

Adotando o SUSE Linux Enterprise 16

Principais diferenças entre o SUSE Linux Enterprise 15 e 16

O QUE É?

Este artigo descreve as principais diferenças entre o SLE 15 e 16.

POR QUÊ?

Este artigo ajuda você a avaliar um upgrade para o SLE 16.

DEDICAÇÃO

O tempo de leitura é de aproximadamente 10 minutos.

META

Compreender a melhor maneira de adotar o SLE 16.

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1 Suporte à arquitetura mínima da CPU

	AMD64/ Intel 64 (x86-64)	IBM POWER (ppc64le)	IBM Z (s390x)	ARM (AArch64)
SLES 15	x86-64-v1	POWER8	z12	ARMv8.0-A
SLES 16	x86-64-v2 ^{1, 2}	POWER10 ³	z14	ARMv8.0-A

¹ Para melhorar o desempenho geral, o SLES 16 também oferece algumas bibliotecas compartilhadas otimizadas para x86-64-v3. Essas bibliotecas serão instaladas e usadas automaticamente em sistemas que suportam a v3. Você identifica que um pacote foi otimizado quando a string `x86_42_v3` aparece no nome dele.

² O SLES 16 remove o suporte aos aplicativos de 32 bits. O kernel Linux ainda pode habilitar chamadas de sistema de 32 bits instalando o pacote `grub2-compat-ia32` do SUSE Package Hub.

³ É possível executar o SLES 16 no Power9, mas a SUSE oferece suporte apenas a partir do Power10.

2 Controle de versão e ciclo de lançamento

- O SLE 15 usa pacotes de serviço (SPs, Service Packs) para atualizações anuais, como SP1, SP2, SP3, SP4, SP5, SP6 e SP7, que é o último SP lançado para o SLE 15.
- O SLE 16 apresenta um novo esquema de nomenclatura para versões, que usa versões secundárias, como 16.0 e 16.1, em vez de SPs. As versões são programadas anualmente, sempre em novembro. A versão inicial, 16.0, está planejada para novembro de 2025.

3 Ciclo de vida

- O SUSE Linux Enterprise Server 15 tem suporte geral de 1,5 ano por pacote de serviço (com exceções) e oferece várias opções de suporte estendido, como LTSS (Long Term Service Pack Support) e ESPOS (Extended Service Pack Overlap Support). O suporte total para o SLE 15 cobre até 13 anos (10 anos de suporte geral + 3 anos de LTSS). O suporte

geral do SLES 15 SP7 dura até 31-07-2031, com o LTSS até 31-07-2034 e o LTSS Core até 31-12-2037. O SUSE Linux Enterprise Server for SAP Applications 15 SPs tem um período de suporte total de 4,5 anos.

- O SLES 16 está pronto para o futuro além de 2038. O suporte geral deve terminar em novembro de 2035, com o LTSS e o Extreme LTSS após 2040. O SUSE Linux Enterprise Server for SAP Applications 16 tem suporte geral por 1,5 ano e mais 3 anos de suporte estendido.

4 Gerenciamento de sistemas

- Até o SLE 15, o YaST era usado para instalação, configuração e gerenciamento de sistemas. A instalação autônoma e com script era feita pelo AutoYaST.
- No SLE 16, o gerenciamento de sistemas passa por mudanças significativas:
 - A instalação (inclusive autônoma) foi migrada para o Agama. O Agama é um novo instalador com front end baseado na Web, interface de linha de comando e API para integração. Ele se concentra na instalação com ferramentas de gerenciamento de configurações de software (SCM, Software Configuration Management). O Agama suporta a importação repetida de configurações.
 - O gerenciamento de configurações usa o Salt e o Ansible por meio do SUSE Multi-Linux Manager. Esse procedimento oferece suporte aos clientes com automação pronta para execução.
 - O gerenciamento remoto é feito pelo Cockpit, um front end baseado na Web para gerenciamento individual.

Essas alterações no SLE 16 têm como objetivo melhorar a integração com o Salt e o Ansible, permitir a instalação remota por meio de um navegador da Web e oferecer interfaces diferentes (Web, CLI, API HTTP) para controlar o processo.

5 Estrutura de segurança

- Por padrão, o SLE 15 usa o AppArmor. O SELinux é fornecido sem políticas.
- Por padrão, o SLE 16 inclui o SELinux com políticas para mais de 400 módulos, confinando quase todo o sistema. Partes do sistema podem funcionar sem confinamento, se desejado. O SUSE Linux Enterprise Server for SAP Applications 16 aprimorou o isolamento da carga de trabalho com o SELinux e agora oferece isolamento para dados, fluxos de dados e contêineres.

