Advanced Protection of Workflow Sessions with SEWebSession

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Presentation

- Ph.D Student at ENSI de Bourges (Engineer school) specialised in IT security

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- Qual'Net : Document Management Systems (Intraqual Doc) and BPM (Intraqual Dynamic)

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- Ease the definition of the rules required to protect the session $=>$ Protection language

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- Action : an unbounded number of elements defining the considered access to the target object.
- If a rule is not expressed then SEWebSession denies the access (default-deny setup).

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Grants the user Moinard to use the vacationRequest application into the intranet context in order to write the supervisor status.

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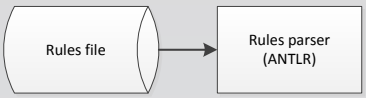
  - An HttpModule can hook these events.
  - Each handler can extract information from the request and/or modify the context of the request.

Implementation - HTTPModule



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```
1  Private Sub AcquireRequestState(ByVal source As Object, ByVal e As EventArgs)
2
3   'Getting session variables before request execution
4   If fileExtension.Equals(".aspx") Then
5
6     ...
7    idsession = ctx.Session.SessionID
8
9    'rule verification
10   If ctx.Request("supervisor") IsNot Nothing AndAlso
11     CInt(ctx.Session("supervisor")) <> CInt(ctx.Request("supervisor")) AndAlso
12     ctx.Session("login").ToString <> "moinard" Then
13
14    ctx.Response.Clear()
15    ctx.Response.Write("violation detected for session ")
16    ctx.Response.Write( ctx.Session.SessionID & " :")
17    ctx.Response.Write("<br/>login= " & ctx.Session("login").ToString)
18    ctx.Response.Write("<br/>Session uid= " & ctx.Session("supervisor").ToString)
19    ctx.Response.Write("<br/>Requested uid= " & ctx.Request("supervisor").ToString)
20    ctx.Session.Abandon()
21    ctx.Response.end()
22   End If
23
24  End If
25 End Sub
```

Listing 1: Exemple of generated code

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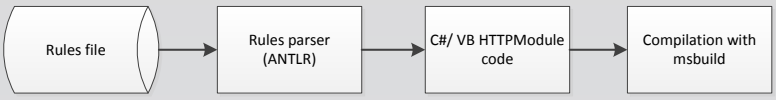

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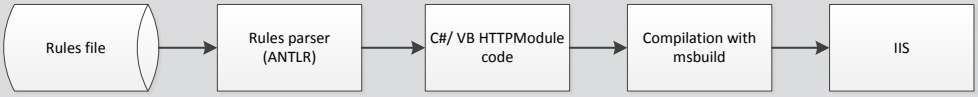

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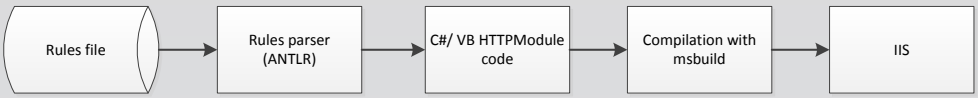

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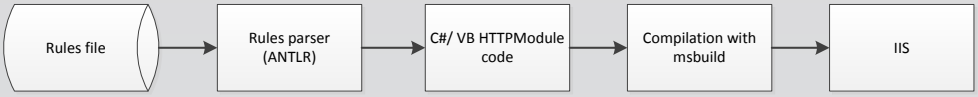

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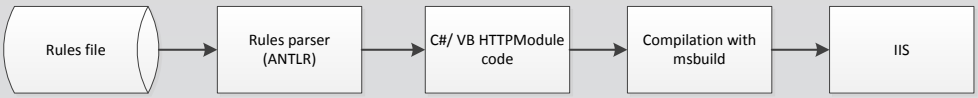

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- The session server is accessed by HTTP requests (ASP.Net_state service) or SQL queries (SQL Server).
- When the live session satisfies the rules, the Web request continues.

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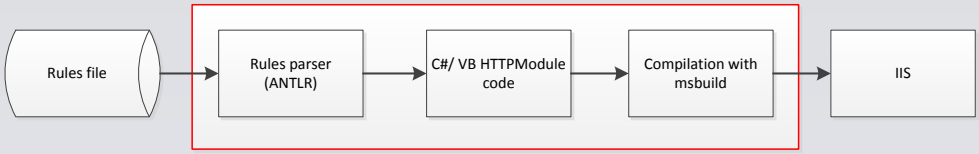

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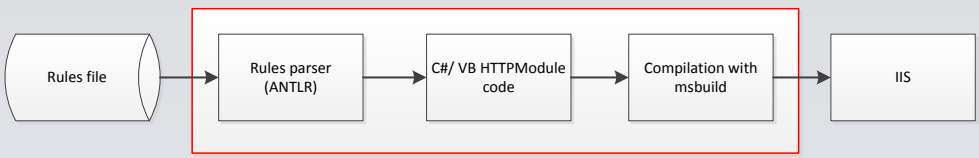

- Use an advanced reference monitor like PIGA to control transitive iinformation flows crossing different Web applications and session state ressources.

Thank you !