



## NaaS CLOUD MANAGEMENT

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### 1. GENERAL

- 1.1 **Service Definition.** NaaS Cloud Management (NaaS SCM) is a networking and security solution that enables mesh connectivity across cloud service providers (CSPs) and CSP regions. NaaS Cloud Management leverages Verizon's IP backbone, NaaS SCM Bandwidth Connectivity, and NaaS SCM Data Volume Connectivity products and third party management software as a service under the Network as a Service (NaaS) framework.
- 1.2 **NaaS SCM Service Components:** NaaS SCM Customers can procure all or a subset of the below set of services to meet their specific needs. Customers must procure (i) either one of the Connectivity Services at each Customer Site, and (ii) NaaS SCM Managed Services. NaaS SCM Fabric/OverlayMesh is an optional service and cannot be ordered by itself.
  - 1.2.1 **NaaS SCM – Connectivity.** Verizon's NaaS SCM – Connectivity provides networking to seamlessly and securely connect Customers' networks to multiple clouds and utilize services from multiple CSPs. NaaS SCM – Connectivity provides two interconnection options, Bandwidth Connectivity and Data Volume Connectivity, described in detail below:
    - a. **Bandwidth Connectivity:** With NaaS SCM Bandwidth Connectivity, Verizon provides an interconnection across a third party vendor's network between a Customer's Verizon-provided service and their collocated equipment or CSP - within select third party data centers. Customer must have a suitable existing arrangement with the third party vendor network or suitable CSP agreement, and



Customer must separately have a contract for the Verizon Private IP service in order to utilize NaaS Cloud Management Bandwidth Connectivity as an access method for that service.

- b. **Data Volume Connectivity:** With NaaS Cloud Management Data Volume Connectivity, Verizon provides an interconnection with the network of select third-party cloud providers (with whom the customer has separately contracted) in select data centers locations, enabling Customer to utilize those third-parties' cloud services over Verizon's Private IP network. Verizon interconnects either directly to the cloud providers or with partners that in turn connect to the cloud providers.

1.2.2 **NaaS Cloud Management Fabric/Overlay Mesh:** The NaaS Cloud Management solution creates an overlay mesh network or fabric that enables applications running anywhere in the cloud to communicate with each other as though they are on the same network. The mesh services are provided either on Regional Edge Nodes located in Verizon POPs or on Customer Edge Nodes located in customer's environment.

Regional Edge node provided services are initially available through Base Services Bundles of either Tier 1 or Tier 2 services, which must be deployed first. A customer can add incremental packs of each individual service, providing the corresponding Tier Base Service Bundle has been deployed first. For example, if a customer has deployed the initial Tier 1 Base Services Bundle then they may add additional packs of individual Tier 1 services, but not Tier 2 services.

Services provided by Customer Edge nodes are licensed per Customer Edge, rather than by individual service, meaning customers can consume services up to the technical and capacity limitation of the deployed Customer Edge and its environment. Customer Edge nodes are available supporting both Tier 1 and Tier 2 services. In both Regional Edge node and Customer Edge nodes cases, Tier 2 service options include those in Tier 1.

The features provided in each of these locations are as follows:

- Regional Edge features: DDoS Protection, Rate Limiting Capability, Application Performance/Health Visibility, Secure Event Visibility
- Regional Edge Tier 1 Value Added Services (VAS): Multi-cloud Load Balancing, SSL Termination
- Regional Edge Tier 2 Value Added Services (VAS): Tier 1 services + Web Application Firewall, API Security, API Discovery
- Customer Edge Tier 1 features: Load Balancing (network or application), Multi-cloud Networking, Application Proxying, SSL Termination, Application Performance Observability, Service Discovery, Routing Capability, Multi-cloud Networking Virtual Router, Network Firewall, Network Request Rate Limit
- Customer Edge Tier 2 features: Tier 1 services + Web Application Firewall, API Security, Layer 7 Application DDoS Protection

