Simplifying SAP in the Cloud

10/18/2022
NYC ASUG Chapter Meeting

Simplifying SAP in the Cloud

October 18, 2022
ASUG - New York City Chapter Meeting

Topics for today

1. Maintaining consistency of your SAP systems

During deployment and after installation

2. Trento Project

From a single source you can view SAP hosts, status, modules and performance. Built in checks to ensure SAP clusters are configured properly. And more.

Maintaining consistency of your SAP servers – Installation consistency

SAP Related SALT formulas:

On premise or in the Cloud - Azure, AWS and GCP - configured for each provider's best practices

SAP HANA and HANA system replication bootstrap formula

saphanabootstrap-formula

Installs SAP HANA.
Configures system replication.
Preconfigures the High Availability cluster requirements.
Configures the SAP HANA Prometheus exporter

SAP NetWeaver bootstrap formula

sapnwbootstrap-formula

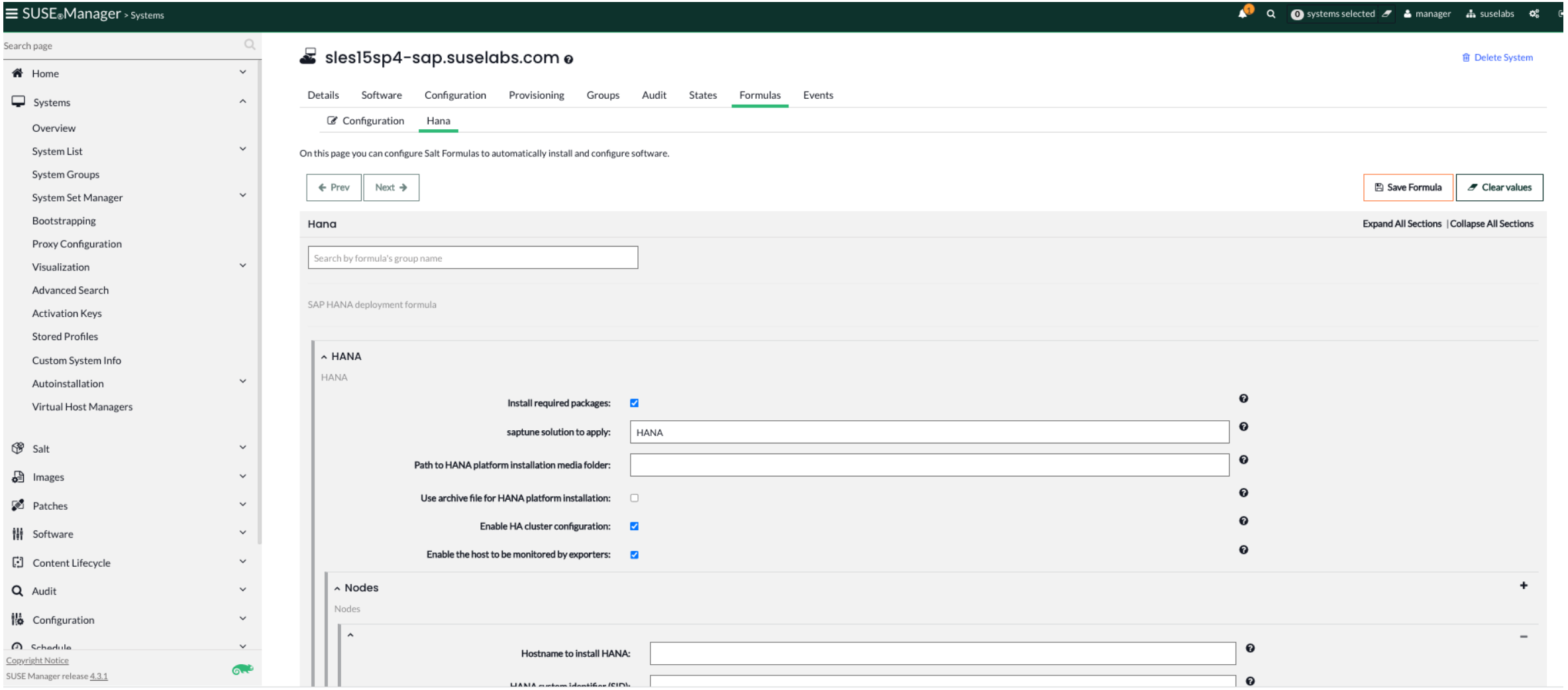
ASCS instance
ERS instance
PAS instance
AAS instance
Database instance (this adds the required users, tables, views, etc. to the current Hana database)

