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AMERICAS 2008



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P R I O N

Cost Effective Teamcenter Operations Best Practice Presentation

Abhay Chaturvedi

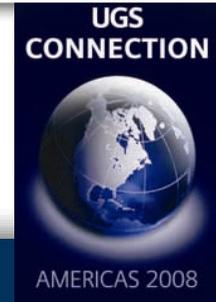
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Content of Presentation



1. PRION Group – Our PLM Experience
2. Business Challenge in PLM Data Migration
3. Approach, Tools & Best Practices for Migration
4. Results & Benefits to Customers
5. Other related Projects, References & Contact data



Content of Presentation

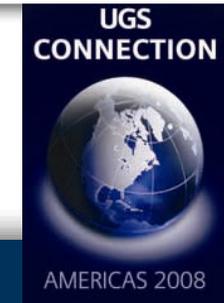


PRION Group – Our PLM Experience

Who we are – and who we serve



PRION – Worldwide PLM service provider



PRION GmbH and PRION Consulting Services AG, Stuttgart, Germany

PRION Schweiz AG, Zurich, Switzerland

PRION India Pvt. Ltd., Bangalore, India

PRION USA Inc, Los Angeles, California, USA

PRION France SARL, Paris, France, start in Q3 2008

PRION UK Ltd, London, United Kingdom, start in Q3 2008

150+ associates

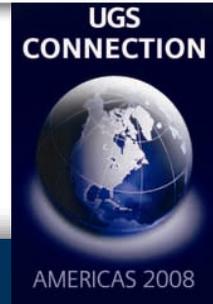


Customer Locations Worldwide

<u>Germany:</u>	Hamburg, Munich, Stuttgart, Dresden, Cologne, Nuremberg, Ruesselsheim, Ingolstadt, Regensburg, Bamberg, Wolfsburg, Karlsruhe
<u>Switzerland:</u>	Zurich, Basel, Winterthur
<u>UK:</u>	Blackpool, Derby
<u>France:</u>	Paris, Belfort
<u>Italy:</u>	Genoa
<u>Spain:</u>	Madrid
<u>Poland:</u>	Elblag, Wroclaw
<u>Turkey:</u>	Istambul
<u>China:</u>	Shanghai
<u>India:</u>	New Delhi, Bangalore, Mumbai, Pune
<u>USA:</u>	Grand Rapids, Seattle, Pasadena/LA, Detroit



PRION Group PLM Services & Experiences



PLM Strategy & Process Consulting

- PLM strategy formulation based on company business objectives
- PLM potential analysis: Measurable benefits
- Optimizing the engineering process chain: Lean Development, Six Sigma, Critical Chain
- Next Generation PLM: Optimizing the value of existing PLM systems
- Design of PLM solutions: From strategy to process level concepts, from requirements to application landscape definition
- PLM process modelling: Efficient product development processes, agile engineering, change management based on CMII

PLM Application Implementation

- UGS Teamcenter Enterprise
- UGS Teamcenter Engineering
- UGS Teamcenter Manufacturing / eMPlaner
- UGS Teamcenter Systems Engineering
- UGS Teamcenter Project
- Teamcenter Integration of CAD systems like CATIA, UGS, AutoCad, I-Deas, SolidEdge
- Cost-optimized Onsite/Offshore Model for application implementation with PRION India

Data Migration

- *PRIMA*: PRION Metadata migration tool to TC Eng & Ent from any legacy system
 - Minimum downtime of production systems, flexible & reversible
 - automated & cost-effective framework
 - Proven and tested many times up to several terabytes of data volume
 - Can be used for arbitrary source and target systems
 - Setup in one week – then ready to go
- CAD Model Translations: with *Elysium*: CATIA V4/5, I-Deas to UG, e.g.

