



Your Independent HP Business Technology Community

Apache, PHP, and MySQL on Itanium Challenges and Goodies

Migrating PATHWAY applications from Screen Cobol to web-based GUIs

ETUG 10-12 November 2008

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About my person

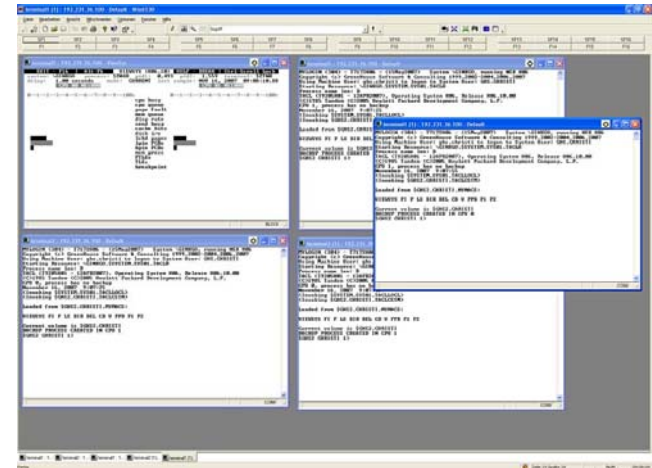
- Study of computer science
- Working 6,5 years as web specialist at a large German retailer
- Joining GreenHouse: December 2006
- Responsible for designing and implementing web-based applications on the NonStop platform
- GreenHouse offers security related solutions for the NonStop platform: www.greenhouse.de





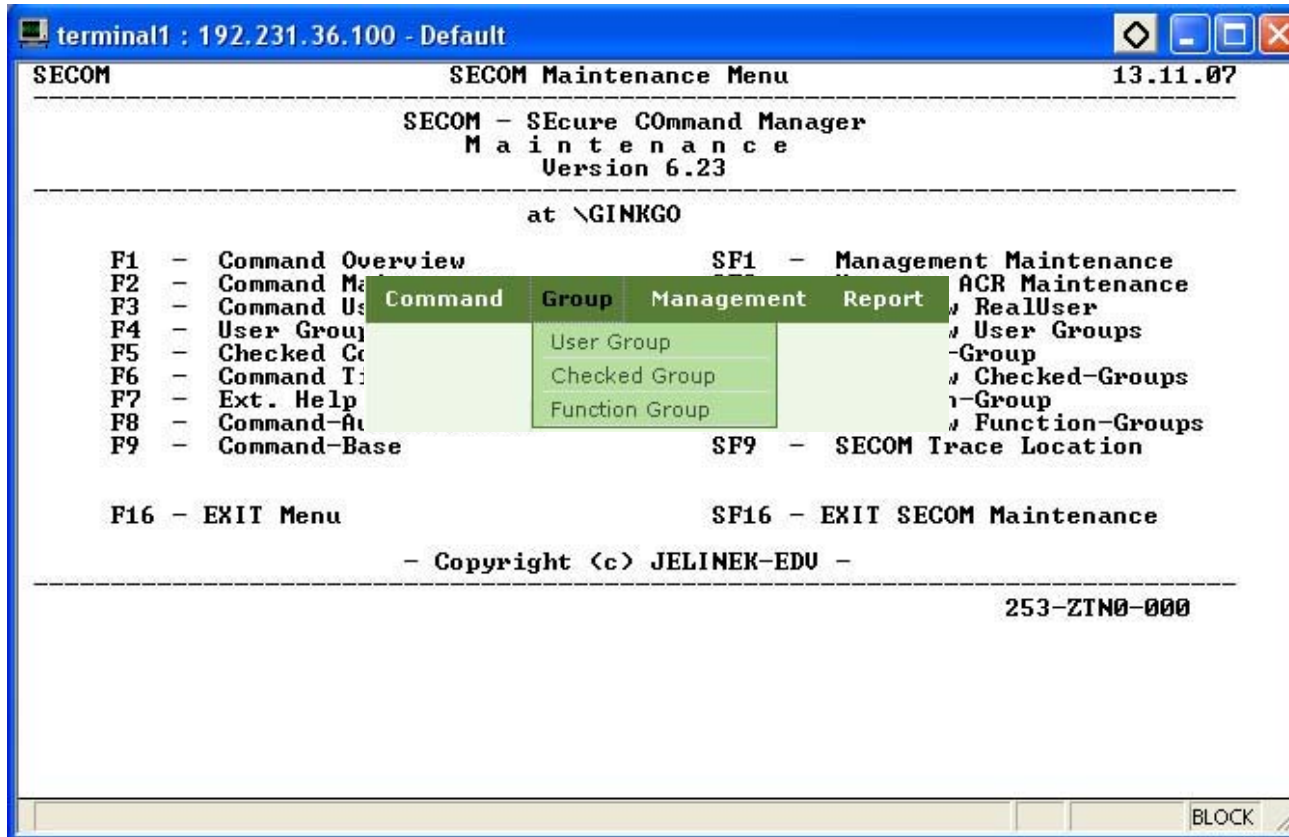
Why migrating from PATHWAY to a web-based application?

