



## SIP Registration Methods

The SIP registration process between an AOS voice device and a softswitch can be handled in multiple ways. This document briefly explains the styles of SIP registration currently supported in AOS.

### No Registration

Not all softswitches require registration. Some expect static IP addresses to be defined within the softswitch which dictate where calls will be sent to or received from for a particular user/extension. From the AOS voice side, the basic configuration would only require the IP address or FQDN of the softswitch to be statically configured:

```
interface eth 0/1
  ip address 10.10.10.1 255.255.255.0
  media-gateway ip primary
  no shutdown
!
voice trunk t01 type sip
  sip-server primary 192.168.1.1
!
ip route 0.0.0.0 0.0.0.0 10.10.10.254
```

In this example, the softswitch would be statically configured to send calls to and receive calls from the IP address of this Ethernet-fed unit, 10.10.10.1.

### Trunk Registration

Many softswitches require registration. In those scenarios, the users/extensions are normally statically built in the softswitch but the layer 3 IP addresses used to route calls to and from that user are defined by the source IP address specified in the received registration messages. If registration is required, it can be configured on the AOS voice unit on a trunk by trunk basis. For example:

```
interface eth 0/1
  ip address 10.10.10.1 255.255.255.0
  media-gateway ip primary
  no shutdown
!
voice trunk t01 type sip
  sip-server primary 192.168.1.1
  register 1000 auth-name 1000 password 1234
  register range 2001-2010
  authentication username 1500 password 5678
!
ip route 0.0.0.0 0.0.0.0 10.10.10.254
```

In this example, the AOS voice unit will send registration requests to the configured SIP-server, 192.168.1.1. It will send 11 individual registration requests. Extension 1000 is also configured to send authentication if prompted by the softswitch. Extensions 2001 through 2010 are not directly configured with authentication, although if prompted, this router will respond with the username "1500" with the password "5678", as that authentication is globally configured on this SIP trunk.

## User Registration

When using voice users, AOS voice devices can alternately have SIP registration configured on a per-user basis using SIP-identities. From the perspective of the softswitch, the registration sent in this scenario would appear identical to the registration sent when configured on a SIP trunk. Registering from a user provides the ability to terminate multiple registered numbers from multiple SIP trunks to a single user. For example:

```
interface eth 0/1
  ip address 10.10.10.1 255.255.255.0
  media-gateway ip primary
  no shutdown

voice trunk t01 type sip
  sip-server primary 192.168.1.1
!
voice trunk t02 type sip
  sip-server primary 192.168.2.1
!
voice user 3000
  connect fxs 0/1
  sip-identity 3500 t01 register
  sip-identity 4000 t02 register auth-name 4500 password 1234
```

In this example, this voice user is configured to register two separate extensions, each to a separate SIP trunk. It will register extension 3500 to trunk T01 at 192.168.1.1 and it will register extension 4000 to trunk t02 at 192.168.2.1. Extension 4000 is configured to send authentication if requested.