PLM & IT Training

- PLM Systems: Teamcenter Enterprise/Engineering, Teamcenter Administration, Customizing, Core Application, ThinClient-Customizing, Advanced System Architecture & Performance Tuning
- CAx: UGS NX, I-Deas, SolidEdge
- Oracle Databases: Administration, SQL Access Optimization, Backup & Recovery, Server Tuning
- UNIX and Windows Administration

PLM & IT Operations

For the following applications:

- UGS Teamcenter Enterprise/Engineering,
- Databases: Oracle, Microsoft SQL server
- all UNIX derivatives and Windows versions
- Hotline/HelpDesk and 1st, 2nd, 3rd-Level-Support
- Use of an ITIL-based operations concept
- Operation in Onsite/Offshore Model if required

Software Development

- Project Management services
- System integration for web applications, EAI, client/server-systems + interfaces
- C++, C#.Net, Visual Basic
- Java, XML, VXML
- Visual Studio 5/6, TestDirector
- Databases: Oracle, MS SQL Server, MS Access, MySQL, Postgres
- Reporting & long term archive solutions
- ITIL-based organizational consulting
- CMMI based onsite/offshore SW develop.

Selection of satisfied customers:



Business Challenge in Teamcenter Operations

1. Challenges of **setting up** a Teamcenter Application

Typical Questions:

- How to size the Architecture
- Which Platform
- Which TC Architecture is best for my environment and my business needs
- **How to optimize costs**

Typical Tasks:

- Setup of test, integration & development environments
- Setup of a production environment
- Rollout Clients

2. Challenges of **operating** Teamcenter Applications

Typical Questions:

- How to prevent performance bottlenecks
- How to integrate Teamcenter into the company's IT infrastructure
- **How to optimize costs**

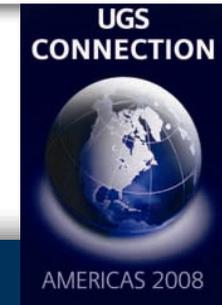
Typical Tasks:

- Incidents and Problems
- Changes
- Monitoring & Reporting
- Releases
- User Setup
- Client and Server setup
- Backup & Recovery

