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Architecture and Deployment Insights Moving from the Lab to Production

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Agenda

- Life Cycle Management
  - From Simple to the Enterprise
    - Security
    - Data Access
    - Scalability
    - Manageability
- Complexity of Implementation between Process, DMZ and Business Networks
- Virtualization
  - Is now the time?
- Bringing it Together

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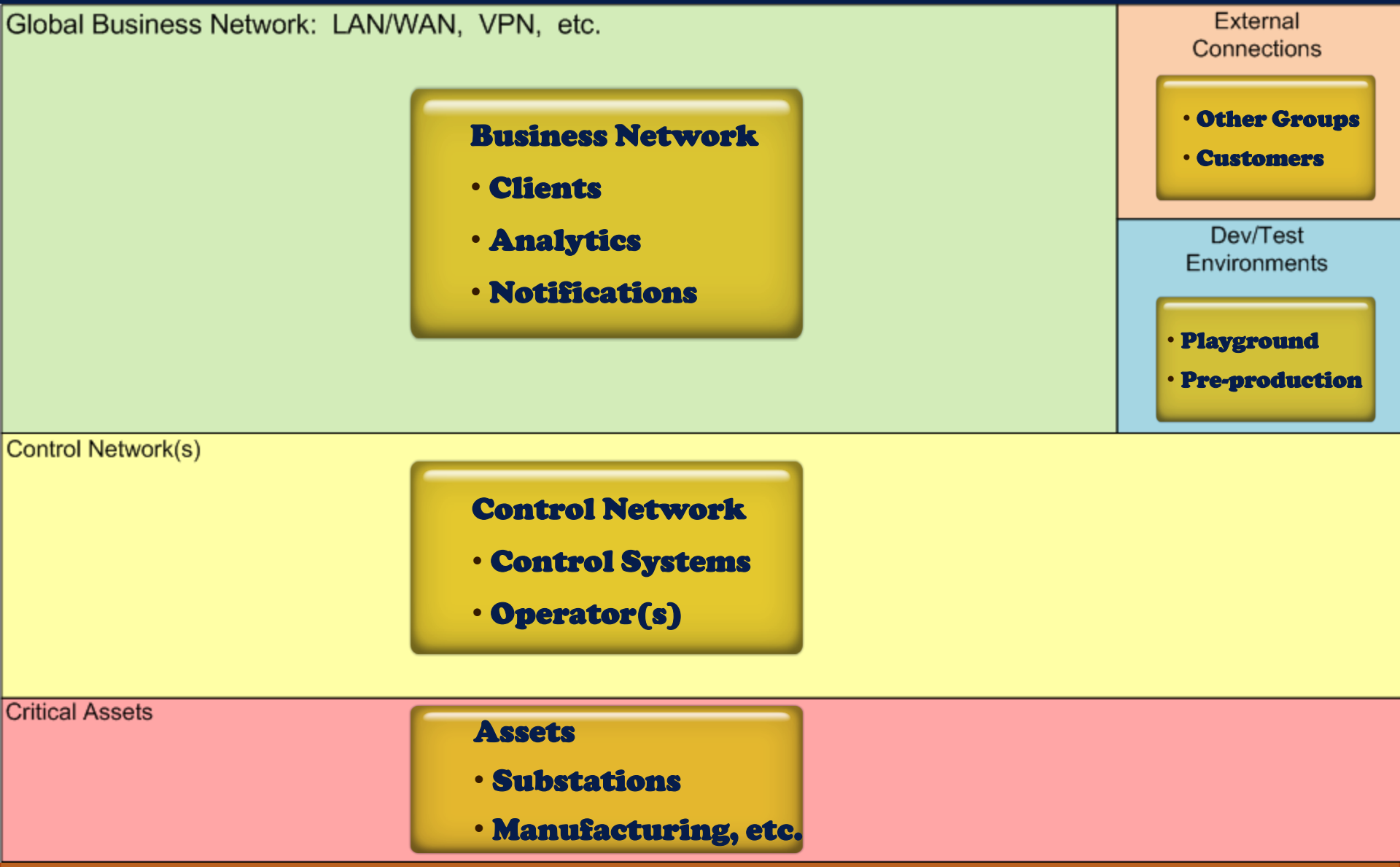
Life Cycle Management



