



SUSE Manager and Salt

The Three “Cs” of the IT Transformation Challenge

Transform your approach to infrastructure to enable the business to capitalize on new innovations of data”



Cost



Complexity



Compliance

JUST TAME IT

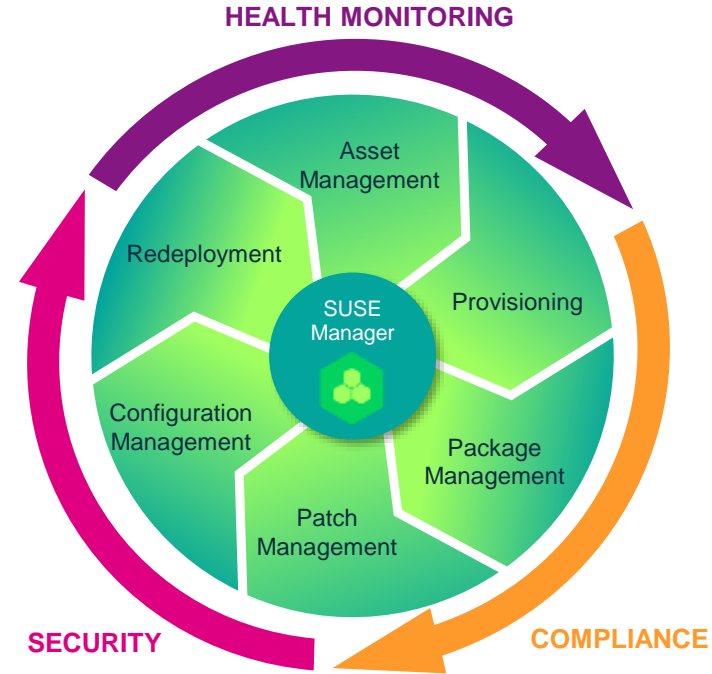
with SUSE Manager



SUSE Manager

Open source infrastructure management solution that empowers IT to:

- Optimize operations while reducing costs
- Reduce complexity and regain control of IT assets
- Ensure compliance with internal security policies and external regulations
- Manage multiple enterprise Linux distributions with a single tool



SUSE Manager: System Content Control

With SUSE Manager you can:

