Automation Services and Alerting in TIBCO Spotfire

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Agenda

1. Spotfire Architecture Overview
2. Spotfire Automation Services Overview
3. Alerting from Spotfire
4. Keeping Data Up to Date
5. Summary and Questions
Spotfire Architecture Overview – Prior to Spotfire 7.5

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Spotfire Automation Services

• Automation Services automates various Spotfire activities, e.g.:
  - Loading or refreshing data
  - Publishing Spotfire files to the Spotfire library
  - Notifying users via email
  - Export PDF

• Publishing files to library makes them available to web users and others
Spotfire Automation Services Features

- It loads a Spotfire file and controls Spotfire to perform various Automation functions
- Call Automation Services via simple command-line tool or a web-services call
- Schedule by using the Windows Scheduler or call on demand – event driven by an application
- It is also extensible
Extending Spotfire Automation Services

• Custom tasks can be developed
  • C#.Net

• Example: Run IronPython script custom task
  • Perform all sorts of additional functions, e.g.:
    • Load data from text files
    • Modify/customize the Spotfire file
  • Follow up with us afterwards if you want to use this functionality

• Push alerting
Alerting in Spotfire Automation Services

Requirement

- To send customized, targeted alerts to users
- Alerts should be conditional – only alert if certain conditions are met
- The alerts should be driven by existing Spotfire analyses

Solution

- Custom task in Spotfire Automation Services
- Alerting tool in Spotfire Analyst (Professional)
Alerting Tool in Spotfire

• Configured to use existing Spotfire analysis. Alert(s) are registered to a Spotfire file
• Each alert is configured with rule(s)
• Alerts define the frequency and granularity of notifications
• Rules define the conditions necessary to trigger a notification
### Alert Rule Types

<table>
<thead>
<tr>
<th><strong>Threshold</strong></th>
<th><strong>Delta Over Time</strong></th>
<th><strong>IronPython</strong></th>
<th><strong>Data Function</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>If an absolute threshold within the data is exceeded the rule is triggered.</td>
<td>If a value in the data changes by a certain amount over time, the rule is triggered.</td>
<td>If the IronPython script return value exceeds a threshold, the rule is triggered.</td>
<td>If the return from a Spotfire data function (e.g. TERR) exceeds a threshold, the rule is triggered.</td>
</tr>
<tr>
<td>Configured from a visualization – select the viz and choose the column and threshold value</td>
<td>Configured from a visualization</td>
<td>The script is chosen from the configuration UI</td>
<td></td>
</tr>
</tbody>
</table>

**Rule Triggering** = the conditions specified by the rule have been met (e.g. a threshold has been exceeded). The rule is then said to have been triggered and a notification may be sent, depending on the setup of the alert.
### Alert Email Recipient Configuration

<table>
<thead>
<tr>
<th>Global</th>
<th>Personalized Information Links</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Alert e-mail is sent to all recipients as configured in the alert settings</td>
<td>• Personalized information links used to retrieve data specific for a user</td>
</tr>
<tr>
<td></td>
<td>• E.g. product manager or regional manager</td>
</tr>
<tr>
<td></td>
<td>• Rules are evaluated and triggered against personalized data</td>
</tr>
<tr>
<td></td>
<td>• Personalized alerts sent to the user – their data, their context from which they can take action</td>
</tr>
</tbody>
</table>
Alert Automation

Automation Services Task contains the e-mail server settings

Spotfire analysis is loaded from the library

Alerting task is run

Notifications are issued if alerting conditions are met

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Dear SFAdmin,
The following alert has been generated from the Topic5_Share Information Alert analysis:

Link to Analysis:
Library link to this analysis

<table>
<thead>
<tr>
<th>State</th>
<th>Debt Amounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA</td>
<td>7M</td>
</tr>
<tr>
<td>PA</td>
<td>5M</td>
</tr>
<tr>
<td>NY</td>
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<tr>
<td>OH</td>
<td>1M</td>
</tr>
<tr>
<td>IL</td>
<td></td>
</tr>
<tr>
<td>MA</td>
<td></td>
</tr>
</tbody>
</table>

Rule: DebtThreshold any
Detail information: State Value exceeded 0000000

This is an automatically generated email. Please do not reply.
Alert Tool Architecture

• Tool deployed to Spotfire server; used within the Professional Client
• Task to Automation Services server
• Settings for alerts stored in a single database table, saved and retrieved via Spotfire information links
• Flexible configuration architecture – we can release new features without requiring database design changes
• Alert logs and history are also stored in a database table
Keeping Data Up to Date

• Use on-demand data
• Use in DB data
• Use Scheduled Updates
  • This can also be used to pre-load analyses into Web Player memory thus giving near-instant load times
  • Can also refresh data while user is interacting with the analysis
• Saving data “linked”
• Automation Services
  • Run a job to refresh data from information links
  • Publish the file to the library
Summary and Questions

• Alerting in Spotfire allows you to be notified WHEN you need to be!

• Take action directly from the alert!

• Spotfire has many methods of keeping data up to date...

• Questions
Come and See Spotfire Alerting In Action!

At our demo booth
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