CommuniGate

CommuniGate Pro Micro Dynamic Cluster

Carrier-Grade reliability and performance for Voice and Data in the SMB market

Introduction

Internet Communications is business critical to the SMB market because business depends upon the reliability of communications. In the face of explosive growth of Internet Communications, businesses and organizations confront increasing pressure to optimize their communications and overcome cost and security issues, as well as a proliferation of new technologies and standards. Legacy communications such as email need more reliability and security. In addition, newer technologies such as IM, VoIP, Video over IP, SIP-based PBX and conferencing servers are now being incorporated into the overall communications infrastructure. These businesses and organizations need a complete, high-performance Internet Communications solution that is standardized for true interoperability.

Internet Communications

It is becoming common practice to connect with someone anytime, anywhere. Today's employee expects to get his business data on the handheld device, field workers expect to access the office files and data whenever and wherever around the globe. With this demand IT departments need to be completely aware of any technicalities that arise with these global communications as well have the ability to merge all these new technologies in a seamless business solution while keeping the Total Cost of Ownership within budget.

Internet Communications is a variety of products and methods for communication, by data transfer, voice, and video whereby the Internet is the medium and the protocols are standardized. CommuniGate Pro is an Internet Communications platform with applications that serve nearly all forms of these needs to include email, collaboration, VoIP, IM, Audio conferencing, and SIP based PBX. CommuniGate Systems provides unsurpassed scalability and an expansive feature set all with unique clustering technology for 99.999% uptime for building your Internet Communications with a solid and proven foundation.

The SMB Market

Enterprises are facing new challenges today with reliability, security and TCO as they deal with the rapid expansion of Internet Communications. The SMB company has to try to keep pace with the evolving technologies, but lacks the large IT departments to deploy them easily and quickly. With CommuniGate Pro, corporations can rely upon the most awarded technology on the market and roll out new forms of communications securely while having the piece of mind that these applications power some of the largest ISP under the most demanding situations.

What is a CommuniGate Pro Micro Dynamic Cluster?

The Micro Cluster solution operates as a group of two servers, accessing the domain and account data on the Shared File System. "Clustering" solutions are a must for modern large-scale installations, but they can help the small and medium companies to increase uptime of one of the most business-critical services: Communications. Clustering architecture loosely defined is multiple computers linked together to handle variable workloads or to provide continuous operation. The CommuniGate Pro Micro Dynamic Cluster provides more with active-active clustering. CommuniGate Pro Micro Dynamic Cluster can run with NAS (Network Attached Storage) such as NFS file servers, or SAN technology. It can even run with the company file server in an SMB environment.

99.999% Uptime

The multi-server Micro Cluster design allows the system to survive failure of any member, providing access to all accounts as long as at least the other server survives. Such a "Dynamic Cluster" meets or exceeds 99.999% availability requirements. With CommuniGate Pro Dynamic Cluster technology, all users can access their accounts as long as at least one server is operational.

INTERNET

E-MAIL + CALENDAR WEBMAIL MOBILE COMPUTING VOIP + IM WITH SIP

LOAD BALANCER

All Accounts on All Systems

Active-Active Systems

Shared File System (CFS or NFS)

Load Balancing

Traditional traffic-based methods (such as Layer4 Switches) and DNS round robin can be used to distribute incoming connections between the servers. LVS (Linux Virtual Servers) is another possibility when using Linux as the Server OS platform. LVS is also based on Layer 4.

SIP

CommuniGate Pro handles all session border controller functionality, including both near-end and far-end NAT traversal and media proxies. Being a registrar for SIP devices, CommuniGate Pro delivers SIP PBX functions including a conference server out of the box. CommuniGate Programming Language (CG/PL) development platform is an open, well-documented language for developing quick and powerful voice applications. CG/PL enables corporations to customize existing applications and to build new applications within the product.

Growth

The unique CommuniGate Pro Dynamic Cluster architecture provides unlimited scalability. Customers can easily increase capacity and services without interrupting end users. They simply add servers to the cluster at any time, with no switch-off/recovery operations required. This enables support for unlimited numbers of users with 99.999% availability.

