Algorithmica History Server

PRODUCT BRIEF

Algorithmica History Server — enterprise-wide management of historical data

The Algorithmica History Server (AHS) allows the user to create a local database of historical information, originally collected from a real-time financial data service. The time-series are kept in a database of the user's choice, which may then be accessed via different client applications for display and manipulation.

Quantitative analysis, trading, and risk management typically require large amounts of time-series data. Whether the data is used for automatic pricing in legacy systems or for generating trading propositions in desktop applications, the need for quality-assured and coherent data is the same.

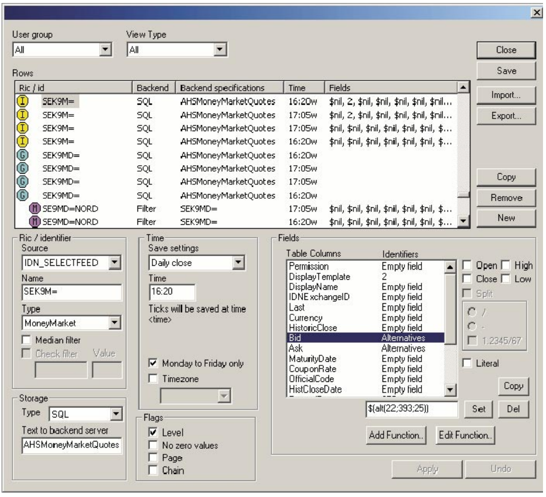
Installing AHS to centrally manage data collection ensures maximum cost benefits from large scale filtering and monitoring. Adapting a centralized data management strategy has been the choice of most large financial institutions.

By using the Data Manager Client, the organization will be able to define, build and maintain a local database, storing thousands of financial time-series from different data sources. The configuration can be changed at any time without interrupting the running services.

The AHS is designed to be independent of the chosen database solution. No expensive new software or hardware is necessary. Any applications based on in-house databases can still be used. Substantial cost savings can be achieved by reduced maintenance and educational efforts when using familiar technology.

Time series data can be stored on all ODBC-compliant relational databases. AHS works well together with Microsoft SQL Server, Oracle and IBM DB2.

Data can also be formatted to fit a Fame database or other specialized time-series formats.



User group: All
View Type: All

Rows

Ric / id	Backend	Backend specifications	Time	Fields
SEK9M=	SQL	AHSMoneyMarketQuotes	16:20w	$nil, 2, $nil, $nil, $nil, $nil, $nil...
SEK9M=	SQL	AHSMoneyMarketQuotes	17:05w	$nil, 2, $nil, $nil, $nil, $nil, $nil...
SEK9M=	SQL	AHSMoneyMarketQuotes	17:05w	$nil, $nil, $nil, $nil, $nil, $nil, $...
SEK9M=	SQL	AHSMoneyMarketQuotes	16:20w	$nil, $nil, $nil, $nil, $nil, $nil, $...
SEK9MD=	SQL	AHSMoneyMarketQuotes	16:20w	
SEK9MD=	SQL	AHSMoneyMarketQuotes	17:05w	
SEK9MD=	SQL	AHSMoneyMarketQuotes	17:05w	
SEK9MD=	SQL	AHSMoneyMarketQuotes	16:20w	
SE9MD=NORD	Filter	SEK9MD=	17:05w	$nil, $nil, $nil, $nil, $nil, $nil, $...
SE9MD=NORD	Filter	SEK9MD=	16:20w	$nil, $nil, $nil, $nil, $nil, $nil, $...

Ric / identifier
Source: IDN_SELECTFEED
Name: SEK9M=
Type: MoneyMarket
☐ Median filter
☐ Check filter Value

Storage
Type: SQL
Text to backend server: AHSMoneyMarketQuotes

Time
Save settings: Daily close
Time: 16:20
Ticks will be saved at time <time>
☑ Monday to Friday only
☐ Timezone

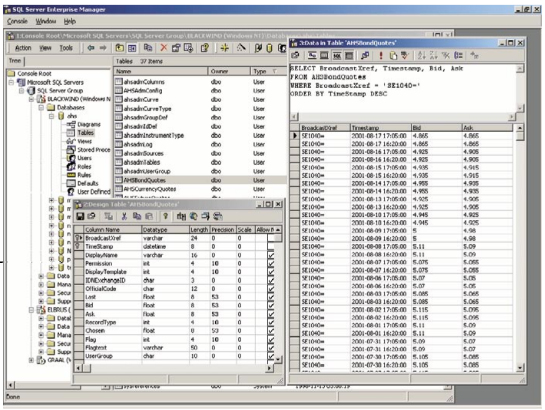
Flags
☑ Level
☐ No zero values
☐ Page
☐ Chain

