High Tech Talk

Network Redundancy

It is critical for industrial applications that network remains non-stop. JetNet 5010G supports standard RSTP, Rapid Super Ring, Dual Homing II and Legacy Super Ring Client modes. Rapid Super Ring technology is Korenix 2nd generation Ring redundancy technology. This is Korenix's patent and protected in countries all over the world. RSR meets up the fastest failover time in the world, less than 5 milliseconds, up to 250 units connected in a Gigabit FiberRing topology.

Advanced Dual-homing II technology also facilitates JetNet 5010G to connect with other core managed switches via standard Rapid Spanning Tree Protocol.

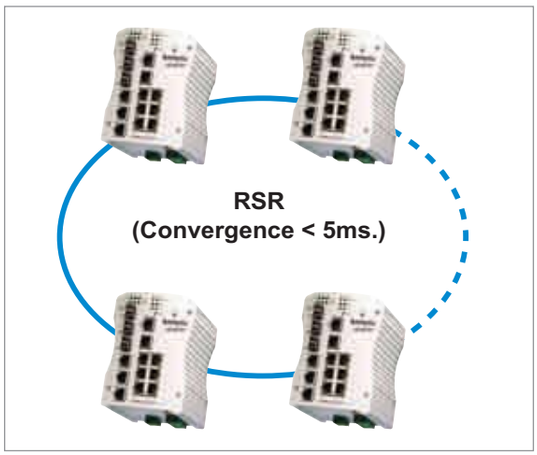
With Dual Homing II technology, you can also run RSTP to couple several Rapid Super Rings, which is also knownas Auto Ring Coupling. To backward compatible with Legacy Super Ring technology implemented in JetNet 4000/4500 series switches, JetNet 5010G also supports Super Ring Client mode. The Super Ring ports can pass through Super Ring control packets well and work with Super Ring.

Besides Korenix ring technology, JetNet 5010G also supports 802.1D-2004 version Rapid Spanning Tree Protocol (RSTP). New version of RSTP standard includes 802.1D-1998 STP, 802.1w RSTP.

Rapid Super Ring (RSR)

The most common industrial network redundancy is to form a ring or loop. Typically, the managed switches are connected in series and the last switch is connected back to the first one. In such connection, you can implement Korenix Super Ring and Rapid Super Ring technology.

Super Ring is Korenix 1st generation ring redundancy technology released with JetNet 4000 and 4500 series managed switches. Rapid Super Ring is Korenix 2nd generation Ring redundancy technology. This is Korenix patented and protected in countries all over the world. The Rapid Super Ring has enhanced Ring Master selection and shorten recovery time.



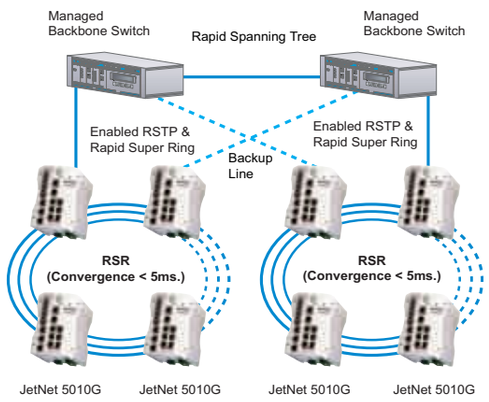
Dual Homing II

Dual Homing II is the most important feature of Korenix 2nd generation Ring redundancy technology. When you want to connect multiple RSR or form redundant topology with other vendors, Dual Homing II allows you to enable RSTP (Rapid Spanning Tree Protocol) and RSR from one device at the same time. Thus you have more flexibility and standard RSTP way to construct your network topology. As what is

High Tech Talk

shown in the figure below, you can enable RSTP and RSR from JetNet 5010G at the same time/port.
Then JetNet 5010G ring can be protected by Rapid Super Ring while the connection to the other vendors can be protected by RSTP. In Dual Homing I released with JetNet 4000/4500 series, you have to configure additional port as Dual Homing port to two uplink switches. In Dual Homing II, you don't need to configure specific port to connect to other protocol. Just keep RSTP in Enable, Dual Homing II will then make connection and be protected by standard RSTP.

Managed Backbone Switch Enabled RSTP&Rapid Super Ring Backup Line.

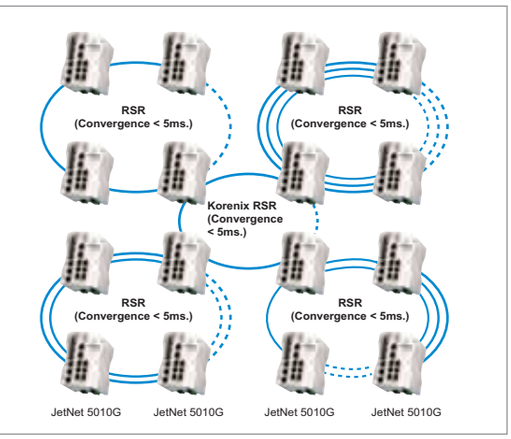


RSR in combination with Link Aggregation

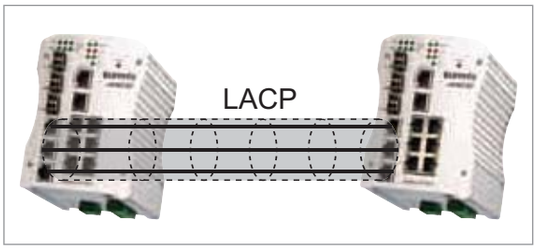
To increase the link redundant and bandwidths, RSR has integrated with link aggregation. Through this new RSR feature, RSR can support multiple links per ring segment, ex. One link per ring segment, two links per ring segment, three links per ring segment or even more links per ring segment, as well as the various links in a redundant ring. Therefore, JetNet 5010G can support up 3Gbps redundant ring while trunking three Giga ports (both fiber and copper) and support up to eight link fails happened in a redundant ring while trunking eight ports.

