Project Overview

ITsysCOM
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ITSYSCOM
Engineered Solutions

Our background

- Over 6 years of experience with architecting server side solutions in VoIP environment
- Platform implementations covering both Carrier as well as Retail business categories
- Responsibly understanding real-time processing constrains as well as seriousness of live system outages

Features (1)

- Opensource implementation of prepaid / postpaid rating engine
- Reliable and fast
  - Multiprocessor support
  - Asynchronous code execution
  - Balancer component included
- Modular architecture
  - Easy to enhance by rewriting specific components
  - JSON/GOB RPC API
- Multi-tenant support

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Features (2)

- Prepaid, Postpaid, Pseudoprepaid controller:
  - Concurrent sessions per account
  - Multiple primary balances (MONETARY, SMS, INTERNET_MINUTES, INTERNET_TRAFFIC, etc)
  - Multiple auxiliary balances (minutes per destination, volume rates, volume discounts)
  - Balance prioritization
  - Built-in task scheduler with support for one time as well as recurrent actions
  - Action triggers
- Verbose action logging

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Features (3)

- Highly configurable rating
  - Connect fees
  - Rate increments
  - Multiple TypeOfRecord support (eg: calls, premium calls, SMS, internet data, etc)
  - Multiple rating subjects with fallback(useful for example on roaming CDRs)
  - Recurrent rates
  - Rating profile activation times
- Multiple mediation processes on the same CDR

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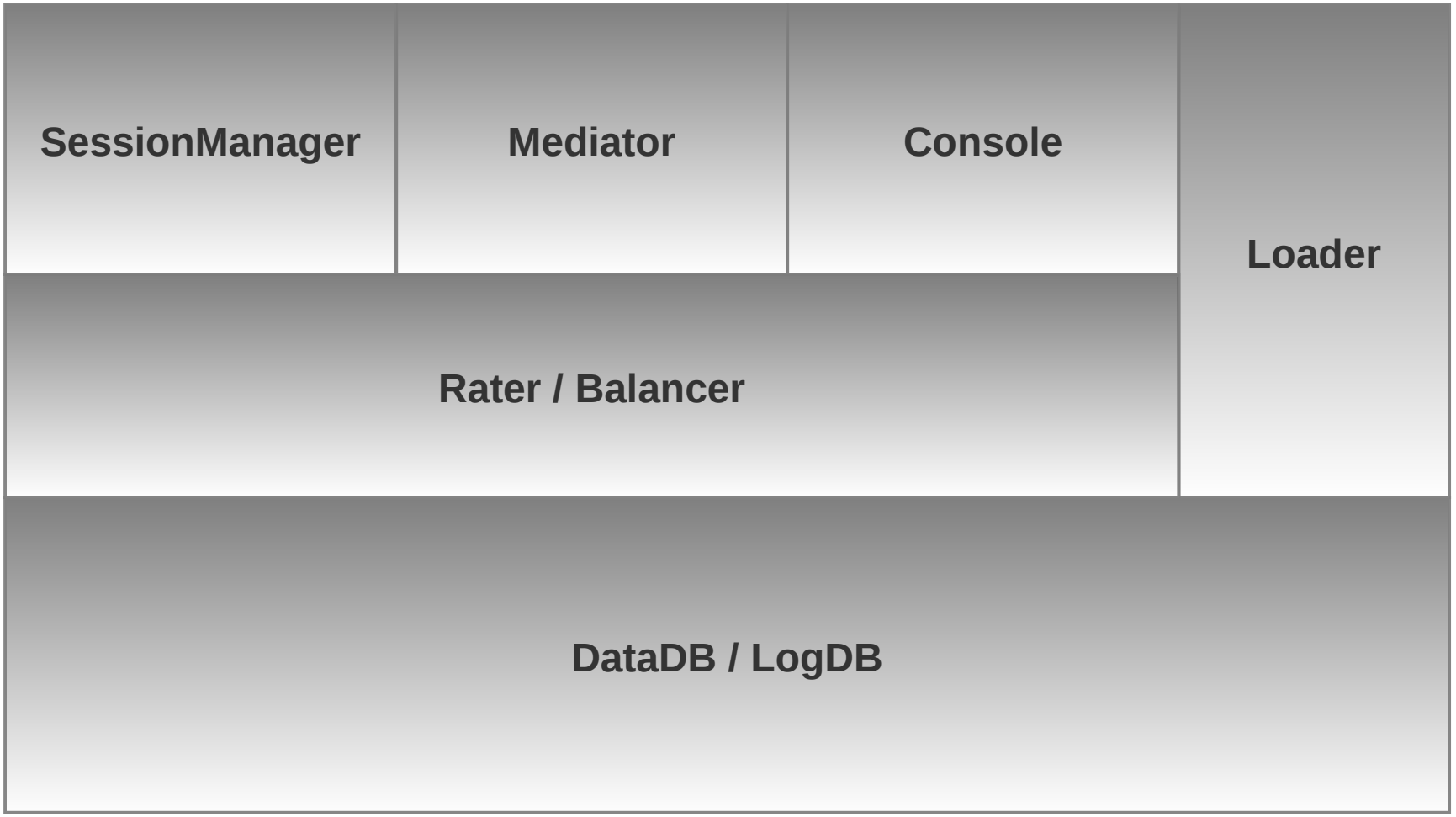
Architectural blocks



