

NETWORK Service Availability Manager (SAM) – Service Provider

By implementing continuous pre-emptive alerting and performance monitoring, you can reduce your Service Credit payments while also enhancing your customer service visibility. This proactive approach allows you to address potential issues before they become major problems, improving overall customer satisfaction and loyalty.

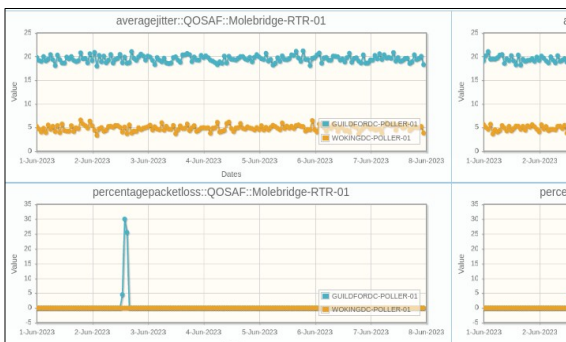
Trusted by UK Critical Infrastructure Network service providers

SAM is used on a number of UK key infrastructure networks to enable effective monitoring and management, of customer contractual Service Level Agreements(SLA).

Public and private sector clients expect high service availability and performance from their network service providers, demanding often punitive service credits payments policed through contractual SLAs.



Continuously monitors the availability and performance of services across your network

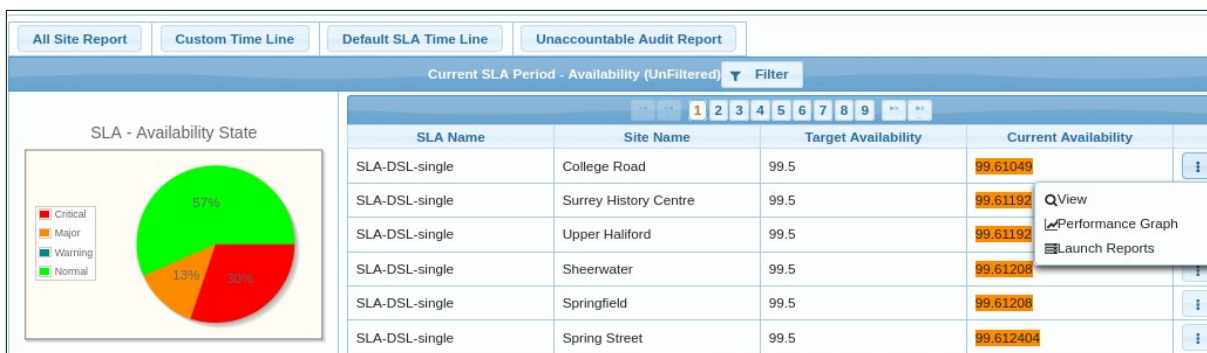


SAM facilitates the automatic provisioning of tests on network devices or dedicated test probes to monitor crucial network performance metrics such as connectivity, latency, jitter, and packet loss.

Test results are collected and stored in SAM's database with real-time analysis of each client's network services provided via an intuitive web-based intuitive dashboard.

Calculates real time contractual SLA availability

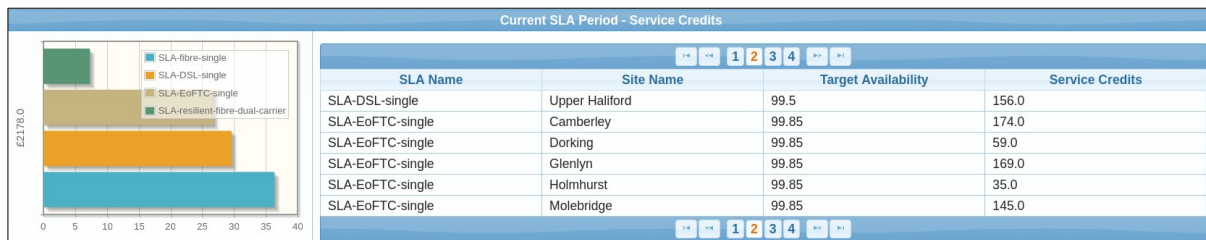
After collecting the test results, SAM processes them through its SLA engine to determine the SLA availability specified in the customer's contractual agreement.



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Calculates real time customer service credits

The SLA engine is designed to distinguish between accountable and unaccountable failures, including those that happen during Planned Engineering Works (PEW). The Service Credit Calculator utilises the accountable failures to determine the amount of service credits that are owed. This approach guarantees that service providers only pay for legitimate credits and not for unnecessary ones.



Proactive Reporting and Alerting

The Business Intelligence system embedded in SAM sends reports to service stakeholders, promptly highlighting any SLA failures. This enables you to implement mitigation measures and reduce the end-of-period service credit exposure.