6 Pilha de rede

- O SLE 15 usava o wicked e o NetworkManager.
- O foco do SLE 16 é uma pilha única que usa o NetworkManager.

7 Implantação

- O SLE 15 oferecia imagens prontas para execução para máquinas virtuais ou nuvens públicas e mídia de instalação para implantação manual com o YaST ou automatizada com o AutoYaST. Ele usava um ambiente de instalação especial com configuração orientada pelo linuxrc. A importação do perfil do AutoYaST era apenas uma tarefa única.
- O SLE 16 usa imagens prontas para execução para máquinas virtuais ou nuvens públicas e implantação manual/automatizada com o Agama. É possível acessar o instalador Agama por interface da Web, linha de comando ou API HTTP. O Agama permite a importação repetida de configurações. Ele usa uma mídia dinâmica padrão com dracut, systemd e NetworkManager e oferece uma camada de compatibilidade com versões anteriores com opções selecionadas do linuxrc.

8 Sistema de inicialização

- O SLE 15 usava o systemd com unidades nativas e compatibilidade com scripts init SysV de terceiros.
- O SLE 16 conclui a transição do init SysV e usa exclusivamente as unidades nativas do systemd.

9 Configuração do OS padrão

- No SLE 15, a configuração do sistema operacional padrão era salva principalmente em /etc.
- No SLE 16, os padrões são salvos em /usr, e o /etc é para personalização. Essa separação entre os padrões oferecidos pelo fornecedor e a personalização do administrador facilita as atualizações e, opcionalmente, um sistema de arquivos /usr somente leitura.

10 O /tmp usa o tmpfs

- No SLE 15, /tmp era uma pasta ou partição regular. Na configuração padrão com Btrfs como sistema de arquivos raiz, ele era um subvolume Btrfs.
- No SLE 16, o /tmp usa o sistema de arquivos tmpfs, que armazena os dados na RAM física e/ou no espaço de troca (swap), tornando-o muito rápido para operações de leitura e gravação.



Importante: /tmp não é mais persistente

No tmpfs, o conteúdo do /tmp não é persistente entre as reinicializações. Se você tem aplicativos que gravam dados persistentes em /tmp, adote-os para usar um local diferente, como /var/cache.



Importante: Não exceder o tamanho do /tmp

Exceder o tamanho das instâncias do sistema de arquivos `tmpfs` além da soma da RAM física e do espaço de troca (swap) de um sistema pode provocar situações de deadlock, em que o sistema deixa de responder devido à memória insuficiente disponível.

11 Ambiente de desktop

- O SLE 15 usava o GNOME como ambiente de área de trabalho padrão. O SUSE Linux Enterprise Desktop e a SUSE Linux Enterprise Workstation Extension compartilhavam as ferramentas de produtividade da área de trabalho.
- O SLE 16 usa uma área de trabalho do GNOME mínima. Isso ajuda a minimizar a superfície de segurança. O SUSE Linux Enterprise Desktop não está planejado para a versão 16.0.

12 Pilha de alta disponibilidade modernizada

	SLE HA 15	SLE HA 16
Pacemaker	versão 2	versão 3
Corosync	versão 2	versão 3
Sistema de arquivos distribuído	OCFS2, GFS2 (somente leitura)	GFS2 (suporte total)
Agentes de fencing	Todos os agentes em um único pacote	Agentes em pacotes separados

13 Tecnologia removida

O SLE 16 remove determinadas tecnologias para reduzir a área do sistema operacional e o vetor de ataque à segurança:

- Sistema: O suporte aos aplicativos de 32 bits foi removido. O kernel Linux ainda pode habilitar chamadas de sistema de 32 bits instalando o pacote `grub2-compat-ia32` do SUSE Package Hub.
- Sistema: Os scripts init SysV foram removidos. No lugar deles, use as unidades nativas do `systemd`.
- Rede: `wicked` foi removido e substituído pelo NetworkManager.
- Rede: O NIS não é mais usado. Em vez dele, escolha o LDAP.
- Rede: O servidor ISC DHCP foi substituído pelo Kea DHCP mais moderno.
- Subsistema Windows para Linux: O suporte ao WSL1 foi removido e substituído pelo WSL2, oferecendo um kernel Linux completo com compatibilidade total para chamadas do sistema.

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