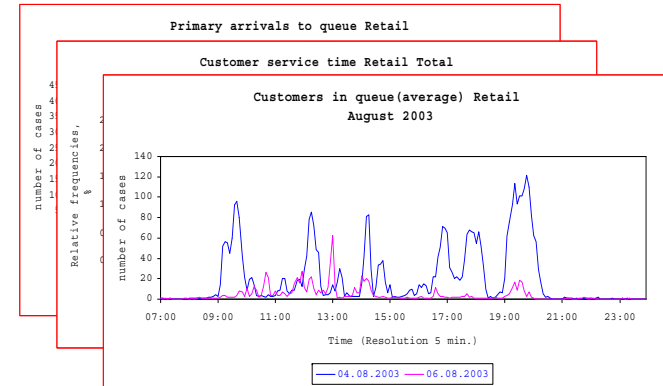


# Service Engineering - Recitation 6

SEESat



- Project Data MOCCA (p.2)
- Variables
  - Daily summaries (using within-day data)
    - Time Periods (p.3-5)
    - Durations (p.6-8)
    - Instants (p.9-11)
  - Time Series Summaries (trajectories over days, or months) (p.12-14)
- General Useful Tools (p.15)

# Project Data MOCCA

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- System Components
  - Clean databases: operational histories of individual calls, agents and sometimes customers (ID's).
  - Friendly powerful interface: online access to (mostly) operational and (some) administrative data (but no financial data, yet).
- Currently Three Databases:
  - US Bank (220/40M calls, 1000 agents, 2.5 years).
  - Israeli Bank (500 agents, 1.5 years; ongoing).
  - Israeli Hospital

# Daily Summaries (using within-day data)

- Time Periods – Select tables

➤ Variables → Options → Select Categories → X Properties

**Drawing Arrivals Counts of Summit Service, on 25,29 and 30 May, 2001 (HW3, Q6)**

- Select Variable → Arrivals to queue
- Select Option → Counts
- Select Category → Summit
- Select X Properties → Resolution 60:00  
Range 6:00-23:00

# Daily Summaries (using within-day data)

- Time Periods – Select dates

➤ Months → Days

The screenshot shows a software interface with two main windows. The left window has tabs for 'Months' and 'Days'. The 'Months' tab is active, showing a table with columns 'Month' and 'Year'. The right window also has 'Months' and 'Days' tabs. The 'Days' tab is active, showing a table with columns 'Day', 'Month', 'Year', 'Week Day', and 'Comments'. A 'Days type' dialog box is open, showing 'Individual days' selected and 'Aggregated days' unselected.

**Months Selection Table:**

| Month | Year |
|-------|------|
| March | 2001 |
| April | 2001 |
| May   | 2001 |
| June  | 2001 |
| July  | 2001 |

**Days type Selection:**

Days type

☒ Individual days

☐ Aggregated days

**Daily Summary Table:**

| Day | Month | Year | Week Day  | Comments     |
|-----|-------|------|-----------|--------------|
| 15  | May   | 2001 | Tuesday   |              |
| 16  | May   | 2001 | Wednesday |              |
| 17  | May   | 2001 | Thursday  |              |
| 18  | May   | 2001 | Friday    |              |
| 19  | May   | 2001 | Saturday  |              |
| 20  | May   | 2001 | Sunday    |              |
| 21  | May   | 2001 | Monday    |              |
| 22  | May   | 2001 | Tuesday   |              |
| 23  | May   | 2001 | Wednesday |              |
| 24  | May   | 2001 | Thursday  |              |
| 25  | May   | 2001 | Friday    |              |
| 26  | May   | 2001 | Saturday  |              |
| 27  | May   | 2001 | Sunday    |              |
| 28  | May   | 2001 | Monday    | Memorial Day |
| 29  | May   | 2001 | Tuesday   |              |
| 30  | May   | 2001 | Wednesday |              |

