

# SWEN30006

## Software Modelling and Design

### CASE STUDY: CHAUFFEURED CARS

*I've yet to see any problem, however complicated, which when you looked at it the right way didn't become still more complicated.*

—Poul Anderson

# Client Problem Perspective

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*Chauffeured Car Company (~30 drivers):*

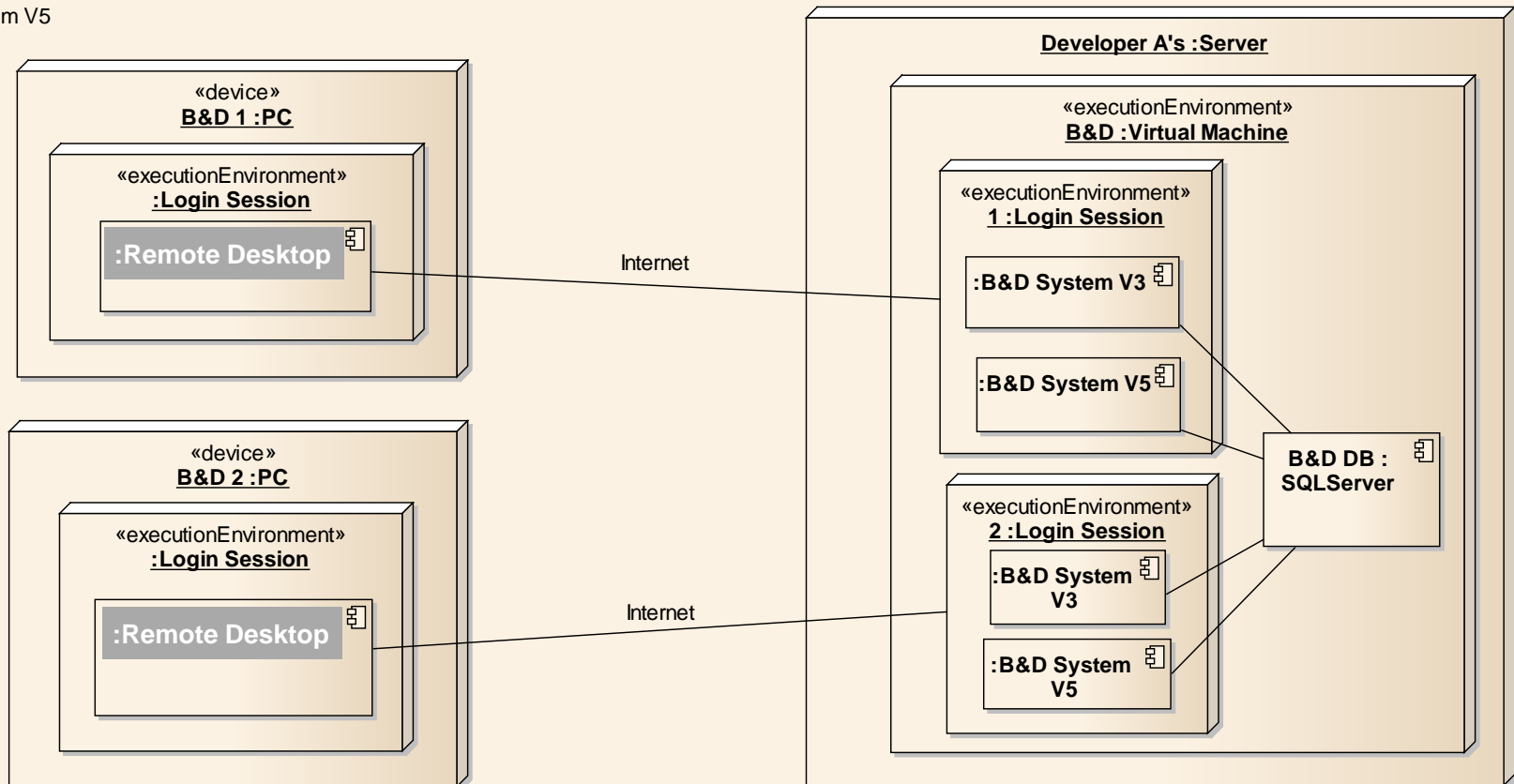
- ❑ Bookings and Dispatch System
- ❑ Business Critical
- ❑ Issues
  - Responsiveness, esp. with client on the phone
  - Reliability: periods of unavailability (paper/pen)
  - Functionality, e.g.
    - Invoicing and reporting
    - Client Portal