Flexible Storage Options

As previously mentioned, Dynamic Cluster architecture requires a Shared File System, so cluster members can work with the same data files at the same time. The most popular and well-known implementation of a Shared File System is a file server, called NAS (Network Attached Storage). CommuniGate Pro Dynamic Cluster also works with an alternative architecture, called SAN (Storage Area Network). For use with the CommuniGate Micro Cluster any entry-level NAS from the major supplier is possible. Alternatively there are several Open Source solutions available, like freenas or openfiler. Or work with your file server as shared storage.
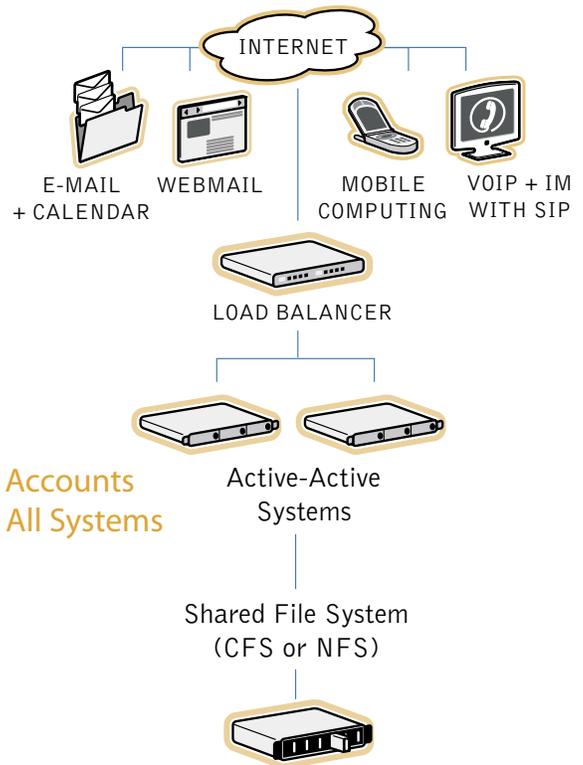
Dynamic Cluster Architecture with NAS

The CommuniGate Pro Dynamic Cluster architecture allows all account and domain data to be stored in a network file server. Released from file-locking duties, the storage devices can handle a much larger number of accounts, increasing stability and performance. Unlike unreliable file locks, Account Level Synchronization does not leave a trace in the file system, so no clean-up is needed if any server fails.

The following provides you with examples of hardware and NAS configurations:

CommuniGate Micro Dynamic Cluster Configurations for 100-200 users. 2 Backend servers with Network Attached Storage			
HP DL140 1U Rackserver Xeon 2.8 GHz CPU / 2GB RAM / 80GB Disk	$ 2,640 € 2.200,00	SUN DL100 G2 NAS Server 2X2.6 GHz Opteron / 2GB RAM / 80 GB Disk	$ 2,160 € 1.800,00	SUN / Open Source "Killer Solution" concerning cost. Sun Fire X2100 Server mit 1x2.2GHz AMD Opteron 148 2x512MB ECC PC3200/DDR400 RAM, 2x10/100/1000 NIC 6xUSB2.0 Ports, 1xPCI-Express 8x Slot 2 80GB 7.200 UPM S-ATA HDD, DVD-Rom Drive	$ 1,476 € 1.230,00	S E R V E R
DL100 G2 NAS Server 2.8 GHz / 512 MB RAM / 320 GB Disk 2003 Storage Server	$ 3,360 € 2.800,00	Sun StorEdge 3120 146 GB 10'000 RPM SCSI Disks / 2 PSU	$ 5,150 € 4.300,00	Sun Fire X2100 Server Specifications like above, but 2 Disks Software: Open Source NAS Openfiler Free NAS	$ 1,632 € 1.360,00 $ 0.00 € 0,00	N A S
	$ 8,640 € 7,200		$ 9,480 € 7,900		$ 4,584 € 3,820	

Efficient Use of Disk

Because there is no longer the same risk of mailbox corruption, organizations can store emails in many formats. The single file (Mbox format) requires much less storage than the individual file (Mdir format) which creates large storage overhead – as much as 90% in high-end file servers.

Easy Administration

Whether you choose NAS or SAN storage for your CommuniGate Pro Cluster, the architecture does not require additional administrative overhead. Because of the highly integrated nature of Dynamic Clusters, the Web-based, API, and SNMP administration interfaces present the entire cluster as a "Single Server Image." Cluster management is as simple as single-server management, as administrators connect to any cluster member and view/modify cluster-wide settings.

Conclusion

CommuniGate Pro Micro Dynamic Cluster provides the active-active Micro Cluster technology which is used by the largest ISPs for true five 9's uptime and not only a failure backup. SMB corporations receive one solution for all corporate Internet Communications with messaging, collaboration, IM, VoIP, and SIP based PBX and the ability to reduce TCO and consolidate all Internet Communications. The migration from an existing solution is easy with simple installation.

Standard or existing hardware with free choice of Windows, Linux, Unix, OSX etc. can be used as well as existing NAS/NFS or SAN storage. The administration can be delegated and EdgeGate Services allow rules for session border control and security. The system can be expanded with adding nodes when needed without any down time. Consolidated identity management and active-active redundancy require no database.

Key Benefits of CommuniGate Pro Micro Dynamic Cluster:

• Easy to install and maintain

• Multiple platform support

• One server for voice and messaging

• Low TCO in licensing and administration

Real-Time Communications Features "at a glance":

Sip Infrastructure: Registrar, Proxy, Session Border Controller. Presence Server

VoIP IP PBX: IP PBX, Conference Server, Auto-Attendant, Voice Mail

Mail Server: Easy to maintain, robust, flexible, secure, scalable

CommuniGate
S Y S T E M S

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