***Drawing Arrivals Counts of Summit Service, on 25,29 and 30 May, 2001 (HW3, Q6)***

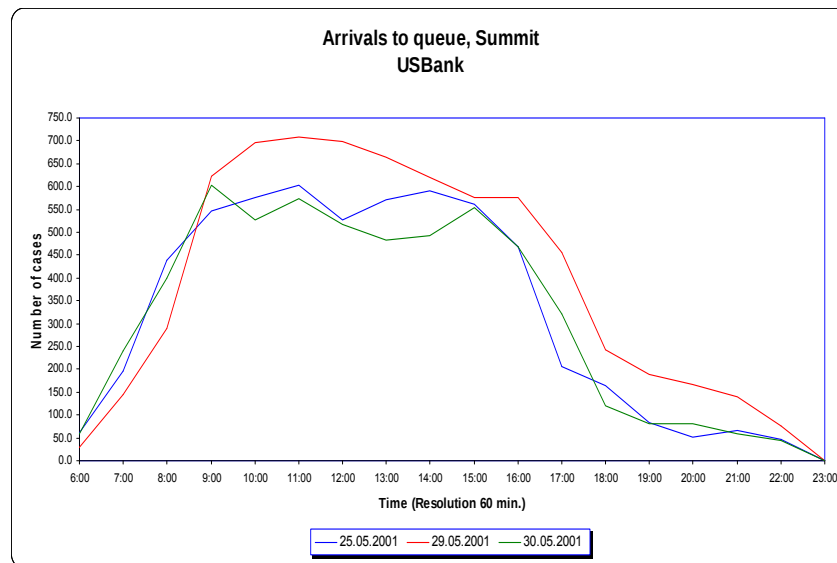
- Select Month → May
- Days type → Individual days
- Select Days → 25, 29 and 30