# Initial System Setup

## deployment Starting Deployment

### Bookings and Dispatch

- + B&D DB
- + B&D System V3
- + B&D System V5



# Investigation of Issues

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## ❑ Responsiveness

- Remote Desktop over internet to remote server
- Sharing of limited bandwidth: UI freezes

## ❑ Reliability

- Connection down → no system → paper/pen

## ❑ Functionality (→ Modifiability)

- Two versions of system: old and current tech.
- Both needed, e.g. old → bookings; new → clients
- System not accessible in current form

# Options

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- ❑ Commercial Off-The-Shelf (COTS)
  - + s/w up/running quickly; low (starting) cost
  - - business differences; control of s/w
- ❑ Rebuild
  - + built-for-purpose to meet current needs
  - - high cost; long delay until available
- ❑ Modify Existing
  - + business transition easier; control of s/w
  - - finding willing developer; cost?; delay?

# Planned Approach: “Take Control”

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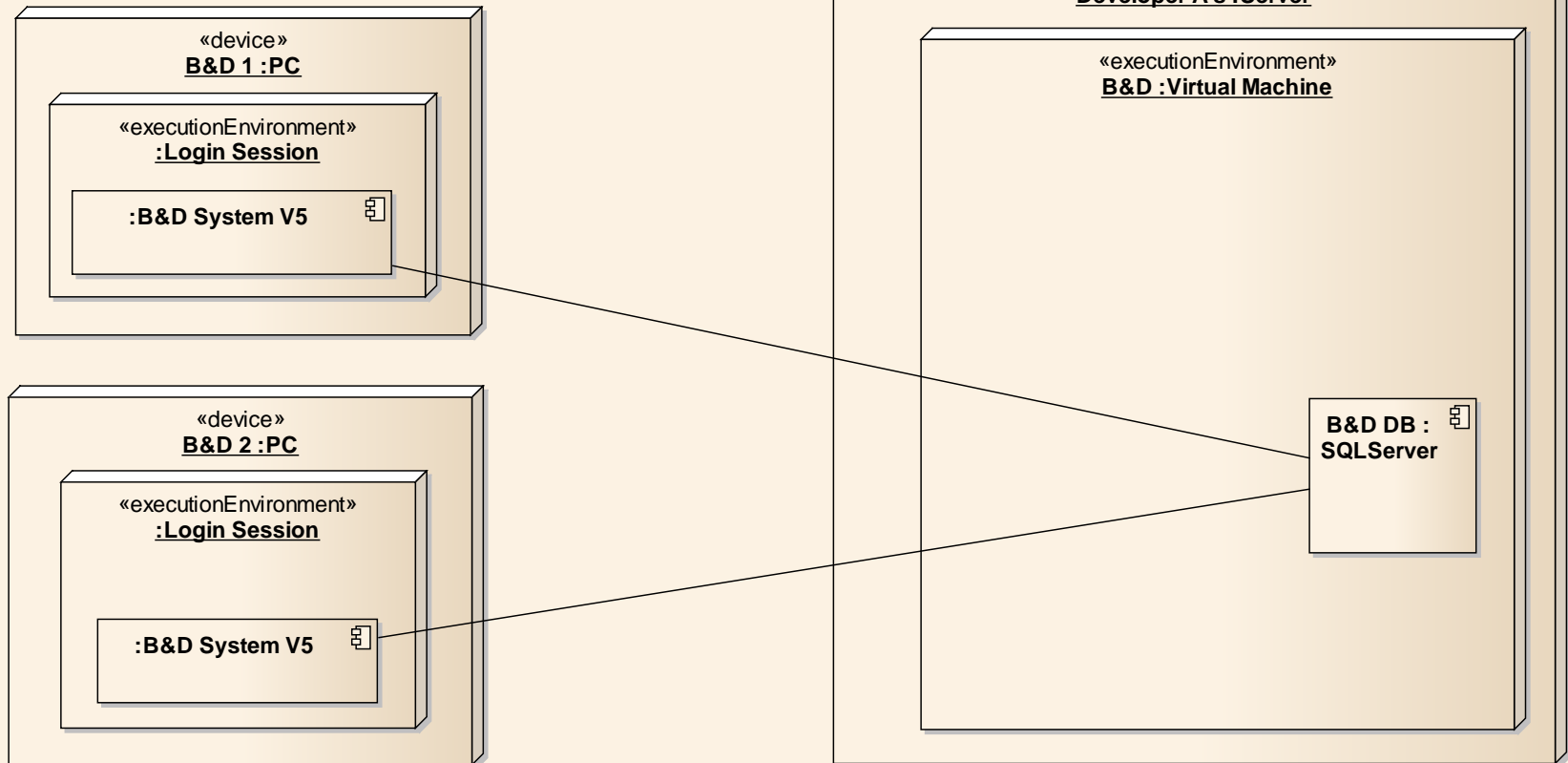
- ❑ Modify existing: developer identified
- ❑ Responsiveness: eliminate use of Remote Desktop
- ❑ Reliability: update networking setup
- ❑ Modifiability
  - Make V5 accessible for updates
  - Eliminate V3 by implementing V3\V5 in V5
- ❑ Functionality
  - Add high priority low complexity functionality
  - E.g. invoicing and reporting

