

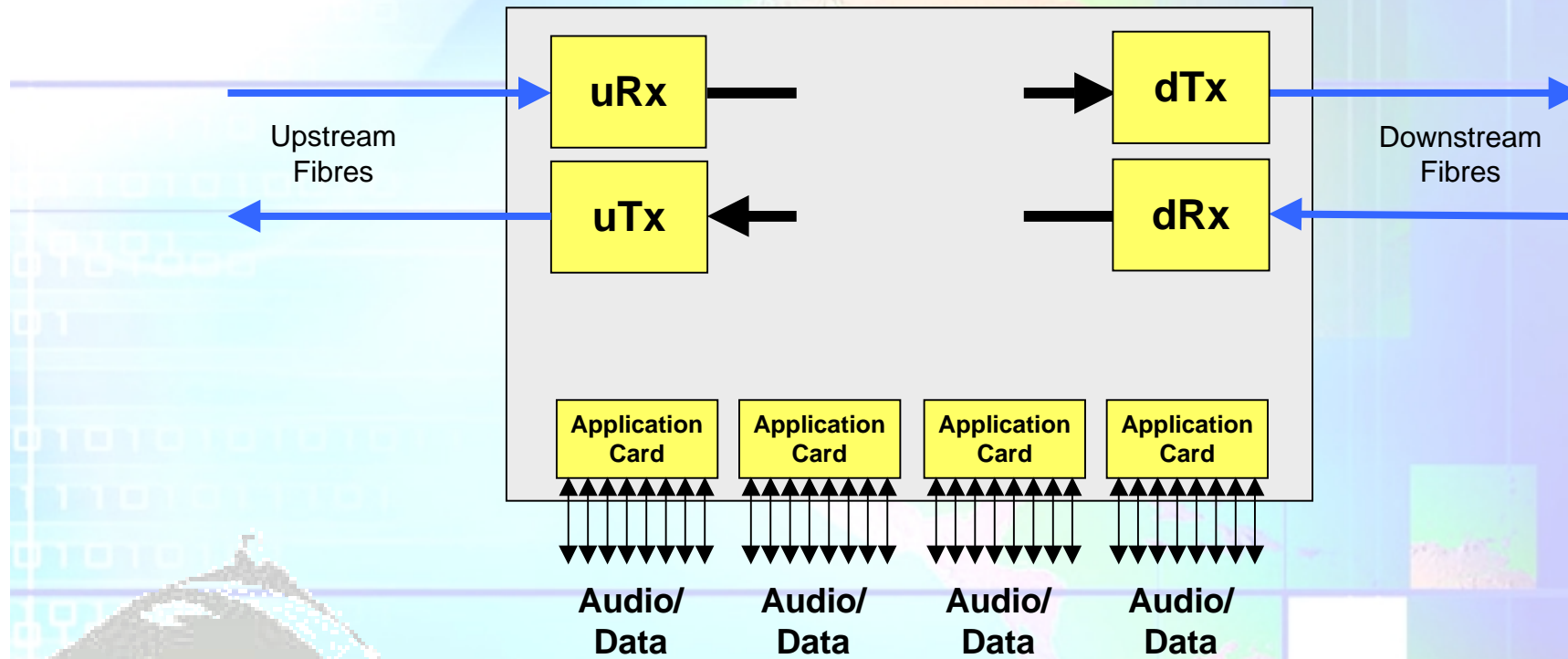
The Configurable Fibre Optic Multiplexer




What is the Badger

- **Fully configurable Audio/Data Digital Multiplexer**
- **Configurable with both upstream and downstream optics**
 - 850nm multimode
 - 1300nm multimode
 - 1300nm single mode
- **Up to 4 Application Cards, each with the following:-**
 - 8 bidirectional data channels (19.2kb/s), each with 2 handshaking lines
 - 8 bidirectional stereo audio channels (20kHz bandwidth)
 - potentially 2 compressed video channels
- **Full dual redundancy with self-healing capability**

