

Securing AWS & Managing AWS Costs

Securing AWS

- **User & Identity Management**
- **Network Security**
- **Instance Security**
- **Securing Data at Rest**
- **Monitoring**

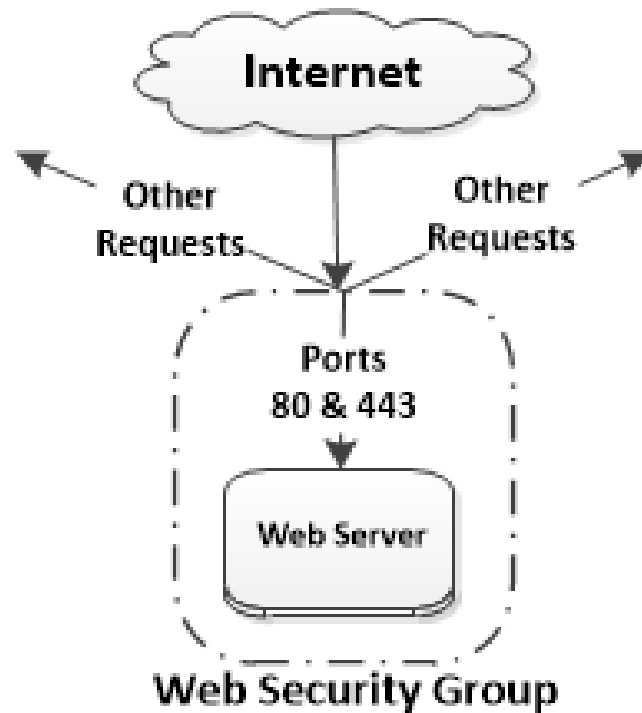
User & Identity Management

- **Use MFA**
- **Use IAM Users - Not root**
- **Use Groups, Roles and Policies (least privilege)**
- **Integrate with AWS Directory Services**
- **Minimize Key Use - Rotate Keys**

