

How to Write and Manage a Carrier Service Level Agreement for Your Frame Relay Network

Part II: Service Level Agreement Template

Jointly Prepared By:



**Company AAA
Service Level Agreement with Carrier BBB**

Service Level Agreement made as of Month XX, 19YY between Company AAA, Inc. (the “Customer”) having a place of business at Street Address, City, State & Zip and Carrier BBB (the “Carrier”) having a place of business at Street Address, City, State & Zip.

The parties hereby agree as follows:

1. Definitions

The following terms and definitions shall be used in this Service Level Agreement (SLA):

- Frame Relay Access Facility (FRAF) – The physical connection between a Customer node and the frame relay network
- Permanent Virtual Circuit (PVC) – A logical connection from one port of the frame relay network to another port of the frame relay network
- Total Ingress Kiloframes – The total number of kiloframes offered by the frame relay network by all PVCs across all FRAFs
- Total Egress Kiloframes – The total number of kiloframes delivered by the frame relay network by all PVCs across all FRAFs
- Committed Burst Size (Bc) – The maximum amount of data (in bits) that the network commits to transfer under normal conditions
- Excess Burst Size (Be) – The maximum amount of uncommitted data (in bits) in excess of Bc that the network attempts to transfer under normal conditions
- Bc+Be Exceeded Kiloframes – Discarded frames due to excess data being sent above the maximum rate parameters of a given PVC
- Data Delivery Ratio or Rate (DDR) – The adjusted ratio of the total user data frames delivered across the frame relay network to the total user data frames offered to the frame relay network

2. Frame Relay Service Overview

[Insert here a description of the carrier WAN service covered under this agreement, including details of the network configuration and network protocols to be transmitted over the service. Refer to separate service agreement if needed.]

3. Frame Relay Service Features

[Insert here a description of the specific service features included with the network configuration and covered under this agreement, such as features relevant to the access circuits, ports, PVCs, dial access, protocol conversion, network design and engineering support, CPE compatibility testing, dedicated operations support, and customer network management information. Refer to separate service agreement if needed.]

4. Customer Premises Equipment Requirements

[Insert here a description of responsibilities for compliance testing, installing, configuring, and maintaining the Customer owned Premises Equipment (CPE), applications, and protocols to interoperate with the Carrier WAN service. Refer to separate service agreement if needed.]

5. Frame Relay Service Pricing

[Refer to separate service agreement if needed.]

6. SLA Definition For: Network Availability

6.1. Service Level Agreement

For the frame relay Products and Services provided to Customer under a signed agreement with Carrier, Carrier is Committed to maintain an end-to-end Network Availability of 99.5% based on a minimum of XX sites.

6.2. Calculation

End-to-end Network Availability is calculated as the percentage of time that the frame relay network is capable of accepting and delivering Customer frame to the total time in the measurement period. It is measured end-to-end, from Customer demarcation to Customer demarcation.

The calculation for end-to-end Network Availability for a given month is as follows:

$$\frac{(24 \text{ Hours} \times \text{Days in Month} \times \text{Number of Sites}) - \text{Network Outage Time}}{(24 \text{ Hours} \times \text{Days in Month} \times \text{Number of Sites})} = \text{Network Availability}$$

6.3. Components Included

The performance of the following components of the Products and Services shall be included in the determination of Network Availability.

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- All components of the frame relay network
- Carrier-provided local access facilities used to access the Carrier frame relay network
- Carrier-provided CSU/DSU or Channel Bank

6.4. Components Excluded

The following shall be excluded from any network outage time when calculating the Network Availability:

- The failure of any components beyond the Customer side of either the access provider demarcation or the CSU/DSU/Channel Bank if not provided by Carrier
- Network downtime during Carrier's scheduled maintenance window
- The failure of any components, which cannot be corrected due to the inaccessibility of the Customer or causes beyond the reasonable control of the Carrier
- Backup PVCs
- Dial PVCs

6.5. Network Availability Remedies

Upon verification that the actual Network Availability is below the Committed Network Availability, the Carrier shall evaluate the network and take corrective action to remedy the problem. Carrier shall have fourteen (14) days from the date of such verification to restore the Network Availability to the Committed Network Availability. If the Network Availability is still below the Committed Network Availability after the such fourteen (14) day period, then for each additional month that Carrier does not comply with the Committed Network Availability, Carrier shall provide Customer a service credit equal to fifteen percent (15%) of the monthly charge for all PVCs and Ports with validated outages in the applicable month.

There shall be no caps on either monthly or yearly service credit amounts.

7. Service Level Definition For: PVC Availability

7.1. Service Level Agreement

For the frame relay Products and Services provided to Customer under a signed agreement with Carrier, Carrier is Committed to maintain an end-to-end PVC Availability of 99.5% based on a minimum of XX PVCs.