- Existing client GUIs have to be installed locally
- Connect and **logon through 6530-Terminal-Window to each TANDEM Node**
- Screen **display limited to 80 columns and 24 rows**
- No „state of the art“ usability





Why migrating from PATHWAY to a web-based application?





Why migrating from PATHWAY to a web-based application?

SECOM Command Maintenance at \GINCKGO 13.11.07

Command: **ALLINFO** Status: **F** Confirm: **M**
 Mode: **CHK** Log: **-**
 Descr: **Allinfo command**
 SECOMID: **SUPER.SUPER** Auth: **-** I/OTrace: **-**

Program: **\$SYSTEM.S: Batch** IgnSc: **< ,I,X**
 Name: **Batch** CPU: **-1 <0-15, -1, -2**
 Nowait: **<X if n** Pri: **10 <1-199, -1**
 Default: **Checked** H/L-PIN: **<Low/High-PIN**
 IN: **Concatinated** Expir.: **-**
 OUT: **Interactive** OUTOwner: **<M**
 Term: **Macro** CIWait: **<M**
 Lib: **Extended Macro** CD-Term.: **-**

Userlist of: \GINCKGO

User: **FROZEN.USER**
GHS.CARL
GHS.CHRISTI
GHS.GERHARD
GHS.HARALD
GHS.JENS
GHS.MANAGER
GHS.MANFRED
GHS.MARTIN
GHS.NOSECOM
GHS.READONLY
GHS.SECOM
GHS.TUFO

November 2007

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

SECOM - Help

Status

- Active**: A SECOM command has a status of: Command can be executed (Default)
- Frozen**: Command can only be executed within a chain of CON-catenated commands. Hidden commands are neither displayed by the COMMANDS command, nor can they be executed directly.
- Hidden**: Command cannot be executed

In case the user requests the execution of an active command, it is executed. If the user requests the execution of a frozen or hidden command, execution is denied.





Why migrating from PATHWAY to a web-based application?

Usability - Control Elements

User File-Management IP-Management Management

System User
Generic User
User-Pair Management

User Usergroup

Userlist of: \GINKGO

User:

- FROZEN.USER
- GHS.CARL
- GHS.CHRISTI
- GHS.GERHARD
- GHS.HARALD
- GHS.JENS
- GHS.MANAGER
- GHS.MANFRED
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→ →

FTPSEVE

-- Select Product --

- FTPSEVE
- MPWD
- MYLOGIN
- SECOM
- TALIS
- WEBADMIN

Tandem Nodes

To System(s):

Node Groups

- DEV
- PROD

Nodes

No nodes available

(To select multiple nodes press and hold the "Strg"-Key!)

Erase existing command





Why migrating from PATHWAY to a web-based application?

