Extending Your Mainframe for More Business Value

Extend IT Service Management

Managing IT Service Issues in the Data Center

We are overwhelmed with IT service issues each day. One of my key staff is retiring.

My new employees don't have the experience to handle them.

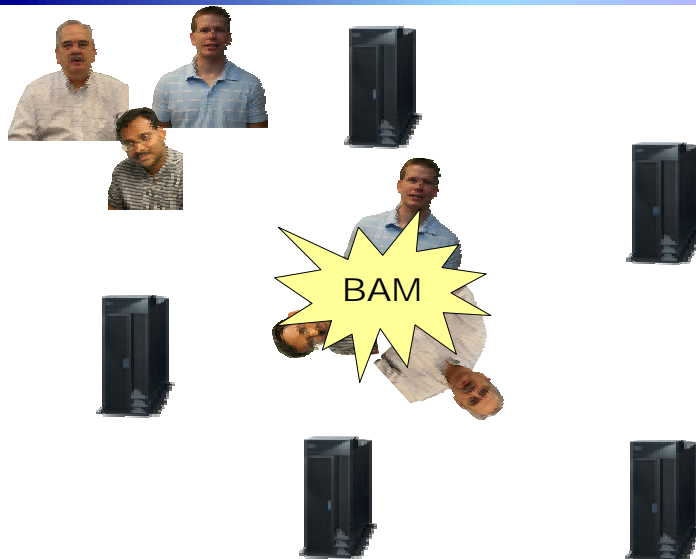**Service Oriented Finance Data Center Manager**

New Employee

Resolving IT Service Issues is Difficult

- **It's a people process!**

- **Challenges**

  - ► Lack of Skills: Staff turnover, knowledge scope, experience level

  - ► Growing Complexity: Disparate technologies infrastructures

  - ► Lack of Visibility and Manual Processes: Silos of people, process, information, technology

  - ► Rapid, Constant Change: Industry consolidation, technology convergence
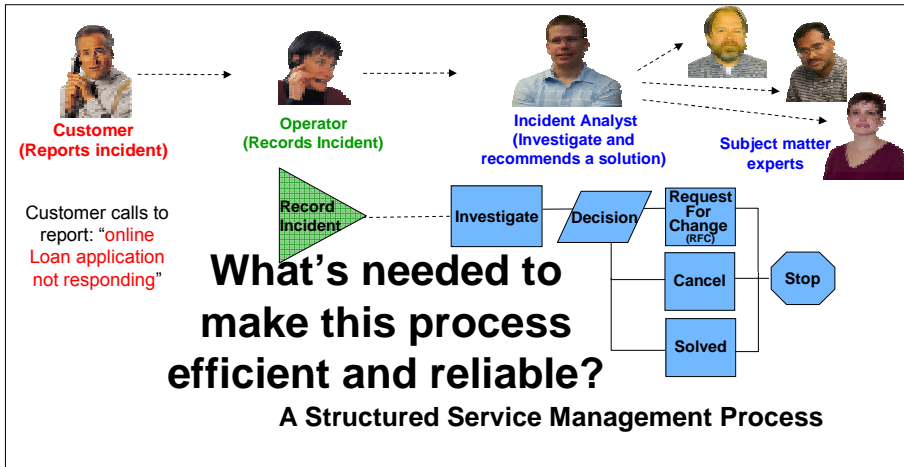
- **Consequences**
  - ► Delays, rework, dropped problems
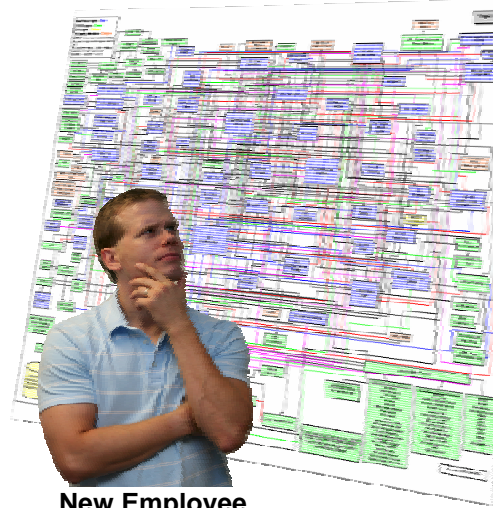
New Employee

Ad Hoc Response to Service Requests are Inefficient

BAM

Many People May be Needed to Resolve an IT Service Issue

Customer
(Reports incident)

Operator
(Records Incident)

Incident Analyst
(Investigate and recommends a solution)

Subject matter experts

Customer calls to report: "online Loan application not responding"

Record Incident → **Investigate** → **Decision** → **Request For Change (RFC)**

Cancel → **Stop**

Solved

What's needed to make this process efficient and reliable?

