**IBM AIX**

**AIX** stands for **Advanced Interactive eXecutive.** It is an IBM open OS that is based on a UNIX version. The AIX/ESA operating system was created for IBM's System/390 or large server hardware architecture. **AIX/6000** is an OS that is based on IBM's **RISC System/6000 architecture.** The AIX OS family first went live in the year **1986,** and by the year **1990,** it had established itself as the standard OS for the **RS/6000 series** of computer systems. AIX is still being developed by IBM and is supported by IBM I and Linux on IBM Power Systems. The AIX operating system is intended to provide exceptional scalability, dependability, and manageability. AIX 7.2 is the latest version of the AIX OS.

**Key features and characteristics of IBM AIX include:**

**Stability and Reliability:** AIX is known for its robustness and stability. It has a reputation for providing high availability and reliability, making it suitable for mission-critical enterprise environments.

**Scalability:** AIX is designed to scale seamlessly across a wide range of IBM Power Systems servers, from small-scale systems to large enterprise-class servers. It supports symmetric multiprocessing (SMP) and can take advantage of the capabilities of multi-core processors.

**Security:** AIX offers various security features, including secure system initialization, auditing, access control, and data encryption. It incorporates security technologies such as Trusted Execution and Trusted Computing, providing a secure computing environment.

**Virtualization:** AIX provides comprehensive virtualization capabilities through its PowerVM technology. It allows for partitioning of physical servers into multiple virtual machines (LPARs), enabling efficient utilization of hardware resources and consolidation of workloads.

**Performance:** AIX is optimized for high-performance computing. It leverages IBM's Power Systems hardware architecture and includes performance tuning features to achieve excellent performance for demanding workloads.

**Compatibility and Portability:** AIX adheres to UNIX standards, making it compatible with many UNIX applications and utilities. It also supports industry standards such as POSIX and X/Open, facilitating portability of applications across different platforms.

**Administration and Management:** AIX provides a set of tools and utilities for system administration and management. It includes a command-line interface (CLI) as well as a graphical user interface (GUI) called the System Management Interface Tool (SMIT) for easier administration.

**Robust File System:** AIX utilizes the Journaled File System (JFS2), which offers advanced features like file journaling, scalability, and online filesystem backup.

AIX is commonly used in industries such as finance, banking, healthcare, and telecommunications, where high performance, reliability, and security are essential. It has a long history of enterprise usage and continues to be actively developed and supported by IBM.

The **Linux OS** is one of the best versions of the UNIX OS that is based on the Linux Kernel. In **1991,** it was designed and developed by the **Linus Torvalds.** It is a free and open-source OS licensed under the **GNU (General Public License).** It has been the fastest-growing OS among industries over the years because of its strong modularity, low reliance, and extensive distributions. The Linux terminology contains a bootloader, a system library, an init-program, a kernel, and a system utility. It is also known for its open-source and flexible support.

Key differences between the AIX and Linux Operating System

Here, you will learn the head-to-head comparison between the AIX and Linux Operating Systems. Some of the head-to-head comparisons between AIX and Linux Operating System are as follows:

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| **AIX Operating System** | **Linux Operating System** |
| It is an open OS that is based on a UNIX version. | It is one of the UNIX OS versions based on the Linux Kernel. |
| It was designed and developed by IBM and launched in 1986. | It was designed and developed by the Linus Torvalds and launched in 1991. |
| It has no default graphical user interface. | It has a default graphical user interface. |
| Its update management is Service Update Management Assistant (SUMA). | Its update management mainly depends on the distribution. |
| It supports the PowerPC, POWER, PowerPC-AS, and Power ISA architectures. | It supports the IA-32, x86-64, ARM, PowerPC, and SPARC architectures. |
| It is commonly utilized in the Server, NAS, and workstation. | It is mainly designed for embedded systems, servers, mainframe systems, mobile devices, PCs, and supercomputers. |
| It has the preferred license Proprietary. | It has the preferred license of GNU GPLv2 (kernel). |
| AIX supports the following file systems: JFS, UDF, NFS, JFS2, ISO 9660, SMBFS, and GPFS. | Linux supports the following file systems: ext2, ReiserFS, FAT, ext3, ext4, btrfs, ISO 9660, UDF, and NFS. |
| Its native APIs are SysV and POSIX. | Its native APIs are Linux and POSIX. |
| Its kernel type is Monolithic with modules. | Its kernel type is Monolithic. |
| It doesn't support non-native APIs. | The non-native APIs supported by its subsystems are Win16, Mono, Java, and Win32. |