

# High Availabilty with SLES 11 and System z

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# Agenda

- SUSE Linux Enterprise overview
- What's new?
- High Availability Features
- DEMO

SUSE Linux Enterprise

# SUSE Strategy



Cloud Infrastructure

[www.suse.com/solutions/platform.html#cloud](http://www.suse.com/solutions/platform.html#cloud)



Enterprise Computing

[www.suse.com/solutions/platform.html#server](http://www.suse.com/solutions/platform.html#server)



Integrated Systems

[www.suse.com/partners/integrated-systems](http://www.suse.com/partners/integrated-systems)



# We adapt. You succeed.



No Vendor  
Lock-in

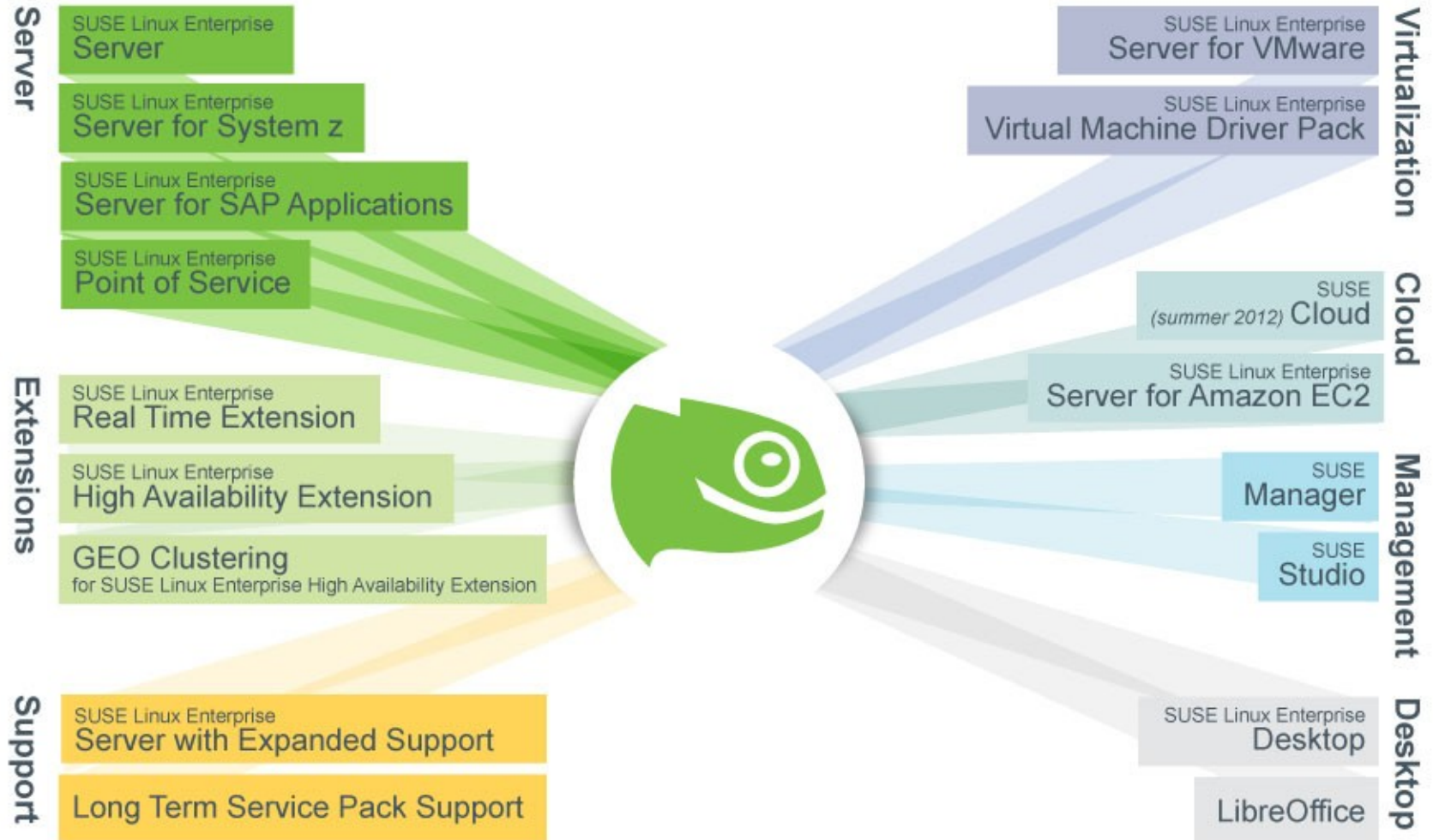
Maximum Choice  
and Flexibility

Enterprise  
Quality





# Comprehensive Portfolio

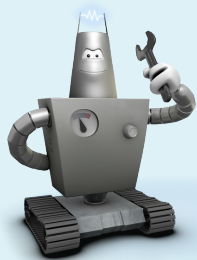


# Current Platform Lifecycle

	2009	2010	2011	2012	2013	2014	Notes
SLE 9							CR: SLE 9 SP4 (2007) EOGS: 08/2011 EOSS: 08/2014
SLE10							CR: SLE 10 SP4 (2011) EOGS: 07/2013 EOSS: 07/2016
SLE 11							CR: SLE 11 SP2 (2012) EOGS: 03/2016 EOSS: 03/2019
SLE 12							

- Service pack releases, development and product schedule announcements to customers and partners
- Dependable release timing, predictability for planning rollouts and migrations
- Major releases every 4 to 5 years

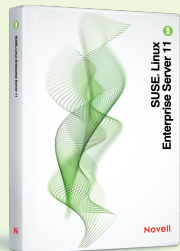
# SUSE Building Blocks for Linux OS Lifecycle



**SUSE Studio**  
Building workloads  
for physical and  
cloud environments



**SUSE Manager**  
Provisioning  
Management  
Monitoring



**SUSE Linux Enterprise**  
The foundation for your data center workloads  
and virtualization, from x86 to the mainframe



# Filesystems on SUSE Linux Enterprise

Feature	Ext3	ReiserFS 3.6	XFS	Btrfs	OCFS2
Data Journaling	Yes			N/A	
Metadata Journaling	Yes	Yes	Yes	N/A	Yes
Journal Internal	Yes	Yes	Yes	N/A	Yes
