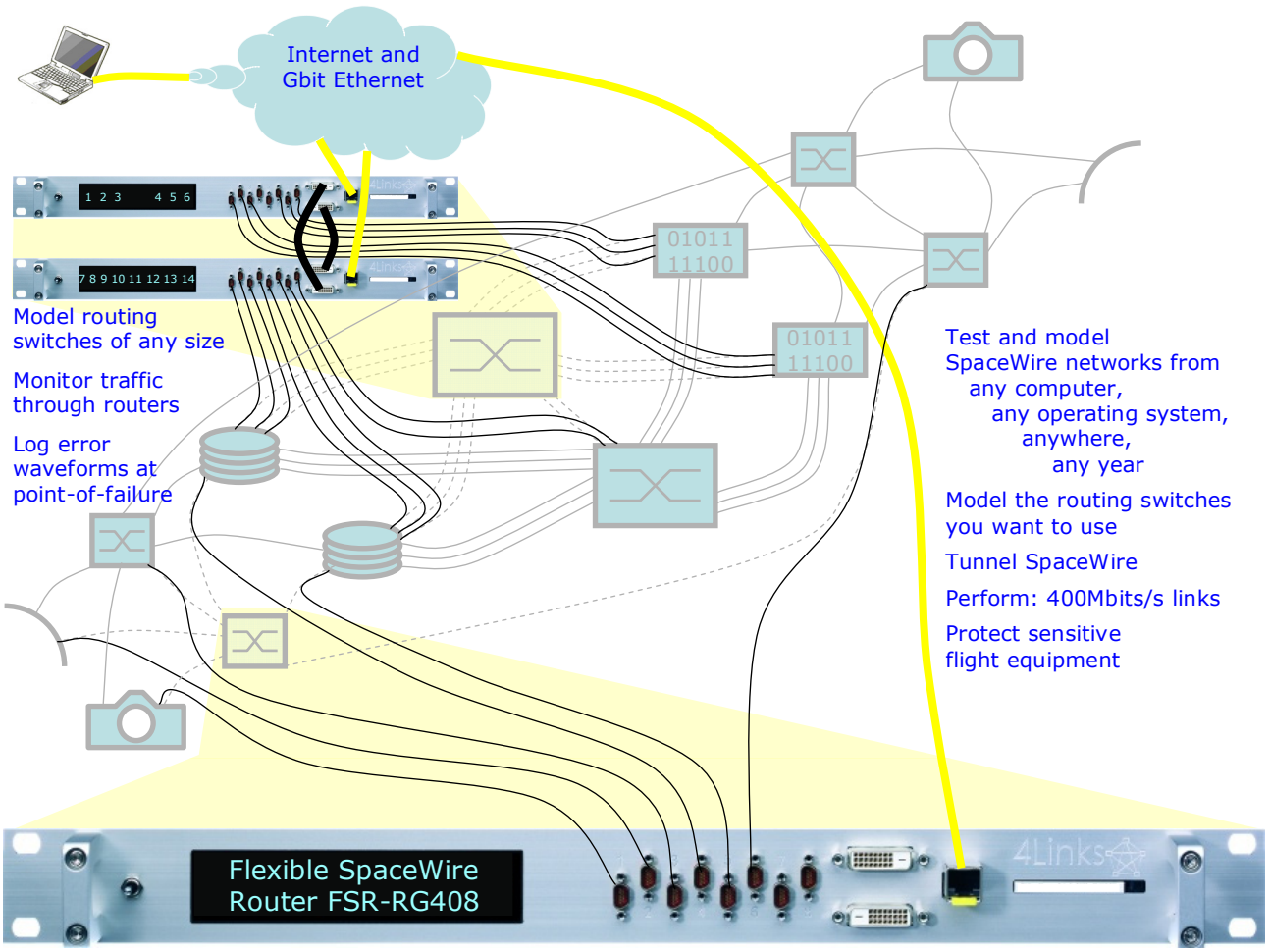
Flexible, monitoring, SpaceWire routing switches

400Mbits/s SpaceWire ports monitored and controlled via Gbit Ethernet and IP

In a SpaceWire network, the only way to monitor traffic from within the network is inside the routing switches. The FSR-RG408 provides a means to monitor traffic statistics in the routing switch and hence in the network, together with the Network layer routing switch capabilities specified in the ECSS SpaceWire standard. Each unit provides eight ports, which may be used as a single 8-port router or may be split into several completely independent routers, for example 4+4 or 3+5. The units can be used standalone, with the routing tables held on a plug-in memory card, or they can be connected via Gbit Ethernet to a computer for monitoring and control. A front-panel display shows the routing switch label of each port of each separate switch, together with the activity and status of each link.

The EtherSpaceLink products can be used for testing, monitoring, analyzing, validating, modelling and emulating any or all the chips, boards, subsystems, and instruments in a SpaceWire network.



Update, reconfigure & re-use the same hardware platform throughout the project life cycle

Control SpaceWire networks from any computer, any operating system

Because almost every computer and every operating system is able to connect to Ethernet and to the Internet Protocol, the FSR-RG408 can control and monitor SpaceWire networks from the computer and operating system of the user's choice

anywhere,

Using the Internet Protocols enables control and monitoring of SpaceWire networks remotely from the equipment under test. This can be from an engineer's desk or from across continent or ocean.

any year

While PCs need to be replaced every few years, projects can last a decade or more. Ethernet and IP allow the use of the test equipment throughout the project, even as the computers and OS are changed.

Model the routing switches you want to use

The FSR-408 enables the user to share the ports of one unit between more than one routing switch. Flexible network management permits modelling the FDIR system appropriate for the application. Flexible link speeds are settable in 1MHz increments (or smaller) up to 400Mbits/s and 2Mbits/s increments beyond 400Mbits/s.

Routing compliant with ECSS SpaceWire Standard

The FSR-RG408 provides routing functions as defined in the ECSS SpaceWire standard. Path addressing and logical addressing are provided as standard, grouping and time-code distribution are available as options.

Gather statistics

Each port is monitored for how many packets with each header value have come to that port, and how many packets from each input port leave each output port, and statistics can be displayed on the user's computer.

Tunnel SpaceWire

Any SpaceWire link can be configured to tunnel traffic from other links to a second unit which fans the traffic out to the appropriate output port.

Protect

Test and simulation equipment must protect flight equipment from any damage caused by the test equipment. The FSR-RG408 protects flight equipment with five layers of current and voltage protection, while also offering optional galvanic isolation for ultimate protection.

Choose the platform and options required

Platform: RG408-l, RG408-m, RG408-ls or RG408--ms: (platforms above RG408-l are not required for FSR-RG408 but are useful for other functions and: synchronized time and triggers).
Firmware options: **EW**: Error Waveforms, **GR**: Grouped Routing, **TC**: Time Code distribution, **PS**: Packet Statistics.

Update, Reconfigure and Re-use throughout the project life cycle

The function of the FSR-RG408 is defined by a plug-in memory card which can be updated to provide extra firmware enhancements and options . A different memory card can be used to provide an alternative function such as an EtherSpaceLink/diagnostic interface, monitor/ analyzer, or link or network validation, or other required function.