# Daily Summaries (using within-day data)

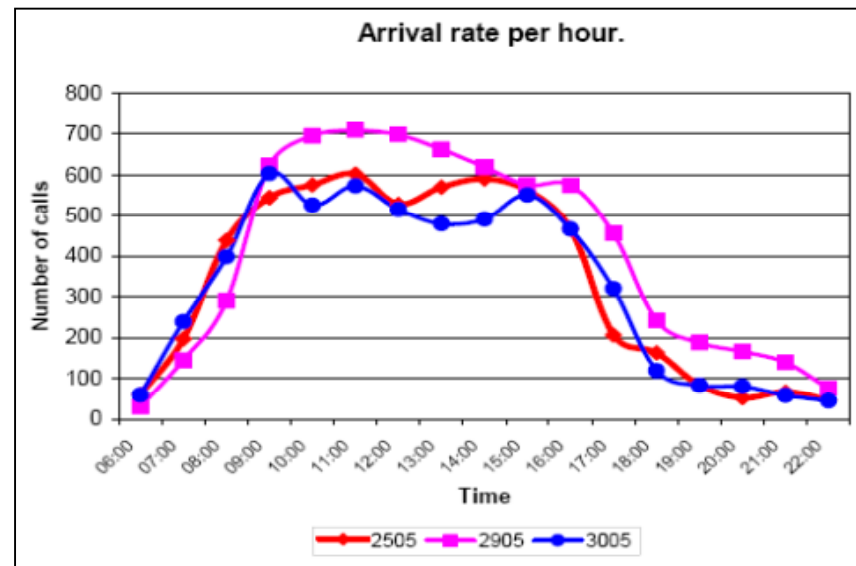
- **Time Periods – Output**

➤ Drawing Arrivals Counts for Summit Service, on 25, 29 and 30 May 2001

*SEESat output*



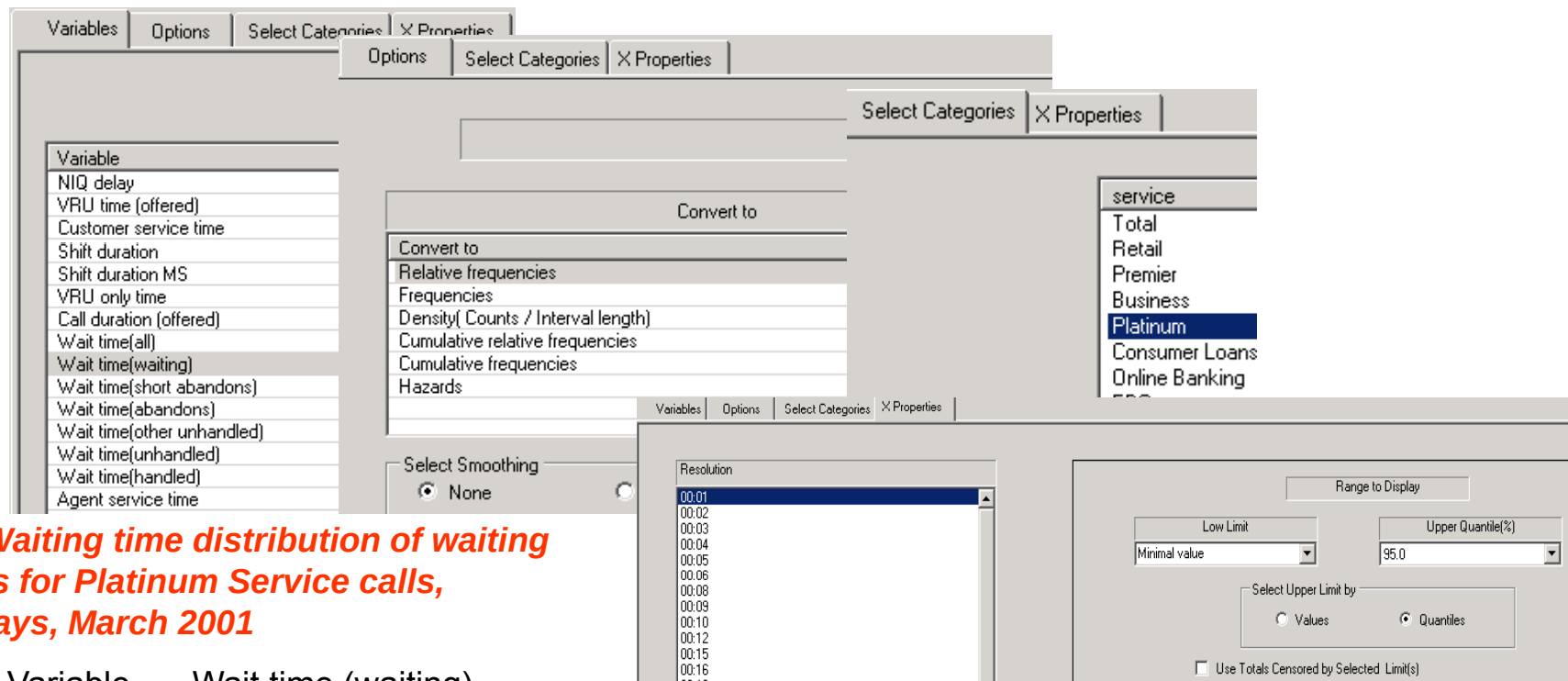
*HW3, Q6 drawing*



# Daily Summaries (using within-day data)

- Durations – Select tables

➤ Variables → Options → Select Categories → X Properties



***Drawing Waiting time distribution of waiting customers for Platinum Service calls, on weekdays, March 2001***

- Select Variable → Wait time (waiting)
- Select Option → Relative frequencies
- Select Category → Platinum
- Select X Properties → Resolution 00:01  
Low limit – Minimal value  
Upper limit – 95%

# Daily Summaries (using within-day data)

- Durations – Select dates

- Months → Days

The screenshot shows a software interface with two main panels. The left panel has tabs for 'Months' and 'Days'. The 'Months' tab is active, displaying a table with columns 'Month' and 'Year'. The 'Days' tab is also visible. The right panel has a tab for 'Days' and a table titled 'Aggregated days'.

