

ClassSwift Network Whitepaper

● Version

Version	Description
1.4	1. Update FQDN domain 2. Update IPs for API Server
1.3	1. Update Asset Server FQDN domain
1.2	1. Update FQDN domain 2. Update IPs for API Server
1.1	1. Add FQDN Section 2. Add IPs for API Server
1.0	Initial Version

● Overview

This whitepaper outlines the updated network requirements for deploying and running ClassSwift on AWS. It now includes specific IP ranges for AWS services such as S3, S3 Accelerator, CloudFront, and Global Accelerator, along with the network speed, open ports, and protocols necessary for optimal performance and security.

● IP Ranges

To ensure secure and reliable communication with AWS services, please whitelist the following AWS-specific IP ranges:

1. **AWS S3 & S3 Accelerator:** Consult the AWS IP address ranges JSON file (<https://ip-ranges.amazonaws.com/ip-ranges.json>) to find the latest IP ranges for S3 and S3 Accelerator.
2. **AWS CloudFront:** Again, refer to the AWS IP address ranges JSON for the most up-to-date IP ranges for CloudFront.
3. **AWS Global Accelerator:** The IP ranges for Global Accelerator are also available in the AWS IP address ranges JSON.
4. **ClassSwift API Server:**
 - A. **IPv4:** 13.248.253.70 & 3.33.211.245 & 15.197.204.119 & 166.117.219.201
 - B. **IPv6:** 2600:9000:a615:66cc:4e3d:d13f:1554:4da2 & 2600:9000:a70b:ca2b:235a:d680:1068:b59a

Note: The AWS IP ranges are dynamically updated and should be checked periodically for changes.

● FQDN

Instead of setting whitelist of IP range, there is also another approach to fulfill firewall policy for our service:

1. **ClassSwift API Server:** <https://api-swift.eu.classswift.com>; <https://api-swift.us.classswift.com>
2. **ClassSwift Assets Server:** <https://media.eu.classswift.com>; <https://media.us.classswift.com>; <https://media.viewsonic.io>; <https://asset.eu.classswift.com/>; <https://asset.us.classswift.com>; <https://asset.viewsonic.io>
3. **ClassSwift Hub:** <https://classswift.manager.viewsonic.io>
4. **ClassSwift Participant:** <https://classswift.student.viewsonic.io>
5. **ClassSwift Product Page:** <https://www.classswift.viewsonic.io>
6. **ClassSwift APP Download:** <https://windows-ota.viewsonic.io>; <https://app-ota.viewsonic.io>

● Network Speed

A minimum network speed of **1 Mbps** is required for optimal application performance. Below this speed, users may experience latency issues or degraded service.

● Ports and Protocols

The application communicates over the following ports and protocols:

1. Port: 443
2. Protocol: TCP

For secure data transmission, TLS/SSL encryption is enabled on this port.

● Configuration Steps (Only for Reference)

1. **Whitelist AWS IP Ranges:** Use the AWS IP address ranges JSON file to add the relevant IP ranges to your firewall's whitelist. You can also automate this process via a script.

```
# Example code snippet to fetch and parse the AWS IP ranges JSON
aws_ranges=$(curl -s https://ip-ranges.amazonaws.com/ip-ranges.json)
s3_ranges=$(echo $aws_ranges | jq -r '.prefixes[] | select(.service=="S3")
| .ip_prefix')
cloudfront_ranges=$(echo $aws_ranges | jq -r '.prefixes[] |
select(.service=="CLOUDFRONT") | .ip_prefix')
global_accelerator_ranges=$(echo $aws_ranges | jq -r '.prefixes[] |
select(.service=="GLOBAL_ACCELERATOR") | .ip_prefix')

# Use these ranges in your firewall configuration
```

2. **Check Network Speed:** Verify that your network speed meets or exceeds the 1 Mbps requirement.

```
speedtest-cli
```

3. **Open Port 443 with TCP:** To enable secure communications, open port 443 with TCP protocol on your firewall.

```
sudo iptables -A INPUT -p tcp --dport 443 -j ACCEPT
```

Note: The steps describe above is for reference only. The specific steps will be vary by different brand or model. Please contact the IT specialist of your organization.

● Conclusion

By configuring your network to include the AWS-specific IP ranges and following the guidelines specified in this revised whitepaper, you can ensure that ClassSwift operates securely and efficiently on AWS.

For further questions or technical support, please contact our support team.