A Structured Service Management Process

IBM Prescriptive Approach to IT Service Management

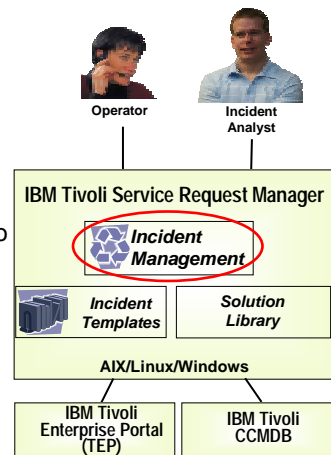| Visibility	Control	Automation
What is actually installed in my environment?	**Structured process to resolve issues**	**Use tools to automate repeating tasks**
Respond faster and make better decisions	*Improve quality and reduce mistakes*	*Lower costs and build agility*

IBM Tivoli Service Management Center for System z - Visibility, Control, Automation

End User → **Operator** → TSRM → **Incident Analyst**	TBSM TEP	Other Operational Mgmt Products
Trouble tickets workflow	Monitor service levels / Monitor system operations	Execute repairs

CCMDB
Configuration Information
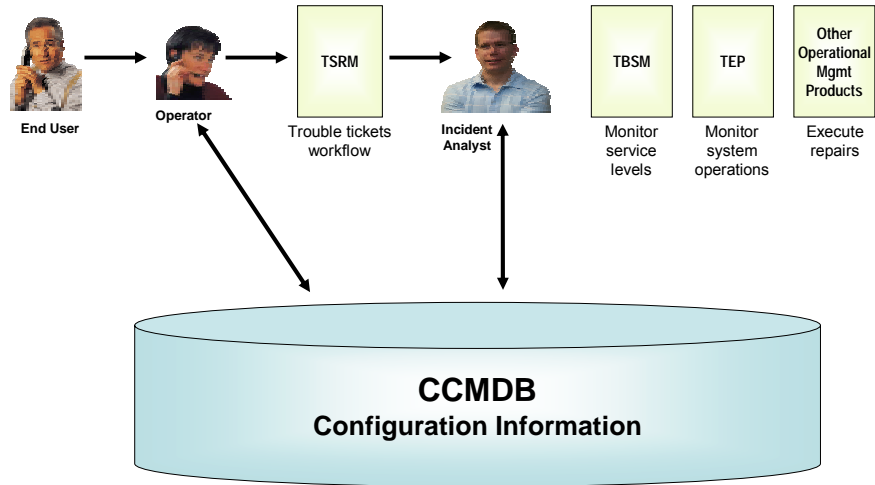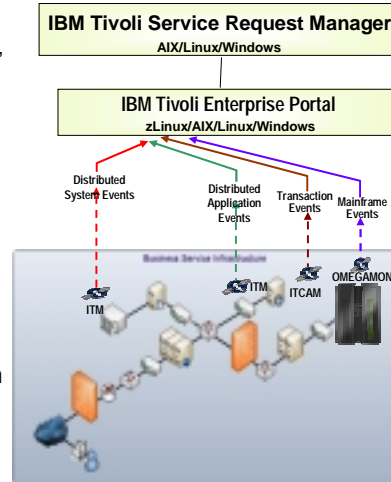

IBM Tivoli Service Request Manager

- Central point to control your service requests for help, information and service

- Create incident templates for common service desk calls and library of reusable solutions
  - ▶ Use templates to quickly create tickets for incidents, problems, changes
  - ▶ View updates and search library for solutions to solve problems quickly

