



Product Description Document

Get Great Performance and Auto Scalability for your Virtualized Infrastructure with, eNlight 360°

CLOUD FOR HYBRID COMPUTING

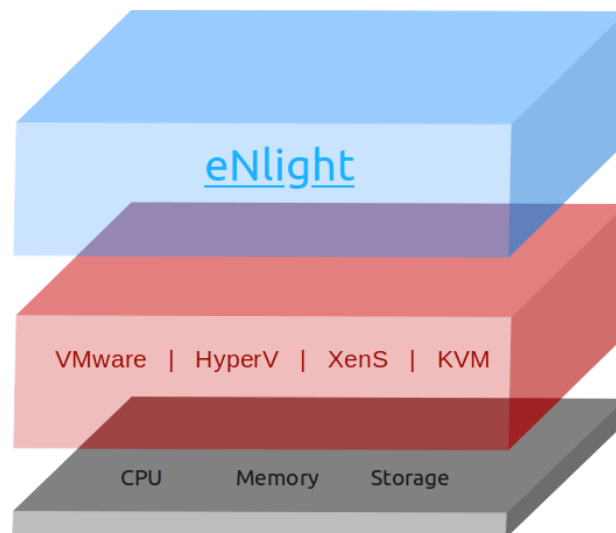
ESDS Software Solution Pvt. Ltd.

I. Product Description

eNlight 360° provides the tools and technologies to abstract the underlying infrastructure in an easy and standardized consumption model. eNlight 360° manages virtual and physical Compute, Network and Storage technologies. It provides APIs and tools to access these resources in an agile and programmatic manner.

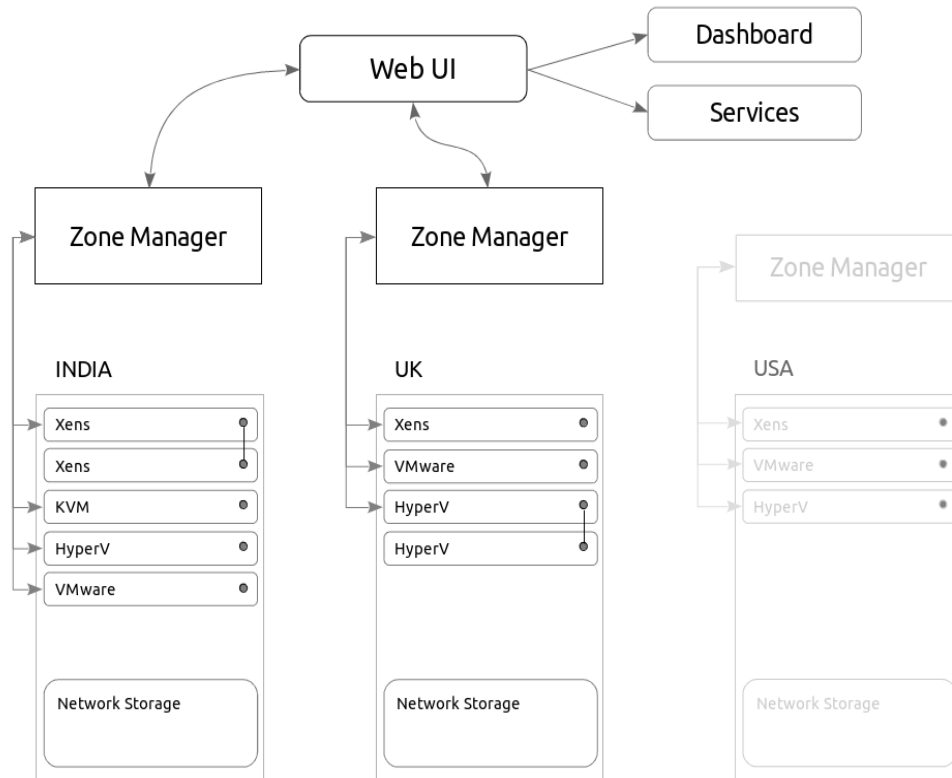
eNlight 360° interfaces with the underlying infrastructure through open source or vendor provided drivers. This standardized abstraction helps prevent customers from being locked into a specific technology or tool. eNlight 360° provides additional services such as identity management, orchestration, and metering accessed in the same programmatic manner through the API. eNlight 360° is not a hypervisor, but it supports several hypervisors through an abstraction layer. The software supports popular commercial and open source hypervisors including VMware as well as KVM, Xen Server and Hyper-V. These hypervisors must be installed on x86 Architecture based Intel or AMD servers.

