Solution Brief: Overview of ExtraHop for AWS

ExtraHop

ExtraHop is the global leader in real-time wire data analytics. The ExtraHop Operational Intelligence platform analyzes all L2-L7 communications, including full bidirectional transactional payloads. This innovative approach provides the correlated, cross-tier visibility essential for application performance, availability, and security in today's complex and dynamic IT environments. The winner of numerous awards from Interop and others, the ExtraHop platform scales up to 20 Gbps, deploys without agents, and delivers tangible value in less than 15 minutes.

Delivering Value in AWS

AWS offers many advantages to enterprise IT teams, from dynamic and agile deployment to a high-availability, global infrastructure. With ExtraHop for AWS, organizations can gain unprecedented visibility across their AWS application delivery chain, utilizing ExtraHop's ground breaking wire data analytics to monitor their AWS environment in real-time and optimize the experience for their end users. AWS customers can now supplement CloudWatch machine data like CPU and memory usage with full L2-L7 analysis, gaining visibility into key performance indicators like application latency, EC2 processing time, RDS methods, and per-bucket S3 file access. The holistic visibility provided by ExtraHop will enable businesses of all sizes to:

1. Better and more confidently plan their cloud migration strategy

2. Optimize their AWS deployments for performance and cost

3. Monitor potential security concerns

4. Evaluate expansion into new AWS services

5. Gain a common view across their on-premises environment and AWS

Customer Reference – Practice Fusion

Practice Fusion is the leading provider of SaaS-based electronic medical record (EMR) systems and has adopted AWS to improve the scalability of their services. Practice Fusion uses ExtraHop to monitor end-user experience, troubleshoot issues, and optimize the efficiency and performance for their SaaS application. With ExtraHop deployed in their corporate datacenter and in AWS, Practice Fusion has been able to:

- Gain visibility into the full L2-L7 details of communications between application components, complementing the resource-utilization metrics from CloudWatch

- Establish performance baselines and receive alerts when performance deviates from historical trends

- Equip application development and support teams with details that are not detected by agent-based monitoring, both in testing and in production

- Identify which web and database workloads are good candidates for optimization or migration to the cloud

Learn more about how Practice Fusion uses ExtraHop in AWS on our website: www.extrahop.com/aws

Product Overview

ExtraHop has two paid AMIs available in AWS, along with a free central manager and a free edition to enable customers to try out our product. These can be deployed in a variety of ways, depending on a customer's needs. The products and key deployment components are described below.

Discovery Edition for AWS is ExtraHop's free virtual version. It will help you discover the performance of your applications across the network, EC2, RDS, S3, ELB, DNS and other services.

EH1000v for AWS, ExtraHop's large AMI, can be installed in your existing instances where you have up to 250 devices. Multiple copies can be installed in a single region or across regions to provide analysis for more devices.

EH2000v for AWS, ExtraHop's extra large AMI, can be installed in your existing instances where you have to 1,000 devices. Multiple copies can be installed in a single region or across regions to provide analysis for more devices.

ExtraHop Central Manager (ECM) for AWS is an optional free AMI to deploy when you have multiple ExtraHop appliances and want to combine the data together in a single pane.

ExtraHop Packet Forwarder allows you to monitor instances using RPCAP (Remote Packet Capture). RPCAP forwards traffic from virtual environments without requiring a virtual tap. It is based on an open source standard pioneered by the Wireshark project and ExtraHop has contributed updates on GitHub.

The following table summarizes the various AMIs available in AWS:

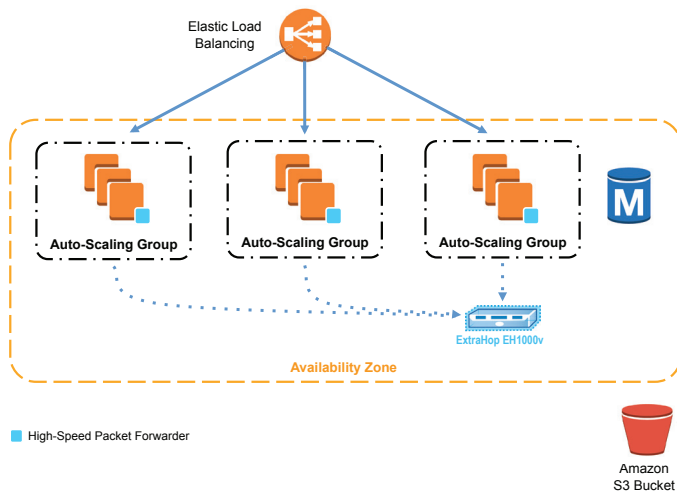|	ExtraHop Discovery Edition for AWS	ExtraHop EH1000v for AWS	ExtraHop EH2000v for AWS	ExtraHop Central Manager for AWS
ExtraHop AMI Instance Size	Large	Large	Extra Large	Medium
Max Monitored Instances	50	250	1,000	Unlimited*
Storage	16GB	61GB	276GB	44GB

* To monitor a large number of instances using ECM, a larger AMI instance size will be required.

