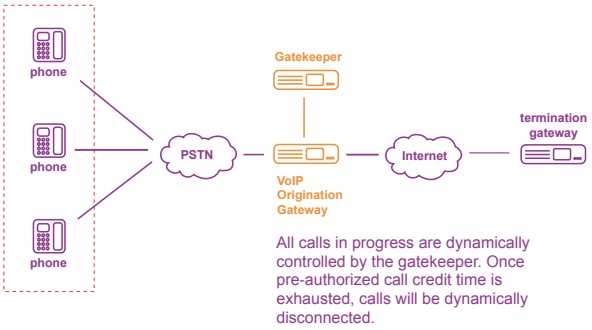
Key Features

- Dynamic Call Credit Time Support
- Multiple Authentication Methods
- Static/Direct Gatekeeper Mode (H323 v.1/SIP/MGCP) Support
- Routed Gatekeeper Mode (H323 v.3/SIP/MGCP) Support
- Proxy Mode (H323 v.4/SIP/MGCP) Support
- Dynamic Route Failover (H.323 extension) Support
- OSP Token Authentication (extended H.323) Support
- Supoprt for Millions of Custom Routes
- Managed Service Functionality and Adnavanced

Why SysMaster Gatekeeper/Softswitch?

Dynamic Call Credit Time

SysMaster Gatekeeper/Softswitch allows dynamic call flow control at all times. The system authorizes calls for particular call duration in seconds. Once the pre-authorized time is exhausted it automatically disconnects the call. Utilizing the call credit-time functionality all calls in progress can be controlled dynamically on the gatekeeper level. Credit-time control required for pre-paid wholesale telecom services to allow dynamic call disconnects upon balance depletion.



Multiple Authentication Methods

SysMaster Gatekeeper/Softswitch supports the following authentication methods:

PIN
Usually used for calling card services or H.323/SIP/MGCP terminal services for distributed consumer IP phones. Utilizing PIN authentication individual accounts can be easily and securely authenticated.

Tech-Prefix
Allows gateways and terminals to authenticate via tech-prefixes pre-pended to the called station id. Utilizing tech-prefixes, VoIP gateway groups can authenticate using one wholesale account.

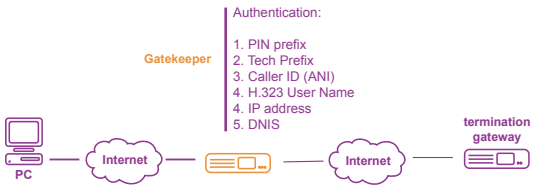
Caller ID (ANI)
Allows gateway or stand-alone account authentication based on caller id. This method is usually used by individual terminals (IP phones) or gateways.

H.323 (User Name)
Allows easy H323 ID or user name authentication.

IP Address
Allows secure IP address based authentication for endpoints

DNIS
Allows destination number authentication for recipient billing (1-800 services)

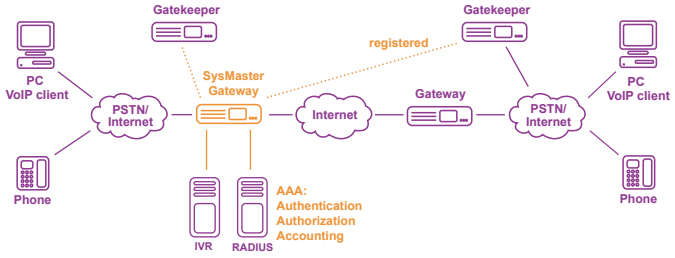
SysMaster Gatekeeper supports many flexible authentication methods along with combinations of them for maximum



SOLUTION FEATURES

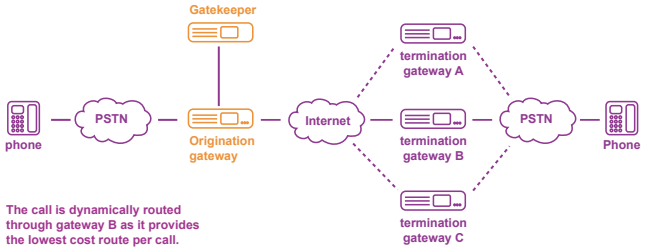
Static / Direct Gatekeeper Mode (H.323 v.1/SIP/MGCP)

The VM Gatekeeper supports natively static call routing to allow flexible authentication and call routing. In this mode the gatekeeper can route calls to a gateway or another gatekeeper from its routing tables. The gatekeeper will only process RAS (H.225) signals to allow flexible number re-write and translation for termination and origination terminals and gateways. Dynamic call control is possible for gateways that will recognize DRQ signals. The Static gatekeeper mode is used for traditional call routing. It is not recommended for wholesale call processing due to its limited call control functionality and inability to dynamically disconnect and timeout calls. This is the most economical mode of operation that allows over 20,000 concurrent calls, when the VM Gatekeeper operates as part of VM Level 5 VoIP Integrated Billing and Routing Platform.