1.2.3 **NaaS Cloud Management Managed Services:** NaaS Cloud Management provides a comprehensive suite of Verizon managed services that manage all of the NaaS Cloud Management services on behalf of the customer. These managed services include orchestration, automation for connectivity across public, private clouds, and enterprise sites, integrated visibility, performance monitoring and service assurance of both underlay and overlay. NaaS Cloud Management Managed Services offer the following capabilities:

- Deployment and ongoing management of the Verizon NaaS Cloud Management solution elements.
- Respond to alarms generated that indicate an availability/health condition of cloud workloads has occurred. (\*NaaS Cloud Management Fabric/Overlay Mesh only)
- Open trouble tickets on the customer's behalf.



- Proactively notify the customer that an outage condition exists, backed by Service Level Objectives. (\*NaaSCM Fabric/Overlay Mesh only)
- Configure and manage all NaaS Cloud Management policies and connections on behalf of the customer. (\*NaaSCM Fabric/Overlay Mesh only)
- Work with the customer to resolve any issues that the customer is facing after applying policy updates.

1.3 **NaaSCM Center Console.** The status and performance of the NaaSCM service design and functions can be monitored by the customer within the Verizon NaaSCM Center Console. Users will be able to view analytics for both network and security services, and in the future, the ability to manage, add/update network and security policies for both internal and external user personas will be enabled. This client dashboard will allow for integrated monitoring and management of the NaaSCM service elements. The dashboard will provide a Single Pane of Glass view of the network with drilldown insight into the performance and configuration of the sites, network, clusters, devices, etc. that comprise the end-to-end solution. The NaaSCM Center Console is available for Customers who order the Fabric/Overlay Mesh. It is not available to Customers who only purchase one of the NaaSCM – Connectivity options.

2. **SUPPLEMENTAL TERMS.** These supplemental terms apply to the NaaSCM Fabric/Overlay Mesh.

2.1 **Customer Edge Rights and Licenses.** Subject to the terms and conditions of the Agreement, and any applicable Orders, we grant you a limited, revocable, non-exclusive, non-transferable, non-sublicensable right to: (a) permit Users to install, execute and use the Customer Edge Software on Authorized Devices, in executable code form only; (b) permit Users to access and use the NaaS Cloud Management, solely through the Customer website portal specified in an Order; and (c) permit End Users to access and use the Customer Dashboard, solely through the Customer website portal specified in an Order, solely in connection with your internal business purposes during the applicable Service Term.

2.2 **Reservation of Rights.** We and our suppliers and licensors retain all right, title and interest in and to the Services and any software or other technology used in the provision of the Services and all modifications and derivative works thereof; all trademarks, names, logos; and all Documentation for the Services, including without limitation, all rights to patent, copyright, trade secret and other intellectual property rights. Other than as specifically described in Section II, you have no right under the Agreement to any of the Services, Documentation, or to any of Verizon or its suppliers and licensors' trademarks, patents, copyrights, or other intellectual property rights. Verizon and its suppliers and licensors retain all rights not granted herein.

2.3 **Use Restrictions.** You are responsible for all activities conducted by you and your Users with respect to the Services. You shall not directly or indirectly: (a) copy, modify, or create derivative works of the Services, any software component of the Services, or Documentation; (b) remove any proprietary notices from the Services or Documentation; (c) disassemble any hardware made available to you as part of the Services; (d) use the Services or Documentation in any manner or for any purpose that infringes, misappropriates, or otherwise violates any intellectual property right or other right of any person, or that violates any applicable laws; or (e) access or use the Services or Documentation for purposes of competitive analysis thereof or the development, provision or use of a competing software service or product.

2.4 **Third Party Access.** As part of the Services, you may have the opportunity to grant any third-party entity or website the ability to access your Account. Should you elect to do so, you acknowledge and agree that



neither Verizon nor its licensors' shall be responsible for damages, harm, or losses that may arise from the third-party's access to your Account.