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cgr-rater(1)

- Configurable in cgrates.cfg file
- Rater service
  - Core component
  - Reachable via RPC or directly internally within the process
  - Price calculations
  - Operates on balances
  - Executes action triggers
  - Ability to register as worker to balancer

cgr-rater(2)

- Balancer service
  - Locates and balances inquiries towards raters
  - Request proxing to raters
  - Assures data locking for concurrency

- Mediator service
  - Mediates CDRs generated by Telecom Switch
  - Rating subjects concatenation
  - Multiple mediation processes over the same CDR

cgr-rater(3)

- SessionManager
  - Middleware between between Telecom Switch and Rater
  - Authorize calls on start
  - Enforce maximum timeout on calls
  - Debit loop in the middle of calls
  - Credit refunds on session end
- Scheduler:
  - Accurate scheduler with support for both one time as well as recurrent actions

CGRateS
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cgr-loader

- Loads rates and accounts into CGRateS DataDB

```
rif@grace:~$ cgr-loader -help
    Usage of cgr-loader:
      -dbhost="localhost": The database host to connect to.
      -dbname="10": he name/number of the database to connect to.
      -dbpass="": The database user's password.
      -dbport="6379": The database port to bind to.
      -dbtype="redis": The type of the database (redis|mongo|postgres)
      -dbuser="": The database user to sign in as.
      -flush=false: Flush the database before importing
      -path=".": The path containing the data files
      -version=false: Prints the application version.
```

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cgr-console

- Basic User Interface towards CGRateS system

```
cgrrif@grace:~$ cgr-console -help
Usage of cgr-console:
  -rpc_encoding="gob": RPC encoding used <gob|json>
  -server="127.0.0.1:2012": server address host:port
  -version=false: Prints the application version.
cgrrif@grace:~$ cgr-console help_more
2013/04/13 17:23:51
 Usage: cgr-console [cfg_opts...{-h}] <status|get_balance>
```

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Installing

- Supported platforms
  - Anywhere where Go fits (gc, gcc compiler)
  - Go packaged for Linux, FreeBSD, Mac OS X, Windows
- CGRateS building from sources