High availability cluster bootstrap formula

habootstrap-formula

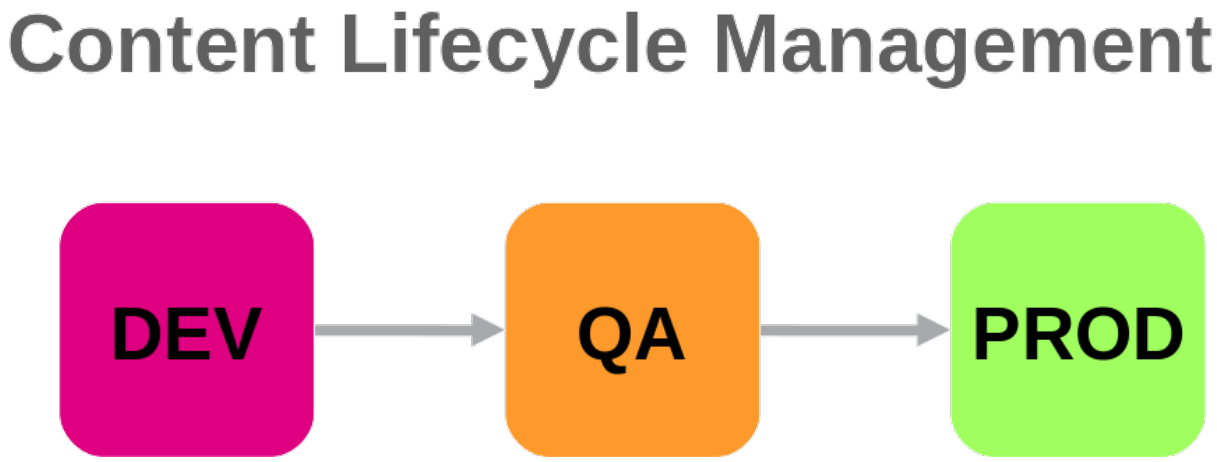
Creates and configures the High Availability Pacemaker cluster

