

### C600/C800/C900 Series – DOCSIS 1.0 CMTS (upgradeable to 1.1)

C9 Networks provides a highly integrated, low maintenance & high performance Cable Modem Termination System (CMTS) at the lowest price in the industry. This solution is available in a 2U rackmount chassis as follows:

**C600L:** 1DSx1US – 80 Cable Modems

**C600:** 1DSx1US – 200 to 250 Cable Modems

**C800:** 1DSx2US – 400 to 500 Cable modems

**C900:** 1DSx4US – 750 to 800 Cable modems (1DSx4US is available as the C2000 model)

The CMTS includes the upconverter, CMTS servers (DHCP, TFTP & ToD) and the Subscriber Management System (SMS) for service activation and de-activation. All the components required for providing data on cable are integrated into a single box. This system with the highest performance for the lowest cost is an ideal solution for small MSO's, and for MTU/MDU operators.

#### Components of the System:

The core components of the C600/C800/C900 system are:

1. DOCSIS CMTS: The C600 supports 1DSx1US and C800 supports 1DSx2US channels and C900 supports 1DSx4US.
2. CMTS Servers: All the servers specified in the DOCSIS standard for CMTS operation are integrated into the CMTS. Typically the competition ships it as a separate box for an

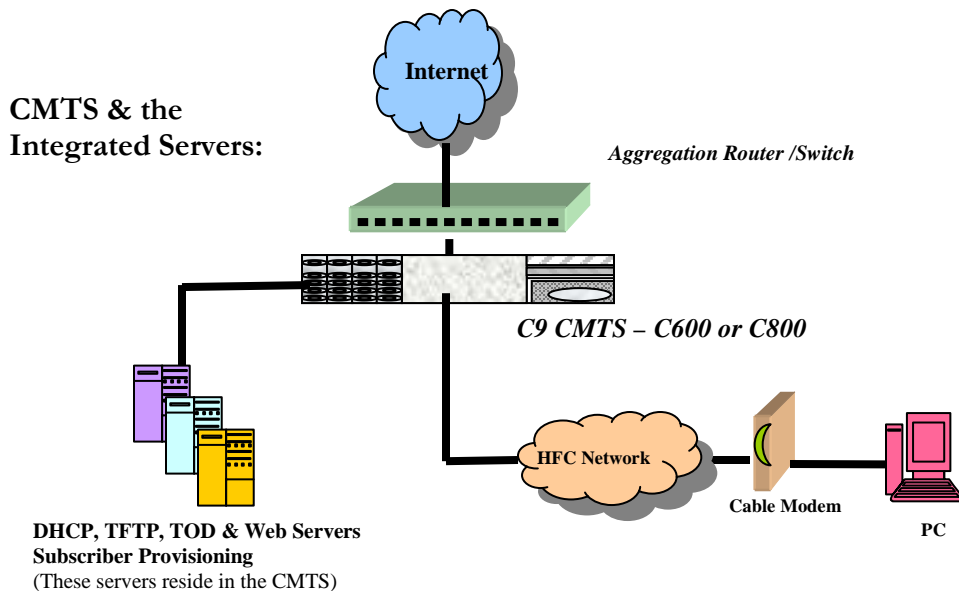
additional cost. The DHCP, TFTP & ToD are included in the CMTS

3. Subscriber Provisioning: Subscriber service activation and deactivation enables operator to choose the users/modems that can obtain data service in the network. Shipped along with CMTS (no extra cost)
4. Integrated Web server for local and remote configuration and management with a user-friendly GUI.
5. Integrated upconverter.

#### Applications of the C600/C800/C900 CMTS

The C600/C800/C900 CMTS is a compact solution for small MSO, smaller distribution hub, Multi-Tenant Units (MTU/MDU) or hospitality business. This solution enables the operator to provide Cable TV and data on the existing cable infrastructure. In the case of the MTU it eliminates the need to rewire the building with Cat5 for data service.

This purpose built CMTS enables the small MSO or the MTU/MDU operator to cost effectively roll out a complete solution at the flip of a switch. All the components required for the operation are integrated into a single box providing a cost-effective and user-friendly solution with a low cost of deployment. The C600/C800/C900 is the most cost effective CMTS solution in the market today.



## C600 & C800 Specifications :

C600 & C600L are the lowest cost CMTS with 1DSx1US.

