FUJITSU - PRIMEFLEX for Openstack

Fast track to OpenStack on-premise private cloud

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Why OpenStack for cloud infrastructures?

- **Cost-effective**
  - Commodity hardware
- **No vendor lock-in**
  - Flexibility to customize and interoperate based on common APIs
- **Speedy innovation**
  - Community development with 6 month release cycles
- **Massively scalable**
  - Best supports the growing number of scale-out applications

Fastest growing open source cloud management platform with broadest industry support

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Challenges in OpenStack Deployment

How to build internal skills without trial and error?

A do-it-yourself approach to OpenStack
- requires significant expertise and effort to install, maintain and upgrade
- can be error-prone, time-consuming and expensive
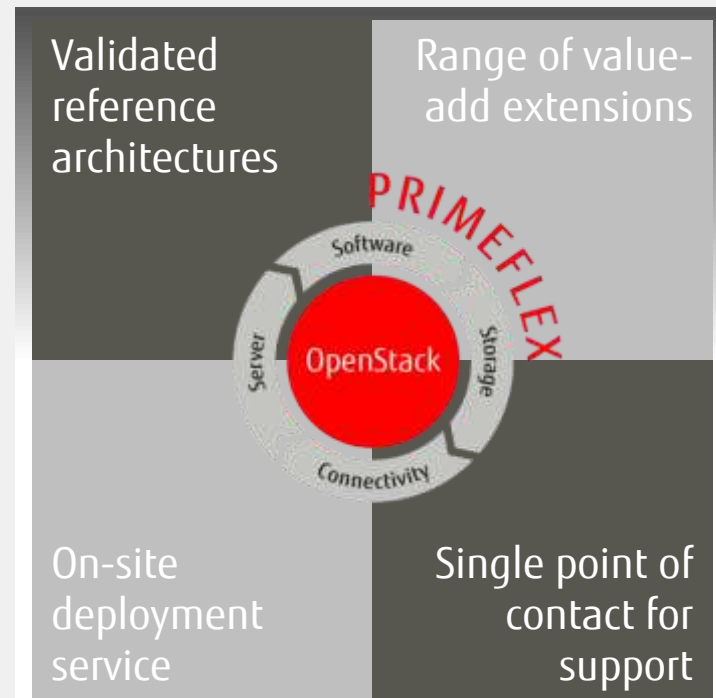- makes it hard to oversee overall complexity and calculate TCO

Is there a better alternative to get in touch with OpenStack?

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Introducing PRIMEFLEX for OpenStack

Integrated System for OpenStack cloud infrastructures validated by Fujitsu

- Minimizes deployment risk
- Reduces infrastructure-related design and implementation efforts and costs by up to 40%[1]
- Increases operational efficiency, agility and availability for evaluation and production
- Allows to start small and grow on demand with a secured and proven growth plan
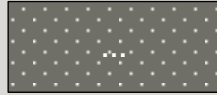
*1 based on Fujitsu internal calculation

Validated reference architectures

Range of value-add extensions

On-site deployment service

Single point of contact for support

PRIMEFLEX
Software
Server
OpenStack
Storage
Connectivity

Fastest way to deploy a highly flexible, cost-effective and scalable OpenStack cloud platform

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PRIMEFLEX for OpenStack Red Hat Edition

- <u>Pre-tested</u> technical reference architecture according to Fujitsu & Red Hat best practices
- Design requirements
  - Initially designed for private cloud, but prepared for hybrid cloud
  - Modular and extensible concept - implemented in 1 rack, but scale up is possible
  - Basic hypervisor support (KVM, ESXi)
  - High-available management stack
  - Provide optional value add with Fujitsu products (ETERNUS CD10000 CEPH Architecture, Enterprise Service Catalog Manager, Fujitsu Cloud Monitoring Manager)

