

# An Introduction to Crowbar

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# Introduction

# Crowbar Overview

- Open Source installation and configuration management framework
- Originally started by Dell, continued by SUSE
- Mainly used for SUSE OpenStack Cloud, Ceph, Cloud Foundry
- Ruby on Rails Web UI and REST API with command line clients

# Features

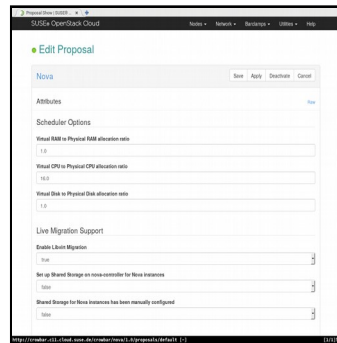
- PXE boot discovery and installation for bare metal nodes
- Chef based configuration management for all supported services
- Easily extensible through bar clamps

# Barclamps: Crowbar's Configuration Modules

- Chef recipes for configuration management
- Default parameters for chef recipes from *data bags*: JSON data with schema
- Barclamp view in Crowbar Web UI for customizing parameters
- Validation code and UI elements in Rails application

# Web UI workflow (1)

## Crowbar Web UI



## Crowbar Admin Node

Crowbar Rails  
Application

Chef  
server

crowbarctl

CLI Client



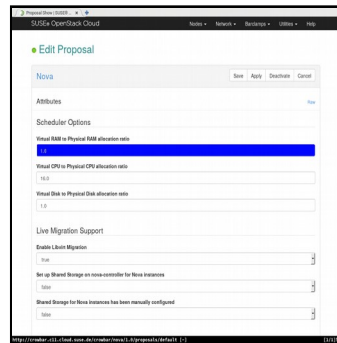
Node 1



Node 2

# Web UI workflow (2)

## Crowbar Web UI



## Crowbar Admin Node

Crowbar Rails  
Application

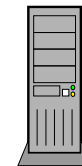
Chef  
server

crowbarctl

CLI Client

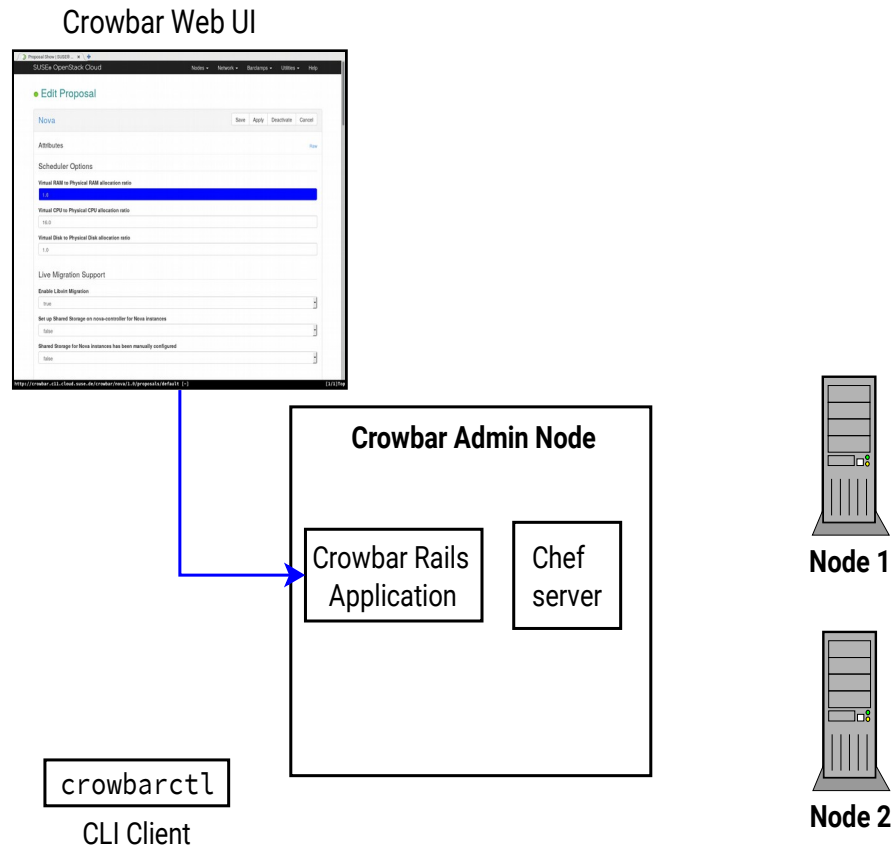


Node 1



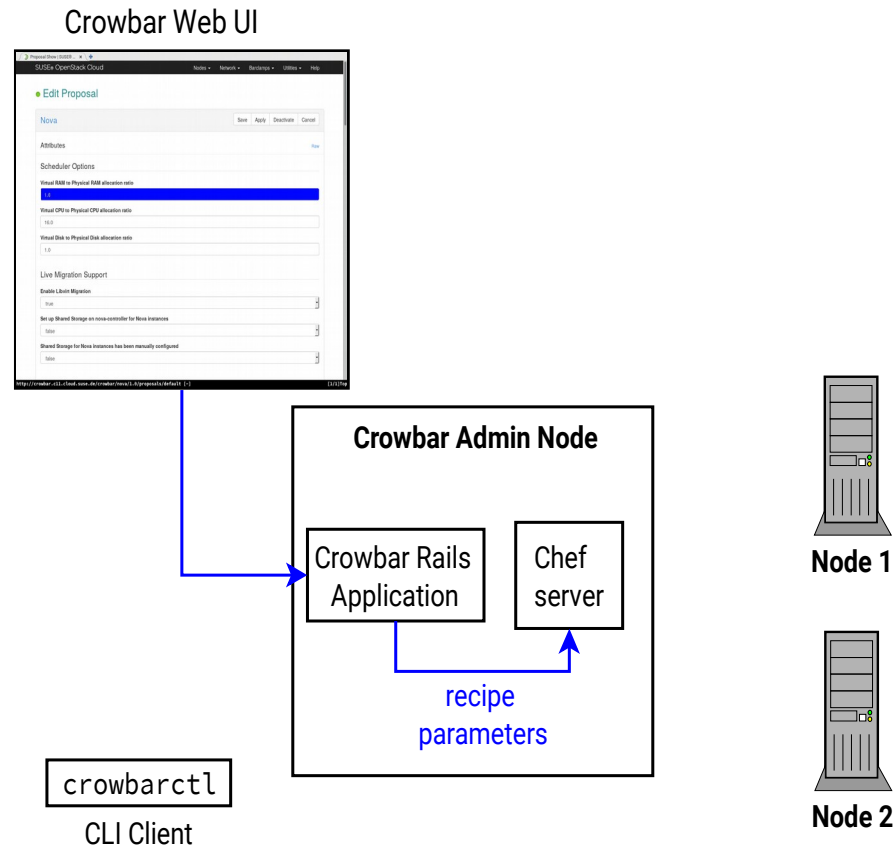
Node 2

# Web UI workflow (3)

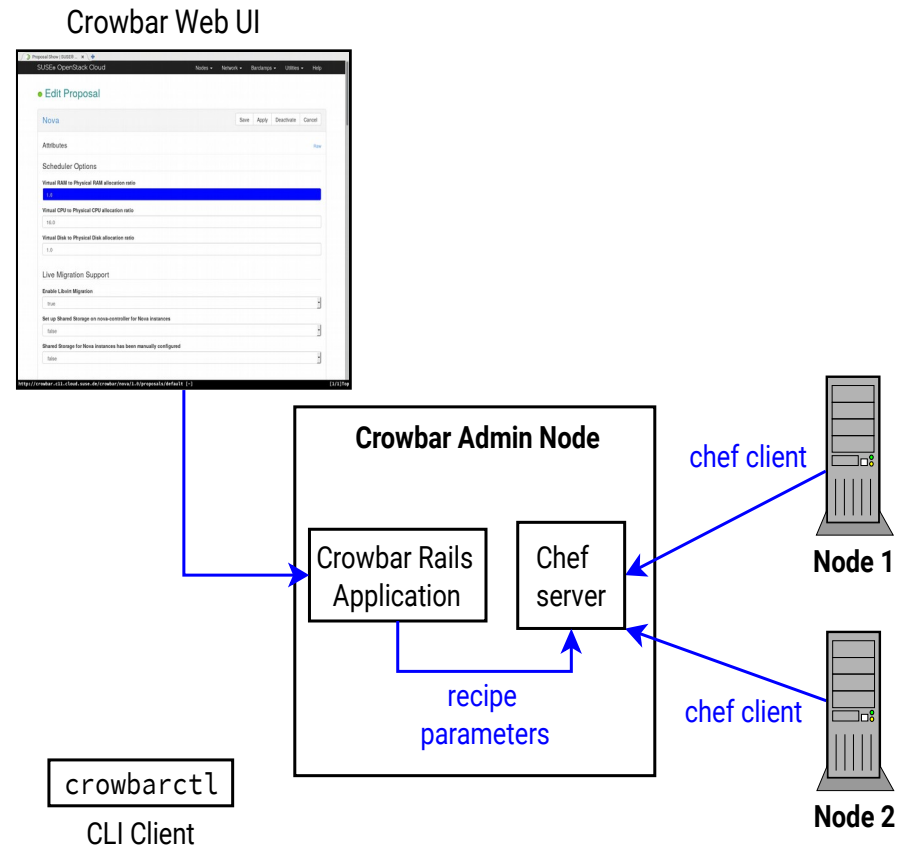




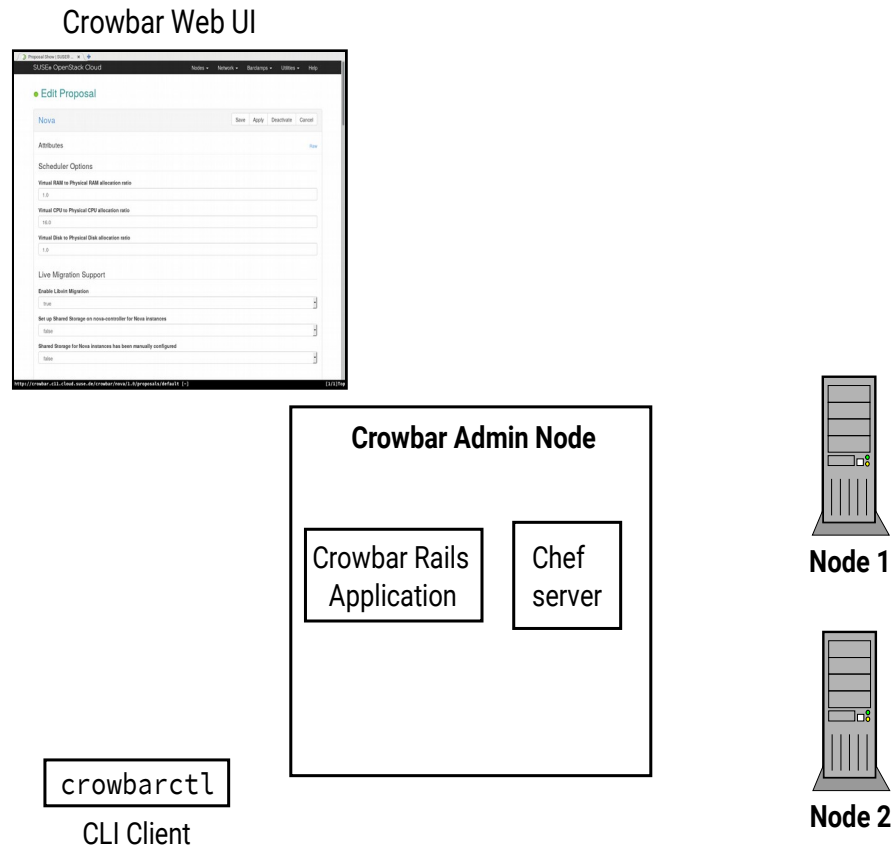
# Web UI workflow (4)



