

# **Virtualização e Cloud Computing**



# Conteúdo...

- O que é virtualização
- O que é Cloud Computing
  - Virtualizadores
  - Clouds

**Pratica....**

# O que é virtualização

- Instâncias executadas simultaneamente.
  - Abstração do hardware
- Gerenciados por VMM (Virtual Machine Monitor) / hypervisor.
- Controle de CPU, memória, armazenamento, migração, etc

-- by RedHat

# Paravirtualização

- O sistema operacional da máquina virtual "sabe" que está rodando num ambiente virtualizado.

-- by Oracle

# Fullvirtualização

- A máquina virtual simula todo o hardware para permitir que um sistema operacional guest seja executado de maneira isolada.

-- by Oracle

# Comparação



Full-virtualization



Para-virtualization

# Cloud-Computing

- “Um modelo para acesso a rede sob demanda, ubíquo e conveniente para um pool compartilhado de recursos computacionais configuráveis que podem ser rapidamente provisionados e lançados com mínimo esforço de gerenciamento ou interação com o provedor de serviços”

-- By NIST

(National Institute of Standards and Technology)

## Visual Model Of NIST Working Definition Of Cloud Computing

<http://www.csric.nist.gov/groups/SNS/cloud-computing/index.html>

Broad  
Network Access

Rapid Elasticity

Measured Service

On-Demand  
Self-Service

Resource Pooling

*Essential  
Characteristics*

Software as a  
Service (SaaS)

Platform as a  
Service (PaaS)

Infrastructure as a  
Service (IaaS)

