bring Linux apps to hp-ux 11i: it's easier than you think

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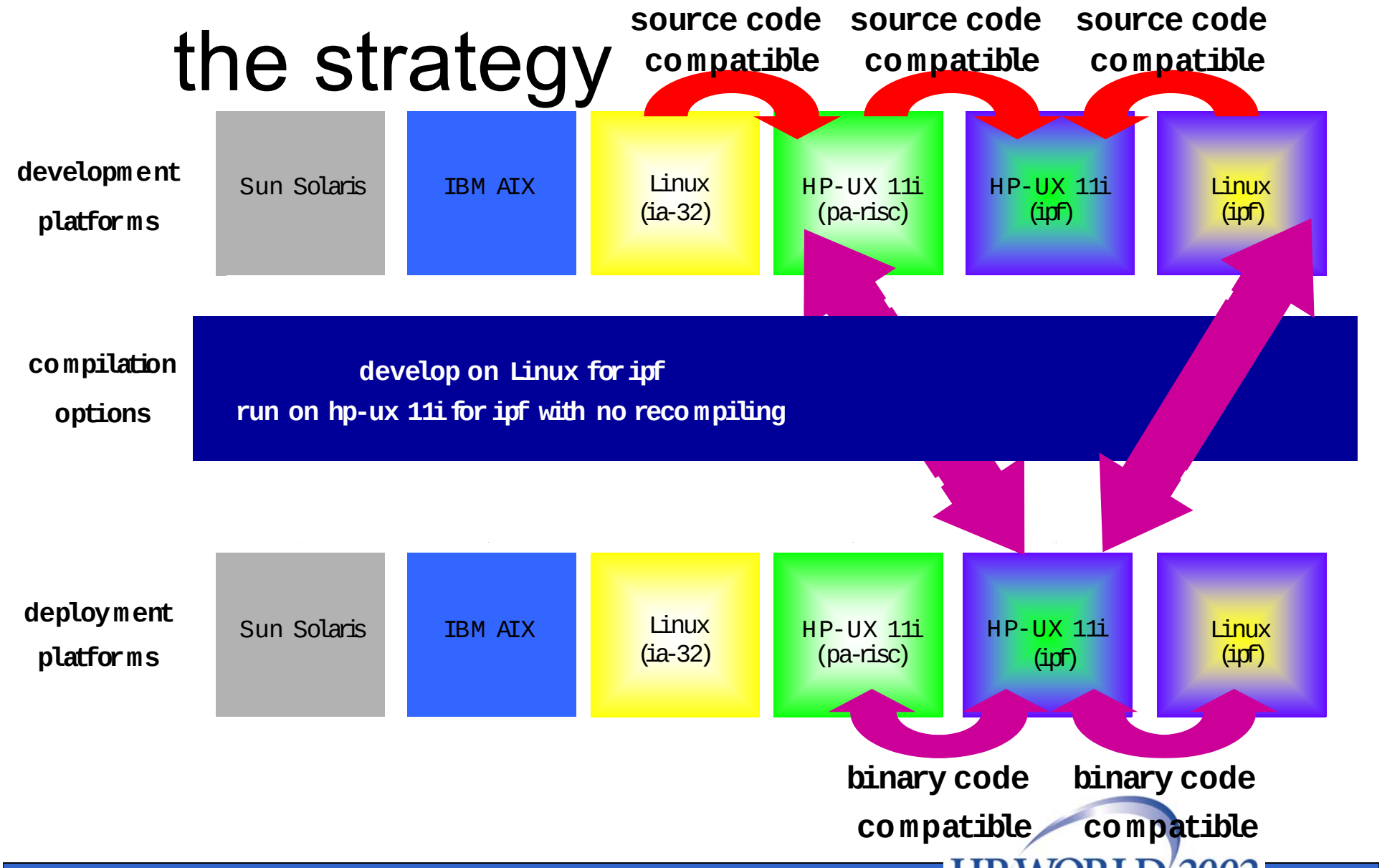
discussion topics

- provide Linux app development benefits
- how to bring Linux apps to hp-ux 11i
- share hp-ux 11i insights for Linux apps
- q & a

benefits of Linux

- low cost compared to other OSes
- Open Source
  - extensive toolsets
  - great degree of knowledge in community
  - freely available
- popular with developers

consider the strategy



how to bring Linux apps into hp-ux 11i – source compatibility

Linux porting kit

Open Source Developer's Toolkit

- a collection of 50+ popular Open Source tools

Linux-Compatible APIs

- work concurrently with existing hp-ux libraries to make available 96% of Linux core APIs