Maintaining consistency of your SAP servers – Installation consistency



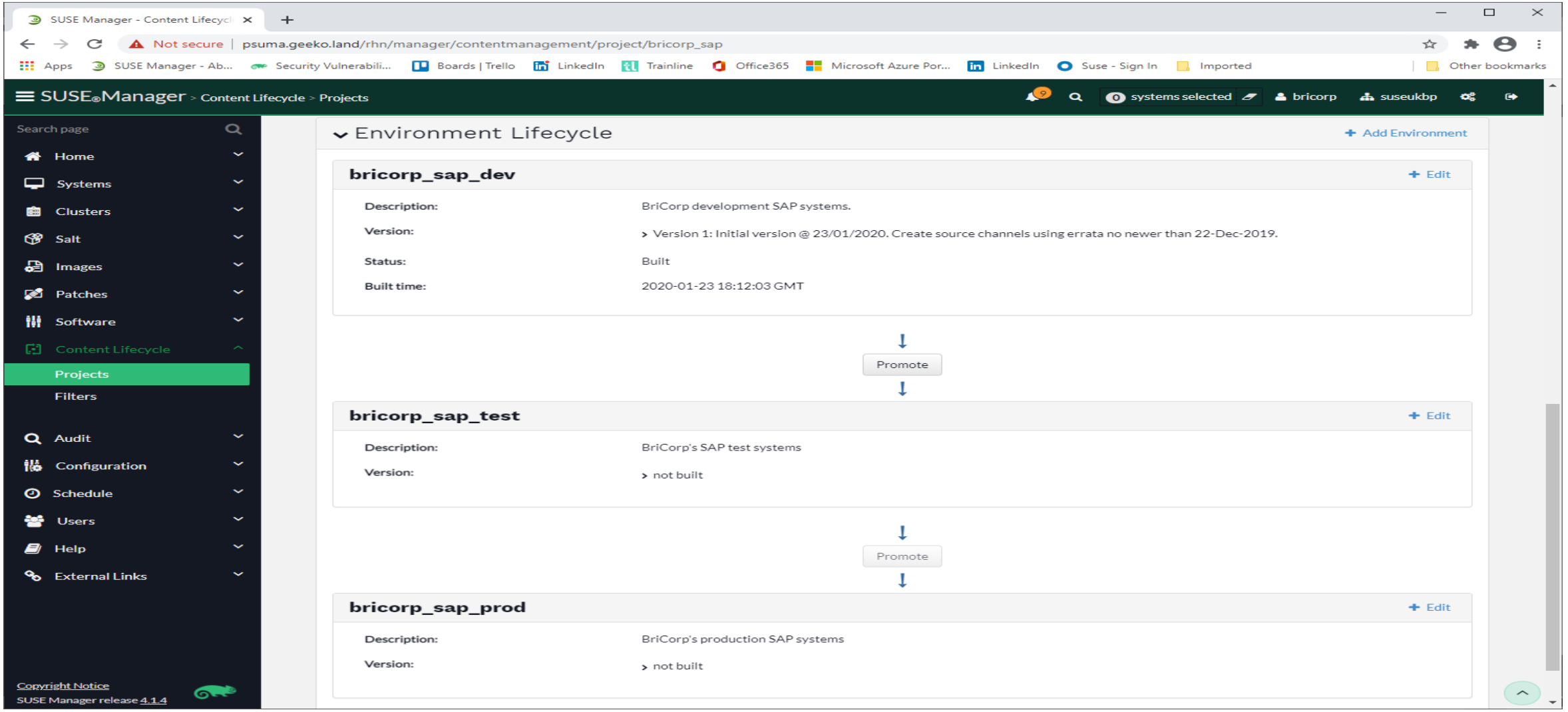
Maintaining consistency of your SAP servers with SUSE Manager's Content Lifecycle Manager

- Automated updates and patches
- Move packages across multiple stages with UI-based CLM
- Customize and test packages before updating production systems
- Control content with filters
- Schedule maintenance windows



- Recurring state to apply the highstate
- Software channels
- Configuration channels

Maintaining consistency of your SAP servers with SUSE Manager's Content Lifecycle Manager



Maintaining consistency of your SAP servers – runtime

saptune

What is saptune?
Part of SLES for SAP Applications – is a configuration tool to prepare a system to run SAP workloads by implementing the recommendations of various SAP notes. Revert now implemented to back off change.

```
sles4sap12sp4:~ # saptune solution list
All solutions (* denotes enabled solution, 0 denotes override file exists for solution):
        BOBJ                - 941735 1771258 1984787 SAP_BOBJ
 *      HANA                - 941735 1771258 1980196 1984787 2205917 2382421 2534844
        MAXDB               - 941735 1771258 1984787
        NETWEAVER           - 941735 1771258 1984787
        NETWEAVER+HANA      - 941735 1771258 1980196 1984787 2205917 2382421 2534844
        S4HANA-APP+DB       - 941735 1771258 1980196 1984787 2205917 2382421 2534844
        S4HANA-APPSERVER    - 941735 1771258 1984787
        S4HANA-DBSERVER     - 941735 1771258 1980196 1984787 2205917 2382421 2534844
        SAP-ASE             - 941735 1410736 1680803 1771258 1984787
```

