

ITEM
500.36**Wavelength Service**

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1. Service Description

Wavelength Service provides point to point data network connectivity using Wavelength Division Multiplexing technologies. Each Wavelength service sold by SaskTel requires at least three (3) components to function.

- (a) Access A - a fibre network access provisioned at a customer specified location which provides network access to SaskTel's core network transport facilities.
- (b) Access Z - the second of two (2) required fibre network accesses which allows network traffic to originate and terminate from the customer specified location through SaskTel's core network transport facilities, to access A.
- (c) Transport - core network transport service which carries network traffic between locations "A" and "Z".

2. Service Options**(a) Accesses**

- (i) Primary Access - A Primary Network Wavelength Access consists of fibre facilities provisioned from SaskTel's nearest wire centre to the customer specified location, which provide physical connectivity to SaskTel's core network transport facilities. 2 primary accesses, both primary access A, and primary access Z are required.
- (ii) Incremental Accesses – An Incremental Network Wavelength Access is an additional Wavelength service provisioned on a route where a Primary Network Wavelength Access already exists. The Incremental Network Wavelength Access uses the same fibre network access facilities and physical path as the Primary Network Wavelength Access, but provides additional bandwidth and interface options where a primary access is already in place. Like primary accesses, incremental accesses require 3 components, access A, access Z and transport. Up to seven (7) Incremental Network Wavelength Accesses can be added to any Primary Network Wavelength Access with the required equipment.

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2. Service Options – *Continued*

- (iii) Access Demarcation – The access demarcation card will serve as a demarcation between the transport network and the customer access.
- (b) **Chassis Options** – depending on facilities existing at each customer specified location and whether or not a location has been pre-equipped to accommodate multiple Wavelength network services, there are two chassis options available.
 - (i) Private Chassis – Is a private network shelf/chassis provided along with a primary access. The private chassis provides facilities, solely used by that customer, for SaskTel to provision a Primary Network Wavelength Access and any associated Incremental Network Wavelength Accesses.
Additional Chassis – An additional chassis can be provided due to growth of incremental wavelengths.
 - (ii) Shared Chassis – Is a network shelf/chassis which has been pre-equipped to accommodate multiple Wavelength accesses from multiple individual customers. Shared chassis' are commonly used where there is a requirement for multi-tenant network facilities, such as a data centre or network aggregation point.
- (c) **Protection** – Wavelength services can be purchased in a protected or unprotected configuration.
 - (i) Protected Wavelength Services – is a Wavelength network configuration which provides a mirrored pair of accesses, provisioned in diverse physical building entries & conduit, running physically diverse network paths on diverse network equipment.
 - (ii) Un-protected Wavelength Services – is a Wavelength network configuration where protected Wavelength services, as defined above, do not exist.

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2. Service Options – *Continued*

(d) **Interface Options** – Each Wavelength access is sold with 10Gbps of bandwidth capacity. Customers can choose which options work best with their equipment based on the following speed and interface options:

- (i) **Single Protocol Full Rate 10Gbps Wavelength**
 - 1. Ethernet – 10Gbps
 - 2. Fibre Channel - 8Gbps or 10Gbps
- (ii) Within a full-rate 10G wavelength, the following client interfaces are supported:
 - 1. 10GE WAN PHY
 - 2. 10GE LAN PHY
 - 3. 8G Fibre Channel
 - 4. 10G Fibre Channel (limited)

(e) **Channelization** – Each Wavelength access can be subdivided into multiple protocols to form a “Channelized Wavelength”, which supports any combination of Fibre and Ethernet interfaces defined below. The maximum number of interfaces on a Wavelength access is eight (8) and the sum of the bandwidth of the interfaces used on a Channelized Wavelength access must not exceed 8Gbps of total bandwidth.

- (i) Within a channelized 10G wavelength, the following client interfaces are supported:
 - 1. 1Gbps Ethernet - 1GE
 - 2. 1Gbps Fibre Channel - FC100
 - 3. 2Gbps Fibre Channel - FC200
 - 4. 4Gbps Fibre Channel - FC400

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(f) **Transport** – Customers must purchase core network transport facilities in addition to a pair of accesses (A and Z) in order to transmit data between two physical accesses across SaskTel’s network. The intra-city and inter-city transport is only available in or between Wavelength serving cities.