*Service  
Models*

Public

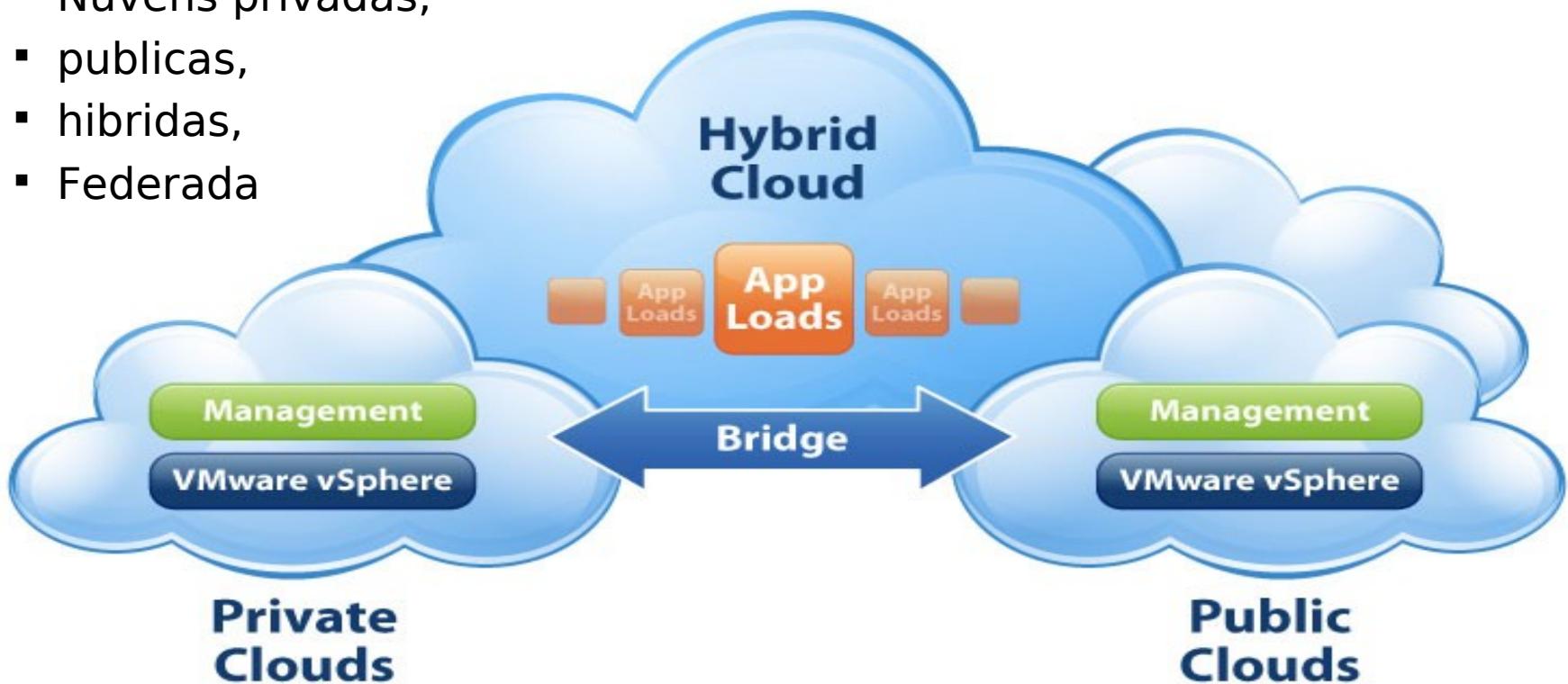
Private

Hybrid

Community

*Deployment  
Models*

- Nuvens privadas,
- públicas,
- hibridas,
- Federada



# Modelos mais comuns

- **IaaS** - Infrastructure as a Service ou Infra-estrutura como Serviço
- **PaaS** - Platform as a Service ou Plataforma como Serviço
- **DaaS** - Development as a Service ou Desenvolvimento como Serviço
- **SaaS** - Software as a Service ou Software como Serviço
- **CaaS** - Communication as a Service ou Comunicação como Serviço
- Etc...
- Achamos vários conceitos, pois cada vez mais, o comércio de Cloud está trazendo novas maneiras de disponibilizar para o cliente o produto sem que ele tenha requisitos em loco.

# Virtualizadores



Testamos 64  
tecnologías

# Virtualizadores

Virtualizador	Fabricante	Licença	Guest OS
Hyper-V	Microsoft	Proprietary	Windows
KVM	Qumranet	GPL	ALL
Linux-VServer	Community Project	GPL	Linux
OpenVZ	Community Project	GPL	Linux
Oracle VM	Oracle Corporation	GPL / Proprietary	Windows, Oracle Linux, Red Hat, Solaris, FreeBSD
Parallels	Parallels, Inc.	Proprietary	ALL
PowerVM	IBM	Proprietary	PowerPC, x86; AIX, i5/OS, IBM
QEMU	Fabrice Bellard	GPL	ALL
VirtualBox	Oracle Corporation	GPL	ALL
VMware ESX	Vmware	Proprietary	ALL
Xen	Xensource	GPL	ALL

# OpenVZ / KVM

Wiki

Blog

Open- Source

Fórum

Suporte pela  
comunidade

Bugzilla

+ 1 atualização/dia

Suporte pago

Fácil acesso

Muitos profissionais

Grandes sucessos!

# OpenVZ / KVM

OpenVZ	KVM
<b>ParaVirtual</b>	<b>FullVirtual</b>
<b>Linux</b>	<b>All</b>
<b>90% Compatível</b>	<b>100% Compatível</b>
<b>HOT-ADD</b>	<b>Não HOT-ADD</b>
<b>Muito Rápido</b>	<b>Rápido</b>

# Proxmox

- Conjunto de ferramentas embutidos em um linux.
  - Gestão Web
- Opensource
  - Desde 2008 no mercado
- 19 atualizações até 27/04/2012
  - Suporte pago
- Fórum, wiki e muito material na internet gratuito

# Clone P2V



[http://pve.proxmox.com/wiki/Migration\\_of\\_servers\\_to\\_Proxmox\\_VE](http://pve.proxmox.com/wiki/Migration_of_servers_to_Proxmox_VE)

# Clone V2V



# Importando V2V



# Clouds

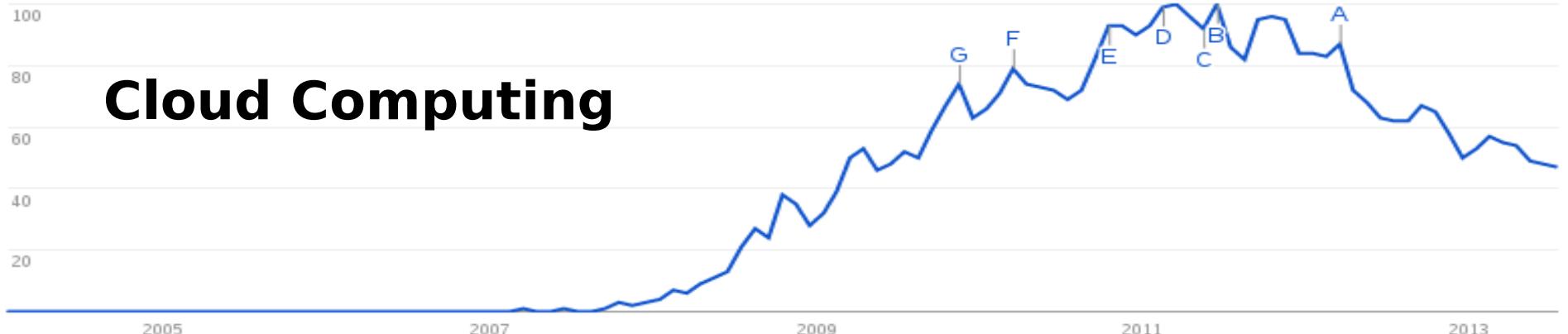
- **Google Docs** - office <http://docs.google.com>
- **Microsoft Skydrive** - 25G para armazenar arquivos
- **Dropbox** - Armazenamento
- **Editor de fotos** - <http://www.phixr.com/>
- **GMAIL** - [www.gmail.com](http://www.gmail.com)
- **Netsabe** - é um exemplo de empresa que utiliza a nuvem da google para a aplicacao de mapeamento geografico
- **Gadget domestico de automação** - [mbed.org](http://mbed.org)
- **Ferramenta para gerar IaaS** - Proxmox
- **DaaS (Desktop as a Service)** - <http://zimcompany.com/zimdesk/>

