Administración de sistemas GNU/Linux

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Introducción

Los sistemas GNU/Linux han alcanzado un grado de madurez significativa, que los hacen perfectamente válidos para su integración en cualquier ambiente de trabajo, ya sea desde el escritorio del PC personal, un elemento de movilidad (como tabletas o móviles), hasta el servidor de una gran organización.

El objetivo principal que nos proponemos es nuestra introducción al mundo de la administración de los sistemas GNU/Linux.

Aprenderemos cómo proporcionar desde GNU/Linux los servicios necesarios a diferentes ambientes de usuarios y máquinas. El campo de estudio de la administración de sistemas es de dimensiones muy amplias, y variado en conocimientos necesarios. Existe gran número de tareas diferentes a realizar, amplios problemas por tratar, y deberemos disponer de grandes conocimientos de hardware y software. Asimismo, tampoco estaría de más un poco de psicología para tratar con los usuarios finales de los sistemas.

No se pretende abordar en el presente material una distribución GNU/Linux particular, pero se han escogido un par de ellas particularmente significativas, por su amplio uso y su pasada historia, para tratar los ejemplos de tareas: Debian y Fedora.

Respecto al campo de la administración, ésta se intentará gestionar desde el nivel más bajo posible, normalmente desde la línea de comandos y los propios ficheros de configuración de los servicios involucrados. Se comentarán, en su caso, algunas herramientas de más alto nivel. Pero hay que tener cuidado con estas últimas, ya que suelen ser fuertemente dependientes de la distribución utilizada, e incluso de la versión concreta de esta; además, estas herramientas suelen variar funcionalidades entre versiones. La administración de bajo nivel suele ser mucho más dura, pero conocemos con qué estamos operando y dónde podemos obtener los resultados, además de que nos aporta muchos más conocimientos extra, y control preciso sobre las diferentes tecnologías utilizadas.

Las distribuciones escogidas han sido las ultimas disponibles de: Debian (o compatibles como las variantes de Ubuntu), y Fedora (o compatibles como diferentes versiones comerciales de Red Hat, o de comunidad como CentOS), siendo estas (Debian y Fedora) algunas las más utilizadas en el momento de editar estos materiales. La distribución Debian es un paradigma dentro del movimiento Open Source, por no pertenecer a ninguna empresa y estar confeccionada básicamente por las aportaciones de los voluntarios distribuidos por todo el mundo. Debian, además, integra casi exclusivamente software libre (pueden añadirse otros aparte). Además, gran número de distribuciones con éxito importante (como las variantes de Ubuntu, que de hecho han superado a Debian como uso en escritorio) tienen a Debian como distribución base.

Red Hat, por otra parte, es una de las empresas más solventes en el panorama comercial GNU/Linux, y por eso sea quizás la que otorgue más soporte a nivel empresarial (mediante servicios de soporte de pago), mediante sus distribuciones comerciales de Red Hat Enterprise Linux (también existen variantes libres alternativas como CentOS). Por otra parte, su entrada como patrocinador ha permitido ampliar los resultados del proyecto Fedora (y la consecuente distribución GNU/Linux), como conjunto de test para sus distribuciones posteriores, y un desarrollo de una amplia comunidad que ha crecido a su alrededor. Este caso forma una interesante experiencia combinada de comunidad y empresa en el desarrollo de la distribución (como después adoptaron otros distribuidores, como el caso de la versión comercial SUSE Linux y su proyecto de comunidad OpenSUSE).

Por el contrario, en Debian el soporte depende de los voluntarios y del conocimiento compartido de los usuarios, centrándose en su comunidad, aunque en los últimos tiempos también ha recibido el soporte (no sin ciertos problemas en el proceso) de Canonical, desarrollador de Ubuntu.

Siendo la administración de sistemas un campo tan amplio, este manual solo pretende introducirnos en este apasionante (y cómo no, también a veces frustrante) mundo. Veremos algunas de las tareas típicas, y cómo tratar las problemáticas que nos aparecen. Pero la administración es un campo que se aprende día a día, con la resolución de tareas diarias.

Y desde aquí advertimos que este manual es un trabajo abierto, que con sus aciertos y los más que probables errores se puede ver complementado con los comentarios de sus (sufridores) usuarios. De modo que son bienvenidos, por parte de los autores, cualquier tipo de comentarios y sugerencias de mejora de los presentes materiales.

Comentamos, por último, que el contenido refleja el estado de las distribuciones y de las herramientas de administración en el momento de su edición, o de las correspondientes revisiones o reediciones.

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http://www.canonical.com/
http://fedoraproject.org/
http://www.redhat.com/
http://www.centos.org/
http://www.suse.com/

Contenidos

6. Usuarios y grupos
7. Servidores de impresión
8. Discos y gestión *filesystems*
9. Software: actualización
10. Trabajos no interactivos
11. Taller: prácticas combinadas de los apartados

Módulo didáctico 6
Administración de red
Remo Suppi Boldrito

1. Introducción a TCP/IP (TCP/IP suite)
2. Conceptos en TCP/IP
3. ¿Cómo se asigna una dirección Internet?
4. ¿Cómo se debe configurar la red?
5. Configuración del DHCP
6. Múltiples IP sobre una interfaz
7. IP *Network Address Translation* (NAT)
8. Udev - *Linux dynamic device management*
9. *Bridging*
10. *Virtual private network* (VPN)
11. Configuraciones avanzadas y herramientas

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