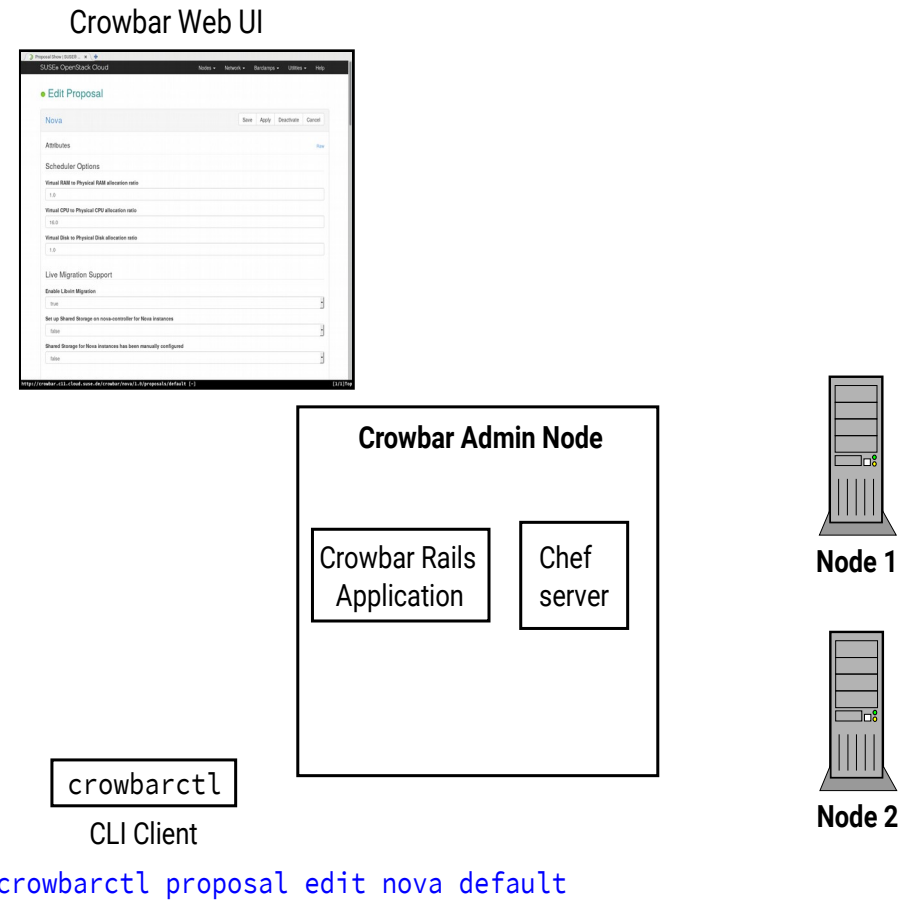
# Web UI workflow (5)



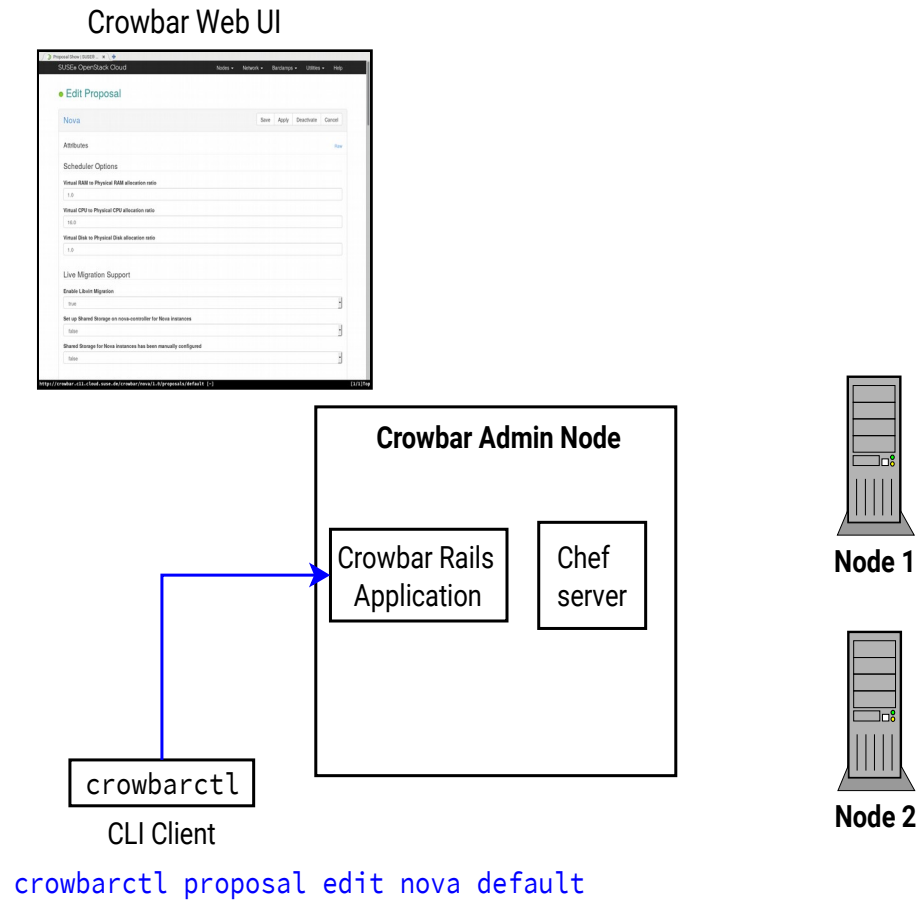
# CLI/REST API workflow (1)