# Mundo

Interesse com o passar do tempo ?  
O número 100 representa o interesse máximo das pesquisas

Títulos das notícias  Previsão ?

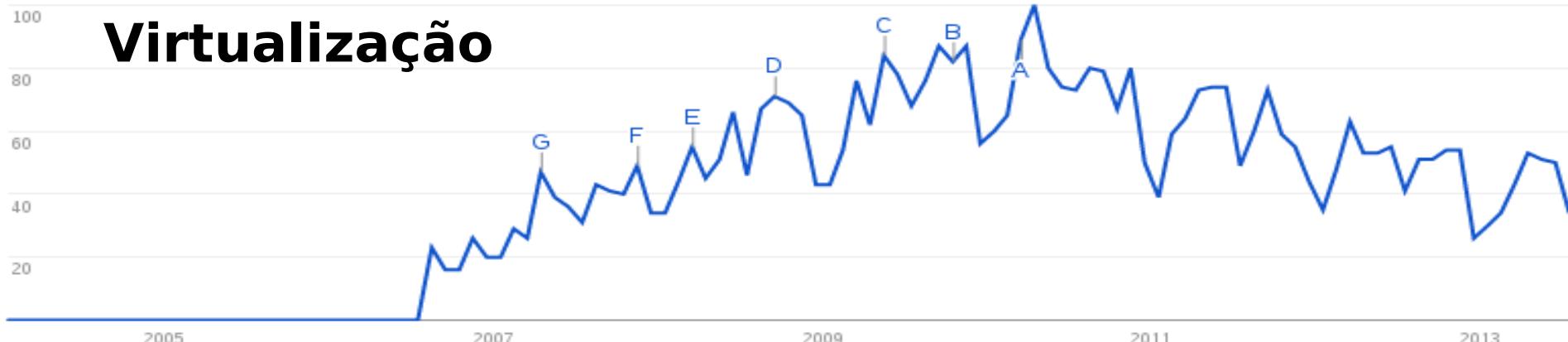
## Cloud Computing



Interesse com o passar do tempo ?  
O número 100 representa o interesse máximo das pesquisas

Títulos das notícias  Previsão ?

## Virtualização



# Fornecedores

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## Choosing a Cloud Platform

[Get Started for Free »](#)[Learn about the AWS Free Tier](#)

# Choosing a Cloud Platform

Developing, managing, and operating your applications requires a wide variety of technology services. Customers often ask us what represents a fully-functional, flexible technology infrastructure platform. Below, we outline requirements for a modern, robust, industry-leading technology infrastructure platform with all the benefits that the cloud brings to bear. We also provide information about how AWS delivers against these requirements and why you might need each of these capabilities.

AWS began offering its technology infrastructure platform in 2006. Since then, with hundreds of thousands of customers across 190 countries using AWS in every imaginable way, we have developed considerable experience operating at scale. We've also innovated and delivered at a very rapid pace (delivering over 80 significant features and services in 2011 and nearly 160 in 2012). Expect this focus on rapidly delivering what customers want to continue.

 [Download](#) a spreadsheet listing these requirements that you can use in your cloud evaluation activities.

