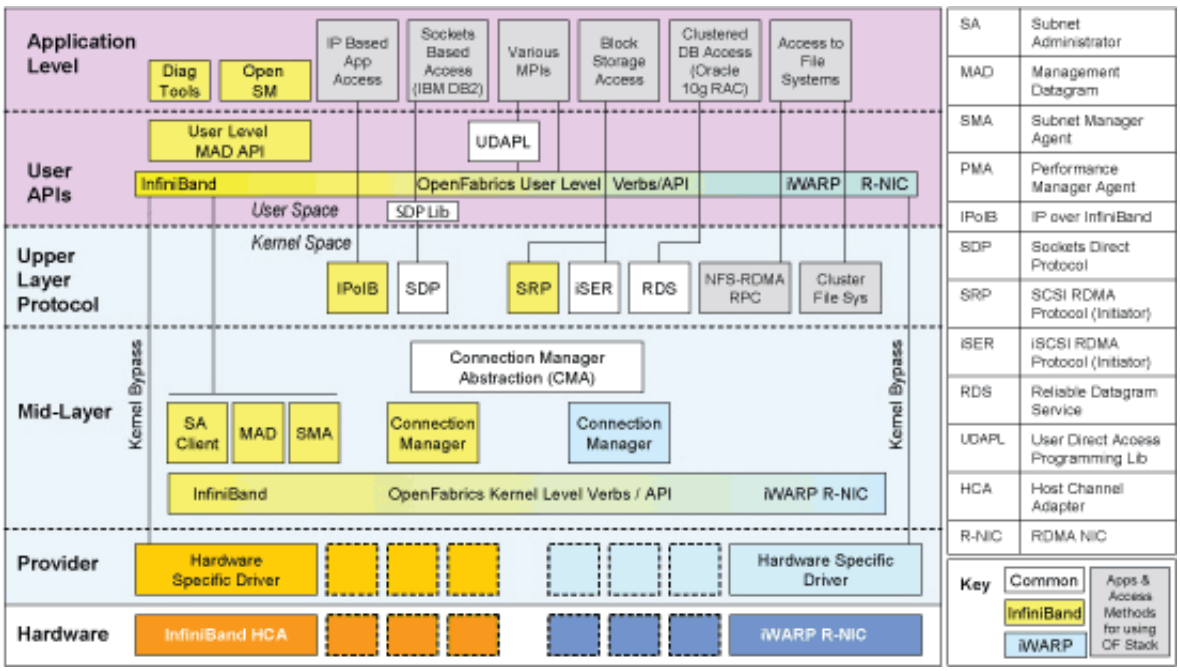
OFED Overview (/index.php/openfabrics-software-home.html)

The OpenFabrics Enterprise Distribution (OFED™)/OpenFabrics Software is open-source software for RDMA and kernel bypass applications. OFS is used in business, research and scientific environments that require highly efficient networks, storage connectivity and parallel computing. The software provides high performance computing sites and enterprise data centers with flexibility and investment protection as computing evolves towards applications that require extreme speeds, massive scalability and utility-class reliability.

OFS includes kernel-level drivers, channel-oriented RDMA and send/receive operations, kernel bypasses of the operating system, both kernel and user-level application programming interface (API) and services for parallel message passing (MPI), sockets data exchange (e.g., RDS, SDP), NAS and SAN storage (e.g. iSER, NFS-RDMA, SRP) and file system/database systems.

The network and fabric technologies that provide RDMA performance with OFS include: legacy 10 Gigabit Ethernet, iWARP for Ethernet, RDMA over Converged Ethernet (RoCE), and 10/20/40 Gigabit InfiniBand.

OFS is available for many Linux and Windows distributions, including: Red Hat Enterprise Linux (RHEL), Novell SUSE Linux Enterprise Distribution (SLES), Oracle Enterprise Linux (OEL) and Microsoft Windows Server operating systems. Some of these distributions ship OFS in-box. This makes OFS easily accessible and usable by OEMs and end users facilitating quick adoption in multiple market verticals in the high performance computing, enterprise data center and storage sectors. The entire set of OpenFabrics Software – from which modules and patches are selected to form OFS releases – resides on the OpenFabrics servers and is available for download.



OFS for High Performance Computing

OFS is used in high performance computing for breakthrough applications that require high efficiency computing, wire-speed messaging, microsecond latencies and fast I/O for storage and file systems.

Industries such as academia, government, bioinformatics, electronic design, computer aided engineering, fluid dynamics, and oil & gas are already using OFS, which undergoes rigorous interoperability testing to ensure it meets multi-vendor enterprise requirements for usability and reliability.

OFS is in production today at more than 60 percent of the TOP500 high performance computing sites and enables the highest utilization. According to the June 2010 list, OFS enables up to 96 percent system utilization – 50 percent higher than the systems on that same list that are not using OpenFabrics Software.

OFS and the TOP500

View a brief overview on **OpenFabrics Enterprise Distribution: Driving Performance and Efficiency in the TOP500 (/images/press_media/OFA_Top500.pdf)**.

OFS for Enterprise Data Centers

OFS delivers valuable benefits to end-user organizations, including high CPU efficiency, reduced energy consumption and reduced rack-space requirements. OFS offers these benefits on commodity servers for academic, engineering, enterprise, research and cloud applications. OFS also provides investment protection as parallel computing and storage evolve toward exascale computing, and as networking speeds move toward 10 Gigabit Ethernet and 40 Gigabit InfiniBand in the enterprise data center.

Applications as varied as reservation systems, video streaming, payment processing, cloud-based solutions, embedded systems and grid computing can benefit enormously. Industries such as data warehousing, online transaction processing, managed hosting services, travel services, entertainment & media, and financial services are already using OFS, exemplifying the maturity and robustness of the software for mission-critical applications