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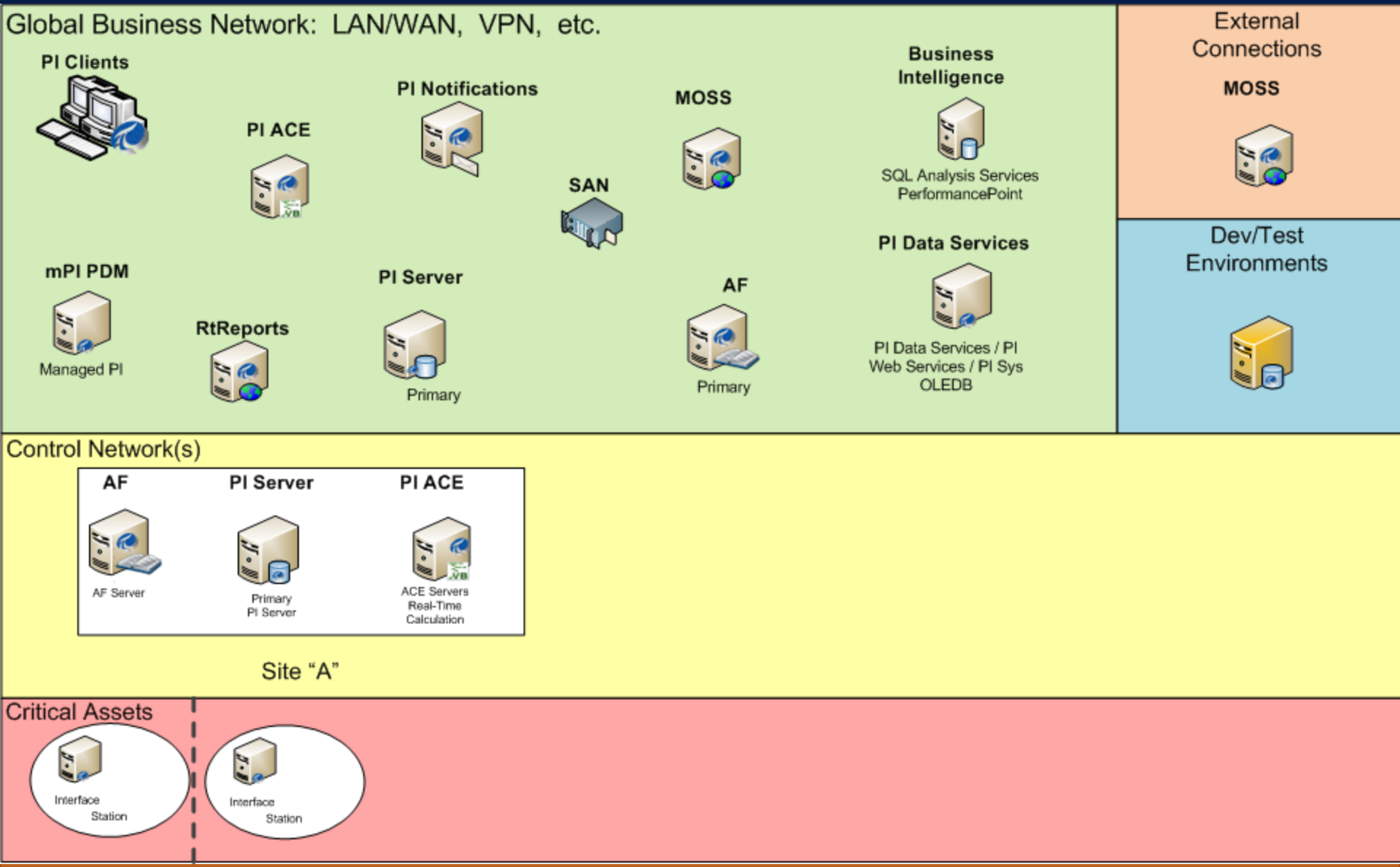
Life Cycle Management



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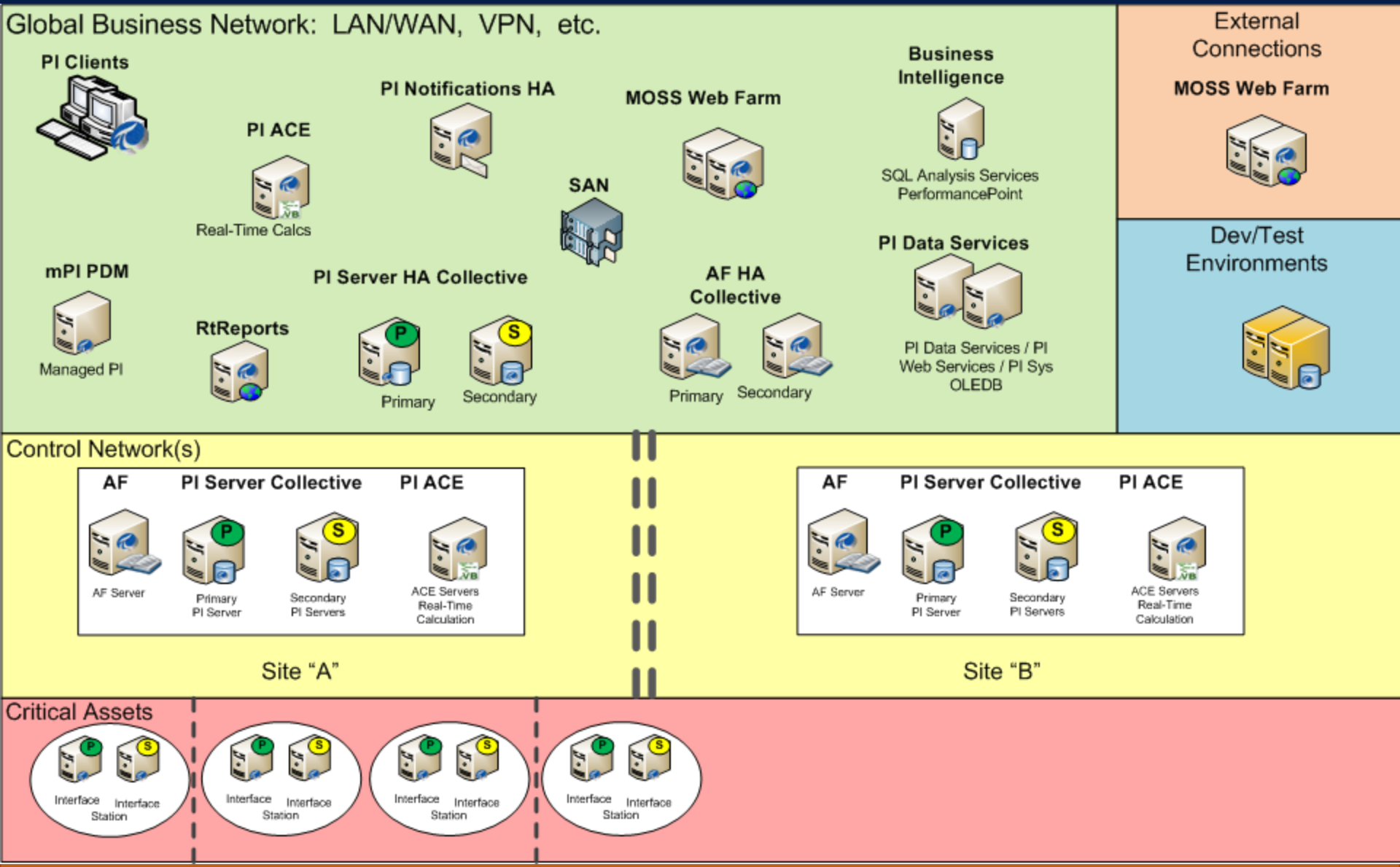
Life Cycle Management



