

Real-time GNU Taler auditor

Cedric Zwahlen, Nicola Eigel

Berner Fachhochschule

14.06.2024

Agenda

Intro

Ziele

Design

Implementierung

Future work

Fazit

Demo

THE WALL STREET JOURNAL

REGIONS

FRIDAY, DECEMBER 12, 2008 • VOL. CXLIII NO. 49

★★★★ \$2.00

2ND CLASS PERMIT NO. 421 NEW YORK, NY PERM. NO. 4754 POST OFFICE PERMIT NO. 4238 NEW YORK, NY PERM. NO. 4211 PERM. NO. 4211 PERM. NO. 4211 PERM. NO. 4211

Top Broker Accused of \$50 Billion Fraud

Sons Turned In Madoff After He Allegedly Told Them His Investment-Advisory Business for the Wealthy Was 'Giant Ponzi Scheme'

Born in Italy, Madoff, a former chairman of the Amex stock market and a force in Wall Street trading, for nearly 30 years, accumulated an estimated net worth of a billion dollars. A day after his sons turned him in last January, what did their father really do? How did he do it?

By Amir Khan,
Pete Earle and
Benson Swartz

The families and advisors of the late Bernard L. Madoff, 68, a well-known hedge fund manager, had long been aware of his sons' and their careers in the world of finance. Their entanglements began a decade ago, when the sons of Bernard L. Madoff, founder of

Madoff Securities, advised the SEC to investigate the father's business.

In a separate criminal complaint, Federal Reserve officials said Bernard L. Madoff advised the SEC to investigate his investment-advisory business. It is unclear what the father's business was, but it is believed that he had invested and had some success in the past. He also had a large number of investments in the past, which he had invested in with the principal invested from other, successful investors, which indicated that he was an investor.

Madoff was found to be a partner in the late 1990s. He was found to be a partner in the late 1990s. He was found to be a partner in the late 1990s. He was found to be a partner in the late 1990s.

investing by the father's SEC to investigate the father's business.

The 70-year-old Mr. Madoff, the founder and advisory manager of Bernard L. Madoff Investment Securities L.P., the main advisory house for its private equity, market-making, or carrying on the activities between buyers and sellers of stocks, but Mr. Madoff also remains an active investment adviser to the principal investors, which indicated that he was an investor.

Madoff was found to be a partner in the late 1990s. He was found to be a partner in the late 1990s. He was found to be a partner in the late 1990s.

Client Shook Wares

Country-club investors targeted, source says.

Madoff was found to be a partner in the late 1990s. He was found to be a partner in the late 1990s. He was found to be a partner in the late 1990s.

The SEC complaint quotes two senior Madoff employees as saying Mr. Madoff had the financial statements from the firm under lock and key at any "private" club located in the investment business.

The complaint did not name the club or employees, but according to people familiar with the matter, it says Mr. Madoff's

sons, Andrew and Mark, Madoff had the firm's main trading floor and its principal offices. Andrew Madoff is the chairman of Madoff.

A call to the main advisory firm was not returned.

Investors who say Mr. Madoff had been a successful investor from his first successful IPO in 1982. The firm's net worth is estimated to be more than \$50 billion. Mr. Madoff's net worth is estimated to be more than \$50 billion.

Such a scheme would affect just those accounts, it would affect the nearly five billion dollars that the company had raised over the years.



Bernard L. Madoff, founder of Madoff Securities.

FINANCIAL TIMES

WEDNESDAY 30 JUNE 2015

NEWS PROVIDER OF THE YEAR

UK £200 (Cheapest Month) £3.20 (Retail) (of total) £3.20

Links to prosperity Why we need global supply chains in a crisis — MARTIN WOLF, PAGE 23



Wirecard founder Braun arrested on suspicion of false accounting

◆ Ex-chief released on €5m bail ◆ Suspected of inflating balance sheet ◆ Share sale details emerge

Wirecard might be a victim of 'fraud of considerable proportions'

— BRAIN TO INVESTORS BEFORE REGIONS ON FRIDAY



Briefing

Car industry warns one in six jobs under threat

The automotive sector's trade body has called for measures, including 'unfettered access to emergency funds', a permanent flexible furlough scheme and a cut in value added tax to head off the threat of large-scale redundancies. Ford called for a scrapping of a bonus to encourage buying of new cars. — PAGE 2

