Product Overview

Flexible Deployment Options

- Common code base across all SBC platforms.
- Common deployment and management end to end: CPE to Carrier/Provider

Carrier Hardware Appliance

- Redundant Power Supply AC & DC
- RAID SSD
- 1U Rack-mount
- Telco standard size 20"
- Calls Per Second (CPS) - 75
- Capacity - 4000 sessions (4000 calls)

Enterprise Hardware Appliance

- 1U Rack-mount
- Small footprint
- Calls per second (CPS) - 10
- Capacity - 250 sessions (250 calls)

Virtual Machine (Software Only)

- Software Only
- Refer to VM Below

Virtual Machine + D150 External Hardware Network Device.

- All benefits of VM with Hardware RTP and Media processing
- Refer to VM Hybrid Below

Virtual Machine Ready

Description

- Ability to run SBC is software only mode.
- Ability to run inside a Virtual Machine.

Lower Price

- Customers that have existing VM infrastructure do not have to go through the expense of yet another box.
- Another box requires power,space, cables and offers another point of failure.

Redundancy

- VM infrastructure provides unmatched flexibility, redundancy and durability.
- VMWare ESX infrastructure can run a single VM on multiple HW platforms allowing carrier grade Flexibility hardware redundancy.

- VM instance can be moved, copied and backed up.
- VM offers upgrades with minimal down time by allowing IT to build and test new VM before shutting down the one in production.

Limitations

- SBC running in VM as a software only solution will have limited capacity.
- Limited capacity is primarily due to RTP media flowing the the VM.
- Software Trascoding will further reduce the capacity.

VM Hybrid

- Ability to run SBC is software mode.
- Ability to run inside a Virtual Machine.
- Offloading Media RTP onto a D150 External Network Device
- Best of both worlds: VM + Dedicated Cost effective external network device.

VM Model is perserved

- The D150 External Network Device maintains the VM architecture.
- The D150 is External and communicates via Ethernet.
- One does not have to open the VM server and install any non-standard hardware.
- SBC licensing is based on the D150 hardware device, this allows VM to be moved from one hardware platform to another.

Scale

- Ability to scale while running in VM mode.
- RTP and Media processing is offloaded onto a D150 External Network Device
- Full Transcoding any to any supported.
- Ability to add more D150 External Network Devices in order to scale higher.

Sangoma Exclusive

- No other vendor supports such solution

Limitations

- Even though RTP is offloaded on the D150 Network Device, the VM will be limited in processing large number of calls per second.   Due to variable performance metrics of VM, all installations must be stress tested before going into production.

Easy to use WebGUI

- Sangoma SBC uses a modern WebGUI for configuration, operation, troubleshooting and management.
- Other vendors use complex CLI and text based interfaces

Documentation built in

- Along with a standard user manual, Sangoma SBC documentation is embedded in the GUI.

- Each GUI field has a help button to display the function and feature of the field.

Dashboard Stats

- View SBC Traffic and capacity on single page.
- View call statistics (CDR) and error statistics (RTCP) from the GUI
- Ability to search and identify bad quality calls and pre-empt the customer call.

RESTful API

- Sangoma SBC's provide RESTful Web API for automatic easy provisioning.
- A third party SoftSwitch or application can easily view SBC configuration via Web API's.

VI and EMACS in the Browser

- For advanced users, Sangoma WebGUI offers vi and emacs editors in browser for rapid routing rule editing and development.

Simple Licensing

- Sangoma has very intuitive licensing model.
- Product is licensed based on number of sessions.
- A session is considered a single leg of the call. Thus two sessions are needed to complete a full duplex call.
  Example: 4000 session SBC can provide (4000 call capacity)

Simple and Predictable

- Aside from sessions licensing there are NO
    - Per feature licensing
    - Per user licensing
    - Per codec licensing
- All features, codecs are included in the license.
- Sangoma only counts INVITE as a session.
- This allows a network planner a predictable SBC capacity in every situation.
- Other vendors use draconian licensing schemes
    - Example: Phone "Registration" counts as a sessions when the call is made
            In this case SBC capacity is reduced further due to licensing model.

Media Anchoring and Complex Calls

- Proxy based PBXs require Sangoma SBC when connected to a SIP trunk.
- PBX need an SBCs in order to perform complex call functions such as blind transfers and call forking.

PBX Isolation

- Sangoma SBC is able to isolate the enterprise PBX from the ITSP and provide rich media functions.
- Without the Sangoma SBC acting as the demarcation point between the PBX and ITSP, unwanted SIP messages such as REFER would reach the ITSP.
- In such cases ITSP would simply reject such messages causing call failures.
- In other cases ITSP has strict rules as to which call flows are supported and allowed.

SIP-X and Ezuce

- Sangoma full interoperates with SIP-X based PBXs and facilitates secure demarcation point, while offering media anchoring support to the PBX.

Advanced XML Routing and Database Support

- Sangoma SBC's have SoftSwitch style routing plans.
- Users can configure unlimited number of dial plans/routing rules per sip profile.
- All routing plans can be applied live without system interruption.
- The rules can be very simple or very complex.
  They support complex syntax for advanced logic and customization.

Database Support

- Complex routing rules, DIDs, and ACL lists are usually stored in internal or external Databases.
- Sangoma SBC support external database access via HTTP requests.
  - On each routing table entry an HTTP request to an external DB can used to fetch routing information.
- Sangoma SBC support internal database via mysql for routing plans, ACL lists and etc.
  - On each routing table entry an HTTP request to an internal DB can be used to fetch routing information.
- HTTP access allows user to map any DB info into the Sangoma SBC routing logic.

Per Message Routing and Header Manipulation

- Routing rules are executed for each SIP message.
- Actions can be taken based on any SIP message that flows through the SBC.
- SIP Headers can be modified using regular expressions for each SIP message.

Advanced Networking

- Most large networks require complex networking support.
- Sangoma SBC supports: VLAN, DiffServ, QOS, Firewall, etc.

Load Balancing and Least Cost Routing

- Sangoma SBC offers carrier features to the Enterprise SBC.
- Load Balancing allows Sangoma SBC to distribute call load to number of ITSP providers.
  - In case of ITSP failure, the call load can be re-routed to other ITSPs.
- Least Cost Routing tables can be used to route calls based on route costs.
  - Takes advantage of favourable rates.

Media Server and Transcoding

- Sangoma SBCs offer rich media services along with full featured Transcoding.
- VQE Features
  - Echo Cancellation, Noise Reduction, AGC, etc...
- Codecs
  - G729, G722, AMR, etc...

- Fax (FoIP)
    - T.38 Pass-Through
    - T.38 Gateway (Roadmap)
    - T.38 SRTP (Roadmap)

Configurable Load Limit Messages

What separates the Sangoma SBC from others is that when this threshold is reached the
SBC will reply with a SIP 503 Service Unavailable message which tells the originator to try an alternate destination.
In other SIP appliances once the CPU threshold reaches a certain point the traffic is disrupted by means of calls
dropping, loss of RTP (if media is flowing through), or registrations becoming corrupted.

Configurable Load Limit Message

- Sangoma SBC allows one to configure the load limit message: 501, 403 etc…
- This allows greater flexibility and customization to custom network needs.