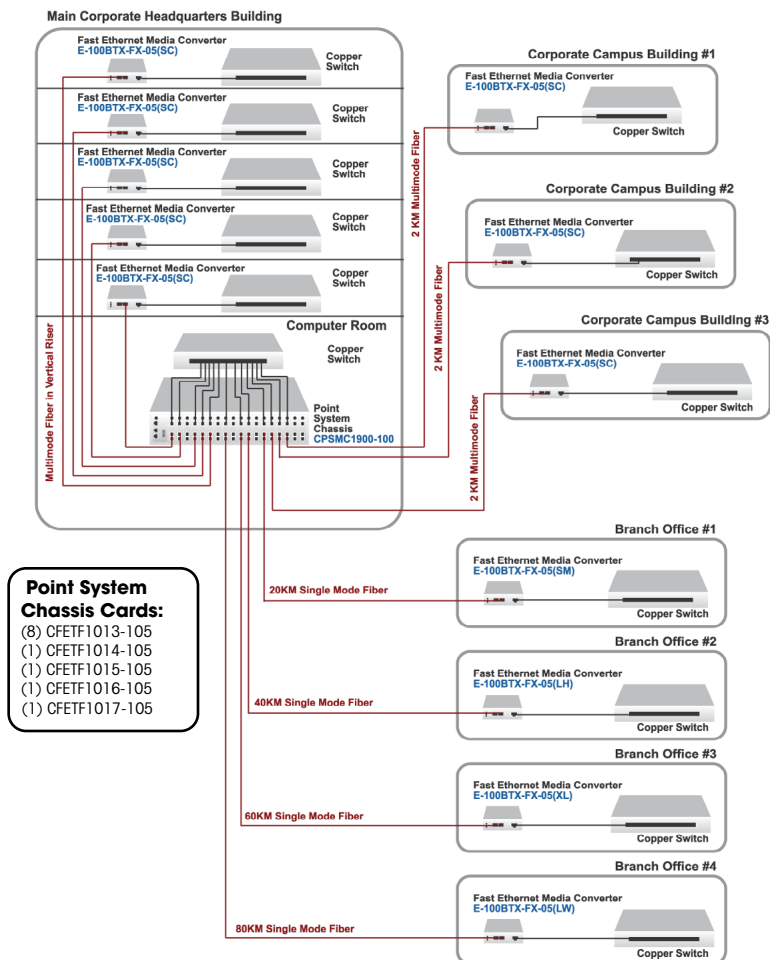


Using Fiber to Create a Campus Environment for a Financial Institution

Financial institutions are known for their large networks and high demand for constant access to data. Traditionally, if a bank wanted to inter-connect their multiple branch locations, their options usually involved data transport mediums like such as dial-up or T1 connections ranging in speeds from 56kps to 1.544Mbps. Compare this to speeds of 10Mbps with an Ethernet network, let alone 100Mbps Fast Ethernet or 1000Mbps Gigabit Ethernet, and you can see the benefit to one all-inclusive Ethernet network. But how do you create an Ethernet network which links multiple locations across long distances, when Ethernet is defined by limits on transmission distance?

Fiber optic cabling and in particular, single-mode fiber, is the answer. Data traveling on twisted pair cabling is required by Ethernet to regenerate its signal every 100 meters. But on fiber, an Ethernet packet can travel up to 2000 meters on multimode, and 20, 40, 60, or even 80km on single-mode cable. These distances can be beneficial to financial institutions in two basic applications.

Lets look at a bank example. This bank has a campus environment of several, multi-story buildings making up its corporate headquarters. It also has several branch offices located through out a metropolitan area.



Within the main building in their headquarters, the bank will want to create a fiber backbone in the vertical risers between the floors. In the computer room they would use media conversion to connect the fiber to a copper switch. On each floor they would use a stand-alone converter to connect the fiber to a copper switch servicing those users with twisted pair. The multimode fiber backbone would provide two benefits. It would allow network data to travel the potential long distances, up to 2km, required in high-rise office buildings and due to fiber's high bandwidth capabilities, it provides future proofing from tomorrow's higher speed technologies.

Fiber cable can be used to connect the network from the main building to other buildings in a campus environment. Creating a star topology will link each building in the campus back to the main building by using fiber cable and media conversion. If the two buildings are within 2km of each other, then multimode cable will work, but if they are over 2km, then single-mode fiber must be used. Often these longer distances play a role when the bank is connecting to branch office locations and may require the bank to lease dark fiber from the local telephone company or service provider. With either a local campus environment or a metropolitan area network, the concept of media conversion remains the same, providing connectivity between fiber cable and copper based networking hardware.

The bank has achieved three goals in using fiber cable to make connections between different parts of their network. First, fiber cable allowed them to create a Wide Area Network with the feel and network speed of a Local Area Network. Second, running fiber backbones in the buildings provides enough bandwidth to be compatible with future technologies. Third, fiber cable provides them with the security from high EMI environments and protection from wiretap's listening and capturing sensitive data.

Transition Networks is the leader in media conversion technology; offering a wide array of products including Ethernet, Fast Ethernet (FX and SX), Gigabit Ethernet, 10/100 rate converters, T1/E1, DS3, OC3, OC12, RS485, V.35, Token Ring and more. Our Point System chassis provides users with manageability, reliability, and future proofing. The Point System offers fully SNMP compliant read/write software including web-based management. The chassis also provides for redundant management, redundant power (AC or DC), converters that can be upgraded in the field, and more. Please contact Transition Networks for more information and how we may be able to help you deliver data services to your customers.



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Transition Networks Product Numbers:

Point System Chassis:

19-slot Point System Chassis **CPSMC1900-100**

Fast Ethernet Point System Slide-In-Modules:

100BASE-TX RJ-45 to 100BASE-FX MM SC 2km **CFETF1013-105**

100BASE-TX RJ-45 to 100BASE-FX SM SC 20km **CFETF1014-105**

100BASE-TX RJ-45 to 100BASE-FX SM SC 40km **CFETF1015-105**

100BASE-TX RJ-45 to 100BASE-FX SM SC 60km **CFETF1016-105**

100BASE-TX RJ-45 to 100BASE-FX SM SC 80km **CFETF1017-105**

Fast Ethernet Stand-Alone Media Converters:

100BASE-TX RJ-45 to 100BASE-FX MM SC 2km **E-100BTX-FX-05(SC)**

100BASE-TX RJ-45 to 100BASE-FX SM SC 20km **E-100BTX-FX-05(SM)**

100BASE-TX RJ-45 to 100BASE-FX MM SC 40km **E-100BTX-FX-05(LH)**

100BASE-TX RJ-45 to 100BASE-FX MM SC 60km **E-100BTX-FX-05(XL)**

100BASE-TX RJ-45 to 100BASE-FX MM SC 80km **E-100BTX-FX-05(LW)**