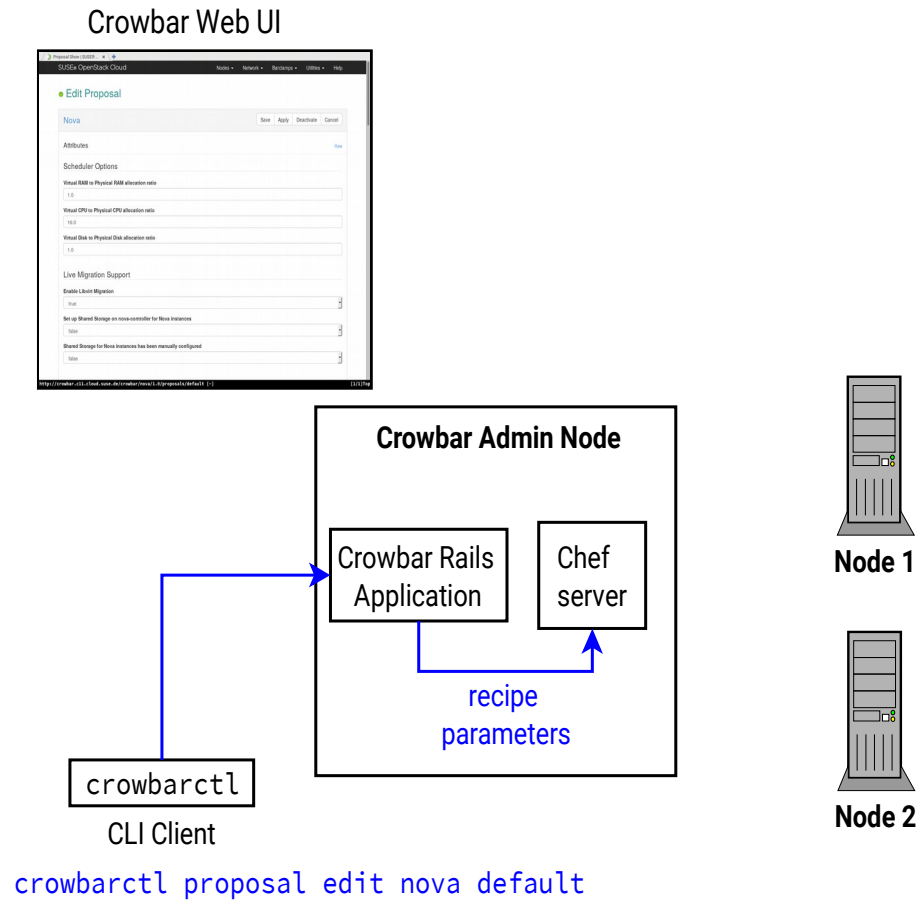
# CLI/REST API workflow (2)



