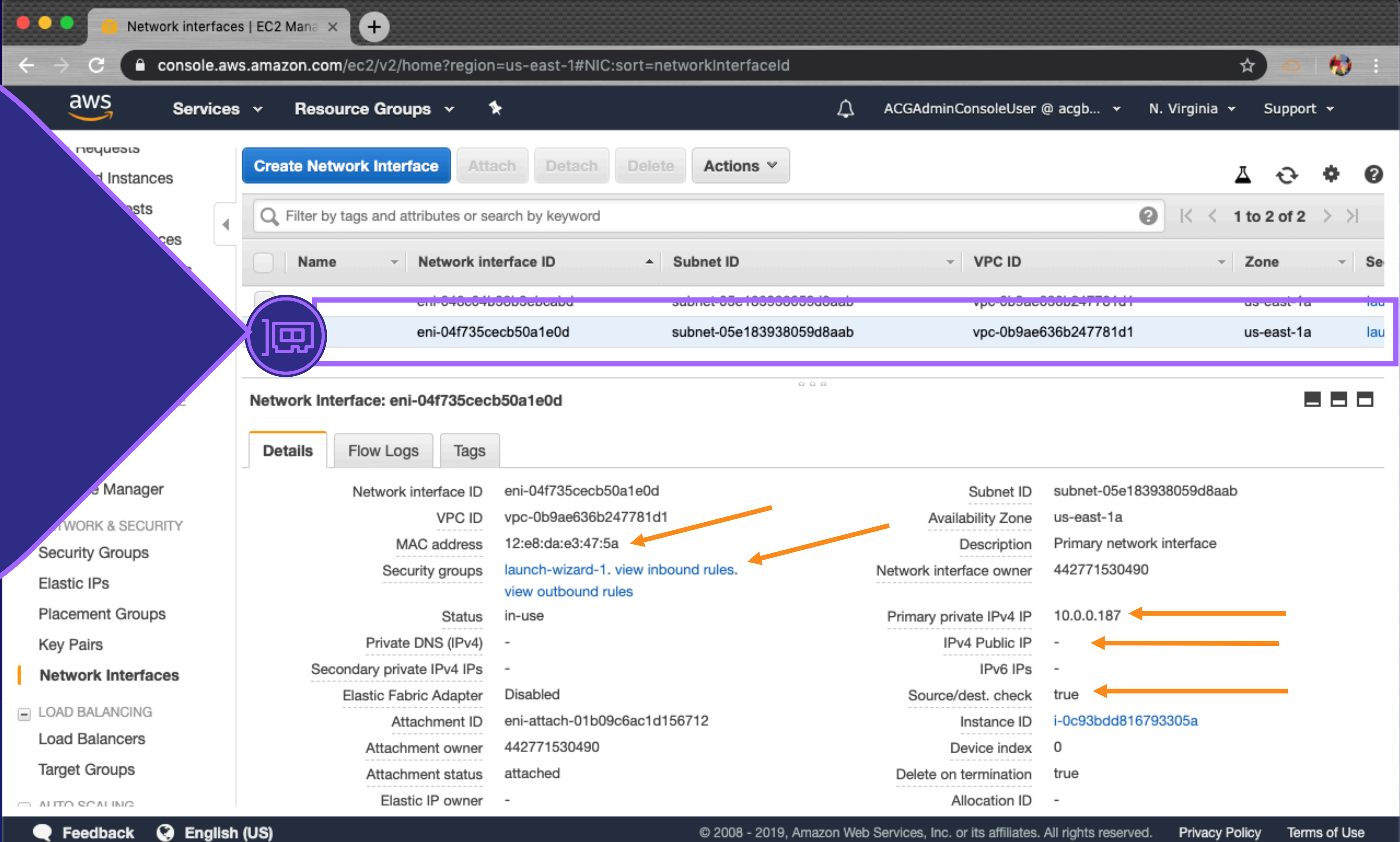


Simple Elastic Network Interface Architecture



Elastic Network Interfaces (ENIs)

- MAC address
- Internal IP addresses
- Dynamic external IP
- Elastic external IP
- Source / dest. check
- Security groups