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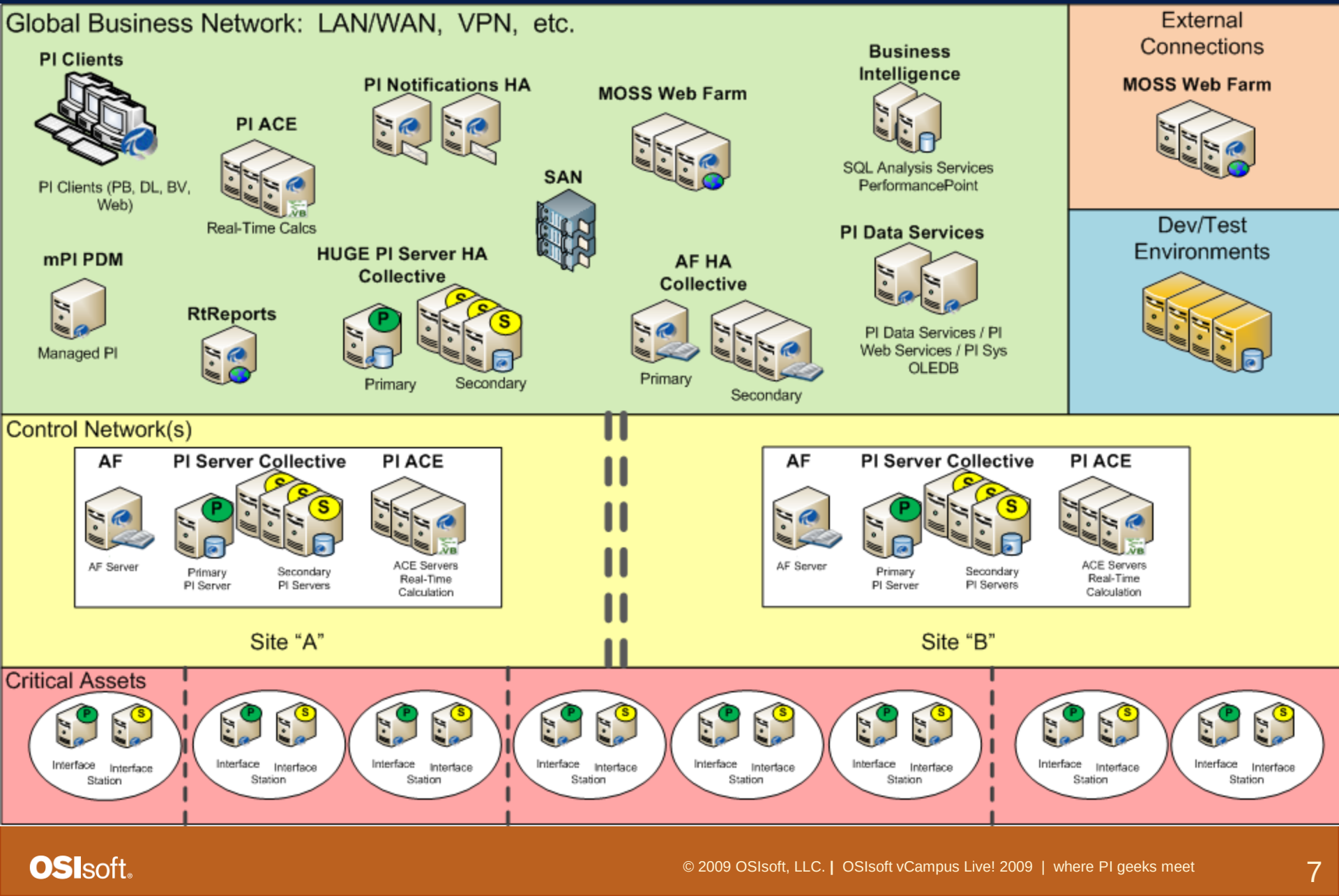
Life Cycle Management