Cloud-native and traditional application developers can leverage the flexibility and agility of cloud application provisioning through APIs. Traditional application teams can experiment with next generation application architectures and gradually transition their application and operation to a cloud native architecture. High availability can be architected into an eNlight infrastructure. In next-generation infrastructures, failure handling is designed into the applications to reduce hardware implementation costs. In contrast, an infrastructure-level, high-availability architecture may require redundant hardware, storage and networking, third party software and custom code.



II. System Architecture

The eNlight 360° Cloud orchestration software sits in the middle of the IaaS module. It can be hooked up with leading hypervisors from the backend and be managed via either the inbuilt dashboard or simple and secure APIs. From a single eNlight web based UI – the self-service portal, multiple zones can be managed. A system administrator can login into a single Web UI and manage all the clusters present on each zone which can be geographically located at different locations. Each zone can have multiple hypervisors. These hypervisors could be set up in server cluster or can be set up on single server.



III. INFRASTRUCTURE AS A SERVICE (IAAS)

- Virtual Machines



eNlight 360° provides the tools and technologies to abstract the underlying Compute infrastructure in an easy and standardized consumption model.

Virtual Machines are an essential part of a Cloud infrastructure. These Virtual Machines can be bare minimum operating systems or full-fledged application containers.

- Storage Services



eNlight 360° provides the tools and technologies to abstract the underlying Storage infrastructure in an easy and standardized consumption model.

It enables Object storage & Block storage. Virtual Machines can fetch on demand storage to store data.

- Network Services



eNlight 360° provides the tools and technologies to abstract the underlying Network infrastructure in an easy and standardized consumption model.

Network Management is possible via eNlight 360°. It provides thorough insights of the Datacenter networks and allows easy management of VLANs and virtual switches.

IV. AUTO SCALING Virtual Machines (PATENTED)

- Vertical Scaling



Vertical scaling is a patented (US 9176788) and unique feature of eNlight Cloud orchestration software. eNlight 360° automatically scales virtual machine resources on the fly. The resources of a virtual machine are scaled between the minimum and maximum resources assigned to it in proportion to load over it. This is done by an intelligent algorithm that monitors its resources and scales them up or down accordingly. This helps in cutting down the cloud expenses while providing consistent performance to users. This makes eNlight a cost effective and one of its kind Cloud Orchestration software.

- Horizontal Scaling



Horizontal Scaling is the conventional scaling methodology which is based on load balancing. eNlight 360° also provides horizontal scaling based on software defined load balancing , with which virtual machines automatically scale out or scale in depending upon workloads.

- Cloud Burst



Cloud Burst is a new dimension in Cloud Technology that guarantees seamless scaling capabilities between your Private and Public cloud. With Cloud burst and ESDS' eNlight Enterprise Cloud, you can achieve extraordinary scaling benefits when resources in your own Private cloud are scarce, and avail the almost infinite scalability for your virtual infrastructure.

V. MANAGED INFRASTRUCTURE

- Physical



Managing bare metal servers, Network Switches or SAN Storages might be cumbersome without tools while aspiring for better business outcomes. Physical infrastructure can be easily inventoried with proper inventory management.

You can leverage managed support engineers, who are experienced at managing and deploying hardware components of the cloud. Our experts will connect to your infrastructure on your consents only, and provide a helping hand at any point in your cloud journey.

- Multi Hypervisor (Virtual)



Heterogeneous hypervisor environment creates complexities and might create critical issues but with our hypervisor certified cloud administrators you don't have to worry about any hypervisor related issue that might occur in your cloud. We have trained and skilled admins who are well versed with the ups and downs that arise while working with multiple hypervisors.

- 24 x 7 Support



ESDS has a team of experts who work 24 x 7, 365 days, just to be there when you face any issue. We are there for you anytime so that you have that peace of mind!

VI. BUSINESS PROCESS

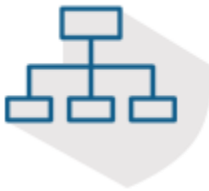
- LDAP & AD



Organizations have a hierarchical structure and, you might have already configured an authentication mechanism in the leading LDAP or AD. eNlight 360° helps you import your already existing user base and maintain that same hierarchy in your cloud.

