THIS IS

AN INTRODUCTION

PRIME WORKSHOP w442
IS AN ACRONYM FOR

**PRO duct STructure**
THIS IS PROST

PROST

IS THE PDM-SYSTEM WHERE MOST OF VOLVO CONSTRUCTION EQUIPMENT’S PRODUCTS ARE DOCUMENTED
Volvo Construction Equipment

Industrial System

- Asheville, North America: ± 250 empl
- Goderich, Ontario, Canada: ± 700 empl
- Pedneiras, Brazil: ± 250 empl
- Eskilstuna, Sweden: ± 1100 empl
- Arvika, Sweden: ± 500 empl
- Hallsberg, Sweden: ± 500 empl
- Braås, Sweden: ± 600 empl
- Changwon, Shanghai, China: ± 1300 empl
- Eskilstuna, Sweden: ± 900 empl
- Belley, France: Konz-Könen, Germany, Wroclaw, Poland: ± 950 empl
PRODUCTS IN PROST
(more or less)
PRODUCTS IN OTHER PDM SYSTEMS

SAP

VPM
THE PROST WORLD
INFORMATION IN PROST

THE FOLLOWING INFORMATION CAN BE FOUND IN PROST

■ PARTS and DRAWINGS (meta-data)
■ PRODUCTS and OPTIONS
■ ARTICLE STRUCTURES (Bill of Material)
■ ENGINEERING CHANGE NOTICES (ECN’s)
THE CORNER STONES

- STRUCTURES AND ECNS
- UNDER WORK and RELEASED

- STRUCTURES AND ECNS
- HISTORICAL

- PI/TA

- PARTS AND DRAWINGS

- SYSTEMS ADMINISTRATION
INFO LIFE CYCLE

- HISTORICAL
- RELEASED
- UNDER WORK

TERMINATION → RELEASE
SUB-SYSTEMS

- PROST
  is divided into a number of sub-systems

- A SUB-SYSTEM
  is a collection of transactions or functions which
  belong together from a logical point of view
TRANSACTION

PROST UPSAA PART INFORMATION

PART NO : 0941907 WASHER, FB 8,4
ORIGIN : WLO BRICKA FB 8,4

DWNG NO : 04930001 FORMAT : VAL/ISSUE:
DEPT/RESP : STD DRAWN BY: KEM DATE/REG : 821111 U/M : ST

STD/REG NO: 7214, RECOMMENDATION GRADES EAS : YES
PART TYPE : S BRS : 2 ART : 1 WLO : 1 LEG RQMT:
BORR FROM : COLL : 4

LOAN TO : SEE NEXT PAGE SUPERSEDED BY:

DOCUMENT : SEE NEXT PAGE BORN BY:
MATERIAL : STEEL SURFACE TREATMENT: ELFÖRZINKAD

SPARE PART -CODE: X - ASSEMBLY : NO -REF:

FREE TEXT:

2=ARCHIVEINFO 3=W-USED 6=VSP-INFO 8=FORWARD 10=RTN 11=TERMINATE EXISTS IN OFF.WHERE-USED (PF3)
SUB-SYSTEMS in PROST

- PART- and DRAWING INFORMATION
- DICTIONARIES
- ACRIS (Article CRoss Index System)
- COST and MASS INFORMATION
- PI/TA (Product identities and technical authorization)
- STRUCTURES UNDER WORK
- RELEASED STRUCTURES
MORE SUB-SYSTEMS in PROST

- ECN:s UNDER WORK
- DOCUMENT CHANGES
- ECN INFORMATION (released ECN:s)

- RELEASE/TERMINATION

- HISTORICAL STRUCTURES and ECN:s

- REPORT and FILE REQUESTS

- SYSTEMS ADMINISTRATION
## TRANSACTION SURVEY

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### Notes

- **A**: Description of part information
- **B**: Product description
- **C**: External part number
- **D**: Internal part number
- **E**: Description of part
- **F**: Image number
- **G**: Image description
- **H**: Image type
- **I**: Image type
- **J**: Image type
- **K**: Image type
- **L**: Image type
- **M**: Image type
- **N**: Image type
- **O**: Image type
- **P**: Image type
- **Q**: Image type
- **R**: Image type
- **S**: Image type
- **T**: Image type
WHAT IS IMS?