News distributor fears

Publishers have asked ministers to revise competition rules as the industry can discuss contingency plans for a 2010-year-old paper distribution system that could buckle as sales fall. — PAGE 9

Easyjet faces cyber claim

About 10,000 customers have joined a legal claim after the airline said personal details of its passengers were breached in a cyber attack, making it one of the largest UK group actions. — PAGE 5

Europe's downturn eases

FINANCE

Synapse bankruptcy trustee says \$85 million of customer savings is missing in fintech meltdown

PUBLISHED FRI, JUN 7 2024-2:54 PM EDT | UPDATED FRI, JUN 7 2024-5:34 PM EDT



KEY POINTS

- There is an \$85 million shortfall between what partner banks of fintech middleman Synapse are holding and what depositors are owed, according to the court-appointed trustee in the Synapse bankruptcy.
- Customers of fintech firms that used Synapse to link up with banks had \$265 million in balances.
- But the banks themselves only had \$180 million associated with those accounts, trustee Jelena McWilliams said in a report filed late Thursday.
- What's worse, it's still unclear what happened to the missing funds, she said.

Cedric Zwahlen, Nicola Eigel

 **Squaw on the Street** [WATCH LIVE](#)

UP NEXT | **Money Movers** 11:00 am ET [Listen](#)

TRENDING NOW



Wholesale prices unexpectedly fell 0.2% in May



Tesla pops 6% in Real-time CNBC Taler auditor

Intro

- ▶ Mikrozahlungen
- ▶ Starke Steigerung des Transaktionsvolumen
- ▶ Nahezu sofortige Finalisierung von Transaktionen
- ▶ Sicherheits- & Datenschutz-Anforderungen

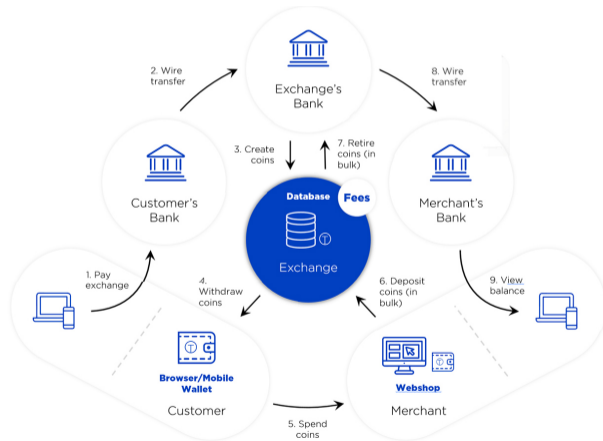


Das Bezahlssystem GNU Taler ermöglicht das schnelle und einfache Geldüberweisen mit Datenschutz und hoher technischer Sicherheit.

- ✔ Bezahlen ohne Registrierung
- ✔ Datenschutz als Grundeinstellung
- ✔ Systematisch gesichert gegen Betrug
- ✔ Keine neue Währung!
- ✔ Ermöglicht die Entwicklung einer selbstbestimmten Zahlungsinfrastruktur
- ✔ Freie Software



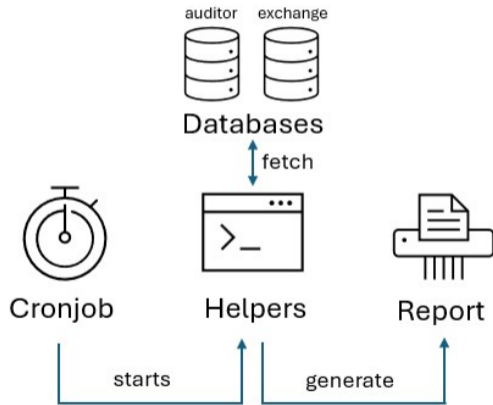
Intro



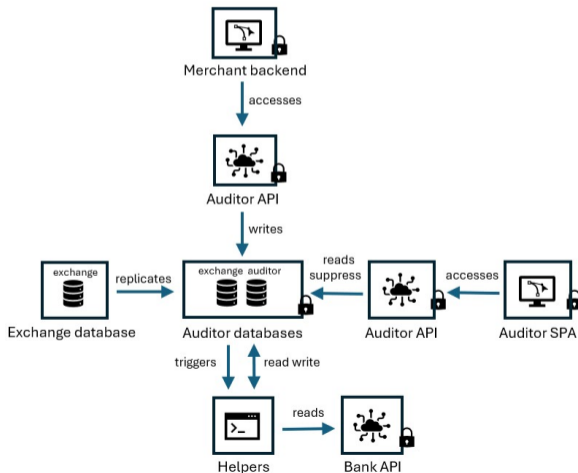
Ziele

- ▶ Real-Time Auditor
 - ▶ Auditor Datenbank ausbauen
 - ▶ C-Schnittstellen entwickeln und erweitern
- ▶ Webportal – Single Page Applikation
 - ▶ REST API spezifizieren und entwickeln
 - ▶ SPA entwickeln