Technical Reference Architecture

How to get started with OpenStack?
Evaluation Packages

Remote Evaluation

- Access to a fully fletched evaluation environment in the Fujitsu data center

Single Box	Basic System	Jump Start Package	Customized Package
▪ 1 x physical node ▪ 2 x compute node VM ▪ 1 x control node VM ▪ 1 x admin node VM ▪ internal storage	▪ 2 x compute nodes ▪ 1 x control node ▪ 1 x admin node ▪ 1 x 10G switch ▪ 1 x 1G switch ▪ opt. external storage	▪ 3 x compute nodes ▪ 3 x control node ▪ 1 x admin node ▪ 2 x 10G switch ▪ 1 x 1G switch ▪ opt. external storage	▪ 3+ compute nodes ▪ 3 x control node ▪ 1 x admin node ▪ 2 x 10G switch ▪ 1 x 1G switch ▪ opt. external storage
Fully virtualized ready-to-run OpenStack environment	Smallest hardware footprint including dedicated nodes	Smallest footprint that allows for a technical migration path to a customized production environment	Individually sized to serve specific production requirements

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Evaluation Scenarios

What scenarios can be evaluated with which package?

Name	API	Application Deployment	External Storage	Networking	High-Availability	3rd-party SDN	Backup	Performance
Single Box	✓	-	-	-	-	-	-	-
Remote Evaluation	✓	✓	✓	✓	✓	✓	-	-
Basic System	✓	✓	✓	✓	-	-	✓	-
Jump Start	✓	✓	✓	✓	✓	✓	✓	-
Customized Package	✓	✓	✓	✓	✓	✓	✓	✓

We provide you with an OpenStack environment that fits to your needs

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PRIMEFLEX for OpenStack Red Hat Edition v12

- Based on OpenStack "Pike"

- Integrated with Red Hat Enterprise Linux 7

- Director with CLI / GUI installation

  - Installation based on TripleO and Ironic

  - Deployment via Heat and Puppet

  - Preselection of best practice configuration

  - Quality assured and supported by Red Hat

- Normal release (1 year lifecycle)

  - No backporting of new features

PRIMEFLEX for OpenStack Red Hat Edition Reference Architecture: Hardware and OpenStack Configuration

- Hardware specification and OpenStack configuration is a starting point
  - Allows the initial setup of an OpenStack cloud in a short time
  - Best practice configuration (Fujitsu & Red Hat)
  - Pre-tested
  - Step-by-Step setup description

- On customer site highly specific requirements for cloud infrastructure are to be expected!

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Validated Value-Add Extensions

⏩	**Application Delivery/ Migration**	📊	**Enterprise Portal**
📊	**Monitoring**	🐷	**Cost Management**
🛢	**Software-defined Storage**	🔲	**Software-defined Networking**

Red Hat OpenStack Platform

Fujitsu PRIMERGY Server , Fujitsu ETERNUS Storage, Brocade Switches

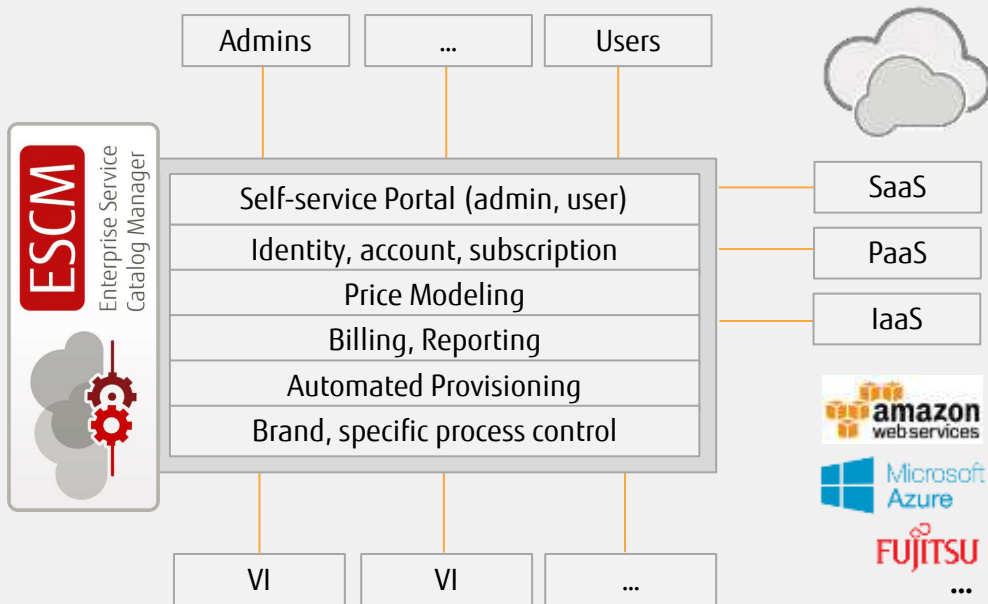**Deliver improved operational efficiency on top of the core OpenStack platform**

