

## Expertise

### Virtualization

- vSphere™
- vCloud Service Director
- ESX/ESXi™
- vCenter™ integration
- vApp/VM deployment

### Cloud Management

- vCloud™ API
- vSphere™ API
- vSphere Java SDK
- VMware VIX™
- Spring™
- vFabric™
- Hyperic™
- RESTful API
- DMTF Cloud Management

### Networking

- Ethernet VLAN/Bridging
- VPN
- vSwitches
- vNetwork API
- Fault Management
- Performance Management
- TCP Proxy
- Traffic Management

### Storage

- iSCSI, FC, FCoE
- NAS
- vStorage API

### Security

- OpenSSL
- IPsec
- AES-256 Encryption
- KMIP key management



With the rapid adoption of cloud computing model, there will be increasing demand for purpose built virtual appliance and cloud management solutions for enterprises and cloud service providers (CSPs). With the combination of cloud computing expertise and CloudLink™ platform technology, AFORE offers professional services to develop custom virtual appliances and cloud management solutions for both enterprise customers and CSPs.

AFORE can help our customers to develop various applications for new IaaS/PaaS/SaaS in both private cloud and public cloud environment:

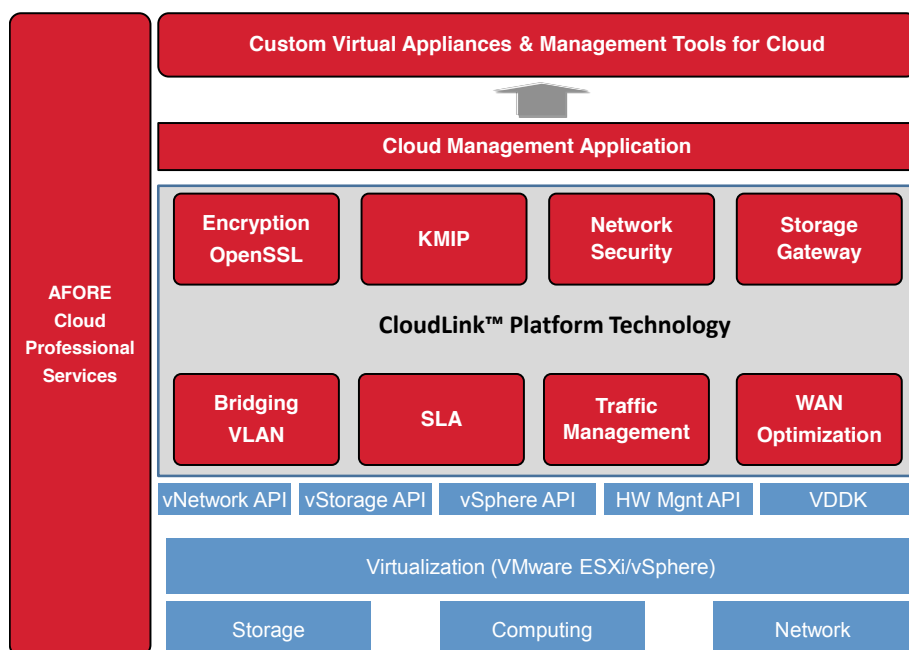
**Secure Multi-Tenancy (SMT):** AFORE can help its customers to develop virtual appliances to enable SMT in the cloud by encrypting data in motion and data at rest, with both network security and storage security functionalities, integrating OASIS KMIP protocol on to virtual appliances to be managed by the external encryption key manager.

**DR to the Cloud:** Enterprises and CSPs can also leverage AFORE CloudLink™ platform technologies and professional design services to develop software appliances and management solutions for DR to the cloud services. In this case, AFORE will integrate its CloudLink technologies with replication software and deliver a DR to the cloud solution, in which the VM replication will be done over an optimized tunnel and the vmdk files in the cloud will be encrypted. With AFORE vCloud/vSphere API expertise, DR management can be automated with easy to use management software.

**Cloud Service Gateway (CSG):** AFORE can help CSPs to develop and deploy CSP appliances which transparently deliver cloud services from a virtual data center in the cloud the cloud customer premises. The CSG supports networking tunneling, network optimization, security, traffic management, CoS and SLA monitoring in a virtual world as integrated service routers did in a traditional network services.

**Cloud Management:** With its expertise in VMware vSphere API, SpringSource and other open cloud management standards, AFORE offers professional services to develop cloud service portals for cloud service automation, cloud federation and orchestration, and Cloud service management.

AFORE accelerates development of custom virtual appliances and management by leveraging AFORE's CloudLink™ Platform Technology. This solution architecture consists of the following key layers:



# Custom Engineering of Virtual Appliances & Cloud Management Tools for VMware

**Virtualization/Cloud infrastructure:** This layer includes computing, network and storage equipment and appliances, VMware ESXi/vSphere and vCloud infrastructure and APIs coming with these infrastructure software.

**CloudLink™ Platform Technology:** This layer is AFORE in-house developed software which can be customized to develop custom virtual appliances and management tools. This layer consists of the following key functionalities:

**Cloud Management Application:** This layer is the management plane of cloud virtual appliance. It uses management API provided by virtualization and infrastructure software such as vSphere™ API, vCloud API, Spring/vFabric™ platform to support cloud service management, including service templates development, service offering, service ordering, dynamic provisioning of cloud resources, SLA monitoring, billing and chargeback

**Custom Virtual Appliances and Management Tools:** These are the end products developed by AFORE which can be deployed into enterprise private cloud and CSP's public clouds to deliver value added IT services for their business needs.

## Areas of Expertise

### Virtualization

- vApp for vSphere™ and vCloud Director™
- Support vSphere APIs/vCloud APIs
- Linux VM and OVF compliant

### Security

- Encrypt data in motion and data at rest
- SSL VPN
- KMIP key management

### Networking

- VLAN/Bridging, IP VPN
- SLA testing and monitoring
- TCP proxy and acceleration

### Storage

- Storage gateway
- Storage encryption
- Support ESX™ vStorage API

## About AFORE Solutions

AFORE is a leading provider of cloud networking and Ethernet software solutions. Our unique blend of CloudLink™ virtualization software, ASE networking appliance and InterPort™ Ethernet software solutions enable enterprise, service providers and networking solutions providers to accelerate innovation and deployment of advanced networking and cloud applications. For more information on AFORE's award winning products and technology visit: [www.aforesolutions.com](http://www.aforesolutions.com)

**AFORE Solutions, the AFORE Solutions logo, InterPort™, CloudLink™ are trademarks of AFORE Solutions Inc. All other trademarks mentioned in this document are the property of their respective owners**

**AFORE Solutions Inc.**  
2680 Queensview Drive  
Suite 150  
Ottawa, Ontario, Canada  
K2B 8J9  
**Tel:** +1 613 224 5995  
**Fax:** +1 613 224 5410

**For sales information:**  
[afore\\_sales@aforesolutions.com](mailto:afore_sales@aforesolutions.com)

**For general inquiries:**  
[afore\\_info@aforesolutions.com](mailto:afore_info@aforesolutions.com)

Copyright © AFORE Solutions Inc.  
All rights reserved. All names mentioned are trademarks, registered trademarks or service marks of their respective companies.

Rev 1.1 January 2011