- (i) Intra-city – this network transport provides connectivity between 2 Wavelength network accesses (both A and Z), either primary or incremental, which are both within the same city.
- (ii) Inter-city - this network transport provides connectivity between 2 Wavelength network accesses (both A and Z), either primary or incremental, which are in separate cities.

(g) **Additional Service Options**

Multiplexer – A multiplexer can be added to any primary Wavelength access for customers who require more than 3 incremental Wavelength services on the same physical path. With the Wavelength Service, multiplexing equipment can support up to eight (8) Wavelength accesses on a physical network access.

3. Conditions of Service

- a) **Contract Length** – All components of the service, including primary and incremental Accesses, Intra-city and Inter-city Transport, and additional features as represented in the pricing section are sold on a contract term. Wavelength services are available on 3, 5, 7 and 10 year contract terms. Upon conclusion of the contract term, if no agreement is reached for contract renewal, the service may continue at the published 3 year rate for said services. However, no moves, additions or changes will be permitted to the service in the absence of an active contract.

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3. Conditions of Service – *Continued*

b) **Moves, Additions and Changes** – During a contact term, a customer may request SaskTel to make changes to the service under the following provisions:

- (i) **Moves** – A customer may request SaskTel to move Primary and Incremental Network Wavelength Accesses from one customer specified location to another. In such case, the customer will be charged service connection charges and applicable one-time charges for re-engineering and/or construction charges to move an access.
- (ii) **Additions** – No additions may be made to a current customer contract. If a customer wishes to establish additional Wavelength services in locations where the customer has existing primary accesses, the customer contract must be re-signed for a minimum period of 3 years at the existing 3 year rates. If the customer would like to establish additional Wavelength services at new locations where there are no current primary Wavelength services contracted by the customer, a new contract must be agreed to.
- (iii) **Changes** – Customers are permitted to make changes to their existing Wavelength access and Transport Services during the contract term. Changes are only permitted where the new monthly value of the contract is equal or greater to the existing monthly value. Changes are subject to applicable one-time and monthly charges.

c) **Early Termination** – Contracts may be terminated:

- (i) by the customer upon thirty (30) days advance notice in writing delivered to SaskTel, provided that if this termination is prior to the expiration of the Contract Period, either by the customer for any reason or by SaskTel by reason of the default of the customer, the customer shall forthwith pay to SaskTel a termination charge being a single payment equal to seventy-five per cent (75%) of the sum of all of the monthly charges for the service for the unexpired portion of the Contract Period.
- (ii) by SaskTel, at any time, in the event of default by the customer under this Agreement after the customer has been notified, in writing, of the default and has failed to correct the same within thirty (30) days after such written notice. In such event the termination charge described above shall be paid by the customer together with any outstanding charges and rentals for the service due at the date of termination.

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3. Conditions of Service – *Continued*

- d) **Upgrade** – The customer may request an upgrade from the service to a new service offered by SaskTel without the payment of termination charges, provided that the contract length for such alternative service offering is at least equal to the unexpired portion of the Contract Period of the service, the revenues to SaskTel under the alternate service offering are substantially similar to the total of the remaining monthly rental payments under this Agreement for the unexpired balance of the Contract Period, and the upgraded service is available for installation. An upgraded service is one so classified by SaskTel. The customer must enter into a new contract for the upgraded service.
- e) **Service Levels:**
- (i) Service Monitoring and Performance - Wavelength services will be monitored 24/7/365 by SaskTel. SaskTel will proactively react to alarms, and proactively notify the customer an alarm has been monitored and SaskTel is investigating the cause. The customer must provide SaskTel a single point of contact, with overall responsibility of the operation of the solution on the customer's side. The customer must also provide SaskTel with site contacts at each access, both "A" and "Z" who are able to be contacted 24/7 in the event SaskTel needs physical investigation or site access of the physical facilities to remediate a service issue.
 - (ii) A Service level guarantee is only available when the service is sold in a protected manner. A service level guarantee which stipulates minimum uptime targets, time to resolve targets and the associated financial remuneration is available to the customer if SaskTel does not meet those targets. Service level credits are available upon the customer's written notice to SaskTel.
 - (iii) Unprotected Wavelength services are sold without a Service Level Agreement.
 - (iv) When Wavelength services are provided in a protected manner, the customer is solely responsible to switch to the diverse path in the event of an outage or service disruption on their primary path. Failure of the customer to switch to the diverse service shall not be included in availability calculations.