Validated Value-Add Extensions

UShareSoft UForge AppCenter

FUJITSU Software Service Catalog Manager

FUJITSU ServerView Cloud Monitoring Manager

FUJITSU Cloud Service PICCO

FUJITSU Storage ETERNUS CD 10000

Midokura Enterprise Midonet

Red Hat OpenStack Platform

Fujitsu PRIMERGY Server , Fujitsu ETERNUS Storage, Brocade Switches

Deliver improved operational efficiency on top of the core OpenStack platform

Enterprise Service Catalog Manager (ESCM)

| Admins | ... | Users |

ESCM
Enterprise Service Catalog Manager

Self-service Portal (admin, user)
Identity, account, subscription
Price Modeling
Billing, Reporting
Automated Provisioning
Brand, specific process control

SaaS

PaaS

IaaS

amazon web services

Microsoft Azure

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...

| VI | VI | ... |

- Benefits
  - Simplify service consumption
  - Reduce admin efforts and cost
  - Fast usage of new cloud services
  - Keep transparency and control
  - Identify unnecessary consumption
  - New revenue streams with own marketplace

Enhancing PRIMEFLEX to cloud infrastructures.

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Your Cloud – Your layout !
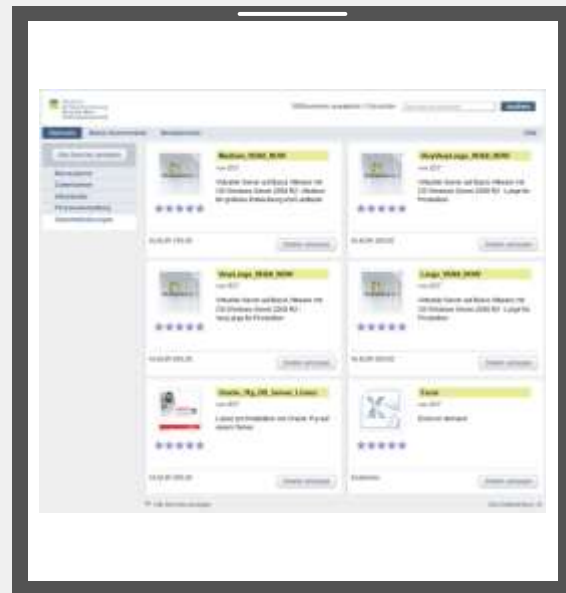
Enterprise Service Catalog Manager adapts to your Corporate Design.

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ESCM: Features in detail

User Portals
Customer & admin portals

Brand management
Layout customization
for own customer portal

Subscription management
Manage service subscriptions

Tenant provisioning
Provision service instances

Process control
Integrate organization-
specific processes

Service provisioning
Provision user access
to services

Reporting
Offer comprehensive reports
for providers & service users

Identity management
User management,
SSO & access control

Payment
Invoice creation & reporting
for service users

Billing
Collect billing data for
creating customer invoices
(flexible pricing models)

Event management
Record events to support
metering and auditing

Account management
Handling individual users,
accounts, roles, logins

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Interested in more?

FUJITSU Enterprise Service Catalog Manager

## Welcome to Enterprise Service Catalog Manager!

Here you have access to all information and learning resources we offer for Enterprise Service Catalog Manager, Fujitsu's cloud management platform. We help you to get your offerings into the cloud step by step.
Additionally, you get access to the community and support.

