# Intel LANDesk® Client Manager v3.1 SDK

## Intel Corporation

## September 30, 1997

# Agenda

1) Introduce Intel LANDesk® Client Manager (LDCM) and LDCM v3.1 SDK
2) Review LDCM v3.1 implementation details
   - Architecture
   - Configurability
3) SDK content
   - Sample instrumentation
   - Joystick customization example
4) Installation utilities

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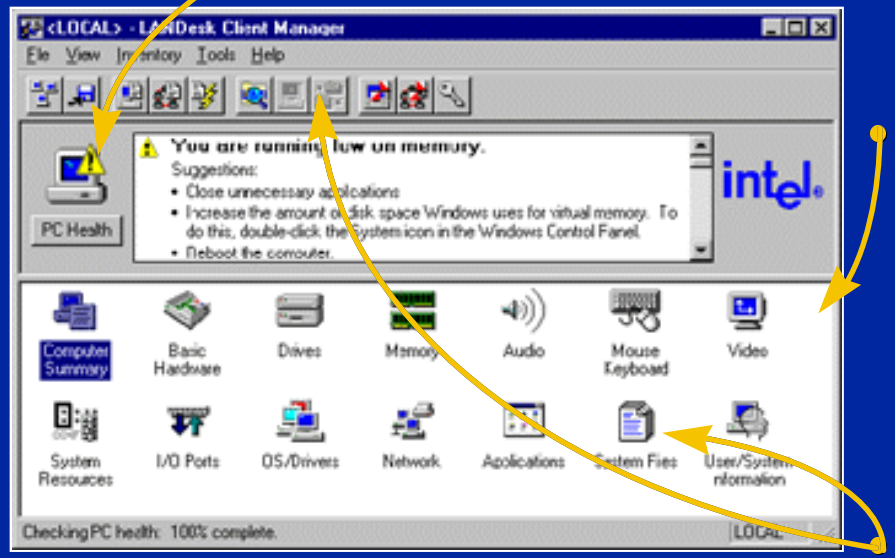
# What Is LDCM?

- Real-time PC Health Monitoring
- Real-time PC Health Alerting
- Self-diagnostics
- DMI-based local and remote client

# LDCM Product Areas




## PC Health Monitor

- Local and remote display and alerts based on 13 key PC conditions identified from usability testing
- OS elements (memory, disk, GDI) occupy two-thirds of the health dialog; optional hardware monitor elements
- Simple suggestions offer recommendations for addressing yellow and red health conditions

## Categorical View

- Main view of 14 icons identified from usability testing.
- Gathers selected instrumented attributes from standard and non-standard groups (the categorical view does not reflect information from a hardware monitor ASIC)
- DMI Explorer (DMI Browser)
- Provides a Component/Group/Attribute view of the service layer database (tree structure, fully populated from standard and vendor-specific MIFs); allows local or remote access and configuration of settable attributes

## General System Controls

- Includes access security (user-defined), system file snapshots, remote file transfer and remote reboot for any PC with Windows* 95 or NT* v4.0