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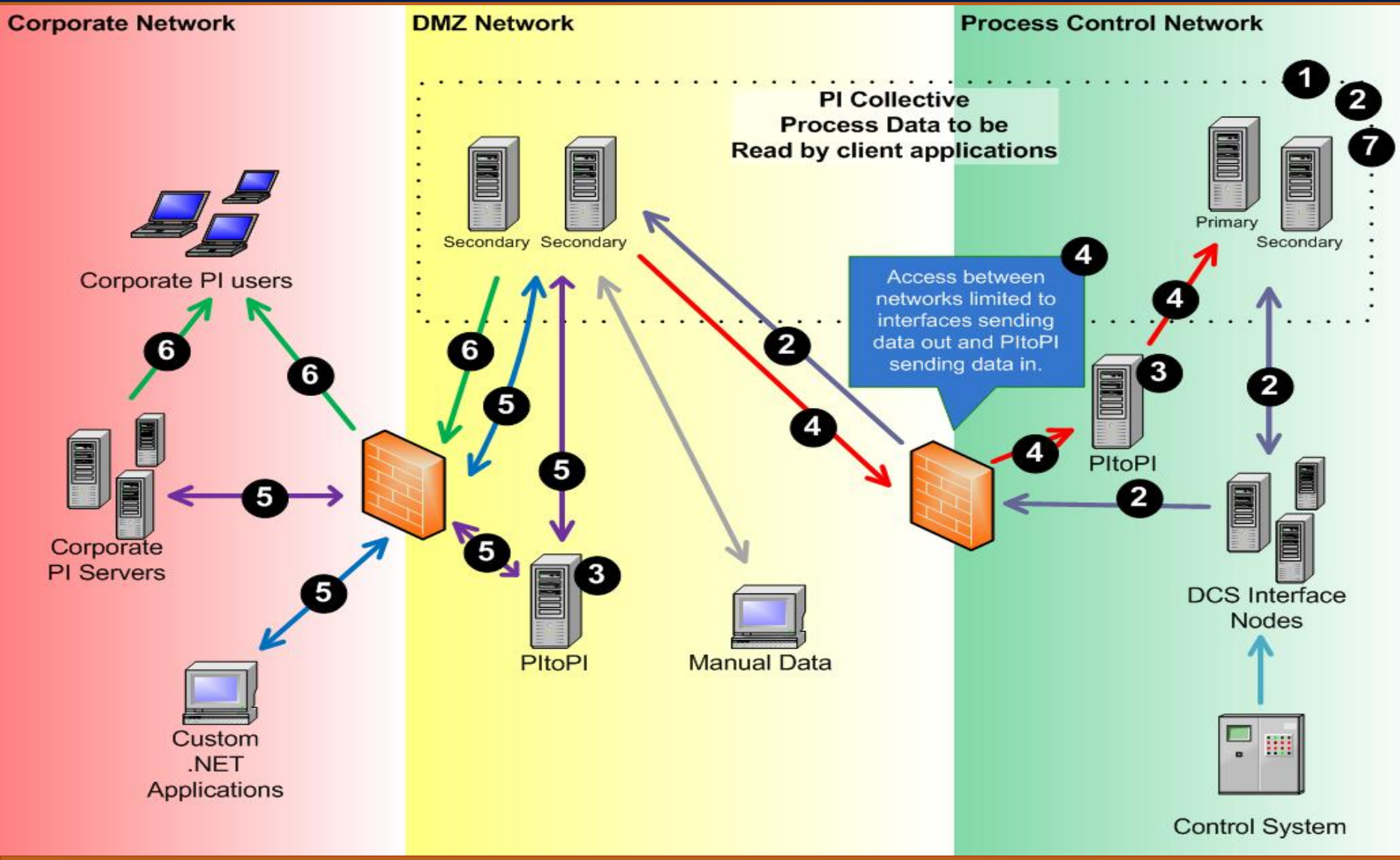
Complexity Between Networks