- More than 90 percent of the Fortune 1000 companies use IMS.

  You use it everyday!

- IMS serves 200 million end users
  - managing over 15 billion Gigabytes of production data
  - processing over 50 billion transactions every day.

- IMS still owns the high-volume on-line transaction and database management environment.
HOW A PRODUCT IS DOCUMENTED

END PRODUCTS

A40D 6x6  Serial number 1234
L180E        Serial number 10067

PRODUCT VARIANT

EQUIPMENT VARIANTS or OPTIONS

END PRODUCT = PV +UV+UV+UV+UV+UV....

PRODUCT IDENTITIES ID: = PART NUMBERS
UNIQUE PART NUMBERS IN A WHEEL LOADER

> 800 PART NUMBERS

225 - 230 PART NUMBERS

90 - 95 PART NUMBERS

2700 - 2800 PART NUMBERS

Components and Options not included

> 4000 PART NUMBERS

Approx. 6800 structural records
(all parts for the engine are not included)
HOW A PRODUCT IS DOCUMENTED

END PRODUCT = PV + UV + UV + UV....

PRODUCT - COMPONENT or EQUIPMENT VARIANT
FUNCTION GROUP
PHYSICAL PART or DOCUMENT

VOLVO IT
DEPT: 8651 ESKILSTUNA
2001-05-29 / 1
USAGE IN THE MAIN PROCESSES

PRODUCT DEVELOPMENT
- IMAGE SERVICES
- LATIN
- PART PORTAL
- PLATFORM PARTS

SALES TO ORDER
- MAIN
- SAMS

PRODUCT DEVELOPMENT
- ORDER TO DELIVERY
- MESA
- MAPICS
- PINS

SALES TO ORDER
- SERVICE TOOLS
- GLOPPS
- COLS

PARTS AND DRAWINGS
- PI/TA
- STRUCTURES
- ENGINEERING CHANGE NOTES

PLATFORM PARTS
- SERVICE TOOLS
- GLOPPS
- COLS

VOLVO IT
DEPT: 8651 ESKILSTUNA
2001-05-29 / 1
PROST MRP INTERFACE

PROST DATA BASES

DIRECT ACCESS MVS/IMS

MRP LINK PREPROCESSOR

THE MRP-LINK
STANDARD INTERFACE
- ARTICLE DATA (Once per day)
- STRUCTURE DATA (On request)
- ECN DATA (On request)

LOCAL MRP POST PROCESSOR

LOCAL MRP DATA BASES

PARTS & DWNG
PI/TA
STRUCTURES
ecn info
HISTORICAL REC.
DICTIONARIES
ACRIS
PROKYL
MASS
Etc.

PROST USER INTERFACE

PART INFO
DWNG INFO
BILL OF MTRL
ecn info
AND
VARIOUS OTHER
MANUFACTURING
INFO

MRP USER INTERFACE

PART INFO
DWNG INFO
BILL OF MTRL
ecn info
AND
VARIOUS OTHER
MANUFACTURING
INFO

PROST USER AND
FILE REQUESTER
AT THE PLANTS

MAIN
SAMS
WAS/COSI
SPIS
PAR
Etc.

OTHER IMS SYSTEM

ARV MAPICS
ASH MAPICS
BEY MAPICS
BRA MAPICS
ESK MAPICS
KON MAPICS
PED MAPICS
HAL MAPICS
WRO MAPICS
CHW SAP
GOD SAP
**USERS and USAGE**

**USERS**

- More than **2350** users have access to PROST transactions
- More than **1100** users have used PROST during the last year
- There are almost **110 650** combinations of user-id / transaction in the user data base
- An average user has access to **46** transactions
- We educated **200 new users** year 2003 (3 – 6 day courses)!