Solution Provided

Teamcenter Setup & Operations

Solution Provided – Teamcenter Setup



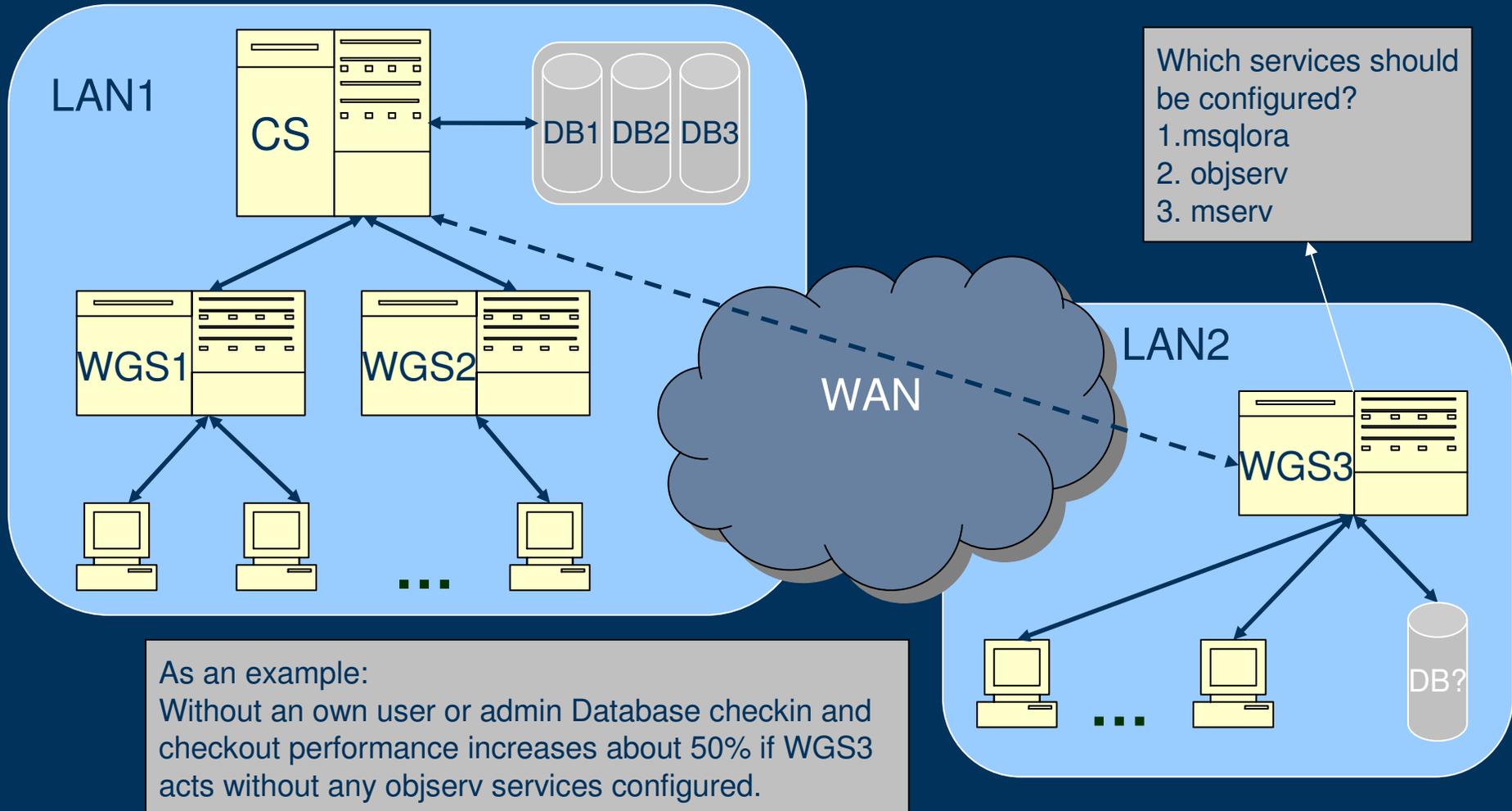
1. Choosing a Teamcenter Architecture

What kind and how many servers?

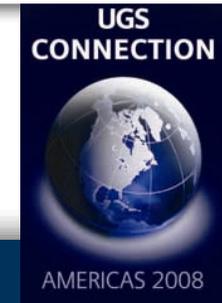
- What kind of servers and how many layers depends on your business needs and your (global) IT infrastructure. No standard solution is possible.
- ✓ Best practices:
 - WAN locations (often) need own user databases and their own bulk data locations.
 - Make performance tests with different kind of setups before rolling out a solution.
 - Try to keep it simple! More distributed databases needs a proper customization and a proper setup of the database scope.

Solution Provided – Teamcenter Setup

Make performance tests with different kind of setups!



Solution Provided – Teamcenter Setup



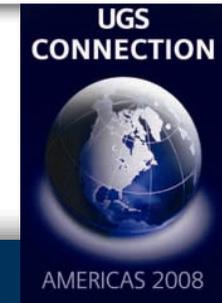
2. Choosing a Platform

- What kind of platform depends on your (global) IT infrastructure. No standard solution is possible.

Best practices:

- Chose a platform which is already implemented in your company
- Take care of HP/UX because they will end their PARISC technology and switch to itanium which is fully supported with TC 2005.
- Try to keep it flexible and scalable. The growth of your company must not be limited by servers.
- Don't use intel for servers because of limits in the number of CPUs per server and because of a lack in clustering and failover technology.

Solution Provided – Teamcenter Setup



3. Sizing a Teamcenter Architecture

How to size your environment?

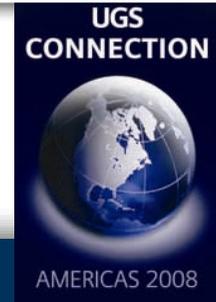
- To size your Teamcenter environment you have to know your business needs and how many users will use the system. No standard solution is possible.