Linux Software Transition Kit

- scanner tools to identify porting issues and suggest recommendation for changes

Linux Porting Guide & Support Services

- extensive, easy-to-use documentation showing porting steps and issues

benefits

- reduce porting efforts with over 50 Open Source tools and 96% of Linux core APIs
- improve productivity with scanner tools to find porting issues
- simplify developer's experience with this out-of-the-box porting kit
- free download and CD at www.devresource.hp.com/LPK

how to bring Linux apps into hp-ux 11i – binary compatibility

Linux runtime environment toolkit

Linux LE Itanium Runtime Environment

- a collection of libraries and tools, including commands, utilities, packages, and marshalling layers

Linux Software Transition Kit

- scanner tools to identify porting issues and suggest recommendation for changes

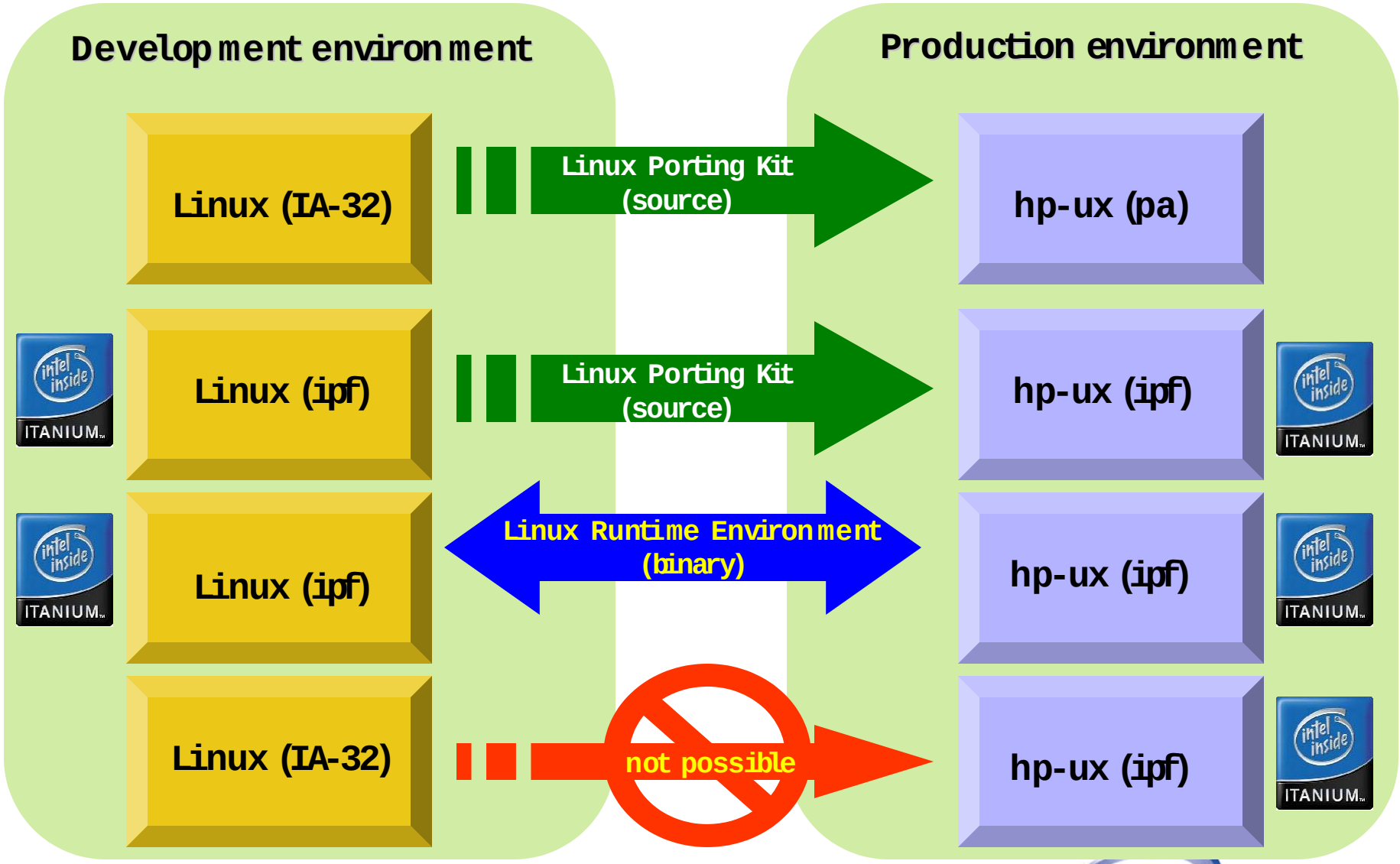
Linux Runtime Environment White Paper

- extensive, easy-to-use paper documenting binary compatibility processes between Linux and HP-UX

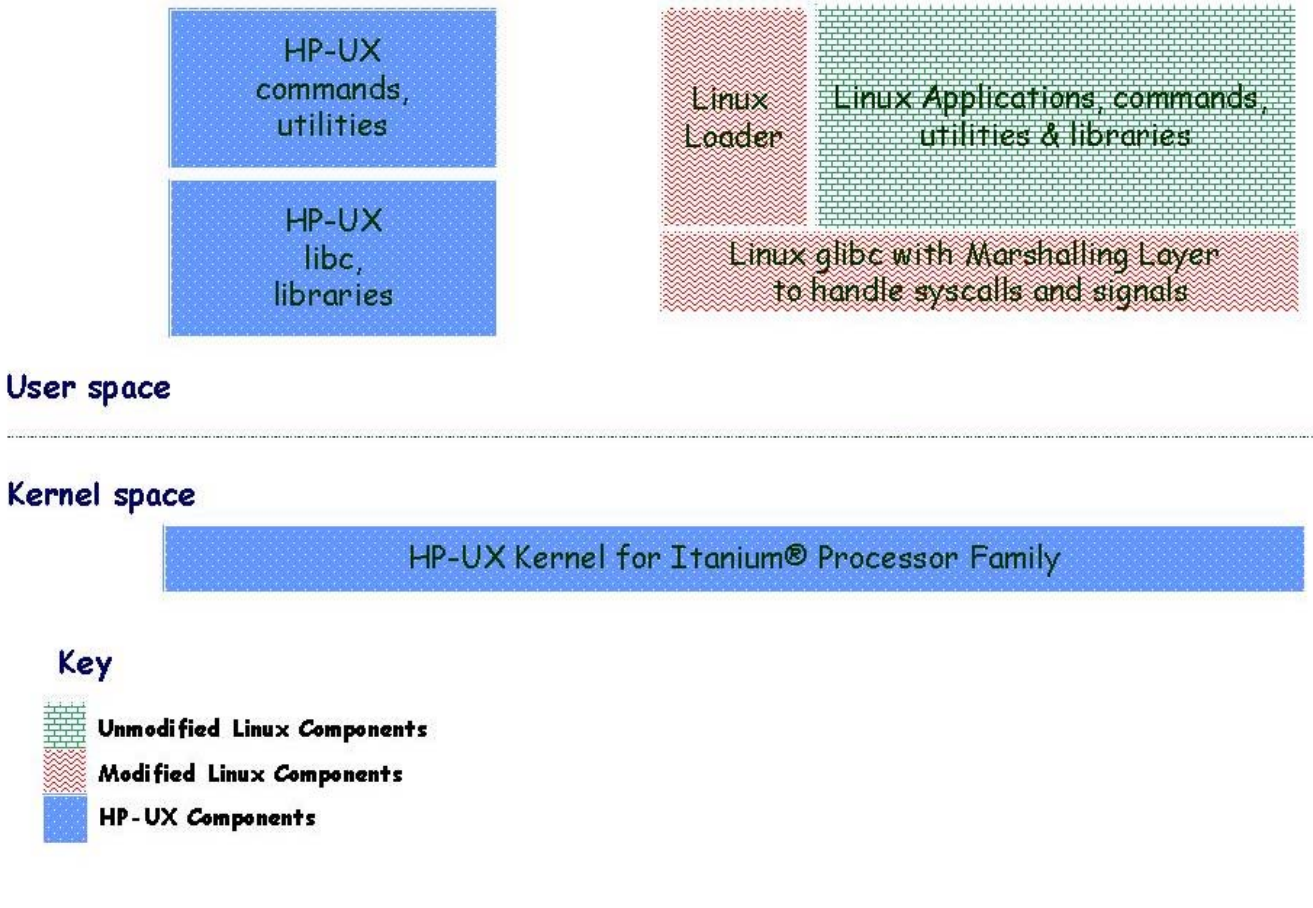
benefits

- develop on Linux, deploy to HP-UX
- run "Linux" applications on HP-UX with mission critical features
- reduce build and support costs for multi-OS opportunities

