Redundant Link

Redundant Link

***8***

***7***

***6***

***5***

***4***

***3***

***2***

***1***

***8***

***7***

***6***

***5***

***4***

***3***

***2***

***1***

3rd party Device

Ethernet/IP

Cisco SX350-08 Managed Stackable L2/L3 Switch/Router

(Slave Switch of Stack)

Cisco SX350-08 Managed Stackable L2/L3 Switch/Router

(Master Switch of Stack)

Stratix No1 (1783-HMS16TG4CGN)

Layer 2 Firmware

Stratix No2 (1783-HMS16TG4CGR)

Layer 3 Firmware

Stratix No4 (1783-HMS16TG4CGR)

Layer 3 Firmware

Stratix No3 (1783-HMS16TG4CGR)

Layer 3 Firmware

**Prosoft Cards**

**Modbus**

**TCP**

**EN2TR**

3rd Controllogix Chassis

**EN2TR**

**EN2TR**

Secondary Controllogix Chassis

**EN2TR**

**EN2TR**

Primary Controllogix Chassis

**NOTES**

* CISCO : Both “orange light lines” to No7,8 ports are the true stacking lines between switches.
* Stratix No3 & No4. Ports No19,20 (lower right) colored with dark blue & dark green are the uplink ports. 2 physical ports have been combined into 1 by using Etherchannel and support LACP(Active) as the communication method for each switch. Stratix No3 is the Primary Gateway and No4 is the Backup Gateway
* CISCO : Same rules as the above mentioned stands for stackable switches. 2 physical ports have been used together and created one logical port (LAG) which uses LACP as well. **Allowed Vlans from these LAG Trunk ports are : 501,505.**
* Red color boxes refer to DLR Ring No1. Members are the EN2TR cards of the redundancy pair, Stratix No3 & No4 switches. Primary Supervisor is Stratix No3 & Backup is No4.

They are also Gateways, No3 Primary and No4 Backup. EN2TR are nodes. Ports No1,2 of both Stratix Switches are members of Vlan 501 with “Multiport role” in smartports.

* Orange color boxes refer to DLR Ring No2. Members are the EN2TR cards of the redundancy pair, EN2TR of the 3rd Controllogix chassis & Stratix No1 & No2 & No3 & No4 switches. Primary Supervisor is Stratix No3 & Backup is No4. No Gateways here. EN2TR & Stratix No1 & No2 are nodes. Ports No1,2 of both Stratix Switches(No3 & No4) and ports No3,4 of both Stratix Switches(No3 & No4) are members of Vlan 503 with “Multiport role” in smartports.
* Green color boxes refer to DLR Ring No3.Members are the 4 Stratix switches only. Stratix No3 is the Primary supervisor & gateway and No4 is the Backup. All DLR ports are “TRUNK” lines and have been assigned as “Switch for Automation” role in smartports. **Allowed Vlans from these Trunk DLR ports is : 505.**
* 3rd Party device (PLC) with Ethernet/IP protocol has been connected to Stratix Switch No2, in port No5. In Stratix Switch No2, ports 5,6,7,8 with yellow color are been assigned to Vlan 505.
* CISCO SX350-08 is considered as Layer 3 device and Routing capability has been enabled. (IP/V4 interface Routing).
* Vlans 501,503,505 have been created & configured to 4 Stratix switches and vlans 501,505 have been created & configured to CISCO as well.
* Following is the table with IP addresses that have been entered for vlans and devices.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Stratix No1 | Stratix No2 | Stratix No3 | Stratix No4 | EN2TR(Prim.CPU) | EN2TR(Sec.CPU) | EN2TR(3rd Chassis) | CISCO SX350-08 |  |
| DLR No1 (Vlan 501) | -- | -- | 172.18.1.2 | 172.18.1.3 | 172.18.1.4 | 172.18.1.5 | -- | 172.18.1.1 |  |
| DLR No2 (Vlan 503) | 172.18.3.2 | 172.18.3.3 | 172.18.3.4 | 172.18.3.5 | 172.18.3.7 | 172.18.3.7 | 172.18.3.6 | -- |  |
| DLR No3 Vlan 505 \* | 172.16.1.4 | 172.16.1.3 | 172.16.1.5 | 172.16.1.6 | -- | -- | -- | 172.16.1.1 |  |
|  |  |  |  |  |  |  |  |  |  |
| 3rd party device (PLC)🡪Vlan 505 | 172.16.1.20 |  |
|  |  |  |  |  |  |  |  |  |  |

* **DLR No3 is a ring with only switches and trunk ports, so each pair of DLR ports have not been assigned to any vlan-ip…, only devices like 3rd party PLC have been assigned to vlan 505.**
* My personal laptop has been connected to port No1 of Master CISCO switch and belongs to Vlan 501. IP details are, ip:172.18.1.248, subnet:255.255.255.0, gateway:172.18.1.1.
* For Vlan 501, both EN2TR cards of the redundancy pair, gateway ip address is : 172.18.1.1(Vlan 501 CISCO address).