Disclaimer

The information in this presentation is confidential and proprietary to SAP and may not be disclosed without the permission of SAP. This presentation is not subject to your license agreement or any other service or subscription agreement with SAP. SAP has no obligation to pursue any course of business outlined in this document or any related presentation, or to develop or release any functionality mentioned therein. This document, or any related presentation about SAP’s strategy and possible future developments, directions, and functionality of products and/or platforms, are all subject to change and may be changed by SAP at any time for any reason without notice. The information in this document is not a commitment, promise, or legal obligation to deliver any material, code, or functionality. This document is provided without a warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement. This document is for informational purposes and may not be incorporated into a contract. SAP assumes no responsibility for errors or omissions in this document, except if such damages were caused by SAP intentionally or grossly negligent. All forward-looking statements are subject to various risks and uncertainties that could cause actual results to differ materially from expectations. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of their dates, and they should not be relied upon in making purchasing decisions.
Data Leakage is a Major Risk for IT Security

Forrester report finds most data breaches are caused by employees

By John E. Dunn, Commsworld UK

Most data breaches are caused by human error: employees losing, having stolen, or simply not returning sensitive corporate assets, a Forrester Research report has found.

After questioning over 1,700 IT executives and military employees across North America and Europe, 51 percent cited simple loss or theft as the explanation for data breaches they had experienced, ahead of inadequate user access by an employee on 37 percent.

Ex-employees are likely cause of data leakage

Vodafone Australia sacks employees over data leak

Vodafone Australia has sacked several people after four million customer records were exposed in a privacy leak.

Company employees have been accused of selling the sensitive information to criminal gangs, and the leak is expected to cost the company $90 million in customer value.

Uni-Klinik spendt Personalakte von Michael Schumacher

The University Hospital in Celle, where F1 driver Michael Schumacher was treated after his skiing accident, has now released the patient's medical records.

The records include details of Schumacher's injuries and treatments, as well as his recovery progress.

Employees, not hackers, cause most corporate data loss

Most corporate data loss is caused by employees, not hackers, according to a recent study.

Companies are advised to focus on employee education and data access controls to prevent internal data breaches.
Improving Data Security

You are looking for improved data security?

SAP supports you
- The User Interface (UI) Logging allows your company to trace all data read accesses.
- Hence you get the possibility to reproduce the conjunction of information accesses, which do not implicitly arise as a result of the design of your authorization concept.
- This active form of logging of data accesses helps you to better distinguish between data usage and data misuse.
- And delivers therefore a major contribution for building trust in your SAP application systems to your employees.
## Use Cases for Logging Read Access to Meet Data Protection Requirements

<table>
<thead>
<tr>
<th>Sales</th>
<th>Human Resources</th>
</tr>
</thead>
</table>
| - A major logistics company wants to log sales staff access to customer and account data.  
- Even though customer service representatives are authorized to view certain customer data, they must have a valid business reason for doing so.  
- Avoidance of misuse, such as disclosure of business terms and conditions to competitors | - A major international freight forwarding company wants to make its human resources processes more transparent; it wants to know which HR staff have accessed what sensitive employee data (notably salary information).  
- HR employees are authorized to access employee data. But do they have a valid business reason for doing so?  
- Tracking access to this data avoids misuse. |

<table>
<thead>
<tr>
<th>Sensitive Business Information</th>
<th>Data Theft</th>
</tr>
</thead>
</table>
| - A bank wants greater security for sensitive business information and to protect itself from industrial espionage.  
- Employees in its reporting team are authorized to run reports. The results delivered by these reports, and what then happens to this data, is not logged.  
- Logging of all access to BW to bring about complete transparency | - Universal bank: Prevent unwanted leaks of customer data to the competition, for example.  
- Logging of access to the CRM and BW system to prevent data theft and to provide an activity audit trail should an incident occur.  
- Logging automated access to systems by reports and other external applications.  
- Audit trails serve as a deterrent. |
The UI Logging solution records data a user views in a SAP user interface, especially:

- Input-/output fields, headers, tables, lists …
- All database accesses are implicitly logged (search / read / store / update)

Rapid and uncomplicated implementation:

- Efficient implementation of legal requirements and implementation regulations of data protection administrations
- Manifold filter settings provide high acceptance

Optimal run time performance

- Applications are not changed or touched
- Logging runs in the background with minimal impact on system resources
- Competing solutions require more resources
  - UI Logging produces here relief
User Interface (UI) Logging of SAP GUI for Windows
Architecture – UI Logging is based on SAP NetWeaver

Server-oriented architecture

**UI Logging** is a non-modifying Add-on based on SAP NetWeaver and captures the data stream between SAP GUI and the backend system.

As a consequence, the application is negligible influenced.
Structure of the Log Records

The log – the key element of UI Logging

At each roundtrip between frontend and server a log record is created.

The **header** of a log record contains:

- Transaction
- Time stamp
- User name
- Machine identification (Client)

The **input** and **output** sections each begin with the SAP system and client. They contain the actual screen data as a sequence of items in the format `<name>=<value>`, where `<name>` is a concatenation of transaction, program, (sub-) screen and field name.