Best practices:

- Make performance and stress tests with your prototype environment.
- Keep your system scalable. Avoid bottlenecks which can't be opened wider.
- Don't mix number of licenses with concurrent users
- A global environment with two splitted user groups in two different timezones could be sized slimmer than an environment with the same number of users in one timezone.
- Check high consuming functions (Reports, lifecycle actions of big product structures) and how often they are used.
- Charge every Teamcenter service instance (objserv, OS_SERV) with at least 30MB

Memory

Solution Provided – Teamcenter Operations



Best solution (in terms of operations)

The following capabilities should exist:*

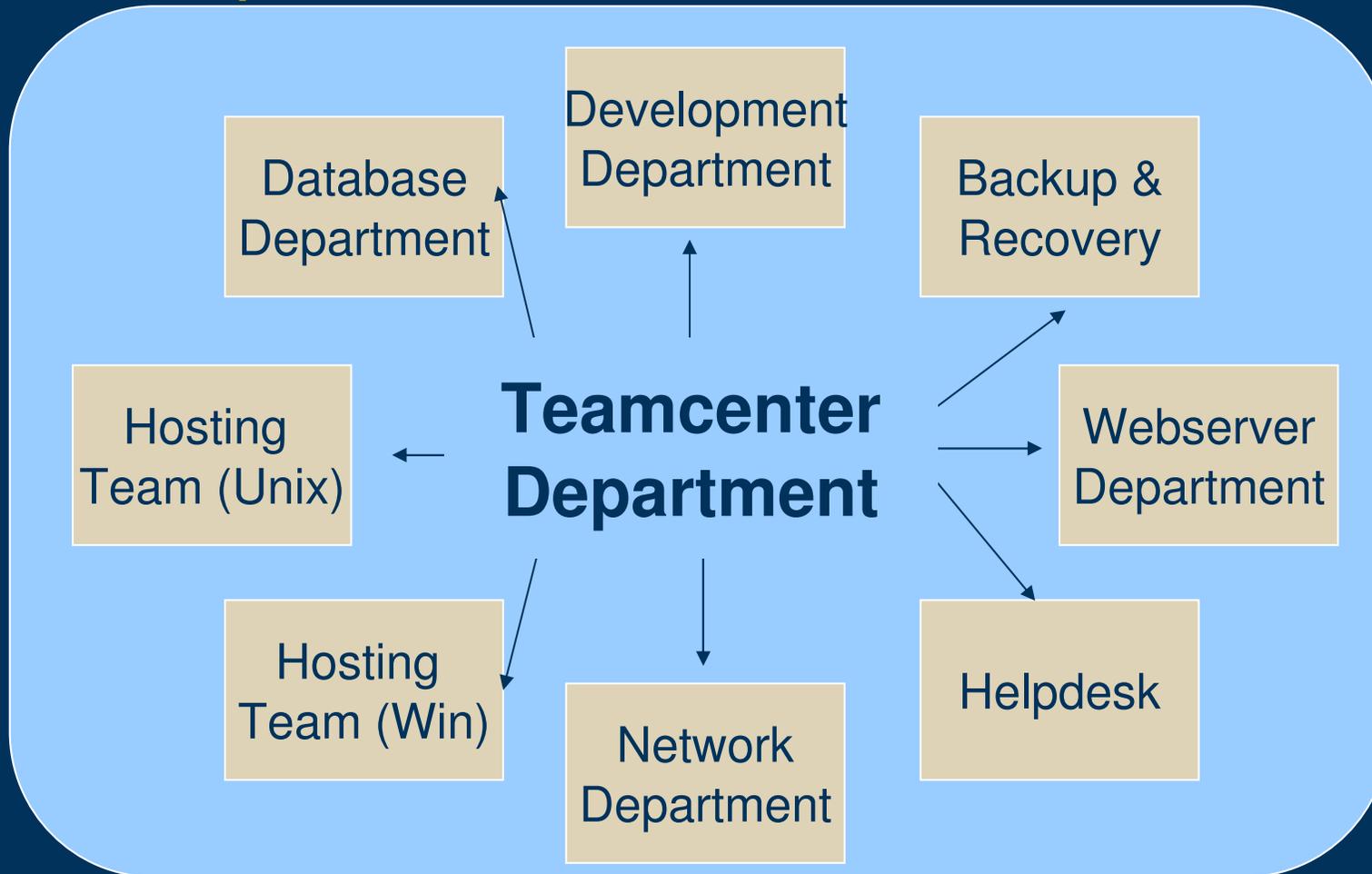
1. Database Administrators
2. Hosting specialist (Unix Administrators)
3. Client specialist (windows)
4. Network specialist
5. Web Server specialist
6. Developer
7. Teamcenter Administrators
8. Backup & Recovery