| Month     | Year |
|-----------|------|
| September | 2001 |
| October   | 2001 |
| November  | 2001 |
| December  | 2001 |
| January   | 2002 |
| February  | 2002 |
| March     | 2002 |
| April     | 2002 |
| May       | 2002 |
| June      | 2002 |
| July      | 2002 |
| August    | 2002 |
| September | 2002 |

Days type  
☐ Individual days ☒ Aggregated days

| Aggregated days |        |               |
|-----------------|--------|---------------|
| Name            | n days | n normal days |
| Mondays         | 4      | 4             |
| Tuesdays        | 4      | 4             |
| Wednesdays      | 4      | 4             |
| Thursdays       | 4      | 4             |
| Fridays         | 5      | 5             |
| Saturdays       | 5      | 5             |
| Sundays         | 5      | 5             |
| Weekdays        | 21     | 21            |
| All days        | 31     | 31            |

***Drawing Waiting time distribution of waiting customers for Platinum Service calls, on weekdays, March 2001***

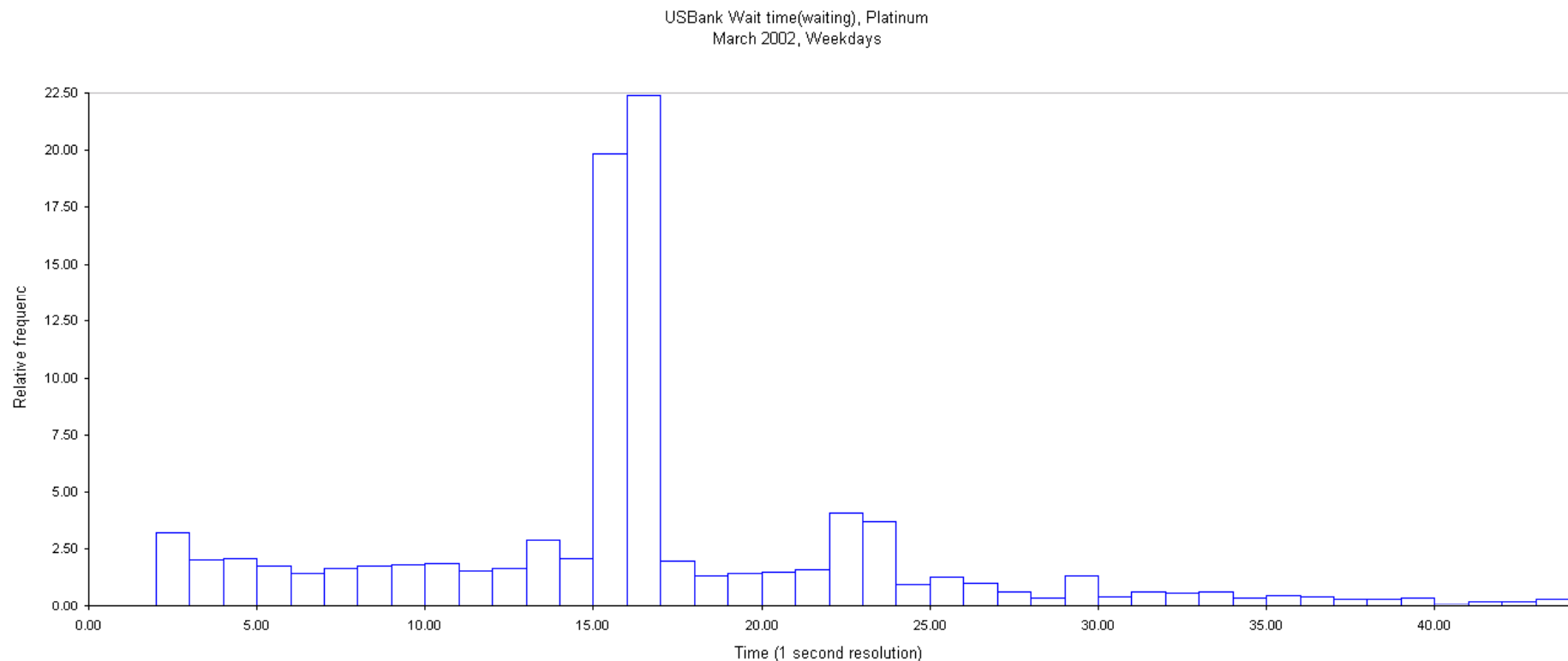
- Select Month → March 2002
- Days type → Aggregated days
- Select Days → Weekdays