Thus each log entry is clearly and uniquely identifiable in the SAP system, which allows an efficient analysis of the log. In addition alias descriptions can be defined, which further improve the log evaluation capabilities.
Transaction BP (Business Partner)

Log Record

---

Log Record – Screenshot I

---

Transaction BP (Business Partner)
Log Record – Screenshot II

Transaction SE16 (Table Viewer)

Log Record

```
**********************************************************
** HEADER **
**********************************************************
GUID=005056A50DF1E80AC4AA09ACF5090FF;
TIMESTAMP=02.07.2011 17:48:13;
TRX_NAME=SE16-QUERY
USERNAME=MILLERICH
CLIENT_PC=10.18.161.143;
PROCESS_STATUS=00;
TECHNOLOGY=10;

**********************************************************
** INPUT **
**********************************************************
SAP_SYSTEM=YIR;
SAP_CLIENT=205;

**********************************************************
** OUTPUT **
**********************************************************
SAP_SYSTEM=YIR;
SAP_CLIENT=205;

**********************************************************
** TITLE: Data Browser: Table TADIR Select Entries **
**********************************************************
Display Fields: 5 of 5 Fixed Columns: 3 List Width 0250;

<table>
<thead>
<tr>
<th>Field</th>
<th>OBJ_NAME</th>
<th>ERSYSTEM</th>
<th>DEVCLASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUSD</td>
<td>/BAOF/EC_CIRC</td>
<td>VDR</td>
<td>/BAOF/EC_CIRC/COM</td>
</tr>
<tr>
<td>HUSD</td>
<td>/BAOF/EC_MST_CIRC</td>
<td>KAP</td>
<td>/BAOF/EC_MST_CIRC/COM</td>
</tr>
<tr>
<td>HUSD</td>
<td>/BAOF/EC_KONOS</td>
<td>KAP</td>
<td>/BAOF/EC_KONOS/COM</td>
</tr>
<tr>
<td>HUSD</td>
<td>/BAOF/EC_KONOS_DAT</td>
<td>KAP</td>
<td>/BAOF/EC_KONOS/COM</td>
</tr>
<tr>
<td>HUSD</td>
<td>/BAOF/EC_KONOS_COST</td>
<td>KAP</td>
<td>/BAOF/EC_KONOS/COM</td>
</tr>
<tr>
<td>HUSD</td>
<td>/BAOF/EC_KONOS_DATE</td>
<td>KAP</td>
<td>/BAOF/EC_KONOS/COM</td>
</tr>
<tr>
<td>HUSD</td>
<td>/BAOF/EC_KONOS_DAT_CIR</td>
<td>KAP</td>
<td>/BAOF/EC_KONOS/COM</td>
</tr>
<tr>
<td>HUSD</td>
<td>/BAOF/EC_KONOS_DAT_CIR_CIR</td>
<td>KAP</td>
<td>/BAOF/EC_KONOS/COM</td>
</tr>
<tr>
<td>HUSD</td>
<td>/BAOF/EC_KONOS_DAT_CIR_CIR</td>
<td>KAP</td>
<td>/BAOF/EC_KONOS/COM</td>
</tr>
<tr>
<td>HUSD</td>
<td>/BAOF/EC_KONOS_DAT_CIR_CIR</td>
<td>KAP</td>
<td>/BAOF/EC_KONOS/COM</td>
</tr>
<tr>
<td>HUSD</td>
<td>/BAOF/EC_KONOS_DAT_CIR_CIR</td>
<td>KAP</td>
<td>/BAOF/EC_KONOS/COM</td>
</tr>
<tr>
<td>HUSD</td>
<td>/BAOF/EC_KONOS_DAT_CIR_CIR</td>
<td>KAP</td>
<td>/BAOF/EC_KONOS/COM</td>
</tr>
<tr>
<td>HUSD</td>
<td>/BAOF/EC_KONOS_DAT_CIR_CIR</td>
<td>KAP</td>
<td>/BAOF/EC_KONOS/COM</td>
</tr>
<tr>
<td>HUSD</td>
<td>/BAOF/EC_KONOS_DAT_CIR_CIR</td>
<td>KAP</td>
<td>/BAOF/EC_KONOS/COM</td>
</tr>
<tr>
<td>HUSD</td>
<td>/BAOF/EC_KONOS_DAT_CIR_CIR</td>
<td>KAP</td>
<td>/BAOF/EC_KONOS/COM</td>
</tr>
<tr>
<td>HUSD</td>
<td>/BAOF/EC_KONOS_DAT_CIR_CIR</td>
<td>KAP</td>
<td>/BAOF/EC_KONOS/COM</td>
</tr>
<tr>
<td>HUSD</td>
<td>/BAOF/EC_KONOS_DAT_CIR_CIR</td>
<td>KAP</td>
<td>/BAOF/EC_KONOS/COM</td>
</tr>
<tr>
<td>HUSD</td>
<td>/BAOF/EC_KONOS_DAT_CIR_CIR</td>
<td>KAP</td>
<td>/BAOF/EC_KONOS/COM</td>
</tr>
</tbody>
</table>
```

© 2014 SAP AG. All rights reserved.
Implementation Example:
E-Mail Alert on Access of HR Salary Data *

Log

Alert

* Not part of solution
The Offering of SAP

- Currently supported UI technologies and interfaces:
  - Logging of SAP GUI for Windows / HTML / Java
  - Logging of CRM Web Client UI
  - Logging of Business Warehouse Access (BEx Analyzer, BEx Web, BW-IP, BICS, MDX)
  - Logging of Web Dynpro ABAP
  - Logging of RFC/BAPI and Web Services
  - Business Server Pages (BSP) as project solution

- Supported SAP NetWeaver releases: NW 7.00, 7.01, 7.02, 7.10, 7.11, 7.20, 7.30, 7.31, 7.40 on Hana
- Further interface technologies and releases on request

- Standard maintenance
- Individual enhancements and adaptations on request
Your Contact

Martin Loitz
Solution Owner

SAP AG
Dietmar-Hopp-Allee 16
69190 Walldorf

T +49 6227/7-48810
M +49 160 8896118
E Martin.Loitz@sap.com
www.sap.com