The Solution: Web-based framework

Manage different applications
on all TANDEM Nodes in an EXPAND network
with one interface

iWAMS

integrated Web Administration Management Suite





Requirements on the web-based framework

- Intuitive handling
- Clear layout („Look and Feel“) in all screens for all products/applications
- Simple change between management of applications of different products
- Management of all TANDEM Nodes in an EXPAND network without the need to re-logon
 - »» Singel SignOn ««
- Manage individual user views and access rights in the framework
- Central point for auditing
- Runnable on multiple platforms, and TANDEM-OSS





Requirements on the web-based framework

Software components:

- Web Server (Apache, Microsoft IIS, iTP WebServer)
- PHP (as serverside script language)
- Database (MySQL)

Supported Platforms (OS):

- Microsoft Windows (NT, 2003, ...)
- UNIX/LINUX
- TANDEM OSS

Microsoft





UNIX





Requirements on the web-based framework

Supported Browsers:

- Internet Explorer (Version 6 or better) 
- Mozilla FireFox (Version 2 or better) 
- Netscape (Version 7.1 or better) 
- Opera (Version 9 or better) 
- ... other browsers - supporting CSS, JavaScript





Why Apache, PHP and MySQL?

Situation on the NonStop platform:

- Secure iTP WebServer from HP
- SQL/MX, SQL/MP
- JavaServerPages (JSP)

But:

- license costs
- maintenance/support costs
(for detailed price information, please contact HP)
- Other alternatives?





Why Apache, PHP, and MySQL?

- **Apache Web Server**
 - free software
 - mod_ssl and OpenSSL for secure https connection
- **PHP „PHP: Hypertext Preprocessor“**
 - Open Source Software
- **MySQL**
 - Open Source Software

