The Nokia Cloud Mobile Gateway appliance (CMG-a) is a multi-functional packet core mobile gateway that provides expanded deployment flexibility with pre-integrated software packages to support a diverse range of business and operational deployment models. The CMG-a leverages the same Cloud Mobile Gateway software from the industry leading Nokia Cloud Packet Core solution – with its proven deployment in global Tier 1 communications service provider networks, supporting a comprehensive 3GPP mobile gateway feature set.

Features

Deployment flexibility
To deliver the required architectural and deployment flexibility, the CMG-a supports pre-integrated hardware configurations: the CMG-a2 and the CMG-a8. Centralized and distributed network architectures can be supported to meet service, application, and business requirements.

The CMG-a supports a wide range of mobile gateway functions in the mobile packet core, for licensed 2G/3G/4G/and 5G radio access. It also supports unlicensed and shared spectrum, including extensive Wi-Fi and MulteFire support, as well as LTE-based CBRS.

The CMG-a supports the following network functions:

- Packet Data Network Gateway (PGW)
- Serving Gateway (SGW)
- Evolved Packet Data Gateway (ePDG)
- Trusted Wireless Access Gateway/Proxy (TWAG/TWAP)
- Service Steering Gateway (SSG)
The CMG-a supports pre-integrated packages: the CMG-a2 and the CMG-a8.

The CMG-a pre-integrated packages use the 19-inch Nokia Airframe rackmount server for rapid deployment and operational integration. The server supports redundant AC or DC power supplies, as well as redundant cooling fans. By reducing energy consumption, the Nokia Airframe server is optimized for lowering data center operation costs. The server includes Nokia-specific enhancements that make it more efficient than existing x86-based servers to run demanding services and applications.

The CMG-a8 also uses the Nuage Networks 210 WBX — a 1RU data center gateway for interconnectivity between the CMG-a8 servers. The 210 WBX supports redundant AC or DC power supplies, as well as protection against cooling fan failures.

The CMG-a2 hardware configuration includes:
- 2 x 1RU Nokia Airframe servers

The CMG-a8 hardware configuration includes:
- 8 x 1RU Nokia Airframe servers
- 2 x Nuage Networks 210 WBX data center gateways

CMG-a management

The CMG-a is managed by the Nokia Network Services Platform, Network Function Management module (NFM-P). The CMG-a supports both traditional telco TL1/SNMP and IT NetConf/Yang management environments. Together with Nokia NetAct, they provide a single, consolidated view of the mobile network. The Nokia NFM-P is the same management system (NMS) for the Nokia Cloud Packet Core and mobile IP transport network solutions.

The NFM-P provides the fault, configuration, accounting, performance, and security (FCAPS) management capabilities for the CMG-a, as well as other Nokia Cloud Packet Core elements. NetAct provides an end-to-end view of the entire mobile network (Radio Access Network [RAN] and mobile core). The NFM-P also provides an interface to NetAct for fault management and performance monitoring. As a pre-integrated appliance, the CMG-a does not require Network Functions Virtualization (NFV) Management and Orchestration (MANO) support.
Technical specifications

Cloud Mobile Gateway (CMG)

Standards and protocols

3GPP standards

- TS 23.060
- TS 23.203
- TS 23.234
- TS 23.401
- TS 23.402
- TS 24.302
- TS 29.060
- TS 29.212
- TS 29.273
- TS 29.274
- TS 29.275
- TS 29.281
- TS 32.251
- TS 32.295
- TS 32.297
- TS 32.298
- TS 32.299
- TS 33.102
- TS 33.106
- TS 33.107
- TS 33.108
- TS 33.402

Table 1. Nokia 1RU Airframe rackmount server

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>• Height: 43.2 mm (1.71 in)</td>
</tr>
<tr>
<td></td>
<td>• Width: 4440 mm (17.32 in)</td>
</tr>
<tr>
<td></td>
<td>• Depth: 780 mm (30.70 in)</td>
</tr>
<tr>
<td>Weight (max config)</td>
<td>15.0 kg (44.03 lb)</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>5°C to 40°C (41°F to 104°F)</td>
</tr>
<tr>
<td>Operating relative humidity</td>
<td>20% to 80% RH</td>
</tr>
<tr>
<td>Power</td>
<td>800W Titanium redundant PSU, 100-240VAC 50/60Hz, AC/HVDC support</td>
</tr>
<tr>
<td>Cooling</td>
<td>(8) dual rotor fans (15+1 redundant)</td>
</tr>
</tbody>
</table>

Table 2. Nuage Networks 210 WBX data center gateways

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>• Height: 43 mm (1.69 in)</td>
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<tr>
<td></td>
<td>• Width: 438.5 mm (17.26 in)</td>
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<tr>
<td></td>
<td>• Depth: 460 mm (18.11 in)</td>
</tr>
<tr>
<td>Weight (max config)</td>
<td>10 kg (27.6 lb)</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>0°C to 40°C</td>
</tr>
<tr>
<td>Operating relative humidity</td>
<td>5% to 85% RH</td>
</tr>
<tr>
<td>Power</td>
<td>800 W AC/DC, 1+1 redundant</td>
</tr>
<tr>
<td>Cooling</td>
<td>Fan tray [4 +1]</td>
</tr>
</tbody>
</table>

For more detailed specification information, please contact your Nokia sales representative.
Ordering information
The CMG orderable items consist of the hardware package required, the operating system software, and the application software licenses (ASLs) based on the required network functions. For ordering questions, please contact your Nokia sales representative.

Learn more
For more information about the Nokia Cloud Mobile Gateway, please visit: https://www.nokia.com/networks/products/cloud-mobile-gateway/