

“Crossover Gateway Resilience” for Microsoft Unified Communications Networks

Customer Challenge

Many customers deploying Microsoft Office Communications Server 2007 for Unified Communications require their network to be fault tolerant and fully redundant. As such, they need to plan their solution to include no single point of failure, in order to allow phone calls to flow in and out of the organization at all times.

PSTN-VoIP network connectivity for Microsoft Office Communications Server involves three distinct components: Microsoft Office Communications Server, Microsoft Mediation Server, and a Media Gateway. All three components can be duplicated to allow fault tolerance, but even a fully duplicated configuration using standard “Microsoft Certified” Media Gateways may not assure service continuity in all failure scenarios.

Usage of AudioCodes “Crossover Gateway Resilience” for Microsoft Unified Communications Networks provides a solution for all failure scenarios, including both Mediation Server and PSTN trunk failures, whereas typical configurations will either drop all the calls or result in 50% call capacity reduction.

Feature Description

AudioCodes “Crossover Gateway Resilience” is a redundancy scheme that includes various “crossover” paths of sophisticated call routing, as well as PSTN Fallback and IP-to-IP call routing, in parallel to traditional PSTN-to-IP call routing. It is a fully redundant solution with no single point of failure. An added benefit is the fact that there is no need to change the configuration of the Enterprise legacy PBX or PSTN service parameters.

AudioCodes’ fully redundant configuration covers the following failure scenarios for inbound and outbound calls:

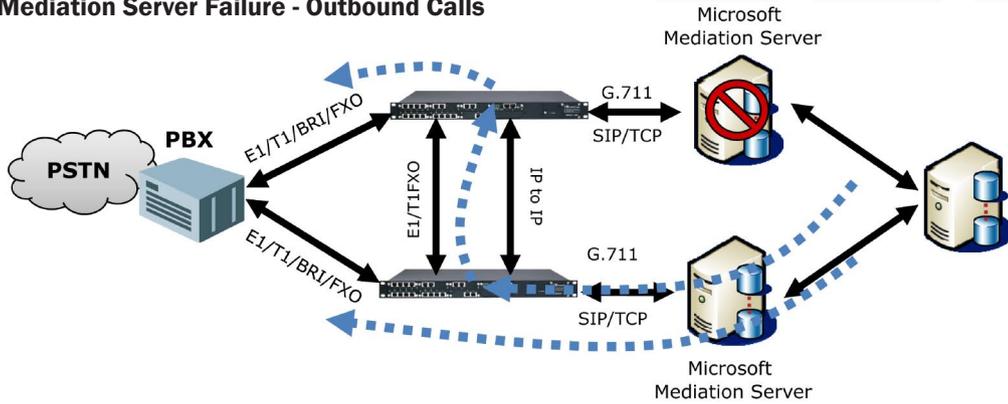
Office Communications Server Failure

Most enterprises deploy a cluster of Office Communications Servers. Any failure of a single server will not affect the service in any way



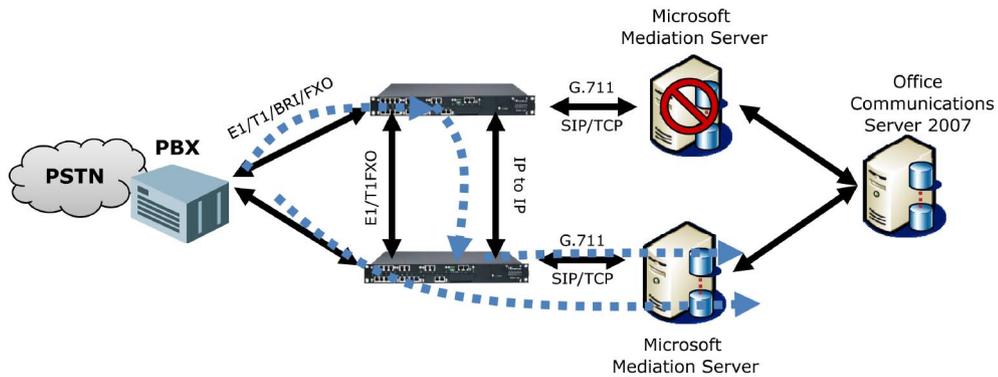
Mediation Server Failure

Mediation Server Failure - Outbound Calls



Outbound Calls: Multiple mediation servers can use the same route rules for outbound calls by working in load sharing. In the case of a failure of one of the Mediation Servers, all calls will be routed to the other Mediation Server. Using AudioCodes routing features, these calls can be routed, via IP or via an extra TDM trunk, to the other Media Gateway, or towards the PSTN without losing PSTN capacity.

