



## One Way Delay – Accurate One Way Ethernet Latency Test

**Ordering Information Use Case** *TB-6000A – CTOWD (-U1) With Receiver kit – CCDMA-RCVR-KIT- (U1) Accurate End-to-End Delay Measurement for Ethernet, IPv4 and IPv6 traffic.*

### Intended Audience

**Business Services Technicians and Central Office Technicians** responsible for Ethernet circuit installation, network provisioning and fault troubleshooting.  
**Professional Services and Managed Service Engineers** responsible for the continuous care, troubleshooting and evolution of end-customer networks.  
**Enterprise and Government** personnel responsible for Ethernet circuit installation and fault analysis.  
**Application Service Providers** responsible for delivering SLAs for specific vertical application markets.

**Supported applications** include Ethernet, IPv4 and IPv6.

### Solution Description

The One Way Delay test option enables Cell Site Ethernet backhaul providers, mission-critical government agencies, and financial institutions to measure the delay of Ethernet, IPv4 and IPv6 traffic that is received from a sender using a highly accurate CDMA receiver. The delay of information transmitted may not be the same as the delay of information received. This can be caused by different paths taken by the traffic across the network or by differences in the way the traffic is buffered or prioritized by devices.

### Value Proposition

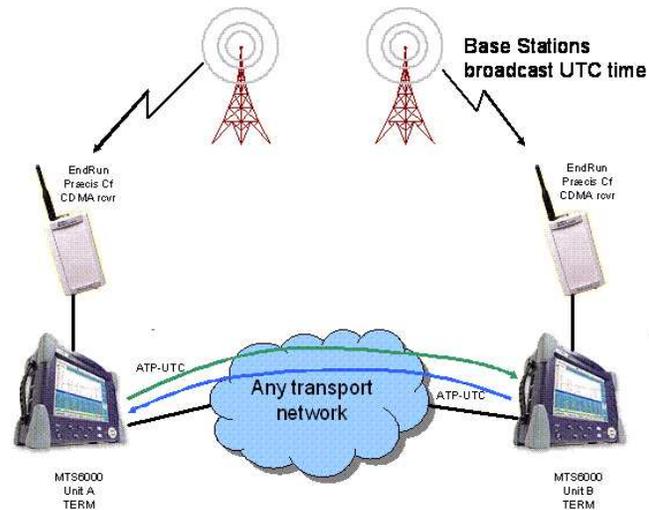
For technicians and engineers needing to install Ethernet or IP circuits, the One Way Delay option saves hours of troubleshooting by detecting asymmetric traffic delays. Accuracies 10 times greater than most common Service Level Agreements (SLAs) can be attained, permitting Ethernet network providers to differentiate their offering and allowing network planners to understand the delay tolerances affecting their applications.

### Feature/Benefit Summary

Feature	Description	Advantage	Benefit
UTC Timestamp	Use CDMA derived time	Both ends use same time of day timestamp in test	Accurate delay calculation based on timestamp
BITS/SETS Clock input	Accurate Clock from CDMA network	Global clock synchronization between test sets	Reliable timing source for test
CDMA Receiver	CDMA receiver provides time & clock	Test any Ethernet network within cell phone range	Test in the widest geographic footprint
Zero Configuration	No additional configuration needed	Plug in CDMA receiver and run the test	Minimal training and no special configurations to learn

## Use Case: Ethernet Backhaul Testing

The measurement of highly-accurate one way delay in an Ethernet/IP backhaul scenario improves application debugging. Even though a device may be at the very edge of the network, asymmetric delays can still occur. In a VoIP application, the greater the delay, the more the devices buffer the information so that speech can be smoothed out. Unfortunately, if delay is unequal, one side of the conversation may sound perfectly clear while the other caller may be constantly talking over the speaker. In a financial environment where the receipt of information is many times acknowledged, differences in one way delay can create the appearance of some devices receiving the information before others when in fact the problem is a delay in receiving the acknowledgement. With highly-accurate one way delay measurement, network planners now have the information needed to optimize their networks to improve the quality of service and overall customer satisfaction.



## Use Case: Satellite Backhaul Testing

In a mission critical environment, information broadcast to many devices or sent over satellite links may take longer to be acknowledged by some than by others even if it was received at the same time. This delay can be due to varying weather conditions encountered by the different transmitters that are located in different parts of the world. With highly-accurate one way delay measurement, the functioning of mission-critical applications can be improved and overall mission objectives met.

## FAQ

**Q: Do our competitors offer this or a similar feature?**

**A: As of June 2010, none of our competitors offer this solution in a field portable instrument. This test option is unique to the T-Berd 6000A.**

**Q: Is this just another Throughput Test?**

**A: No! This testing capability is specifically designed to measure Ethernet, IPv4 and IPv6 one way traffic delay.**

**Q: How is this feature different from our Ethernet Test Options?**

**A: This feature complements out Ethernet, IPv4 and IPv6 testing capability.**

**Q: Based on the use cases, who would benefit the most from this feature?**

**A: The most benefit will be realized by those who typically do not own 100% of their network backhaul infrastructure and by Ethernet Backhaul providers responsible for meeting OWD SLAs to mobility applications.**

**Q: Are there pre-requisites for this feature?**

**A: Yes. A T-BERD 6000A requires any of the C10M1GE, CT10GELAN or CT10GEWAN Test Options.**

**Q: Is this test supported for SONET/SDH links?**

**A: No. this feature is specifically for Ethernet, IPv4 and IPv6 circuits.**

**Q: Does this feature work for Ethernet traffic encapsulated in VLANs or Q-in-Q?**

**A: Yes.**