# Stage 1

## deployment Stage 1 Deployment

### Bookings and Dispatch

- + B&D DB
- + B&D System V3
- + B&D System V5



# Stage 1 Summary

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## *Stage 1:*

- ❑ Add functionality only in V3 to V5
- ❑ Modify the local environment to support running the V5 Thick Client

## *Benefits:*

- ❑ No more Visual Basic
- ❑ No more running two apps
- ❑ Running locally eliminates Client lag

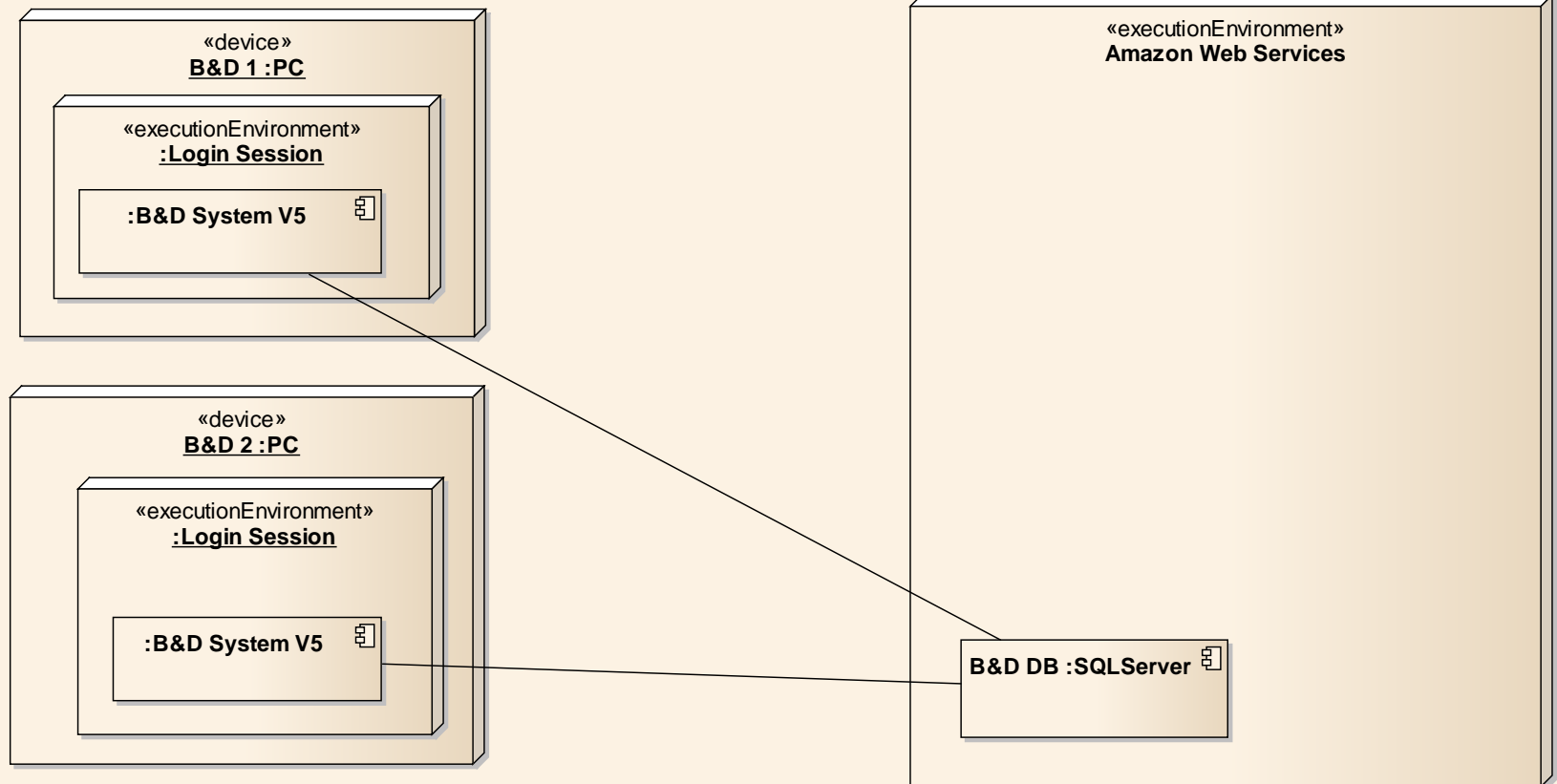


# Stage 2

## deployment Stage 2 Deployment

### Bookings and Dispatch

- + B&D DB
- + B&D System V3
- + B&D System V5



# Stage 2 Summary

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## *Stage 2:*