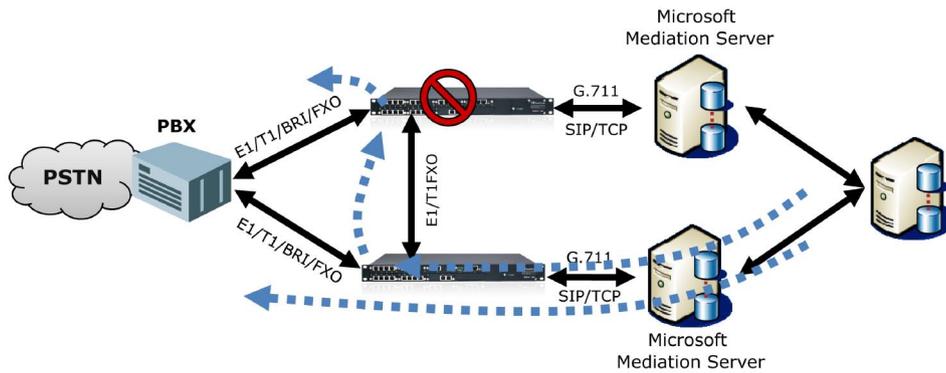
Mediation Server Failure - Inbound Calls



Inbound Calls: AudioCodes Media Gateways can use alternative routing if the primary Mediation Server fails, in which case, the AudioCodes Media Gateway will route all inbound calls to the alternative Mediation Server, via IP or an extra TDM trunk.

Media Gateway Failure

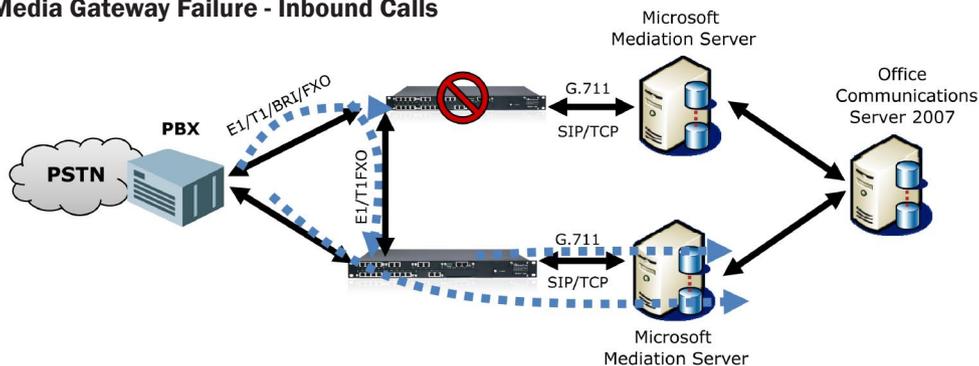
Media Gateway Failure - Outbound Calls



Outbound Calls: Office Communications Server will declare a path (Mediation Server and Media Gateway Combination) out of service if the TCP connection to them is lost. In case of failure of one of the Media Gateways, there are two options:

- If a PSTN Fallback trunk link exists between the two gateways, all calls designated to the failing gateway will be routed to the other gateway with no call-capacity reduction in the system
- If the customer chooses not to implement the PSTN Fallback link, all calls will be routed to the other Mediation Server that is associated with the redundant Media Gateway. This will result in no failure, but with a 50% call-capacity reduction