Complexity Between Networks



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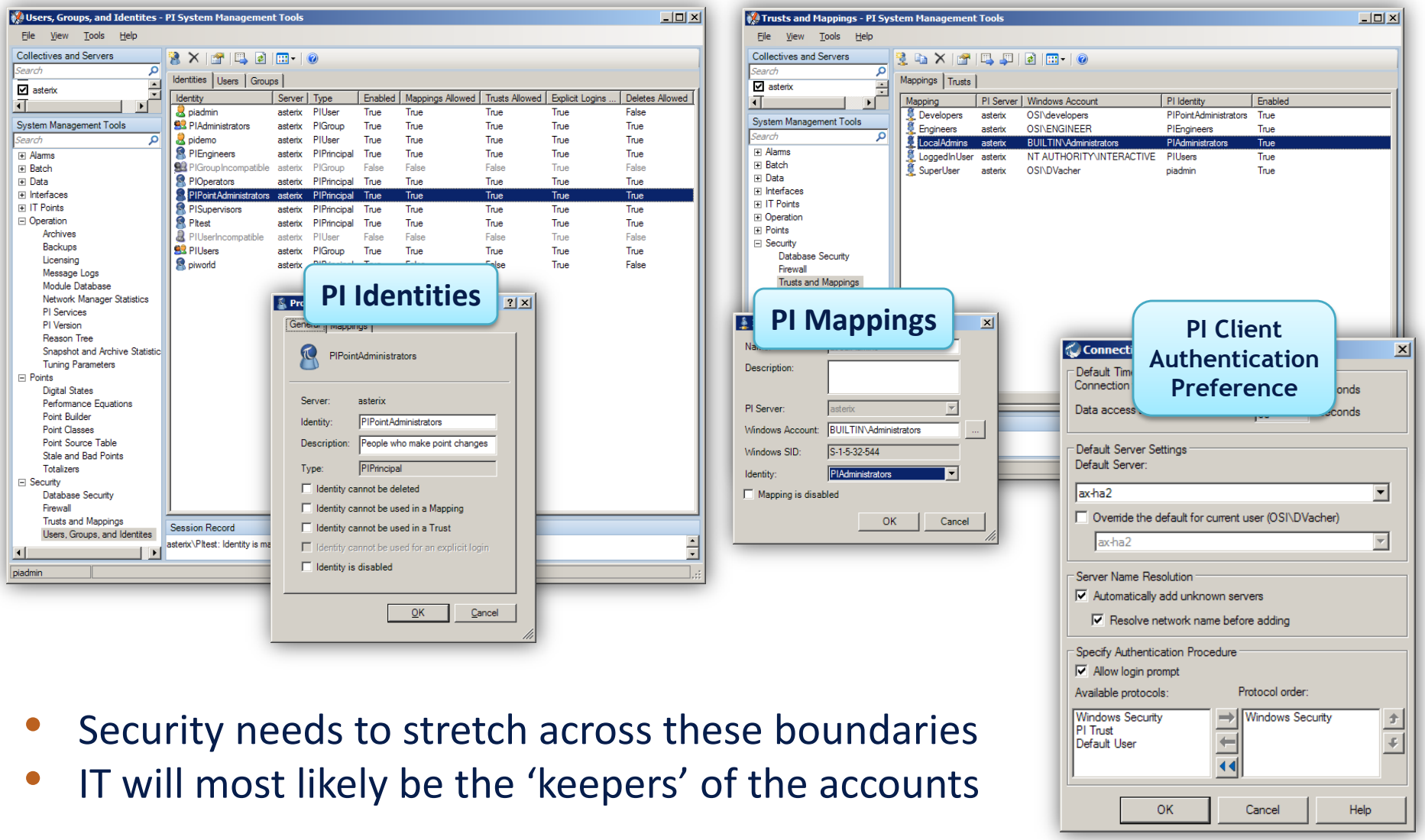
Complexity Between Networks



- Security needs to stretch across these boundaries
- IT will most likely be the ‘keepers’ of the accounts

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High Availability

The Role of High Availability

- Make the data “highly available”
  - PI Server
  - Interfaces
  - Calculation/analysis engines
  - Network
  - Client(s) & Software
- Failover, Backup, Disaster Recovery

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The Role of High Availability

- What you need to consider
  - How do you measure, in a test environment, the performance between physical and virtual systems?
  - How do you create a representative architecture in development and test environments?
  - High Availability must provide “failover” for identified components… it’s more than just PI Servers and Interfaces.

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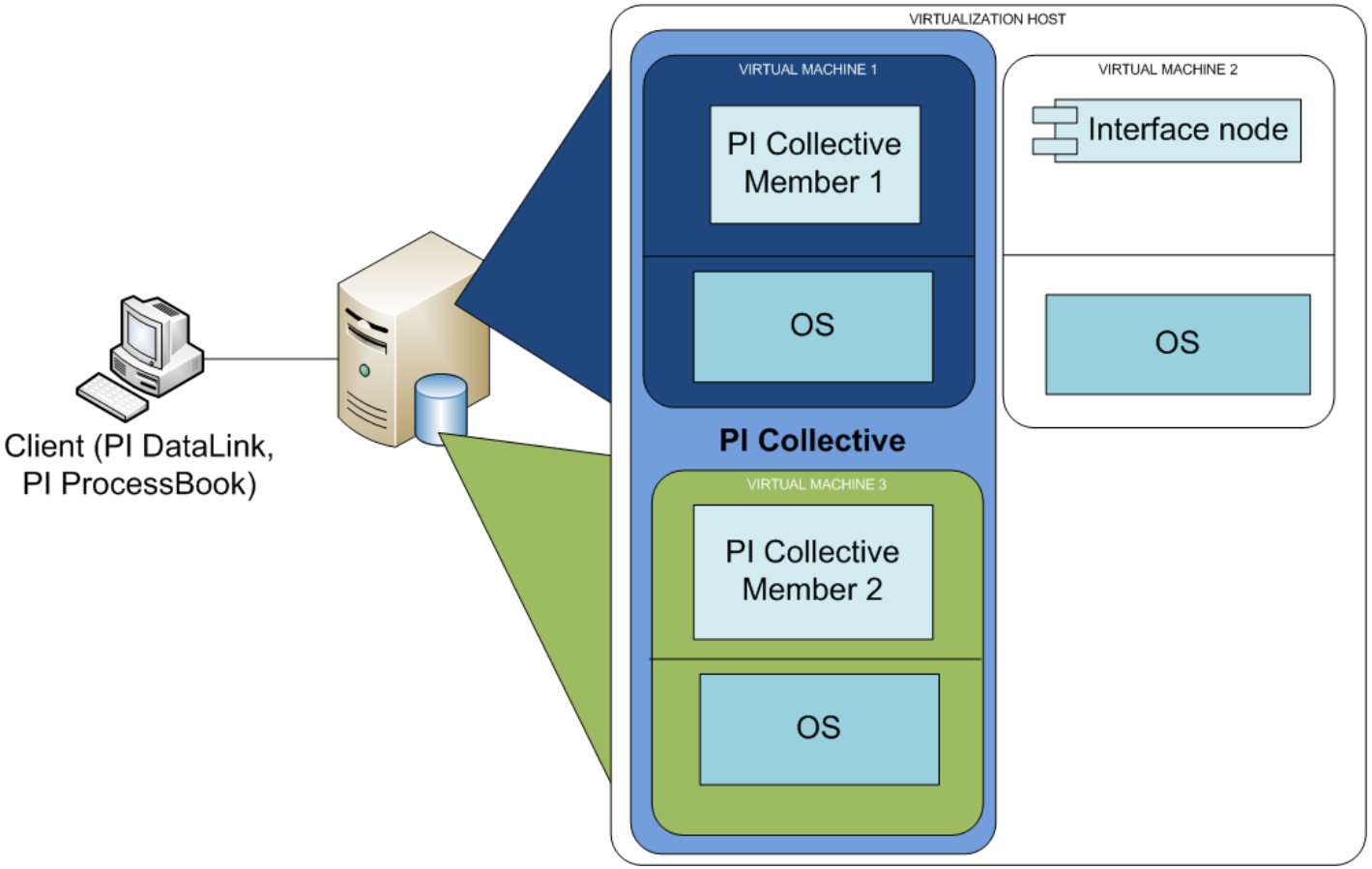
The Role of High Availability