Network interfaces | EC2 Mana x

console.aws.amazon.com/ec2/v2/home?region=us-east-1#NIC:sort=networkInterfaceId

Services Resource Groups

ACGAdminConsoleUser @ acgb... N. Virginia Support

Create Network Interface Attach Detach Delete Actions

Filter by tags and attributes or search by keyword

Name	Network interface ID	Subnet ID	VPC ID	Zone	Se
	eni-046c04b39b3ebcabb	subnet-05e183938059d8aab	vpc-0b9ae636b247781d1	us-east-1a	lau
	eni-04f735cecb50a1e0d	subnet-05e183938059d8aab	vpc-0b9ae636b247781d1	us-east-1a	lau

Network Interface: eni-04f735cecb50a1e0d

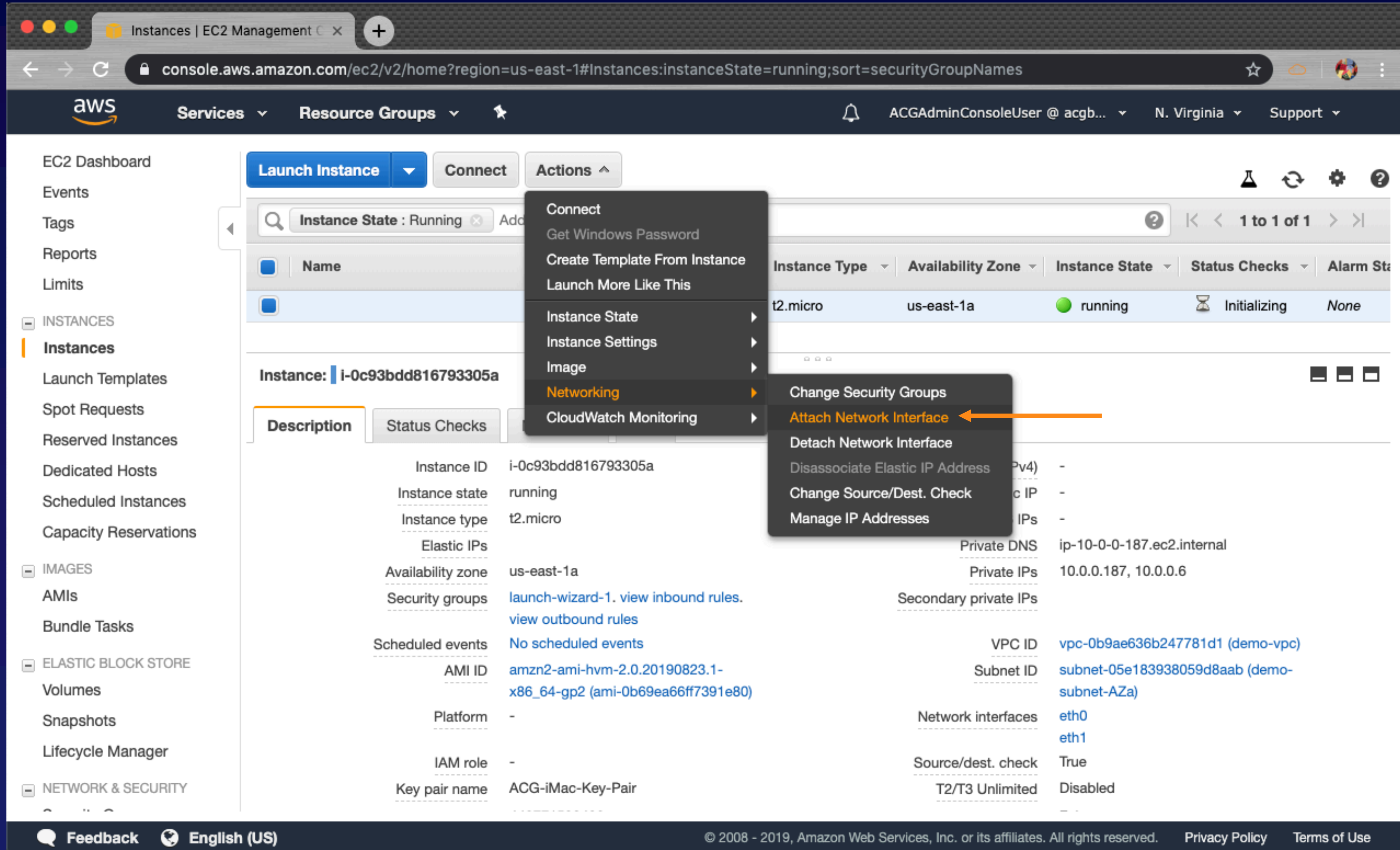
Details Flow Logs Tags

Network interface ID	eni-04f735cecb50a1e0d	Subnet ID	subnet-05e183938059d8aab
VPC ID	vpc-0b9ae636b247781d1	Availability Zone	us-east-1a
MAC address	12:e8:da:e3:47:5a	Description	Primary network interface
Security groups	launch-wizard-1. view inbound rules. view outbound rules	Network interface owner	442771530490
Status	in-use	Primary private IPv4 IP	10.0.0.187
Private DNS (IPv4)	-	IPv4 Public IP	-
Secondary private IPv4 IPs	-	IPv6 IPs	-
Elastic Fabric Adapter	Disabled	Source/dest. check	true
Attachment ID	eni-attach-01b09c6ac1d156712	Instance ID	i-0c93bdd816793305a
Attachment owner	442771530490	Device index	0
Attachment status	attached	Delete on termination	true
Elastic IP owner	-	Allocation ID	-

Feedback English (US)

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Elastic Network Interfaces (ENIs)



The screenshot shows the AWS Management Console interface for an EC2 instance. The 'Actions' dropdown menu is open, and the 'Networking' option is selected, which has opened a sub-menu. In this sub-menu, the 'Attach Network Interface' option is highlighted with an orange arrow.

Instance Details:

- Instance ID: i-0c93bdd816793305a
- Instance state: running
- Instance type: t2.micro
- Availability zone: us-east-1a
- Security groups: launch-wizard-1. [view inbound rules.](#) [view outbound rules](#)
- AMI ID: amzn2-ami-hvm-2.0.20190823.1-x86_64-gp2 (ami-0b69ea66ff7391e80)
- Platform: -
- IAM role: -
- Key pair name: ACG-iMac-Key-Pair

Network Configuration:

- Private DNS: ip-10-0-0-187.ec2.internal
- Private IPs: 10.0.0.187, 10.0.0.6
- Secondary private IPs: -
- VPC ID: vpc-0b9ae636b247781d1 (demo-vpc)
- Subnet ID: subnet-05e183938059d8aab (demo-subnet-AZa)
- Network interfaces: eth0, eth1