* numbers depends on the size of the environment and the support time

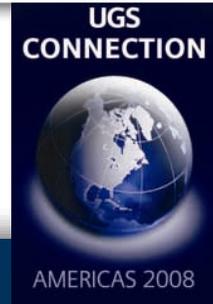
Problem: Expensive and not very cost efficient

Solution Provided – Teamcenter Operations

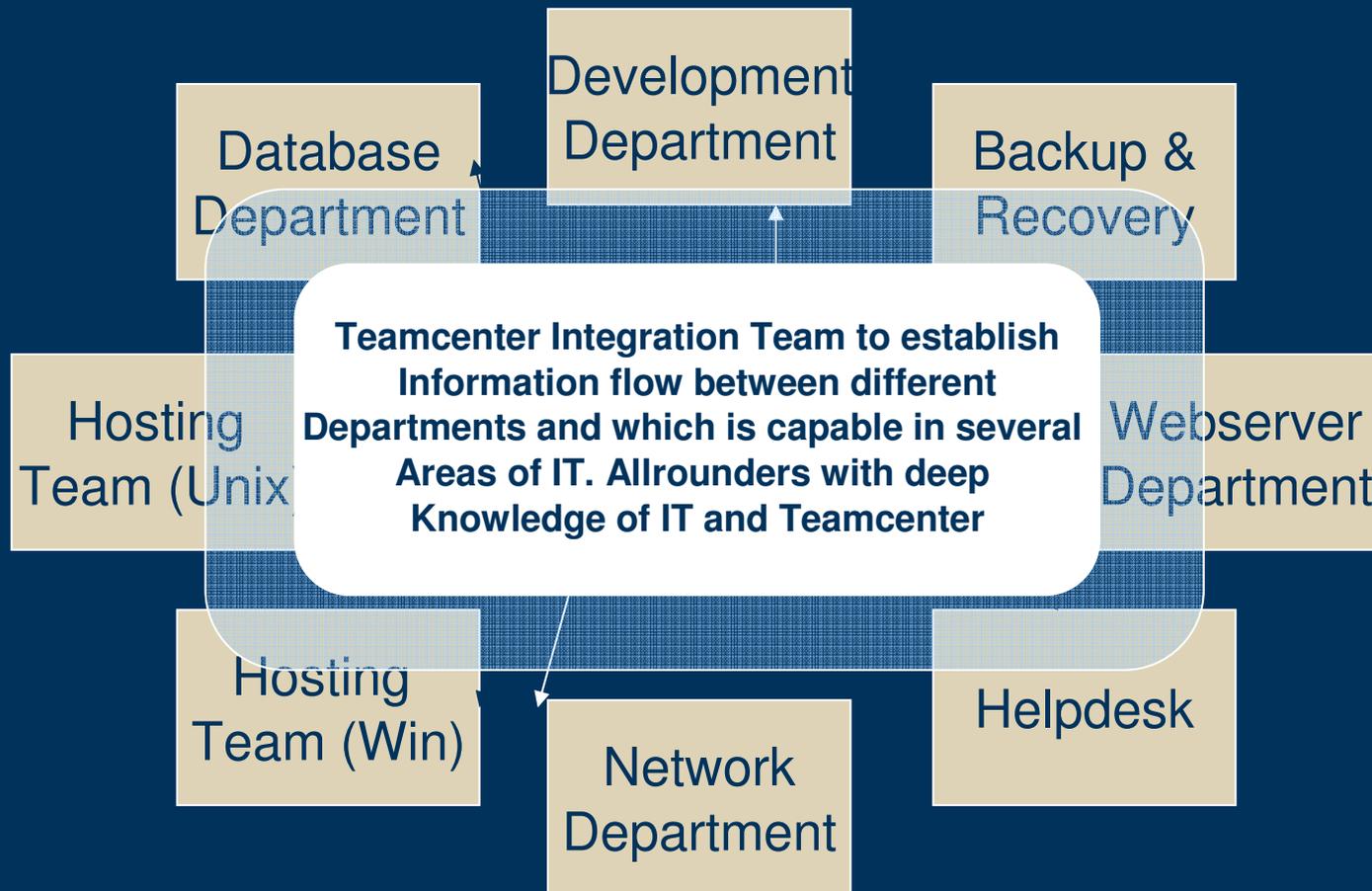
Best but expensive



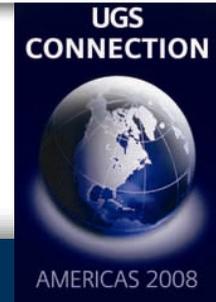
Solution Provided – Teamcenter Operations



Best practice (in terms of operations and cost efficiency)



Solution Provided – Teamcenter Operations



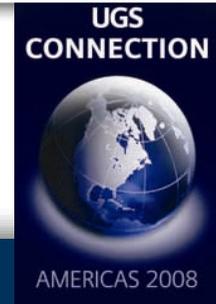
Issue:

Several departments are involved with their own interests and budgets.
How to avoid shifting of problems.

Solution:

- ✓ Setup processes and clear responsibilities between departments.
- ✓ Define OLAs & SLAs between departments.
- ✓ PLM department has to act as an integrating department.

Solution Provided – Teamcenter Operations



Issue

At the beginning of the project a lot of people are in doubt and skeptic about the new project. But how guarantee user satisfaction and the beginning of the PLM project.

Solutions

- ✓ Setup incident management as soon as possible. One has to react appropriate with issues and incidents of users.
- ✓ The Helpdesk (1. or 2. Level) has to be capable to understand business needs of the users and not just acting as a router to the operations team.
- ✓ Problem management helps to avoid incidents.
- ✓ Proper change and release management help to increase the quality of the software, at the beginning of the project a lot of changes and fixes may be necessary.

Solution Provided – Teamcenter Operations



Issue

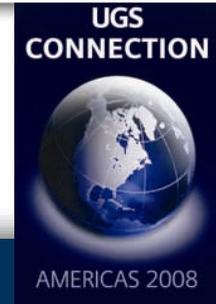
How to avoid bottlenecks in your system?

Solution

