The CUSTOMER

Webpass is a local Wireless Internet Service Provider providing Ethernet Internet connections in large commercial, condominium, and apartment buildings in the San Francisco Bay Area.

CHALLENGES

Webpass' network is growing rapidly adding several new properties to it's existing network each week. Every potential property requires a minimum of 100Mbps data bandwidth. The groups of properties are aggregated onto links of at least 300Mbps. Webpass required a cost effective license free 100Mbps wireless solution to build into their network that would not require extensive engineering for each link and would be immune to interference common to unlicenced networks especially in urban environments.

SOLUTION

Webpass was not familiar with SAF Tehnika's microwave radio systems prior to purchasing test units for evaluation. After testing SAF CFIP-106 & Lumina radios it was determined that the equipment, mounts and antennas are very high quality and, most importantly, working as advertised. The interfaces are well thought out and provide all of the features Webpass required. Now Webpass network involves over 13 SAF 24GHz radio links with typical distance of 2 miles or less. In total, the network deploys over 150 links and SAF links are not an independent section of the network.

“The most importantly SAF radios work as advertised which is unusual in the wireless industry. The radios are advertised as 100 Mbps radios, and you can get 100 Mbps across the links - everytime.”

Mr. Charles Barr
President

Partner: 3dB Networks
Customer: Webpass Inc.
Location: San Francisco, CA, US
Solution: 24GHz CFIP-106 (100Mbps) & Lumina (366Mbps) microwave radio systems
Webpass topology utilizing SAF links

![Topology Diagram]

**Technical Specification**

<table>
<thead>
<tr>
<th></th>
<th>CFIP - 106 FODU</th>
<th>CFIP Lumina FODU</th>
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<tbody>
<tr>
<td>Frequency Bands (FCC)</td>
<td>6, 11, 18, 23, 24, 38 GHz</td>
<td>6, 11, 18, 23, 24, 38 GHz</td>
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<tr>
<td>Capacity</td>
<td>up to 106Mbps</td>
<td>up to 366 Mbps</td>
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<tr>
<td>Channel bandwidth</td>
<td>5/10/20/30 MHz</td>
<td>20/30/40/50/56 Mhz</td>
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<tr>
<td>Modulation</td>
<td>&quot;QPSK, 16APSK, 32APSK, 64QAM;</td>
<td>QPSK, 16APSK, 32APSK, 64QAM, 128QAM, 256QAM</td>
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<tr>
<td></td>
<td>for 14MHz bw only: 128QAM&quot;</td>
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<tr>
<td>T1</td>
<td>4 xT1 (18-pin connector)</td>
<td>none</td>
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<tr>
<td>Interfaces</td>
<td>RJ-45 (electrical)</td>
<td>RJ-45 (electrical) or ODC (optical)</td>
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<tr>
<td>Max Ethernet frame size</td>
<td>1916 bytes</td>
<td>9728 bytes</td>
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