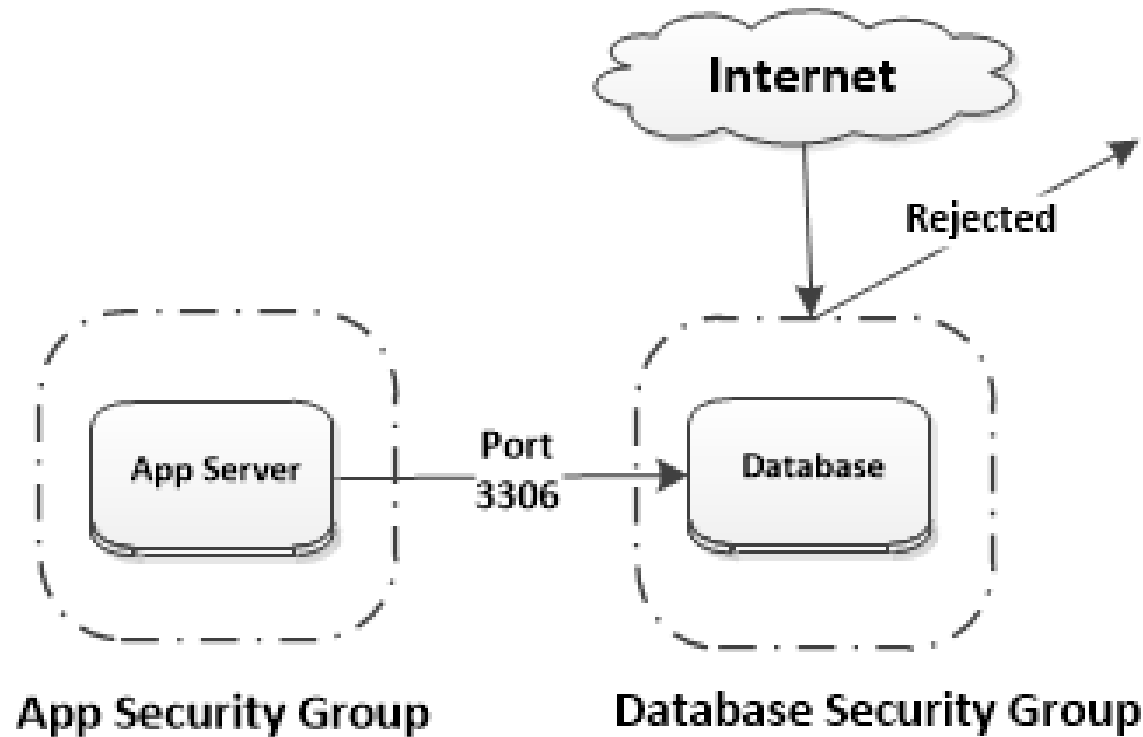
Network Security

- **Security Group**
- **VPC**
- **Firewall**

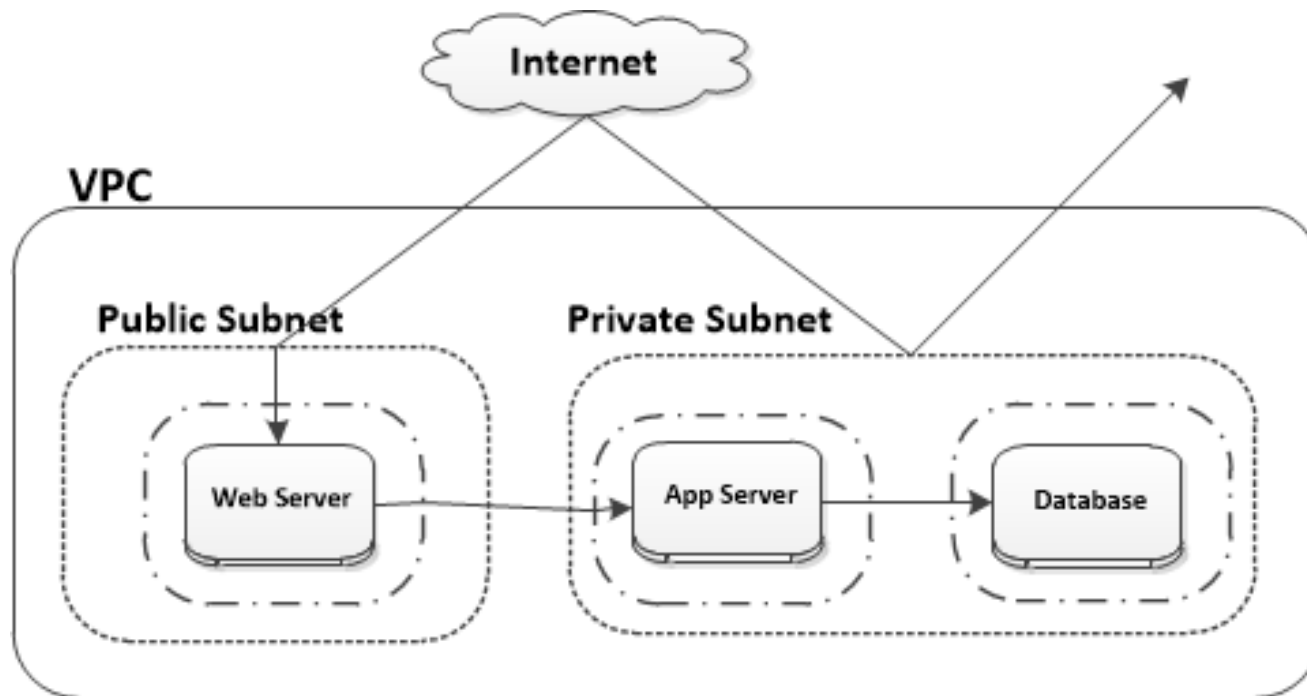
Security Group



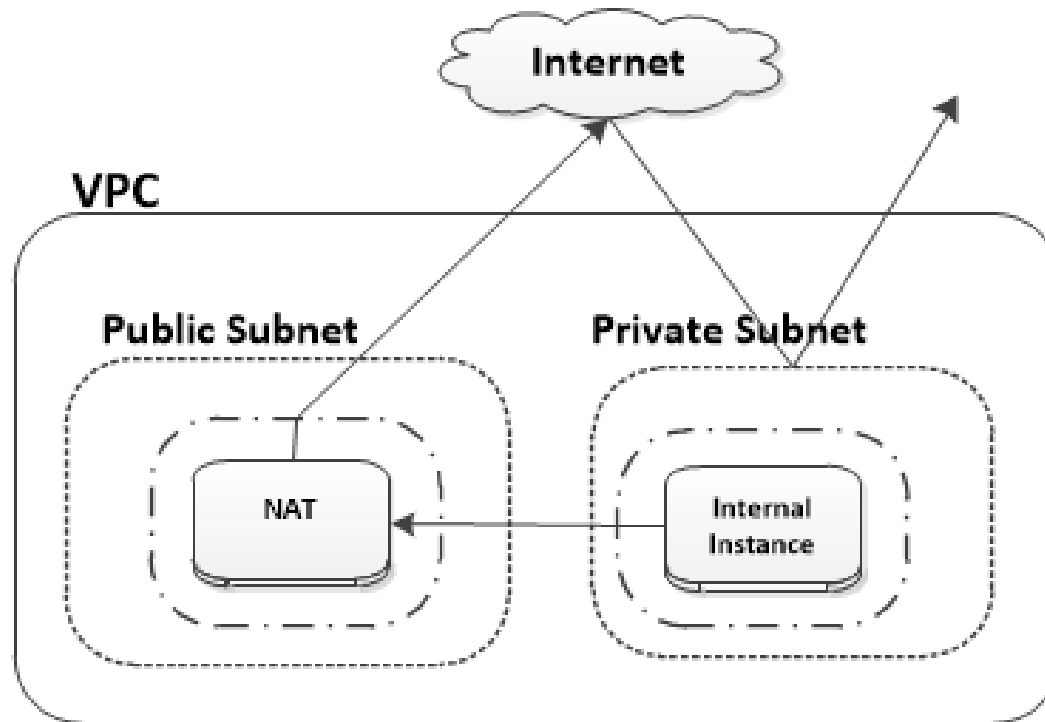
Security Group (continued)