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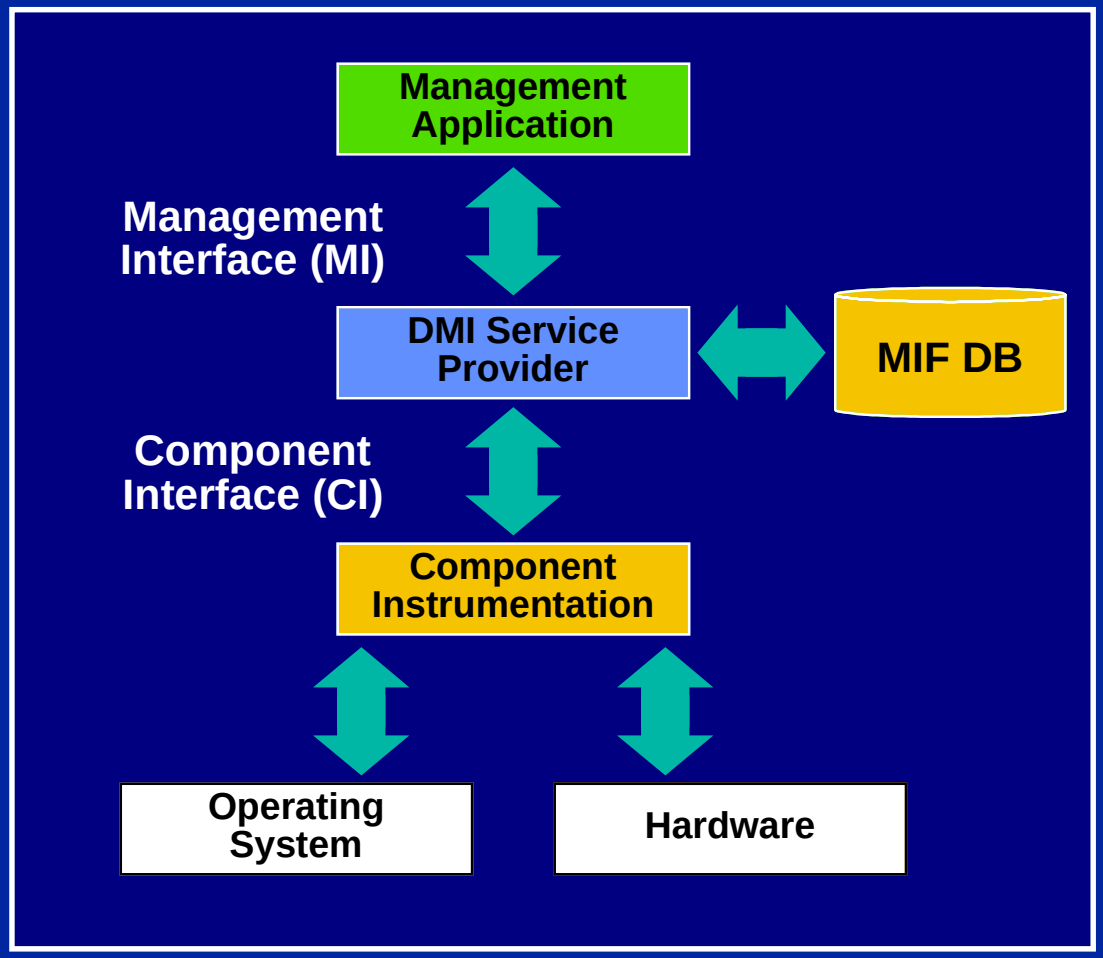
# DMI Model



# LDCM is Standards-Based

1

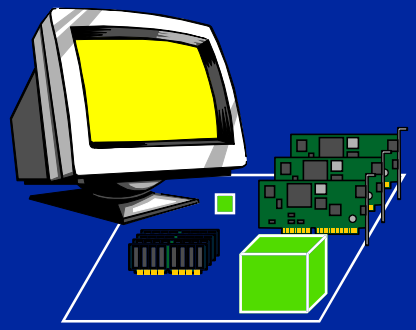
Provides a standard approach for accessing data from compatible PC hardware

2

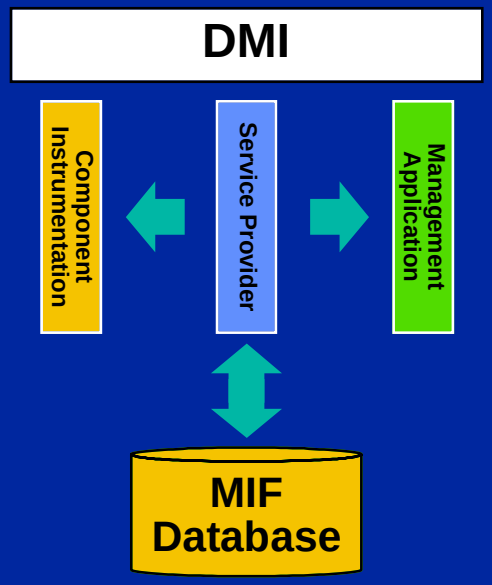
Efficiently brokers data to compatible management applications