- ❑ Migrate SQL Server from Developer A's server to Amazon

## *Benefits:*

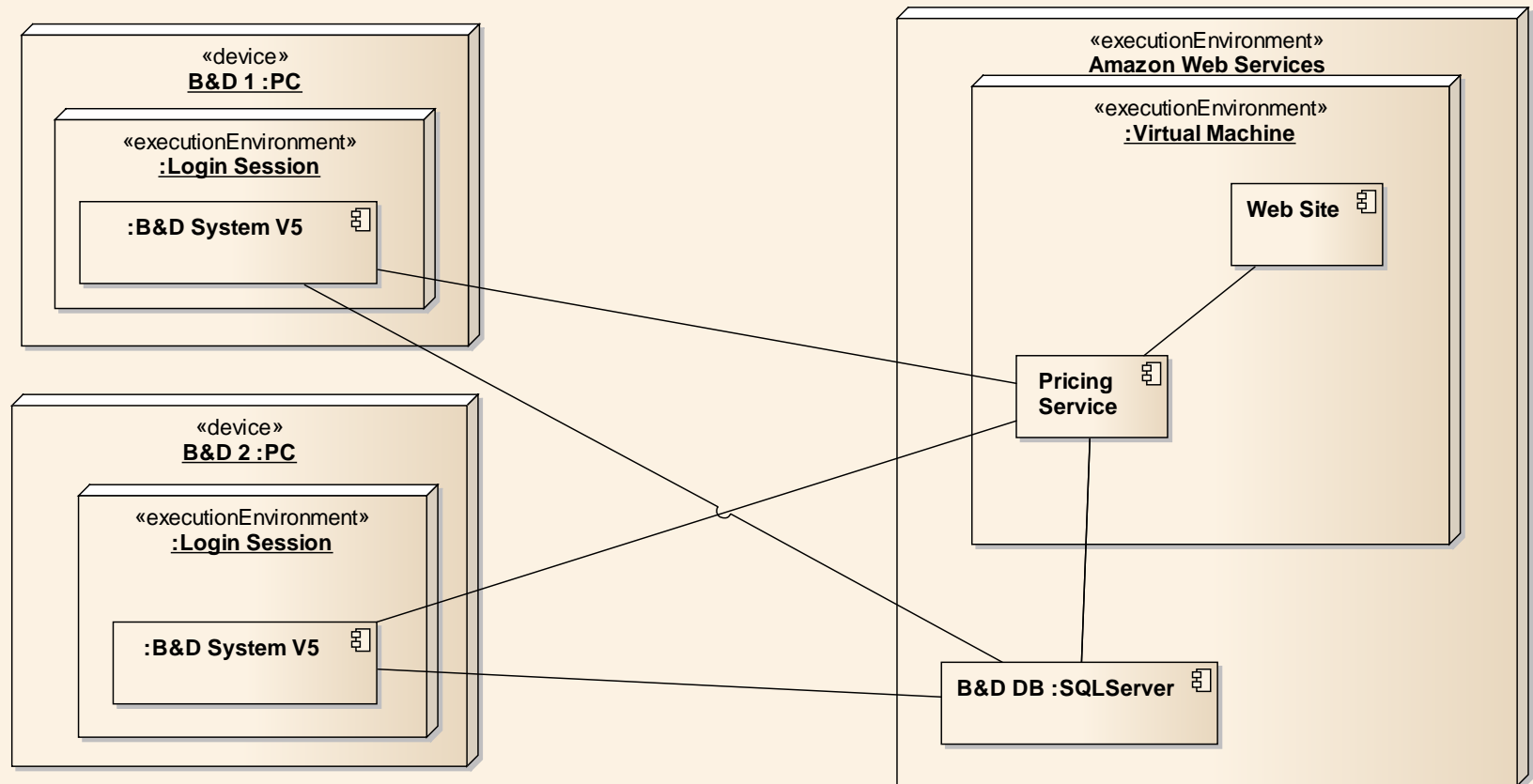
- ❑ No further dependence on Developer A
- ❑ Increased reliability
- ❑ Easy options for increasing backend performance
- ❑ Options for increasing redundancy
- ❑ Reduced cost

# Stage 3

## deployment Stage 3 Deployment

### Bookings and Dispatch

- + B&D DB
- + B&D System V3
- + B&D System V5



# Stage 3 Summary

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## *Stage 3:*

- ❑ Introduce pricing service
- ❑ Replace pricing in existing system with service
- ❑ Make pricing available to customers via web site