AWS Deployment Scenarios and Best Practices

Deployment Steps

1) Purchase licenses for desired ExtraHop AMIs, protocol modules, and number of monitored instances

2) Locate ExtraHop AMIs among publicly available AMIs

3) Launch ExtraHop EH1000v and/or EH2000v AMIs in desired Availability Zones and/or Regions

4) For each launched AMI, log into the Admin UI and apply the license

5) Install the packet forwarder on each instance to be monitored by ExtraHop (manually or automate with CloudFormation or Chef)

6) *(Optional)* Launch the ExtraHop Central Manager and add the ExtraHop EH1000v and EH2000v nodes to the cluster

Scenario 1: ExtraHop Deployment Within an AZ

Elastic Load Balancing

Auto-Scaling Group   Auto-Scaling Group   Auto-Scaling Group

ExtraHop EH1000v

Availability Zone

■ High-Speed Packet Forwarder

Amazon S3 Bucket

Sample Cost Estimates

Key Assumptions

- License: EH1000v for AWS Gold subscription with 50 monitored instances and no add-ons (with annual commitment)

- Region: US-West 2 (Oregon) with 3 AZs

- EH EC2 Instance: Linux m1.large

- Pricing: 1 year Medium Reserved instance (excludes support costs and one-time instance setup fee)

- Data Transfer: 500Mbps per EH

Component	Monthly Cost
EH1000v AMI EC2 Compute/Storage	$ 64.60
Data Transfer	—
ExtraHop License Cost (List)	$ 660.80
Total Monthly Cost	$ 725.40
Hourly Cost per Monitored Instance	**$ 0.02**

Scenario 2(a): ExtraHop Deployment Across AZs Using a Single EH AMI
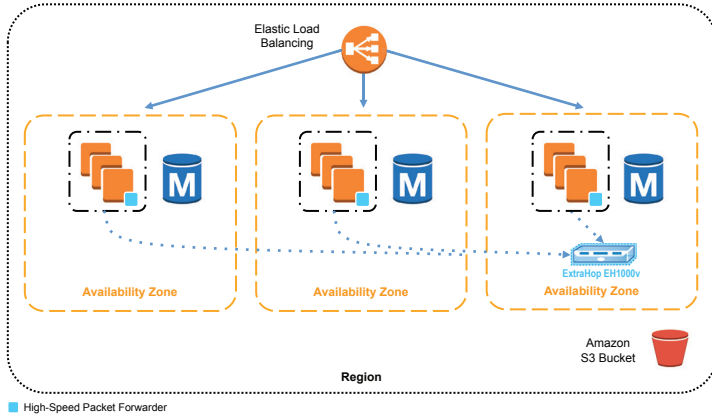
High-Speed Packet Forwarder

Sample Cost Estimates

Component	Monthly Cost
EH1000v AMI EC2 Compute/Storage	$ 64.60
Data Transfer	$ 1,072.40
ExtraHop License Cost (List)	$ 660.80
Total Monthly Cost	$ 1,797.80
Hourly Cost per Monitored Instance	**$ 0.05**

Scenario 2(b): ExtraHop Deployment Across AZs Using Multiple EH AMIs and an ECM


High-Speed Packet Forwarder
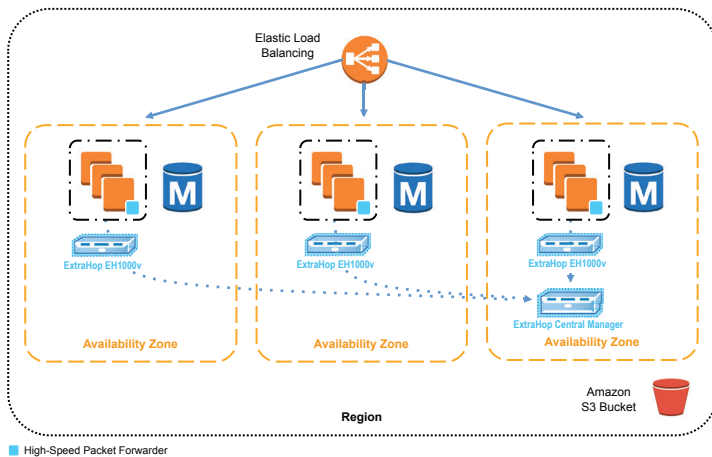
Best Practice Note: If instances are in multiple AZs within a Region, select the busiest availability zone to launch the ECM. Each AZ is isolated, but the AZs in a region are connected through low-latency links.

Sample Cost Estimates

Component	Monthly Cost
EH1000v AMI EC2 Compute/Storage	$ 193.80
Data Transfer	—
ECM*	$ 32.50
ExtraHop License Cost (List)	$ 1,982.50
Total Monthly Cost	$ 2,208.60
Hourly Cost per Monitored Instance	**$ 0.06**

* ECM includes both EC2 and data transfer costs. Data transfer for ECM is variable and depends on the specifics of each deployment. Data transfer volume is usually minimal.