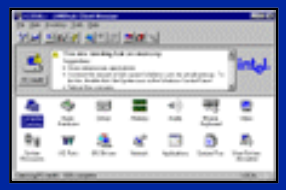
3

Informs users (local and remote) about key system conditions



Instrumented System Components



Local Application

*OR*

Remote Application

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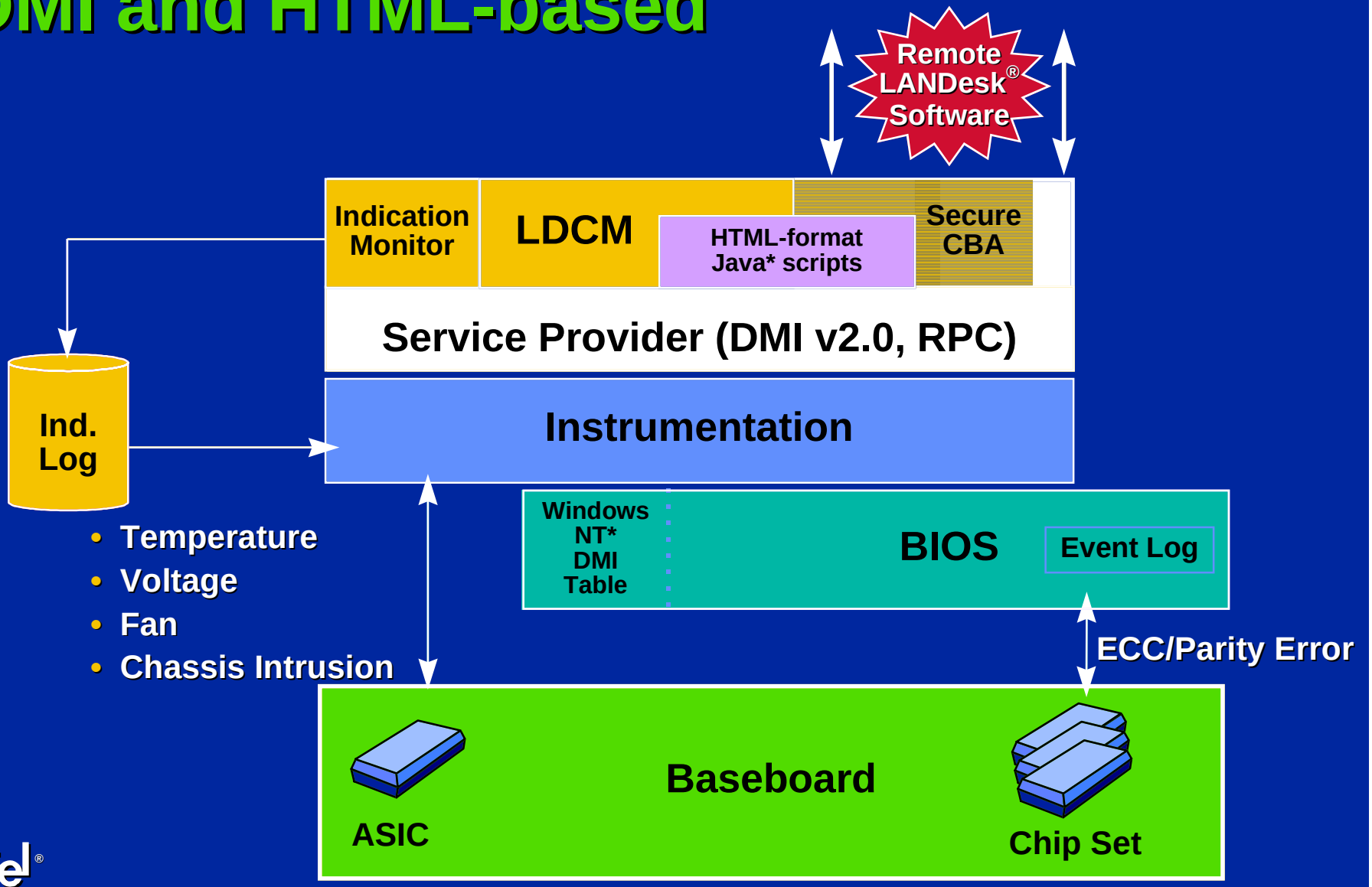
# LDCM v3.1 Technology

## DMI and HTML-based

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# LANDesk® Client Manager v3.1

