White Paper

Native Trunk Mode Architecture

Current Scenario

The telephony application marketplace is littered with PBX specific applications that are closely integrated to a given PBX using APIs and CTI licenses that are specific to that PBX. For a company that sells telephony solutions, it means integrating with several PBXs, using licenses and APIs specific to each PBX. It results in following pain points:

- The CTI programming model of each PBX could be quite different. This can cause considerable hardship for the company to maintain, support, and enhance a product to be truly cross platform.

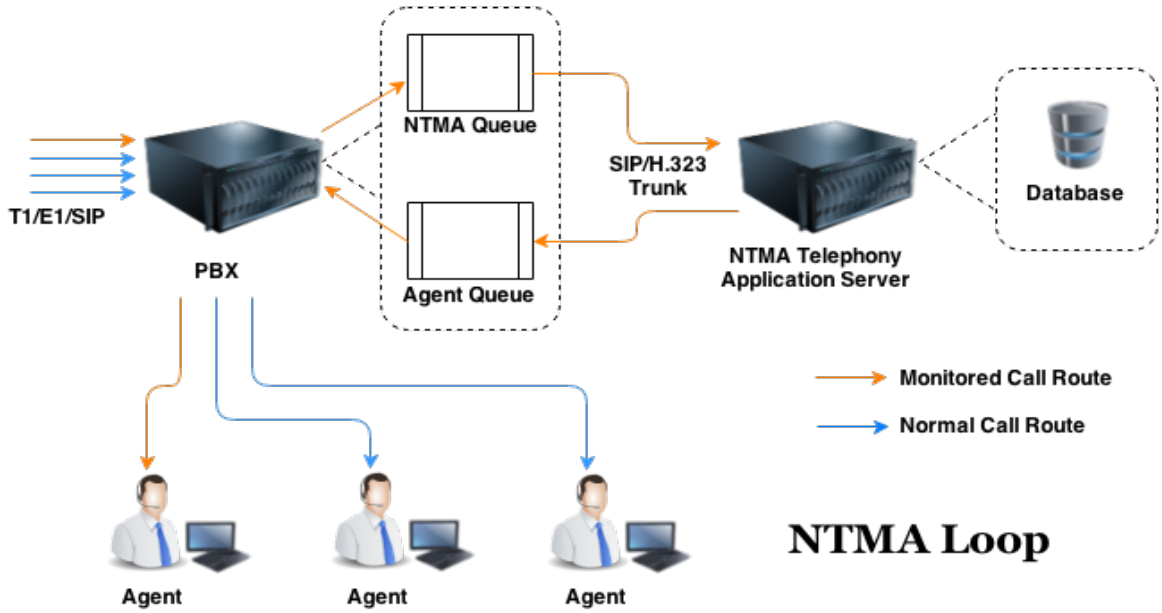
- PBX companies that have dominant market share often raise the cost of API and runtime licenses exorbitantly making the solution too expensive. The prices could change between the proposal and execution phases, making the solution provider take the hit.

- Sometimes a telephony application may have to work with multiple PBXs of different flavors. Closely integrated applications won't allow for sharing of application resources.

Native Trunk Mode Architecture (NTMA)

NTMA is a PBX agnostic architecture that dramatically reduces the dependency on PBX specific licenses and enables uniform application architecture across multiple PBXs. It uses the native VOIP protocol of the PBX to monitor the signaling and media traffic to provide recording, IVR and screen pop applications to the customer. For example, the same instance of IVR and Call logging application can work with Avaya CM, Avaya IP Office, Cisco UCM, Microsoft Lync and Asterisk at the same time. The PBX specific CTI is required only if PBX specific data is required. This will save a lot on CTI licenses sold by PBX makers. The NTMA has two deployment models, which can be applied based on customer requirement.

The NTMA Loop Configuration Model



The NTMA Loop Configuration uses the looping method to integrate with any PBX. Any the call that needs to be recorded, screened or monitored for screen pop, would be sent to the NTMA platform over a SIP or H.323 trunk. The NTMA will send the call right back to the PBX as a new call. As this call moves around in the PBX, from ACD to agent or anybody else, the NTMA telephony application is looped into the call. It can record the call anytime or inject messages into the call anytime.

