

Application Note

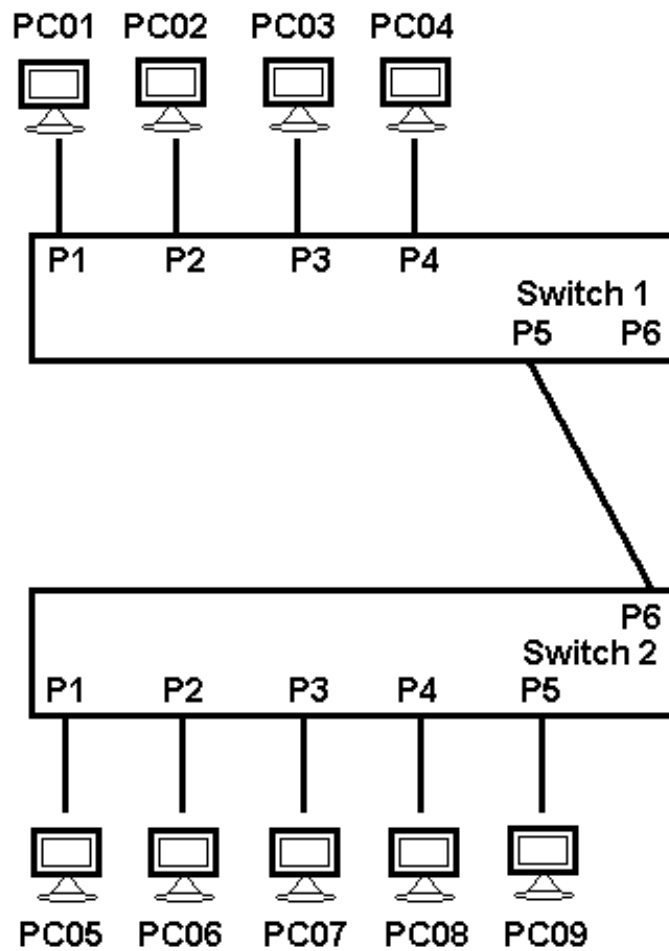
Example of Tagged VLAN Design with KTI's Switches

Related products

KSD-800M, KS-117FMV, KS-115FMV, KGS-510F, KGD-600, KGS-612F

Scenario Example

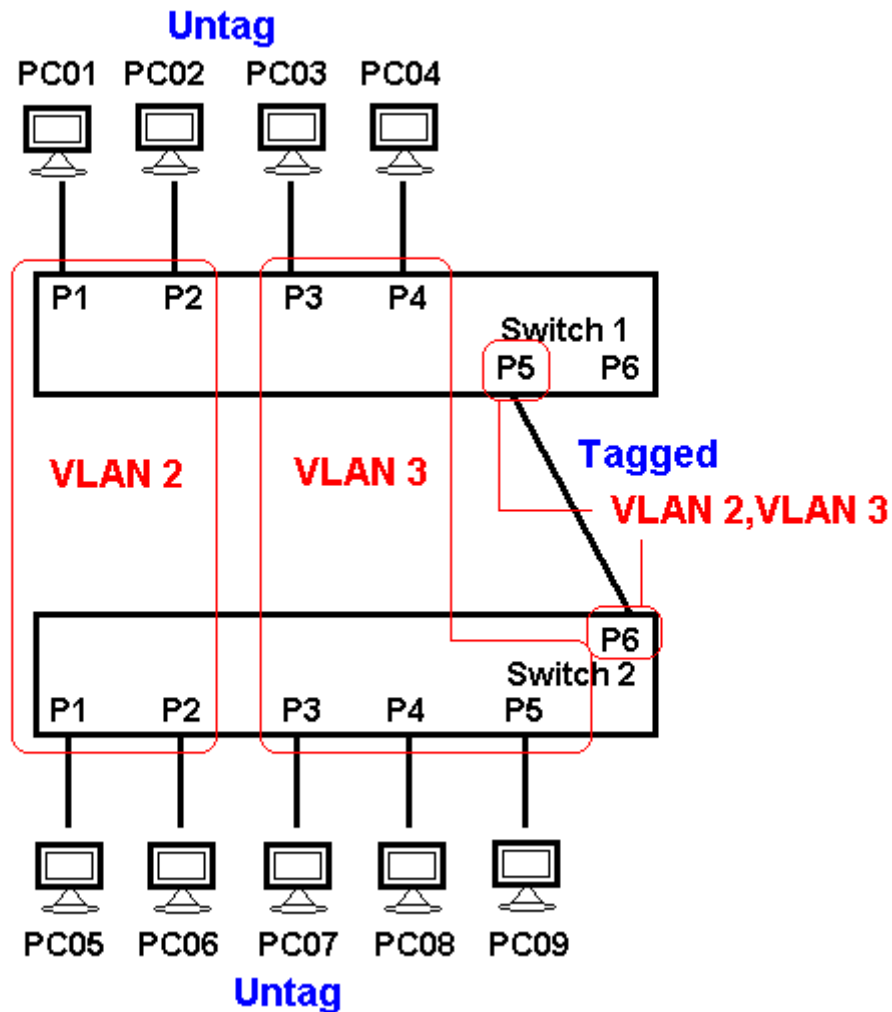
As shown in the figure, PC01 ~ PC09 are networked with two switches. Two switches are connected via P5 in Switch 1 and P6 in Switch 2. PC01, PC02, PC05, and PC06 are configured in same VLAN 2 and the rest PCs are configured in another VLAN 3.