  $ go get github.com/cgrates/cgrates
- Debian packages provided

  $ apt-get install cgrates

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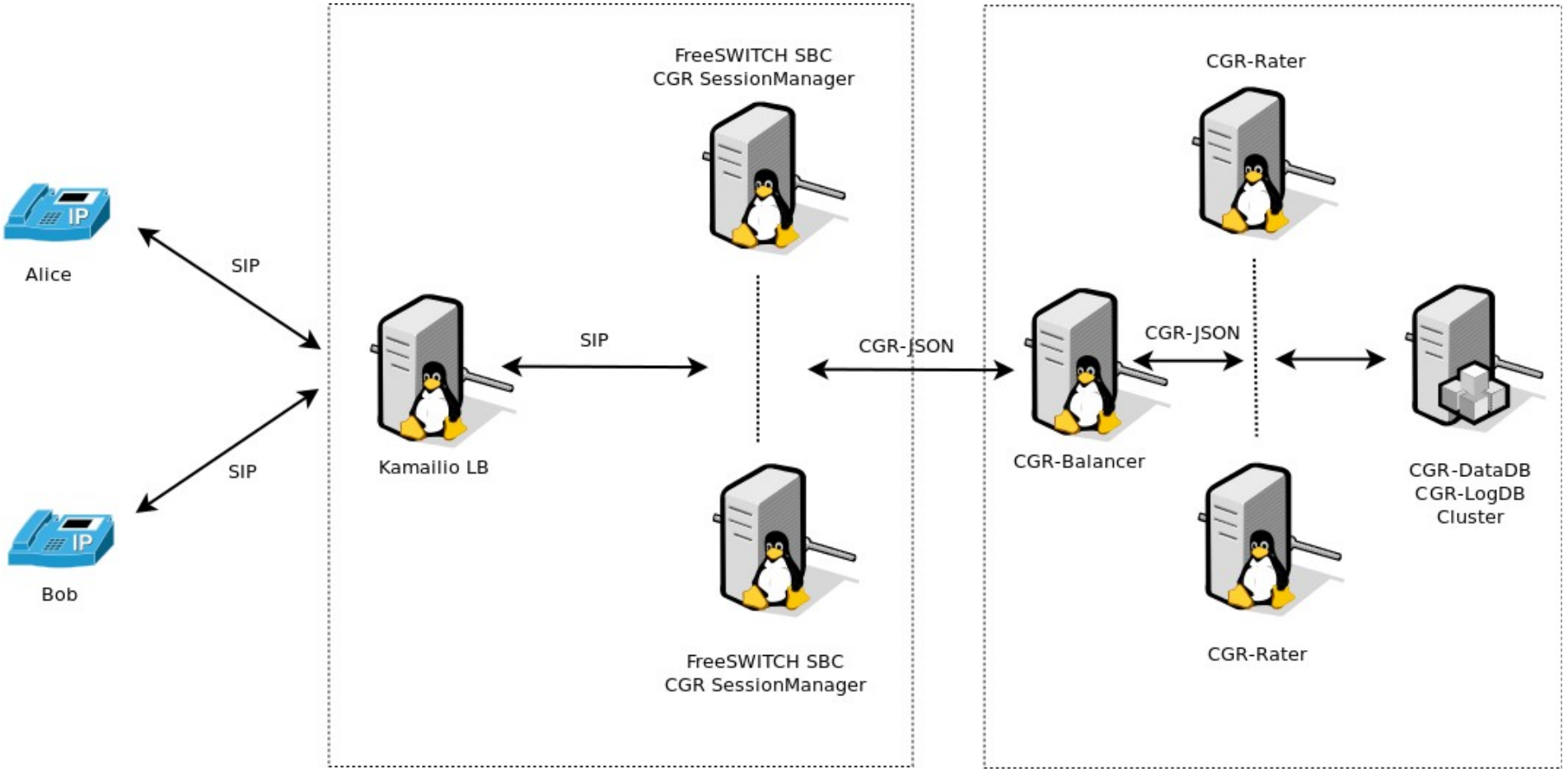
Typical use case