- Automates incident management process
  - ▶ Integrates with Operational Management products to automate tasks (for example via IBM Tivoli Enterprise Portal)
  - ▶ Integrates with IBM Tivoli Change and Configuration Management Database (CCMDB) to accurately assess IT infrastructure and to process changes
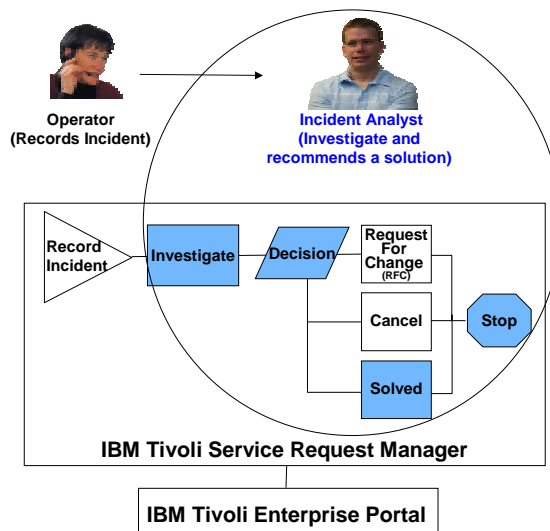
Operator   **Incident Analyst**

IBM Tivoli Service Request Manager
Incident Management
Incident Templates   *Solution Library*
AIX/Linux/Windows

IBM Tivoli Enterprise Portal (TEP)   **IBM Tivoli CCMDB**

Let's focus on incident management process!

Tivoli Enterprise Portal (TEP)

- Service status/health from various event sources, including:
  - Mainframe events from OMEGAMON, NetView, System Automation for z/OS, Workload Scheduler for z/OS
  - Distributed system and application events from Tivoli Monitoring
  - Transaction events from Tivoli Composite Application Manager
  - Events from 3rd party monitors

- Detect incidents with *situations*
  - Out-of-the-box supplied *situations* include combination of metrics and thresholds to trigger, identify, notify and solve problems
  - Built-in situation editor allows to customize

- *Expert advice* helps obtain detailed explanation of problems and recommendation for resolution

- *Take action* to automatically resolve recurring problems by running existing or customized scripts

IBM Tivoli Service Request Manager
AIX/Linux/Windows

IBM Tivoli Enterprise Portal
zLinux/AIX/Linux/Windows

Distributed System Events | Distributed Application Events | Transaction Events | Mainframe Events

Business Service Infrastructure

ITM | ITM | ITCAM | OMEGAMON

DEMO: Incident Analyst

Operator
(Records Incident)

Incident Analyst
(Investigate and recommends a solution)

Record Incident → Investigate → Decision → Request For Change (RFC)

Cancel

Stop

Solved

IBM Tivoli Service Request Manager

IBM Tivoli Enterprise Portal

Investigate
- Incident analyst will select an incident template

- Incident template recommends activities:
  1. Investigate by using **IBM Tivoli Enterprise Portal**
  2. Verify diagnosis that CICS application is not responding
  3. Search for recommended solution in knowledge base

Decision
- Decide on the next step

Solved
- Mark problem as solved

Change Management with IBM Tivoli CCMDB

We worked around that last problem, but we asked our system programmers to make a permanent change.

IBM Tivoli Change and Configuration Management Database (CCMDB) can help you manage your change process... Let me show you!

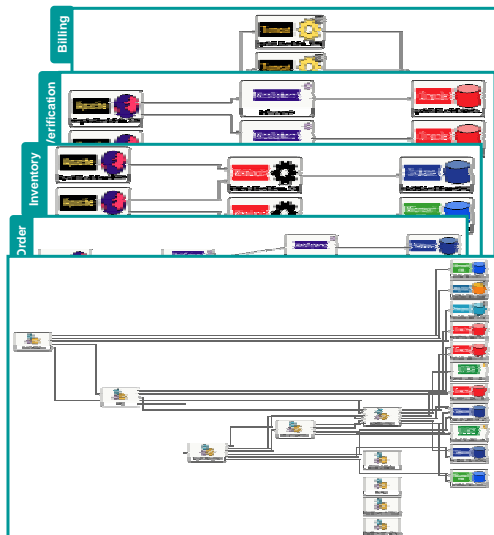**Service Oriented Finance Data Center Manager**

IBM

Start By Gaining Visibility with IBM Tivoli Change and Configuration Management Database (CCMDB)…

Discover and Visualize Cross-tier Transactional Dependencies and Applications

Turn this…

Billing

Verification

Inventory

Order

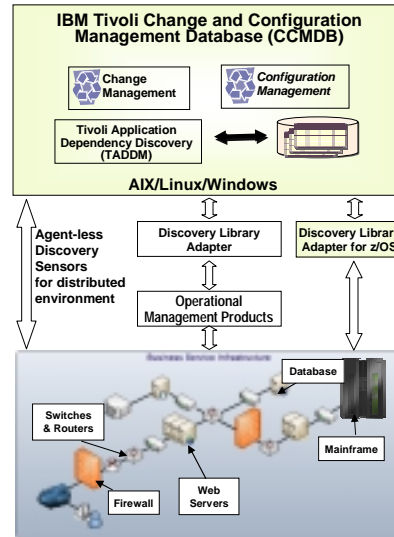**… into clearly understood dependencies**

