Network Neutrality Statement

CTC continues to comply with all applicable FCC requirements while providing the best possible customer experience for its' Internet users. As such, CTC commits to the open and non-discriminatory use of the Internet by its customers and commits to use reasonable network management practices to ensure an open Internet. Specifically, CTC will not:

1. prevent any of its users from sending or receiving lawful content of the user's choice over the Internet;
2. prevent any of its users from running the lawful applications or using the lawful services of the user's choice;
3. prevent any of its users from connecting to and using on its network the user's choice of lawful devices that do not harm the network; or
4. deprive any of its users of the user's entitlement to completion among network providers, application providers, service providers, and content providers.

Congestion Management

CTC has designed its' network to minimize congestion. However, during a network element outage the network may experience congestion from time-to-time. CTC has no control of its' upstream Internet Provider's Network or the Internet itself. CTC does not provide priority to an individual Customer traffic based on the level of service the Customer has purchased or the technology that they may use. All speed tests should be conducted using CTC's Website.

CTC's Internet service network could be broken down to three components, local access, local backbone, and long haul to upstream provider access network.

Local Access Network

Congestion Management on the local access network is based upon the transport technology available to the customer's premise. CTC's local access Internet network consists of Dial Up, Digital Subscriber Loop (DSL), Digital Data Service (T1), fixed wireless radio (700 Mhz) and fiber to the premise (FTTP) technologies. Each technology provides its own challenges and advantages for congestion management. However CTC engineers its facilities to accommodate the best possible Internet Access rate for each technology supported. Dial up, DSL and 700 Mhz are best effort technologies where the local access speeds are provisioned at the subscribed rates however due to distance from the network equipment and other factors, the actual customer experience may be less than 100% of the programmed speed. Fiber optic technology and DDS (T1) allows CTC to provision and deliver the programmed speed to CTC's end equipment at the customer premise demarcation.

One caveat to congestion management on the local access network is with CTC's Voice over Internet Protocol (VoIP) business product, which is a finished service. CTC does engineer the customer's local area network (LAN) to provide priority routing of VoIP packets over all other IP Packets. This policy is enforced only on the customer premise and not on the Local Access Network.

For security reasons CTC enforces a maximum number of simultaneous connections to the Internet per subscriber. This threshold is set at a limit that will not affect *normal* usage yet prevents malicious illegal attacks to the network.

Local Backbone Network

Congestion Management on the local backbone is governed purely by capacity of the transport technology of fiber optic facilities. CTC over-engineers its local backbone network to promote a positive customer experience.

Long Haul to Upstream Provider Network

In order to provide a stable service CTC has engineered a redundant upstream Internet Provider source. Both upstream Internet sources originate from Minneapolis, Minnesota. Each source is delivered across separate networks to the CTC headquarters in Brainerd, MN. The usage load from end user traffic is balanced, or shared by each upstream source. CTC has engineered the long haul to upstream provider access networks to provide enough capacity to accommodate end user demand. Congestion management on the long haul upstream provider access network is managed by balancing user traffic across two diverse and redundant networks. CTC over-engineers its access to upstream providers to promote a positive customer experience.

Application Specific Behavior

CTC does not block any legal activities and does not inhibit any legal use of protocols, ports or applications. It is not acceptable to use the CTC network or Services for any purpose that violates local, state or federal laws or to transmit communications that might be highly offensive or damaging to any recipients or to use the Service in a manner that is unintended.

If CTC receives an authorized notice from a content provider that the Customer is in violation of copyright laws or regulations or has illegally obtained copyright-protected material, CTC will provide notice to the Customer and reserves the right to disconnect Internet Access until the matter is resolved.

Service Descriptions

Service descriptions and pricing can be found at CTC Residential. Specific information per area can be found by clicking on the appropriate territory.

Dial Up Internet Access

Dial up internet access is based upon a customer's premise modem connecting to a CTC Central Office modem to access Internet services. Dial Up Internet Access shares the same Local Backbone Network and Long Haul to Upstream Provider Network as CTC's other Internet Service Offerings. No priority is given to any one technology of CTC's Internet Service Offerings Portfolio over another. The local access connection is across Plain Old Telephone Service (POTS) copper facility and has state-of-the-art technical limitations for speeds realized. Dial up internet access is a best effort technology. Actual internet speeds

realized are based upon facility; technology, age and configuration. In some cases, CTC is dependent upon other Incumbent Local Exchange Carrier (ILEC) networks and Interexchange Carrier (IXC) networks to carry customer dial-up traffic. CTC has no control over other carrier networks or those carrier network congestion management or applications specific policies.

CTC does not sell Dial Up Internet Access with any expected speed. It is a best effort technology. The theoretical limit for access speed is 56 Kbps. Typical usage would be in remote areas where other technologies are not available. The customer providers their own dial up modem.