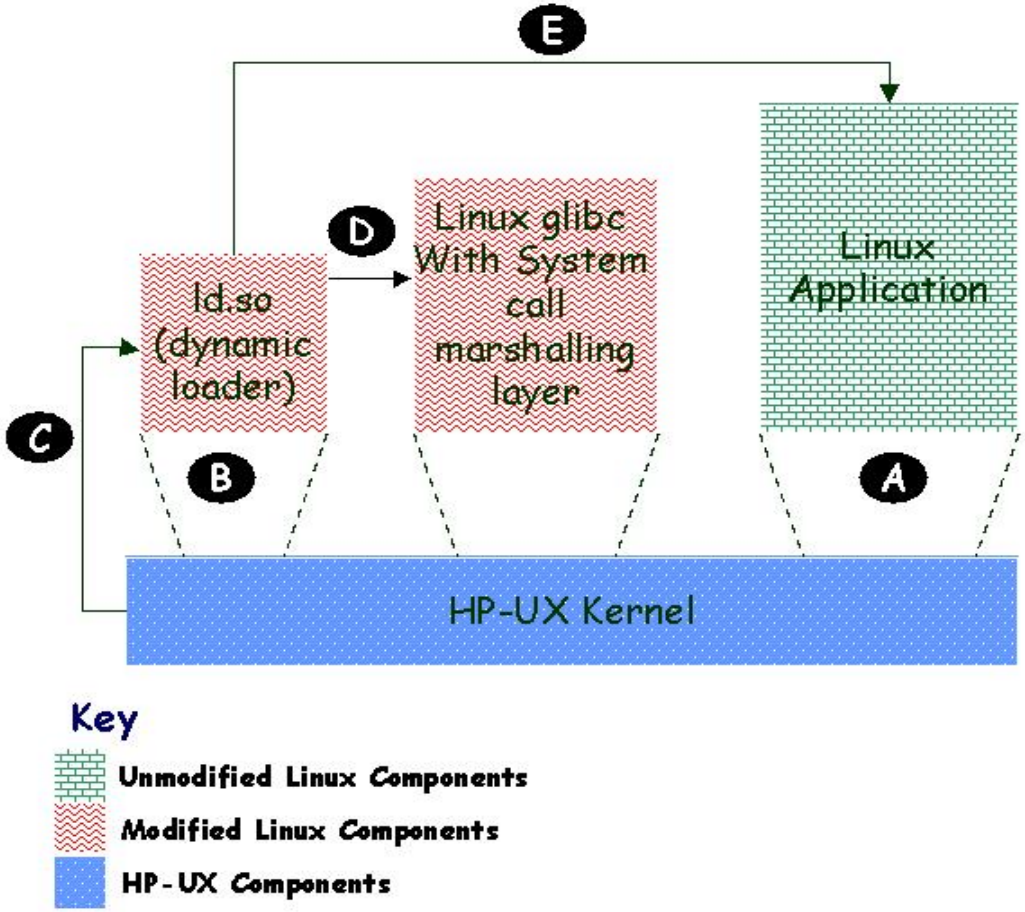
which one to use?



