

## KGS-510F

### VLAN Design for Merging Tag-incapable Users to Tagged VLANs

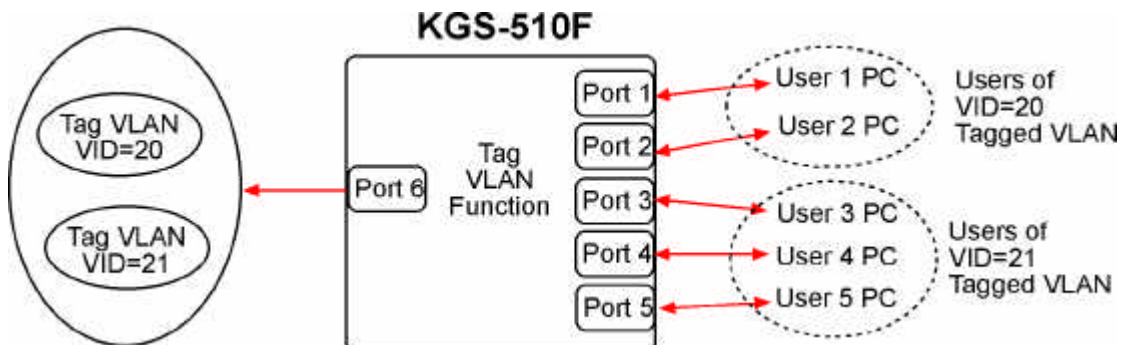
#### Application

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.