With this you do not need to manually create user accounts per employee, and you are free from that tedious task by just importing your LDAP or AD DB into eNlight 360°

- Workflow



Being organized is great, and having a proper process helps manageability. With workflow, you can create and manage access restrictions / approval rules that match your organizational hierarchical structure. Set rules per user, to allow / deny / approve, any operation executed in your cloud. Now your CIO will be extremely happy!

- Scheduling



Ever thought of automating your tasks while you are asleep in your bed all night. With scheduling, schedule and automate any executable task in your cloud while you are in deep sleep. You can, not only automate one task, but a whole job sequences that affects every alternate task. Cloud operations automation in few clicks!

- Quota Management



Resources are better utilized when they can be distributed properly among consumers. With quota management, you can set resource limits for every user in your cloud. This adds great value to your cloud resource management. Giving you more control over your infrastructure.

Quota management and workflow give the management people the same virtual control as they expect in reality.

- IP Management



eNlight 360° enables you to perform organization-wide IP management with flexibility to have Pools like External Public, Internal Public, Internal Private. It supports IP accounting as well as auto assignment to Virtual Machines.

VII. GEO DIVERSE DC MONITORING

- **SNMP**



eNlight 360° is well versed with SNMP based monitoring which can monitor your Physical & Virtual Infrastructure. Physical infrastructure not only limits to Servers but also Network, Storages, UPS, Cameras and any other IT component.

- **Alerts & Notifications**



eNlight 360° is a highly scalable platform capable of collecting the unstructured data from all the different make and models of IT Infrastructure assets, activities and processes.

Various types of monitoring possible through eNlight 360° are Device Monitoring, Storage Monitoring, Application Monitoring, Netflow Monitoring and Sys-log Monitoring.

- **ITIL CMS**



ITIL-based change management facilitates the organizations to track the changes in more standardized way. Various ITIL standard Change Management workflows are readily available in eNlight 360° to make it more user-friendly. Users can define\set the approvals\escalation levels as per need.

- Syslog



Syslog server collects all the logs from all the virtual and Physical devices. These logs are analyzed using co-relation engine for any alerts. The Output is then produced in the format of various real-time reports on the dashboards. File Integrity check is performed along with User Activity Monitoring. Logs are retained for certain time span for the records.

- Netflow



This analyzes the real-time Inbound and Outbound router traffic. Provides various reports regarding the traffic related to Applications, IPs and Conversations. Users can search for any specific component with the help of dynamic search option available within the module.

- IDS/IPS



The software suit can be further extended to provide end to end security for your datacenter. This can be integrated to various Intrusion Detection System and Alarms coming from this can be sent to Intrusion Prevention System to stop the attacks.

VIII. Beneficiary features

- Unified Cloud Management



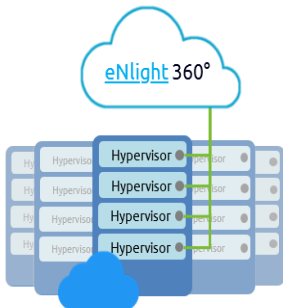
eNlight 360° cloud solution comes with a full blown hybrid cloud orchestration layer along with complete Datacenter Management Suite i.e. eMagic (DCIM) and Security Scanner (MTvScan), that makes it the most unique offering in the market today. Its a Next Generation Hybrid Cloud orchestration software suite and can be setup in your own premises thus, giving you the security of Private Cloud and scalability of Public Cloud.

- Historical Charting and Show back



eNlight 360° maintains historical data of all activities executed in the cloud. This data then can be used for various purposes from historical data mining to show-back and billing. Show-Back shows previous data or resources that are used.

- Inter compute VM Migration



eNlight 360° enable migration between VM. It can convert VM from one compute to another compute. A VM from Xen Server can be migrated to Hyper-V. While transferring data from one cluster of hypervisors to another set of hypervisors or cluster of hypervisors we need to convert the extension of the respective hypervisor so that they are synchronized. With Inter compute management feature eNlight 360° enables a seamless migration of data.



- API Support

DBA on Demand Service: eNlight 360° comes with developer API support. APIs are specially designed for automation and security. This will enable developers to create custom UI. Integration with Enterprise systems is easy & it makes eNlight 360° highly customizable.

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