Rocks on Solaris™

Automated Deployment of Solaris using Rocks
Current Status
Solaris Backend Nodes
Multiple Solaris Appliance types
Heterogeneous clusters
Roll Support

- Base
- HPC
- Ganglia
- SGE
- Bio
- Java
- Nagios (in the works)
- Thumper Config
Why Rocks on Solaris?

- We’ve always wanted to do another OS for some time.
- Leads to more robust internal code.
- Better abstractions to support other OS in the future.
Why Solaris?

- ZFS
- Sun Fire storage servers
- DTrace
- Sun Studio Compilers Suite
- Sun HPC Cluster Tools
- ZFS
The Nuts and Bolts of it
Single Graph Infrastructure

- Same graph structure for both Solaris and Linux
- Differences are handled using edge conditionals

```xml
<edge os="sunos" to="HEAD">
  <from>sol_first_post</from>
</edge>
```
Single Node XML infrastructure

◆ The same XML files to generate JumpStart and KickStart configuration

◆ Differences are handled using

   ✅ OS conditionals

   ```xml
   <package os="sunos">ROCKSfoundation-python</package>
   <post os="linux">
     # linux specific code
   </post>
   ✅ Sometimes separate node XML files with the prefix sol_
Single XML Node Infrastructure

- Extend- and replace- support for node XML files
- Programmatic Partitioning supported
- All the rolls mentioned before have their XML files ported
Rocks on Solaris Features
Rocks on Solaris features

- ZFS root file system support
- NFS Based installation
- Full PXE support
  - Pxelinux chainloading pxegrub to boot installation kernel and ramdisk
Rocks on Solaris Features

- Headless Installs using Xvfb
- Rocks Solaris distribution
  
  ```bash
  # rocks create soldist
  ```
- ssh and VNC support for remote monitoring
- It’s like cross-kickstarting but for different OS rather than different archs.
How easy is it?

- Install a Rocks frontend with “solaris” roll
- Download iso images of the sunos rolls from the Rocks repository
- Add rolls using
  
  ```
  # rocks add roll *.iso
  ```
- Create the rocks solaris distro
  
  ```
  # rocks create soldist
  ```
# insert-ethers --os=sunos

Insert Ethernet Addresses -- version 5.2
Opened kickstart access to 10.1.0.0/255.255.0.0 network

Choose Appliance Type

Select An Appliance Type:

- Compute
- NAS Appliance
- Sun Devel Server

OK
WARNING: Selected package is already selected (SUNWserviceTagu)
- Selecting package (SUNWservtransport)
- Selecting package (SUNWservweb)
- Selecting package (SUNWservreg)
WARNING: Selected package is already selected (SUNWstosreg)
- Selecting package (SUNWtc1)
- Selecting package (SUNWtcid)
- Selecting locale (en_US.ISO8859-1)
- Selecting all disks
- Configuring boot device
- Creating "boufr" Solaris fdisk partition (c1d0)
- Using existing Solaris fdisk partition (c1d0)
- Configuring ignore (c1d0a2)
- Ignoring slice (c1d0a2)
- Configuring / (c1d0a0)
- Automatically configuring disks for Solaris operating system

Verifying disk configuration

Verifying space allocation
- Total software size: 1153.41 Mbytes

Preparing system for Solaris install

Configuring disk (c1d0)
- Creating fdisk partition table
- Creating Solaris disk label (VTOC)
- Processing the alternate sector slice
- Creating pool rocks
- Creating swap zvol for pool rocks
- Creating dump zvol for pool rocks

Creating and checking file systems
- Creating rocks/ROOT/st0z_u68os_026 dataset

Beginning Solaris software installation

Starting software installation
ROKSrocks-5g6.........................done. 1153.36 Mbytes remaining.
<table>
<thead>
<tr>
<th>Package</th>
<th>State</th>
<th>Size (MB)</th>
<th>Remaining (MB)</th>
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</thead>
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<td>ROCKSrocks-sge</td>
<td>done</td>
<td>1198.36</td>
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<tr>
<td>SFMcurl</td>
<td>done</td>
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<td>SFMtool</td>
<td>done</td>
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<tr>
<td>ROCSrocks-config</td>
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<td>SUNjavacore</td>
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<td>ROCKSpamgilla-py71b</td>
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<td>SUNjavamail-client</td>
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<td>ROCKStreeb</td>
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</table>
Pre-emptive answers

- Only x86/x64 support. No SPARC support
- Support for Solaris 10 update 6 or later only
- No support for HTTP Based installs. Meaning no bit-torrent support.
- No Solaris frontends (at least not in the near future).
Questions?