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7.2. Calculation

End-to-end Network Availability is calculated as the percentage of time that a frame relay PVC is capable of accepting and delivering Customer frame to the total time in the measurement period. It is measured end-to-end, from Customer demarcation to Customer demarcation.

The calculation for end-to-end PVC availability for a given month is as follows:

$$\frac{(24 \text{ Hours} \times \text{Days in Month} \times \text{Number of PVCs}) - \text{PVC Outage Time}}{(24 \text{ Hours} \times \text{Days in Month} \times \text{Number of PVCs})} = \frac{\text{PVC}}{\text{Availability}}$$

7.3. Components Included

The performance of the following components of the Products and Services shall be included in the determination of PVC Availability:

All PVCs in the Customer network.

7.4. Components Excluded

The following shall be excluded from any network outage time when calculating the PVC Availability:

- The failure of any components beyond the Customer side of either the access provider demarcation or the CSU/DSU/Channel Bank if not provided by Carrier
- Network downtime during Carrier's scheduled maintenance window
- The failure of any components, which cannot be corrected due to the inaccessibility of the Customer or causes beyond the reasonable control of the Carrier
- Backup PVCs
- Dial PVCs

7.5. Network Availability Remedies

Upon verification that the actual PVC Availability is below the Committed PVC Availability, the Carrier shall evaluate the network and take corrective action to remedy the problem. Carrier shall have fourteen (14) days from the date of such verification to restore the PVC Availability to the Committed PVC Availability. If the PVC Availability is still below the Committed PVC Availability after the such fourteen (14) day period, then for each additional month that Carrier does not comply with the Committed PVC Availability, Carrier shall provide Customer a service credit equal to fifteen percent (15%) of the monthly charge for all PVCs with validated outages in the applicable month.

There shall be no caps on either monthly or yearly service credit amounts.

8. Service Level Definition For: PVC Delay

8.1. Service Level Agreement (SLA)

For the frame relay Products and Services provided to Customer under a signed agreement with Carrier, Carrier is Committed to maintain an average, end-to-end, (round-trip) delay for each PVC (Committed PVC Delay) as follows;

- 110 milliseconds for T-1 Access
- 140 milliseconds for 256 Kbps Access
- 230 milliseconds for 56 Kbps Access

Where PVC end-points are at different access speeds, the Committed PVC Delay value for the lower speed end will apply. This Committed PVC Delay is based on the following configuration and application characteristics of the Products and Services provided to the Customer.

- Minimum number of sites: 10
- Minimum Originating Access Speed: 56 Kbps
- Minimum Terminating Access Speed: 56 Kbps
- Average Frame Size: 200 Bytes

8.2. Calculation

End-to-end PVC Delay is calculated as the measurement of time taken for a Customer frame to go from one end of a frame relay PVC to the other and back again. It is measured end-to-end, from Customer demarcation to Customer demarcation, including the local access facility.

The calculation for average, end-to-end, roundtrip network delay (Average PVC Delay) for a given month is as follows based on the procedure criteria defined below:

$$\frac{\text{Total End-to-End, Roundtrip Delay for All PVCs}}{\text{Total Number of PVCs}} = \text{Average PVC Delay}$$

8.3. Components Included

The performance of the following components of the Products and Services shall be included in the determination of Average PVC Delay:

- All components of the Carrier frame relay network
- Carrier-provided local access facilities used to access the Carrier frame relay network
- Carrier-provided CSU/DSU/Channel Bank

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8.4. Components Excluded

The following components shall be excluded in the determination of Average PVC Delay:

Equipment beyond the Customer side of either the access provider demarcation or the CSU/DSU/Channel Bank if provided by Carrier

8.5. Average Network Delay Measurement and Remedies

Average PVC Delay will be measured by a Carrier/Customer test in accordance with the following criteria:

- Software and hardware components capable of measuring Customer application traffic and responses shall be placed at each Customer site to be measured for roundtrip delay.
- Measurements shall be performed at least during the same four (4) hour period over a minimum of five (5) consecutive business days to adequately determine a consistent average performance level for the calculation.

Upon verification by Carrier that the actual Average Network Delay is below the Committed Network Delay, the Carrier shall take corrective action to remedy the problem. Carrier shall have fourteen (14) days from the date of such verification to restore the Average Network Delay to the Committed Network Delay. If the Average Network Delay is still below the Committed Network Delay after such fourteen (14) day period, then, for each month that the Carrier does not comply with the Committed Network Delay, Carrier shall provide Customer a service credit equal to five percent (5%) of the monthly charge for all PVCs and Ports with validated outages in the applicable month.

There shall be no caps on either monthly or yearly service credit amounts.