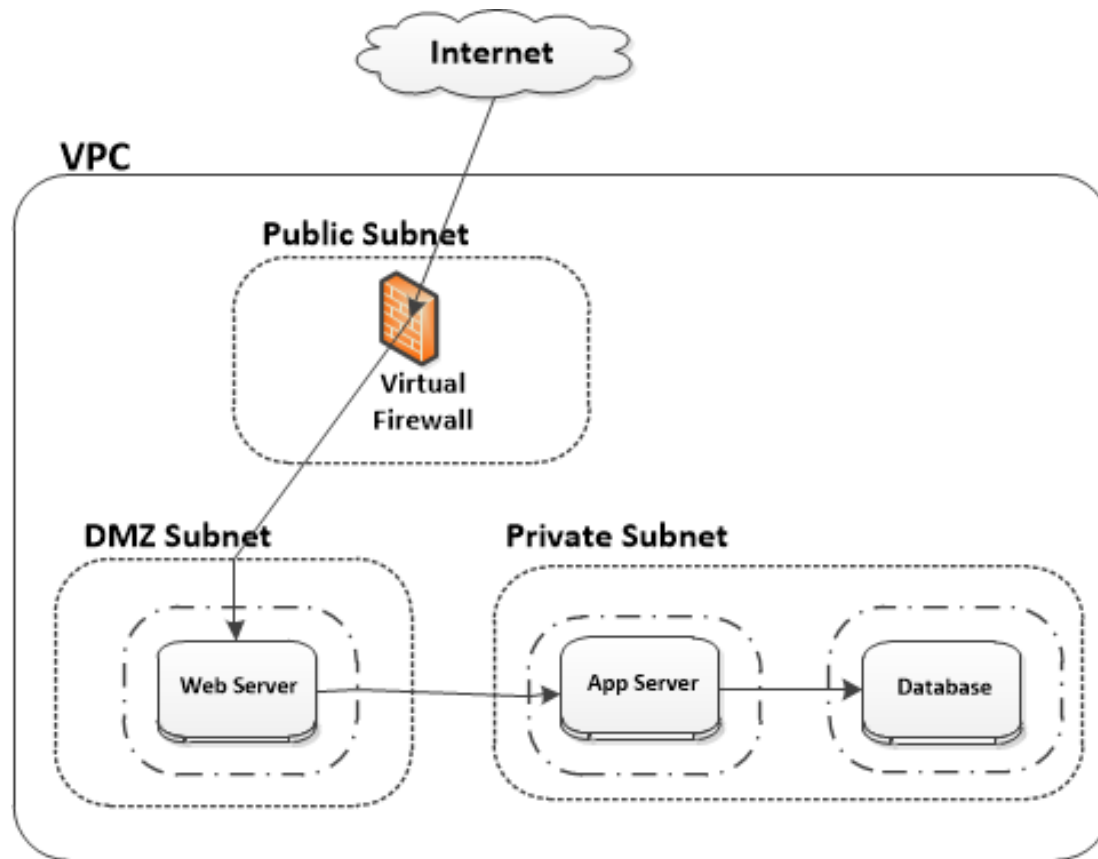
VPC



VPC with NAT



VPC With Firewall



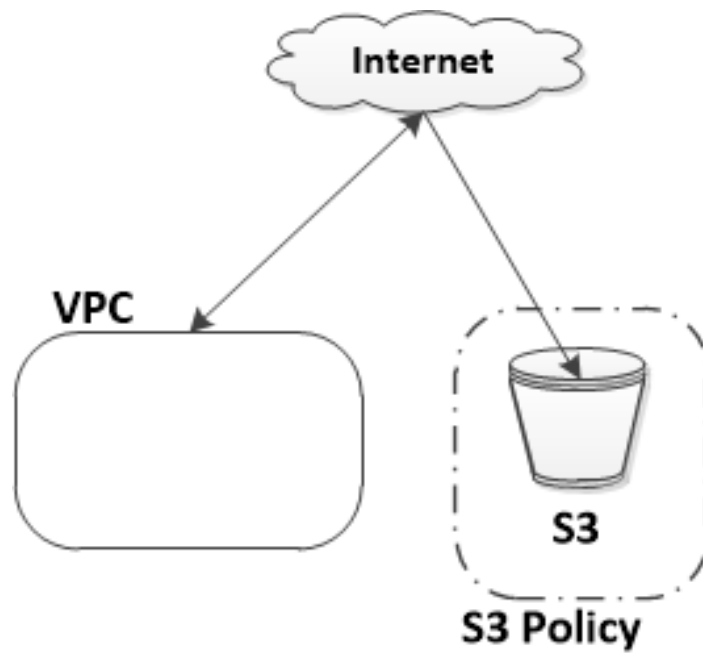
Instance Security

- **AWS Roles**
- **Integration with Existing User Authentication & Authorization**
- **Policy Enforcement (*3rd party*)**
- **Patch Management**

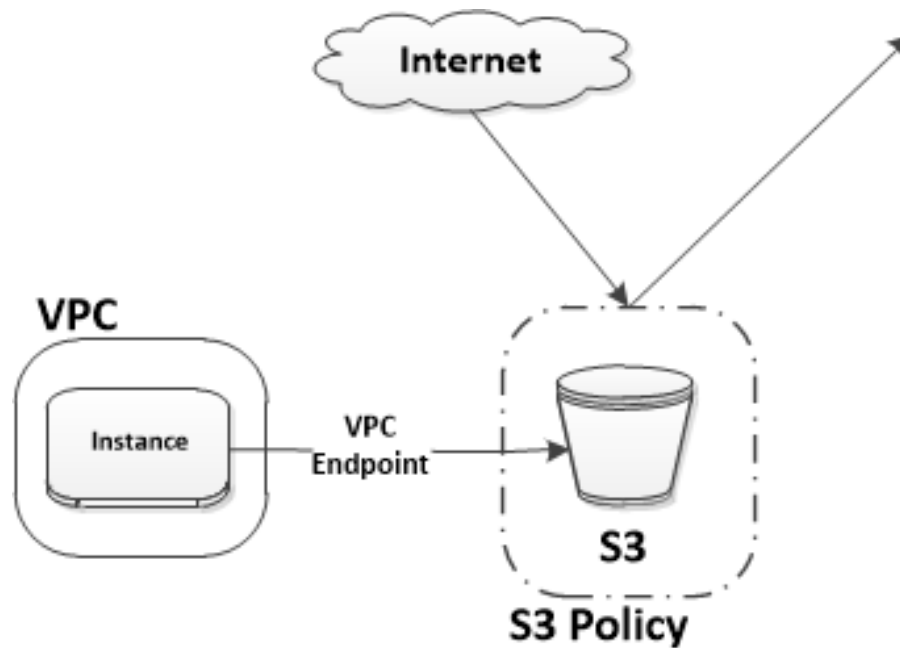
Securing Data at Rest

- **AWS EBS Volume Encryption**
- **AWS S3 Encryption**
- **AWS S3 Policies**
- **AWS Snapshot Encryption**
- **AWS Glacier (encryption by default)**

AWS S3



AWS S3 (continued)



Monitoring

- **AWS CloudWatch**
- **Monitoring Tools *(3rd party)***
- **Network Scanning *(3rd party)***
- **Intrusion Detection/Log Analysis *(3rd party)***
- **AWS CloudTrail**
- **AWS Config**



Questions

Managing Costs

- **You Must Tag & Manage!**
- **AWS Compute (EC2, RDS, etc)**
- **Storage (EBS, EFS, S3, Snapshots)**
- **Data Transfer**
- **AWS Trusted Advisor**
- **3rd Party Products**

Instance Cost Management

- **Typically Represent 40%-60% of Total Costs**
- **Reserved Instances (instance credits)**
- **Spot Instances**

Storage Cost Management

- **EBS (standard vs PIOPS)**
- **EFS**
- **S3**
- **Glacier**

Data Transfer & Connectivity

- **In vs Out**
- **Inter-Instance**
- **VPN**
- **Direct Connect**

Cost Management Tools

- **AWS Trusted Advisor**
- **AWS Cost Explorer**
- **AWS Billing Alerts & Reports**
- **3rd Party Tools**

Other Resources

- **AWS Simple Monthly Calculator**
<http://calculator.s3.amazonaws.com/index.html>
- **AWS Total Cost of Ownership**
<https://awstcocalculator.com/>



Questions