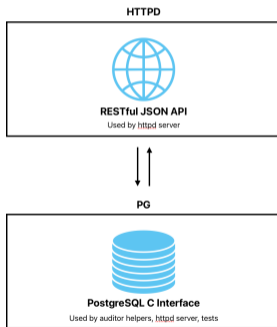
Alte Architektur



Neue Architektur



Implementierung

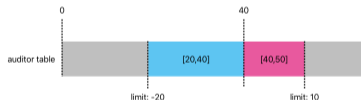


- ▶ libpq & microhttpd
- ▶ Datenbank
 - ▶ Auditor
 - ▶ Server
 - ▶ Tests
- ▶ REST API
 - ▶ Server
 - ▶ Webportal

Implementierung

<http://localhost:8083/monitoring/emergency>

- ▶ limit
 - ▶ -20
- ▶ offset
 - ▶ INT_MAX
- ▶ return_suppressed
 - ▶ false



Single Page Applikation

Taler Backoffice
Version (0.1)

- Key figures
- Critical errors
- Operating status
- Inconsistencies
- Settings

Key figures

Finding	Count	Gain/ Loss
Misattribution in inconsistency	0	0
Coin inconsistency	0	0
Reserve in inconsistency	0	0
Bad sig losses	0	0
Amount arithmetic inconsistency	0	0
Wire format inconsistency	0	0
Wire out inconsistency	0	0
Reserve balance summary wrong inconsistency	0	0

Summary	Value
Total gain/loss	0
Pending gain/loss	0
Transaction count	0
Transactions pending	0



Helper coin

Balance	Value
Total recoup loss	TESTKUDOS 0
Coin refund fee revenue	TESTKUDOS 0
Coin deposit fee revenue	TESTKUDOS 0
Coin melt fee revenue	TESTKUDOS 0
Coin irregular loss	TESTKUDOS 0
Total escrowed	TESTKUDOS 0
Coins reported emergency risk by amount	TESTKUDOS 0
Coins emergencies loss by count	TESTKUDOS 0
Coins emergencies loss	TESTKUDOS 0
Coins total arithmetic delta minus	TESTKUDOS 0
Coins total arithmetic delta plus	TESTKUDOS 0
Total refresh hanging	TESTKUDOS 0

Helper reserve


Balance	Value
Reserves total arithmetic delta minus	TESTKUDOS 0
Reserves total arithmetic delta plus	TESTKUDOS 0

Single Page Applikation

Taler Backoffice
Version (0.1)

- Key figures
- Critical errors
- Operating status
- Inconsistencies
- Settings

Balances



Back

Balances

Row id	Balance key	Balance value	Suppressed	
26	total_recoup_loss	TESTKUDOS:0	false	Suppress
25	coin_refund_fee_revenue	TESTKUDOS:0	false	Suppress
24	coin_deposit_fee_revenue	TESTKUDOS:0	false	Suppress
23	coin_melt_fee_revenue	TESTKUDOS:0	false	Suppress
22	coin_irregular_loss	TESTKUDOS:0	false	Suppress
21	total_escrowed	TESTKUDOS:0	false	Suppress
20	coin_balance_risk	TESTKUDOS:0	false	Suppress
19	coins_reported_emergency_risk_by_amount	TESTKUDOS:0	false	Suppress
18	coins_emergencies_loss_by_count	TESTKUDOS:0	false	Suppress

Future work

- ▶ SPA
- ▶ Dataset
- ▶ Polling
- ▶ Notifications
- ▶ Historische Daten
- ▶ Tests
- ▶ Parallelisierung

Fazit

- ▶ Status Zahlungssysteme
- ▶ Digitaler Euro
- ▶ Verbesserungen
- ▶ Status Auditor

Demo

Links



Learn more about this project