

SERVICE LEVEL AGREEMENTS:

TECHNICAL STANDARDS
OF PERFORMANCE

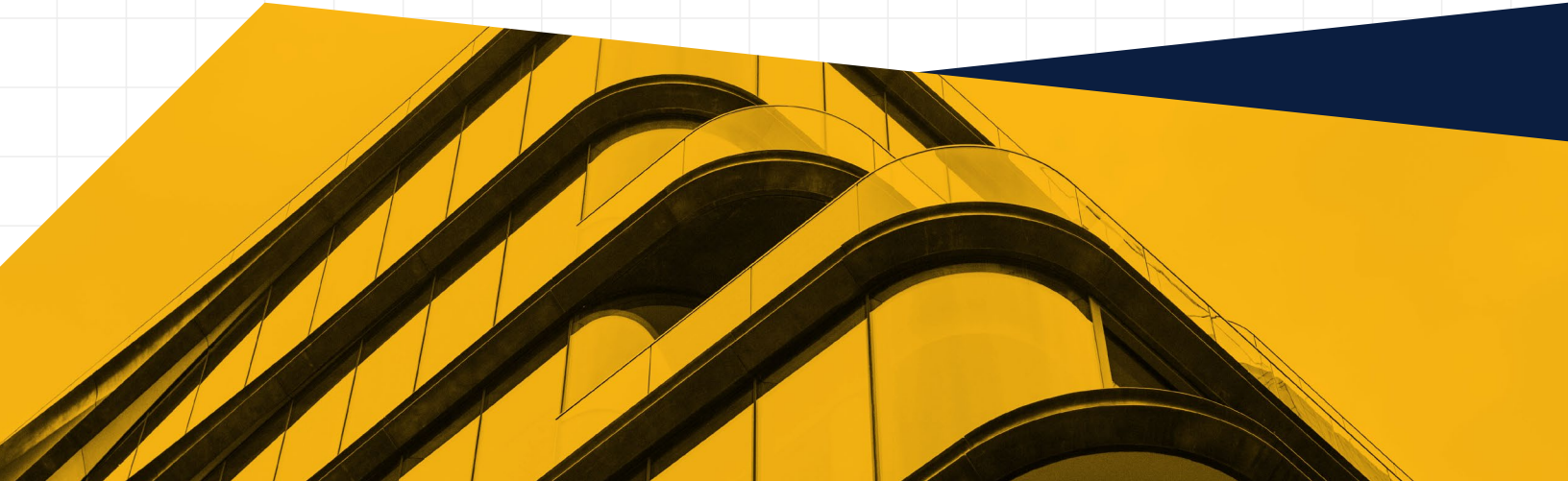


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SERVICE LEVEL AGREEMENTS: TECHNICAL STANDARDS OF PERFORMANCE

CLOUD

DEDICATED RESOURCE POOL

A Dedicated Resource Pool is considered available if the reserved resources are accessible for customer use and traffic can be passed between the US Signal Data Center and the US Signal data backbone. Availability 100%.

FLEXIBLE RESOURCE POOL

A Flexible Resource Pool is considered available if the allocated resources are accessible for customer use and traffic can be passed between the US Signal Data Center and the US Signal data backbone. Compute and Memory resources may vary based on demand. Availability 100%.

HOSTED PRIVATE CLOUD

Hosted Private Cloud will have failed hardware replaced within 4 hours. This does not include the rebuilding of RAID arrays or the virtual environment.

DEDICATED BLADE SERVER

A Dedicated Blade Server is considered available if the Dedicated Blade Server can be booted and traffic can be passed between the US Signal Data Center and the US Signal data backbone. In case of hardware failure Dedicated Blade Server will be replaced in 4 hours.

FILE STORAGE

File Storage is considered available if the storage array can read or write data and traffic can be passed between the storage array and the US Signal data backbone. Availability 100%.

OBJECT STORAGE

Object Storage is considered available if API calls and data retrieval are able to be completed successfully between the US Signal data backbone and public API storage endpoints. API errors caused by, but not limited to transit issues on the Internet do not establish failure criteria, in which would not be guaranteed under the Object Storage SLA. Availability 99.99%.

CLOUD LOAD BALANCER

Cloud Load Balancer is considered available if the product interface is accessible for customer use and traffic can be passed between the US Signal Data Center and the US Signal data backbone. Availability 100%.

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DATA PROTECTION

ENTERPRISE BACKUP-AS-A-SERVICE

US Signal guarantees cloud infrastructure availability. Infrastructure is defined as available when storage is able to be consumed. Availability guarantee is 99.5%.

US Signal guarantees a managed support response time of 2 hours from the time a request is received. A request is considered received when a request is made to the US Signal NOC and a ticket is created.