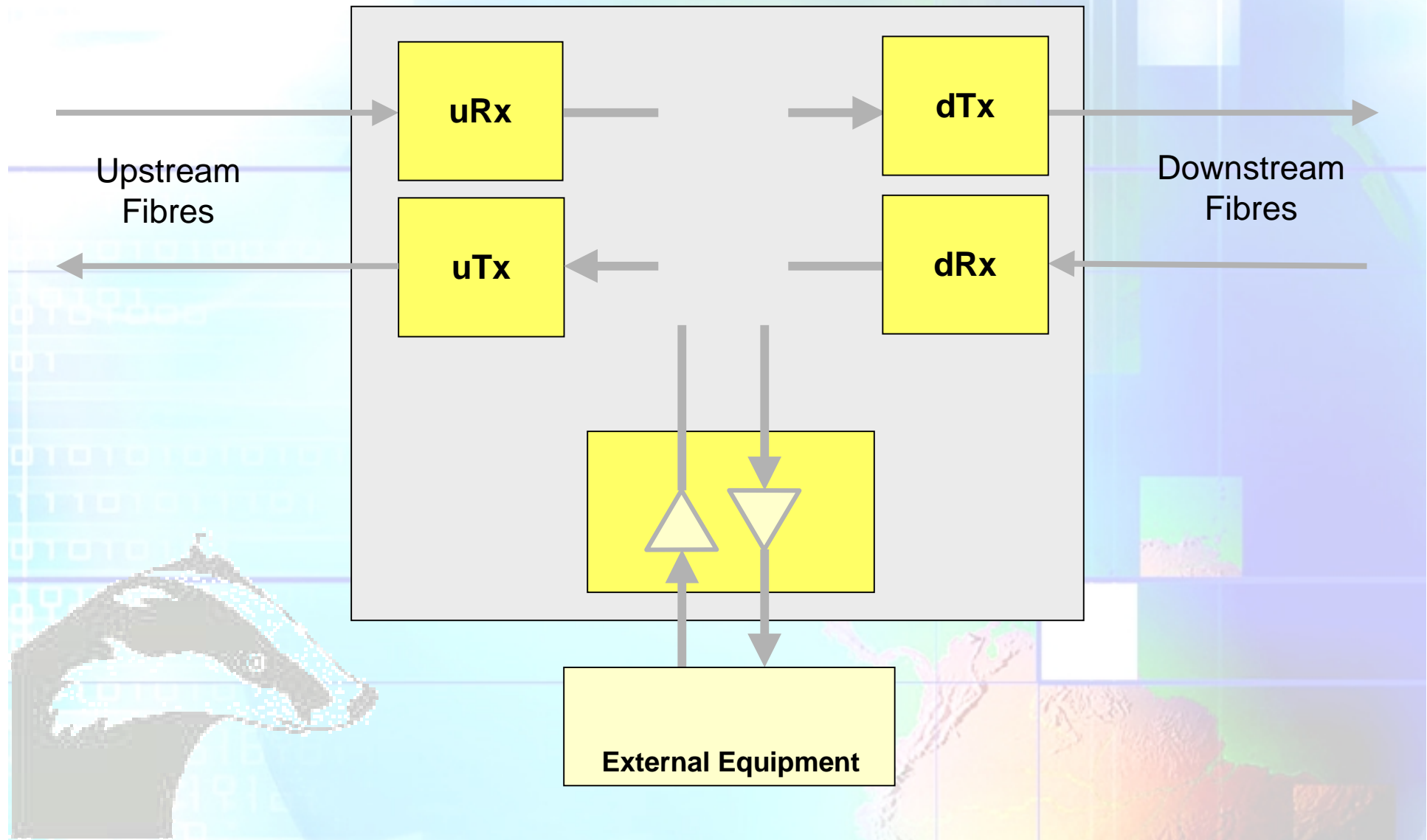
Fully Implemented Node



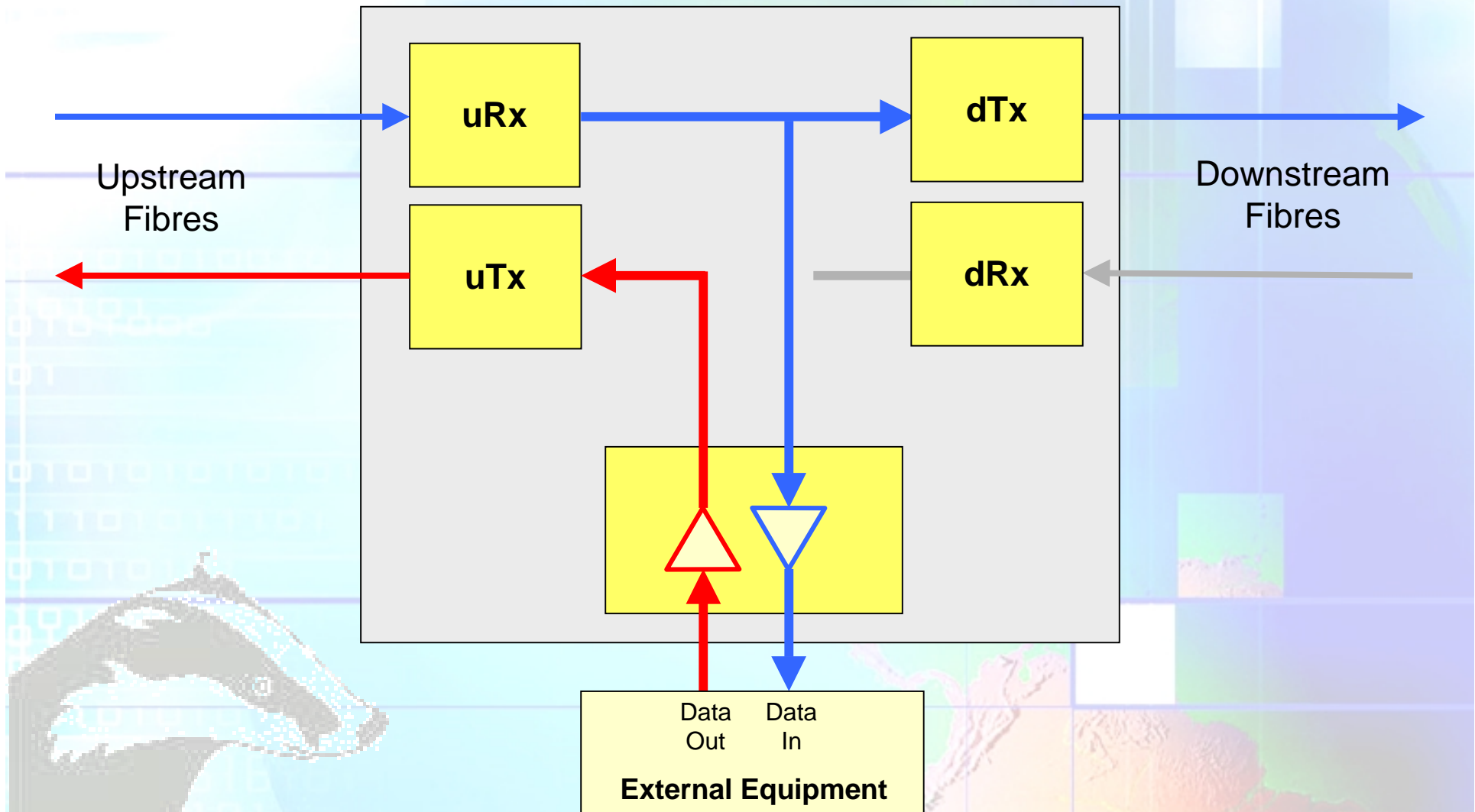
The background features a stylized world map with a grid overlay. The map is rendered in various colors, including shades of blue, green, and orange. To the left of the map, there is a vertical column of binary code (0s and 1s) in a light blue color. In the bottom left corner, there is a small, stylized illustration of a dog's head, possibly a Weimaraner, in a dark color with white spots. The overall aesthetic is digital and modern.

