Alle Endgeräte sollen immer verfügbar sein, so dass das Switch-Netzwerk redundant ausgelegt wurde.

1. Vom Spanning-Tree Protokoll wurde der Switch B als Root Bridge ausgewählt. Erläutern Sie an Hand der Tabelle und IEEE802.1q wie STP Switch 3 als Root Bridge ermittelt hat.

|  |  |  |
| --- | --- | --- |
| Switch | Bridge Priority | Mac-Adresse |
| A | 40960 | 3C-4A-92-D7-BE-5C |
| **B** | **32768** | **3C-4A-92-A3-3E-58** |
| C | 36864 | 3C-4A-92-FF-BE-55 |
| D | 32768 | 3C-4A-92-A5-12-55 |
| E | 40960 | 3C-4A-92-D7-3E-B5 |
| F | 32768 | 3C-4A-92-FF-3E-D5 |
| G | 36864 | 3C-4A-92-CE-24-B5 |

7.12.5 Unique identification of a bridge

A unique 48-bit Universally Administered MAC-Address, termed the Bridge Asdress shall be assigned to each Bridge.

The Bridge Address may be the individual MAC-Address of a Bridge Port in which case use of the address of the lowest numbered Bridge Port (Port 1) is recommended.

17.3.1 Composite of the active topology

The bridge with the best Bridge Indentifier is selected s the Root Bridge. The unique Brdige idnetifier for each Brdige is devided in part from the Brideg Address and in part from a manageable priority component. The relative priority of Bridges is determiend by the numerical comparison of the unique identifier with the lower numerical vslue indicating the better idnetifier.

Every Bridge has a Root Path Cost associated with it. For the Root Bridge this is zero. For all other Brdiges, it is the sum of the Port Path Costs on the least cost path to the Root Bridge. Each Path Cost may be managed. 17.14 recommends default values for Ports attached to the LAN of various speeds.

Das Lan System ist wie folgt aufgebaut:



1. Ermitteln Sie für die angegebenen Ports die Pfadkosten, die bis zur Root Bridge anfallen. Es gelten folgende Pfadkosten: 1 Gb/s 20.000 und 100 Mb/s 200.000.

|  |  |
| --- | --- |
| Switch/Port | Pfadkosten |
| A/1 |  |
| C/1 |  |
| C/4 | 40000 |
| D/1 |  |
| E/1 |  |
| F/1 |  |
| F2 |  |
| G/1 | 240000 |

1. Geben Sie an, welche Ports Root Ports (RP), welche Designated Ports (DP) und welche blockierte Ports (BP) sind.