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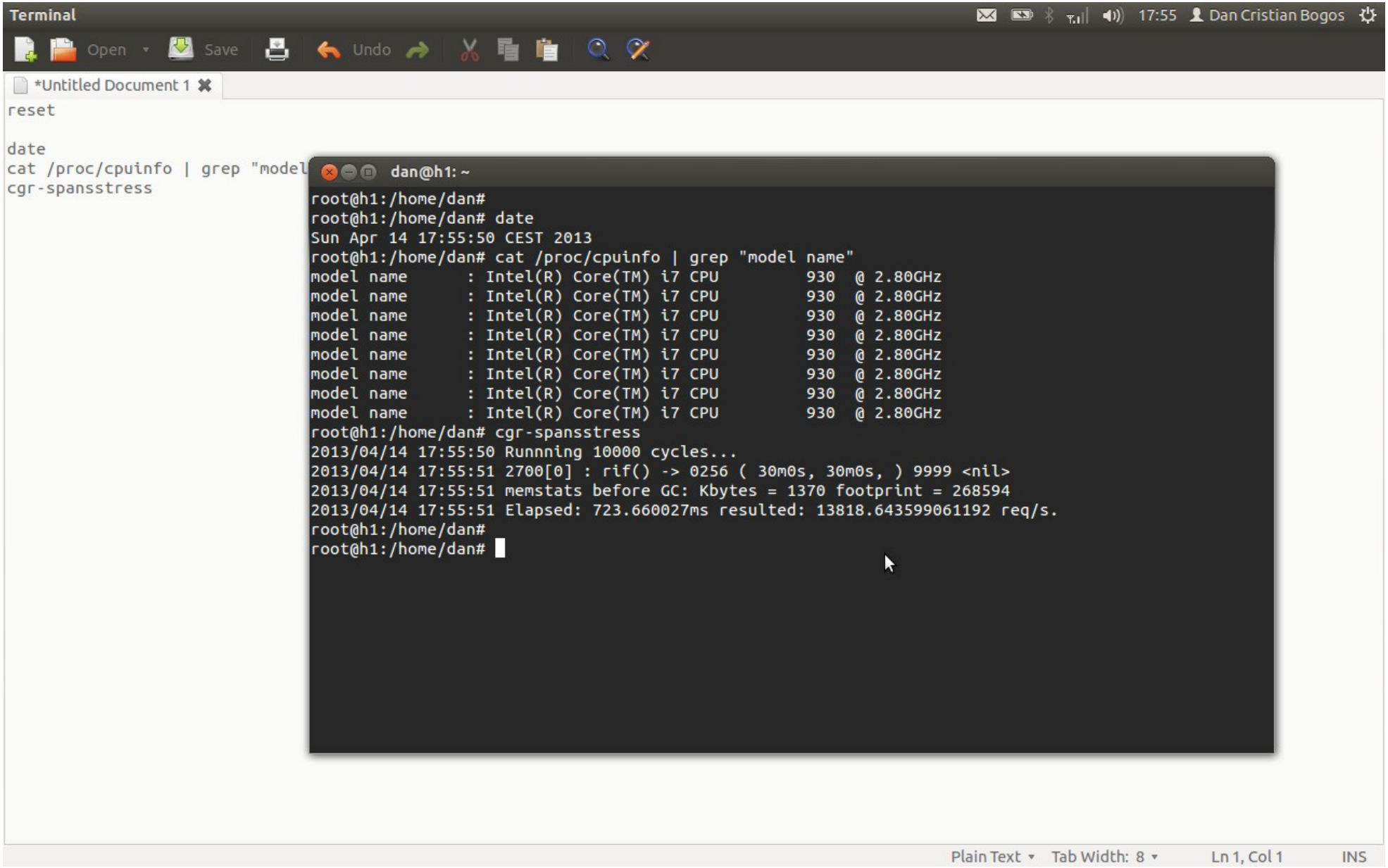
Performance



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Roadmap

- 0.9.1 RC scheduled for Monday 22th of April 2013
- Kamailio prepaid/postpaid
- Rater
  - Grouped rates
  - Shared balances
- Real-time CDR/stats server
- LCR engine
  - Monetary
  - Minutes
  - QoS

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Where to go from here

- Website

  http://www.cgrates.org

- Code + issues tracker

  https://github.com/cgrates/cgrates

- Support

  Google group: CGRateS

  IRC Freenode: #cgrates

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Thank you!

Questions?