Journal External	Yes	Yes	Yes	N/A	
Offline Extend	Yes	Yes		Yes	Yes
Offline Shrink	Yes	Yes		Yes	
Online Extend	Yes	Yes	Yes	Yes	Yes
Online Shrink				Yes	
Sparse Files	Yes	Yes	Yes	Yes	Yes
Tail Packing		Yes		Yes	
Defrag			Yes	Yes	
Extended Attributes	Yes	Yes	Yes	Yes	Yes
Access Control Lists	Yes	Yes	Yes	Yes	Yes
Quotas	Yes	Yes	Yes	N/A	Yes
Dump and Restore	Yes		Yes		
Default Blocksize	4 KiB	4 KiB	4 KiB	4 KiB	4 KiB
Maximum File System Size	16 TiB	16 TiB	8 EiB	16 EiB	164 TiB
Maximum File Size	2 TiB	1 EiB	8 EiB	16 EiB	1 EiB

# SUSE<sup>®</sup> Linux Enterprise High Availability Extension

# SUSE® Linux Enterprise High Availability Extension Value Proposition and Benefits

- An affordable, integrated suite of robust open source clustering technologies that you can use to implement highly available physical and virtual Linux services.
- Used with SUSE Linux Enterprise Server, it helps you maintain business continuity, protect your data, and reduce unplanned downtime for your mission critical Linux workloads.
- Benefits
  - Cost effectively meet your service-level agreements
  - Ensure continuous access to your mission-critical systems and data
  - Maintain data integrity
  - Increase resource utilization



# SUSE® Linux Enterprise High Availability Extension 11

## Key Capabilities

- **Service Availability 24/7**
  - Policy driven clustering
  - OpenAIS messaging and membership layer
  - Pacemaker cluster resource manager
- **Sharing and Scaling Data-access by Multiple Nodes**
  - OCFS2 Clusterfile system
  - Clustered logical volume manager
- **Disaster Tolerance**
  - Continuous data replication via IP
  - Improved Distributed replicated block device (DRBD) capabilities
- **Scale Network Services**
  - IP load-balancing
- **User-friendly Tools**
  - Graphical user interface
  - Unified command line interface