Scenario 3: ExtraHop Deployment Across Regions


High-Speed Packet Forwarder
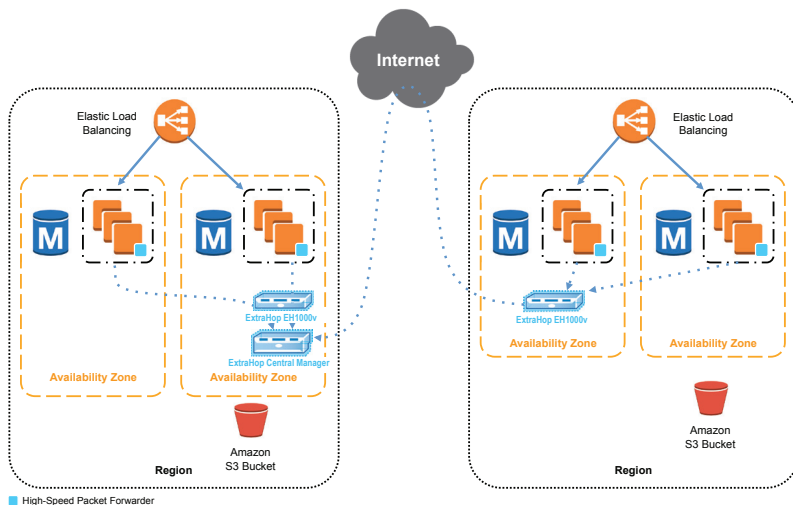
Best Practice Note: If the ExtraHop appliances span multiple Regions, it is recommended to place the ECM in the busiest Region. If ExtraHop appliances exist across Regions, the ExtraHop appliance that is not in the same Region as the ECM must be able to communicate over the Internet (public IP). All data sent to the ECM is encrypted.

For high availability for the ECM, Elastic IP addresses can be used to mask the failure of an instance in one AZ by rapidly remapping the address to an instance in another AZ.

Sample Cost Estimates

Costs would include the per-region costs (estimated in scenario 2(a) above) as well as EC2 and data transfer costs for the ECM.

Scenario 4: ExtraHop Deployment Across AWS and On-premises Environments

■ High-Speed Packet Forwarder
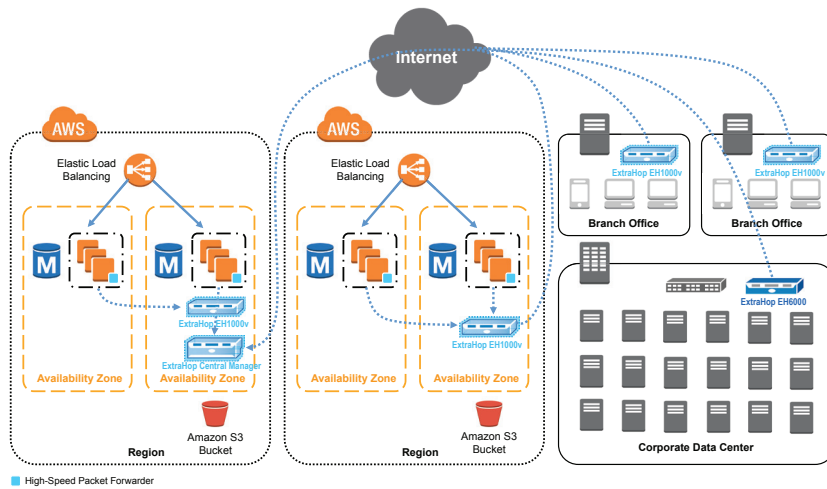
Best Practice Note: The ECM can be deployed either on-premises or in AWS. Deploying the ECM in AWS would avoid outbound data transfer fees. All data sent to the ECM is encrypted.

Sample Cost Estimates
Total costs are dependent on the on-premises deployment architecture. AWS costs would include the per-region costs (including the ECM) and any data transfer costs across the internet.

Cost Summary

Whether organizations want to monitor a single AZ or environments that span on-premises and the cloud, ExtraHop provides them with flexible AWS deployment options. The amount of traffic generated by an organization's AWS instances is an important determinant of cost and should inform how a customer deploys the ExtraHop solution. Overall costs of deploying the ExtraHop solution will vary depending on the number of instances being monitored, any module add-ons, data transfer rates, and the use of the optional ECM.

	Scenario 1	Scenario 2a	Scenario 2b
Total Monthly Cost	$ 725.40	$ 1,797.80	$ 2,208.60
Hourly Cost per Monitored Instance	**$ 0.02**	**$ 0.05**	**$ 0.06**

Please contact ExtraHop for more details on product pricing.

To learn more about the benefits delivered by ExtraHop and to try out the free Discovery Edition for AWS, please visit our website: **www.extrahop.com/aws**

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