Demos & Webinars — Demo videos showing the features and use cases of Service Catalog Manager.

Basic Information — Basic information about Service Catalog Manager describing its concepts, business models and use cases.

Case Studies — Selected case studies of Service Catalog Manager for ESS use cases.

Documentation — Manuals introducing the concepts and features of Service Catalog Manager.

Learning Center — Learn how to integrate software and infrastructure services with Service Catalog Manager, and how to publish them.

FAQ — Find answers to the most frequently asked questions regarding Service Catalog Manager.

Community — Exchange information with other users and product experts. Find solutions for your problems.

Contact us — Contact us to clarify specific questions, give feedback, or access our customer help desk.

https://openservicecatalogmanager.org/rapid/

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and….what about Container ?
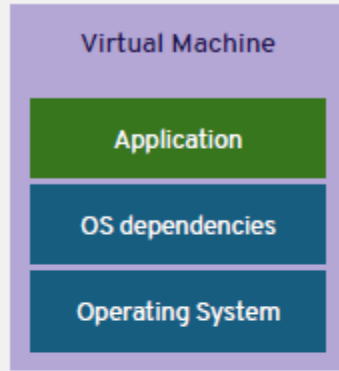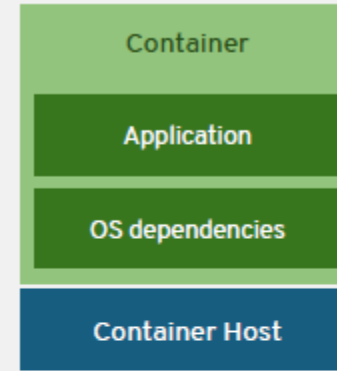
OpenStack and OpenShift

RED HAT®
OPENSTACK
PLATFORM
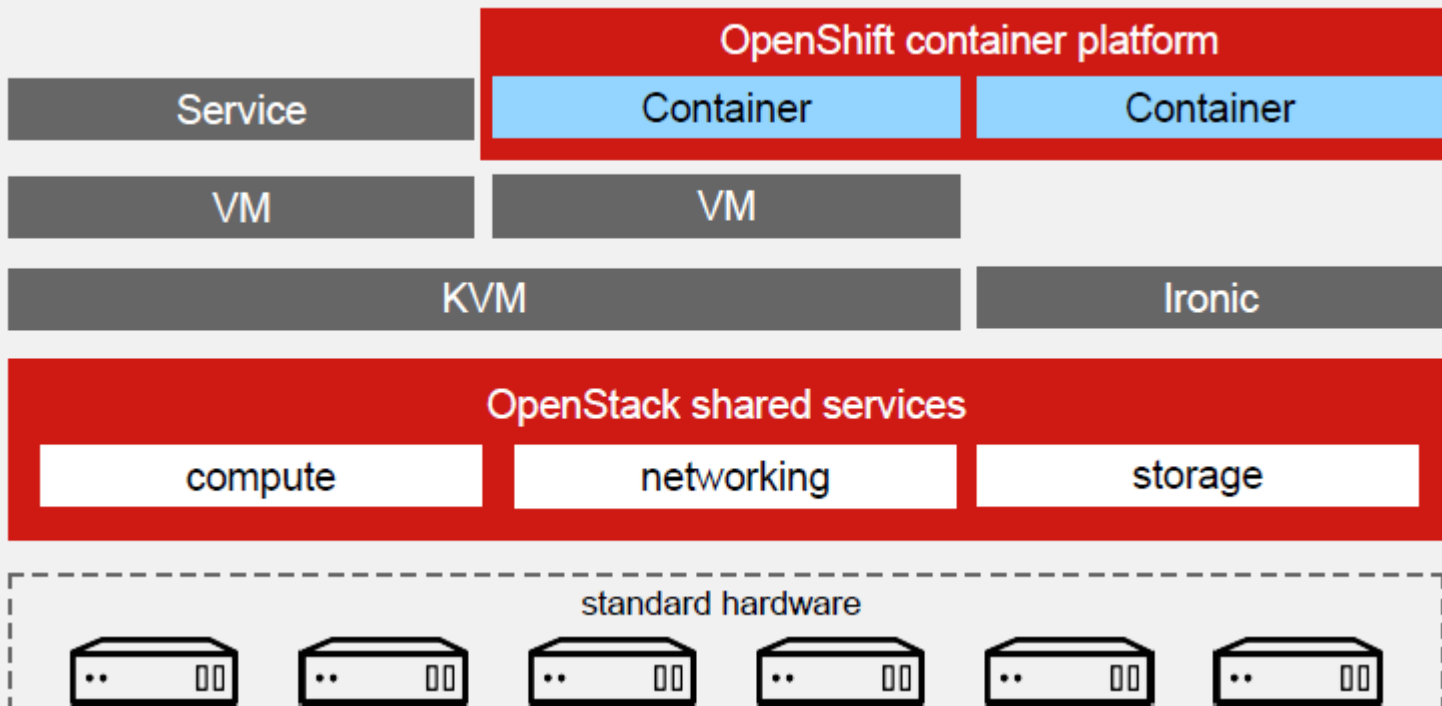
Exposition of resources