overview of lre

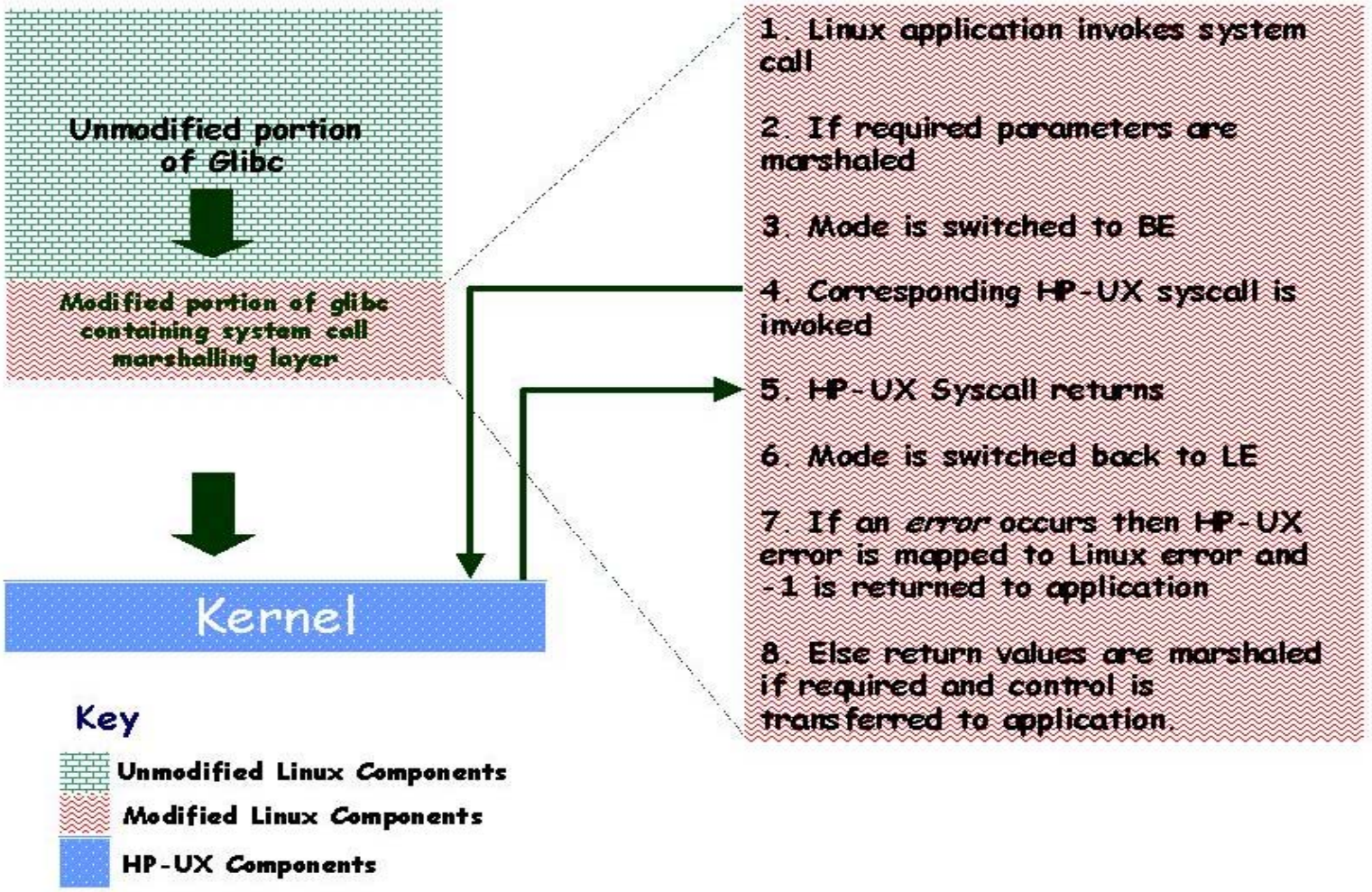


program startup for Linux apps

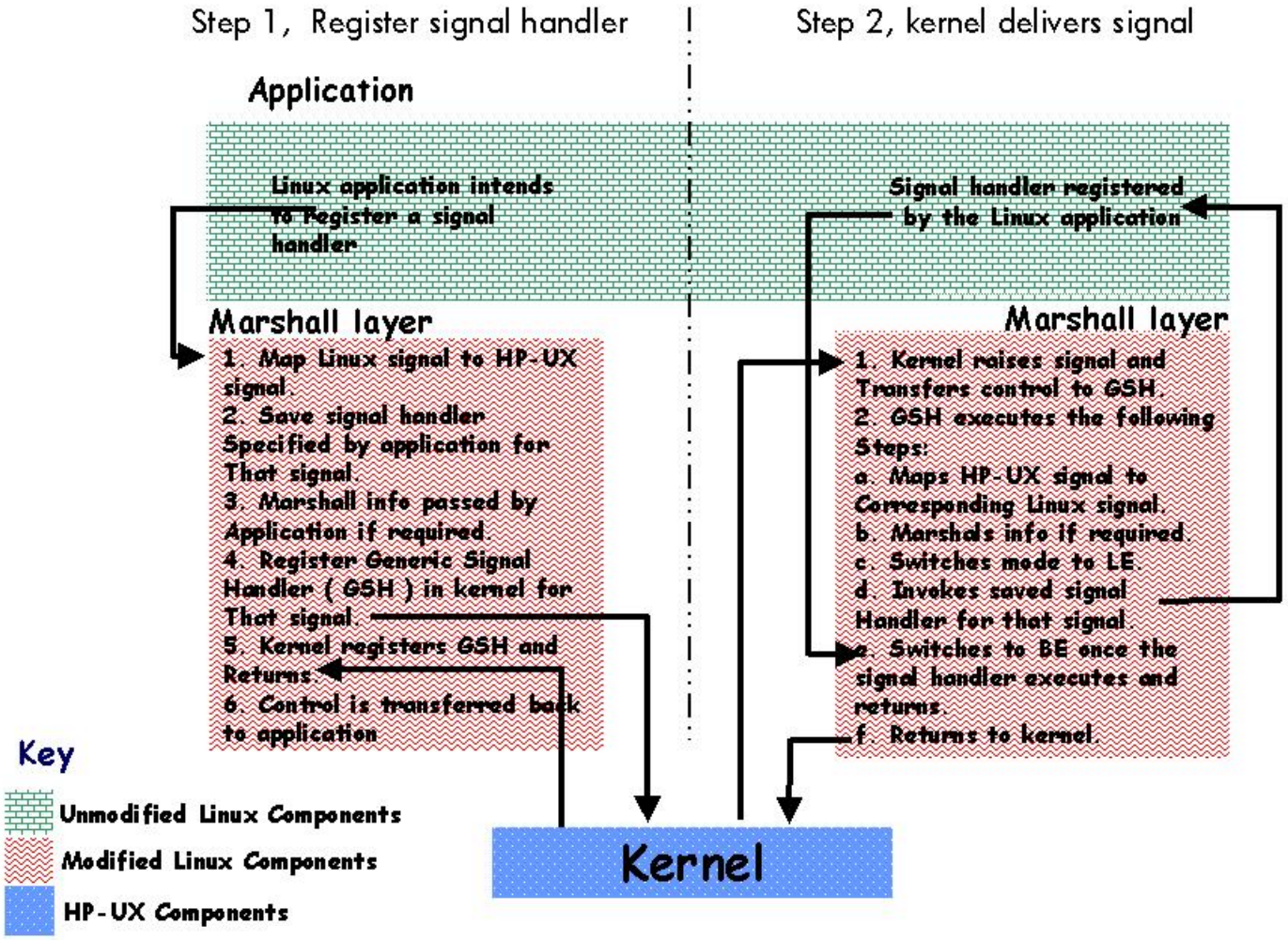


- **A** Kernel recognizes Linux app and maps it into memory (start of text)
- **B** Kernel maps dynamic loader into memory
- **C** Kernel switches to little-endian mode and transfers control to dynamic loader
- **D** Dynamic loader relocates the application. Then it loads and relocates dependent libraries into the HP-UX address space
- **E** Dynamic loader transfers control to main program entry point

System calls



Signal handling



Linux runtime environment restrictions

- Linux 32 bit (x86) applications
- Applications that are bound to archive libraries through which system calls are invoked.
- Kernel intrusive applications
- Applications that directly access persistent system files, directly manipulate hardware or use Linux-specific kernel API's

hp-ux 11i insights for Linux apps deployment

- better reliability and system management
- stronger directory & security features
- world-class high availability

d.h. brown 2002 function review

ranked #1 in all five categories:

- #1 scalability
- #1 reliability, availability and serviceability
- #1 systems management
- #1 internet and web application services
- #1 directory and security services

www.dhbrown.com

References

- **HP-UX 11i web site**
  http://www.hp.com/go/hp-ux
- **Linux web site from HP**
  http://www.hp.com/go/linux
- **HP's developer & solution partner portal**
  http://www.hp.com/dspp
- **Linux web site from HP**
  http://www.hp.com/go/LPK

Q & A

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