Gladinet Cloud Enterprise

Technical White Paper

Gladinet, Inc.

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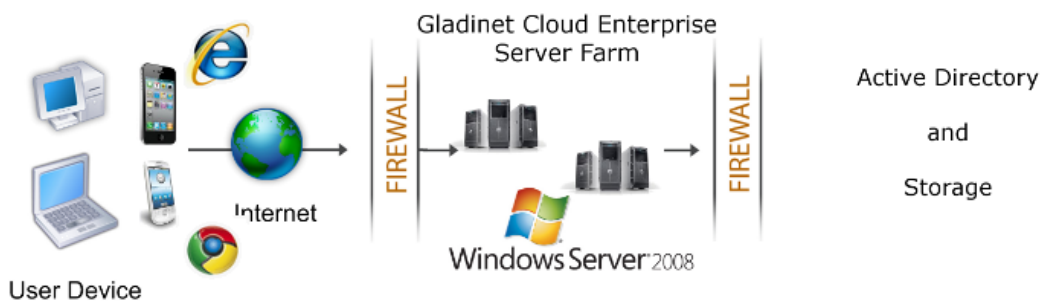# Overview of Gladinet Cloud Enterprise

Gladinet Cloud provides value-added services on top of cloud storage services such as those from OpenStack, Amazon S3 and its compatibles. The value-added services can be summarized into Backup, Access, Sync and Share, Identity, Control and Collaboration (BASIC).

Gladinet Cloud Enterprise is a cluster of web services built on top of the Microsoft Web Platform. It provides the BASIC online storage value-add services for user end point devices like PCs, File Servers, Web Browsers, and Mobile Devices.

Those services can be deployed in flexible combinations to meet different needs. For example, a storage focused use case requires more storage nodes, while one with more collaboration may have better performance with more worker nodes. The cluster of services can also be deployed on a single node, which is the smallest deployment unit.


Gladinet Cloud Enterprise supports various deployment scenarios based on your needs. Please reference the "Gladinet Cloud Enterprise White Paper" for a high level architectural overview of the system, and possible deployment scenarios.

There are three different types of machines (or Virtual Machine). In the smallest deployment unit, the three different logical nodes can co-exists in one single machine.

- ➢ Web Front Node
  The Account Management, Sign-in and Load-balancing services will be installed on this physical machine. Depending on the load, you may need 1 to N such nodes.
- ➢ Worker Node
  This node will contain services like Web Browser Based File Manager, Storage Service Connectors, and etc. Again, additional nodes can be added as the load increases. Because there is cache information located on each node, users will have an affinity to a single node once it is assigned.
- ➢ Database Node

Database contains persistent information for the system. In general, once a user is logged in, database access is no-longer needed for normal operation. If the database is down, most end user operations can continue with cached information (However, user need to access the database at least once to login and cache information).
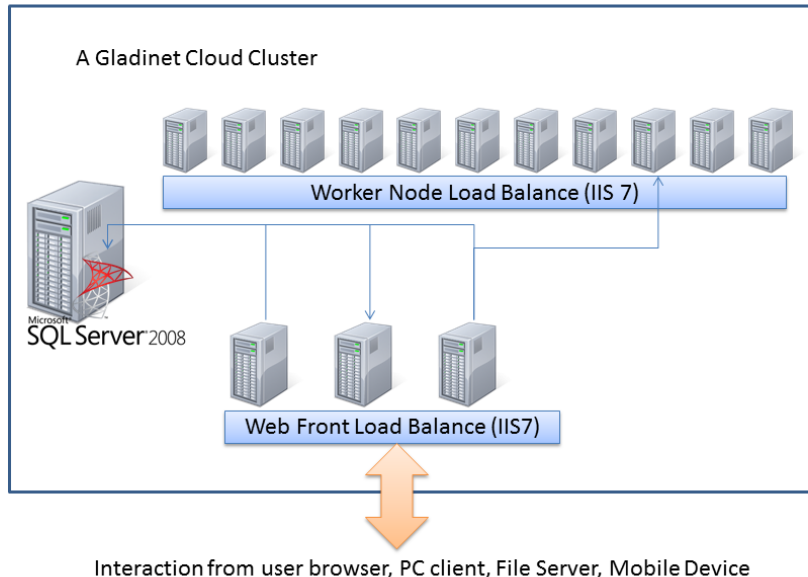
The remainder of this document describes components within this Gladinet Cloud Enterprise cluster diagram.