Fields

Table Columns	Identifiers
Permission	Empty field
DisplayTemplate	2
DisplayName	Empty field
IDNExchangeID	Empty field
Last	Empty field
Currency	Empty field
HistoricClose	Empty field
Bid	Alternatives
Ask	Alternatives
MaturityDate	Empty field
CouponRate	Empty field
OfficialCode	Empty field
HistCloseDate	Empty field

☐ Open ☐ High
☐ Close ☐ Low
☐ Split
☐ 1.2345/67
☐ Literal
$(alt(22;393;25))

Control and maintain the collection of thousands of real-time series with the user-friendly Data Manager Client



Tables 37 Items

Name	Owner	Type
ahsadmColumns	dbo	User
AHSAdmConfig	dbo	User
ahsadmCurve	dbo	User
ahsadmCurveType	dbo	User
ahsadmGroupDef	dbo	User
ahsadmIdDef	dbo	User
ahsadmInstrumentType	dbo	User
ahsadmLog	dbo	User
ahsadmSources	dbo	User
ahsadmTables	dbo	User
ahsadmUserGroup	dbo	User
AHSBondQuotes	dbo	User
AHSCurrencyQuotes	dbo	User

2:Design Table 'AHSBondQuotes'

Column Name	Datatype	Length	Precision	Scale	Allow N
BroadcastXref	varchar	24	0	0	
TimeStamp	datetime	8	0	0	
DisplayName	varchar	16	0	0	✓
Permission	int	4	10	0	✓
DisplayTemplate	int	4	10	0	✓
IDNExchangeID	char	3	0	0	✓
OfficialCode	char	12	0	0	✓
Last	float	8	53	0	✓
Bid	float	8	53	0	✓
Ask	float	8	53	0	✓
RecordType	int	4	10	0	✓
Chosen	float	8	53	0	✓
Flag	int	4	10	0	✓
Flagtext	varchar	50	0	0	✓
UserGroup	char	10	0	0	✓

3:Data in Table 'AHSBondQuotes'

```
SELECT BroadcastXref, Timestamp, Bid, Ask
FROM AHSBondQuotes
WHERE BroadcastXref = 'SE1040='
ORDER BY TimeStamp DESC
```

BroadcastXref	Timestamp	Bid	Ask
SE1040=	2001-08-17 17:05:00	4.865	4.865
SE1040=	2001-08-17 16:20:00	4.865	4.865
SE1040=	2001-08-16 17:05:00	4.925	4.905
SE1040=	2001-08-16 16:20:00	4.925	4.905
SE1040=	2001-08-15 17:05:00	4.935	4.915
SE1040=	2001-08-15 16:20:00	4.935	4.915
SE1040=	2001-08-14 17:05:00	4.955	4.935
SE1040=	2001-08-14 16:20:00	4.955	4.935
SE1040=	2001-08-13 17:05:00	4.925	4.905
SE1040=	2001-08-13 16:20:00	4.925	4.905
SE1040=	2001-08-10 17:05:00	4.945	4.925
SE1040=	2001-08-10 16:20:00	4.945	4.925
SE1040=	2001-08-09 17:05:00	5	4.98
SE1040=	2001-08-09 16:20:00	5	4.98
SE1040=	2001-08-08 17:05:00	5.11	5.09
SE1040=	2001-08-08 16:20:00	5.11	5.09
SE1040=	2001-08-07 17:05:00	5.075	5.055
SE1040=	2001-08-07 16:20:00	5.075	5.055
SE1040=	2001-08-06 17:05:00	5.07	5.05
SE1040=	2001-08-06 16:20:00	5.07	5.05
SE1040=	2001-08-03 17:05:00	5.085	5.065
SE1040=	2001-08-03 16:20:00	5.085	5.065
SE1040=	2001-08-02 17:05:00	5.115	5.095
SE1040=	2001-08-02 16:20:00	5.115	5.095
SE1040=	2001-08-01 17:05:00	5.11	5.09
SE1040=	2001-08-01 16:20:00	5.11	5.09
SE1040=	2001-07-31 17:05:00	5.09	5.07
SE1040=	2001-07-31 16:20:00	5.09	5.07
SE1040=	2001-07-30 17:05:00	5.105	5.085
SE1040=	2001-07-30 16:20:00	5.105	5.085

With the Algorithmica History Server in place, extract time series using your favourite database tools

FOR FURTHER INFORMATION, PLEASE CONTACT
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Algorithmica
Research AB

Sampling of data

General features
Storage frequencies can be configured for single instuments and for complete markets.

