SCALABLE MEATFRASTRUCTURE
Building stable DevOps teams

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@ New Relic
What is MEATFRASTRUCTURE?
Enable Logging
Pipe stdout
Default configuration
Stable distribution
Reliable under high load
Enable Logging

Pipe stdout

Default configuration

Stable distribution

Reliable under high load
The BUS Factor
Oral to WRITTEN
Story time
Write it ALL down

• Your team’s mission
• Your team’s chosen tools and methodologies
• Standard practices and procedures
ENABLE LOGGING
PIPE STDOUT
DEFAULT CONFIGURATION
STABLE DISTRIBUTION
RELIABLE UNDER HIGH LOAD
Success!
THIS WAY

THE OTHER WAY

THAT WAY
Single Source of Truth

• Everyone knows where it is
• Everyone can contribute to it
• It’s searchable
• It’s archivable
• GitHub pages for company processes
• Gists for configuration changes
• Repos for runbooks
Hold up
Say Howdy to Real-Time Cattle Record Keeping

Welcome to the new way farmers and ranchers are managing their cattle. Now you can enter cattle records at home, at the ranch, and in the pastures. Record information as it happens instead of weeks later.

Editions & Pricing  or  See It In Action
Current Breeding & Pregnancy Information

- Breeding Date: 01-20-2012
- Estimated Calving Date: 10-29-2012 (9 months and 9 days)
- Breeding Method: AI
- Sire: 815
- Confirmed Pregnant on 08-15-2011

Breeding History

<table>
<thead>
<tr>
<th>Date</th>
<th>Est Calving</th>
<th>Method</th>
<th>Mating</th>
</tr>
</thead>
<tbody>
<tr>
<td>08-01-2011</td>
<td>05-10-2012 (3546 days)</td>
<td>NS</td>
<td>927</td>
</tr>
<tr>
<td>07-01-2011</td>
<td>04-09-2012 (2 months and 20 days)</td>
<td>AI</td>
<td>2061</td>
</tr>
</tbody>
</table>

* designates cleanup breeding record

Pregnancy Check History

<table>
<thead>
<tr>
<th>Date</th>
<th>Result</th>
<th>Exp. due date</th>
</tr>
</thead>
<tbody>
<tr>
<td>09-27-2011</td>
<td>Pregnant</td>
<td>05-05-2012</td>
</tr>
<tr>
<td>09-27-2011</td>
<td>Palpation</td>
<td>3 months and 15 days</td>
</tr>
<tr>
<td>Animal</td>
<td>Method</td>
<td>Mating</td>
</tr>
<tr>
<td>--------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>360</td>
<td>NS</td>
<td>0100</td>
</tr>
<tr>
<td>311</td>
<td>NS</td>
<td>2019</td>
</tr>
<tr>
<td>710</td>
<td>AI</td>
<td>2289</td>
</tr>
<tr>
<td>299</td>
<td>AI</td>
<td>913</td>
</tr>
<tr>
<td>872</td>
<td>AI</td>
<td>3181</td>
</tr>
<tr>
<td>848</td>
<td>AI</td>
<td>4017</td>
</tr>
<tr>
<td>533</td>
<td>AI</td>
<td>913</td>
</tr>
<tr>
<td>226</td>
<td>AI</td>
<td>3181</td>
</tr>
<tr>
<td>924</td>
<td>NS</td>
<td>6164</td>
</tr>
<tr>
<td>T702</td>
<td>ET</td>
<td>S: 4017</td>
</tr>
</tbody>
</table>

Calvings Breeding Method

- **AI** 6
- **ET** 8
- **NS** 42
### Smart Groups

*Added & removed based on criteria*

<table>
<thead>
<tr>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Bulls</td>
</tr>
<tr>
<td>Active Calves</td>
</tr>
<tr>
<td>Active Cattle</td>
</tr>
<tr>
<td>Active Cows</td>
</tr>
<tr>
<td>All Cattle</td>
</tr>
<tr>
<td>Purchased Cattle</td>
</tr>
<tr>
<td>Replacements</td>
</tr>
<tr>
<td>Sold Cattle</td>
</tr>
<tr>
<td>Unweaned Calves</td>
</tr>
</tbody>
</table>

### Cattle Groups

*Added & removed manually*

<table>
<thead>
<tr>
<th>Name</th>
<th>Head</th>
</tr>
</thead>
<tbody>
<tr>
<td>AI Reference Bulls</td>
<td>1</td>
</tr>
<tr>
<td>Cattle to Cull</td>
<td>2</td>
</tr>
<tr>
<td>ET Donors</td>
<td>12</td>
</tr>
<tr>
<td>Fall Calving Cows</td>
<td>27</td>
</tr>
<tr>
<td>Group 3</td>
<td>9</td>
</tr>
<tr>
<td>Herd Sires</td>
<td>3</td>
</tr>
<tr>
<td>Replacement Heifer</td>
<td>4</td>
</tr>
<tr>
<td>Sale Bulls</td>
<td>1</td>
</tr>
<tr>
<td>Spring Calving Cows</td>
<td>32</td>
</tr>
<tr>
<td>Year Fall 2010</td>
<td>32</td>
</tr>
<tr>
<td>Year Fall 2011</td>
<td>33</td>
</tr>
<tr>
<td>Year Fall 2012</td>
<td>26</td>
</tr>
<tr>
<td>Year Spring 2010</td>
<td>92</td>
</tr>
<tr>
<td>Year Spring 2011</td>
<td>77</td>
</tr>
</tbody>
</table>

### Search

*Search by ID*

### Active Animals

*Bull 18 Calf 70 Cow 93*

- Bull: 51.4%
- Calf: 38.7%
- Cow: 10.9%

### Active Calves

*Bull 44 Heifer 26*

- Bull: 37.1%
- Heifer: 62.9%
What's on FIRE today?
What’s on FIRE today?
What's on FIRE today?
What’s on FIRE today?