# Daily Summaries (using within-day data)

---

- **Durations – Output**

- Drawing Waiting time distribution of waiting customers for Platinum Service calls, on weekdays, March 2002



# Daily Summaries (using within-day data)

- **Instants – Select tables**

➤ Variables → Options → Select Categories → X Properties

The screenshots illustrate the following steps:

- Variables:** A list of variables is shown, with 'Agents on line' selected.
- Options:** A list of options is shown, with 'Counts' selected.
- Select Categories:** A list of categories is shown, with 'Summit' selected.
- X Properties:** A list of properties is shown, with 'Resolution' set to '01:00' and 'Range to Display' set from '06:00' to '23:00'.

**Drawing Number of Agents on-line  
Summit Service,  
on 25 May 2001 (HW3, Q4)**

- Select Variable → Agents on line
- Select Option → Counts
- Select Category → Summit
- Select X Properties → Resolution 01:00  
Range 6:00-23:00

# Daily Summaries (using within-day data)

- Instants – Select dates

➤ Months → Days

The screenshot shows a web interface for selecting dates. It features a 'Months' tab and a 'Days' tab. A list of months is displayed, with 'May' selected. A 'Days type' dialog box is open, showing 'Individual days' selected. A larger window displays a table of dates for May 2001.

| Day | Month | Year | Week Day  |
|-----|-------|------|-----------|
| 15  | May   | 2001 | Tuesday   |
| 16  | May   | 2001 | Wednesday |
| 17  | May   | 2001 | Thursday  |
| 18  | May   | 2001 | Friday    |
| 19  | May   | 2001 | Saturday  |
| 20  | May   | 2001 | Sunday    |
| 21  | May   | 2001 | Monday    |
| 22  | May   | 2001 | Tuesday   |
| 23  | May   | 2001 | Wednesday |
| 24  | May   | 2001 | Thursday  |
| 25  | May   | 2001 | Friday    |

