Connecting TOA SIP equipment to Asterisk open-source framework

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TOA Corporation

TOA Corporation is dedicated to the development, manufacturing and distribution of premier commercial audio and security products. A central applications focus for TOA is system communications for facilities, with a strong emphasis on mass notifications and public address solutions. TOA continuously strives to establish relationships with key partners in the security sector to advance equipment integration through collaboration. TOA is a global leader that operates in over 100 countries worldwide, with manufacturing facilities found in nearly every major market area. These facilities have a reputation for precision design and fabrication, resulting in a proven track record of TOA product reliability.

Asterisk

Asterisk is an open source framework for building communications applications. Asterisk turns an ordinary computer into a communications server. Among the services offered by Asterisk are IP PBXs, VoIP gateways, conference servers, and employed by SMBs. The software is highly influential and used by small and large businesses, call centers, carriers and government agencies, worldwide. With Asterisk, businesses can build multi-protocol, real-time communication environments. Asterisk is in use today as the core engine of many communications applications with a focus on phone systems. It is versatile and flexible while easily scalable to whatever size is required.

Integration of Asterisk and TOA SIP devices

Our engineers worked diligently to ensure that our products assimilate with the devices and software of our collaboration partners. With Asterisk's position as a leader in the marketplace SIP equipment integration, our team knew the importance of testing and confirming that our SIP devices operated with the latest Asterisk version (v.16.2.1.)

Asterisk Registration

The procedure to establish the smooth integration between TOA SIP devices and Asterisk software was straightforward; can our SIP devices communicate with other SIP devices utilizing the Asterisk software?
With the Asterisk software on a local PC, we systematically connected and registered each TOA SIP device, one at a time, and began the process of configuring the device.
After logging into the Asterisk server, the first step was to register the individual/user. Within the sip.config, we accurately added the person's name; created a username and password, along with choosing the type of user, both dynamic and static were tested. The last step was to select the context for the user to define the category of permission for outgoing calls.
The second part of the device registration was to assign an extension to that user. The process starts by entering extensions.conf, in the Asterisk server, and allocating a dialing number to the registered user.
At this point with a user registered and an extension assigned, we confirmed that the SIP equipment was able to operate within the Asterisk framework.

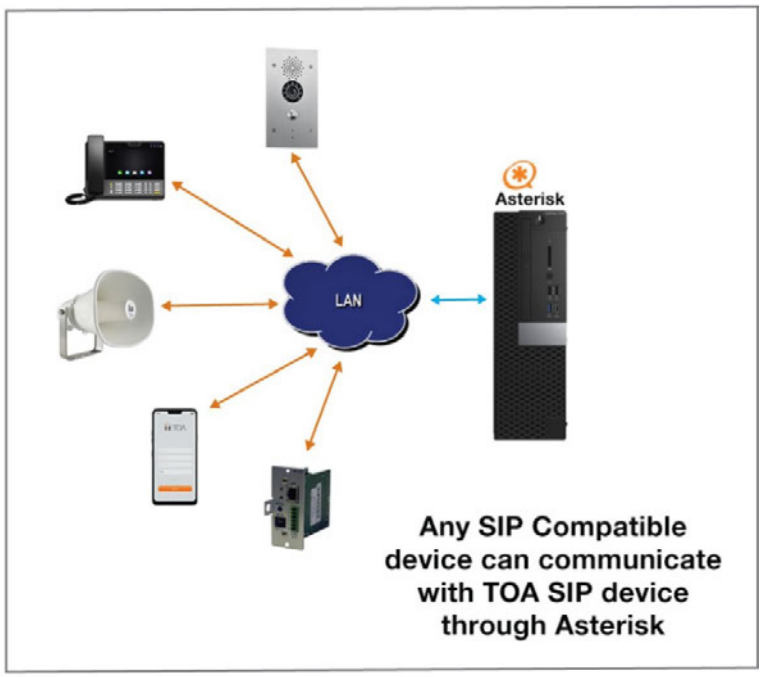
Asterisk Multiple Device Testing

Using the above single SIP device registration process, which we confirmed allows for connection of TOA SIP devices with the Asterisk server, we proceeded to enter multiple devices to the same server at one time to test the communication capability between the devices through the Asterisk server.

Our engineers systematically assessed the communication between the devices through the Asterisk server. During the evaluation, each device was tested against the other devices that were connected to the server and they were able to demonstrate the integration and communication between devices.

Our team was also able to confirm that TOA SIP devices communicated with other SIP branded products through the Asterisk server. The TOA devices performed as expected, and the results from the testing validates and presents a great attribute to our products for PA projects that require to work within an Asterisk framework solution.

Example Test Diagram



TOA SIP compatible devices

The security and audio products currently manufactured by TOA that perform well within the Asterisk platform are as follows.

UC-4SC615 Network Horn Speaker	N-SP80VS1 Q SIP Video Door Station
IP-A1SC15 Network Horn Speaker	N-SP80AS1 Q SIP Audio Door Station
SP-11N SIP Module	N-SP80MS1 SIP Multimedia Station
N-SP80APP Intercom System Mobile Application	N-SP80SB PCB SIP Board

Asterisk's integration with our products offer a lot to discuss that cannot be covered in this single document. What we have done, is laid down the essentials to provide an understanding of the confirmed functionality between Asterisk and TOA SIP products. Knowing this, you may now fulfill your business needs, and incorporate our equipment and build a powerful solution.