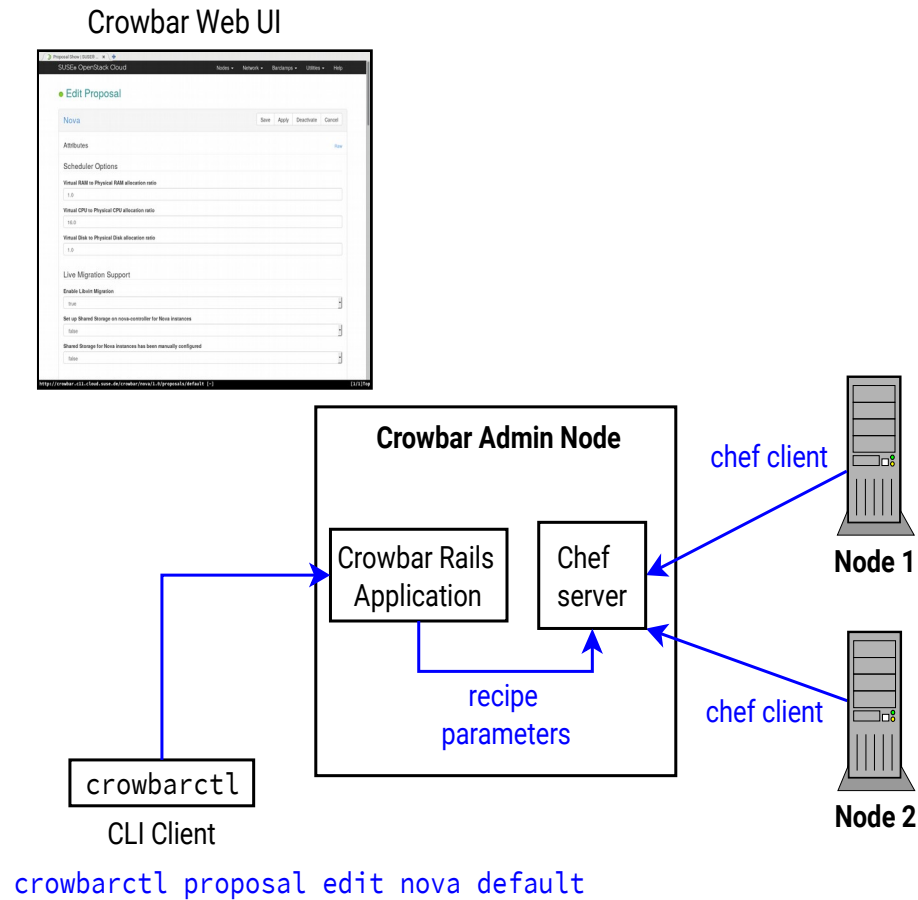
# CLI/REST API workflow (3)



# CLI/REST API workflow (4)



# CLI/REST API workflow (5)



# Development: Crowbar Repositories

- Main application: <https://github.com/crowbar>
- Core barclamps: <https://github.com/crowbar-core>
- OpenStack barclamps:  
<https://github.com/crowbar/crowbar-openstack>



# Development: Contribution workflow

- Fork the repository you intend to contribute to on Github and create a topic branch
- Once you are done with your modifications submit a pull request
- Acceptance Criteria:
  - Two positive reviews
  - All CI tests pass

# Development: Getting in Touch

- Mailing list: `crowbar@googlegroups.com`
- IRC: `#crowbar` on FreeNode

# Case Study: Creating a New OpenStack Barclamp

# Example Barclamp: Barbican

- Example for case study: (The Barbican barclamp)
- See commit  
`cc1fea37169a4769257e0894f4363eccd241187a`  
for details
- Preparation: Fork  
<https://github.com/crowbar/crowbar-openstack> and  
create topic branch

# Step 1: Creating a Chef Cookbook

*Note: all paths on this slide are relative to  
chef/cookbooks/barbican*

- Create Chef recipes in `recipes/`
  - Create 1 or more role recipes to aggregate recipes
- Declare dependencies in `metadata.rb`

## Step 2: Parameters in Data Bags

*Note: all paths on this slide are relative to  
`chef/data_bags/`*

- Create `template-barbican.schema`: JSON formatted schema. Describes parameter types.
- Create `template-barbican.json`: JSON formatted data structure with default parameters

## Step 3: Roles

- Available role recipes need to be know Crowbar App
- Add a role definition for each role recipe in `chef/roles/`.

# Step 4: Register Barclamp in the Crowbar App

*Note: all paths on this slide are relative to `crowbar_framework/`*

Minimal changes:

- Create UI controller:  
`app/controllers/barbican_controller.rb`
- Create UI model: `app/models/barbican_service.rb`
- Create UI view:  
`app/views/barclamp/barbican/_edit_attributes.html.haml`
- Create UI labels: `config/locales/barbican/en.yml`



Slides and Transcript:  
<http://github.com/jgrassler/talks>

Thank you.







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