# SUSE® Linux Enterprise High Availability Extension 11

## Key Capabilities

- **Storage Quorum Coverage**
  - Enabling the use of a storage device as a quorum instance to match traditional Unix setups and to prevent split brain scenarios
- **Integrated Samba Clustering**
  - Integration of Samba with OCFS2 for higher throughput and scale out of SMB access
- **Metro-Area Clusters**
  - Supporting clustering between different data center locations
- **DR Framework**
  - A tool set (ReaR) for node recovery



# Key Capabilities – now and future

- **Usability and Management**

- Full web GUI
- Improved access control

- **Ease of Use**

- Guided and automated configuration
- Prepackages applications
- Preloaded clusters

- **Clusters Functionality**

- Wide area clusters
- Improved data replication
- Unix cluster stack leadership

- **Backup and Disaster Recovery**

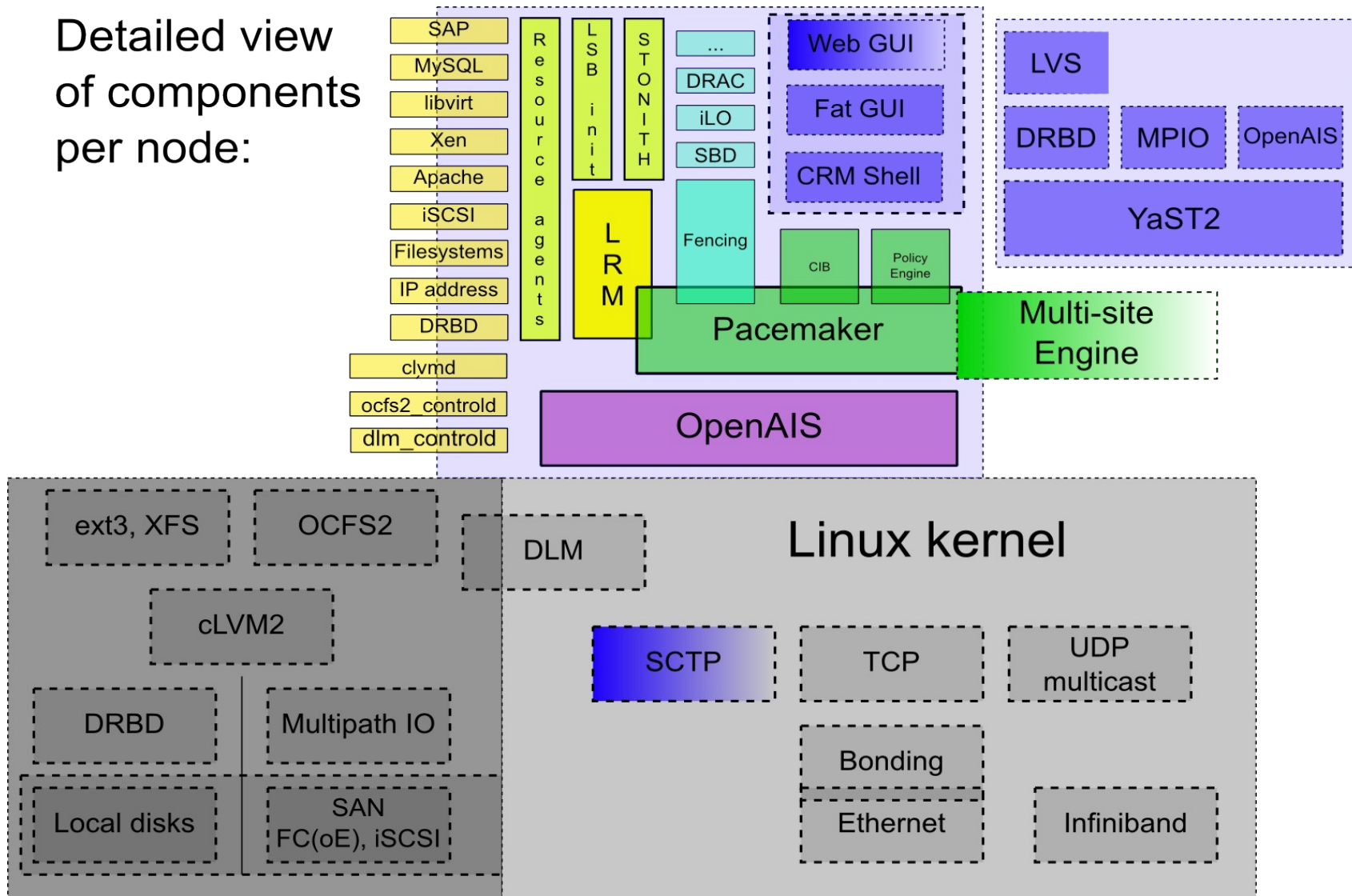
- Backup integration
- DR automation



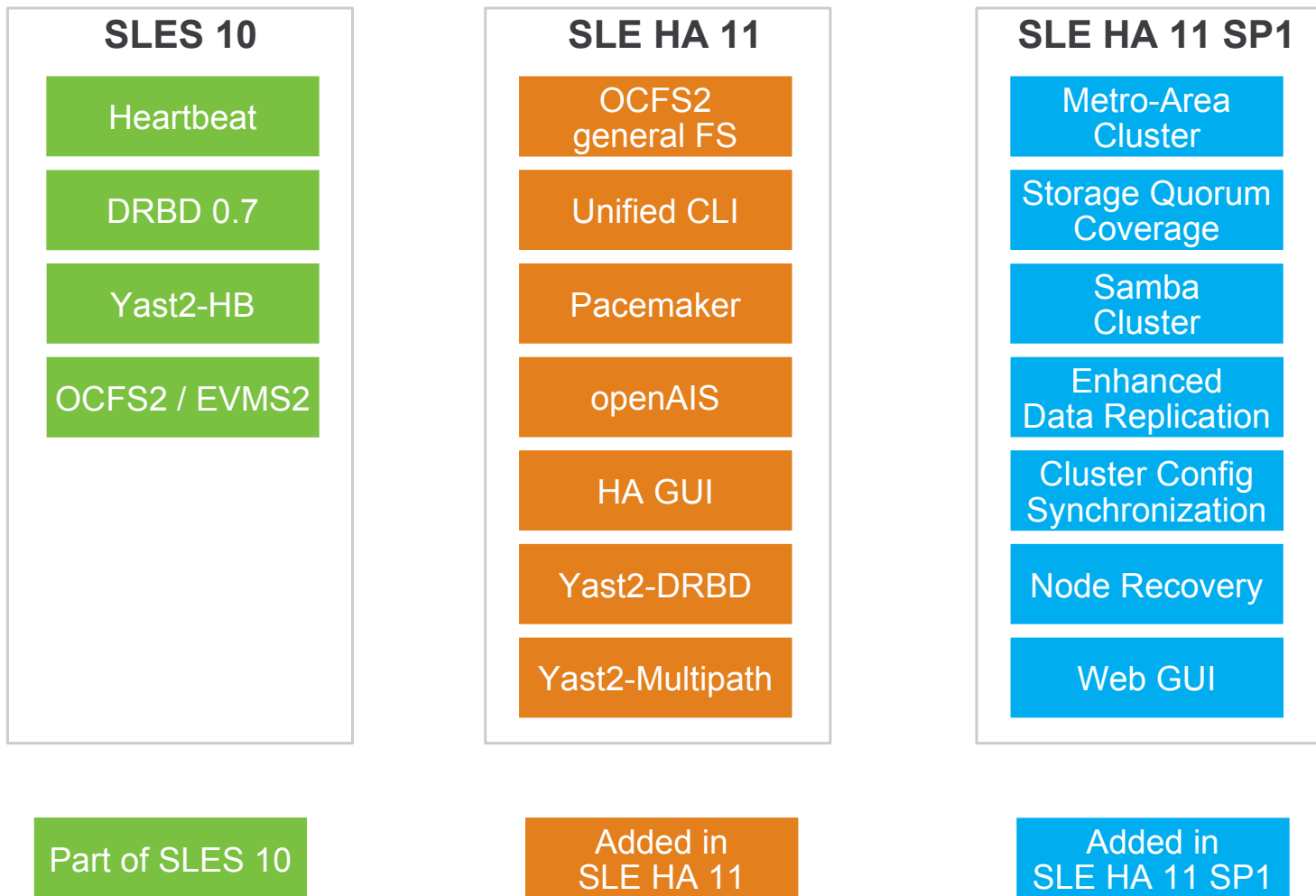


# Detailed architecture

Detailed view  
of components  
per node:



# SUSE® Linux Enterprise High Availability Extension HA Stack from 10 to 11



# DEMO: High Availability on System z

# Summary

- SUSE Linux Enterprise Server 11 SP2 is available now
- Features excellent System z platform exploitation
- Complementing System z RAS with on board High Availability functions



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