- Source/dest. check: True
- T2/T3 Unlimited: Disabled

Elastic Network Interfaces (ENIs)

The screenshot shows the AWS Management Console interface for an EC2 instance. The instance ID is `i-0c93bdd816793305a` and it is in a `running` state. The instance type is `t2.micro` and it is located in the `us-east-1a` availability zone. The private IP address is `10.0.0.187`. The console displays various details about the instance, including its configuration, status checks, and network settings. Two orange boxes highlight the `Private IPs` and `Network interfaces` fields.


Field	Value
Instance ID	i-0c93bdd816793305a
Instance state	running
Instance type	t2.micro
Availability zone	us-east-1a
Private IPs	10.0.0.187, 10.0.0.6
Network interfaces	eth0, eth1
VPC ID	vpc-0b9ae636b247781d1 (demo-vpc)
Subnet ID	subnet-05e183938059d8aab (demo-subnet-AZa)
Source/dest. check	True
T2/T3 Unlimited	Disabled

Elastic Network Interfaces (ENIs)

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docs.aws.amazon.com/AWSEC2/latest/UserGuide/using-eni.html
English
Sign In to the Console



Amazon Elastic Compute Cloud

User Guide for Linux Instances

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IP Addresses Per Network Interface Per Instance Type

The following table lists the maximum number of network interfaces per instance type, and the maximum number of private IPv4 addresses and IPv6 addresses per network interface. The limit for IPv6 addresses is separate from the limit for private IPv4 addresses per network interface. Not all instance types support IPv6 addressing. Network interfaces, multiple private IPv4 addresses, and IPv6 addresses are only available for instances running in a VPC. For more information, see [Multiple IP Addresses](#). For more information about IPv6 in VPC, see [IP Addressing in Your VPC](#) in the *Amazon VPC User Guide*.

Instance Type	Maximum Network Interfaces	IPv4 Addresses per Interface	IPv6 Addresses per Interface
a1.medium	2	4	4
a1.large	3	10	10
a1.xlarge	4	15	15
a1.2xlarge	4	15	15
a1.4xlarge	8	30	30
c1.medium	2	6	IPv6 not supported
c1.xlarge	4	15	IPv6 not supported
c3.large	3	10	10
c3.xlarge	4	15	15
c3.2xlarge	4	15	15

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NIC Teaming Is Not Supported

You cannot add more ENIs to an EC2 instance to improve bandwidth to or from that instance.