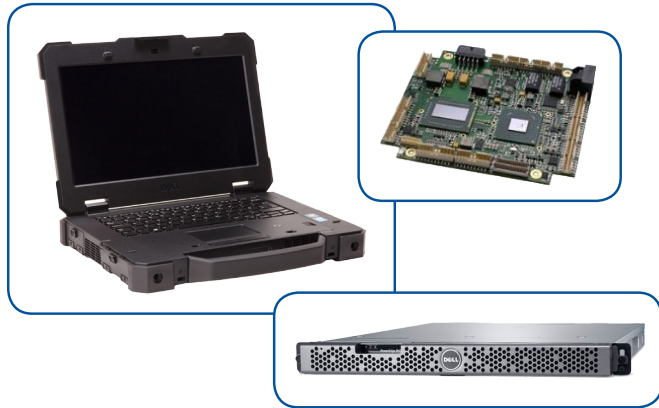


Fortress[®] LTE Virtual Core Network (vCN)

Connectivity with Certainty



All the functionality of a COTS server in a complete, highly scalable Evolved Packet Core (EPC) solution

Deployable on a variety of COTS computing platforms

Low SWaP reduces total cost of ownership

Customizable for private, public safety and tactical LTE deployable networks

Security zone and firewall protects against external attacks

About General Dynamics Fortress LTE

Ideal for small to large specialized private wireless deployments, Fortress LTE delivers an end-to-end solution providing 'always on' high speed network access to vital information including voice, video, data, text and chat using any 3GPP compliant LTE enabled device. Fortress LTE solutions are frequency agile, customizable for specific applications and designed for harsh, permanent or temporary deployments where network access may not be available. Fortress LTE is a cost-effective, single vendor end-to-end solution consisting of:

- 4G Core Network
- Radio Access Network (Base Station)
- User Equipment (UE)

What Sets Us Apart:

Virtualization – Facilitates deployment on a wide range of COTS or application specific platforms, optimizing Space, Weight and Power (SWaP) and reducing total cost of ownership

3GPP Compliant – Fully interoperable with the Fortress LTE portfolio, enabling end-to-end integration into state-of-the-art public safety and tactical communication networks

High Performance – The flexibility of up to 8,000 UEs and 1Gbits/s user plane, full duplex delivers a customizable solution for private, public safety and tactical deployable systems

Scalability – Facilitates the creation of distributed core network architectures incorporating multiple VCNs to support multiple deployables or highly resilient fixed networks

Secure – Security zone and firewall protects against sophisticated external attacks

vCN Enhanced Functionality Features

Integrated Evolved Packet Core (EPC) – 3GPP Evolved Packet Core (EPC) containing Mobility Management Entity (MME), Serving GateWay (SGW), Packet data network GateWay (PGW), Home Subscriber Server (HSS) and Policy Charging Rules Function (PCRF) logical nodes

Management System – Contains an Element Management Server (EMS) that facilitates configuration, performance monitoring, accounting, fault and security management capabilities for the RAN and EPC. This enables the EPC software to be updated by the system manager without the need of support from General Dynamics Mission Systems

Application Server Framework – A framework that enables the integration of customer specific application servers such as HTTP, media and voice (IMS/VoIP)

Virtual Switch Fabric – A high performance switch fabric, firewall and gateway enables secure external network connectivity