**NUMBER OF TRANSACTIONS**

- **5 000 000** transactions/year
PROST USER SITES

ANNECY
ARCHAMPS
ARVIKA
ASHEVILLE
BARCELONA
BELLEY
BORLÄNGE
BRAÅS
CAIRO
CHANGWON
CHICAGO
CURUTIBA
DUXFORD
ESKILSTUNA
ESLÖV
FLEN

GÖTEBORG
GODERICH
HALLSBERG
BRYssel
JÖSSEFORS
KÖPING
KONZ
LÖDDEKÖPINGE
PEDENEIRAS
SEOUL
SINGAPORE
SKÖVDE
SYDNEY
VÄXJÖ
WROCLAW
PROST HOME PAGE

PROST Home page - Netscape

PROST is an acronym for PROduct STucture and is the current PDM system used by most of the companies and plants worldwide within VOLVO CONSTRUCTION EQUIPMENT (VOLVO CE).

In the PROST systems information can be found about our parts, drawings, products and options such as:

- Part and drawing information
- Technical authorisation for products and options
- Article structures (BoM)
- Engineering Change Notes (ECN's)

The information in PROST covers the time frame from the earliest product development phase through out the whole development phase to the releases for material acquisition, manufacturing and assembling.

After the release the information is continuously maintained and the changes are documented in form of ECN's until the production ceases and the information is terminated and moved to the historical databases where it will be kept for decades.

If you want to know more about the PROST systems do not hesitate to contact any of us at:

http://vceweb01.vce.volo.se/VITE/Prost.nsf
PROST IN CONTEXT

- The PROST Project started January 1979 and ended fall 1984 after migration of Product Structures in May: (2004; 20 year anniversary !)
  First implementation was in March 23, 1982.

- The application programmes consist of: >500,000 lines of code in 311 COBOL and 62 E+ Programs, 327 PSBs and 222 formats.

- The 22 DL/1 and 3 DB2 databases contain more than 3 GB of data.
  Close to 900000 Parts in the Volvo CE Parts Master database.

- System environment is IBM IMS, the largest Transaction and Database Management System in the world. And it is extremely Cost Effective!
PROST IN CONTEXT

- We have at least **500,000 Product Structure Records** related to current Products and approx. **1,000,000 Product Structure Records** related to historical Products.

- PROST contains about **20,000 Product IDs** (PV + UV).

- The average user has **46 different transactions** (~equivalent to profile cards in ST).

- The **2140 registered users** run almost **5,000,000 transactions** per year distributed on 149 different transactions and 23 BMP. There are also about 145 batch programs.
PROST IN CONTEXT

The Economy of the PROST Project 1981/84.

- Actual Investments 1979 -1984  
  KSEK 18.558 (1982)  
  incl. Line organization efforts  
  54 Man-Years

- Operational Costs  
  KSEK 3.000
  including one continuous person for admin/support

- Discussed Income  
  KSEK 6.520 – 9.127

  On Time and  
  On Budget!

- Assumed practical life time was 10 years.
PROST IN CONTEXT

- PROST was initially developed for the Swedish company Volvo BM.
- PROST has since 1984 been developed for global use in English or Swedish with several new functions.
- PROST launched new technique and provided integration at a higher level with downstream applications: MAIN and several other.
- We developed Interfaces: “Design Anywhere” and “Manufacture Anywhere”
- We developed the ESW applications across all the Major Processes.

Compare:

- 251 terminals 1984 → 2140 PCs 2004 (one per user)
- 0,62 SEK/transaction 1984 → < 0,05 SEK/transaction year 2004
- < 2.000.000 transaction/year 1985 → 5.000.000 transactions/year 2004
- 900 users 1984 → 2140 users year 2004
WHICH FUNCTIONS IN PROST WILL BE ENTIRELY REPLACED BY PRIME 1

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