Media Gateway Failure - Inbound Calls

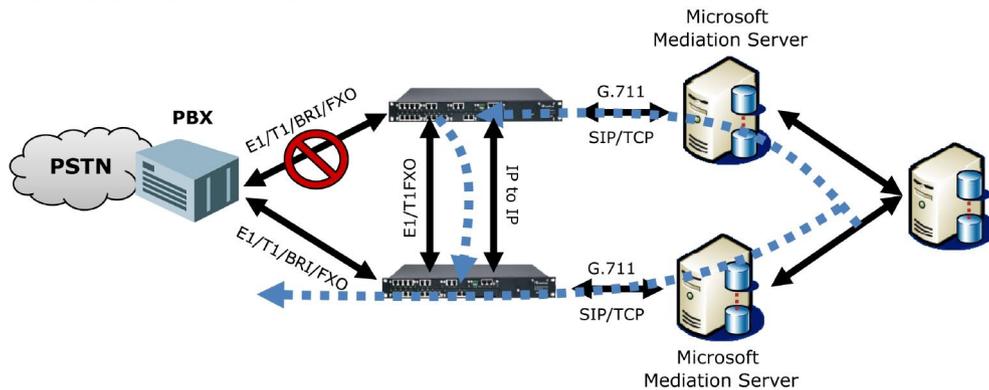


Inbound Calls:

- If a PSTN Fallback trunk link exists between the two gateways, all calls coming from the PBX / PSTN to the failing gateway will be routed to the other gateway, with no call-capacity reduction in the system
- If the customer chooses not to implement the PSTN Fallback link, the customer will need to configure the enterprise PBX to route all calls to the trunk connected to the redundant Media Gateway. Alternatively, this will be done by the Service Provider, in case there is no Enterprise PBX. In both scenarios, this will result with no failure, but with a 50% call-capacity reduction

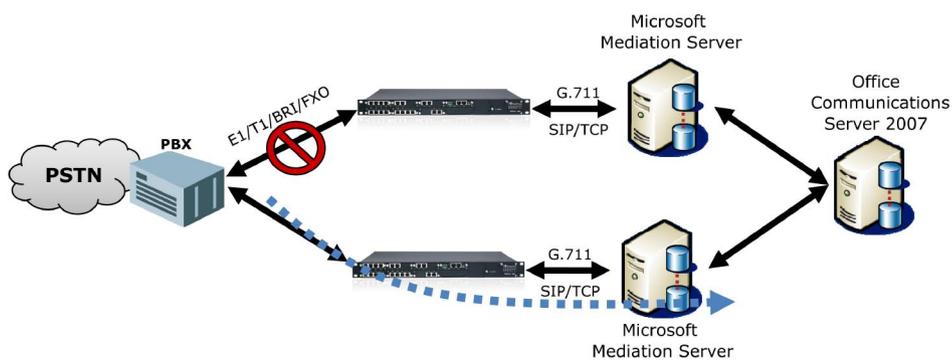
Trunk Failure

Trunk Failure Outbound Calls



Outbound Calls: AudioCodes Media Gateways can route the call back to the alternative Media Gateway once a trunk fails. This can be done via a PSTN Fallback link or simply via the IP network using IP-to-IP routing. This will allow full continuity of the outbound voice service in case one of the Media Gateways loses its PSTN trunk.

Trunk Failure Inbound Calls



Inbound Calls: In the case of a trunk failure, the enterprise PBX or the Service Provider needs to route all calls to the alternative trunk, resulting in continuous service, but with a 50% call-capacity reduction.

Summary

AudioCodes unique Gateway Resilience features enable Microsoft Unified Communications customers to deploy a fully redundant PSTN connection for their system. AudioCodes "Crossover Gateway Resilience" utilizes AudioCodes IP-to-IP and/or PSTN Fallback features to employ a system with no single point of failure, covering all failure scenarios and maximizing the utilization of PSTN trunks, with no need to change PBX configurations.

About AudioCodes

AudioCodes Ltd. (NasdaqGS: AUDC) designs, develops and sells advanced Voice over IP (VoIP) and converged VoIP and Data networking products and applications to Service Providers and Enterprises. AudioCodes is a VoIP technology leader focused on VoIP communications, applications and networking elements, and its products are deployed globally in Broadband, Mobile, Cable, and Enterprise networks. The company provides a range of innovative, cost-effective products including Media Gateways, Multi-Service Business Gateways, Residential Gateways, IP Phones, Media Servers, Session Border Controllers (SBC), Security Gateways and Value Added Applications. AudioCodes underlying technology, VoIPerfectHD™, relies primarily on AudioCodes leadership in DSP, voice coding and voice processing technologies. AudioCodes High Definition (HD) VoIP technologies and products provide enhanced intelligibility, and a better end user communication experience in emerging Voice networks.

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Ref. # LTRM-09054 11/09 V.1