Select solution with $saptune solution apply <SOLUTION>
Apply notes with $saptune note apply <NOTES>

https://documentation.suse.com/sles-sap/15-SP2/html/SLES-SAP-guide/cha-tune.html

Maintaining consistency of your SAP servers – runtime

saptune

What's new with saptune3

Check script to verify setup

The second most prevalent cause for support cases has been an incorrect setup of saptune: forgetting to enable services, mixups with sapconf, wrong tuned profiles.
Now saptune comes with a check script to verify the correct setup:

```
# saptune_check

This is saptune_check v0.2.1.
It verifies if saptune is set up correctly.
Please keep in mind:
 - This tool does not check, if the tuning itself works correctly.
 - Follow the hints from top to down to minimize side effects.

Checking saptune
================
[NOTE] saptune package has version 3.0.0
[ OK ] System is in status "running"
[ OK ] configured saptune version is 3
[ OK ] sapconf.service is inactive
[ OK ] sapconf.service is disabled
[ OK ] saptune.service is active
[ OK ] saptune.service is enabled
[NOTE] tuned profile is 'virtual-guest'
[ OK ] tuned.service is inactive
[ OK ] tuned.service is disabled

Saptune is set up correctly.
```


Maintaining consistency of your SAP servers – runtime

saptune

What's new with saptune3

Tagging of configuration sections (architecture, storage vendors, cloud etc)

Saptune 3 supports tagging to apply configuration sections only if certain conditions are met. SAP Notes for cloud providers make use of this feature. In this example, this note parameter only get applied if the system is an azure cloud instance:

```
# saptune note show 2993054
...
[sysctl:csp=azure]
net.ipv4.tcp_keepalive_time = 300
...
```


Maintaining consistency of your SAP servers – runtime

saptune

What's new with saptune3

Custom Solutions
Create custom SAP note lists that can be tailored to your solution.

saptune 3 allows you create your own note list:

```
# saptune solution list

All solutions (* denotes enabled solution, O denotes override file exists for solution, C de
...
     S4HANA-DBSERVER - 941735 1771258 1980196 2578899 2684254 2382421 2534844 2993054 16562
     SAP-ASE         - 941735 1410736 1680803 1771258 2578899 2993054 1656250
* C  myHANA           - 941735 1771258 1980196 2578899 2684254 2382421 2534844 DC1
```


Trento

The single pane of glass for your SAP Applications

Trento is an open-source cloud-native web console aiming to improve the workday of SAP Applications administrators

Trento

Trento
(planned shipment as part of SLES for SAP)

Trento is the Day 2 Operations Manager for customers' HANA and S/4HANA deployments to prevent downtimes through proactive checks and monitoring

Configuration checks

Check system configurations against best practices, identify and visualize issues; provide recommendations.

Monitoring of SAP Landscape

Provide key metrics for SAP systems with predefined dashboards and alerting; include HW specific performance measurements.

Visualization of complete SAP environment

Presents complete SAP environment, clusters, systems and their relations in a familiar way.

Future: AI supported system checks and recommendations

AI supported analysis of log files and systems to detect errors and bottlenecks – and provide recommendations .based on industries' best practices.

Can be deployed anywhere

Containerized Application that can be deployed wherever customers' SAP landscapes exist – on-prem or in the cloud

Ease of use

Single click install; easy to use web UI. Discovers servers, clusters, systems and full landscapes.

Trento

- Dashboard
- Hosts
- Clusters
- SAP Systems
- HANA Databases
- Checks catalog
- Settings
- About

Sign out

Passing	Warning	Critical
2	0	0

Filter Health... | Filter Hostname... | Filter SID... | Filter Tags...