Multiple-Ring

To enhance the convergence while connecting separate redundant rings, RSR supports multiple rings on one JetNet switch. Through this new RSR feature, JetNet 5010G can support up to 5 multiple rings on a single JetNet 5010G.



Port Trunking Technology



Port Trunking configuration allows you grouping multiple Ethernet ports in parallel as well as increasing the linking bandwidth.

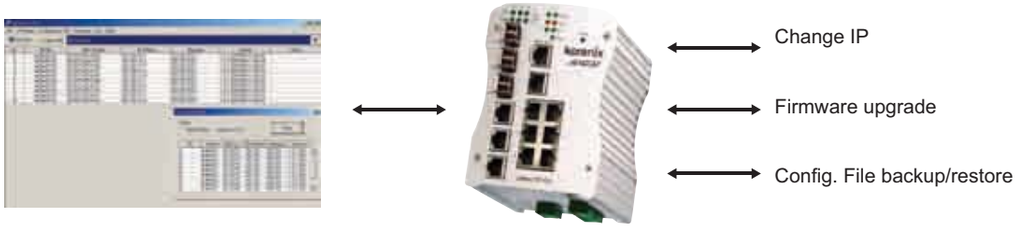
The aggregated ports can be viewed as one physical port so that the bandwidth is higher than merely one single Ethernet port.

The member ports of the same trunk group can balance the loading and backup for each other. Port Trunking feature is usually used when you need higher bandwidth for backbone network. This is an inexpensive way for you to transfer a great quantity data. There are some different descriptions for the port trunking.

Different manufacturers may use different descriptions for their products, like Link Aggregation Group (LAG), Link Aggregation Control Protocol, Ethernet Trunk, EtherChanne, etc. Most of the implementations now are conformed to IEEE standard, 802.3ad. The aggregated ports can interconnect to the other switch and also support Port Trunking.

Korenix Supports 2 types of port trunking. One is Static Trunk, the other is 802.3ad, dynamic trunking. When the other end uses 802.3ad LACP, you should assign 802.3ad LACP to the trunk. When the other end uses non-802.3ad, you can use Static Trunk.

JetView



JetView is client/server architecture. Users use the client application to issue the operations and there is a server on the device to do these operations. The major difference between the JetView and other management tools, ex. Web, CLI, and SNMP, is that the JetView can configure several devices at the same time. For example, change IP address or upgrade firmware for over 30 devices at the same time is inconvenient by Web or CLI or SNMP, but it is much easier when using JetView to do these operations. JetView supports auto discovery, group IP settings, group firmware upgrade, and group configuration file backup/restore features. One more important feature is JetView has only one version for various operating systems, ex. Windows 95/98/ME, 2000, XP, and Linux.

High Tech Talk

Command Line Interface Introduction (CLI)

The Command Line Interface (CLI) is the user interface to the switch's embedded software system. You can view the system information, show the status, configure the switch and receive a response back from the system by keying in a command.

some different command modes. Each command mode has its own access ability, available command lines and uses different command lines to enter and exit. These modes are User EXEC, Privileged EXEC, Global Configuration and (Port/VLAN) Interface Configuration modes.

User EXEC mode:

As long as you login the switch by CLI. You are in the User EXEC mode. You can ping, telnet remote device, and show some basic information.

Privileged EXEC mode:

The system allows you to view current configuration, reset default, reload switch, show system information, save configuration…and enter the global configuration mode.

Global Configuration Mode:

Configure all the features that the system provides you.

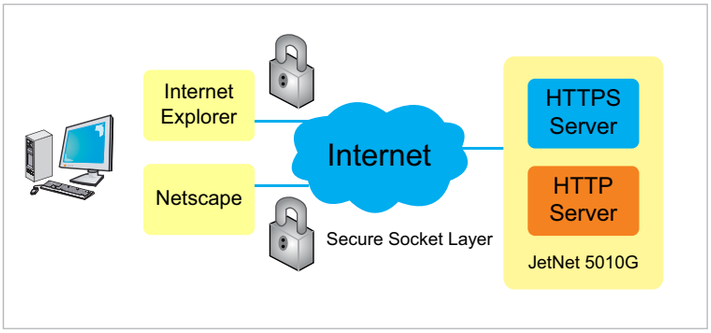
VLAN Interface Configuration:

You can configure settings for specific VLAN.

Port Interface Configuration:

Configure port related settings.

Secured Management for Switch



Secured Management by HTTPS and SSH: HTTPS (Hypertext Transfer Protocol over Secure Socket Layer, or HTTP over SSL) is a Web protocol built into browser that encrypts and decrypts user page requests as well as the pages that are returned by the Web server.

Korenix JetNet 5010G supports SSH console. You can remotely connect to the switches by command line interface. The SSH connection can secure all the configuration commands you sent to the switch. SSH is a client/server architecture while JetNet 5010G is the SSH server. When you want to make SSH connection with the switch, you should download the SSH client tool first.

SSH Client

There are many free, sharewares, trials or charged sofwares of SSH clients you can find . Fox example, PuTTY is a free and popular Telnet/SSH client. Note: PuTTY is copyright 1997-2006 Simon Tatham.

HTTPS

JetNet 5010G provides HTTP Web Interface and Secured HTTPS Web Interface for web management.