C800 is the CMTS with 1DSx2US

C900 is the CMTS with 1DSx4US

	Description
Physical	Form Factor            2U rack-mount chassis. Height                    3.5 in Width                     19 in Depth                    14 in Weight                    - Rack Mounting         Yes
Power consumption	<ul style="list-style-type: none"> <li>• 100 Watts</li> </ul>
Network & Interfaces	<ul style="list-style-type: none"> <li>• Layer2 Bridge</li> <li>• Fast Ethernet uplink</li> </ul>
RF Spectrum Support	<u>Downstream Parameters</u> <ul style="list-style-type: none"> <li>• 1 Downstream Port</li> <li>• Downstream modulation 256QAM and 64QAM</li> <li>• Downstream per channel bit rate 38Mbps and 27 Mbps</li> <li>• Downstream IF signal: 44MHz at 32.5dbmV (+/- 2dbmV)</li> </ul> <u>Upstream Parameters</u> <ul style="list-style-type: none"> <li>• <b>1 Upstream port for C600</b></li> <li>• <b>2 Upstream ports for C800</b></li> <li>• <b>4 Upstream ports for C900</b></li> <li>• Upstream Modulation 16QAM and QPSK (various symbol rates supported)</li> <li>• Upstream per channel bit rate 10 Mbps</li> <li>• Upstream signal level: -11dbmV</li> </ul>
Upconverter	<ul style="list-style-type: none"> <li>• SW controlled, Agile Internal Upconverter (HW version V2)</li> <li>• Frequency range: 80 to 860MHz</li> <li>• Power level: 63dbmV</li> </ul>
DOCSIS Support	<ul style="list-style-type: none"> <li>• DOCSIS 1.0</li> <li>• DOCSIS 1.1 software upgradeable</li> <li>• Euro-DOCSIS support</li> <li>• Inter-operates with all DOCSIS modems</li> </ul>
User interface	<ul style="list-style-type: none"> <li>• CLI and Web based interface; Telnet, SNMP</li> <li>• Remote monitoring and configuration</li> </ul>
Network Management & Provisioning	<ul style="list-style-type: none"> <li>• SNMPv1 and v3</li> <li>• IETF MIBS</li> <li>• DOCSIS 1.0 MIBs</li> <li>• Web based network monitoring of CMTS, Cable Modems, Subscribers</li> <li>• Tools to monitor RF levels of CM and CMTS</li> <li>• Tools to display the MAC and IP address of CM and CPE's.</li> <li>• Cable Modem (CM) power levels at the CM and at the CMTS</li> </ul>
CMTS Servers	<ul style="list-style-type: none"> <li>• Servers: DHCP, TOD, TFTP, FTP, Telnet &amp; Web Server</li> <li>• Integrated with CMTS in the same chassis</li> <li>• DHCP Relay</li> </ul>
Subscriber Provisioning	<ul style="list-style-type: none"> <li>• Subscriber Provisioning Manager: Service activation/de-activation and IP address assignment/management.</li> <li>• Included in the same chassis as CMTS</li> </ul>
RF Network Monitoring tools	<ul style="list-style-type: none"> <li>• Web based network monitoring of CMTS, Cable Modems, Subscribers, Cable Modem (CM) power levels at the CM and at the CMTS</li> </ul>

## C600 and C800 Specifications (continued)

### QoS Features

QoS	<ul style="list-style-type: none"><li>• Bandwidth Rate control to manage bandwidth hogs.</li><li>• Multiple levels of service with configurable Upstream and Downstream bandwidths per subscriber.</li><li>• GUI configurable Service levels (Platinum, Gold, Silver, default/zero)</li></ul>
Filters	<ul style="list-style-type: none"><li>• Filters to selectively block traffic at the CM (or source) so such traffic cannot use the bandwidth on the network. Hence users with virus or malicious intent cannot abuse bandwidth on network or disrupt other subscribers.</li></ul>

### Security Features (We place high importance on security of the system, operator and the subscribers)

Password and ACL based security	<ul style="list-style-type: none"><li>• Password protection to access CMTS through Web Interface, Telnet, FTP and SNMP</li><li>• Access Control List (ACL): Enable only authorized users to access the CMTS.</li><li>• Hacker proof TFTP server</li></ul>
Configurable HTTP Port	<ul style="list-style-type: none"><li>• Configure HTTP to any port number desired.</li><li>• Protects system from routine hacking on well-known port 80.</li></ul>
Static IP blocker	<ul style="list-style-type: none"><li>• Disable users who abuse IP addresses or use unauthorized IP addresses.</li><li>• Helps track undesirable and malicious users.</li></ul>
Monitor CM and PC users	<ul style="list-style-type: none"><li>• Monitor MAC address and IP address of CM's and PC's at the same time, to monitor network users.</li></ul>
Private subnet for Cable Modems	<ul style="list-style-type: none"><li>• Separate subnet for Cable Modems</li><li>• Disable users from accessing the Cable modems (CMs) or messing with the CM configuration or bandwidth rates allocated to CMs.</li></ul>

### Other Features

DHCP & support for multiple subnets	<ul style="list-style-type: none"><li>• Easy to configure DHCP server</li><li>• Support multiple subnets both public and private at the same time</li><li>• Support for non-routable Private IP addresses for Cable Modems.</li><li>• Separate private subnet for Cable Modems</li></ul>
Monitor DHCP lease	<ul style="list-style-type: none"><li>• Monitor all the DHCP lease users</li></ul>
DHCP Relay Support	<ul style="list-style-type: none"><li>• Support for third party management servers.</li><li>• DHCP relay and tagging</li></ul>

### Differences between C600L/C600/ C800/C900:

- C600L: 1DSx1US: Total capacity is 80 CMs. (Software upgradeable to C600)
- C600: 1DSx1US: Total capacity is 200 to 250 CMs.
- C800: 1DSx2US: Total capacity is 400 to 500 CMs.
- C900: 1DSx4US: Total capacity is 750 to 800 CMs.

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