HEALTH	HOSTNAME	IP	PROVIDER	CLUSTER	SID	AGENT VERSION	TAGS
✓	hanadb1	10.1.1.91	gcp	pdxandrdu	HDB	1.1.0	Add Tag
✓	hanadb2	10.1.1.92 10.1.1.94	gcp	pdxandrdu	HDB	1.1.0	Add Tag
✓	sapmig1	10.1.1.96 10.1.1.98	unknown	hacluster	TST, TST	1.0.0	Add Tag
✓	sapmig2	10.1.1.97 10.1.1.99	unknown	hacluster	TST, TST	1.0.0	Add Tag
✓	sapmig3	10.1.1.93	unknown		TST	1.0.0	Add Tag

1

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HANA Database Details

Name	Type
HDB	HANA Database

Layout

HOSTNAME	INSTANCE NUMBER	FEATURES	HTTP PORT	HTTPS PORT	START PRIORITY	STATUS
hanadb1	00	HDB HDB_WORKER	50013	50014	0.3	SAPControl-GRAY
hanadb2	00	HDB HDB_WORKER	50013	50014	0.3	SAPControl-GREEN

Hosts

HOSTNAME	IP	PROVIDER	CLUSTER	AGENT VERSION
hanadb1	10.1.1.91	gcp	pdxandrdu	1.1.0
hanadb2	10.1.1.92 10.1.1.94	gcp	pdxandrdu	1.1.0

Trento

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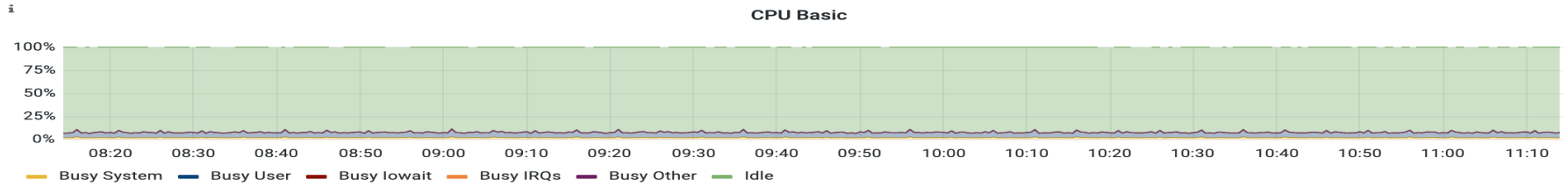
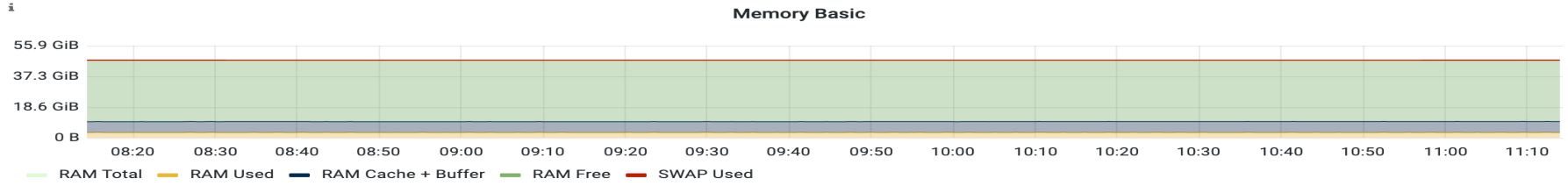
Host details: hanadb1

Agent: running | Node Exporter: running

Name	Cluster	Agent version
hanadb1	pdxandrdu	1.1.0





Provider details

Provider	Instance name	Project ID	Zone
GCP			
Machine type	**Disk number**	**Image**	**Network**

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SAP instances

ID	SID	TYPE	FEATURES	INSTANCE NUMBER
2dac5166-6064-5b1a-8ee5-6e283a915439	HDB	database	HDB HDB_WORKER	00

SLES subscription details

IDENTIFIER	ARCH	VERSION	TYPE	STATUS	SUBSCRIPTION STATUS	STARTS_AT	EXPIRES AT
SLES_SAP	x86_64	15.3		Not Registered			
sle-module-server-applications	x86_64	15.3		Not Registered			
sle-module-sap-applications	x86_64	15.3		Not Registered			
sle-module-live-patching	x86_64	15.3		Not Registered			
sle-module-desktop-applications	x86_64	15.3		Not Registered			
sle-module-basesystem	x86_64	15.3		Not Registered			
sle-manager-tools	x86_64	15		Not Registered			
sle-ha	x86_64	15.3		Not Registered			