Coffee doesn’t make processors run faster :(
Enable Logging
Pipe stdout
Default configuration
Stable distribution
Reliable under high load
“STRESSED” is “DESSERTS” spelled backwards
be a HERO
The sysadmin will see you now.
ELEVATOR BUTTON
"It’s just a proof of concept."

- SOMEONE YOU HATE NOW
What’s approved?

• Languages
• Frameworks
• Tools
A Real World Example!
SHIP it
Welcome to Site Eng Requests!

The Central Services team has developed the Site Eng Requests site so that we can provide you with a more efficient and user friendly Ops request process. This site will eventually be used to submit all Site Engineering requests such as: adding or updating user accounts, provisioning new servers, and configuring monitoring and alerting.

User Access
Request access to the Chicago VPN, servers, and accounts.

REQUEST

JIRA Tickets List
See your newly created ticket at the top of the list after submission.

VIEW JIRA LIST

Monitoring
Request a monitoring configuration for your service.

REQUEST

Provisioning
Request server space for a new service.

COMING SOON
User Access Request

Request access to accounts, databases, hosts, AWS, or VPN. Request the deprovisioning of a terminated user. Please note that manager approval is necessary for access to production infrastructure.

Your username (alice@newrelic.com) will be recorded when you submit this form. Not alice? Sign out

Required

Reporter
Please enter your JIRA username

Team
Please enter your team

Full Name

Job Title

Office Location
- PDX
- SFO
- Other: 

Manager's Email Address

* Required
ENABLE LOGGING
PIPE STDOUT
DEFAULT CONFIGURATION
STABLE DISTRIBUTION
RELIABLE UNDER HIGH LOAD
Left OUT
Learning SLowed
Out of SIGHT
NO
LEVEL the playing field

- Take notes during stand-ups
- Record meetings
- Fly them in
SWAG DROP
SHIP it
Enable Logging
Pipe stdout
Default configuration
Stable distribution
Reliable under high load
WELCOME ABOARD
```c
#ifndef VERBOSE_RBT_VERIFY
    if (left)
        printf("%ld\c\c\c", left);
    if (right)
        printf("%ld\c\c\c", right);
#endif

height_l = rbt_verify_n(left, compare);
height_r = rbt_verify_n(right, compare);

// Verify BST property.
if (left != NULL) && (compare->compare(left, right) <= 0) && (compare->compare(right, left) >= 0)
    printf("%ld\c\c\c", right);
else
    FAIL("BST verification failed at node %d", node);
```

Where to START?

• Big shop? Get invested
• Small shop? Get creative
ENABLE LOGGING
PIPE STDOUT
DEFAULT CONFIGURATION
STABLE DISTRIBUTION
RELIABLE UNDER HIGH LOAD
SHARE INFO
IN ONE PLACE
HELP OTHER TEAMS HELP YOU
MAKE REMOTE WORKERS EQUAL
MAKE ONBOARDING SMOOTH
SHARE INFO
IN ONE PLACE
HELP OTHER TEAMS HELP YOU
MAKE REMOTE WORKERS EQUAL
MAKE ONBOARDING SMOOTH
SHARE INFO
IN ONE PLACE
HELP OTHER TEAMS HELP YOU
MAKE REMOTE WORKERS EQUAL
MAKE ONBOARDING SMOOTH
What’s on FIRE today?

Coffee doesn’t make processors run faster :(
Share info in one place.
Help other teams help you.
Make remote workers equal.
Make onboarding smooth.
Welcome to Site Eng Requests!

The Central Services team has developed the Site Eng Requests site so that we can provide you with a more efficient and user friendly Ops request process. This site will eventually be used to submit all Site Engineering requests such as: adding or removing user accounts, provisioning new servers, and configuring monitoring and alerting.

For our initial release, we are only taking user access requests. As we gain familiarity with this new process, we will next enable the Monitoring and Provisioning forms, in addition to a general request form.

User Access
Request access to the Chicago VPN, servers, and accounts.
REQUEST

JIRA Tickets List
See your newly created ticket at the top of the list after submission.
VIEW JIRA LIST

Monitoring
Request monitoring through Nagios, etc.
COMING SOON

Provisioning
Request server space for a new service.
COMING SOON
SHARE INFO
IN ONE PLACE
HELP OTHER TEAMS HELP YOU
MAKE REMOTE WORKERS EQUAL
MAKE ONBOARDING SMOOTH
SHARE INFO IN ONE PLACE
HELP OTHER TEAMS HELP YOU
MAKE REMOTE WORKERS EQUAL
MAKE ONBOARDING SMOOTH
almost done
Thanks!

@ALICEGOLDFUSS
Safe Harbor

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1 National Cancer Institute https://visualsonline.cancer.gov/details.cfm?imageid=2402
2 http://www.flickr.com/photos/24365773@N03/6296336021
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