



# Data Sources and Tools provided by Cisco to support ITIL processes

BRKNMS-2011



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**Cisco Networkers  
2007**

# HOUSEKEEPING

- We value your feedback, don't forget to complete your online session evaluations after each session and complete the Overall Conference Evaluation which will be available online from Friday.
- Visit the World of Solutions on Level -01!
- Please remember this is a 'No Smoking' venue!
- Please switch off your mobile phones!
- Please remember to wear your badge at all times including the Party!
- Do you have a question? Feel free to ask them during the Q&A section or write your question on the Question form given to you and hand it to the Room Monitor when you see them holding up the Q&A sign.

# Session Focus

- Look deep into selected ITIL workflows and get an understanding of the relationship between Data, Tools and Processes
- Focus on the main Enterprise Cisco Tools
- Understand how Cisco Tools and Data Sources support these ITIL Processes
- Show how to reuse the Cisco Data Sources and demystify access to Cisco Tool Databases

# What is not covered

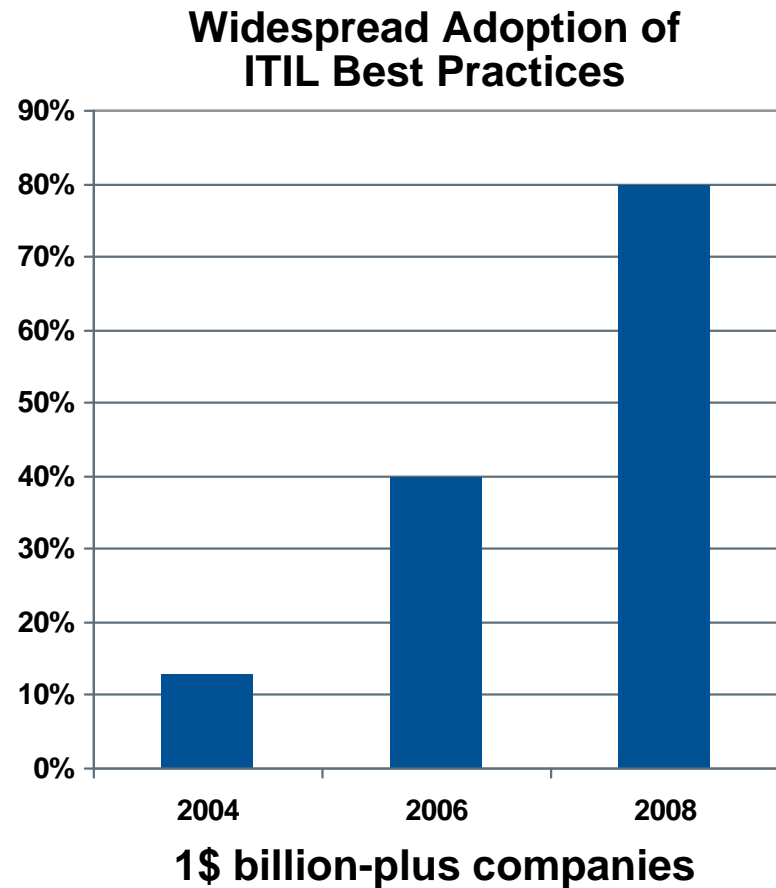
- ITIL processes in depth
- Detailed Blueprints
- Organizational issues

# Agenda:

- Introduction 5min
  
- Some ITIL Basics 10min
- Configuration and Change Management 20min  
    Use the RME as part of the CMDB
- Service Support Processes 20min  
    Focus Incident and Problem Management
- Service Delivery Processes 25min  
    Network Application & Service Management
  
- Q&A 10min

# Informal poll

- How many of you have implemented at least some of the ITIL framework?
- How many plan to implement in the next 12 months?
- How many are implementing a different framework, such as eTOM or CobIT?
- How many people aren't doing anything related to this?



Source: Forrester Research

# The CIO & CFO challenge

Running IT like a business to support the business

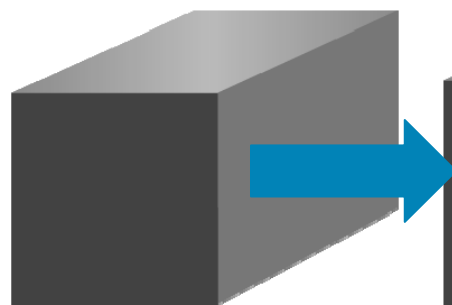
## Business Value

- Business Agility
- IT-Business Alignment
- Business Application Deployments & Upgrades

