



# Billing in FRED

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# Agenda

- General description
- How do money get in
- How do money get processed
- How do money get out
- Invoicing
- Customization possibilities



# General description

- Billing is targeted to registrars
- Registrars are charged for operations
  - Registrations, Renewals, Annual fee..
- Both prepaid/postpaid models are supported
  - Model can be set **per operation**



# Virtual account

- **Virtual account** is managed for each registrar
- No specific currency – just credit
- Incoming payments raise credit on this account
- Charging for operations lower credit on this account
- Current state available over EPP
- Account is for **each registrar** and for **each zone**



# Prepaid model

- If charged operation has associated prepaid model, **it fails** when there is **not enough** credit
  - EPP response code BillingFailed
- Registrars are forced to pay in advance



# Postpaid model

- If charged operation has associated postpaid model, **it succeed even** when there is **not enough** credit
- Registrars are not forced to pay in advance
- This situation can create debt and it's up to registry how to force registrars to pay



# Hybrid model

- Different operations can have different models
- Prepaid/Postpaid generally means to disallow/allow negative credit
- Situation in CZ
  - Domain renewal fee is prepaid
  - Registrar annual fee is postpaid
- Registrars cannot register new domains if they will not pay the annual fee

# How do money get in

- Several banks supported
  - Each bank as individual B2B interface/API
- Different methods
  - Different channels – HTTP/IMAP
  - Different formats – CSV/XML





# How do money get in

- Periodical scan for payments on our bank accounts
  - Using **cron** tool every 5 minutes
- Script that process specific format, transforms it into common format and put it into FRED
- Transformations are simple python scripts for each formats



# How do money get in

- Identification of registrar for each payment
- Each registrar is given by payment ID/symbol
- Registrars must put this symbol into bank transaction
- If symbol in transaction matches some registrar, payment is associated to this registrar
- Unmatched transactions may be associated manually in web administration interface



# How do money get processed

- In the case of existing debt, money are used to cover the debt
- Remaining money (or all money in case of no debt) are accepted as advance payment – credit
- For advance payment we have to issue an invoice to registrar
  - Legal requirement (may not be needed in other environment)



# VAT issues

- VAT is removed from money
- VAT percentage can be configured
- VAT removal can be configured per registrar
  - Czech registrars are subject of removing VAT
  - Foreign registrars are not
- Disabling VAT
  - Set all registrars without removing VAT
  - Or configure VAT as 0%



# How do money get out

- Configurable list of operations that require charging
  - EPP commands (CreateDomain, RenewDomain)
  - Annual fee request
  - Minimal number of registrations per year
  - Number of EPP commands over limit



# Price list

- Configurable parameter of each operation
  - Validity period (from, to)
  - Price (in terms of credit)
  - Model (postpaid or prepaid)
  - Zone (for registries with multiple zones)
- Currently this is configured through CLI interface **fred-admin**



# Charging for EPP commands

- EPP commands CreateDomain and RenewDomain
  - Different prices can be set per each zone
  - Credit is subtracted after each EPP command
  - In prepaid mode if there is no credit, command fails
- CreateDomain EPP command charges for two operations (it contains validity period)
  - CreateDomain price (0 USD) + RenewDomain price (6 USD)



# Charging for annual fee

- Once a year (3 000 USD)
- First we inform registrars to raise credit
- Amount subtracted from credit
- If there is not enough credit we still charge into negative credit





# Charging for minimal registrations

- Each registrar must register for at least 7 000 USD per year (new domains or renewals)
- At the end we count current state and if there is a difference we charge the difference
- It's not charged from current credit, but it's covered by next incoming money



# Charging for EPP over limit

- Each registrar has monthly limit of EPP transactions based on number of domains
- There is a minimal number of transactions for starting registrars
- At the end of month we count transaction and charge difference
- Amount subtracted from credit
- If there is not enough credit we still charge into negative credit



# Invoices

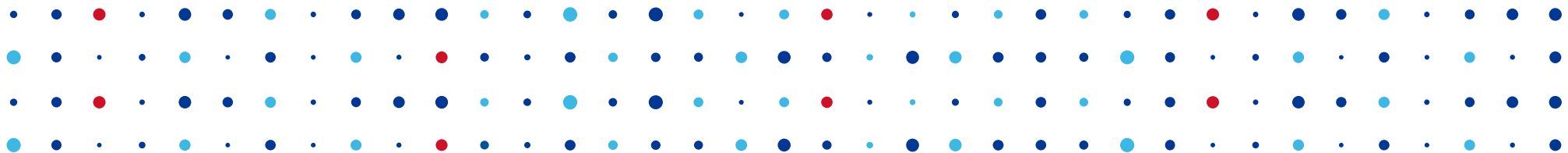
- Two types (advance/account) of invoices recorded in database
- Prefixes (per year and type) must be configured for numbering of invoices
- PDF versions
  - Generated through template mechanism
  - Sent to registrars email addresses
- Export to accounting software
  - General XML format export supported
  - XML transformation can be used for different accounting sw.



# Customization

- Configure prepaid/postpaid per operation
- Configure price list and VAT
- Write own connectors for bank systems or add credit manually
- Invoices can be ignored or PDF templates must be updated
- Write XML transformations to upload invoices to accounting software





# Thank You

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