[Security](#)[Global Infrastructure](#)[Compute](#)[Storage](#)[Content Distribution](#)[Database](#)[Application Services](#)[Deployment &](#)[Management](#)[Development](#)[Support](#)[Integration with Existing Infrastructure](#)[Big Data](#)[Ecosystem](#)



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Web

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À propos

## Univers Cloud ► Testez, évaluez, bâtissez vos projets, payez vos ressources à l'heure.

### Produits

Tous les produits Cloud

Public Cloud

- Instances (machines virtuelles)
- Stockage Cloud
- Archives Cloud
- Cloud CDN

Dedicated Cloud

- vSphere as a Service
- vCloud as a Service

hubiC

### Solutions

Bibliothèque d'images :

- Développement
- CRM et entreprises
- Web & serveurs d'applications
- Bases de données
- Travail collaboratif

Marketplace

API

### Pour qui ?

Incubateurs et start-ups

Test et pré-production

Montée en charge

Communautés de développeurs

Utilisateurs de ressources XaaS

Le Cloud dédié OVH  
récompensé

PARTNER NETWORK AWARD  
2013 GLOBAL WINNER

PARTNER NETWORK AWARD  
2013 EMEA WINNER

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**NEW**

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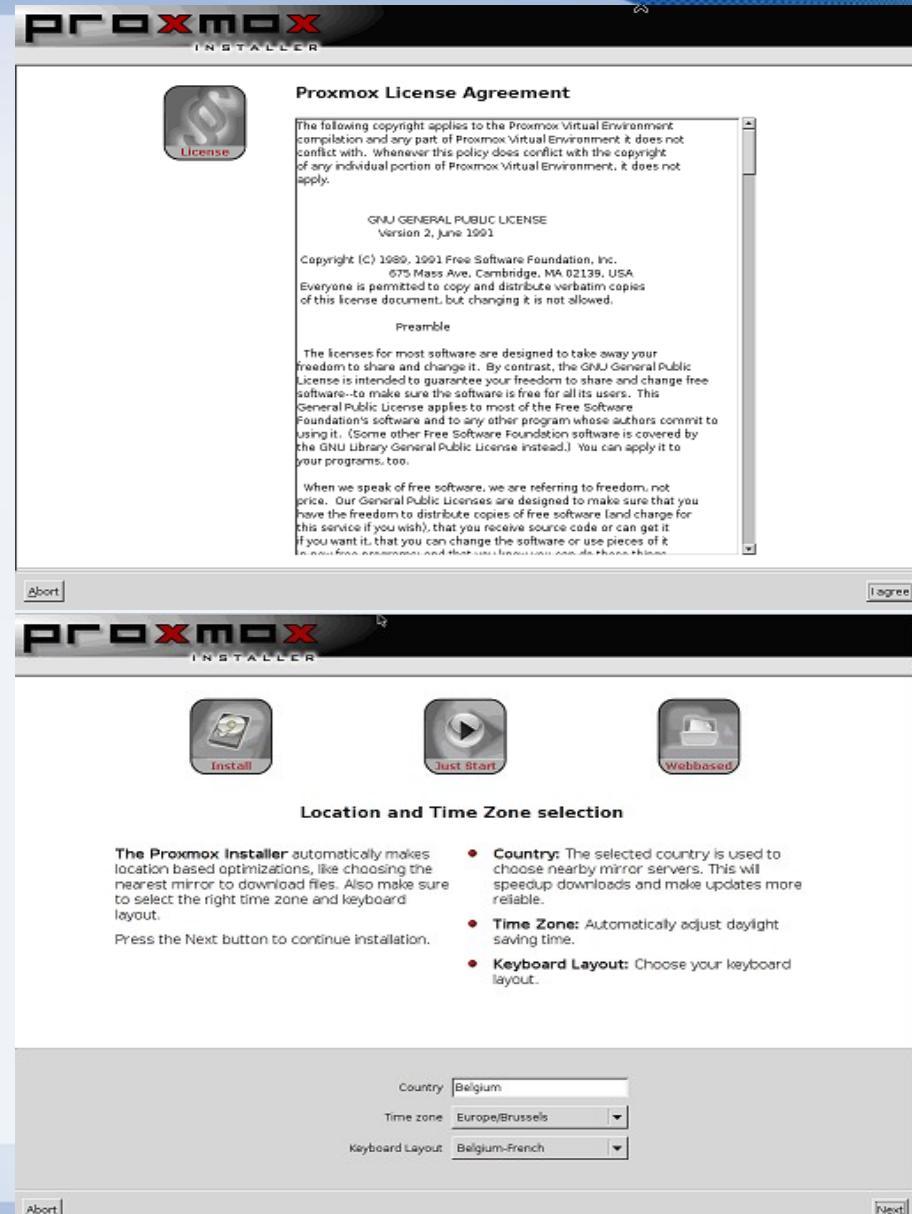
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# Como pagar?