9. Service Level Definition For: PVC Throughput

9.1. Service Level Agreement

For the frame relay Products and Services provided to Customer under a signed agreement with Carrier, Carrier is committed to maintain a Throughput of 99.99% (Committed Throughput) based on a minimum of four (4) PVCs. Throughput results will be indicated monthly as set forth in the monthly Carrier report.

9.2. Calculation

$$\frac{\text{Total Egress Kiloframes}}{\text{Total Ingress Kiloframes} - (\text{Bc} + \text{Be Exceeded Kiloframes})} = \text{Throughput}$$

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9.3. Excluded Items

The following shall be excluded from any determination of Throughput:

- Data loss due to failures of local access facilities
- Data loss during Carrier's scheduled maintenance window
- Backup PVCs
- Dial PVCs
- Any PVCs or access channels added or reconfigured during the month

9.4. Reporting and Remedies

Carrier shall provide Customer a copy of Throughput information from Carrier monthly frame relay performance report.

Upon verification by Carrier that the actual Throughput is below the Committed Throughput, Carrier shall take corrective action to remedy the problem. Corrective actions will include temporarily upgrading (at no additional Customer charge) the PVCs affecting aggregate Throughput to a Committed Information Rate (CIR) which is the next available level from Customer's contracted CIR level. Carrier shall have fourteen (14) days from the date of problem verification to restore the Throughput to the Committed Throughput.

If the actual Throughput is still below the Committed Throughput after such fourteen (14) day period, then for each additional month that Carrier does not comply with the Committed Throughput, Carrier shall provide Customer a service credit equal to:

- Fifty percent (50%) of the monthly charge for the specific PVCs directly associated with lowering the aggregate Throughput calculation below the Committed Throughput
- Fifty percent (50%) of the monthly charge for the two ports (ingress and egress) associated with each such PVC.

10. Service Level Definition For: Mean Time To Respond

10.1. Service Level Agreement

For the frame relay Products and Services provided to Customer under a signed agreement with Carrier, Carrier is committed to maintain a maximum XX hour response time to [*Site identification, i.e. central site/ remote site*]. Results will be indicated monthly as set forth in the monthly Carrier report.

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10.2. Calculation

Elapsed time trouble call was placed to the time assistance arrives at the problem site.

10.3. Excluded Items

The following shall be excluded from any determination of Mean Time To Respond:

- Weekend or night hours, if desired
- Holidays
- Specific sites not covered by X hour response time

10.4. Reporting and Remedies

Carrier shall provide Customer a copy of Mean Time To Respond from Carrier monthly frame relay performance report for all problems that occurred during the reporting period.

Upon verification by Carrier that the actual response level is below the committed level, Carrier shall take corrective action to remedy the problem. Corrective actions will include temporarily upgrading (at no additional Customer charge) the site(s) effected to the next available level of response for no less than 30 days. Carrier shall have fourteen (14) days from the date of non-compliance to report the nature of the deficiency and the corrective action taken.

If the actual response level is still below the committed time after such fourteen (14) day period, then for each additional month that Carrier does not comply with the response level, Carrier shall provide Customer a service credit equal to:

- Fifty percent (50%) of the monthly charge for the site in question.

11. Service Level Definition For: Mean Time To Repair

11.1. Service Level Agreement

For the frame relay Products and Services provided to Customer under a signed agreement with Carrier, Carrier is committed to maintain a maximum XX hour repair time for [Site identification, i.e. central site/ remote site]. Results will be indicated monthly as set forth in the monthly Carrier report.

11.2. Calculation

Elapsed time trouble call was placed to the time service is restored to normal operating performance.

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11.3. Excluded Items

The following shall be excluded from any determination of Mean Time To Repair:

- Weekend or night hours, if desired
- Holidays
- Specific sites not covered by X hour response time
- Central office outage

11.4. Reporting and Remedies

Carrier shall provide Customer a copy of Mean Time To Repair from Carrier monthly frame relay performance report for all problems that occurred during the reporting period.

Upon verification by Carrier that the actual repair level is below the committed level, Carrier shall take corrective action to remedy the problem. Corrective actions will include temporarily upgrading (at no additional Customer charge) the site(s) effected to the next available level of repair for no less than 30 days. Carrier shall have fourteen (14) days from the date of non-compliance to report the nature of the deficiency and the corrective action taken.

If the actual repair level is still below the committed time after such fourteen (14) day period, then for each additional month that Carrier does not comply with the repair level, Carrier shall provide Customer a service credit equal to:

- Fifty percent (50%) of the monthly charge for the site in question.

There shall be no monthly or yearly service level caps related to this Service Level Agreement.

IN WITNESS WHEREOF, the undersigned have executed this Agreement as of the date first above written.

COMPANY AAA, INC.

CARRIER BBB, INC.

By: _____
Its: _____

By: _____
Its: _____