***Drawing Number of Agents on-line  
Summit Service,  
on 25 May 2001 (HW3, Q4)***

- Select Months → May
- Days type → Individual days
- Select Days → 25

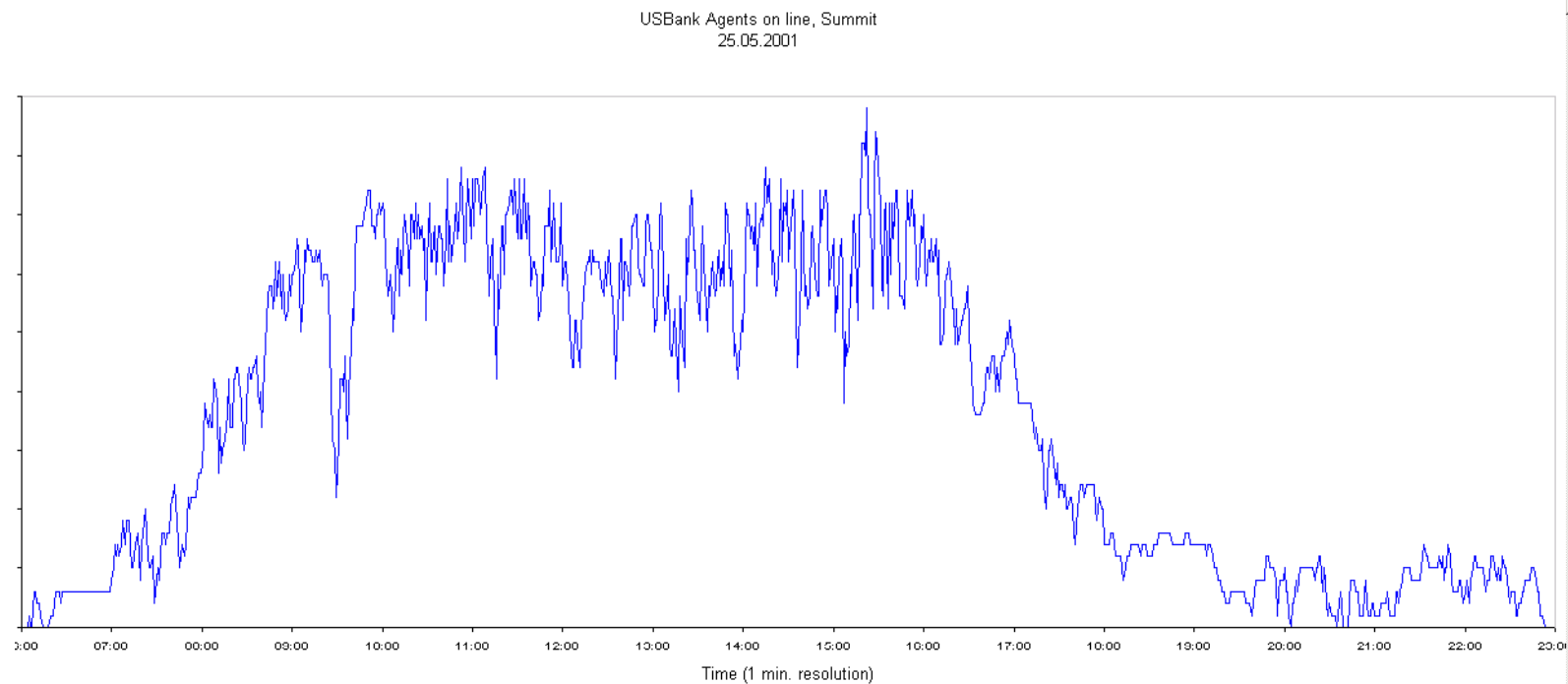
# Daily Summaries (using within-day data)