## Feature Set

- Standards-based and WfM compliant
  - DMI v2.0 SP and RPC compliant support (Wired for Management v1.0 baseline)
  - Standard MIF support (PC System, LAN, etc. referencing group class names)
  - HTML-based viewing architecture
- Remote power management (on/off)
- OEM configurable
  - Unique attributes display in existing or new categorical view icons and dialogs (SDK)
  - PC Health group definition (SDK)
- Exportable workstation summary
  - PC snapshot/summary in the following formats:
    - ASCII Text format (allows printing)
    - Comma Separated Values (.CSV)
    - HTML format
  - Defines API format (SDK) for exporting to other formats
- Enhanced GUI/general functionality
  - Launch administrator console directly to main view from upstream application (SDK)
  - Constant taskbar traffic light icon
  - LANDesk Client Manager DMI Explorer
  - Boost security and remote integration (secure CBA)
  - SNMP Trap Generation
- Backward compatibility
  - Administrator console views v3.x PCs
  - LDCM v3.1 installs over v3.0
- 32-bit OS support (Windows NT* v4.0 and Windows* 95)
- Installation support for new features
- International language support
- SDK

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# Implementing LDCM

- Need DM BIOS (v2.0 compatible)
  - Proc type, I/O slots, IRQ info, etc.
    - Available from most BIOS providers
- Need to instrument any unique hardware features that require management:
  - LM78 is preferred approach
  - LM78 drivers included in LDCM product
- Need drivers compatible with the instrumentation

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Source: Intel Study, 8/96

# LANDesk® Client Manager SDK

- Who needs it? Why?
  - PC OEMs
    - Deploy LDCM on non-Intel systems
    - Develop alternate instrumentation
  - IHVs
    - Develop component instrumentation

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# What Does the LDCM SDK Provide?

- API functions
- Data structures
- Working sample code
- Documentation
- DMI interfaces for service layer and instrumentation functionality

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# What Can You do with the LDCM SDK?

- Automate and customize installations of LDCM more easily and effectively
- Enhance GUI and functionality of LDCM to differentiate your product; OEM can supply:
  - MIFs
  - Instrumentation
  - Drivers (depending on the OS)
- Customize and display unique data for hardware/software inventory and PC Health using SDK guidelines for consistent GUI

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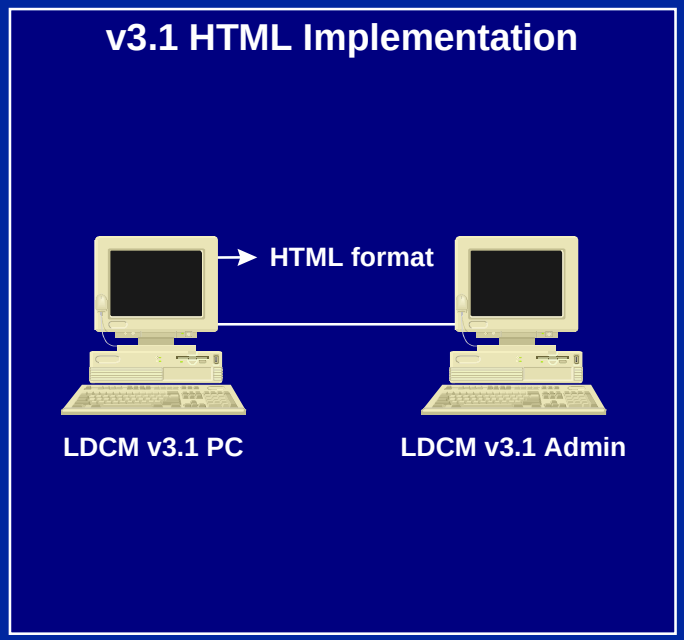
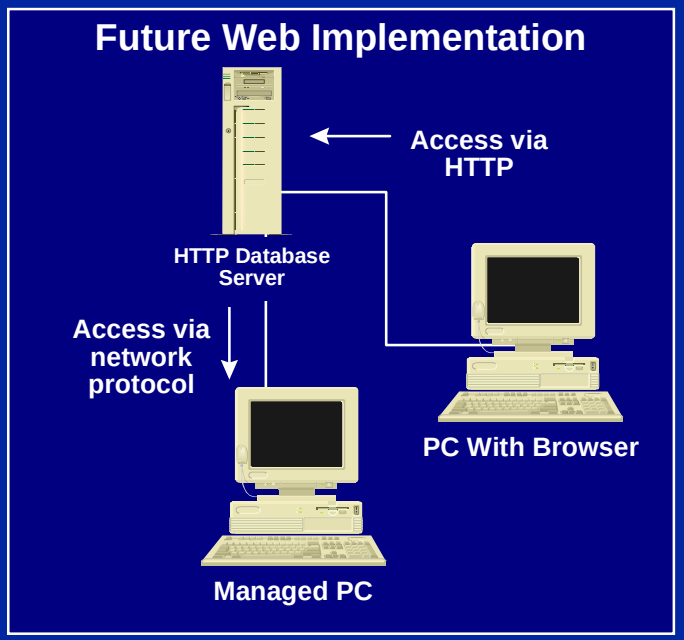
# LDCM v3.1 OEM Configurability