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4. Rates

Pricing consists of three components:

- a) Monthly reoccurring charges (MRC) depending on the term of Agreement, either 3, 5, 7 or 10 years.
- b) One-time service connection charges (SCC).
- c) Applicable one-time charges to connect Wavelength facilities to the customer specified location.

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Wavelength Service is not available on a month by month basis. Applicable one-time charges depend on a variety of factors such as the availability of fibre facilities, and construction costs to extend fibre access to the customer location. These costs are quoted by SaskTel on a case by case basis.

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4. Rates – Continued

Description	3 Yr MRC Min	3 Yr MRC Max	5 yr MRC Min	5yr MRC Max	SCC
1. Primary Wavelength Network Access with Single Protocol Support on a Private Chassis	#	\$7,800	#	\$6,500	\$8,500
2. Primary Wavelength Network Access with Channelized Protocol Support on a Private Chassis	#	\$8,520	#	\$7,100	\$8,500
3. Primary Wavelength Network Access with Single Protocol Support on a Shared Chassis	#	\$3,900	#	\$3,250	\$8,500
4. Primary Wavelength Network Access with Channelized Protocol Support on a Shared Chassis	#	\$4,620	#	\$3,850	\$8,500
5. Incremental Wavelength Network Access with Single Protocol Support on a Private or Shared Chassis	#	\$1,200	#	\$1,000	\$2,500
6. Incremental Wavelength Network Access with Channelized Protocol Support on a Private or Shared Chassis	#	\$1,920	#	\$1,600	\$2,500
7. Intra-city Core Network Transport for Primary or Incremental Accesses	#	\$2,100	#	\$1,750	N/A
8. Inter-city Core Network Transport for Primary or Incremental Accesses	#	\$3,060	#	\$2,550	N/A
9. Multiplexer	#	\$800	#	\$700	\$3,000
10. Additional Chassis/Shelf	#	\$1,400	#	\$1,200	\$8,000

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4. Rates – Continued

Description	7 Yr MRC Min	7 Yr MRC Max	10 yr MRC Min	10 yr MRC Max	SCC
1. Primary Wavelength Network Access with Single Protocol Support on a Private Chassis	#	\$6,500	#	\$6,500	\$8,500
2. Primary Wavelength Network Access with Channelized Protocol Support on a Private Chassis	#	\$7,100	#	\$7,100	\$8,500
3. Primary Wavelength Network Access with Single Protocol Support on a Shared Chassis	#	\$3,250	#	\$3,250	\$8,500
4. Primary Wavelength Network Access with Channelized Protocol Support on a Shared Chassis	#	\$3,850	#	\$3,850	\$8,500
5. Incremental Wavelength Network Access with Single Protocol Support on a Private or Shared Chassis	#	\$1,000	#	\$1,000	\$2,500
6. Incremental Wavelength Network Access with Channelized Protocol Support on a Private or Shared Chassis	#	\$1,600	#	\$1,600	\$2,500
7. Intra-city Core Network Transport for Primary or Incremental Accesses	#	\$1,750	#	\$1,750	N/A
8. Inter-city Core Network Transport for Primary or Incremental Accesses	#	\$2,550	#	\$2,550	N/A
9. Multiplexer	#	\$700	#	\$700	\$3,000
10. Additional Chassis/Shelf	#	\$1,200	#	\$1,200	\$8,000

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