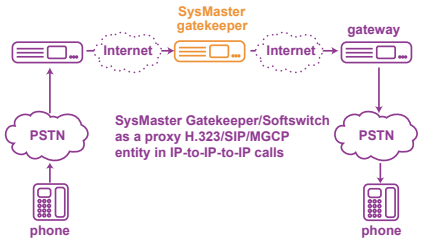
Routed Gatekeeper Mode (H.323 v.3/SIP/MGCP)

TSysMaster Gatekeeper supports routed gatekeeper mode to allow wholesale Telco providers to take full advantage of their termination and origination routes and dynamically control calls. In addition to processing RAS (H.225) signals, the gatekeeper also handles H.245 signals (Q.931 and Call Setup) to allow dynamic call control. All calls are preauthorized to call credit time and can be disconnected by the gatekeeper at any time. This mode of operation is the most suitable for wholesale providers because RTP traffic (voice data) still flows between the origination and termination end points directly and not through the gatekeeper, thus saving bandwidth cost. The routed mode of operation guarantees complete call control. The VM Level 5 Gatekeeper throughput in this mode is approximately 10,000.



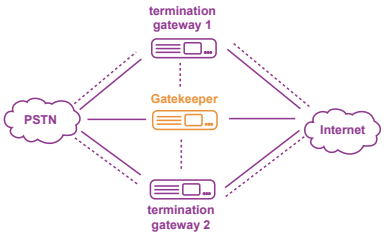
Proxy Mode (H.323 v.4/SIP/MGCP)

SysMaster Gatekeeper supports proxy mode to allow complete call control. All call signals including H.225, H.245, and RTP (voice data) flow through the gatekeeper. This is the most bandwidth consuming mode for the gatekeeper, but it guarantees full network isolation and separation of the origination and termination provider networks. In this mode the approximate VM Level 5 Gatekeeper throughput is 7,000 concurrent calls.



Softswitch Mode

SysMaster Gatekeeper can emulate a H.323/SIP/MGCP gateway for call routing purposes. Utilizing the SoftSwitch functionality, the gatekeeper can receive calls form gateways that are not registered into it and route these calls to other H.323 gatekeepers or gateways. Intelligent routing decisions could also be achieved based on routing settings to termination devices using SIP and MGCP connections. The SoftSwitch mode supports call routing transparency and completely separates the origination and termination gateway and gatekeeper networks. In addition, The SoftSwitch solution is very flexible and allows complete wholesale service for middle-tier Telco providers. The expected call throughput volume is 10,000 concurrent calls in case you utilized VM Level 5 Gatekeeper.

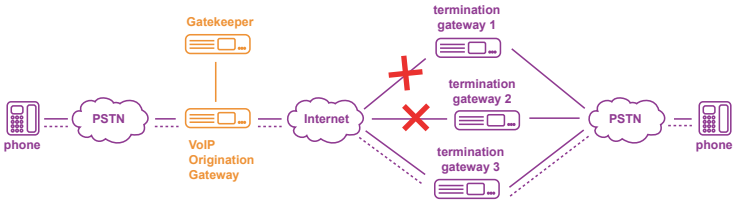


SysMaster Gatekeeper/Softswitch emulating H.323/SIP/MGCP Gateway by using Softswitch technology, and receiving, and transferring calls from gateways not registered into it.

SOLUTION FEATURES

Dynamic Route Failover (H.323 extension)

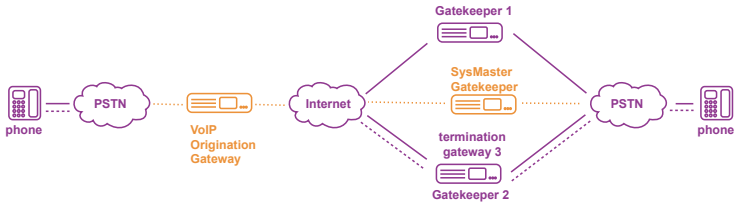
SysMaster Gatekeeper supports advanced port overflow and route failover functionality. The system measures the port assignment of all destination gateways and gatekeepers to allow transparent port overflow. In addition, the gatekeeper monitors for call error messages and ASR values to provide instant route failover to alternative termination endpoints if required.