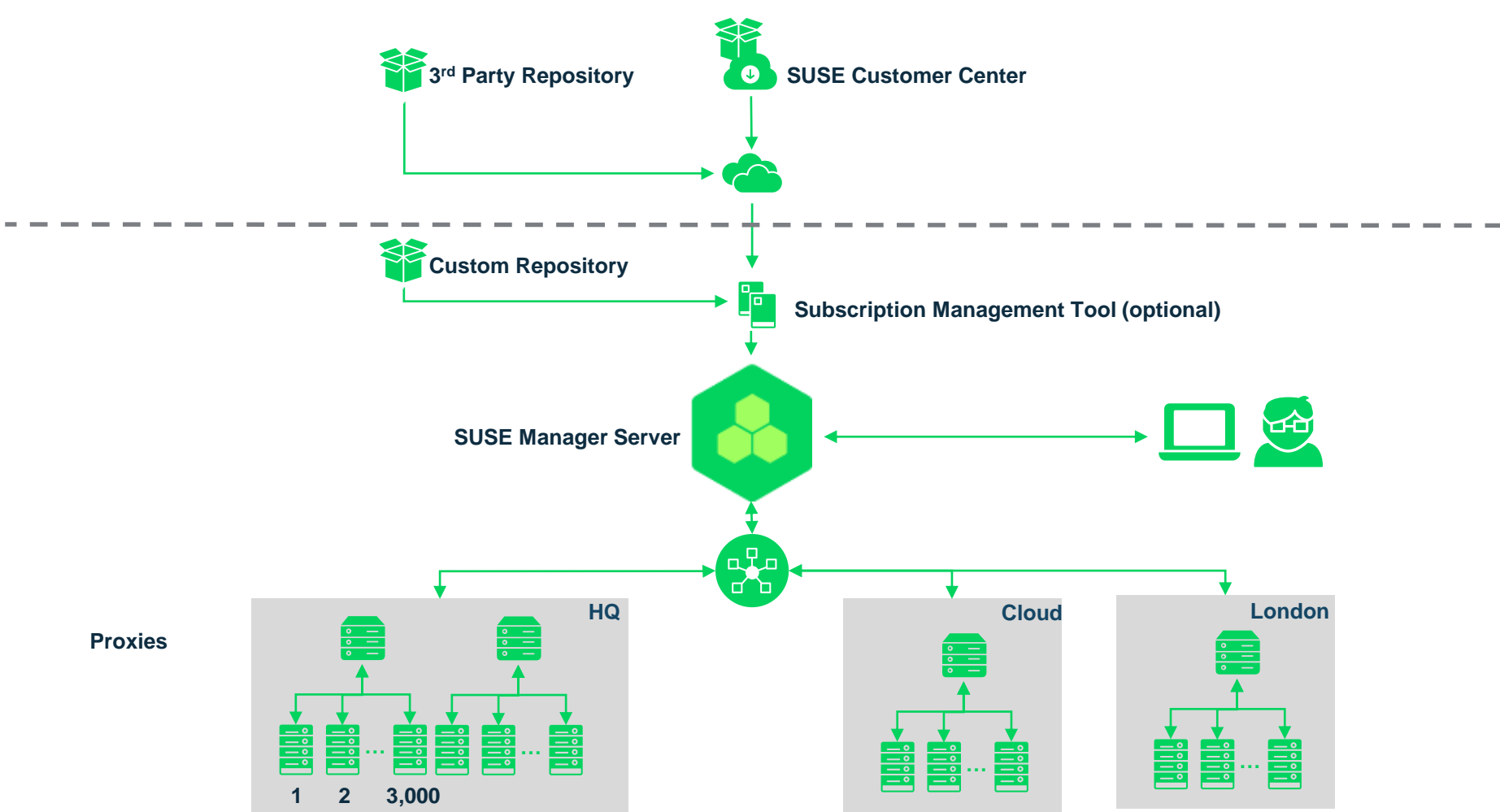
- Replicate package and patch content from SUSE, or rpm-md repositories
- Create cloned channels for controlled delivery of packages and patches
- Clone by date
- Create landscapes like dev, test, prod, etc.
- Do it as simply or complex as you need!

- Best practices guide on channel lifecycle:
https://www.suse.com/documentation/suse-manager-3/book/suma_best_practices/data/bp_lifecycle.html