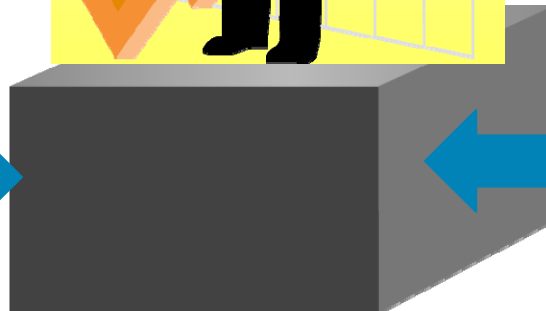


## IT Efficiency

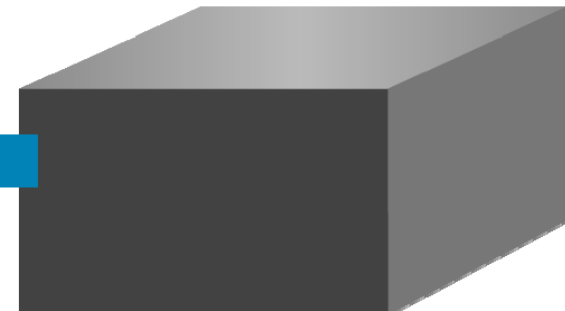
- Compliance
- IT Automation
- IT Consolidation & Centralization