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DE74B2 Premium

Azure Fence agent configuration parameters are correct

6E0DEC Premium

Concurrent fencing option is enabled - this test is skipped on SUSE/KVM, AWS and GCP

Corosync

156F64

Corosync `token` timeout is set to `30000`

53D035

Corosync is running with `token` timeout set to `30000`

BA215C Premium

corosync.conf files are identical across all nodes

A1244C

Corosync `consensus` timeout is set to `36000`

FB0E0D

Corosync is running with `consensus` timeout set to `36000`

845CC9

Corosync `max_messages` is set to `20`

00081D

Corosync is running with `max_messages` set to `20`

24ABCB

Corosync `join` is set to `60`

822E47

Corosync is running with `join` set to `60`

21FCA6

Corosync `token_retransmits_before_loss_const` is set to: `6`

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Corosync is running with `token_retransmits_before_loss_const` set to `6`

33403D
Corosync `transport` is set to `udpu`

7E0221
Corosync is running with `transport` set to `udpu`

C620DC
Corosync `expected_votes` is set to `2`

6E9B82
Corosync `two_node` is set to `1`

D78671
Corosync is running with `two_node` set to `1`

DA114A
Corosync has at least 2 rings configured

32CFC6
Corosync is running with at least 2 rings

Miscellaneous

438525 Premium
/etc/hosts file contains all the cluster nodes

790926
The `hacluster` user password has been changed from the default value `linux`

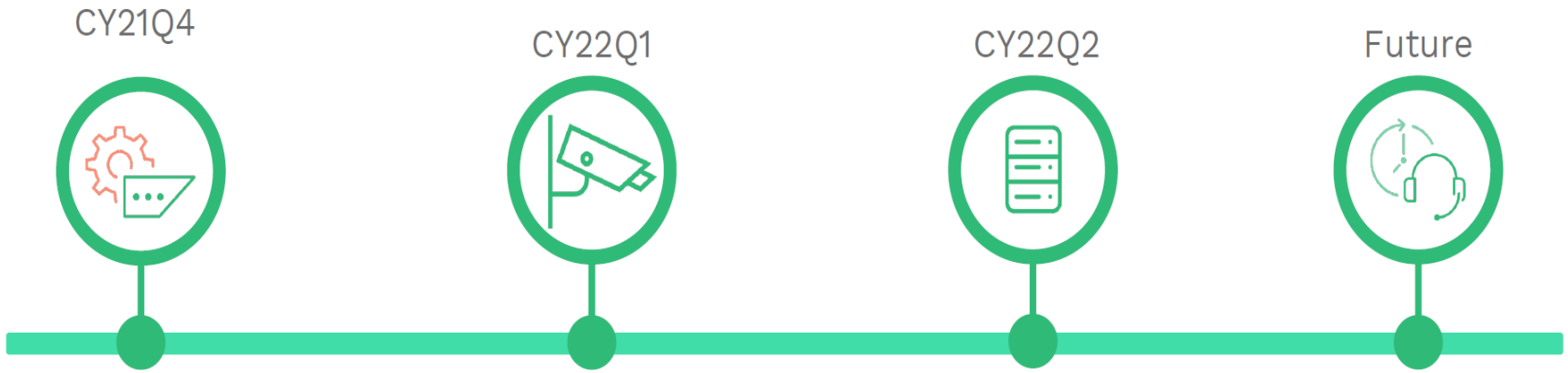
OS and package versions

CAEFF1
Operative system vendor is supported

D028B9

Trento: planned road ahead

Information is forward looking and subject to change at any time.



SAP Services discovery and HANA Cluster config. compliance

1-line installation; more than 50 compliance checks; basic telemetry

Monitoring integration and initial multi-cloud coverage

Smart alerting and monitoring from Trento UI; AWS specific compliance checks

Automated Remediations and Log Aggregation

Automated actions to address problems reported; SAP specialized log ingestion; expansion to GCP

Advanced Operations

SAP clusters maintenance/change management, self-healing capabilities

Questions?

Thank you.