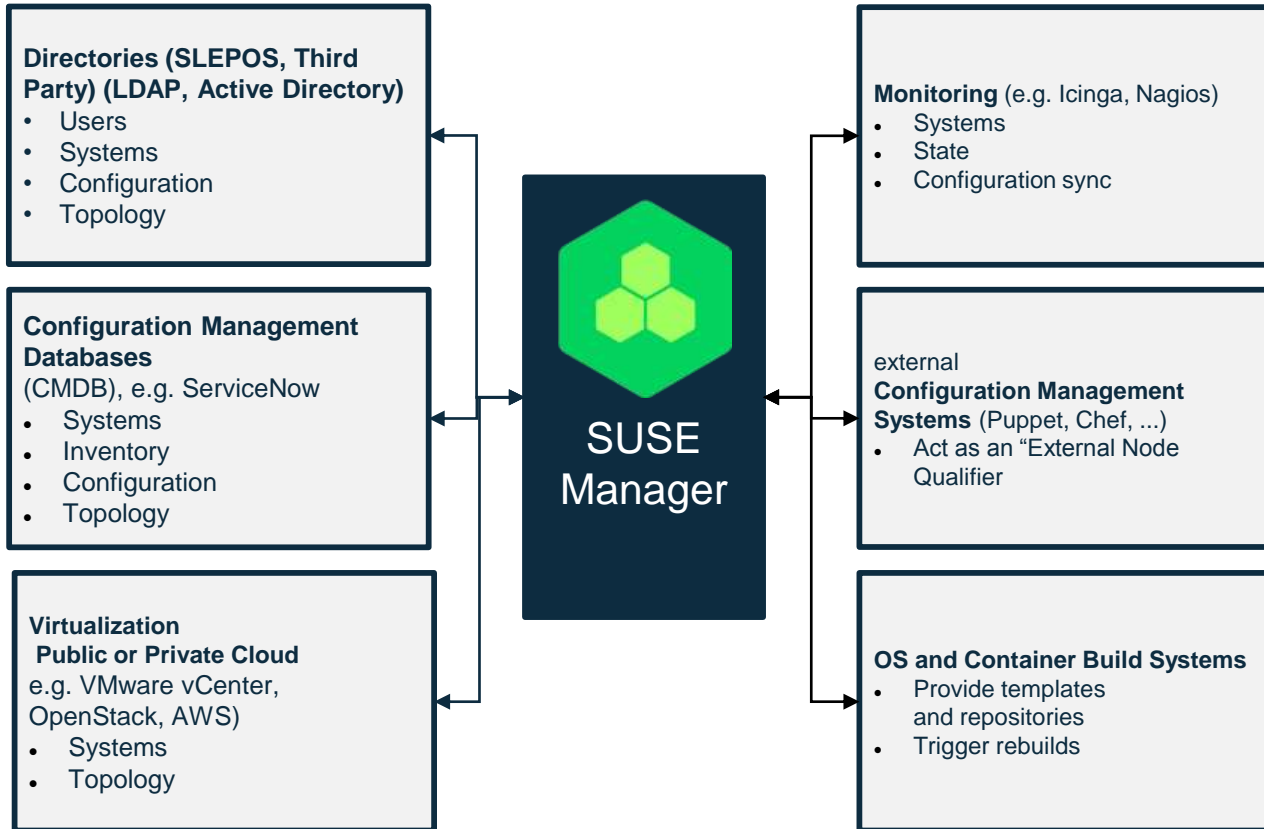


The image shows a perspective view of a server room with rows of server racks on both sides of a central aisle. The racks are filled with various server components. On the far left, there is a solid bright green vertical bar. The text 'SUSE Manager Architecture and Topologies' is centered in the middle of the image in a bold, dark blue font.

SUSE Manager Architecture and Topologies



SUSE Manager Ecosystem



Where Does Salt Come in?

Challenges

Scale

Thousands of servers to be managed

Parallelize

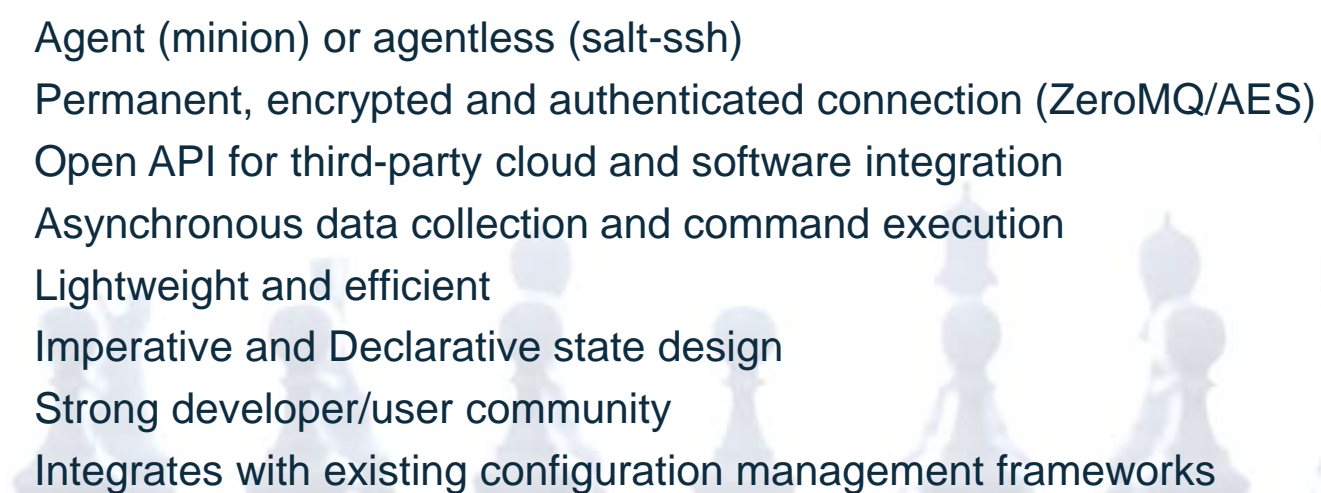
Tasks should be executed in short time windows or even in parallel

Express

Declarative states

Why Salt?