Site Name	SLA	Period Start	Period End	Availability Target %	Availability %	Service Credits Due
Austen Road	SLA-fibre-single	30-04-2023 23:00	30-06-2023 23:00	99.9	99.84	3596
Vine	SLA-fibre-single	30-04-2023 23:00	30-06-2023 23:00	99.9	99.84	2500
Tattenham	SLA-fibre-single	30-04-2023 23:00	30-06-2023 23:00	99.9	99.84	4800
Oxted	SLA-fibre-single	30-04-2023 23:00	30-06-2023 23:00	99.9	99.84	500
Heathcote	SLA-fibre-single	30-04-2023 23:00	30-06-2023 23:00	99.9	99.84	500
Goldsworth	SLA-fibre-single	30-04-2023 23:00	30-06-2023 23:00	99.9	99.84	500

Site Name	Site Type	SLA	SLA Period Start	SLA Period End	State	Outage Start Time	Outage End Time	Duration (Seconds)
Austen Road		SLA-fibre-single	30-04-2023 23:00	30-06-2023 23:00	UnAvailable	26-05-2023 18:57	26-05-2023 19:09	723
Austen Road		SLA-fibre-single	30-04-2023 23:00	30-06-2023 23:00	UnAvailable	26-05-2023 19:12	26-05-2023 20:57	6344
Austen Road		SLA-fibre-single	30-04-2023 23:00	30-06-2023 23:00	UnAvailable	29-05-2023 12:44	29-05-2023 12:45	68
Vine		SLA-fibre-single	30-04-2023 23:00	30-06-2023 23:00	UnAvailable	26-05-2023 18:57	26-05-2023 19:09	720
Vine		SLA-fibre-single	30-04-2023 23:00	30-06-2023 23:00	UnAvailable	26-05-2023 19:12	26-05-2023 20:57	6344

Alerts can be sent to third-party monitoring or help desk systems, so that a problem or incident ticket can be raised to investigate the underlying issue. Auto-ticketing is also supported through the REST API.

Incident ID* SCC10000467783

Process Flow Status: Identification and Recording → Investigation and Diagnosis → Resolution and Recovery → Incident Closure → Closed

Incident Request Information

Summary: Slow Performance | Status: Resolved | Status Reason: Completed
 Notes: Single site impact | Impact: 4-Minor/Localized | Priority: Low
 Escalated?: No | Urgency: 4-Low

Incident Assignee: Fredrick Vale

Customer: SCC

Site ID: 10023

Site Name: Austen Road

SLA: SLA-fibre-single

SLA Definition: Availability Target

Email Alert: To: support@netmon.com; Subject: "SLA threshold - EXCEEDED"

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Automated diagnostics and correlation to identify the root causes of SLA failures

When tests fail, diagnostic commands can be executed on network devices. The results of these commands will be saved alongside the test result, which can help identify the root cause of the failure. For example, it can pinpoint the device on the path between the tester and the target that is causing the issue:

Test Type: RemotePing
 Test Category: QOSAF
 Test Category1: General
 Authentication Type:
 User Name:
 Password:
 Key File:
 Test Frequency: 180
 Retry: 3

RemotePing Config | Services | Service Components | Template Groups | Tests | Description