Terminology

Master Admin - In this guide, we refer to the admin user as the user that manages the whole Gladinet Cloud Cluster package. The Master Admin is the very first user that registered with the Gladinet Cloud Enterprise. Typically it is the user who installed the Gladinet Cloud Enterprise.

Tenant User - These are the users who actually use the product, but are the admin for their team. This is the very first team account user. Usually the Tenant User is created by Master Admin. Tenant Users are similar to users who sign up for the Gladinet Cloud service directly from Gladinet.

Team User – Team user is a user under a specific Tenant. Team users are created by the Tenant User.

Access Clients – Gladinet Cloud Enterprise contains various access clients, including Web Browser Based File Manager, Windows Desktop Client, Windows Server Client and Mobile Applications. Through the access clients, end user sees the BASIC value-add services on top of raw storage services. The discussion of the access clients are outside the scope of this technical white paper.

Dependency Components

Gladinet Cloud Enterprise is built on top of Microsoft Web Platform, including Internet Information Server 7 (IIS), .Net Framework 4, ASP.NET and SQL Server or SQL Server Express.

SQL Server

SQL Server or SQL Server Express is used to store static configuration information, such as user name, email, storage configuration, files and folders sharing information and etc. It is recommended the SQL Server has daily backup since it holds configuration information for the service to run properly.

.Net Framework 4

Gladinet Cloud Enterprise is built with .Net Framework 4.

ASP.NET

Gladinet Cloud Enterprise web browser user interface is written in ASP.NET, HTML and Javascript.

Internet Information Server

Gladinet Cloud Enterprise is hosted inside Internet Information Server(IIS). It provides brokerage functionalities between the Access Clients and the backend storage. It is also a value-add layer on top of the backend storage.

Recommended Hardware Specification

Memory: 4GB

Hard Drive: 500G

32-bit or 64-bit platform

Windows 2008 Service Pack 2 or R2

CPU: Intel

(It is recommended using Virtual Machine.)

Capacity Planning

For user count < 1000, one single Gladinet Cloud Enterprise server is enough. In this case, you will install the Gladinet Cloud Enterprise Server all-in-one in one single physical or virtual machine. The default Gladinet Cloud Enterprise installer will install all the components in one machine.

For user count > 1000, it is recommended to have SQL Server node in a single physical/virtual machine. The rest of the worker nodes will share the load for the users in a capacity of 1000 each. In this case, it is

recommended using virtual machine for each worker node and use a wild card SSL certificate for each worker node.

Tenant Consideration

Gladinet Cloud Enterprise comes with two different packages, one is for single business, and the other is for service provider.

Single Business – Single Active Directory Integration, Single Tenant

Service Provider – Multiple Active Directory Integration, Multiple Tenants

Active Directory Integration

There are two user management modes in Gladinet Cloud Enterprise.

In the first mode, the default user manager mode, users are manually created, and active directory users are imported. In this mode, it is possible to have non-Active Directory users and Active Directory users.

In the second mode, the active directory mode, there is no need to create or import user and you can use native Active Directory groups. However, you can't have non-Active Directory users.

Storage Consideration

In the Gladinet Cloud Enterprise system, for each tenant, there is one mandatory primary storage and there can be multiple optional auxiliary storage services.

If you setup the Gladinet Cloud Enterprise in an Amazon EC2 environment, most of the time, the primary storage is an Amazon S3 bucket.

If you setup the Gladinet Cloud Enterprise on-premise, the primary storage can be your file server storage and the auxiliary storage can be other cloud storage services.

Backup Gladinet Cloud Enterprise

Only the SQL Server database contains persistent configuration information. All the design is stateless and replaceable. In a disaster recovery scenario, as soon as SQL Server is restored, other worker nodes can be re-installed and start working immediately.

Deployment Scenarios

Private On-premise

You can prepare a Windows 2008 Service Pack 2 or R2 server and install Gladinet Cloud Enterprise. In this scenario, typically Active Directory is at the same site and primary storage is file server storage or NAS storage.

Private Off-Premise

Normally a managed service provider(MSP) is helping you manage all your IT services, such as hosted exchange server, hosted file server and etc. You can ask the same managed service provider installing the Gladinet Cloud Enterprise for you. It is off-premise but managed by the MSP in their data center.

Virtual Private Cloud

In this deployment scenario, you would deploy the Gladinet Cloud Enterprise solution in a virtual private cloud environment such as Amazon EC2. Gladinet Cloud Enterprise is also available in the form of AMI image to facilitate creation of EC2 instances. In this deployment scenario, typical primary storage connection is to the Amazon S3 storage.