Key Strengths:

- Master and minion, or master-less architecture
 - Agent (minion) or agentless (salt-ssh)
 - Permanent, encrypted and authenticated connection (ZeroMQ/AES)
 - Open API for third-party cloud and software integration
 - Asynchronous data collection and command execution
 - Lightweight and efficient
 - Imperative and Declarative state design
 - Strong developer/user community
 - Integrates with existing configuration management frameworks
- 

SUSE.
Manager

Now with Salt!



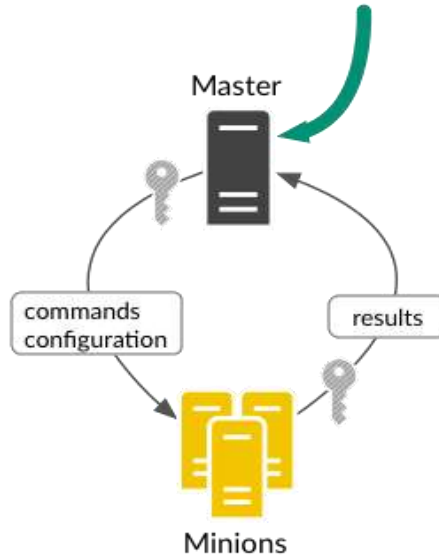
SUSE Manager



Salt 101

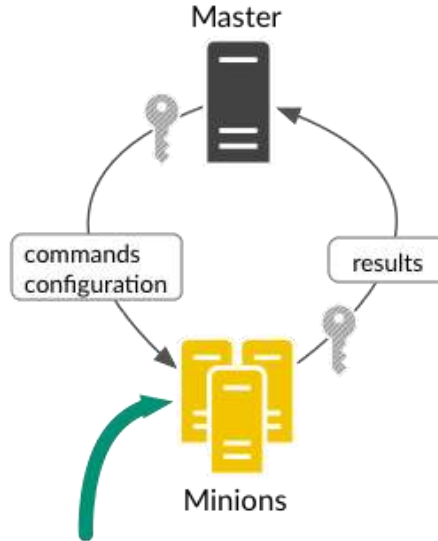
Salt Master

A master server acts as a central control bus for the clients, which are called minions. The minions connect back to the master.



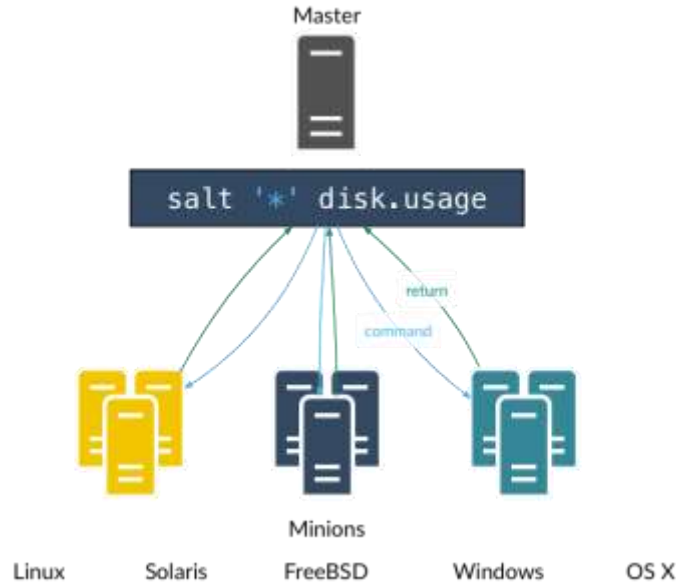
Salt Minions

The minions (clients) connect back to the master, and typically run a daemon called salt-minion.



Execution Modules

Salt comes with a vast library of functions available for execution, called execution modules.



Salt States

Salt States, or the State System is the component of Salt made for configuration management.