Operational Modes

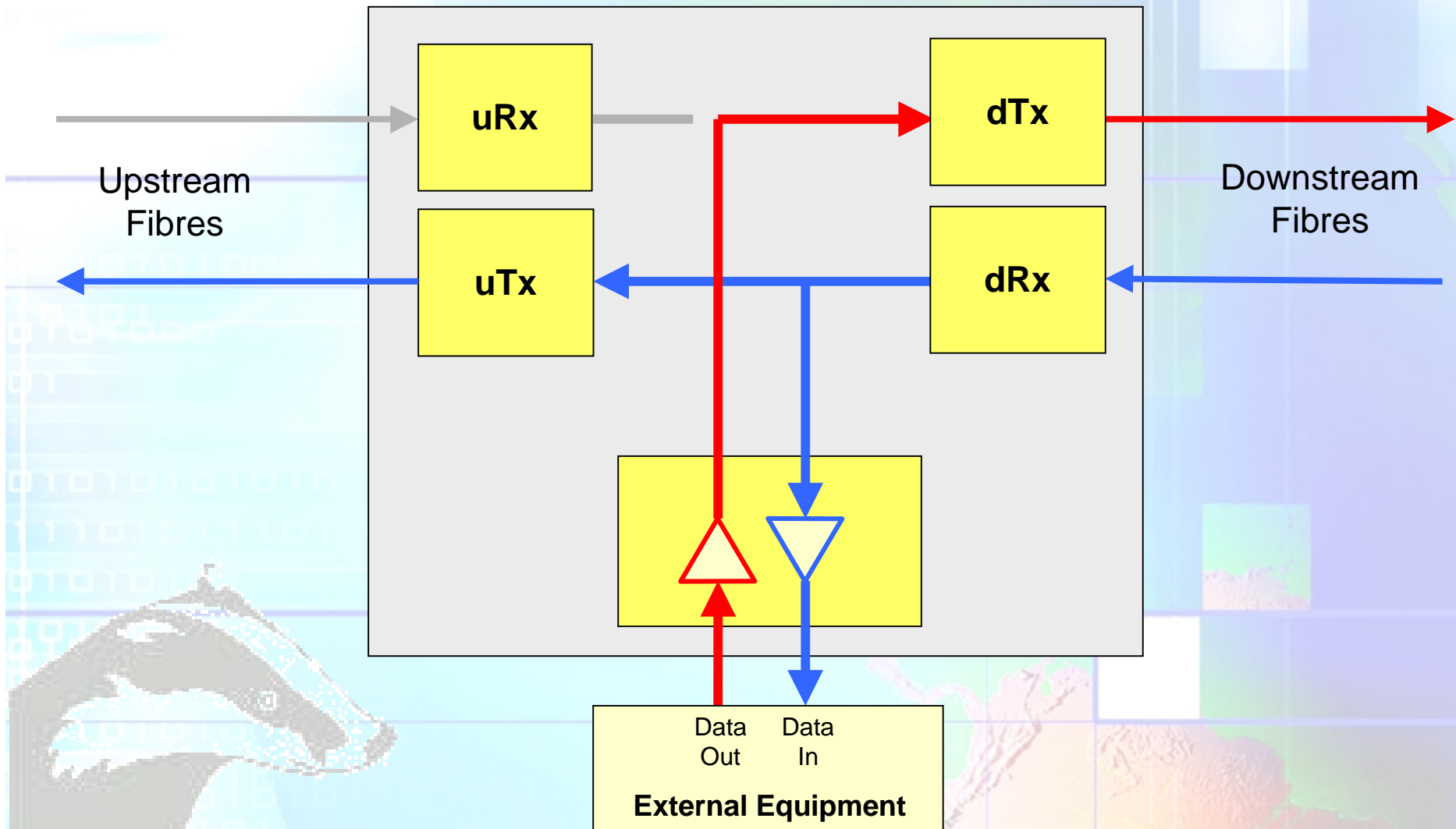
Unconfigured Node



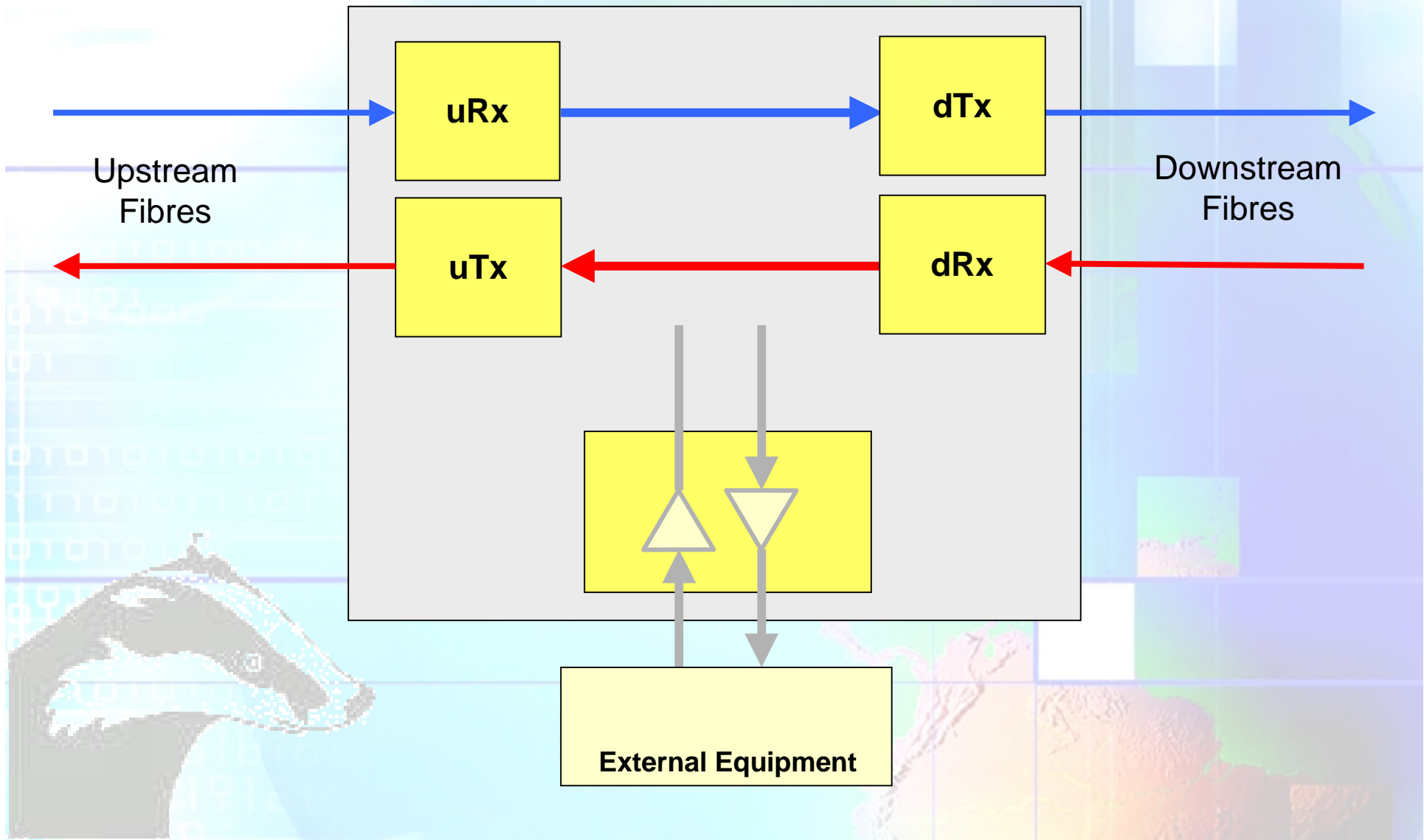
Upstream Mode



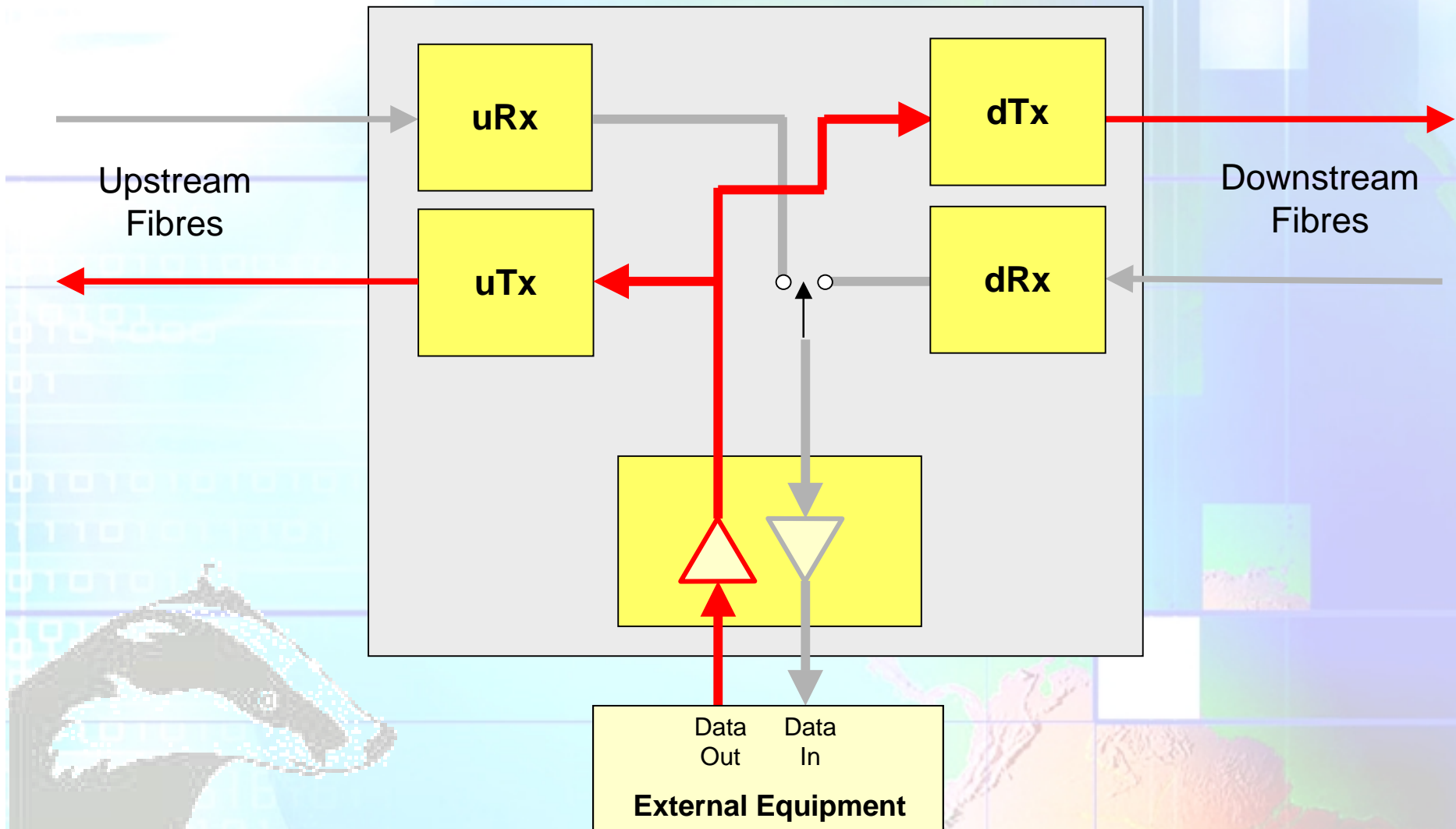
Downstream Mode

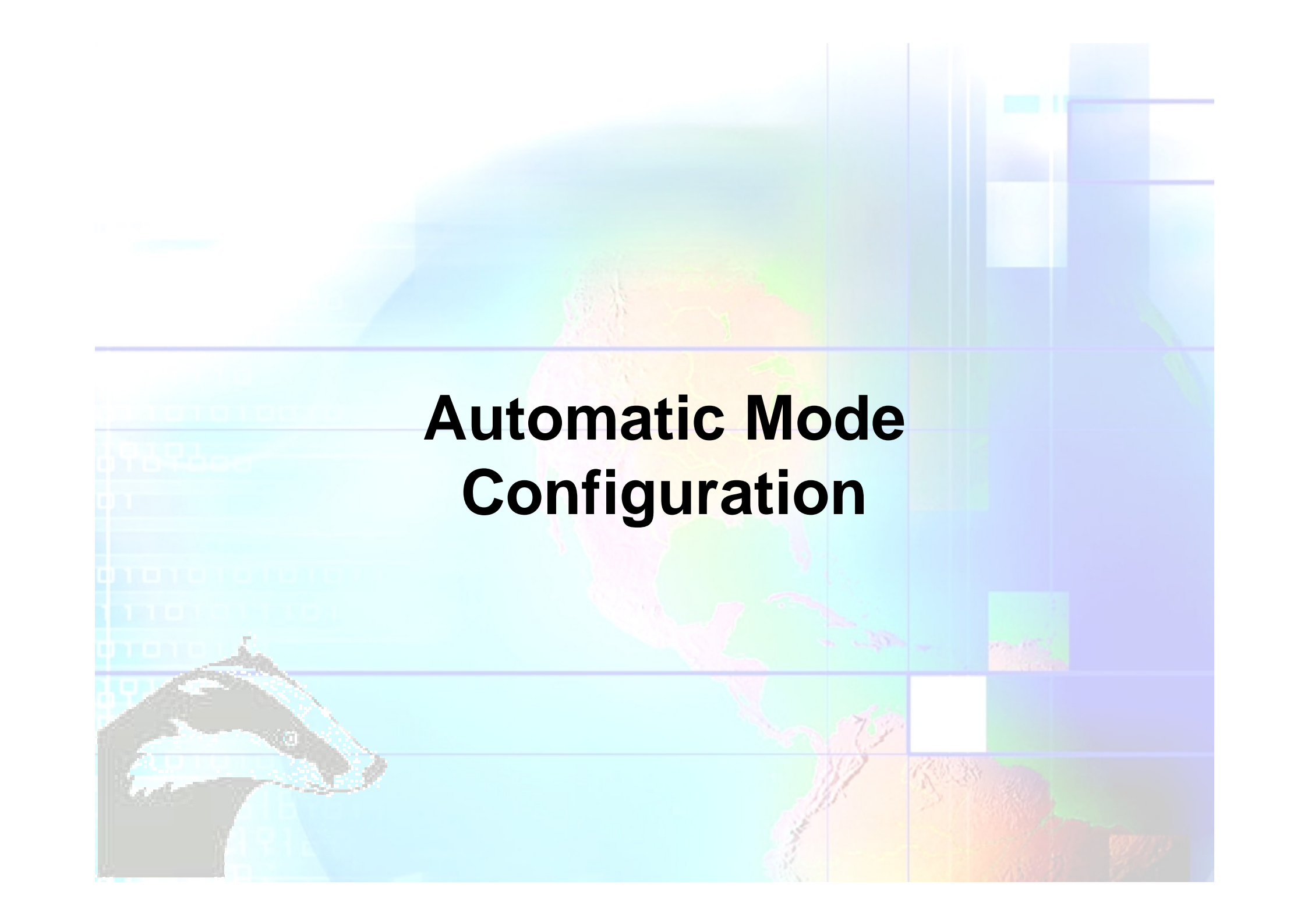


Pass thro' Mode



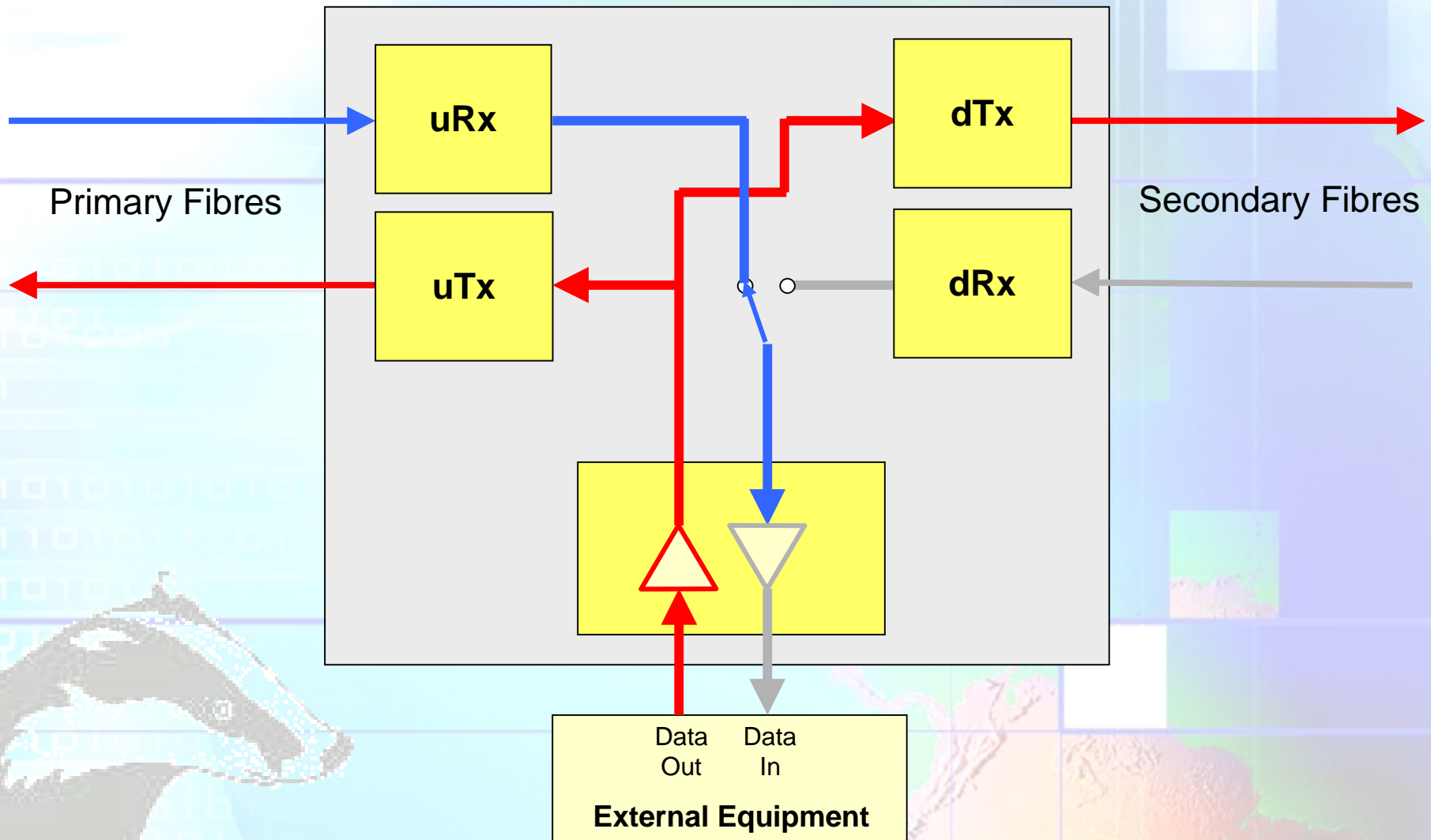
Broadcast Mode



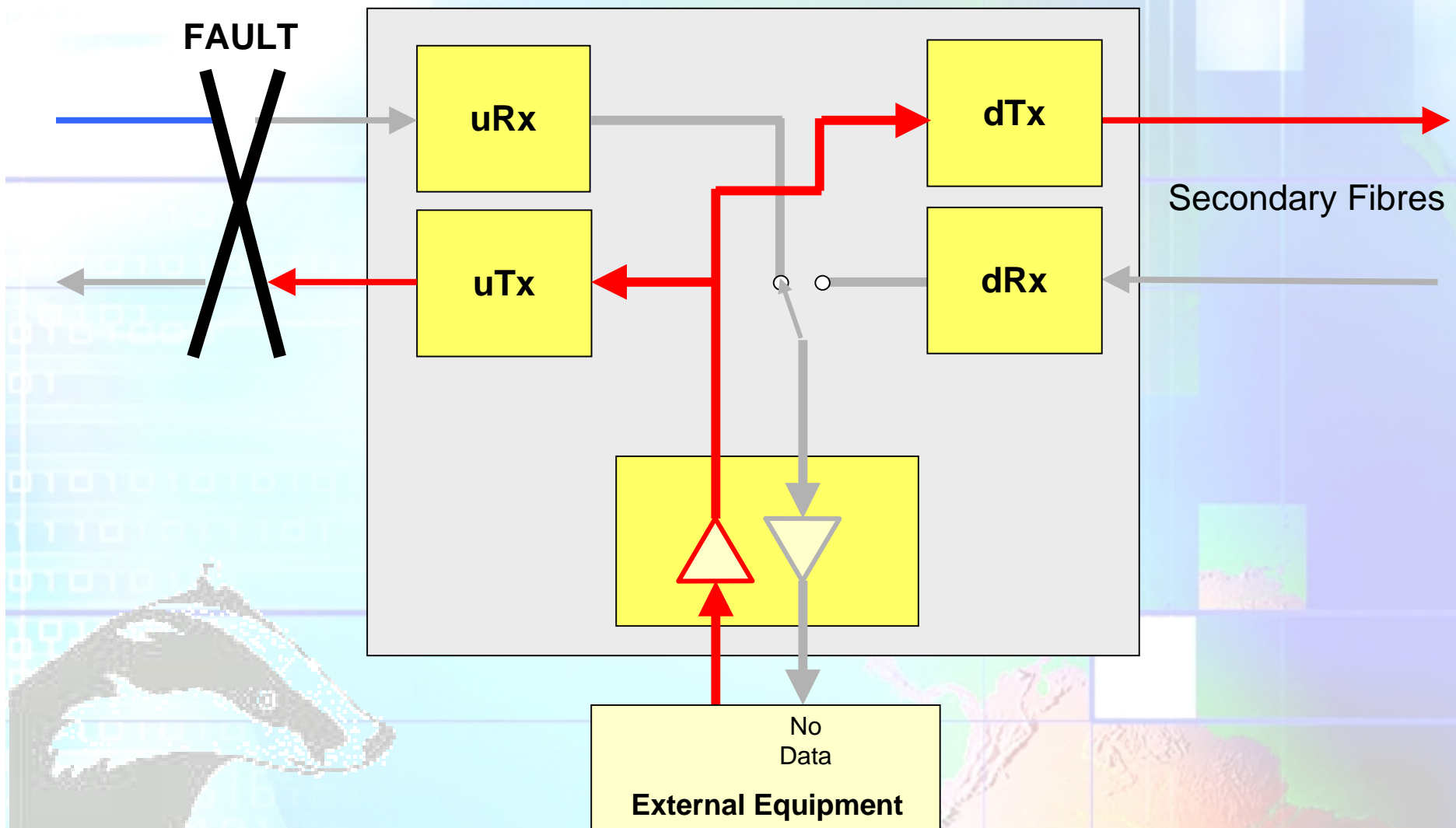
The background features a stylized world map with a grid overlay. The map is rendered in various colors (green, yellow, orange, red, purple) and is set against a light blue background. To the left of the map, there is a vertical column of binary code (0s and 1s) in a light blue color. In the bottom left corner, there is a small, stylized illustration of a dog's head, possibly a Border Collie, with a white and black pattern. The overall aesthetic is digital and technical.