Provides the infrastructure layer
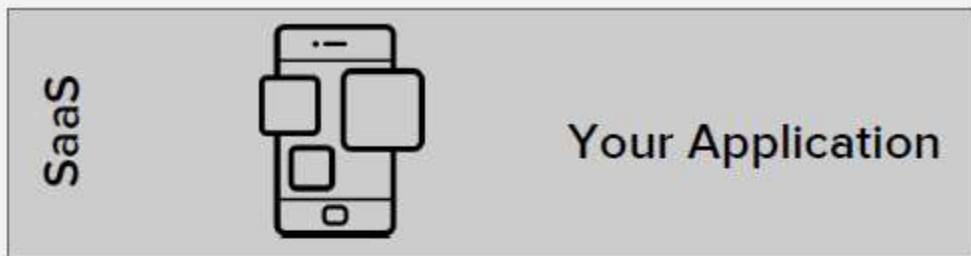
RED HAT®
OPENSHIFT

Consumption of resources

Provides the container application
platform layer

OpenShift on OpenStack
Containers, virtual machines and bare-metal

Putting it all together

SaaS — Your Application

PaaS — RED HAT OPENSHIFT

IaaS — RED HAT OPENSTACK PLATFORM
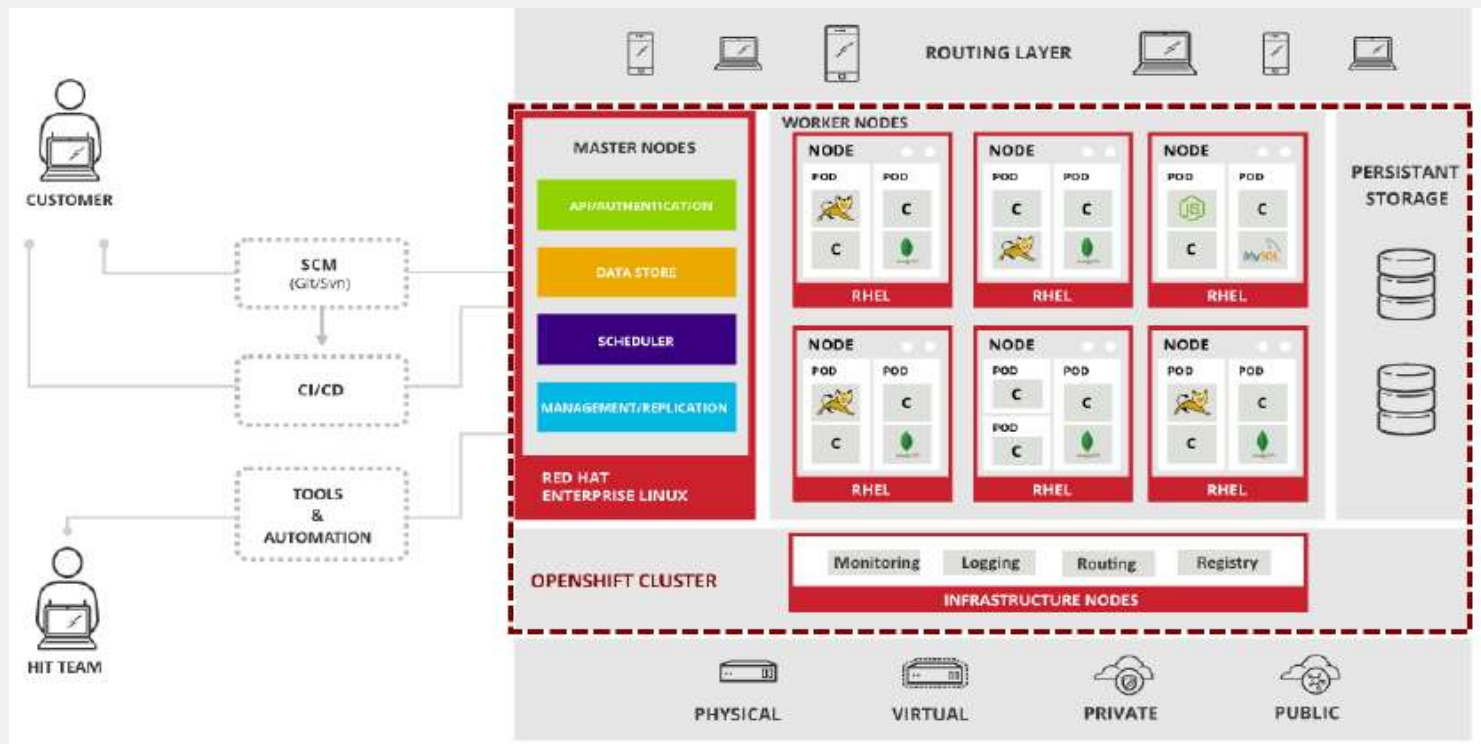
Architectural tenets:

- Technical independence
- Contextual awareness
- Avoiding redundancy
- Simplified management

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Managed Container Services Reference Architecture

Customer Benefits

- Rapidly exploit OpenShift Container Platform without having to install or support it
- One-stop shop for OpenShift Container Platform and ecosystem support
- Predictable charges
- Proactive and reactive support

Supporting Customer Initiatives

| Cloud Agnostic Strategy | Rapid Container Adoption | Microservice Architecture & Cloud Native |

Agility
- Application infrastructure services
- Leverage OpenShift Container Platform and ecosystem

Efficiency
- Developers focus only on source code development
- Fujitsu manages the container platform

Control