- High Availability in a Development Environment



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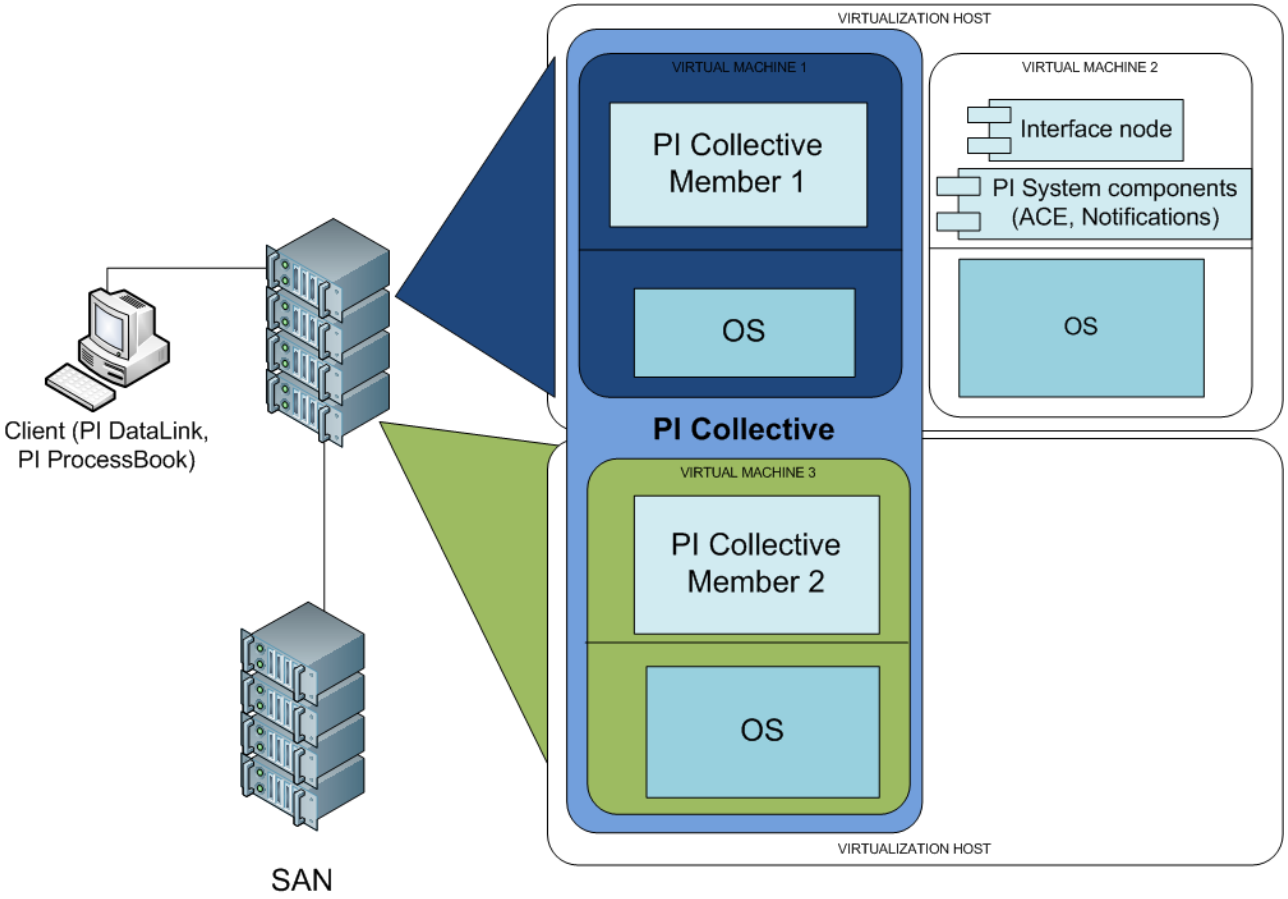
The Role of High Availability

