

To calculate the time it takes to send the file we convert the size to bits

```
In[5]:= filesize = Quantity[640 * 103, "bytes"] * Quantity[8, "bits/byte"];
```

The final delay is the sum of all the individual transmission delays and the RTT

```
In[6]:= dAP = 
$$\frac{\text{filesize}}{\text{Quantity}[54 * 10^6, \text{"bits/ms"}]};$$

```

```
In[7]:= dmodem = 
$$\frac{\text{filesize}}{\text{Quantity}[100 * 10^6, \text{"bits/ms"}]};$$

```

```
In[8]:= dDSLAM = 
$$\frac{\text{filesize}}{\text{Quantity}[2 * 10^6, \text{"bits/ms"}]};$$

```

```
In[9]:= dInternet = 
$$\frac{\text{filesize}}{\text{Quantity}[1 * 10^6, \text{"bits/ms"}]};$$

```

```
In[10]:= delay = dAP + dmodem + dDSLAM + dInternet + RTT
```

```
Out[10]= 39.8325 ms
```