- Robust ITSM processes
- Cloud agnostic deployment an support
- SLA Framework and Reporting

Cost
- On-demand pricing - Only pay for what you use
- Granular control

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Why Fujitsu?

Start small and grow as you go	**Select the OpenStack platform that best fits your needs**	**Gain improved operational efficiency**
based on validated reference architectures providing a proven foundation for OpenStack	leveraging OpenStack platforms from RedHat	with a broad range of value-add extensions on top of the core OpenStack platform
Profit from seamless integration into the overall OpenStack ecosystem	**Reduce deployment risk and gain fast time to production**	**Reduce your maintenance efforts**
with our multi-cloud management support	with our on-site deployment service	with our single point of contact for support approach

PRIMEFLEX
Software
Server — **OpenStack** — Storage
Connectivity
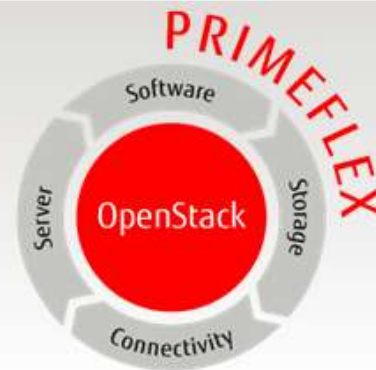
PRIMEFLEX for OpenStack makes your engagement in OpenStack as easy as possible

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GRAZIE PER L'ATTENZIONE

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