@DiagnosticCommand={sh ip route,traceroute \$<{PRIMARYADDRESS>}

```
Gateway of last resort is 192.168.2.1 to network 0.0.0.0
S*  0.0.0.0/0 [1/0] via 192.168.2.1
    [1/0] via 10.10.100.1
    10.0.0.0/8 is variably subnetted, 8 subnets, 3 masks
S   10.10.0.0/16 [1/0] via 192.168.2.2
S   10.10.100.0/24 [1/0] via 192.168.2.245
S   10.10.200.0/24 [1/0] via 192.168.2.245
C   10.10.200.1/32 is directly connected, Loopback0
C   10.50.1.0/24 is directly connected, GigabitEthernet0/1
L   10.50.1.241/32 is directly connected, GigabitEthernet0/1
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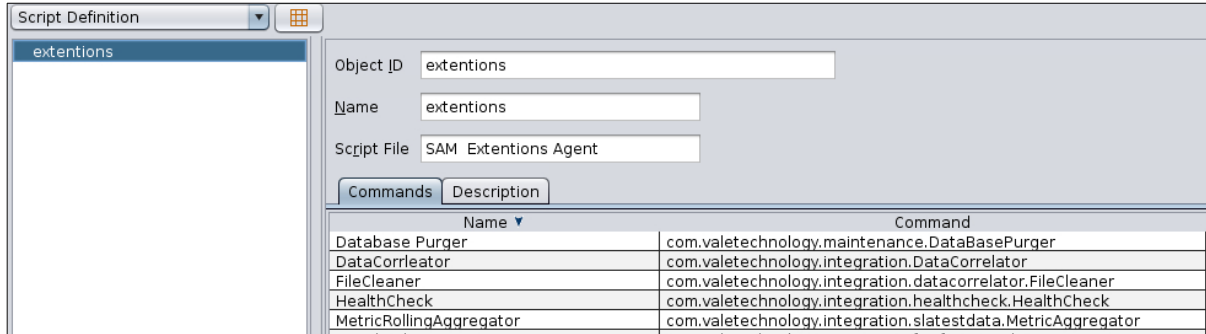
In order to determine the root cause of issues, test results are correlated. For example, core network circuit failures can be correlated with failed tests on edge devices.

SLA-DSL-single	GUILDFORDC-POLLER-01	College-Road-RTR-01	02/06/23 12:52	02/06/23 14:51
PACKETLOSS	Metric percentagepacketloss Sampled Value 30.000002 breaches threshold > 0.5			
SLA-DSL-single	WOKINGDC-POLLER-01	College-Road-RTR-01	02/06/23 12:52	02/06/23 14:51
RTTBREACH	Metric responsetime Sampled Value 86.0 breaches threshold > 60.0			

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Flexible framework to fulfil your customer’s exacting SLA management requirements

SAM is a framework designed for SLA management applications, that can be customised to meet the unique SLA needs of each customer.



Example framework elements and their potential applications:

Feature	Use Case
Custom test Scripts	<ul style="list-style-type: none"> • SLA monitoring of non network infrastructure components e.g. Applications • Custom KPI collection and calculations • Importing data from help desk systems to be included in SLA calculations • Generate and distribute tailored reports
SLA Calculator	<ul style="list-style-type: none"> • Implement custom logic in the calculation of SLA availability • Implement bespoke service credit calculations
Report Builder	<ul style="list-style-type: none"> • Incorporate data from external systems in SAM reports • Create custom reports to meet your requirements

Integration & Interface support:

Technology	Detail
API System Integration	REST API over HTTPS
Data Input	xls spreadsheet (pre-formatted Columns)
Dbase	All 3 rd Party dB integration supported
SNMP v3	Test Provision & Test Result Data Collection
HTTPS	Test Data Collection
NETCONF	Test Provision

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Key Features and Benefits

Feature	Benefit
Automated SLA Management	Instant visibility – real-time visibility of current contractual SLA attainment for each client’s service estate
Inherent Support for Government Frameworks	Predefined SLAs - supporting both the Network Services 2 (RM3808) and the Health and Social Care Network (HSCN) obligations
Comprehensive automated and ad-hoc reporting functionality	Automated Reporting – predefined SLA report generation and email delivery combined with the ability to create ad-hoc SLA and Network performance reports
Multiprotocol Label Switching (MPLS) Quality of Service (QoS) queue testing	MPLS queue performance testing – full performance testing of MPLS prioritised queues providing full visibility and alerting of network issues that would impact critical real time customer applications
Automated alerting	Early visibility – of issues that may lead to SLA breaches – enables pre-emptive resolution of SLA impacting network issues reported via email, auto ticketing or Network Management traps
Automated diagnostic testing	Pre-emptive fault finding – run diagnostic commands automatically, initiated by service or performance test failures
Customer causing service test failure management	Disregard Client instigated service impact – Ability to mark failed tests as unaccountable for SLA calculation purposes when caused by a customer issue, such as a power outage. Results remain within the database for auditing purposes
Software Defined Wide Area Network (SD-WAN) Integration	Multi-Vendor SD-WAN support – SAM through the use of a REST API facilitates full SLA and or KPI monitoring and reporting for all SD-WAN service elements, such as the underlying network infrastructure, the overlay tunnel network and application performance.
Resilient architecture deployment support	Automated failover – Server and database replication support ensuring data and SLA reporting integrity
Managed Service Option	SaaS – Product consumable as a cloud hosted managed service with secure access for data collection
Cost effective flexible licensing options	Test Based Licensing – Whatever the size of your customers network estate the licensing cost is based on the number of tests required to fulfil your SLA obligations

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About Vale Technology

Founded in 2004, Vale Technology has built a reputation for developing network management solutions for major industry OEMs and their clients.

Experience of the challenges of delivering network services to clients led to the development of our flagship project, Service Availability Manager (SAM).

SAM is used by leading managed service providers to automate SLA breach reporting, pinpoint network issues and improve the quality of service offered to clients. SAM continues to evolve in line with the changing needs of our clients and their clients.

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