

KGS-510F

VLAN Design for Merging Tag-incapable Users to Tagged VLANs

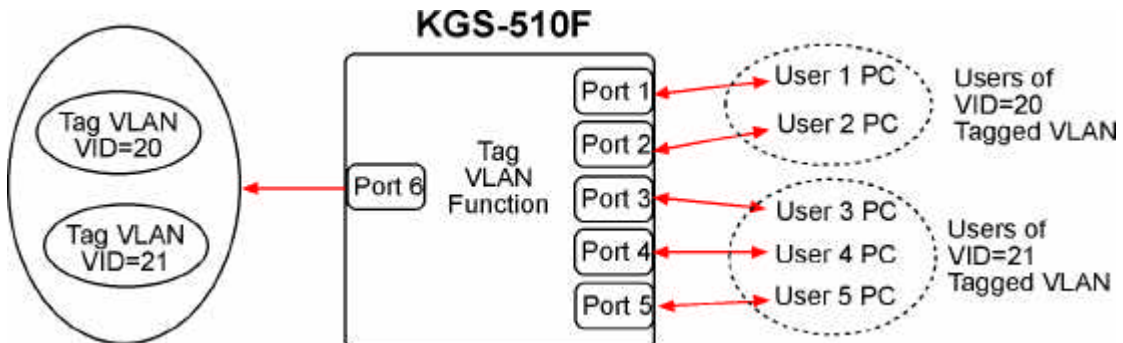
Application

More and more 802.1Q Tag VLANs are deployed; especially in a large network. But, most of the computers are VLAN tag incapable. This makes Tag VLAN plan and installation difficult.

Solution

The switches featured with Tag VLAN support can be a solution to reduce the difficulty. Tag VLAN function is often found in a high-end corporate switch. However, KTI's compact Gigabit switch KGS-510F is equipped with the function. It can support to merge tag-incapable users into Tagged VLANs. An example is provided in next section to illustrate how to configure KGS-510F for merging two groups of five tag-incapable users into two Tagged VLANs, VID=20 and VID=21.

KGS-510F Advanced VLAN Configuration



| Tag-incapable Users | User 1 | User 2 | User 3 | User 4 | User 5 | Tagged VLANs |
|-------------------------------------|------------|------------|------------|------------|------------|--------------|
| Port # connected | P1 | P2 | P3 | P4 | P5 | P6 |
| VLAN | VID=20 | VID=20 | VID=21 | VID=21 | VID=21 | VID=20, 21 |
| Ingress [Tag Aware] | Tag-ignore | Tag-ignore | Tag-ignore | Tag-ignore | Tag-ignore | Tag-aware |
| Ingress [Keep Tag] | - | - | - | - | - | X |
| Ingress [Drop Untag] | X | X | X | X | X | X |
| Ingress [Drop Tag] | X | X | X | X | X | X |
| Ingress Default Tag [PVID] | 20 | 20 | 21 | 21 | 21 | - |
| Ingress Default Tag [CFI] | - | - | - | - | - | - |
| Ingress Default Tag [User Priority] | - | - | - | - | - | - |
| Egress [Insert Tag] | X | X | X | X | X | V |
| Egress [Untagging Specific VID] | X | X | X | X | X | X |
| Egress [Untagged VID] | - | - | - | - | - | - |
| VLAN group 1 VID=20 members | V | V | X | X | X | V |
| VLAN group 2 VID=21 members | X | X | V | V | V | V |

Note: X – disabled, "V" - enabled, "-" – don't care

With this configuration the switch meets the following requirements:

1. User 1 and User 2 can communicate with the users of VLAN VID=20 via Tagged VID=20 packets and with each other via untagged packets.
2. User 3, User 4, and User 5 can communicate with the users of VLAN VID=21 via Tagged VID=21 packets and with each other via untagged packets.
3. The group of User 1 and User 2 is unable to communicate with the group of User 3, User 4 and User 5.

Conclusion

KGS-510F is an ideal solution as a front end Tag VLAN switch to support Tag-incapable computers.