IBM Tivoli CCMDB – Application Dependency Discovery, Change and Configuration Management

- **Configuration management database**
  - ▶ Discover assets in environment
    - – 200 out-of-the-box sensors discover distributed data center components
    - – Discovery library adapter for z/OS discovers z/OS elements, CICS, DB2, IMS, MQ, WebSphere
    - – Discovery adapters for various other data sources
  - ▶ Gives single master view from disparate configuration data sources
  - ▶ Automated dependency mapping

- **Integrated configuration and change management processes**

IBM Tivoli Change and Configuration Management Database (CCMDB)

Change Management

Configuration Management

Tivoli Application Dependency Discovery (TADDM)

AIX/Linux/Windows

Agent-less Discovery Sensors for distributed environment

Discovery Library Adapter

Discovery Library Adapter for z/OS

Operational Management Products

Database

Switches & Routers

Mainframe

Firewall

Web Servers

06 - Service Management with IBM Tivoli and IBM System z v4.3.ppt   14

IBM Tivoli CCMDB Discovery Capabilities

- Web Servers
  - ▶ Apache
  - ▶ iPlanet/SunOne
  - ▶ IIS
  - ▶ IBM HTTP Server

- Application Servers
  - ▶ **WebSphere (server, cell, node, endpoint, config file, application descriptor)***
  - ▶ WebLogic
  - ▶ JBoss
  - ▶ Apache Tomcat
  - ▶ Lotus Domino
  - ▶ Oracle Application Server
  - ▶ **CICS (region, transaction, program, file)***

- Databases
  - ▶ Oracle
  - ▶ Sybase
  - ▶ **DB2 (subsystem, data sharing group, database, tablespace)***
  - ▶ MS SQL
  - ▶ PostGres SQL
  - ▶ MySQL
  - ▶ **IMS (subsystem, sysplex group, transaction, program, database)***

  ***Discovery on System z**

- Applications
  - ▶ VMWare ESX Server
  - ▶ PeopleSoft (via custom server templates)
  - ▶ SAP
  - ▶ Siebel (via custom server templates)
  - ▶ Netegrity (via custom server templates)
  - ▶ **MQ Series (subsystem, sender/receiver channel)***

- Universal Data Sensor for 3rd Party Applications
  - ▶ CiscoWorks

- Services
  - ▶ MS Active Directory
  - ▶ SunOne Directory Server
  - ▶ WFS (Samba)

- Supported Hosts/OS
  - ▶ **Red Hat Linux, Suse Linux**
  - ▶ AIX, HP-UX, Solaris
  - ▶ Windows
  - ▶ **z/OS (address space, LPAR, z/VM, sysplex, storage)***

- Routers and Switches
  - ▶ Cisco Routers and Switches
  - ▶ Extreme Switches Summit
  - ▶ HP Procure Switches (SNMP supported)

- Firewalls and Load Balancers
  - ▶ Cisco PIX
  - ▶ Netscreen Firewall
  - ▶ Checkpoint Firewall (Nokia and Solaris installs)
  - ▶ Alteon Load Balancer
  - ▶ F5 Big IP Load Balancer
  - ▶ F5 DNS Server

- Storage Devices
  - ▶ Emulex HBAs
  - ▶ Brocade Switches (SNMP supported)
  - ▶ Disk Arrays, SAN switches (via TPC)

- IBM Operational Management Products
  - ▶ **IBM Tivoli OMEGAMON XE***
  - ▶ **IBM Tivoli NetView***
  - ▶ **IBM Tivoli Business Service Manager***
  - ▶ **IBM Tivoli Composite Application Manager (CAM)***
  - ▶ **IBM Tivoli Provisioning Manager***