Automatic Mode Configuration

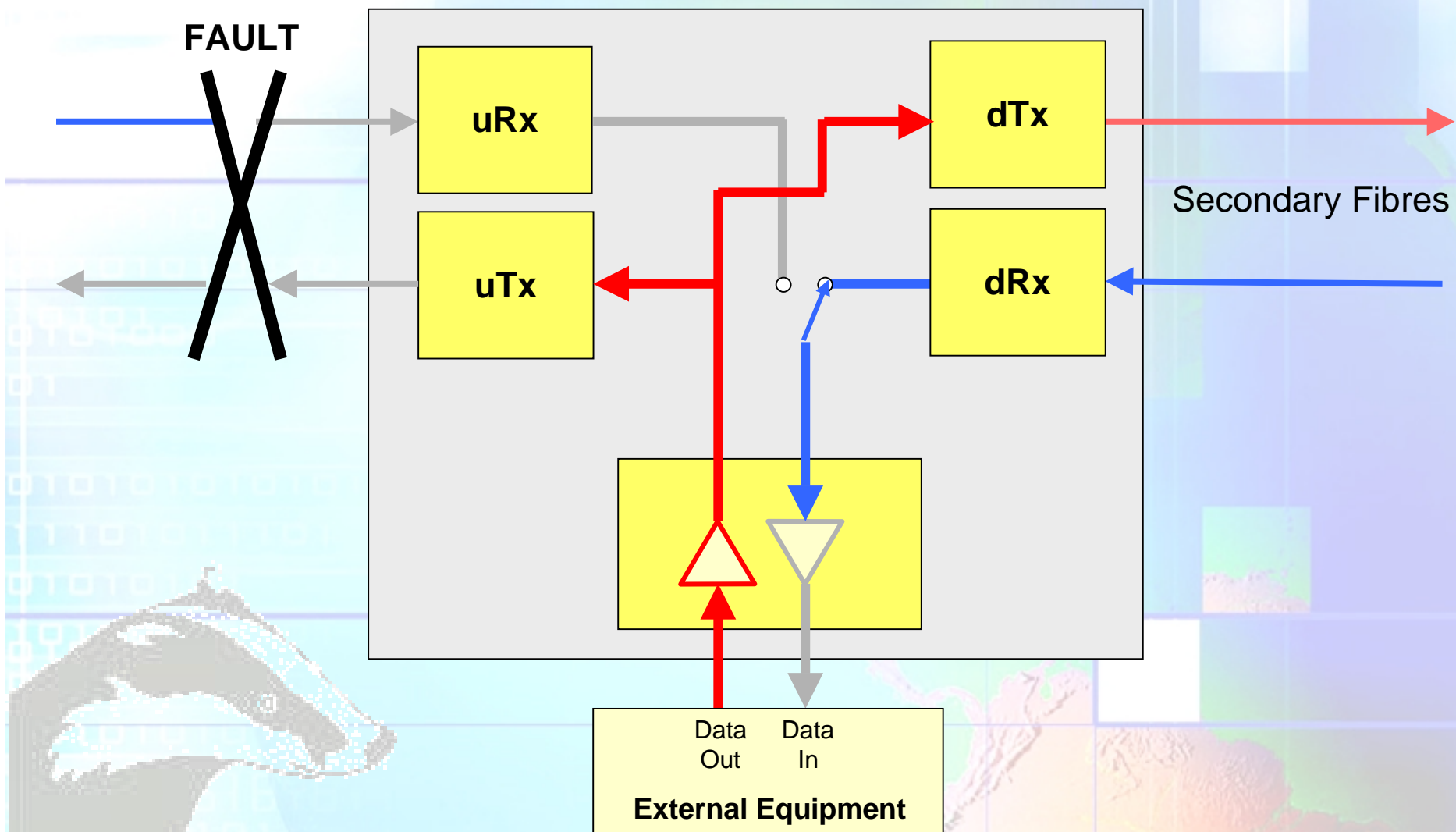
Primary Mode



Primary Link Failure



Secondary Mode



Drop & Insert System

Master
Control
Equipment

Node 1
Equipment

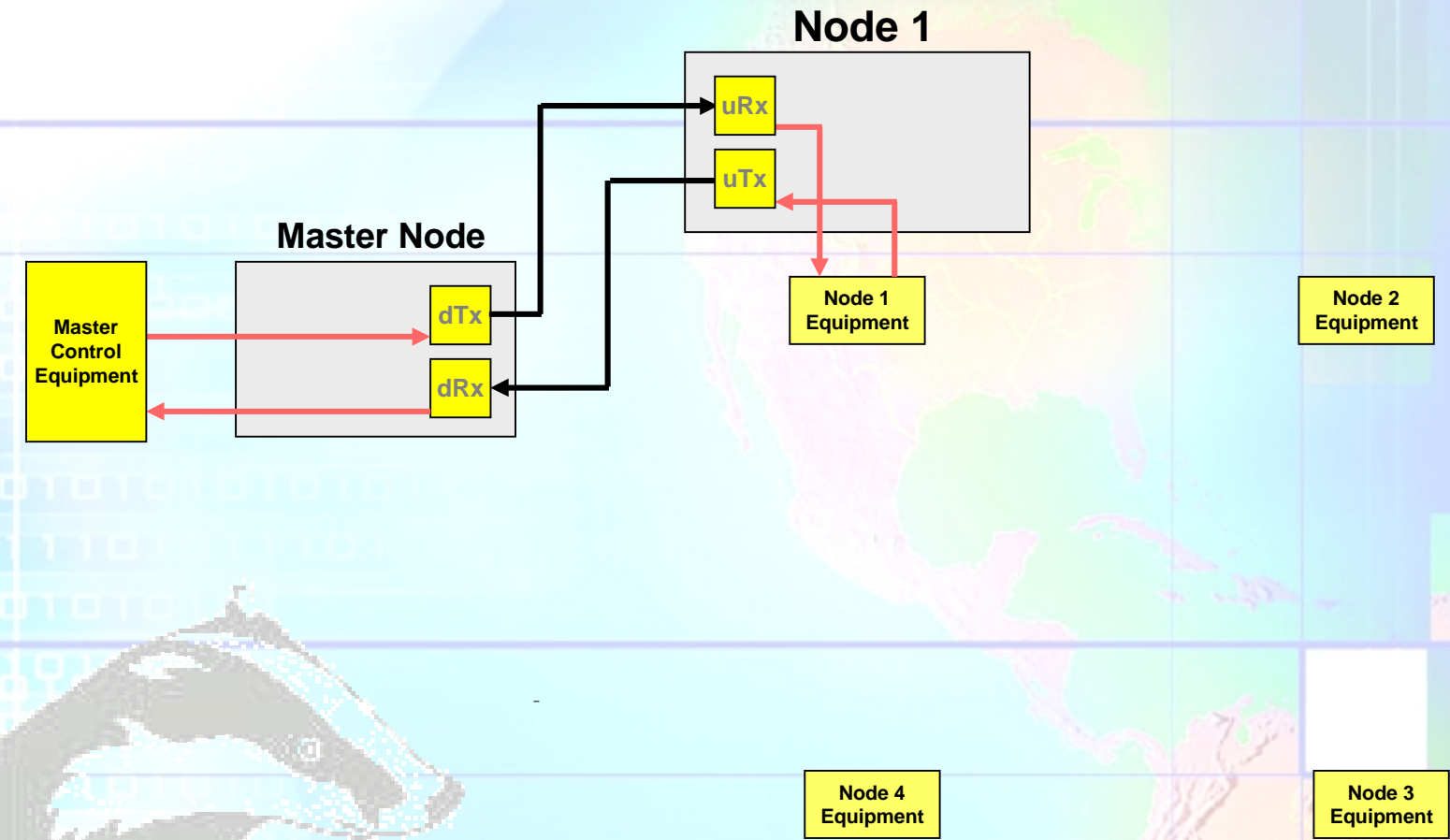
Node 2
Equipment

Node 4
Equipment

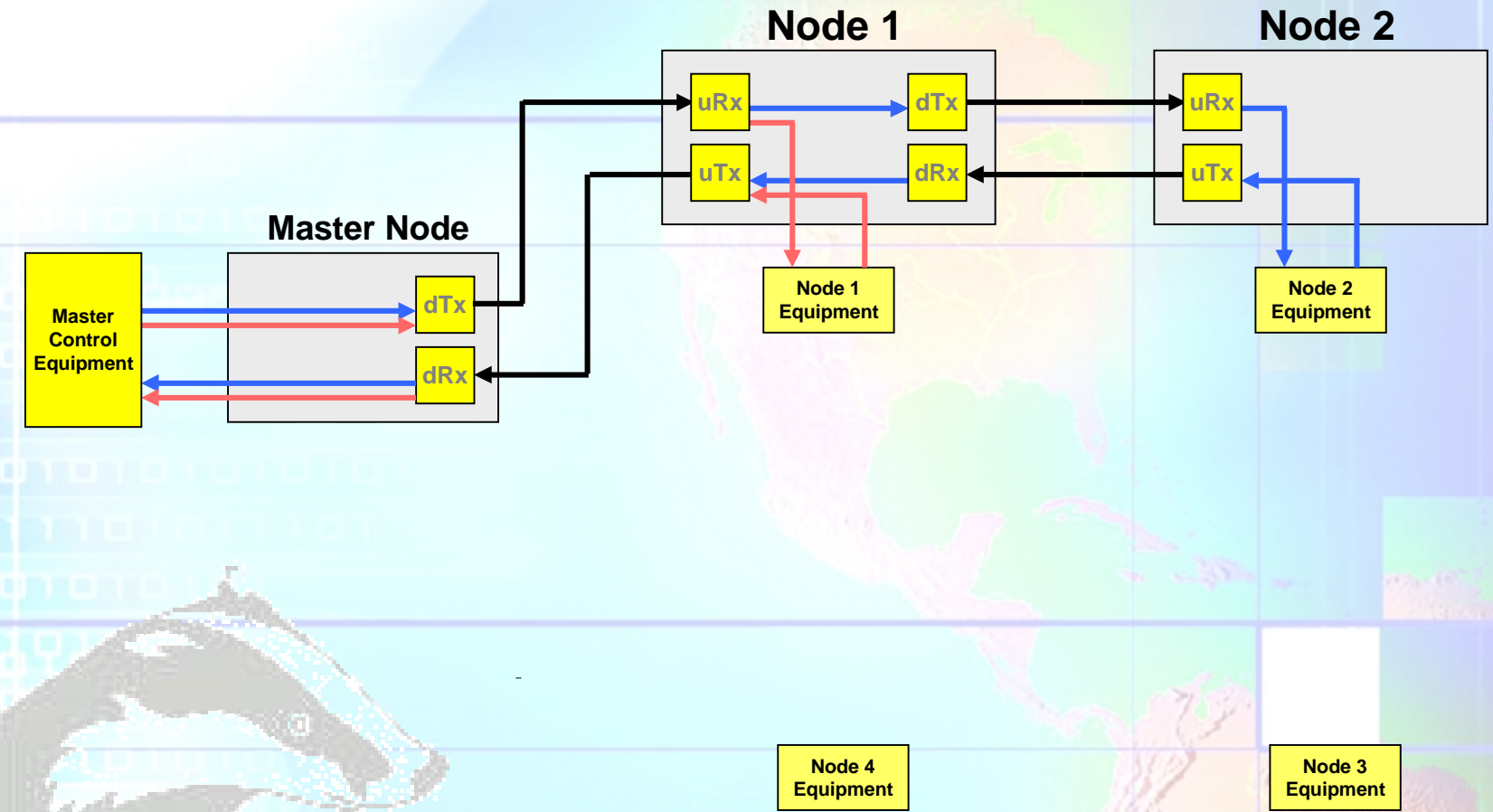
Node 3
Equipment



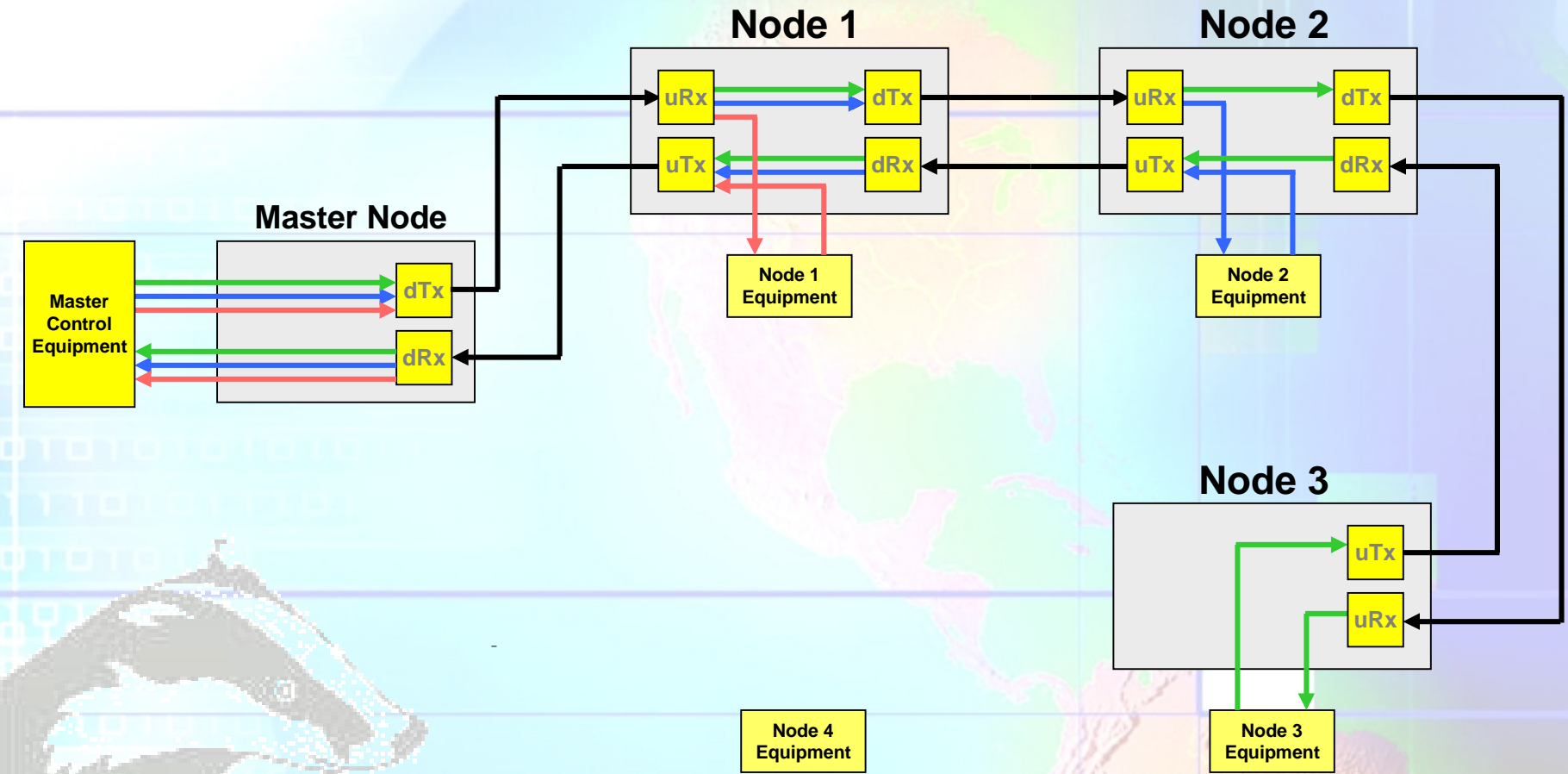
Drop & Insert System



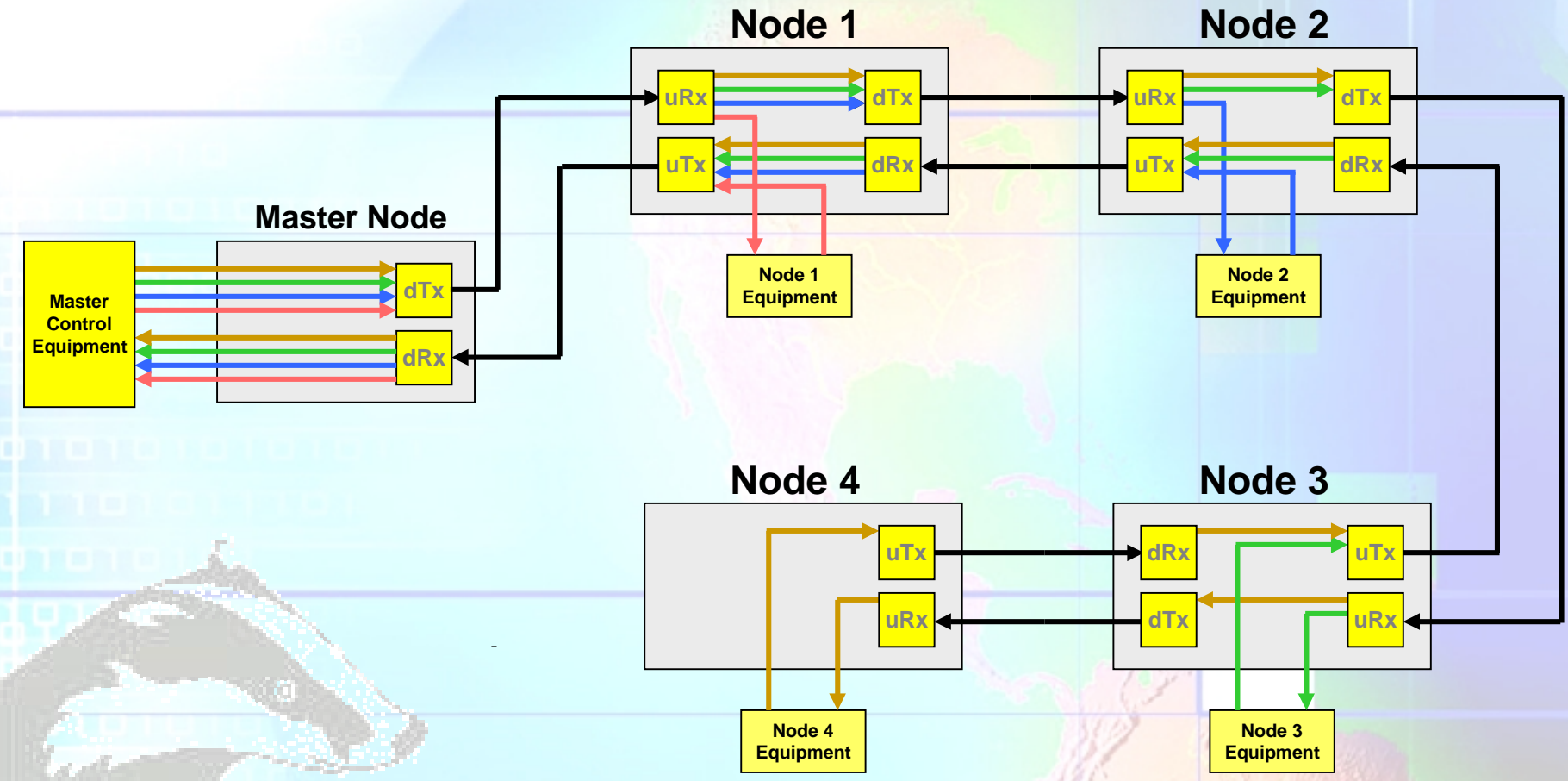
Drop & Insert System



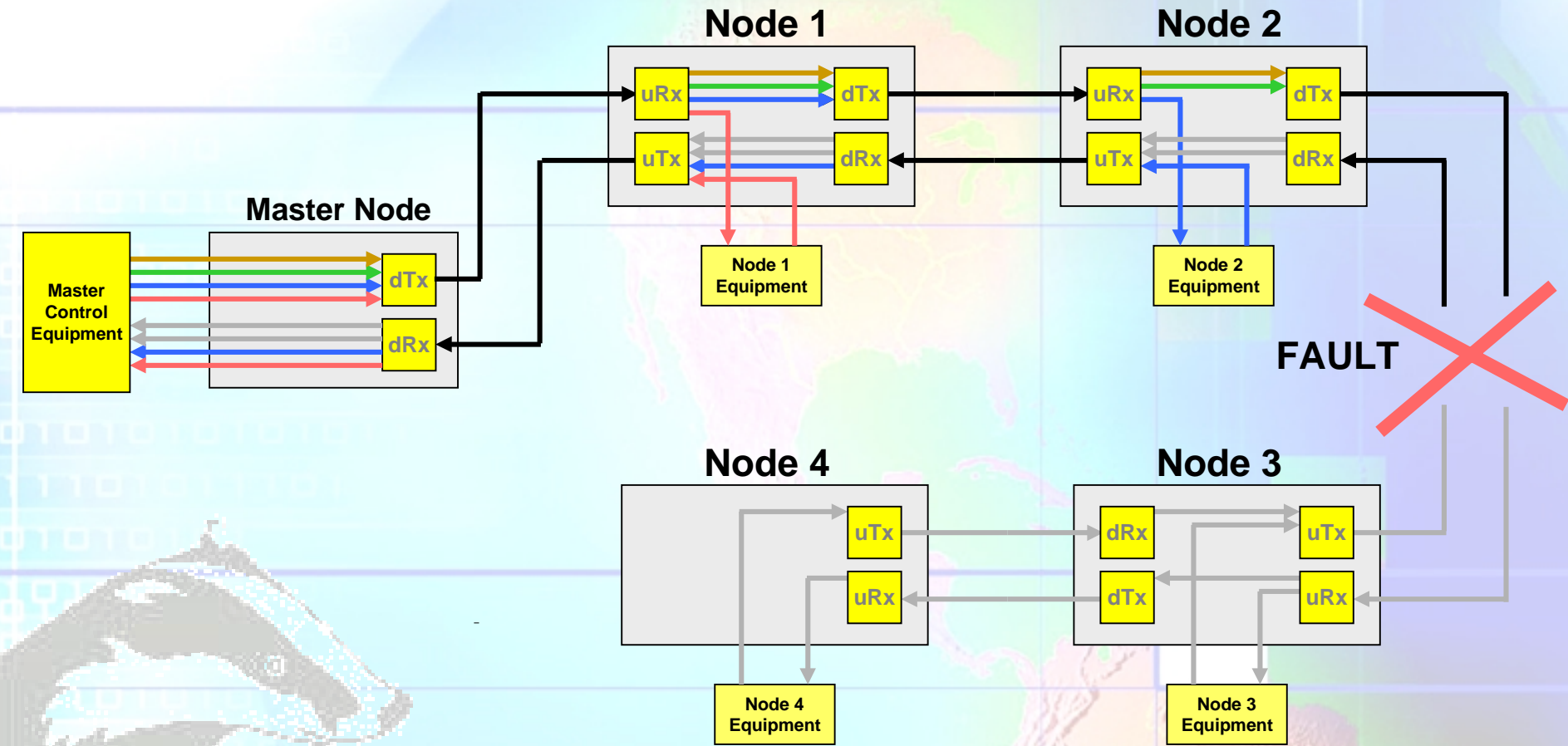
Drop & Insert System



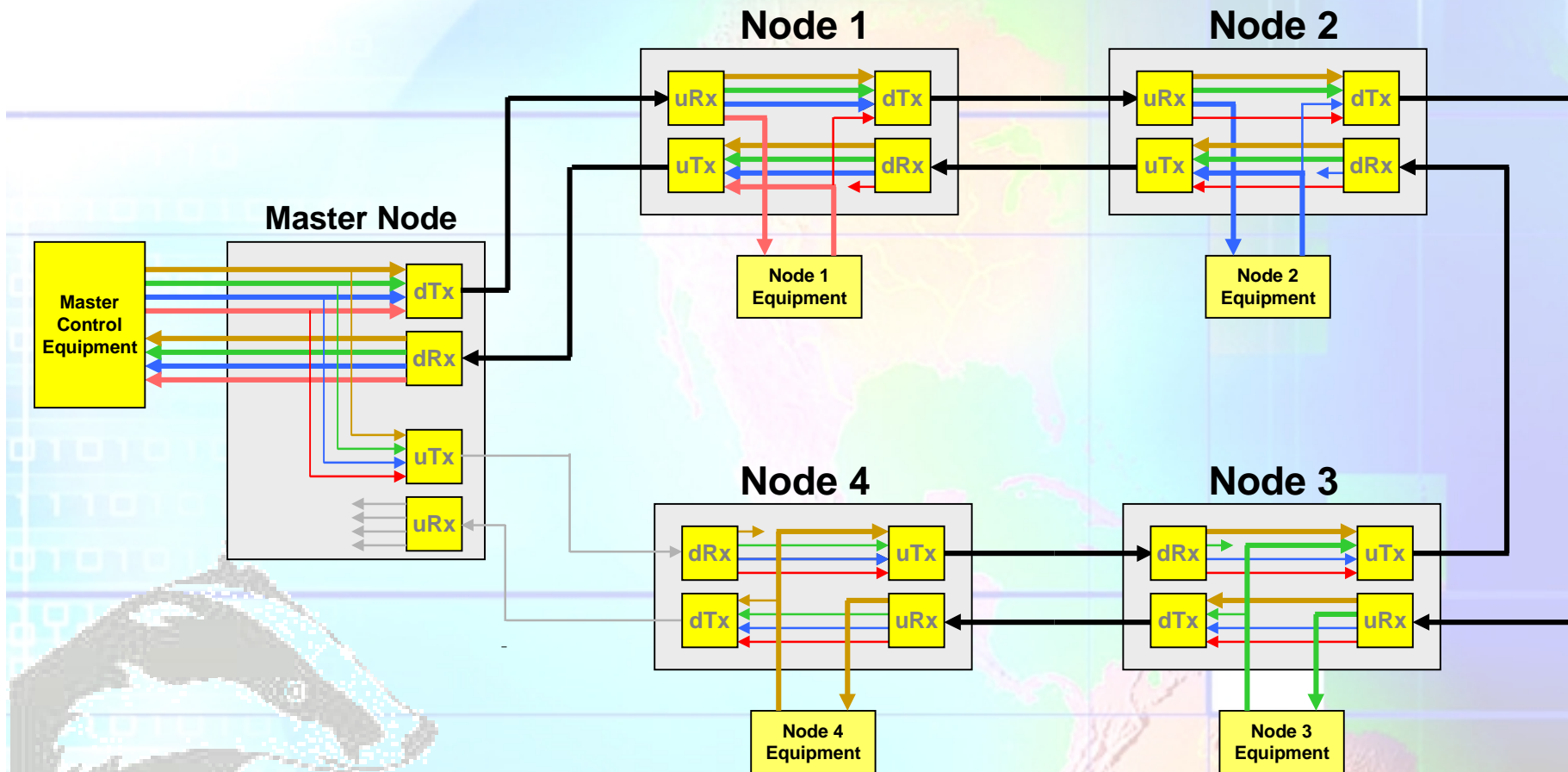
Drop & Insert System



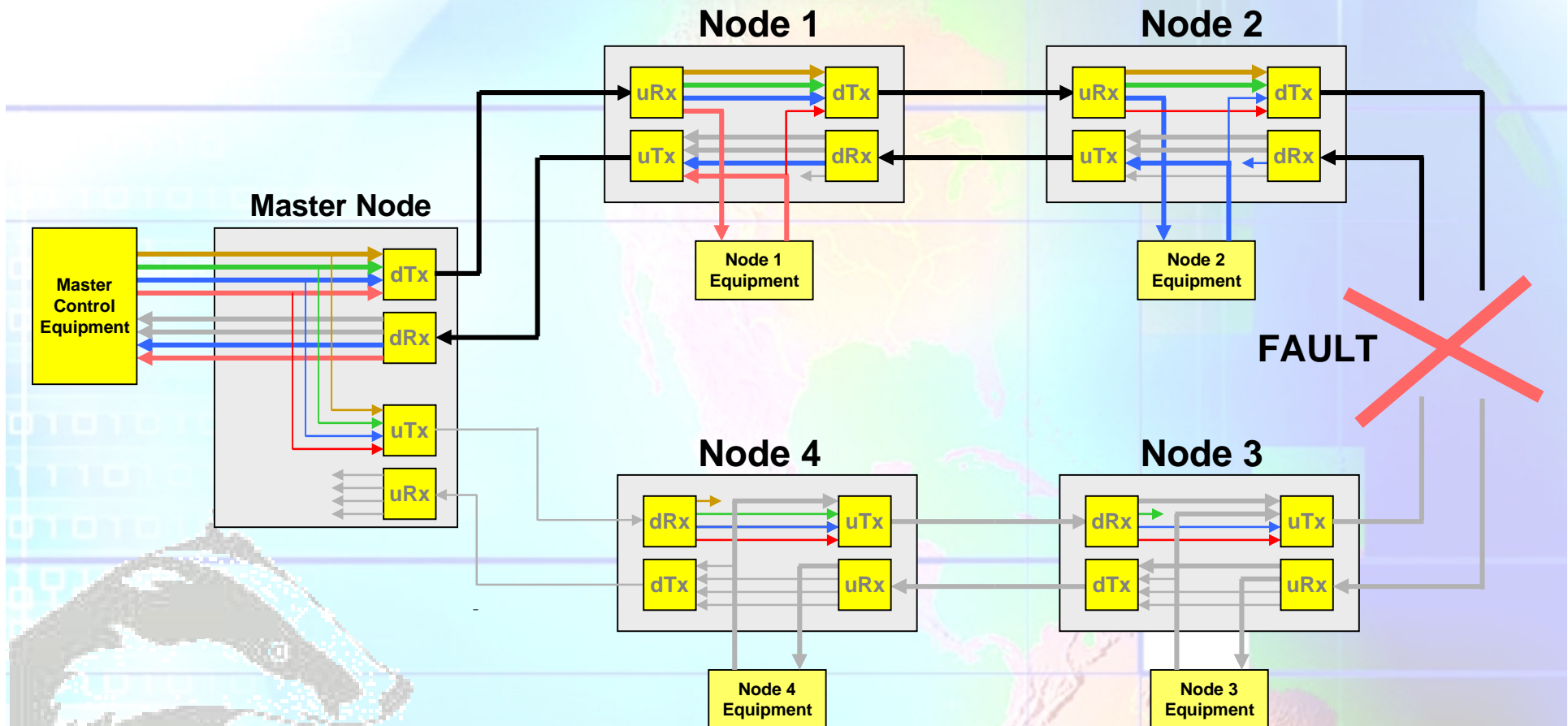
Drop & Insert System



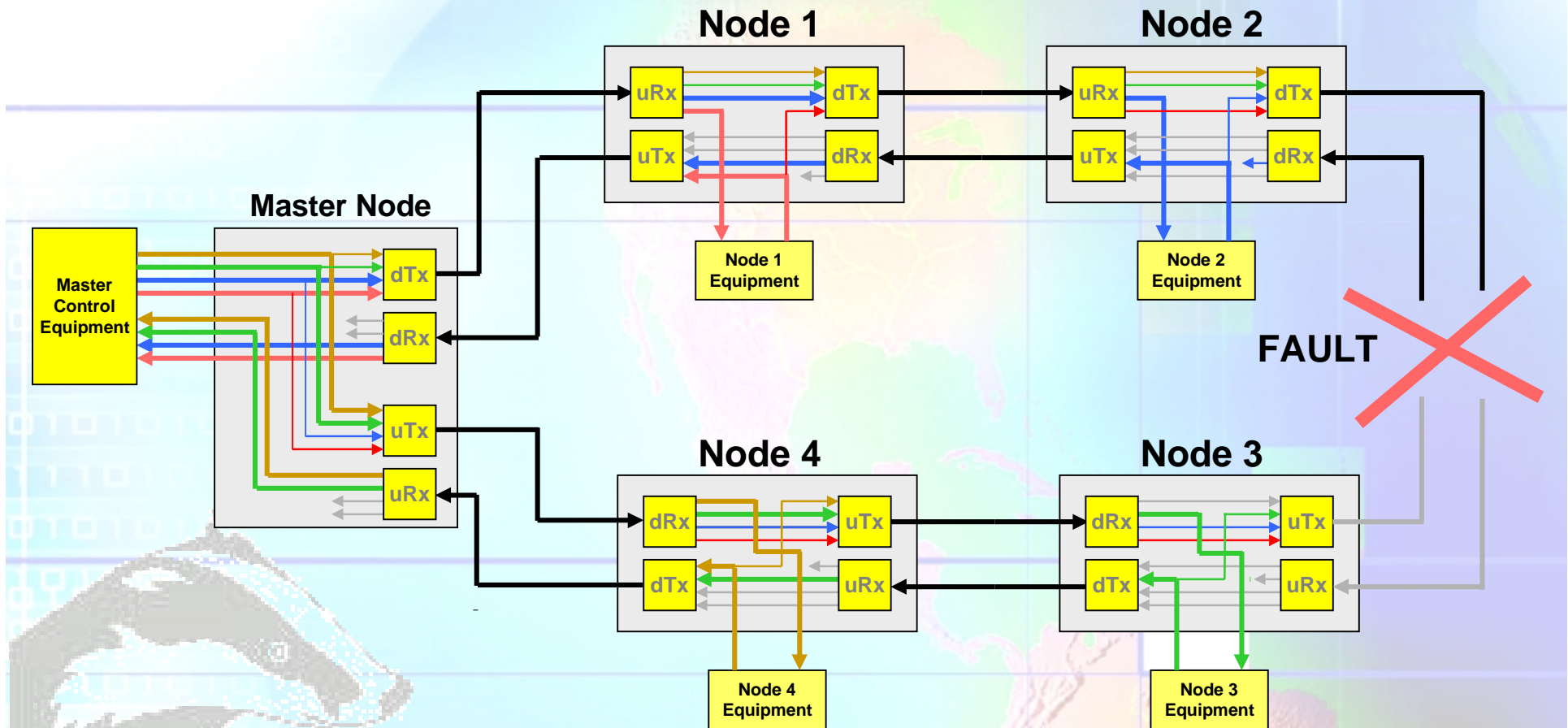
