

EPC-in-a-box:



Instant elastic & automated core network appliance

New 4G/5G-ready Evolved Packet Core solution jointly commercialised by Montimage and Cumucore (<https://cumucore.com/>).

Network core developed by **Cumucore**:

- Flexible, agile, scalable 4G and 5G-ready core;
- Reduce high upfront investments in the core;
- Pay as you grow based on actual used capacity;
- Reduce OPEX due to better automation and more optimized network;
- Integrated with software-defined networking and network function virtualization;
- Improve operator ARPU by enabling personalized services to their customers;
- Fast deployment in 5 minutes;
- IoT ready network infrastructure (slicing, efficiency);
- Reliable and robust core for emergency and safety networks;
- Future proof with extensions to become 5G core.



Integration with optimized services; caching, content delivery, IPTV and OTT services:

- Traffic savings in packet core of up to 40%;
- End-to-end latency reduced by 60%.

Network monitoring developed by **Montimage**:

- Intelligent distributed monitoring agents;
- Fine-grained and configurable network visibility;
- Security and performance monitoring based on DPI and machine learning;
- Automated management and control;
- Customizable dashboards to define new collected statistics and configure new views or customize a large list of predefined ones;
- Dynamically updated topology; information, statistics, configuration of eNodeBs, MMEs and UEs.



Selection of dashboards:

Contact information

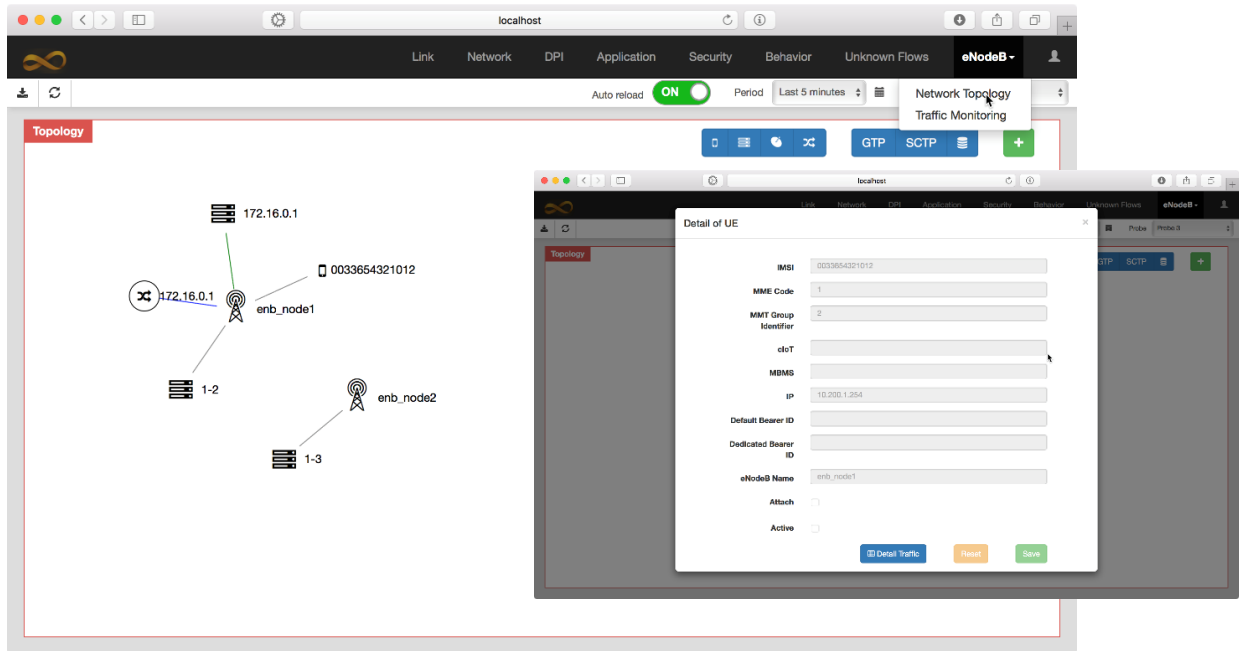
Partnership plan: Integration of Network Core and Monitoring solutions within your system
Set-up of Proof of Concepts
Deployment and operation of Network Core and Monitoring solutions

Send an email to: contact@montimage.com info@cumucore.com

Acknowledgements

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France (**SIGMONA+SENDATE**: Montimage, by Direction Générale des Entreprises and Systematic Paris Region Cluster)

1) Dynamically updated **topology** and **configuration** of network elements:



The screenshot displays the Cumucore interface with a network topology diagram and a 'Detail of UE' modal window.