Tag VLAN Design

To meet the scenario, the following tagged VLAN configuration is proposed.

1. Configure Switch 1 {P1, P2, P5} and Switch 2 {P1, P2, P6} in VLAN 2.
2. Configure Switch 1 {P3, P4, P5} and Switch 2 {P3, P4, P5, P6} in VLAN 3.
3. Configure Switch 1 [P1, P2, P3, P4] as untagged ports when egress.
4. Configure Switch 2 [P1, P2, P3, P4, P5] as untagged ports when egress.
5. Configure trunk ports Switch 1 P5 and Switch 2 P6 as tagged port.



The following switch models are presented with the associated VLAN configuration: KSD-800M, KS-117FMV, KGS-510F, KGD-600, KGS-612F.

Since the VLAN design of KS-115FMV is exactly same as KS-117FMV, refer to KS-117FMV for the details.

KS-117FMV VLAN Configuration

Switch 1 Configuration

VLAN Mode 802.1Q base VLAN

VLAN Mapping Table

Group	Member ports	VID
1	P1, P2, P3, P4, P5	1
2	P1, P2, P5	2
3	P3, P4, P5	3

Note: The group table is indexed by using the least 4 bits of the referred VLAN ID. Make sure the VID's configured for groups do not have same index number (the least 4 bits).

Port PVID Setting

Port	Output Tag	PVID
1	Untag	2
2	Untag	2
3	Untag	3
4	Untag	3
5	Tag	1

Switch 2 Configuration

VLAN Mode 802.1Q base VLAN

VLAN Mapping Table

Group	Member ports	VID
1	P1, P2, P3, P4, P5, P6	1
2	P1, P2, P6	2
3	P3, P4, P5, P6	3

Note: The group table is indexed by using the least 4 bits of the referred VLAN ID. Make sure the VID's configured for groups do not have same index number (the least 4 bits).

Port PVID Setting

Port	Output Tag	PVID
1	Untag	2
2	Untag	2
3	Untag	3
4	Untag	3
5	Untag	3
6	Tag	1

KGS-510F / KGD-600 / KGS-612F VLAN Configuration

Switch 1 Configuration

VLAN Mode 802.1Q base VLAN: Enable

Ingress Default Tag

Port	PVID	CFI	User Priority
1	2	0	0
2	2	0	0
3	3	0	0
4	3	0	0
5	1	0	0

Ingress Setting

Port	Tag Aware	Keep Tag	Drop Untag	Drop Tag
1	Tag-aware	Disabled	Disabled	Disabled
2	Tag-aware	Disabled	Disabled	Disabled
3	Tag-aware	Disabled	Disabled	Disabled
4	Tag-aware	Disabled	Disabled	Disabled
5	Tag-aware	Disabled	Disabled	Disabled

Egress Setting

Port	Insert Tag	Untagging Specific VID	Untagged VID
1	Disabled	Disabled	1
2	Disabled	Disabled	1
3	Disabled	Disabled	1
4	Disabled	Disabled	1
5	Enable	Disabled	1

VLAN Groups

Group	Member ports	VID
1	P1, P2, P3, P4, P5	1
2	P1, P2, P5	2
3	P3, P4, P5	3

Switch 2 Configuration

VLAN Mode 802.1Q base VLAN: Enable

Ingress Default Tag

Port	PVID	CFI	User Priority
1	2	0	0

2	2	0	0
3	3	0	0
4	3	0	0
5	3	0	0
6	1	0	0

Ingress Setting

Port	Tag Aware	Keep Tag	Drop Untag	Drop Tag
1	Tag-aware	Disabled	Disabled	Disabled
2	Tag-aware	Disabled	Disabled	Disabled
3	Tag-aware	Disabled	Disabled	Disabled
4	Tag-aware	Disabled	Disabled	Disabled
5	Tag-aware	Disabled	Disabled	Disabled
6	Tag-aware	Disabled	Disabled	Disabled

Egress Setting

Port	Insert Tag	Untagging Specific VID	Untagged VID
1	Disabled	Disabled	1
2	Disabled	Disabled	1
3	Disabled	Disabled	1
4	Disabled	Disabled	1
5	Disabled	Disabled	1
6	Enable	Disabled	1

VLAN Groups

Group	Member ports	VID
1	P1, P2, P3, P4, P5, P6	1
2	P1, P2, P5	2
3	P3, P4, P5, P6	3