Domain Controller – Contains LDAP, DNS, NTP and licensing servers

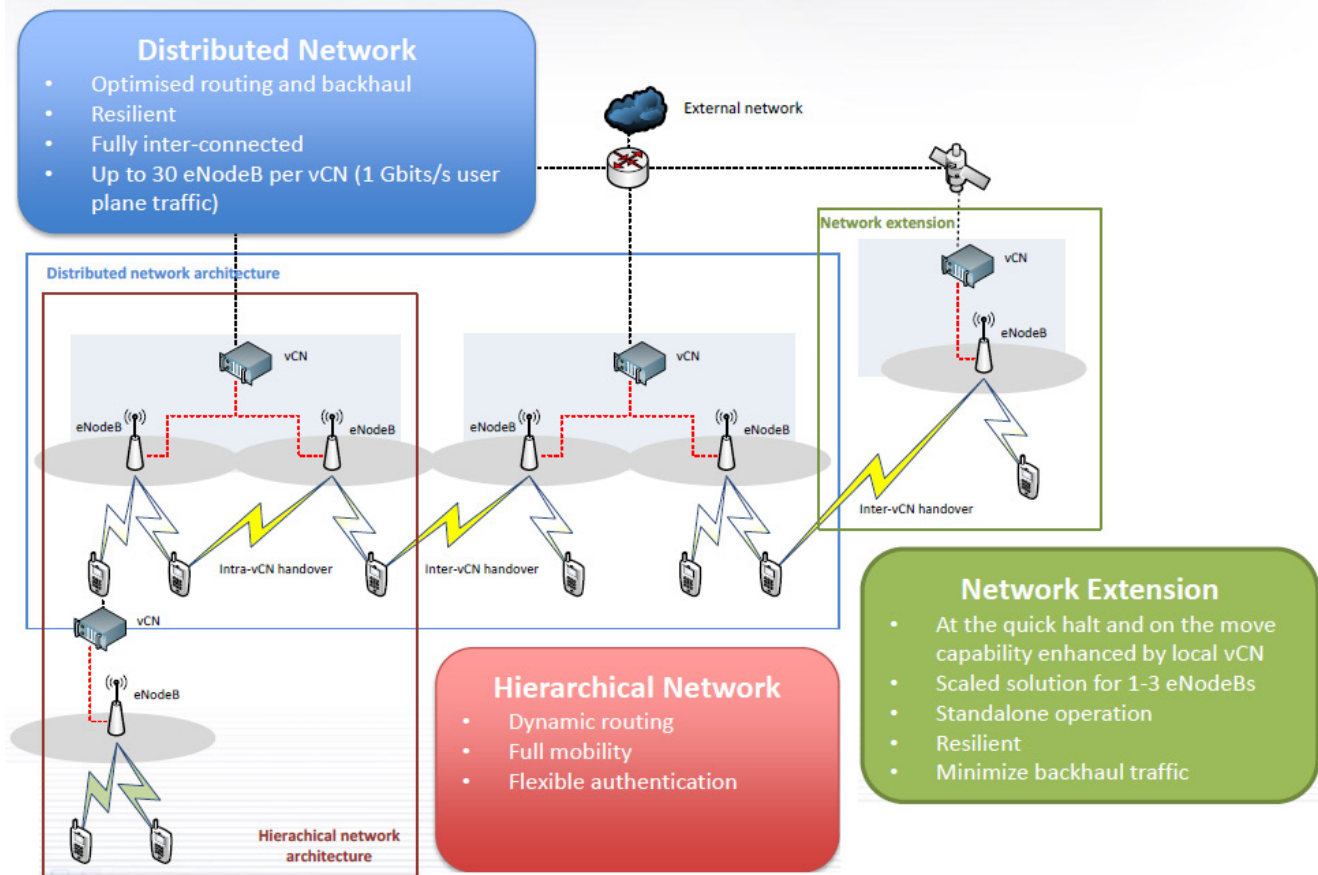
vCN Optional Features

Diameter Routing Agent (DRA) – Enables a distributed Home Subscriber Server (HSS) architecture and facilitates inter-PLMN roaming

Security Gateway – Enables IPSec protection of the link between the vCN and the eNodeB, as well as inter-vCN links

Application Servers – Enable the vCN to operate independently as a self-contained network

Fortress LTE Virtual Core Network (vCN)



Configurations

- Flexible deployment: two end-to-end system configurations are available to meet the needs of deployable systems and small fixed or transient networks:
 - Up to 8,000 simultaneously connected UE
 - Up to 1Gbits/s user plane traffic, full duplex
- Platform: vCN is available on a range of prequalified and tested 1u COTS server platforms ideally suited for deployable systems
- Software: vCN is available as a software package ready for integration on to an application specific server
- Network Domain Security: vCN can support 3GPP NDS (IPSec tunnels) via an optional integrated security gateway (SEG) or via external SEG hardware

Specifications

- Supported functions**
 - EPC – MME, S-GW, PDN-GW, HSS, PCRF, EIR, CGF
 - Management – EMS, UMS
 - Application framework – ready for deployment specific application integration
- External interfaces**
 - eNodeB - S1-U, S1-MME, OAM
 - Local management
 - External IP connectivity
 - Physical separation of user, control and management plane traffic
- Performance**
 - Up to 8,000 simultaneously connected UEs
 - Up to 1Gbits/s user plane traffic, full duplex
- Security**
 - Integrated user configurable firewall and optional support for 3GPP compliant network domain security (IPSec tunnels)
- 3GPP compliance**
 - 3GPP release 10 (software upgradeable)

GENERAL DYNAMICS

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