Typical storage frequencies used when working with a real-time feed include:

- tick by tick
- multiple of minutes
- multiple of hours
- single or multiple time of day

When entering instruments into the system, desired filter rules can be applied.
Typical filters include:

- data spikes filter
- zero value filter
- relative difference filter
- stale data filter
- median filter

More advanced filters can easily be added, such as:

- yield-to-price conversion
- implicit volatility conversion
- calculated proxy replacement

Supported feeds

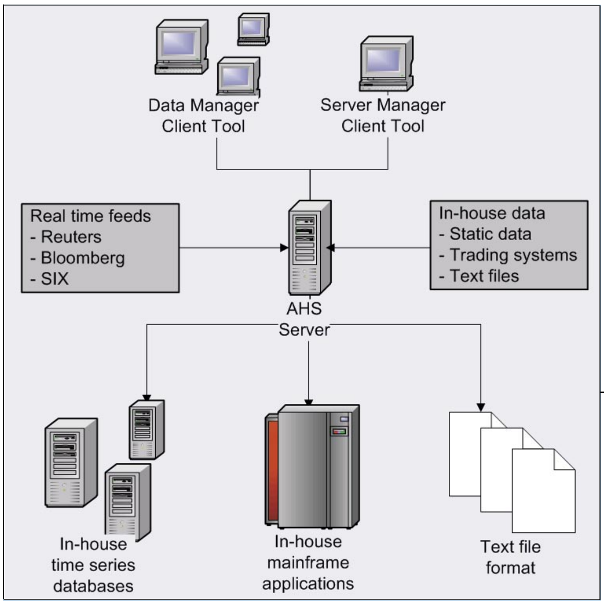
The AHS server can capture real-time data from most data vendors and handle several sources simultaneously.

Currently supported feeds include:

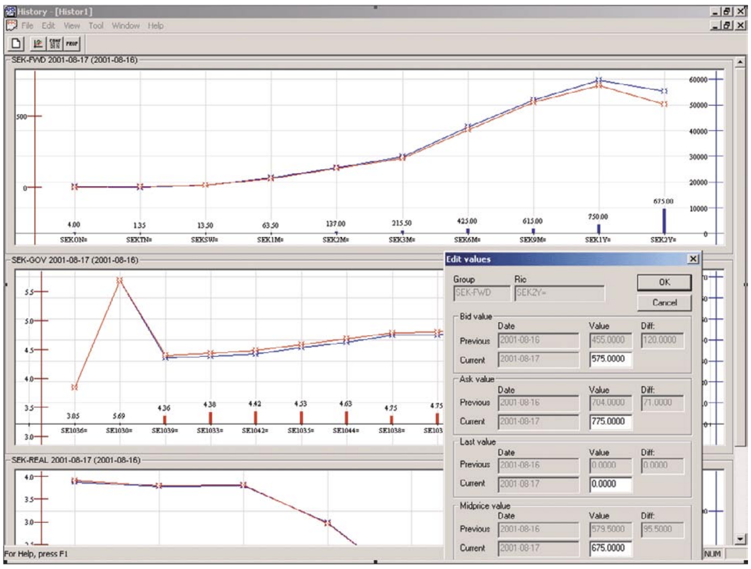
- Bloomberg
- Markit
- Reuters SSL
- SIX p-server
- Thomson
- Text file formats

System overview

Thanks to the fact that AHS is built around continuous monitoring of live feeds, it is not as sensitive to disturbances as common snap-shot applications.
Instruments can be entered either by their specific id or as a part of a complete chain of instruments. Entering data using templates is another convenient feature of the Algorithmica History Server.
By running the process “backwards” and contribute data from internal pricing systems back into the real-time feed network, the Algorithmica History Server may very well be used as a real-time pricing engine.



The Algorithmica History Server is available for Microsoft Windows Server and Sun Solaris


History - [History1]
File Edit View Tool Window Help
SEK-FWD 2001-08-17 (2001-08-16)
SEK-GOV 2001-08-17 (2001-08-16)
SEK-REAL 2001-08-17 (2001-08-16)
SEKON= SEKTN= SEKSW= SEK1M= SEK2M= SEK3M= SEK6M= SEK9M= SEK1Y= SEK2Y=
For Help, press F1
NUM

Edit values

Group: SEK-FWD Ric: SEK2Y= OK Cancel

Bid value
Previous: Date 2001-08-16 Value 455.0000 Diff: 120.0000
Current: Date 2001-08-17 Value 575.0000

Ask value
Previous: Date 2001-08-16 Value 704.0000 Diff: 71.0000
Current: Date 2001-08-17 Value 775.0000

Last value
Previous: Date 2001-08-16 Value 0.0000 Diff: 0.0000
Current: Date 2001-08-17 Value 0.0000

Midprice value
Previous: Date 2001-08-16 Value 579.5000 Diff: 95.5000
Current: Date 2001-08-17 Value 675.0000

Detection of corrupt data

Using standardized or custom filters, AHS can significantly speed up the time-consuming task of cleaning and verifying incoming real-time data.
Using the graphical visualization component, the operator can scan large amounts of time-series data in minutes.
Data that can be mapped onto curves is also presented in curve format.
Any changes to the historical data are recorded, thus enabling a complete audit trail. This is an important feature for data used in pricing systems or other systems with high demands for data integrity.