- ✓ Setup capacity management which shows quick and sufficient information to setup your system in proactive way and helps to avoid bottlenecks.

Results & Benefits to Customers

How to optimize costs ?



1. During Setup Phase

Focus: Avoid too small and too big hardware and gaps of capability.

- ✓ Chose flexible and scalable solutions.
- ✓ Make stress tests and performance tests.
- ✓ Join it smoothly into your (global) IT strategy.
- ✓ Use your own capabilities where possible and analyze your gaps to be filled with external suppliers or new employees at the beginning.

2. During Operations

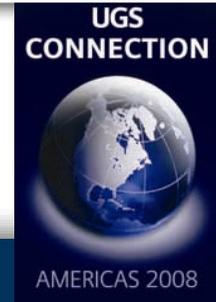
Focus: Be aware of user satisfaction and report your environment properly.

- ✓ Use your own standards.
- ✓ Setup asap. incident & problem management, change and release management and capacity management (in this order).
- ✓ Use an integrator to control information and communication between different departments.
- ✓ Think about Outsourcing if your IT strategy does not reflect the operations of a teamcenter application.

Other related Projects, References & Contact data



Why PRION Group understands Data Migration



Other Onshore /Offshore project experience

- ✓ High-Tech Electronic: Teamcenter Enterprise to built/run complex Quality Mgmt System (USA <> India)
- ✓ Automotive Tier 1: Implementation of PLM solution to manage Crashtest Data (Germany <> India)

Customer Value Statement :

“The Onsite / Offshore model PRION provided us on a very cost attractive basis the functionality as specified and needed. The project time plan has been hit on the point.”

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THANK YOU !

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