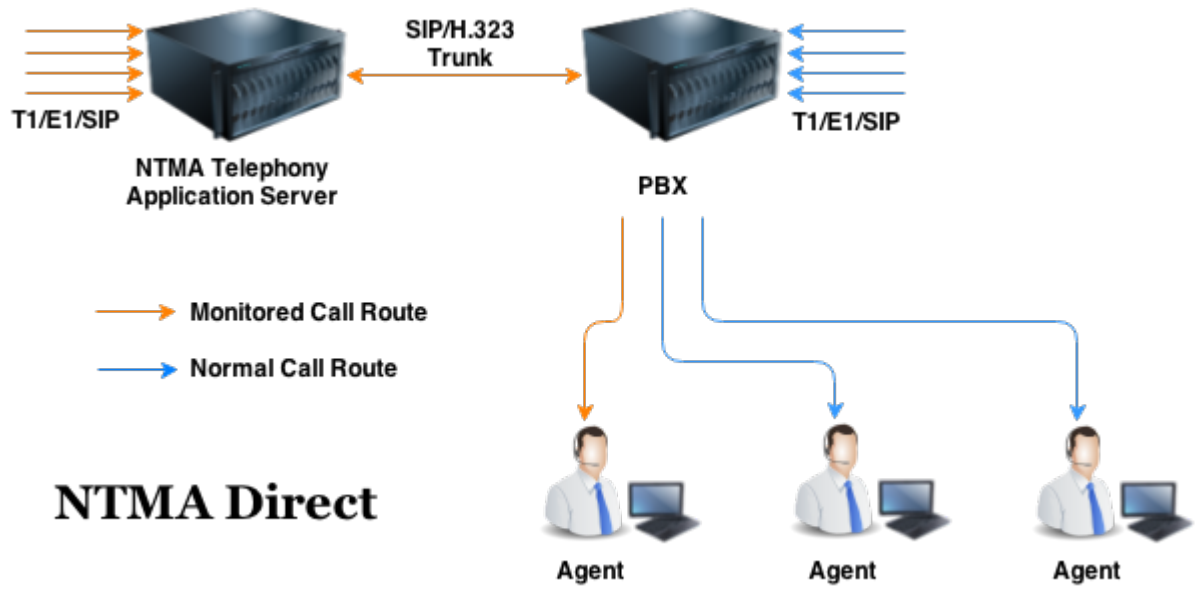
Advantages

- The PBX can selectively send calls to the NTMA telephony application.
- The hardware for NTMA telephony applications can be sized according to the exact requirement. For example, if only 10% of the calls need to be recorded, then the NTMA VDN (in the above picture) will only send those 10% calls to the NTMA recorder.

Disadvantages

- The PBX will see same call as two calls. This won't be an issue for reporting since only Agent VDN can be counted for reporting.
- One call would use three trunk channels instead of one. This may require extra gateways in case of high volume setups. Still it will be way cheaper than buying CTI licenses.

NTMA Direct Configuration Model



The NTMA Direct Configuration is setup by putting the NTMA platform between the Telco trunk and the PBX. The calls from the Telco will first terminate with the NTMA server, and then forwarded to the PBX.

Advantages

- PBX will not know any difference and no extra trunk channels are needed. The trunk channel usage will remain same as the normal call setup.
- PBX will see one call as one call, like usual.

Disadvantages

- The hardware should be sized according to the size of the trunk rather than size of recording requirement. Even if only 10% calls need to be recording, the entire 100% calls will be processed through the NTMA platform. This is a moot point where 100% recording is required.

Redundancy and High Availability feature

The redundancy and HA features are part of NTMA design philosophy. One could have a second NTMA server as the fallback trunk destination. If the primary NTMA server is down due to power failure or loss of connectivity, the calls could be redirected to the backup NTMA server and callers will never notice a thing.