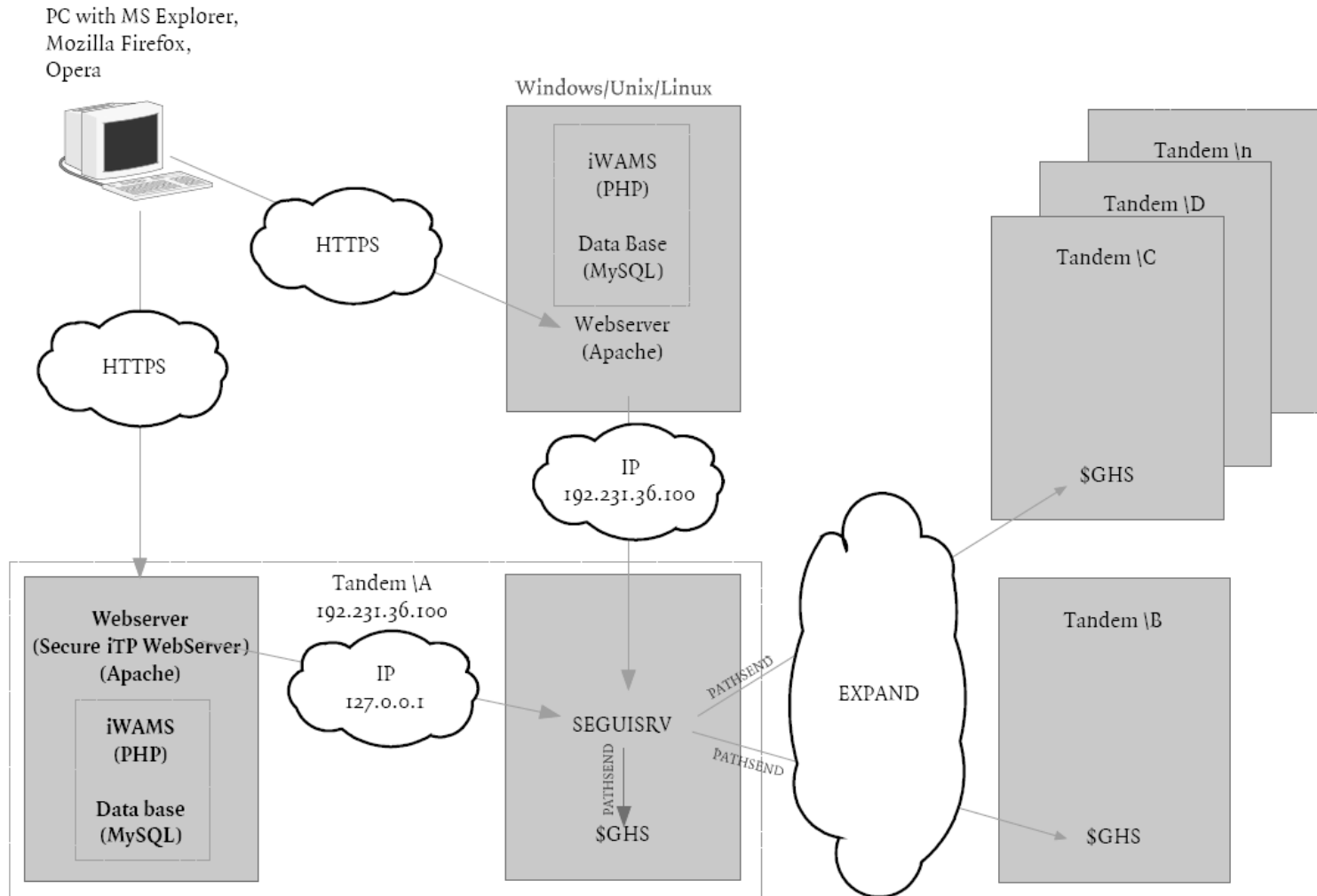


»» multi platform software ««





Architecture





Implementation, Challenges, and Goodies

- Set-up development environment on local Windows PC with Apache, PHP and MySQL
- Use „open source PHP class library“ to support AJAX (Asynchronous Javascript and XML)
 - »» XAJAX (www.xajaxproject.org) ««
- Implementation of core functions:
 - layout and navigation structure
 - connector between webserver and TANDEM (SEGUISRV)
 - user-authentication (Logon / Logoff)
- Set-up test systems on different platforms (WINDOWS, LINUX, TANDEM OSS)





Implementation, Challenges, and Goodies

Software components on Windows, LINUX, and UNIX:

- Precompiled binaries nearly for all platforms
- Usually easy to compile



UNIX





Implementation, Challenges, and Goodies

Porting to TANDEM OSS – What to do?

Software from ITUGLIB:

- Apache 1.3.33
- PHP-CLI 4.3.10
- OpenSSL 0.9.7g
- MySQL 4.1.14

1. Download and unpack tar-files
2. Change configuration files (e.g. httpd.conf)
3. Start the programs - and give it a try





Implementation, Challenges, and Goodies

Porting to TANDEM OSS – Part Apache

- Apache did not start:
 - missing or wrong access rights
 - changes to TCP/IP configuration necessary
 - no OpenSSL installed
 - missing
 - symbolic links (resconf, networks, hosts,...)
 - environment variables (TCPIP_PROCESS_NAME, SOCKET_TRANSPORT_NAME, ...)
- Later on, Apache loops and causes 100% CPU busy





Implementation, Challenges, and Goodies

Porting to TANDEM OSS – Part PHP



- **PHP** compiled as CLI (Command Line Interface), not as:
 - CGI (Common Gateway Interface) or
 - Module version
- Not all needed modules compiled in PHP 4.3.10 from ITUGLIB (e.g. Sockets, FTP, Sessions, ...)





Implementation, Challenges, and Goodies

Porting to TANDEM OSS – Next steps

- Complete re-compile of
 - Apache 2.2.4
 - PHP 4.4.7(with help of HP Germany and a GreenHouse customer)
- Compile PHP 5.2.4 as module for Apache
(with help of HP Germany)