- Human readable YAML format
- Additional functions or modules to ensure desired state
- Systems can have many assigned states
- Stored with a .SLS extension
- High State is a compilation of all assigned states

State Module

```
apache2:  
  pkg.installed
```

```
httpd:  
  service.running:  
    - name: apache2  
    - enable: True
```

```
SuSEfirewall2:  
  service.dead
```

```
/srv/www/htdocs/index.html:  
  file.managed:  
    - source: salt://web/index.html
```

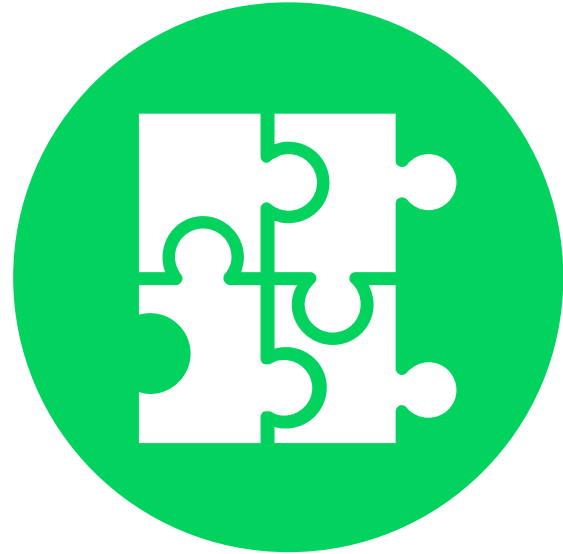
Execution Modules vs. State Modules

DO THIS NOW!

```
salt '*' user.add joe
```

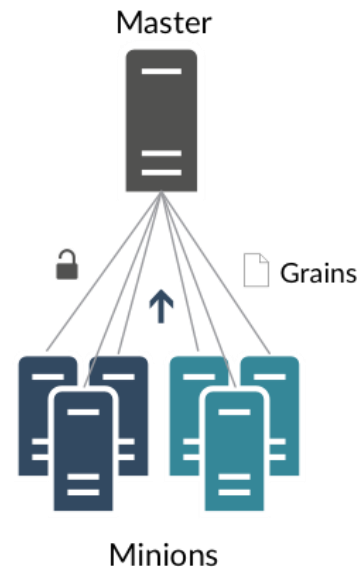
Ensure that the system
always looks like this

```
joe:  
  user.present
```



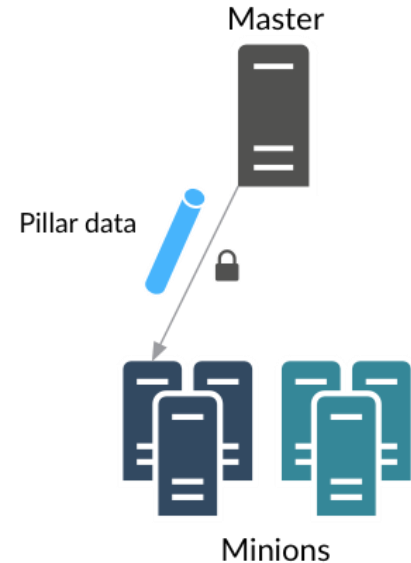
Grains

- Grains are collected for the operating system, domain name, IP address, kernel, OS type, memory, and many other system properties
- Considered unsecured information



Pillar Data

- Pillar is an interface for Salt designed to offer global values that can be distributed to minions
- Considered secured information – such as database user, passwords



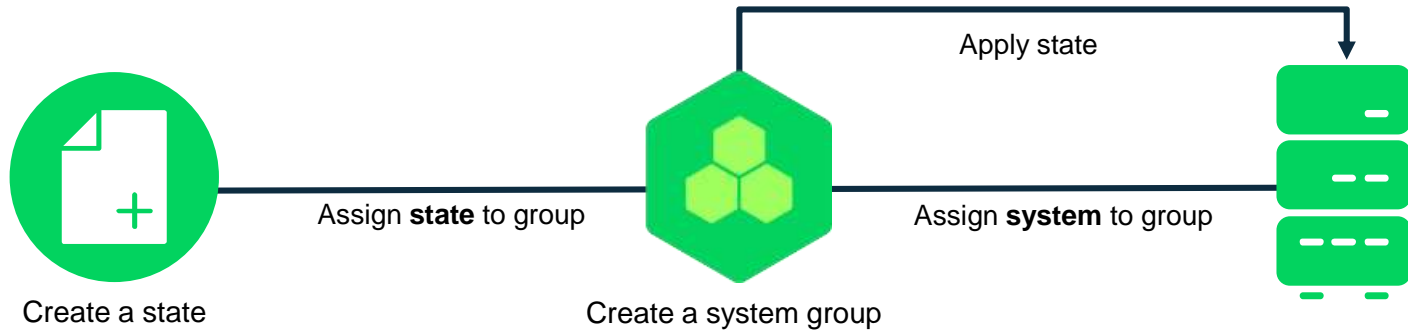
SUSE Manager 3 is a Salt Master!