- 2.5 **Security and Privacy.** You will obtain any consents and provide any notices that are legally required for your use of the Software.
- 2.6 **Export Control; Government Restricted Rights.** The Software is subject to export control legal.
- 2.7 **Notice to U.S. Government End Users.** The Customer Edge Software and Documentation qualify as "commercial items," as that term is defined in Federal Acquisition Regulation ("FAR") 48 C.F.R. 2.101 and consist of "commercial computer software" and "commercial computer software documentation" as such terms are used in FAR 12.212. Consistent with FAR 12.212 and DoD FAR Supp. 227.7202-1 through 227.7202-4, and notwithstanding any other FAR or other contrary provision in any agreement into which this Agreement may be incorporated, you may provide to a government end user or, if this Agreement is entered into directly with a government end user, you will acquire, the Customer Edge Software and Documentation with only those rights set forth in this Agreement. Use of the Customer Edge Software and/or Documentation constitutes an agreement by the government that the Customer Edge Software and Documentation are "commercial computer software" and "commercial computer software documentation," and constitutes your acceptance of the rights and restrictions herein.
- 2.8 **Third Party Beneficiary.** Verizon and its suppliers and licensors are express and intended third-party beneficiaries of the Agreement and may claim the benefits, exercise the rights, and enforce the terms set forth in the Agreement.

### **3. CUSTOMER TERMS**

- 3.1 **Cloud Service Provider Access.** Verizon requires customer-specific administrative Login credentials to the Cloud Service Providers associated with NaaS Cloud Management. Customer will provide administrative Login access credentials to Verizon during service implementation and will provide updated credentials to the extent they change during the term in which Customer uses NaaS Cloud Management.
- 3.2 **Turkey Use Prohibition.** Connections to and use of the public Internet, world wide web, and social media by a user in Turkey requires the exclusive use of the service of a locally licensed Internet service provider (such as Verizon) in a manner that is compliant with all applicable laws and with any licenses, codes of practice, instructions, or guidelines issued by regulatory authorities. Customer must immediately notify Verizon of any known contravention of the foregoing. Any violation of this express prohibition may result in immediate suspension of the relevant Services by Verizon until, in Verizon's sole judgement, the violation has been cured. Customer is responsible for any fines, penalties, losses, damages, costs or expenses incurred by Verizon due to Customer's violation of this prohibition.
- 3.3 **Customer Data.** As part of providing NaaS Cloud Management, Verizon may transfer, store and process Customer Data in the United States or any other country in which Verizon or its agents maintain facilities. By using NaaS Cloud Management services, Customer consents to this transfer, processing and storage of Customer Data.
4. **SERVICE LEVEL OBJECTIVES.** The NaaS Cloud Management Service Level Objectives (SLO) defines and sets forth the requirements and other terms and conditions agreed to between the Customer ("Customer") and Verizon with respect to the support Verizon shall provide in order to maintain the delivery



of NaaS Cloud Management service. The SLO can be found at: [www.verizon.com/business/service\\_guide/reg/Naas-Cloud-SLO.pdf](http://www.verizon.com/business/service_guide/reg/Naas-Cloud-SLO.pdf).

5. **FINANCIAL TERMS.** Customer will pay the charges for NaaS Cloud Management service specified in the Agreement, including those applicable charges provided at the following URL: [www.verizon.com/business/service\\_guide/reg/applicable\\_charges\\_toc.htm](http://www.verizon.com/business/service_guide/reg/applicable_charges_toc.htm). Charges are in U.S. dollars and will be billed in the invoice currency of the associated service.

**5.1 Customer Edge Charges.** Customer Edges (CE) are hosted by the customer at their hosting expense. Customers can use as many services as they wish to be provided by their CE, up to the compute limitations of the CE. Customers can choose from either 4vCPU, 8vCPU or 16vCPU. These are dimensioning considerations which are priced incrementally. Customers can choose either standard (single node) or High Availability (three nodes) CEs.