06 - Service Management with IBM Tivoli and IBM System z v4.3.ppt   15
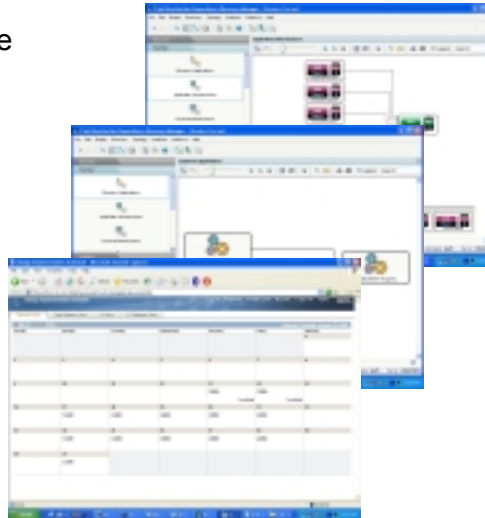
Manage Change With IBM Tivoli CCMDB

- Associate change window with configuration items (managed assets)
  - ▶ Check for schedule conflicts
  - ▶ Prevent changes from occurring outside defined window

- Identify the impact of implementing a change
  - ▶ Identify and record impacted configuration items using the discovered relationship data
  - ▶ Subject Matter Experts can document assessment results
  - ▶ Get Approvals from all stakeholders of impacted configuration items before implementing the change

- Out of the box best practices customizable change management process
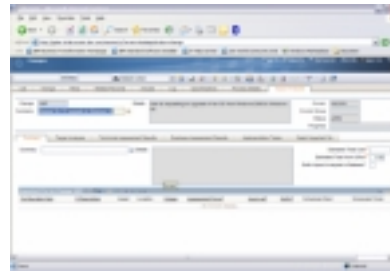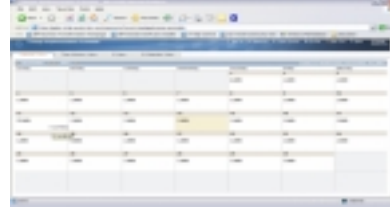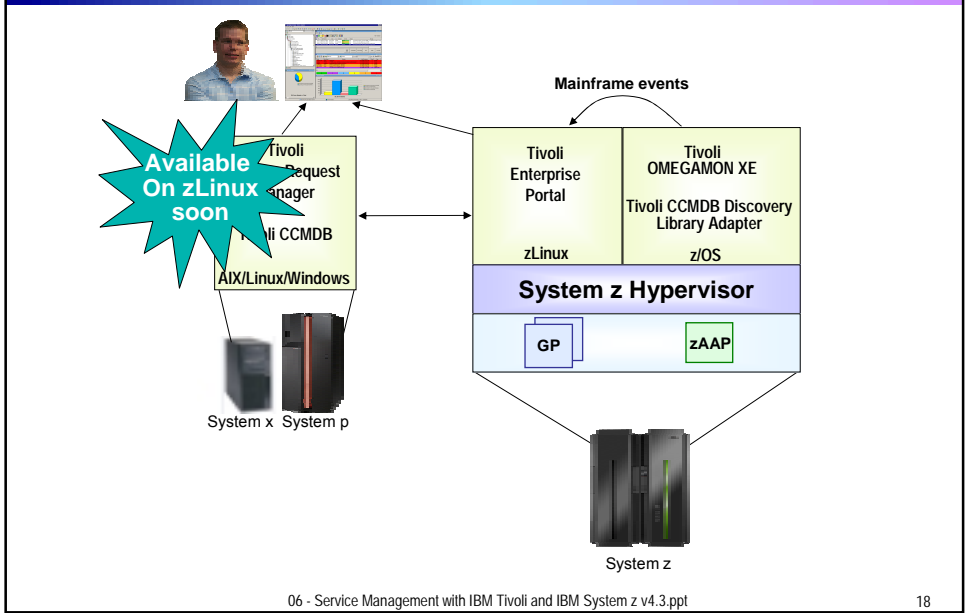

DEMO: Check for Schedule Conflicts

1. Initially schedule the update

2. CCMDB discovers relationships and dependencies

3. CCMDB cross compares defined maintenance windows

4. CCMDB indicates scheduled change has a conflict

5. Reschedule the update

Mainframe Extension Solution – IT Service Management

Mainframe events

Available On zLinux soon

Tivoli Request Manager

li CCMDB

AIX/Linux/Windows

System x System p

Tivoli Enterprise Portal

zLinux

Tivoli OMEGAMON XE

Tivoli CCMDB Discovery Library Adapter

z/OS

System z Hypervisor

GP

zAAP

System z

Summary

Gain visibility, control, and automate your IT management processes to cut costs with IBM Service Management!

Successful Employee

IBM