Digital Subscriber Loop (DSL)

DSL Internet access is based upon a customer's premise DSL modem connecting to a CTC Central Office (or Remote Cabinet) DSL modem to access Internet services. DSL Internet access and dial tone are simultaneously available on the same copper pair of wires. DSL Internet Access shares the same Local Backbone Network and Long Haul to Upstream Provider Network as CTC's other Internet Service Offerings. No priority is given to any one technology of CTC's Internet Service Offerings Portfolio over another. DSL is a best effort technology utilized over an electronically conditioned Plain Old Telephone Service (POTS) line. CTC delivers Internet Access using one or more of the following variations of DSL; ADSL & G.lite (ANSI T1.413), ADSL2+ (G.992.5) and VDSL. Actual internet speeds realized are based upon facility; technology, age, configuration and distance to the customer premise DSL modem. Because of the "last mile" variables and subsequent signal loss involved with this technology, an expected Internet access speed would be approximately 75% of the provisioned speed from the Central Office equipment. As an example, if a customer's access was provisioned for 5 Mbps, an acceptable (and expected) access speed would be approximately 3.75 Mbps. However, results will vary. There are distance limitations from the central office equipment to the customer premise. In most cases DSL is not technically possible beyond 18,000 cable feet from the Central Office. Unless a remote cabinet is equipped with DSL equipment, DSL is not typically a rural solution but rather an "in-town" solution. DSL in most cases, can often be used for average Internet usage such as email and websurfing. Under ideal conditions, DSL can be used for delivery of IPTV or VoIP. In some cases, CTC is dependent upon other Incumbent Local Exchange Carrier (ILEC) copper facilities to carry customer DSL traffic. CTC has no control over other carrier networks. The customer handoff is an Ethernet RJ-45 jack. CTC is methodically converting its' Incumbent Local Area Exchange (ILEC) customers from DSL equipment to a premium service; Fiber to the Premise (FTTP).

DSL wholesale rates can be found at the following link:
Wholesale Rates

Fixed Wireless Radio (700 Mhz)

CTC has productized a fixed wireless Internet Access solution labeled "SKYWAVE". SKYWAVE is an Internet Access solution for those customers that can't get DSL but *may* receive SKYWAVE. SKYWAVE is Internet access that uses radio waves to connect a proprietary customer premise equipment modem (CPE) to a central office radio base station. Skywave Internet Access shares the same Local Backbone Network and Long Haul to Upstream Provider Network as CTC's other Internet Service Offerings. No

priority is given to any one technology of CTC's Internet Service Offerings Portfolio over another. CTC uses proprietary radio packet technologies to deliver a 1Mbps and 512Kbps Internet Access service. Due to distance from the radio transmission tower to the CPE, interference, terrain and other signal robbing factors, actual performance will vary, even within the same customer premise. SKYWAVE is a best effort solution. Generally speaking, where available, SKYWAVE is possible up to 9 miles from the radio transmission tower. SKYWAVE is best suited for underserved consumers. The customer handoff is an Ethernet RJ-45 jack.

SKYWAVE availability, rates and speeds can be found below:

512K Internet	$ 39.95
1M Internet	$ 44.95
SkyWave Voice	$ 54.95
512K Internet,VoIP Line, 500 min.LD,	
Caller ID, Call Waiting, Voice Mail	
SkyWave High Speed Voice	$ 59.95
1M Internet,VoIP Line, 500 min.LD,	
Caller ID, Call Waiting, Voice Mail	
SkyWave High Speed + Basic Voice	$ 49.95
1M Internet, VoIP line	
Premise Charge (One Time Charge)	$ 85.00
Voice Line Charge (One Time Charge)	$ 65.00

Digital Data Service (DDS) T-1

T-1 is a four or two wire conditioned copper wire circuit that can deliver Internet Access speeds at 1.544 Mbps. It is a legacy technology that can deliver consistent access speeds from the Central Office to a special T-1 modem. Because DDS requires using special equipment to repeat the signal the cost is generally prohibitive to the consumer and is considered a Business Class Product. T-1 Internet Access shares the same Local Backbone Network and Long Haul to Upstream Provider Network as CTC's other Internet Service Offerings. No priority is given to any one technology of CTC's Internet Service Offerings Portfolio over another. The customer handoff is an Ethernet RJ-45 jack.

T-1 availability, rates and speeds can be found below:

TLS 5MB Circuit	$	100.00
TLS 10MB Circuit	$	150.00
TLS 20MB Circuit	$	300.00
TLS 30MB Circuit	$	400.00
TLS 40MB Circuit	$	500.00
T1 Loop Charge	$	50.00
T1 Channel Charge	$	20.00
T1 Subscriber Line Charge	$	5.00
911, TACIP, TAP Charge	$	0.88
PRI Line Charge	$	50.00
PRI Channel Charge	$	25.00
PRI Subscriber Line Charge	$	5.00
911, TACIP, TAP Charge	$	0.88

Subscriber Line Charge Max is 5 per T1 & PRI

Channel Charge Max is 16 per T1 & PRI

Fiber To The Premise (FTTP)

CTC's state-of-the-art FTTP network delivers pulses of light over special glass fibers out to the customer premise and terminates to an Optical Network Terminal. FTTP Internet Access shares the same Local Backbone Network and Long Haul to Upstream Provider Network as CTC's other Internet Service Offerings. No priority is given to any one technology of CTC's Internet Service Offerings Portfolio over another. FTTP is CTC's premium Internet Access product and delivers Internet access speeds that are consistent with the product offering. In other words, if a customer subscribes to 5 Mbps they can expect to receive 5 Mbps Internet Access from the CTC premise equipment. Distance from the Central Office to the customer premise has little bearing on the Customer Experience. All typical Internet applications can be used, for example; email, gaming, video streaming, VoIP, etc. The customer handoff is an Ethernet RJ-45 jack.

Fiber To The Premise availability, rates and speeds can be found at the following hyperlink; CTC Residential