- High Availability in a Production Environment



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Virtualization

Virtualization

- Servers
- Storage
- Applications

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The Role of Virtualization

- Systems and applications when you need them
- Easy setup and deployment of machines
- Easy upgrade
- Backup, Disaster Recovery, Failover
- Allocate resources as needed…
  - Memory, Processor, Disk, etc.
- Migration
  - Physical to Virtual (P2V)
  - Host to Host

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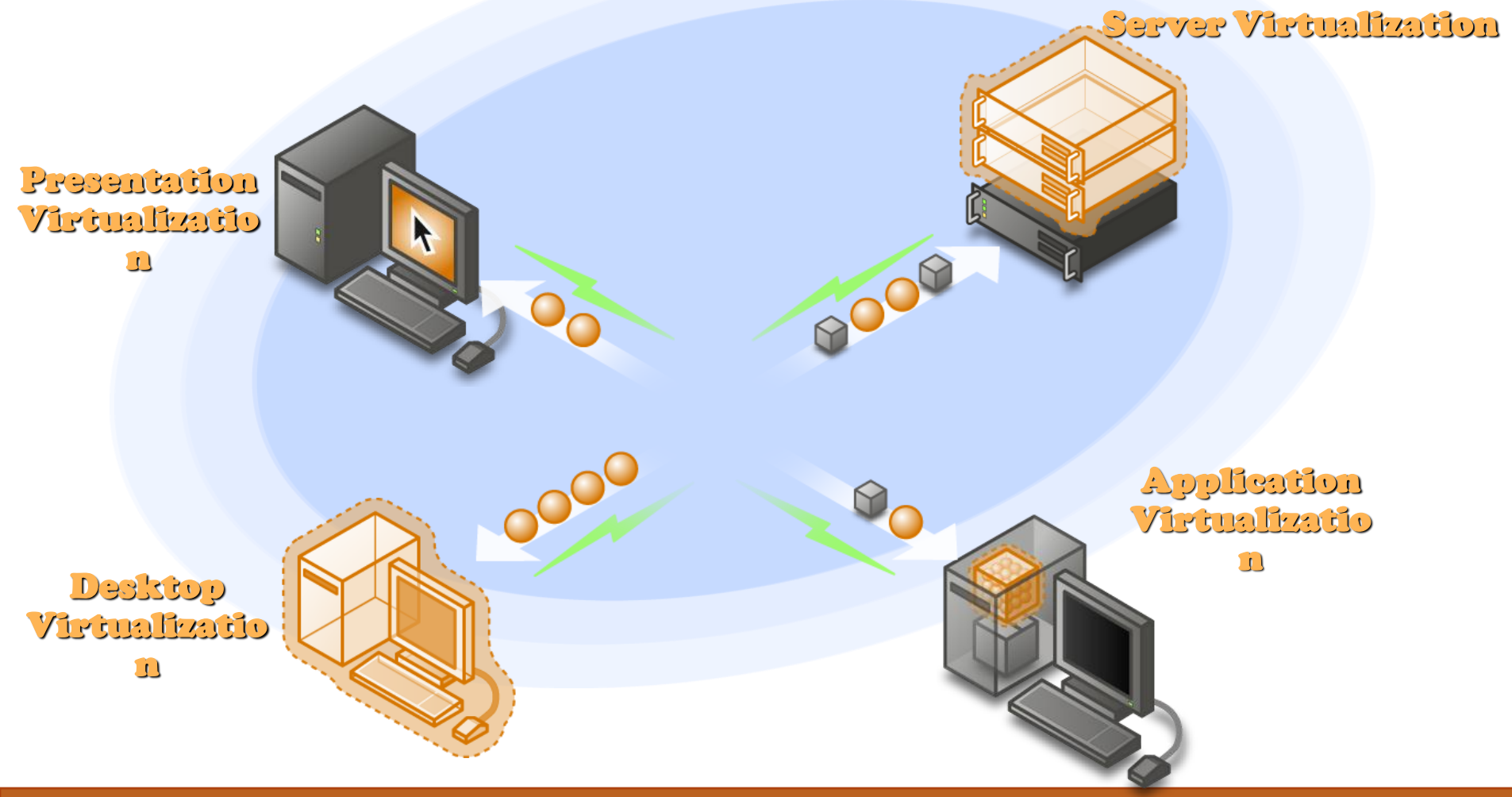
Virtualization