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- **Instants – Output**

➤ Drawing Number in Agents on line for Summit Service, on 25 May 2001

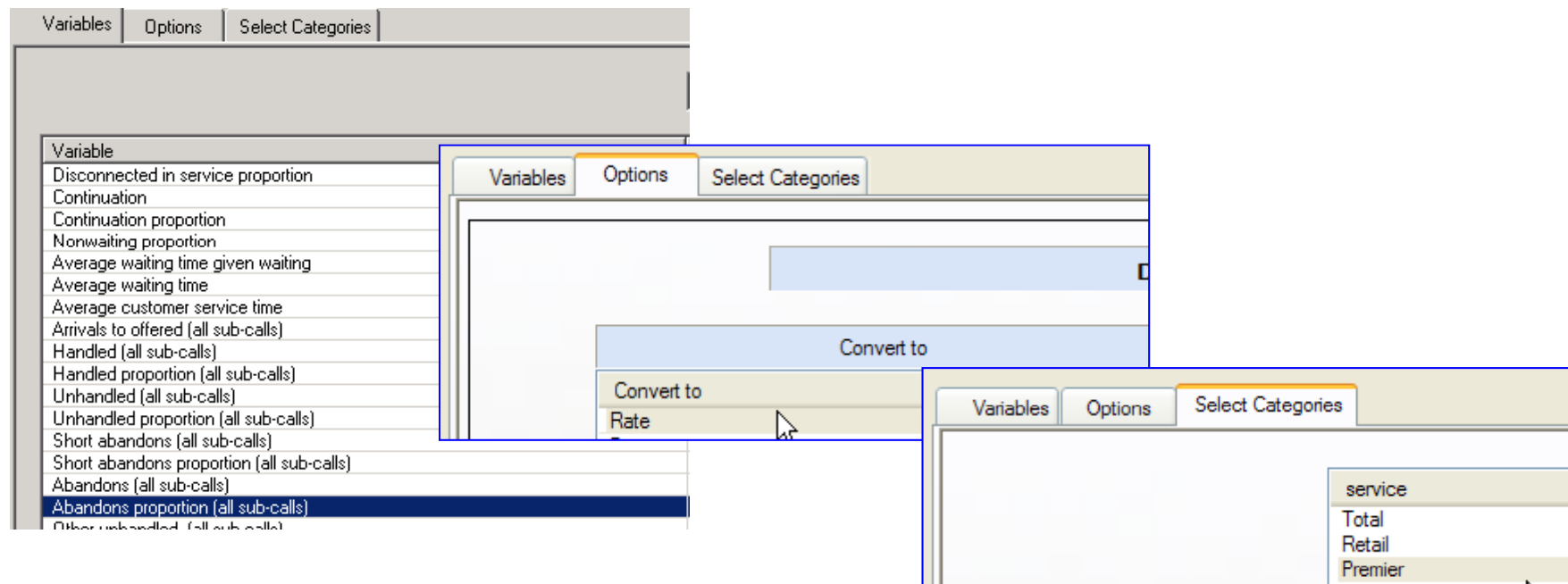
*SEESat output*



# Time Series (trajectories over days, or months)

- **Time Series Summaries – Select tables**

➤ Variables → Options → Select Categories



***Drawing Abandons rate for Premier Service, in second half 2001***

- Select Variable → Abandons proportion(all sub calls)
- Select Option → Rate
- Select Category → Premier

# Daily Summaries (using within-day data)

- Time Series Summaries – Select dates

➤ Months → Days

The screenshot shows a software interface for selecting time series data. It features a 'Months' tab with a list of months from May 2001 to January 2002. A 'Time series type' dialog box is open, showing 'Aggregated days by months' selected. Another 'Days' tab is visible, showing a list of days of the week.

| Month     | Year |
|-----------|------|
| May       | 2001 |
| June      | 2001 |
| July      | 2001 |
| August    | 2001 |
| September | 2001 |
| October   | 2001 |
| November  | 2001 |
| December  | 2001 |
| January   | 2002 |

Time series type

☐ Days for one month

☒ Aggregated days by months

| Name       |
|------------|
| Mondays    |
| Tuesdays   |
| Wednesdays |
| Thursdays  |
| Fridays    |
| Saturdays  |
| Sundays    |
| Week days  |

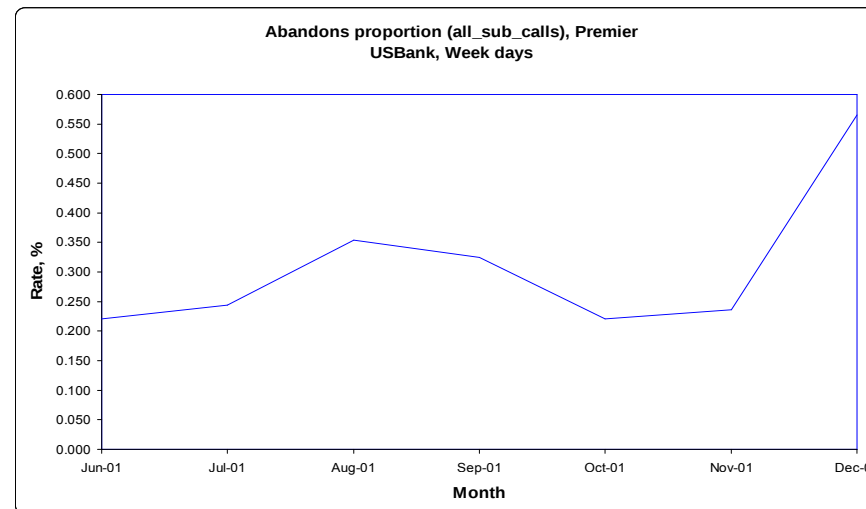
***Drawing Abandons rate for Premier Service, in second half 2001***