BACKUP-AS-A-SERVICE

US Signal guarantees storage infrastructure availability. Infrastructure is considered available if storage space is able to be consumed by Customer backups. Availability 100%.

MANAGED BACKUP

US Signal guarantees a managed support response time of 2 hours from the time a request is received. A request is considered received when a request is made to the US Signal NOC and a ticket is created.

CLOUD BACKUP FOR VEEAM

US Signal guarantees storage infrastructure availability. Infrastructure is considered available if storage space is able to be consumed by Customer backups. Availability 100%.

CLOUD REPLICATION FOR VEEAM

US Signal guarantees replication infrastructure availability. Infrastructure is considered available if storage space is able to be consumed by Customer backups. Availability 100%.

RECOVERY-AS-A-SERVICE

US Signal's SLA pertains to Reserved US Signal cloud computing environment.

ENTERPRISE REPLICATION

US Signal guarantees cloud infrastructure availability. Infrastructure is defined as available when storage is able to be consumed. Availability guarantee is 99.5%.

US Signal guarantees a managed support response time of 2 hours from the time a request is received. A request is considered received when a request is made to the US Signal NOC and a ticket is created.

DISASTER RECOVERY-AS-A-SERVICE

An SLA on the Recovery Time Objective (RTO) will be established and documented in the customer's DRaaS Playbook. The RTO SLA only applies to virtual machines protected with the Premium tier of service. RTOs range from minutes to hours. Actual achievable RTO will be derived through initial simulated failovers and are contingent on customer's environment size, bandwidth availability, etc.

REMOTE MONITORING AND MANAGEMENT

US Signal's Service Level Objective for the RMM client interface is 99.99% availability; excluding planned and emergency maintenance. The client interface is considered available if the webpage resolves and customers are able to login.

US Signal will use commercially reasonable efforts to notify customers of alerts based on configured alarms (including automated remediation) as follows:

Response Time Objective (Maximum elapsed time objective from receipt of alarm within US Signal's Alarm Management System to Customer notification)

Standard Tier: 30 minutes

Premier Tier: 15 minutes

DDoS PROTECTION AND WEBSITE PERFORMANCE

Response SLA of 30 minutes from the time a support request is received. A request is considered received when made to the US Signal TOC and a ticket is created. Service availability guarantee of 100%. The Service is considered available when functioning for Customer's content and/or applications as subscribed.

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NETWORK

TECHNICAL STANDARDS OF PERFORMANCE

- Private Line:** Availability 99.999%.
- Optical Wave:** Availability 99.99%.
- VES Point to Point:** Availability 99.995%.

DEDICATED INTERNET ACCESS, VES MULTISITE, MPLS VPN

Performance Metrics

Availability	99.995%
Latency	15ms
Packet Loss	<=0.1%
Jitter	4ms

DEDICATED INTERNET ACCESS, VES POINT TO POINT, VES MULTISITE, MPLS VPN (ALL WITH QoS)

Availability	99.5%	99.995%	99.995%	99.999%
Latency	N/A	15ms	15ms	10ms
Packet Loss	N/A	<=0.1%	<=0.005%	<0.005%
Jitter	N/A	4ms	4ms	4ms

SERVICE AVAILABILITY

Availability Performance is the percentage of time within a specified time interval during which the Frame Loss Ratio Performance is small. A circuit is considered unavailable when there is a complete loss of use.

MEAN ONE-WAY LATENCY (MEAN ONE-WAY FRAME/PACKET DELAY)

The One-Way Frame Delay for an egress Service Frame at a given Interface in the EVC is defined as the perceived time elapsed from the reception at the ingress interface of the first bit of the corresponding ingress Service Frame until the transmission of the last bit of the Service Frame at the given interface for a particular Class of Service Identifier. To obtain the Mean One-Way Frame Delay, statistics are gathered and averaged over the period of 1 month.

MEAN JITTER (MEAN FRAME/PACKET DELAY VARIATION)

Frame Delay Variation is the difference between the one-way delays of a pair of selected Service Frames for a particular Class of Service Identifier and an ordered pair of interfaces. To obtain the Mean Frame Delay Variation, statistics are gathered and averaged over the period of 1 month.

FRAME LOSS RATIO

Frame loss is a measure of the number of lost service frames inside the network for a particular Class of Service Identifier. Frame loss ratio is; $\% = \# \text{ frames lost} / \# \text{ frames sent}$ over a period 1 month.

SLA COVERAGE

Depending on the technology, US Signal handles SLA's based on several different network/technology domains.

Core Domain i.e. (Between Core PoP's across MPLS backbone)

Edge Domain i.e. (Metro Ethernet Networks)

Access Domain i.e. (Last Mile Access)

Latency, Frame Loss, and Jitter metrics are measured and provided in the Core Domain. The Availability Metric is measured and provided in the Core and Edge Domains. SLA's do not extend to the Access Domain.