## *Benefits:*

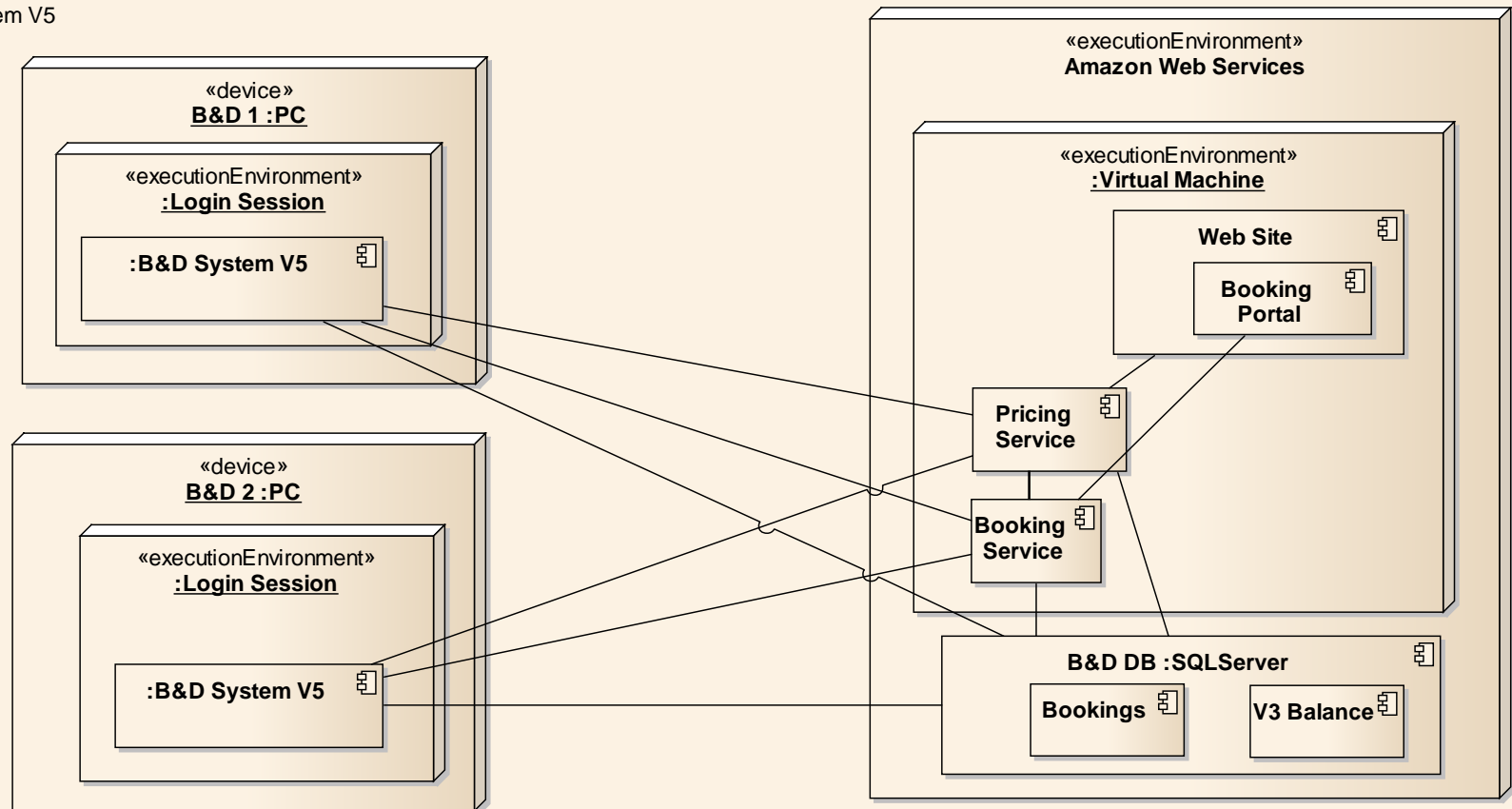
- ❑ Introduction of a service-based architecture
- ❑ Shared single location for services
- ❑ Improved transparency for customers
- ❑ Opportunities for server optimisation

# Stage 4

## deployment Stage 4 Deployment

### Bookings and Dispatch

- + B&D DB
- + B&D System V3
- + B&D System V5



# Stage 4 Summary

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## *Stage 4:*

- ❑ Introduce booking service
- ❑ Replace booking in existing system with service
- ❑ Make booking portal available to customers via web site
- ❑ Partition database to separate out bookings

## *Benefits:*

- ❑ Customers can now make their own bookings (*critical*)
- ❑ Further develop service based architecture
- ❑ Start migration from V3 DB schema and configuration