Description of the switch (L1 Switch)

The switch is a physical layer switch based on relay switch that's intended primarily for lab environments where a copper path is needed between two ports. All cards are the same apart from the interface adapter that provides the physical connections so a POTS/DSL card will offer eight ports per card because, see user guide for pin out.
The switch is a passive connection, we do not change the signal, we just Make the connection to make the automation solution.

The switch, being physical, is electrically very similar to, if not indistinguishable from, a similarly sized piece of Cat5 cable.

The design of the switch allows any port to be connected to any other port. There are some restrictions. For example, the connection software will not allow connections between incompatible technologies. Also, any connection is contingent on there being an available route in the routing matrix (this not a problem with the application you described).

The switch is self-contained and is driven from a small embedded Linux system. This hosts a Remote Procedure Call server which along with interface libraries allows the switch to be driven from scripts or similar software. We make these libraries and sample code freely available so, for example, users could use a simple command line program running either on the switch or on a host computer if they wanted to use a CLI. The switch also has a Web server that provides an interactive (AJAX-based) interface. The switch software has lightweight multiuser capabilities, supporting up to 15 users plus an administrator, with users being any mixture of web or script based users.

The switch has a fairly long life -- we don't know specifically an anticipated MTBF for the cards because it depends on the type of use the switches are put to. The reed relays that drive the switch matrices have a life expectancy of many millions of cycles, for example, but this would be reduced if the circuits were carrying appreciable cur
4 Ports
Since the switch matrix is quite complex and faults are potentially very difficult to detect the switch has a built-in test capability. This is specialized standalone software that is run periodically on the switch when it is offline as part of what's called self 'calibration'.

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