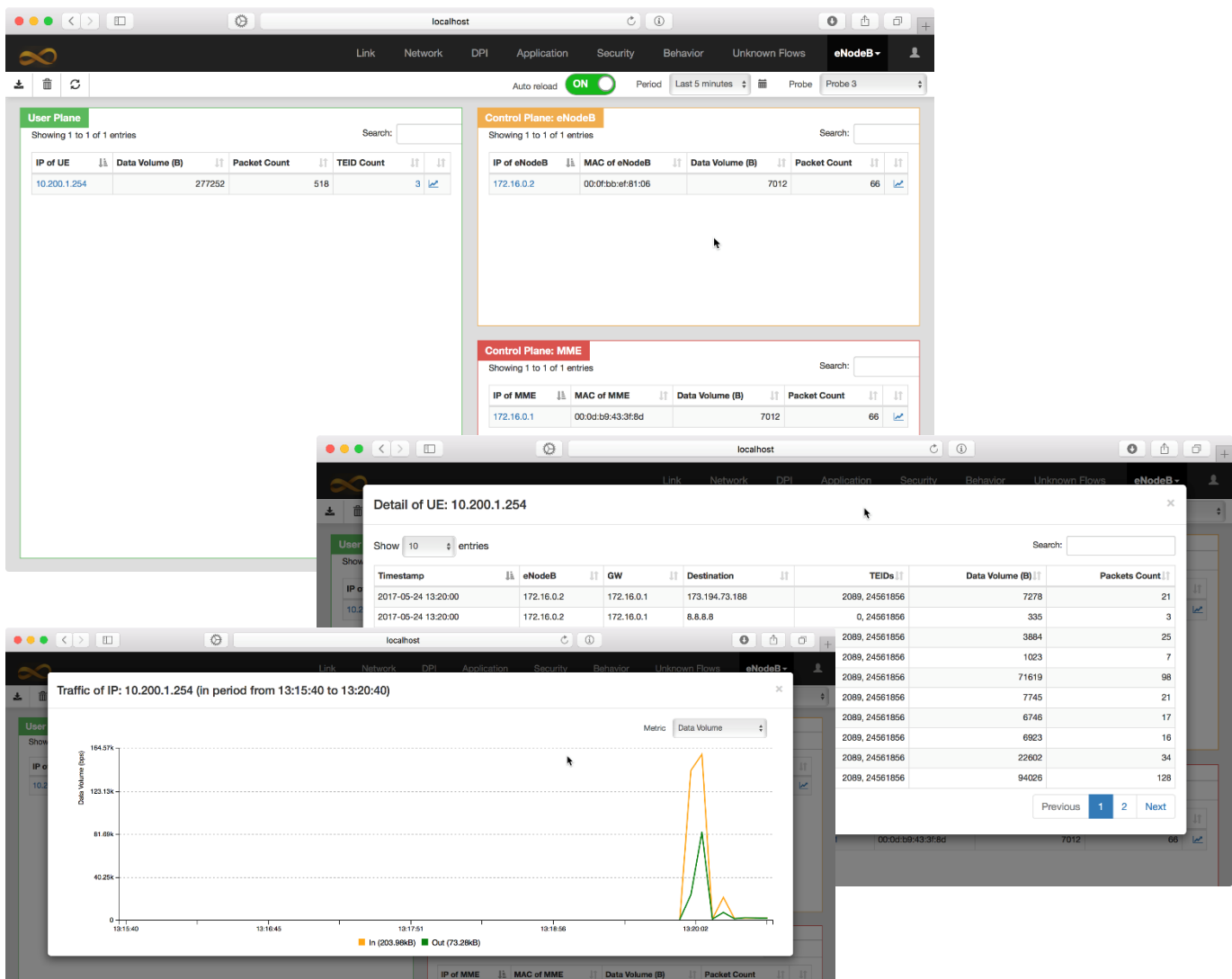
Topology Diagram: Shows a network structure with nodes labeled '172.16.0.1', 'enb_node1', 'enb_node2', '1-2', and '1-3'. A mobile phone icon with the number '0033654321012' is connected to 'enb_node1'.

Detail of UE Modal: Contains the following fields:

- IMSI: 0033654321012
- MME Code: 1
- MME Group Identifier: 2
- ctoT: [empty]
- MBMS: [empty]
- IP: 10.200.1.254
- Default Bearer ID: [empty]
- Dedicated Bearer ID: [empty]
- eNodeB Name: enb_node1
- Attach:
- Active:

Buttons at the bottom of the modal include 'Detail Traffic', 'Reset', and 'Save'.

2) Detailed **information** and **statistics** of eNodeBs, MMEs and UEs:



The screenshot displays the Cumucore interface with detailed statistics for User Plane, Control Plane (eNodeB and MME), and UE traffic.

User Plane Table:

| IP of UE | Data Volume (B) | Packet Count | TEID Count |
|--------------|-----------------|--------------|------------|
| 10.200.1.254 | 277252 | 518 | 3 |

Control Plane: eNodeB Table:

| IP of eNodeB | MAC of eNodeB | Data Volume (B) | Packet Count |
|--------------|-------------------|-----------------|--------------|
| 172.16.0.2 | 00:0f:bb:ef:81:06 | 7012 | 66 |

Control Plane: MME Table:

| IP of MME | MAC of MME | Data Volume (B) | Packet Count |
|------------|-------------------|-----------------|--------------|
| 172.16.0.1 | 00:0d:b9:43:3f:8d | 7012 | 66 |

Detail of UE: 10.200.1.254 Table:

| Timestamp | eNodeB | GW | Destination | TEIDs | Data Volume (B) | Packets Count |
|---------------------|------------|------------|----------------|----------------|-----------------|---------------|
| 2017-05-24 13:20:00 | 172.16.0.2 | 172.16.0.1 | 173.194.73.188 | 2089, 24561856 | 7278 | 21 |
| 2017-05-24 13:20:00 | 172.16.0.2 | 172.16.0.1 | 8.8.8.8 | 0, 24561856 | 335 | 3 |
| | | | | 2089, 24561856 | 3884 | 25 |
| | | | | 2089, 24561856 | 1023 | 7 |
| | | | | 2089, 24561856 | 71619 | 98 |
| | | | | 2089, 24561856 | 7745 | 21 |
| | | | | 2089, 24561856 | 6746 | 17 |
| | | | | 2089, 24561856 | 6923 | 16 |
| | | | | 2089, 24561856 | 22602 | 34 |
| | | | | 2089, 24561856 | 94026 | 128 |

Traffic of IP: 10.200.1.254 (in period from 13:15:40 to 13:20:40) Figure:

The figure is a line graph showing Data Volume (B) on the Y-axis (0 to 164.57K) and Time on the X-axis (13:15:40 to 13:20:40). The legend indicates In (203.96KB) and Out (73.26KB).