Self-healing Fibre Ring



Self-healing Fibre Ring



Self-healing Fibre Ring





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to manufacture.....**

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***HIGH SPEED FIBRE OPTIC
MULTIPLEXER
DATA SHEET***



General

- *The OPT100 series is a high speed fibre optic time division multiplexer providing a highly reliable and flexible transmission system that fulfils a host of data communication and telemetry requirements. The data rate, 125 Mbits/sec, allows the transmission of many high speed digital and analogue signals.*

Key Features

- *Two optics cards*
- *Bi-directional link on 2 fibres*
- *Very low error rates $<1:10^{-10}$*
- *Multiplexers may be used in either daisy chain or ring configuration with drop and insert capability*
- *Diagnostic LEDs*
- *Local and remote fault alarms*
- *850nm and/or 1300nm LEDs or Lasers*
- *Standalone or rack mounting housing*
- *Standard and non-standard interfaces*
- *192 RS232 channels or equivalent at 125kbits/sec*

100 SERIES TECHNICAL SPECIFICATION

PERFORMANCE

GENERAL

Type of multiplexing	Time division
Data rate	125 Mb/s
Signal coding	NRZ 4B/5B or 5B/6B
Bit error rate	$<10^{-9}$
Configuration	Point to Point Drop and Insert, Broadcast Mode

OPTICAL

Optical budget at 850nm	11 dB (50/125)
Optical budget at 1300nm	13 dB (50/125)

INTERFACES

RS 232	19.2 Kb/s
RS 422	125 Kb/s
Audio 1V peak to peak	14KHz
Voice	300-3400Hz
Analogue Card	DC to 5KHz

CHANNELS

Standalone/Rackmount	192
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ORDERING INFORMATION

Part No. 1 -

Chassis

- 1 = Rackmount
- 2 = Standalone

Optics Cards

- 1 = 1 Optics Card
- 2 = 2 Optics Cards

Interface Cards

- 101 = RS232 with 2 hand shaking channels
- 102 = RS422
- 103 = TTL
- 104 = RS485
- 105 = 20mA Current Loop
- 106 = A/D Manchester
- 107 = Voice
- 108 = Analogue

Package/Power

- A = 240 VAC
- B = 110 VAC
- C = 48 VDC

Optics

- 1 = 850nm LED ST
- 2 = 1300nm LED ST
- 3 = 850nm LED SC
- 4 = 1300nm LED SC
- 5 = 1300nm Laser single mode fibre