

A unique solutions initiative that empowers the network to deliver a new generation of services

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Q. What is Open Services Networking (OSN)?

- A. Open Services Networking (OSN) is an initiative from 3Com that allows tight integration into the infrastructure of a wide range of network applications to enable a diverse set of services. The OSN initiative is predicated on three enabling elements:
- › OSN-enabled network infrastructure products (routers and switches)
 - › OSN applications delivered via strategic technology partnerships
 - › 3Com® Open Network™ (3Com|ON™) Program

The OSN initiative leverages proven 3Com routing and switching platforms and adds to them an open Linux-based services module capable of enabling a virtually unlimited range of additional applications. The combination allows a single integrated platform to deliver new services that can be extensively customized to the needs of any environment. With the addition of an open Linux-based services module, OSN-enabled routing and switching platforms provide unmatched flexibility to meet evolving business needs with support for applications from a multitude of sources—including 3Com, third-party developers, customer-developers or even open source application developers. Applications are delivered through the 3Com Open Network Program that provides 3Com technology partners with a wealth of resources and support capabilities to facilitate joint solutions development with 3Com.

Q. What value does an OSN infrastructure deliver? What problems or challenges does it address?

- A. The OSN initiative allows a single hardware platform—far easier to install and manage than a number of single-purpose devices—to support a virtually unlimited range of services via an extensible set of network applications. The applications can come from a variety of sources, rather than just a single vendor, so that organizations can choose the most innovative technology solution that best matches business needs. The initiative addresses system management and network performance challenges, as well as the need of organizations to respond quickly to evolving business, security and technology environments.

Q. What makes an OSN infrastructure different from other “integrated” solutions?

- A. The main differentiator is flexibility. An OSN infrastructure delivers a level of flexibility for innovation and network services customization that other vendors cannot come close to matching. And, this versatility is accomplished without the vendor lock-in associated with other “integrated” platform solutions that can limit customers to technology developed by one vendor—an approach that restrains innovation, increases the time to market for new solutions and locks customers into that single vendor’s portfolio. In contrast, 3Com’s approach offers a highly flexible and open solution that maximizes innovation, reduces time to market for delivering new services and does not lock customers into a particular solution. The OSN initiative allows for change as business needs dictate. Using an open Linux-based infrastructure, OSN-enabled routing and switching platforms can support applications from a variety of development sources—3Com, third-party independent software vendors (ISVs), customers themselves (e.g., “home grown” applications) or even from within the open source development community.

Q. Are service and support considerations included in the OSN initiative?

A. Yes, service and support are important elements in the OSN initiative. 3Com ExpressSM and GuardianSM contracts provide hardware support for OSN-enabled products, including advanced hardware replacement, technical support, operating system updates and web services with selectable levels of support. The 3Com Software Application Support Service is available for specified open source software, as well as for 3Com OSN applications. Services include 24x7 telephone technical support, bug fixes, software upgrades and 3Com web services for covered software applications.

Q. Does the OSN initiative put 3Com in competition with vendors such as IBM, Dell and HP for “blade servers”?

A. No, the OSN initiative is not focused on the general business applications organizations run on their enterprise servers or “blade servers”, but rather on applications that are best suited to be integrated into the network infrastructure, network-centric applications such as those that improve network security; enhance network management, monitoring and control; improve the performance of business applications running over the network or allow an organization to monitor network traffic to ensure compliance with internal or external regulations.

Q. How is an OSN infrastructure different from just running a server card in a switch or router?

A. OSN-enabled platforms are purpose-built to efficiently and securely integrate a Linux operating environment into the switching and routing infrastructure. The OSN initiative calls for more than simply running a Linux server in the same chassis as a router or switch. At the physical level, an OSN Module (OSN|M) is a fully-manageable, tightly integrated component of the router or switch. Furthermore, critical to the OSN infrastructure is a robust set of provisioning, management, security and control software embedded in the OSN|M called the OSN Control Agent (OSN|CA). The OSN|CA enables efficient distribution and management of applications, secure access to the underlying network features of the router or switch and robust failover and fault tolerance capabilities. This dedicated control channel between the infrastructure and OSN|M architecture guarantees high serviceability.

Q. How will 3Com ensure security on an “open” networking platform?

A. An OSN infrastructure includes multiple hardware and software protection points. First, infrastructure hardware with enhanced access control mechanisms—including NAT, Packet Firewalls, Enhanced Access Control Lists and Deep Traffic Flow Monitoring—shield OSN-enabled Linux-based platforms from any outside network. Second, the Linux-based platform has been hardened by creating a strict controlled distribution model, designed to include NSA's SE-Linux component for a strong, flexible mandatory access control architecture incorporated into all subsystems of the operating system and kernel. The design addresses threats of tampering and bypassing security mechanisms, as well as potential vulnerabilities introduced by flawed or malicious third-party or open source applications.

Q. Won't performance be degraded as more services are put on a network router or switch?

A. There are two ways to think about this question. One is a question of whether routing or switching performance is degraded when other network services are added via new software applications. The second is a question of whether multiple services (applications) running on the same platform will limit performance of these services.

› **Routing or Switching Performance:** On an OSN-enabled router or switch, there is a separation between the routing/switching functions and the open services architecture which runs other services. To think of it another way, there are separate and unique computing resources responsible for handling each function, so that adding new applications to provide additional network services does not directly impact the routing or switching performance of the device.

› **Application Performance:** Depending on the demands of particular applications, there is a limit to what can run effectively on any single computing platform, and this is true for OSN-enabled platforms as well. Therefore, consideration must be given when combining multiple applications to be sure they will perform as required for the environment in which they will be used. Ideally, this involves testing specific combinations of services together on a given hardware platform to verify performance. The 3Com Open Network Program and technical forums provide guidance to customers on the performance and configurations supported for applications.

Q. What types of applications integrate best with an OSN infrastructure?

A. Network-centric services are the best fit for an OSN infrastructure, including applications and services that improve network security; enhance network management, monitoring and control; improve the performance of business applications running over the network or allow an organization to monitor network traffic to ensure compliance with internal or external regulations. While these are the types of applications that 3Com believes have the greatest potential as part of the OSN vision, the true value of the OSN initiative is the freedom it gives organizations to determine the best applications for their networks and to choose the sources for those applications.

Q. Why would third-party software vendors want to work with 3Com? Won't they risk eroding their current market(s) for their software?

A. Independent Software Vendors (ISVs) will gain an additional sales channel—and incremental revenue—by working with 3Com to integrate their technology into an OSN infrastructure. The collaborative relationship will create new solutions to market and won't preclude them from continuing to offer their technology in a standalone fashion (e.g., as a standalone software application or in the form of a hardware “appliance”). Their current market opportunity is not eroded. It is expanded. In addition, with the launch of the 3Com Open Network Program, ISVs can join a structured, technology partner program that will provide them with a wealth of resources and support programs to facilitate the pairing of their solutions with the extensive 3Com solution portfolio.

Q. Won't an OSN infrastructure lock customers into a 3Com-only solution?

A. Absolutely not! The fundamental idea behind the OSN vision is to offer a flexible, open solution that allows customers to choose the applications they wish to integrate from among a wide range of sources. Applications can come from 3Com, third-party independent software vendors, customers themselves (e.g., “home grown” applications) or even from within the open source development community. This is the essence of “open” in Open Services Networking!