- Need to understand what virtualization means to you



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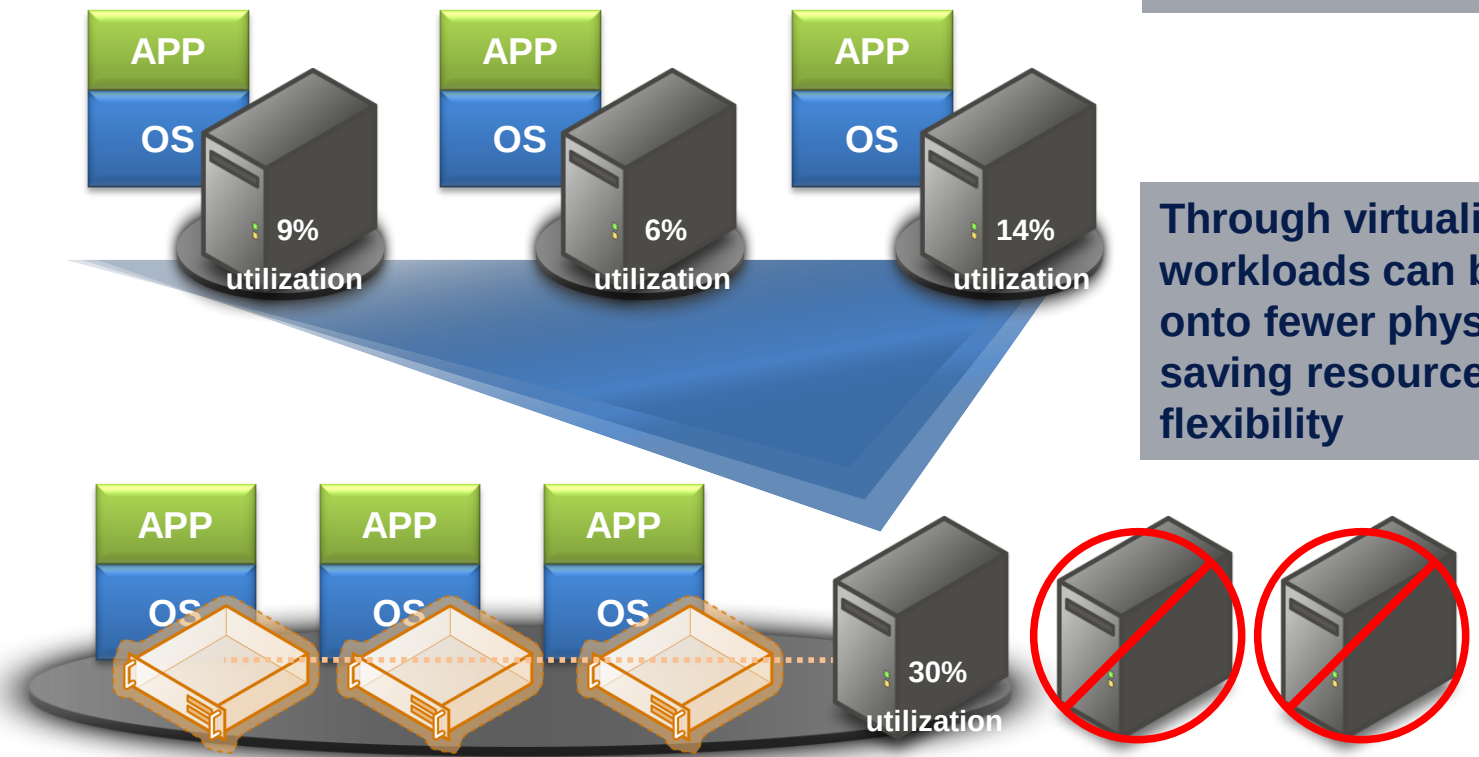
Example: Server Virtualization



Typically server workloads only consume a small fraction of total physical server capacity, wasting hardware, space, and electricity

Through virtualization, these workloads can be consolidated onto fewer physical servers, saving resources and increasing flexibility

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Benefits of Virtualization

- Provide higher availability by supporting redundancy
- Easily migrated to production
- Rapidly deliver adaptive and reliable IT services
- Storage efficiency can lead to higher storage utilization
- Provide relief from disk subsystem access in virtualized environments (biggest performance hit on virtual host)
- Provide virtual-machine consistent backups for data stores and the ability to restore virtual machines in a few clicks

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Benefits of Virtualization

- One point of installation makes deployment simpler
- Access to applications secured
- All users have the same version of the software; no version or compatibility issues
- Casual users do not need to install anything to get started

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The Role of Virtualization

- What you need to consider
  - What's the right virtualization approach or balance?
  - How do you create a representative architecture in development and test environments?
  - How do you measure, in a test environment, the performance between physical and virtual systems?

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Bringing it Together

- Even if the initial deployment is simple, you must have an idea of what the end-state will be
- Know the rules for compliancy and IT requirements
- Build a test environment that represents production, as closely as possible, in order to test scalability and performance
  - However, sometimes a limited production run is the only way around this
- If virtualization is an option, know what you're trying to achieve
- Scalability is more than tag count and scan class

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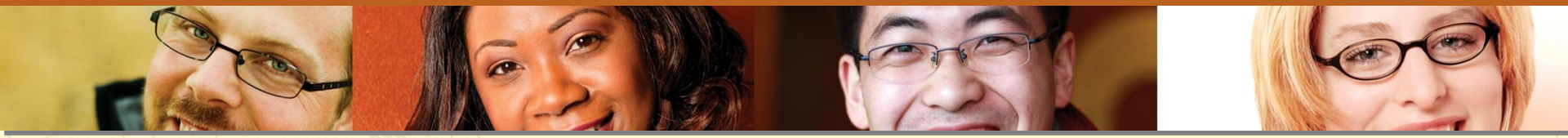
THANK YOU.



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