Capitalize On The Power Of An IBM Solution

Leverage Tivoli Solutions For Chargeback Practices In A Dynamic Infrastructure



How do we charge back for IT service in a virtualized environment?



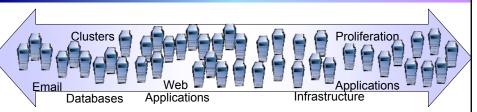
Data Center Manager

Tivoli Usage and Accounting Manager can track actual costs and charge departments.



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Traditional Accounting For Dedicated Servers



- Accounting is simplistic
 - ▶ One application = one server = one client that pays
- Systems are underutilized
 - ▶ Hidden costs are difficult to track
 - Excess hardware, software, labor, power, etc.

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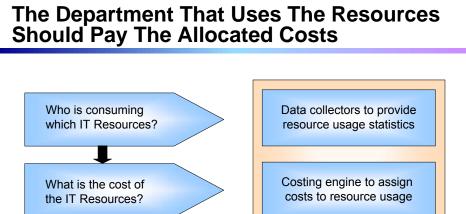
Accounting In A Virtualized Environment



- How to allocate costs fairly?
- How to prove that the resources were used?
- Need actual usage data for accurate accounting!
 - Virtualized resources

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How to allocate the costs to different departments

Reporting engine to provide

invoices and reports

Provided by IBM Tivoli Usage and Accounting Manager

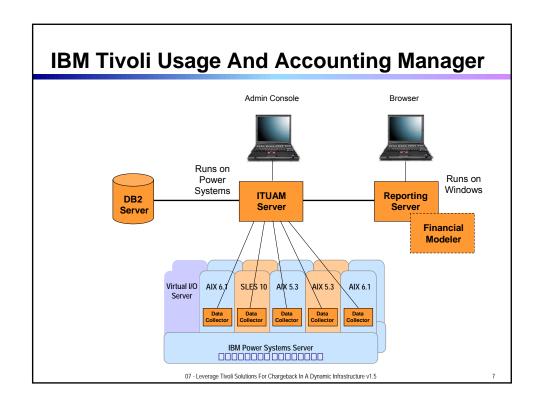
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IBM Tivoli Usage And Accounting Manager (TUAM)

- Resource usage data collectors
 - Collectors are available for operating systems, middleware and applications
 - ▶ Uses native utilities to collect and forward usage information
 - Physical or virtual resources
- Costing engine
 - ▶ Assigns cost equal to usage multiplied by the calculated rate
- Reporting engine
 - Creates invoices and reports

Neither Oracle, Hewlett Packard, nor Microsoft have this capability.

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	(Collectors for ITUAM	
ITUAM Base Collector Pack	Windows Server Linux AIX Solaris HP-UX	• RedHat • SuSE • IBM i • z/VM	VMware Citrix Storage AIX Advanced Accounting Virtual I/O Server
TDS for z/OS Base	Mainframe Storage	• CICS • Print	• DB2
ITUAM Enterprise Collector Pack	SAP WebSphere DB2 Lotus Notes Cisco Netflow Proxy Servers	Tivoli Storage Manager Apache Oracle Microsoft Exchange Print Veritas Netbackup	TPC for Data IIS SQL Server Sendmail File Transfer Sybase (Windows)
ITUAM Service Offering Extensions	ERP Systems Network External Services Internet/Telecom	other Databases Human Resources Operating Systems	3 rd Party Systems Output Devices Storage Sub-systems

Model For IT Accounting In A Consolidated Data Center

- Identify data center monthly costs (fixed and variable) in budget categories and create a charge-back model
- For each budget category:
 - 1. Measure usage of resources by each business unit
 - Calculate a rate such that rate = monthly cost / total usage
 - Assign costs to each business unit assigned cost = client usage X rate
- Generate an invoice by totaling assigned costs for each budget category

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Example: Determining Monthly Costs

Acquisition (Purchase Costs Recovered over 5 Years)		Environmentals		Maintenance		Staff	
Server	\$145,116	Power	\$4,214	Server	\$33,564	Admins	\$82,889
Network	\$7,664	Space	\$10,271	Network ¹	\$15,357		
Storage	\$19,744			Storage	\$3,949		
Software	\$16,140			Software	\$1,499		
Services	\$67,399						

Total Annual Costs = \$407,806

Total Monthly Costs that need to be Charged Back = \$33,984

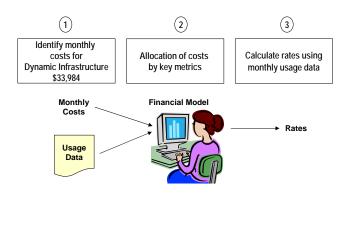
Combined Annual Connectivity Maintenance and Annual Ethernet Network Charges

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DEMO: TUAM Financial Modeler Example

Use the "Financial Modeler" tool to calculate the rates required to recover the monthly costs



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TUAM Reporting Server

- Creates Charge Back reports for departments
 - View invoices online
 - Drill down for additional detail without assistance
 - ➤ A wide range of reports are provided standard with the product
 - Custom reports can easily be created for specific needs
 - ► Export reports to a file
 - Spreadsheets, pdf files, email
 - ▶ Publish reports to the web
 - Report format, spreadsheet, pdf files

DEMO: TUAM Reporting Server Example ■ The demonstration system is Virtual I/O Server Pavroll shared by multiple clients IBM Power Systems SMP Server ■ The usage report shows how the costs are distributed for the month Each invoice shows a breakdown of charges for the month The drill-down capability shows specific resource consumption for the month ${\tt 07}$ - Leverage Tivoli Solutions For Chargeback In A Dynamic Infrastructure ${\tt v1.5}$