- HTML-based viewing implementation
  - Microsoft Internet Explorer* Web Browser Control provides easy GUI configurability via Java* scripts executed at runtime.
  - NOT web-based browsing (requires secure HTTP server)
- Each LDCM v3.1 PC provides the HTML pages and data necessary to view the DMI information
- IE snap-in is invisible to users but allows links to Internet/intranet web sites (launches Web browser of choice upon selection)

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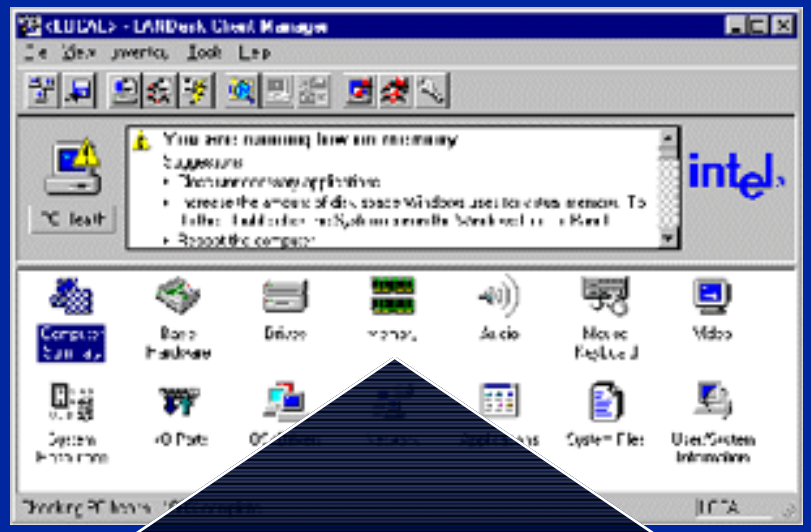
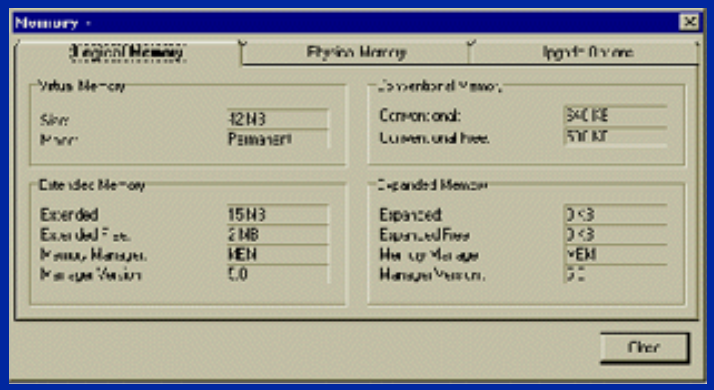
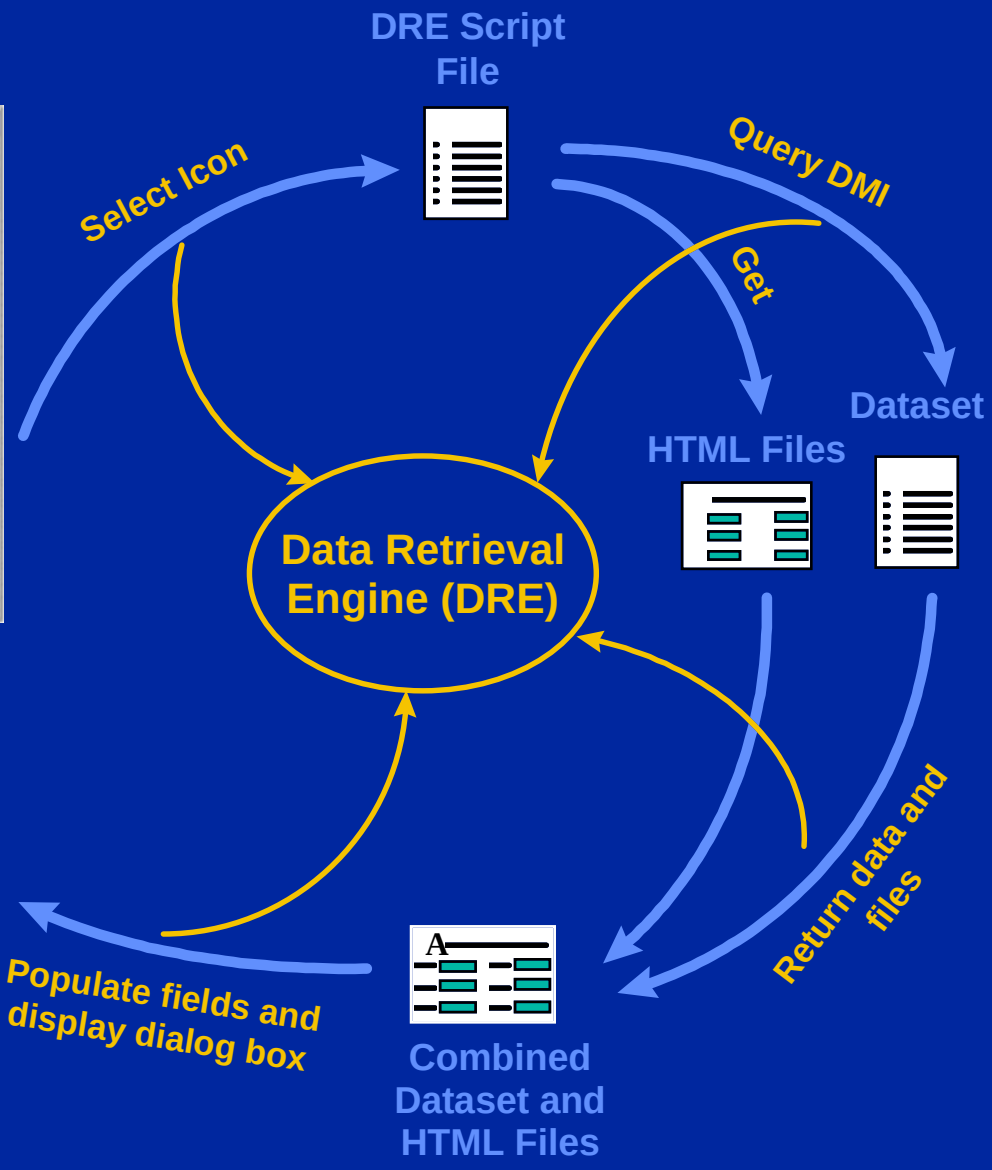
# LDCM v3.1 Customization Model







# SDK example/demonstration

**Add a joystick component to the standard LDCM v3.1 software (custom instrumentation)**

**AND**

**generate a DMI indication**

**AND**

**toggle PC Health**

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# LDCM v3.1 Files and Locations

- \Program Files\Intel\LDCM
  - LDCM executables and DLLs
  - Service Provider executables and DLLs
- \Program Files\Intel\LDCM\CI\
  - Unique directory for each instrumentation piece (IA, LDCMOS32, LDCMPREF, LDCMUSYS)
- \Program Files\Intel\LDCM\Script
  - Unique directories for vendor configuration enhancements
- \Program Files\Intel\LDCM\MIFs
  - All MIFs prior to SP registration
- \Program Files\Intel\LDCM\MIFs\Backup
  - MIFs placed here after SP registration
- \Program Files\Intel\LDCM\mifdb\sldb.dmi
  - MIF database