**5.2 Change Orders.** Customers are allowed a certain number of no-fee change orders per month based on the number of NaaS SCM Customer Sites. Specifically, the maximum number of no-fee change requests per month is calculated by multiplying the number of NaaS SCM Customer Sites by 15. For example, the limit for a Customer with six (6) NaaS SCM Customer Sites would be 90 change requests per month. In the event that Customer exceeds this limit, Verizon reserves the right to issue Customer an overage charge of \$60 for each change order over the limit. Change orders that are subject to this policy include, but are not limited to, the following:

- Scurity policy additions and changes
- Load balancer additions and network changes
- Networking changes with CSPs
- IP address changes and additions
- Border Gateway Protocol (BGP) configuration and network changes

6. **DEFINITIONS.** The following definitions apply to NaaS Cloud Management, in addition to those identified in the Master Terms and the administrative charge definitions at the following URL: [www.verizon.com/business/service\\_guide/reg/definitions\\_toc\\_2017DEC01.htm](http://www.verizon.com/business/service_guide/reg/definitions_toc_2017DEC01.htm).

Term	Definition
<b>API Security</b>	Blocks API attacks in real time and eliminates vulnerabilities at the source. The portal enables users to manage threat analytics, forensics, and troubleshooting.
<b>Application Performance/Health Visibility</b>	Detailed application telemetry in the form of metrics, logs, alerts and events are collected from across the platform. This data is available in graphical format in the console, via APIs for programmatic consumption.
<b>Application Performance Observability</b>	Detailed metrics, logs, requests, and notifications are centrally collected from every site to provide rich observability across application, infrastructure, network, and security services across the entire system. These metrics are used to provide a holistic view of application health, service connectivity, API requests, and infrastructure resource consumption. This gives the ability to easily debug and trace issues across the system while the centralized service can be used to integrate logs and metrics with external performance management systems like Datadog, Splunk, etc.
<b>DDoS Protection</b>	Web Application Firewall protection against vulnerabilities and the ability to configure custom Layer 7 policies.



<b>Application Proxying</b>	Ability to control the flow of application and API traffic by terminating incoming TCP connections or UDP streams from a client and initiating a new connection to the server.
<b>DNS Domain Delegation</b>	Ability to assign authority over part of the DNS namespace to NaaS Cloud Management, enabling services to manage the namespace in an authoritative manner.
<b>IP Reputation</b>	Ability to allow or deny IP addresses based on a threat category or a threat score that is determined by a continuously updated malicious IP database.
<b>L3 Routing Capability</b>	The ability to connect virtual network segments by forwarding packets based on IP address.
<b>Load Balancing</b>	A centrally managed globally distributed load balancer and proxy with service discovery, health checking, application micro-segmentation, and application policy providing the most advanced implementation of edge load-balancer with ingress/egress capability for any service mesh.
<b>Multi-cloud Load Balancing</b>	A centrally managed globally distributed load balancer and proxy with service discovery, health checking, application micro-segmentation, and application policy providing the ability to terminate to back-end services residing in one or more public and/or private clouds.
<b>Multi-cloud Networking</b>	Seamless and secure connectivity to public and private clouds over the Verizon Private IP (PIP) Network.
<b>Multi-cloud Networking Virtual Router</b>	Provides the ability to route packets from a network segment on one cloud to a network segment on another cloud.
<b>Network Firewall</b>	An object that contains all the network security configuration for a site and serves as a single place to configure network policies, service policies, and access control lists.
<b>Network Request Rate Limit</b>	A method of protecting applications by controlling the rate of traffic coming into or out of an application.
<b>Rate Limiting Capability</b>	A method of protecting applications by controlling the rate of traffic coming into or out of an application.
<b>Secure Event Visibility</b>	Ability to view firewall events, logs, statistics and incidents via a graphical dashboard in the console.
<b>Service Discovery</b>	Ability for a site or virtual-site to automatically discover service endpoints and publish virtual IPs. This can be accomplished using the DNS, K8S, or Consul methods.
<b>SSL Termination</b>	The process of decrypting encrypted traffic before passing it to the back-end web/application server.
<b>Web Application Firewall</b>	Provides protection from a range of attacks on HTTP traffic with the ability to identify and act upon threats. Actions include logging and blocking.