Termination gateways 1 and 2 are overloaded or the connection to them has failed. All routes are dynamically rerouted to the available termination gateway 3.

OSP Token Authentication (extension H.323)

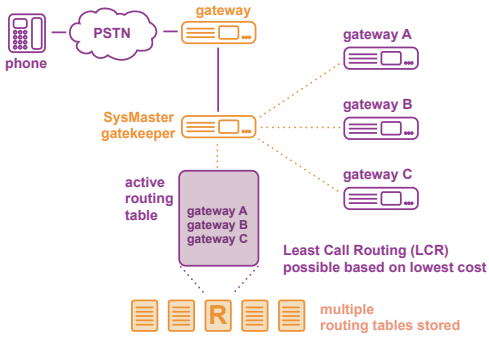
SysMaster Gatekeeper incorporates an OSP procedure to allow non-encrypted token-based call routing. Utilizing OSP technology, the gatekeeper can manage and control calls even if it is an intermediate gatekeeper (a gatekeeper between two other gatekeepers). This is a proprietary solution that allows the gatekeeper to become a border controller and process calls for large networks of gateways and gatekeepers sitting behind it. The OSP token support allows advanced call tagging and routing as well as dynamic call control.



SysMaster Gatekeeper using a proprietary OSP technology to manage and control calls as anintermediate gatekeeper.

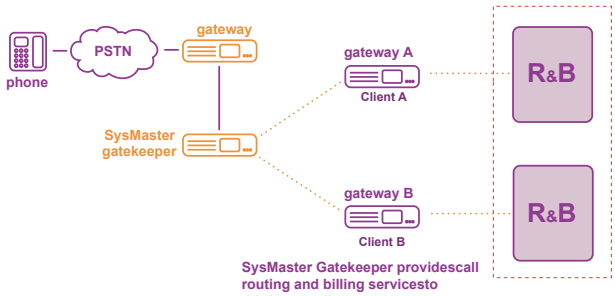
Millions of Custom Routes

SysMaster Gatekeeper is utilizing a very powerful SQL database running on UNIX to facilitate its routing functionality, thus supporting millions of routes. The high number of supported routes allows per-user-based routing (required by the new Telco number-portability standard) to provide individualized and very scaleable route management. In addition, the system supports custom route structure to assign specialized routes to wholesale providers and resellers. The custom route functionality ensures route flexibility based on reseller/wholesaler account and/or type of service.



Managed Services & Advanced Billing Interface

Providers can use SysMaster Gatekeeper to provide call routing and billing services to third-parties. The system can be easily partitioned to allow multiple clients to manage their own routes and call traffic. Gateway, gatekeeper, route and rate assignment and management can be partitioned for maximum managed service flexibility. In addition, the SysMaster Gatekeeper allows advanced billing and reporting functionality for optimal service scalability and call provisioning.



SysMaster Gatekeeper providescall routing and billing servicesto third-party clients.

SOLUTION FEATURES

Gatekeeper Utilization per VM Platform Level

SysMaster Gatekeeper is fully integrated into the VoiceMaster Billing and Routing Platform to provide a centralized call management for services. Depending on the VM Platform level chosen, the SysMaster Gatekeeper could be utilized in several ways. The table below displays how SysMaster Gatekeeper could be best utilized.

H.323 Gatekeeper Utilization

	Max Concurrent Calls			Number of Users
	Static Mode	Routed / Softswitch Mode	Proxy Mode	
Level 1	1000	500	350	up to 1.5M
Level 2	2000	1000	700	up to 1.5M
Level 3	3000	1500	1050	1M - 5M
Level 4	8000	4000	2800	1M - 5M
Level 5	20000	10000	7000	Unlimited

SIP Gatekeeper Utilization

	Max Concurrent Calls		Number of Users
	Routed / Softswitch Mode	Proxy Mode	
Level 1	500	350	up to 1.5M
Level 2	1000	700	up to 1.5M
Level 3	1500	1050	1M - 5M
Level 4	4000	2800	1M - 5M
Level 5	10000	7000	Unlimited

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