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# Development Environment

- Tools included:
  - Sample code
  - Instrumentation template
- Tools required:

| Tool | Description |
| --- | --- |
| Visual C++* 4.2b modifying | IDE to build sample files, install and uninstall |
| Text Editor | Editing script and html files |
| InstallShield* Install | Version 3.0, for modifying |

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# Overview of Customization

- Create instrumentation to instrument the joystick component (provided)
- Add a joystick icon to the categorical view in LDCM
- Create the dialog that accompanies the icon
- Modify files that integrate the joystick into standard LDCM features, including alerts and PC Health

**Section E of SDK Documentation**

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# Steps to Create the Joystick Instrumentation

- Create or modify the instrumentation (.C and .H files provided in directory JOYSTICK\PHASE2 on the CD)
- Build a new executable (JOYSTICK.EXE provided on the CD)
- Create a registry key to run instrumentation at boot time
- Create the necessary directory (on same machine as joystick, Program Files\Intel\LDCM\CI\ACME\JOYSTICK)
- Place the instrumentation in new directory (JOYSTICK.EXE and JOYSTICK.MIF in the LDCM\CI\ACME\JOYSTICK directory)
- Run the instrumentation (JOYSTICK.EXE; Note: this can also be run with a command-line option of "/d" to display a debugging window)

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# Steps to Add the Joystick Icon

- Create the necessary directory (Program Files\Intel\LDCM\SCRIPT\ACME)
- Replace INVENTORY.SET, INVENTORYICONS.BMP, and INVENTORYICONS_M.BMP in the LDCM\SCRIPT directory with new files of the same name (provided on the CD)
- View the joystick icon now inventoried in the main screen's categorical view

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# Steps to Create the Joystick Dialog

- Create or modify the script and HTML files (provided on the CD)
- Place JOYSTICK.SCRIPT, JOYSTICK.HTM, and JOYSTICK.HLP in the LDCM\SCRIPT\ACME directory
- View the new joystick dialog

# Steps to Integrate Joystick into Standard LDCM Features

- Modify the script and HTML files (provided on the CD)
- Place necessary files in the LDCM\SCRIPT\ACME directory:
  - COMPUTERSUMMARY.SCRIPT, COMPUTERSUMMARY.HTM, ENUSUMM.HLP, and 4 GIFs add a joystick component to the inventory dialog and online help for the Computer Summary icon
  - EXPORTSUMMARY.SCRIPT adds joystick components to the export of workstation summary information
  - PCHEALTH.HTM, PCHEALTH.SCRIPT, PCHEALTHALX.HTM, ENUHEALTH.HLP, HEALTHVIEWICON.BMP and HEALTHVIEWICONMASK.BMP add joystick indications to LDCM's PC Health metaphor
- View the joystick information now available in PC Health, indication log file, Computer Summary dialog, and exported workstation summary along with a link to a fictional web site in the Help menu

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# Summary

- Added instrumentation for the joystick
- Added a joystick icon to the categorical view in LDCM
- Added the dialog that accompanies the icon
- Modified files that integrate the joystick into standard LDCM features such as the Computer Summary and Export Summary
- Made the joystick component an LDCM PC Health contributor (log and display indications and toggle green/yellow/red status)

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# Configuring Indications

- Modify the Registry so LDCM handles the new indication(s) appropriately:
  - Control default indications
  - Modify notification monitor defaults
  - Change default log file size
  - Change security level

# Installation Utilities

- AUTOLOAD.EXE
  - Allows replication of install options
    - Audio
    - DM BIOS
    - LM78
    - I2C
    - Video
  - Creates .ALF file

# Installation Utilities

- MEDIAMAKER (MEDIAMKR.EXE)
  - Takes .ALF file as input and creates CD install image
  - PC-OEM can use this image to “gas pump”

# Custom Install Script SETUP.RUL

- Allows OEM to customize install to:
  - Add files to the install
    - E.g. MIFs
  - Install alternate instrumentation
    - E.g. .DLLs or .EXEs
  - Add Windows NT* services or Windows* 95 pseudo-services and executables
  - Modify setup screen
    - Colors, font, title, caption text

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# Wrap-up

- Sneak peek release of LDCM v3.1 provided under NDA on the CD:
  - OEM product and SDK
  - Includes an instrumentation example
- Contact your Intel sales representative for more information on LANDesk® Client Manager