

Fortress® Virtual Core Network (vCN) Rugged Laptop

Connectivity with Certainty



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

Ideal for transportable systems where local management capability is required

Ruggedized for harsh tactical environments

Low SWaP reduces total cost of ownership

Security zone and firewall protects against external attacks

Overview

The Fortress Virtual Core Network (vCN) Rugged Laptop has been specifically designed and optimized for distributed LTE network deployments. Available on the Dell Latitude 14 Rugged Extreme laptop, the vCN is ruggedized for outdoor environments and is ideal for transportable systems where local management capability is required. The vCN's highly flexible architecture can be tailored to meet operational, deployment scenario and system requirements. It contains a 3GPP Evolved Packet Core (EPC) and other essential network support functions for a complete core network solution. In addition it can also host a number of optional functions, which can be included as required. The vCN is also available on the Dell R430 or the Dell XR2 ruggedized server platforms.

What Sets Us Apart

- **Virtualization** – Facilitates deployment on a wide range of COTS or application specific platforms optimizing Size, 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 communication networks
- **High Performance** – The flexibility of up to 8,000 UEs and 1 Gbits/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 for highly resilient fixed networks
- **Secure** – Security zone and firewall protects against sophisticated external attacks

Enhances Functionality Features

- **3GPP Evolved Packet Core (EPC)** - Mobility Management Entity (MME), Serving GateWay (SGW), Packet data network GateWay (PGW) and Policy Charging Rules Function (PCRF) logical nodes
- **Management System** - Contains an Element Management Server (EMS) that facilitates fault, configuration, accounting, performance, and security management capabilities for the RAN and EPC
- **Virtual Switch Fabric** – High performance switch fabric, firewall and gateway that enables secure external network connectivity
- **Domain Controller** - Contains LDAP, DNS, NTP and licensing servers
- **Equipment Identity Register (EIR)** - Allows device access control

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Dell Latitude 14 Rugged Extreme Laptop

Ruggedized Features

- MIL-STD-810G testing
 - Transit Drop (72", 60", 48", single unit; 78 drops)
 - Operating Drop (36")
 - Blowing rain, blowing dust, blowing sand
 - Vibration
 - Functional shock
 - Humidity
 - Salt fog (ruggedized keyboard)
 - Altitude
 - Explosive atmosphere
 - Solar radiation
 - Thermal extremes/shock
 - Freeze/thaw
 - Tactical standby to operational
- Operational thermal range: -20°F to 145°F (-29°C to 63°C)
- Non-operating range: -60°F to 160°F (-51°C to 71°C)
- IEC 60529 ingress protection5: IP65 dust-tight, protected against pressurized water
- Hazardous locations: ANSI/ISA.12.12.01 certification capable (Class 1, Division 2, Groups A, B, C, D)
- Electromagnetic interference: MIL-STD-461F certified

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
- HSS database replication

Specifications

| | Dell Extreme 14 Laptop Platform |
|---|---------------------------------|
| Processor | Intel i7 Quad Core |
| RAM | 16 GB |
| HDD | Single 512 GB SSD |
| Ethernet | 2 x GBE |
| Weight | 7.79 lbs. (3.54 kg) |
| Maximum EPC User Plane traffic | 100 Mbps DL / 50 Mbps UL |
| Maximum number of simultaneously connected UE | 768 |
| Maximum number of HSS Subscriptions | 1,000 with on-board HSS |

GENERAL DYNAMICS

Mission Systems

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