- Select Months → from June 2001 to December 2001
- Select Time series type → Aggregated days by months
- Select Days → Weekdays

# Daily Summaries (using within-day data)

- Time Series Summaries – Output

*Output:*



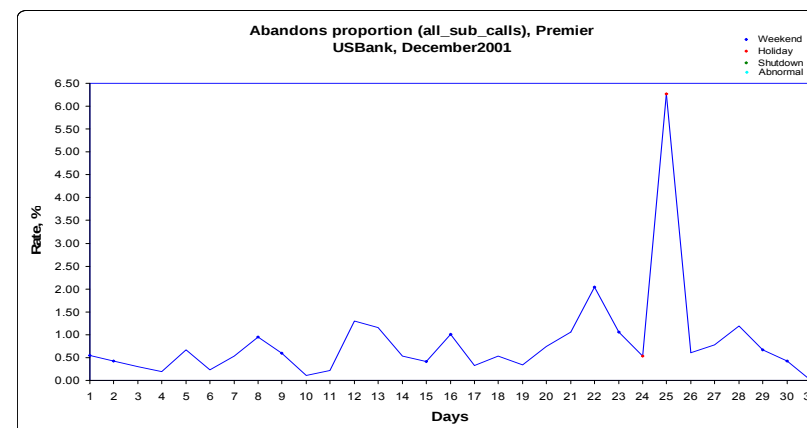
**Zooming on December 2001:**

|          |      |
|----------|------|
| November | 2001 |
| December | 2001 |
| January  | 2002 |
| February | 2002 |
| March    | 2002 |
| April    | 2002 |

Time series type

☒ Days for one month

☐ Aggregated days by months



# General Useful Tools

Calendar



View Calendar

Months Days

| Day | Month  | Year | Week Day  | Comments                        |
|-----|--------|------|-----------|---------------------------------|
| 1   | August | 2001 | Wednesday |                                 |
| 2   | August | 2001 | Thursday  |                                 |
| 3   | August | 2001 | Friday    |                                 |
| 4   | August | 2001 | Saturday  |                                 |
| 5   | August | 2001 | Sunday    |                                 |
| 6   | August | 2001 | Monday    |                                 |
| 7   | August | 2001 | Tuesday   |                                 |
| 8   | August | 2001 | Wednesday |                                 |
| 9   | August | 2001 | Thursday  |                                 |
| 10  | August | 2001 | Friday    | Shut Down till 4:57:11PM(7:19P  |
| 11  | August | 2001 | Saturday  |                                 |
| 12  | August | 2001 | Sunday    |                                 |
| 13  | August | 2001 | Monday    | Shut Down from 12:00PM till 12: |
| 14  | August | 2001 | Tuesday   |                                 |
| 15  | August | 2001 | Wednesday |                                 |

Variables



View Variables

| Variables                     | Table type       |
|-------------------------------|------------------|
| Agents online                 | system summaries |
| Agent status                  | system summaries |
| VRU time (offered)            | system summaries |
| Arrivals to queue             | system summaries |
| Abandons                      | system summaries |
| Abandons proportion           | system summaries |
| Short abandons                | system summaries |
| Short abandons proportion     | system summaries |
| Other unhandled               | system summaries |
| Other unhandled rate          | system summaries |
| Unhandled                     | system summaries |
| Unhandled proportion          | system summaries |
| Average wait time(all)        | system summaries |
| Average wait time(waiting)    | system summaries |
| Customers in queue(average)   | system summaries |
| Primary arrivals to queue     | system summaries |
| Arrivals to service           | system summaries |
| Average service time          | system summaries |
| Served without waiting        | system summaries |
| Customers in service(average) | system summaries |
| Customer service time         | system summaries |
| Shift duration                | system summaries |
| Agent entries                 | system summaries |
| Agent exits                   | system summaries |
| VRU only time                 | system summaries |

Variable name - Abandons  
Source formula: abandons

This variable holds the count of abandons that occurred after waiting more than 5 seconds in queue, for each service, during each time interval, depending on the selected resolution.