

TechNote – AltitudeCDN™ OmniCache Integration with Skype Meeting Broadcast

Version 1.1

AltitudeCDN™ OmniCache is a robust proxy cache that enables the efficient delivery of HTTP Live Streaming (HLS) or DASH video content across the enterprise. OmniCache provides a flexible, scalable, and distributed platform that delivers high-quality low-latency video, while protecting and conserving limited enterprise Wide Area Network (WAN) resources.

OmniCache provides Microsoft Skype for Business customers with a video caching solution for live meeting broadcasts, as OmniCache integrates with, and fully supports:

- The Skype for Business video event management service.
- The Skype Meeting Broadcast feature.

This guide describes how to provision AltitudeCDN OmniCache for a Skype Meeting Broadcast video event.

Contents

Contents	1
Introduction	2
Requirements	2
Solution Summary	3
PAC File – Forward Proxy	3
Example Forward OmniCache Configuration	3
DNS Name Override – Reverse Proxy	4
Example OmniCache Configuration	4
Skype Meeting Broadcast Setup	4

Introduction

During Skype Meeting Broadcast events, large numbers of viewers each attempt to individually connect to external content delivery network (CDN) servers, creating a high demand on WAN network resources that can lead to congestion, poor video quality, and even service interruptions for event viewers or other network clients.

To avoid these issues, AltitudeCDN OmniCache provides local video-content caching features that can be configured to fully support Skype Meeting Broadcast events. By using OmniCache, retrieval of video content from external CDN servers is greatly reduced, and shared content is internally distributed to enterprise WAN clients. The flexibility of this approach allows you to properly engineer network bandwidth usage to avoid service degradation, and maintain a high-level quality of service (QoS).

The integration of OmniCache with Skype Meeting Broadcast consists of two parts:

- Traffic steering – OmniCache includes several mechanisms that allow you to steer requests for Skype Meeting Broadcast video content to the appropriate OmniCache nodes in your environment.
- Content caching – OmniCache can be configured to recognize and store Skype Meeting Broadcast video content, and efficiently deliver content to enterprise clients.

Requirements

To use AltitudeCDN OmniCache with Skype Meeting Broadcast, you need the following:

Item	Recommendation
OmniCache	OmniCache v1.6.2 or later – The OmniCache must be installed and running on an on-premise Windows or CentOS platform, positioned within the customer network so traffic can reach both the audience and external video source. For more information, see the <i>AltitudeCDN OmniCache Deployment Guide</i> .
Traffic Steering Mechanism	You need either of the following: <ul style="list-style-type: none">• A Proxy Auto-Configuration (PAC) file to indicate the IP address or DNS name of an appropriate OmniCache node.• Enterprise Domain Name System override for Skype Meeting Broadcast video origin hostname.

Solution Summary

Relevant HTTP requests from client browsers or video players for HLS and DASH video content are directed via PAC file or enterprise DNS name override to an appropriate OmniCache node. OmniCache's unique routing features can additionally provide request routing that re-writes manifests to distribute subsequent request loads across a scalable set of OmniCache nodes:

- If PAC file redirection is used, then OmniCache is configured in a standard forward-proxy mode.
- If DNS name override is used, then the OmniCache is configured as a reverse-proxy.
- In either case, the content is typically provided over HTTPS, so the OmniCache must be provisioned with a certificate that allows it to serve TLS/SSL traffic on behalf of the external CDN servers. Typically, this certificate is generated by an internal enterprise Certificate Authority (CA) where all potential viewers have been configured to trust that certificate.

PAC File – Forward Proxy

The example below illustrates PAC file syntax that directs Skype Meeting Broadcast video content queries to an OmniCache node:

```
function FindProxyForURL(url, host) {
    if (dnsDomainIs(host, "endpoint1-prdeuscompsvc.streaming.mediaservices.windows.net")){
        return "PROXY <OmniCache IP>:<OmniCache Port>";
    }
    if (dnsDomainIs(host, "endpoint1-prdwuscompsvc.streaming.mediaservices.windows.net")){
        return "PROXY <OmniCache IP>:<OmniCache Port>";
    }
    if (dnsDomainIs(host, "endpoint2-prdeuscompsvc.streaming.mediaservices.windows.net")){
        return "PROXY <OmniCache IP>:<OmniCache Port>";
    }
    if (dnsDomainIs(host, "endpoint2-prdwuscompsvc.streaming.mediaservices.windows.net")){
        return "PROXY <OmniCache IP>:<OmniCache Port>";
    }
    return "DIRECT";
}
```

Note: You must ensure that the external CDN hostname is correct, otherwise the PAC file will not redirect the requests.

Example Forward OmniCache Configuration

This example uses a standard forward configuration for PAC file override:

```
"proxyEngines": [{
    "port": 10200,
    "mode": "standard",
    "httpsCertificateNames": "*.streaming.mediaservices.windows.net"
}],
```

See the *AltitudeCDN OmniCache Deployment Guide* and *AltitudeCDN OmniCache Reference Manual* for complete information on configuring OmniCache.

DNS Name Override – Reverse Proxy

The example below illustrates how an internal DNS name override is used to steer relevant HTTP requests to an appropriate OmniCache node. The enterprise DNS administrator could create a CNAME record for `endpoint1-prdeuscompsvc.streaming.mediaservices.windows.net`, which has the value of an appropriate OmniCache node (for example, `master-omnicache.your-enterprise.com`). The internal enterprise DNS may have features that allow a different OmniCache node to be returned depending on the location of the requester. In reverse-proxy mode, the HTTPS requests are directed to port 443, by default.

Example OmniCache Configuration

This example uses a reverse-proxy configuration for enterprise DNS override:

```
"proxyEngines": [{
  "port": 443,
  "mode": "reversehttps",
  "httpsCertificateNames":["*.streaming.mediaservices.windows.net"],
  "uriRewrites":[
    {
      "pathPattern":"/(.*)",
      "hostPattern":"endpoint1-prdeuscompsvc.streaming.mediaservices.windows.net",
      "pathReplacement":"/https/endpoint1-
prdeuscompsvc.streaming.mediaservices.windows.net/$1"
    }
  ]
}],
```

See the *AltitudeCDN OmniCache Deployment Guide* and *AltitudeCDN OmniCache Reference Manual* for complete information on configuring OmniCache.

Skype Meeting Broadcast Setup

No special configuration is required to enable an event to be cached by OmniCache. See the following Microsoft documentation for information on setting up a Skype Meeting Broadcast event:

<https://support.office.com/en-us/article/Schedule-a-Skype-Meeting-Broadcast-c3995bc9-4d32-4f75-a004-3bc5c477e553?ui=en-US&rs=en-US&ad=US>