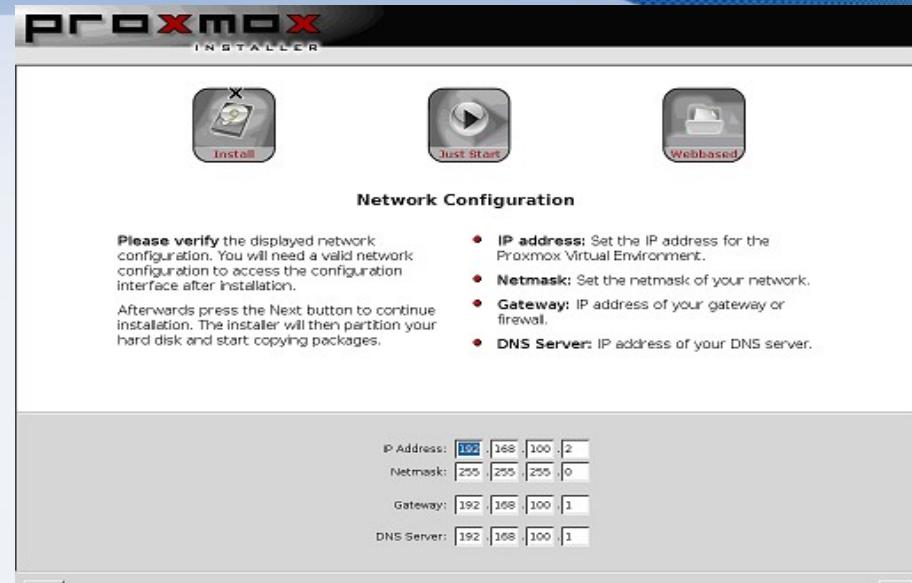
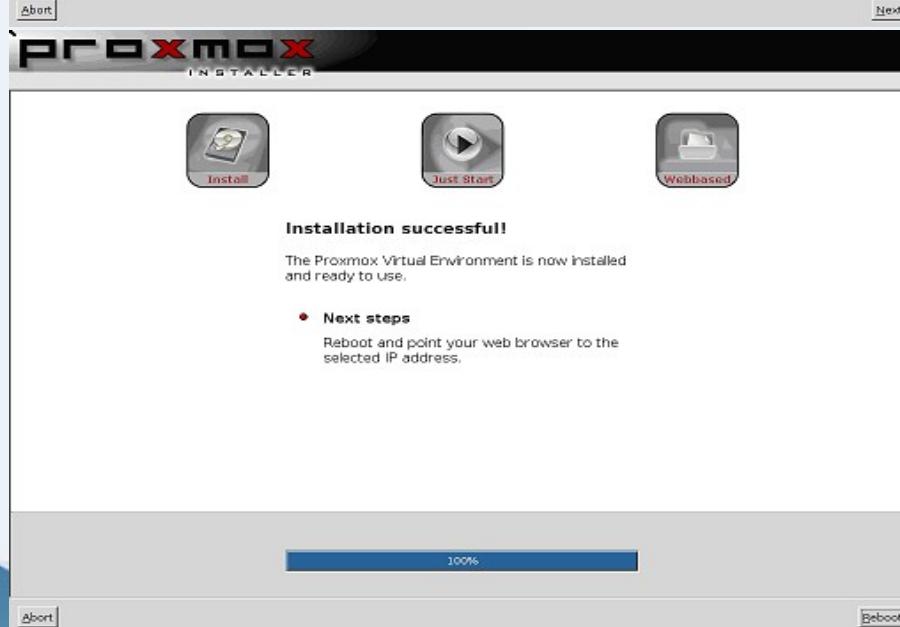
All applications have a free amount of usage (reset daily) and Paid/Premier applications can use more at the prices below

	Free quota per app per day	Pricing if you exceed your free quota
<b>Hosting</b>	Free quota per app per day	Price
On-demand Frontend Instances	28 free instance hours	\$0.08 / hour
Reserved Frontend Instances		\$0.05 / hour
High Replication Datastore	1G	\$0.18 / G / month
Outgoing Bandwidth	1G	\$0.12 / G
Incoming Bandwidth	1G	Free
<b>APIs</b>		
Datastore API	50k free read/write/small	\$0.09/100k write ops \$0.06/100k read ops \$0.01/100k small ops
Blobstore API	5G	\$0.13 / G / month
Email API	100 recipients	\$0.01 / 100 recipients

# Instalação:



# Instalação:



**Duvidas?**

**Feedback?**

**Obrigado!**