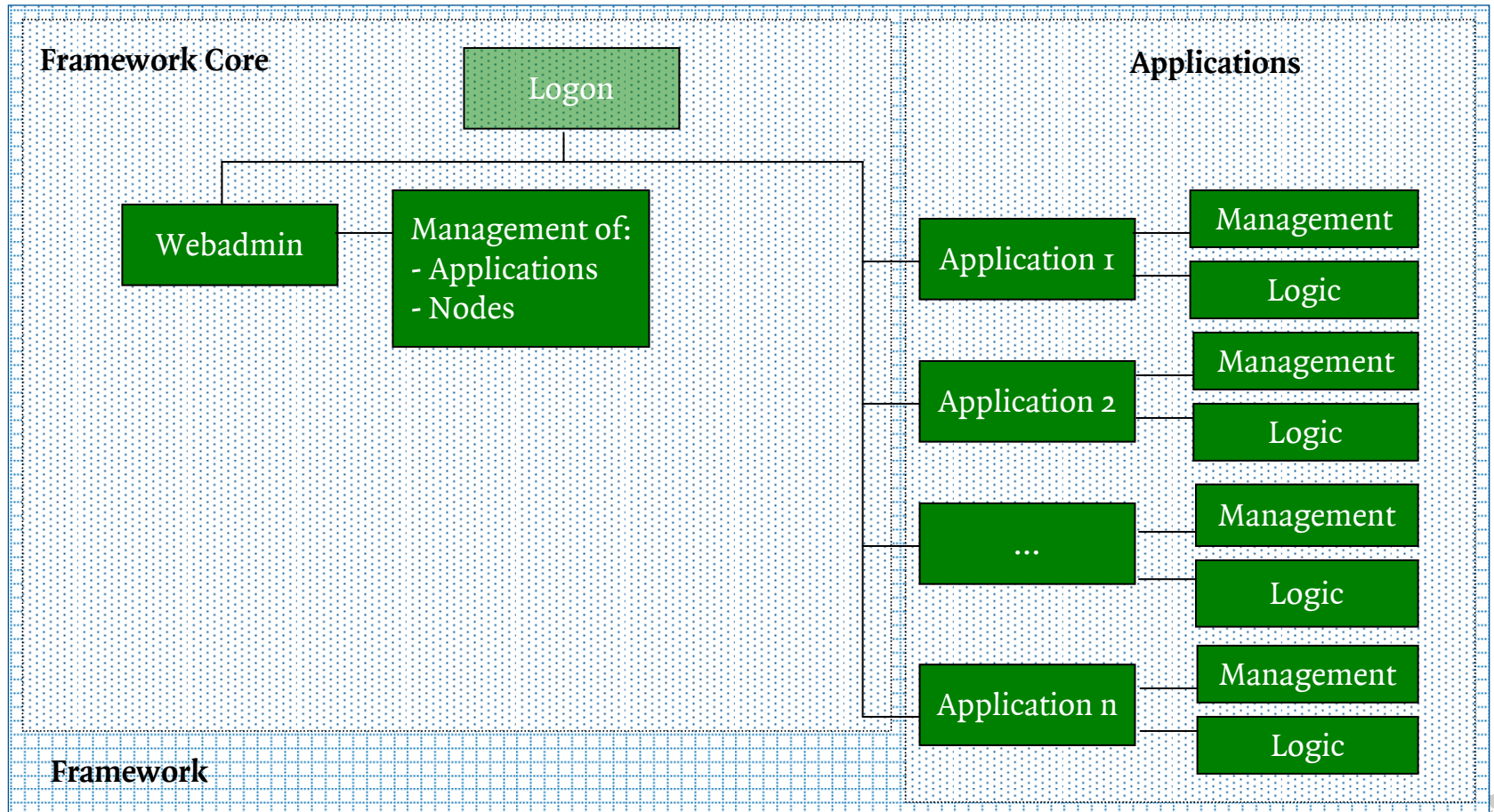
Current State on Itanium

- Apache 2.2.6
- PHP 5.2.4 as modul for Apache web server
- PHP 4.4.7 as CGI-version for:
 - Apache and
 - iTP WebServer
- OpenSSL 0.9.7g (from ITUGLIB)
- MySQL 4.1.14 (from ITUGLIB)

TAMP - (T)andem (A)pache (M)ySQL (P)hp



Live demo – How it works





Live demo – web-based Framework

greenHouse **iWAMS : Log in**

iWAMS (1.0.7)
Product information
GHS - iWAMS
Version: 1.0.7
Versiondate: 10.10.2008
(©) **GreenHouse Software**

iWAMS - integrated Web Administration Management Suite
(The browser based management suite for all GreenHouse products and SAFEGUARD)

Log in to GreenHouse iWAMS

Username:*
Password:*
System / IP:*
Port:*

* required fields

(Note: Cookies and JavaScript must be enabled!)

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Advantages of web-based Framework

- Nothing to install on the client
- Central administration with **one** application
- Much **better usability** than screen Coboal PATHWAY applications
- **User-dependent** view to nodes and products
- Switch between TANDEM Nodes without the need to re-logon **»» One Time Authentication ««**
- No need to change existing PATHWAY servers
- Central framework to your „TANDEM world“





Questions?

Thank you for listening!

www.GreenHouse.de