- Salt master is part of the SUSE Manager infrastructure
- Set up for you by default
- Uses `/srv/salt` for user-based content
- Supported Salt minions –:
 - SUSE Linux Enterprise Server 11 SP3, SP4
(all architectures)
 - SUSE Linux Enterprise Server 12 GA, SP1, SP2, etc.
(all architectures)
 - RHEL 6, 7 (x86, x86_64 only)
 - CentOS 6, 7 (x86, x86_64 only)



SUSE Manager and Salt Together

System Groups and States



How Does SUSE Manager Use Salt?

Salt Configuration

- Global from Manager RPMs
- Generated by Manager
- User-generated

States

- For organizations
- For groups
- For individual systems

Formulas with Forms

What are “Formulas with Forms”?

Formulas

- Salt’s approach to packaging configuration directives into bundles that can be applied as a whole. There is a GitHub project with ready-to-use Formulas: <https://github.com/saltstack-formulas>
- Examples: postgresql, users, locale, timezone, apache, wordpress, ...

We have extended them with **Forms** that you can fill in from the SUSE Manager UI, so you can customize them as needed!

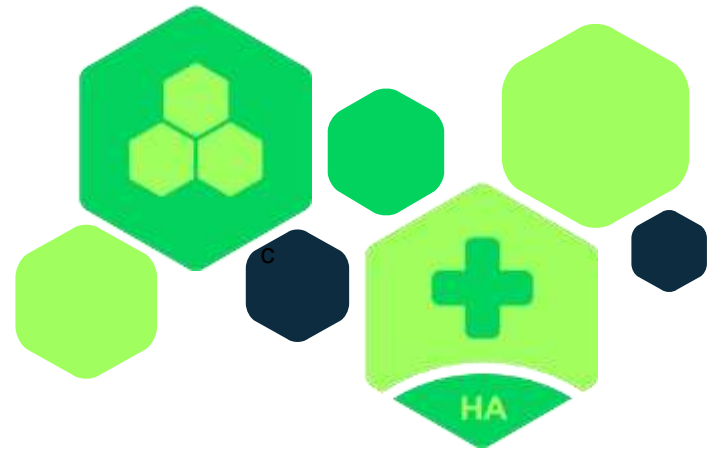
Formulas are in Your SUSE Manager 3 Now!

SUSE Manager 3 Scalability and High Availability Goals

- Provide a “t-shirt size” approach (S/M/L/XL) to common tuning/configuration options
- Patch more systems faster
- Reduce memory and CPU usage per managed system
- Optimize for low network bandwidth/high network latency scenarios
- Documentation for active-active and active-passive clustered high availability setups

High Availability with SUSE Manager

- SUSE Manager Server and SUSE Manager Proxy can be set up as a two-node cluster using the SUSE Linux Enterprise High Availability Extension
- Pricing for this option is available on request and requires additional professional services



Managing non SUSE Linux Enterprise

A woman with long brown hair, wearing a light-colored sweater and dark pants, stands in a server room. She is holding a tablet and looking at it. The server racks are dark and filled with equipment. The floor is light-colored with dark lines. The background is slightly blurred.

Why Manage Red Hat / CentOS with SUSE Manager

- Unique offering that crosses enterprise distributions
- Like many organizations, you have SUSE and RH/CentOS
- Other offerings have fallen short
- Terrific value
- The promise of Salt...

What Does it Take?

Two supported environments

- Expanded support subscription from SUSE
- RH Subscription entitlements – SUSE supports the SUSE Manager functions only, not patch content

Patience and effort can produce an effective management platform



Resources

More Information

Additional resources can be found on our webpage at:

<https://www.suse.com/products/suse-manager>

Salt Project Community:

<https://saltstack.com/community>

SUSE Manager public wiki:

https://wiki.microfocus.com/index.php/SUSE_Manager

SUSE Manager 60 day trial download can be found at:

<https://www.suse.com/download-linux>

Follow SUSE Manager on Twitter at:

<https://twitter.com/susemanager>



Demo Time!



Thank you for joining us today!

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