A High-Performance VNF for Accelerated Application Delivery & Security

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PROTECTING THE BIGGEST BRANDS

#1 CLOUD PROVIDER PROTECTION

#1 HIGH PERFORMANCE APP & NETWORK SECURITY SOLUTION PROVIDER

TOP 3 SERVICE PROVIDERS IN NORTH AMERICA & JAPAN

2 OF 3 LARGEST CLOUD PROVIDERS
An INTERNET Minute in 2020’s

- 28.5 Billion USERS (>3X Global Population)
- >½M App Downloads
- >10 PB Data
- >30 DDoS Attacks

APPLICATIONS

NETWORK

SECURITY

DISTRIBUTED COLLABORATIVE AUTOMATED
A10 Networks Application & Security Services

HARMONY CONTROLLER
(Multi Cloud, Multi Tenant, Multi Service Management & Analytics)

SECURITY
- SSLi
- TPS
- CFW
- DC Firewall
- SI/Sgi Firewall
- IPsec VPN
- Secure Web Gateway
- DDoS Detection
- DDoS Mitigation
- Threat Intelligence
- SSL Insight
- URL Filtering
- Cloud Access Proxy

APPLICATION DELIVERY
- ADC
- LADC
- CGN
- Adv Load Balancing
- SSL Offload
- GSLB
- WAF
- L4/L7 Load Balancing
- Microservices Apps
- Kubernetes & Secure Services Mesh (SSM)
- CGNAT
- IPv6 Migration
- iDDoS
**Enabling Applications Across Clouds**

- **Appliance**: High Performance
- **Bare Metal**: Optimal Performance
- **Virtual**: Instance Isolation
- **Cloud**: Cloud Instances
- **Containers**: Cloud Native

- TRADITIONAL
- PRIVATE CLOUD
- PUBLIC CLOUD
- HYBRID CLOUD

**Open API**
Flexible Licensing for Right-Sized Deployments

FLEXIBLE LICENSING
A10 FLEXPOOL

CAPACITY POOLING LICENSES

PUBLIC CLOUD
PRIVATE CLOUD
TRADITIONAL

A10 FLEXPOOL
CISCO ACI
Flexible Licensing for Right-Sized Deployments
A10 NFV Solution Framework
# End to End VNF Lifecycle Automation

<table>
<thead>
<tr>
<th>Onboard</th>
<th>Deploy</th>
<th>Instantiate</th>
<th>Setup, Start</th>
<th>Scale, Stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provision Infrastructure</td>
<td>Orchestrate Infrastructure</td>
<td>Deploy Software</td>
<td>System Configuration</td>
<td>Change Management</td>
</tr>
<tr>
<td>Openstack / HEAT</td>
<td>Ansible</td>
<td>Puppet, Chef</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MANO (WhiteStack, RiftIO), Ericsson Cloud Manager, VMware vRA / vRO, Cisco UCSD</td>
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</tbody>
</table>
The main components included:
- Virtual Network Functions (VNF)
- Management and Orchestration (MANO) solutions, providing pre-integrated NFV Orchestrator (NFVO) and VNF Manager (VNFM) functionality
- NFV Platforms providing pre-integrated NFV infrastructure (NFVI) and Virtual Infrastructure Manager (VIM) functionality
- Test and support VNFs were used to build the reference Network Services (NS) required to validate the proper behaviour of the Systems Under Test

A10 conducted multiple tests with MANO vendors & other players
- RIFT.io, WhiteStack – Open Source MANO (OSM)
- Ericsson Cloud Manager
- Cisco NSO
- Fraunhofer FOKUS Open Baton
- ADVA Ensemble Orchestrator

A10 also conducted tests with multiple VIM and NFVi implementations
- Red Hat and Lenovo – Red Hat OpenStack Platform 10
- Canonical and Lenovo – Canonical OpenStack
- Intel Wind River – Titanium Cloud
- VMware – vCloud NFV
- ADVA – Ensemble VIM
- Telefonica – Open VIM
Elastic scale-out with Whitestack & RIFT.io
MANO Partnerships / Engagements

- Partner & Collaborate with multiple MANO vendors.
- A10 VNF components are successfully integrated into partnering ecosystems.
- Part of VNF catalogues in multiple MANOs.
- Validated VNF descriptors and Life Cycle Management process.
Red Hat OpenStack Technology Partnership

CERTIFIED @ ETSI

ETSI NFV Plugtests

REDHAT CERTIFICATION
A10 vThunder: A Telco Use Case

Features:
- Spin up of new instance by MANO/VNFM
- Automatic configuration and licensing
- Multi-VIM Environment
- Flexible Licensing mechanism

- 100% Programmable
- Extensive API’s and full separation of traffic between tenants
Multi-tenant Visibility at Per-App Level

- Comprehensive metrics & logs
- View, monitor and analyze
- Efficient troubleshooting
- Generate custom reports
Application Security for Containers / Kubernetes

- Ingress Controller for North-South traffic
- L4/L7 services, SSL
- Automated Discovery & Auto-Scale
- Secure Service Mesh for Kubernetes
- Microsegmentation, secure policy enforcement
- Visibility & Analytics for East-West traffic
## A10 VNF’s with Performance Acceleration

<table>
<thead>
<tr>
<th>VM Based vThunder</th>
<th>ADC</th>
<th>CGN</th>
<th>CFW</th>
<th>vTPS*</th>
<th>MAX TPUT</th>
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<td>✗</td>
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</tbody>
</table>

* - Refer datasheet

**ADC** : L4/L7 SLB, WAF, IAM/AAM, SSL offload, GSLB, HA, Integrated DDoS

**CGN** : Address Translation, Traffic Shaping & Policies, Integrated DDoS, Scale-out, Logging

**CFW** : ADC, CGN, GiFW, DCFW, IPSec, SSLi, URLF, Webroot
THANK YOU