Ericsson’s open, software defined infrastructure (SDI) extends the business agility and operational efficiency of the cloud into the hardware layer of our Network Functions Virtualization Infrastructure (NFVI) solution, increasing the scalability, elasticity and hardware utilization of your datacenter.

Following the European Telecommunication Standards Institute (ETSI) model, Ericsson’s NFVI solution replaces the vertically integrated systems that traditionally host telecom network functions with an open cloud infrastructure that hosts virtual network functions (VNFs). However, instead of configuring our hardware into separate, statically cabled configurations that can host only local workloads, Ericsson SDI is pre-cabled into a common hardware pool available to all workloads across the entire infrastructure, regardless of which Virtual Infrastructure Manager (VIM) handles them.

This pool is open, connecting compute and storage resources from Ericsson and vendors, such as Dell and HP, through a common switching fabric. It then logically allocates those resources into virtual, performance-optimized datacenters (vPODs), which can be rapidly created, expanded, reduced, or deleted without the need for manual reconfiguration or re-cabling.

About Ericsson NFVI
Ericsson has developed a system-verified solution that follows ETSI architectural principles. Open source components are a natural part of the solution. We have pre-integrated, tested, and documented not only the individual components, but the entire solution to make sure it works with the reliability and performance expected from a telco-grade platform ready for 5G.
This approach provides multiple benefits in several real-world use cases:

**Rapid hardware provisioning**
If a VNF needs extra capacity, it can quickly be added from the common pool to its vPOD. A common hardware pool serves as a capacity buffer to the entire SDI, reducing the capacity buffer by 50 percent and overall hardware requirements by up to 15 percent.

**Deploy multiple VIM instances**
Because vPODs are logically isolated from each other, you can tune the global parameters of each VIM — Ericsson CEE — to match the requirements of the VNFs it hosts.

**Simplified migration and upgrades**
vPODs are so easy to create, modify, and remove that you can manage the life cycle of your components, including migration and upgrades, in a way that reduces capex and keeps legacy services running smoothly.

**Logically separated environments**
Logically separating management and storage in their own vPODs away from the vPODs used by the VNF execution environments simplifies orchestration and improves both security and reliability. It also makes storage available to all vPODs in the SDI.

**Low-risk transition from pre-production to production environments**
A pre-development environment in vPODs that is identical to the production environment — down to the same IP address, plan and hardware configuration — reduces the incidence of faults and outages, shortens testing time, and simplifies DevOps. This approach increases your operational efficiency and speeds up time to market.

**Unified hardware management across organizations**
With vPODs, separate and independent IT, Operations and Business Support Systems (OSS/BSS) and telecom services organizations can share the same SDI, benefit from a simplified and common set of tools, and even identify synergies between organizations.

**A common set of hardware management operations across the infrastructure**
The software-defined nature of a common hardware pool makes possible a simpler, less costly, and efficient set of horizontal operations, to replace the disparate operations of a siloed infrastructure.

**A single integration point**
Although it manages compute and storage hardware from multiple vendors, and even though that hardware can be allocated to multiple vPODs in a variety of configurations, Ericsson SDI uses a single management platform for all hardware. This approach makes it easier to integrate new platforms from vendors into the infrastructure, as well as managing the life cycles of both hardware components and management systems.

**An NFVI that scales out**
Ericsson SDI gives you the option of having multiple VIM instances, whether to accommodate different performance requirements, handle migration for fast setup and tear-down of pre-production environments, or logically separate storage and management environments. The result is a cloud environment that has the ability not only to scale up or down, but also to scale out.

If you need a new cloud environment — whether to support additional VNFs, business applications, or IT needs — you can simply create a new vPOD to host its execution environment. You don’t need to restructure the management platform or alter the storage configuration, other than perhaps adding more to it if needed. The new vPOD just gets added to the existing infrastructure, while everything else remains exactly the same.