STRATEGY



APPLICATIONS and  
SERVICES



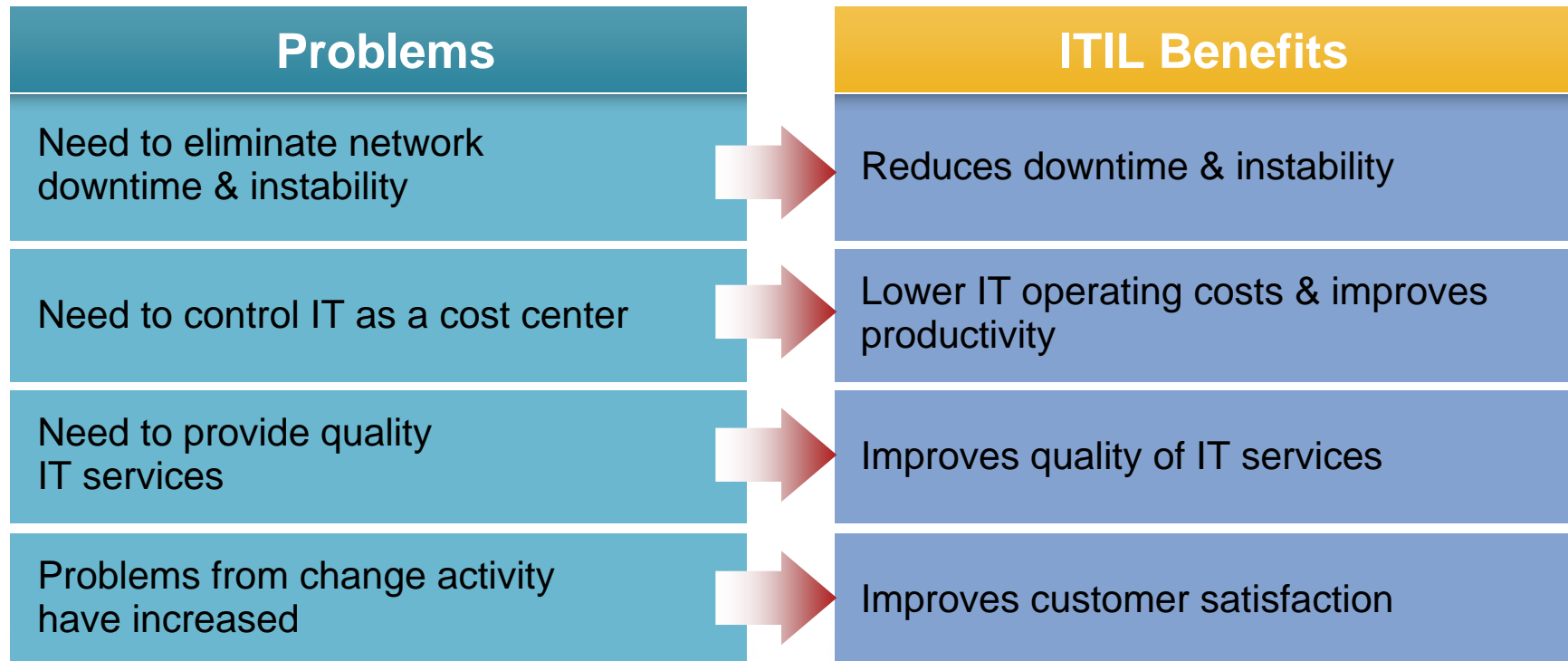
OPERATIONS

# Business Benefits of ITIL

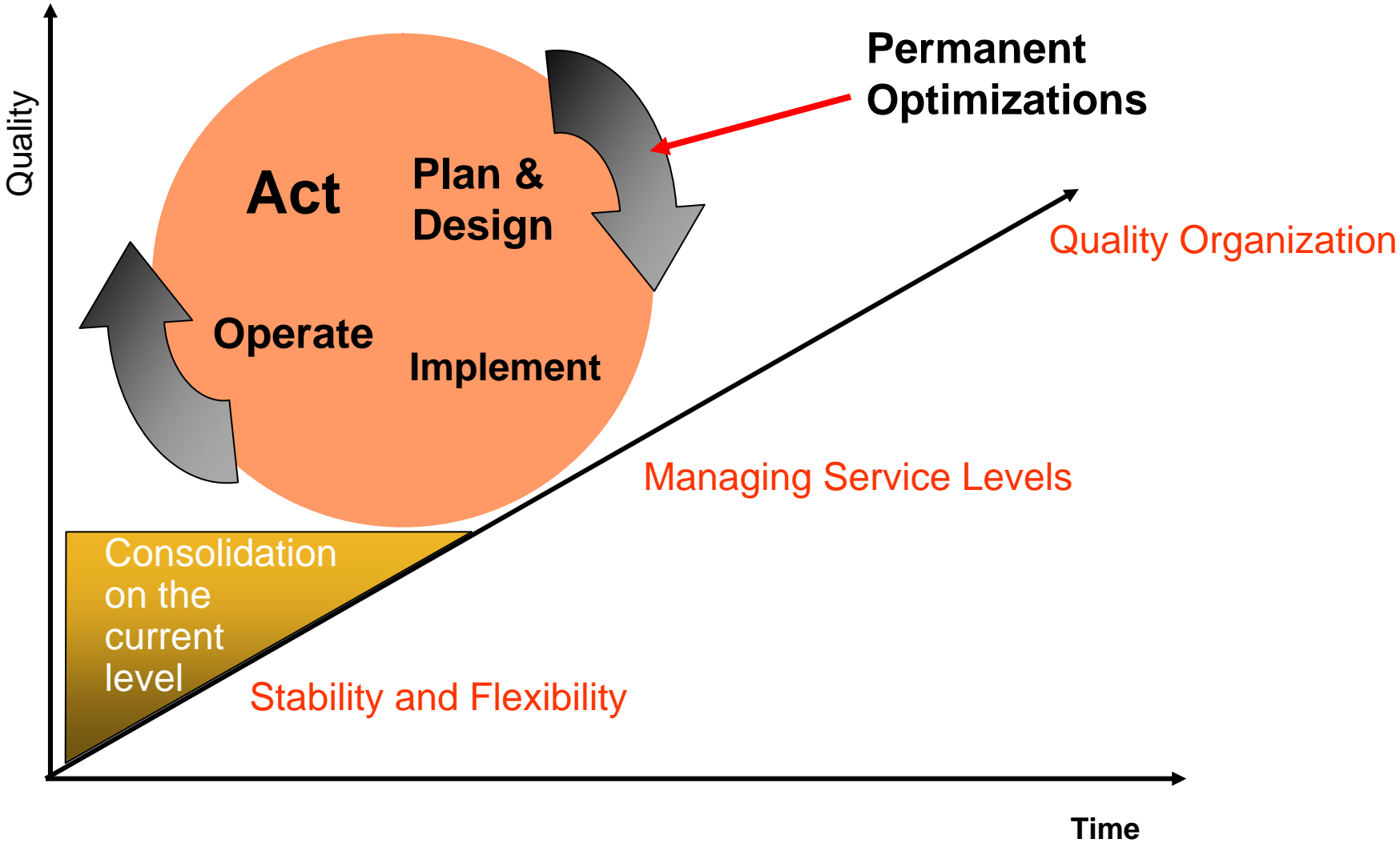
- Develop IT department from technology driven to customer centric organization
- Widely accepted process framework for IT and Network departments
- IT Departments need to justify their work, this requires Key Performance Indicators (KPI) – ITIL provides this KPI
- Accumulated structural and process deficiencies needs to be consolidated – ITIL supports in this regard
- Structured Change Management can help to save a lot of cost



# Why do IT organizations implement ITIL?



# How ITIL works longterm

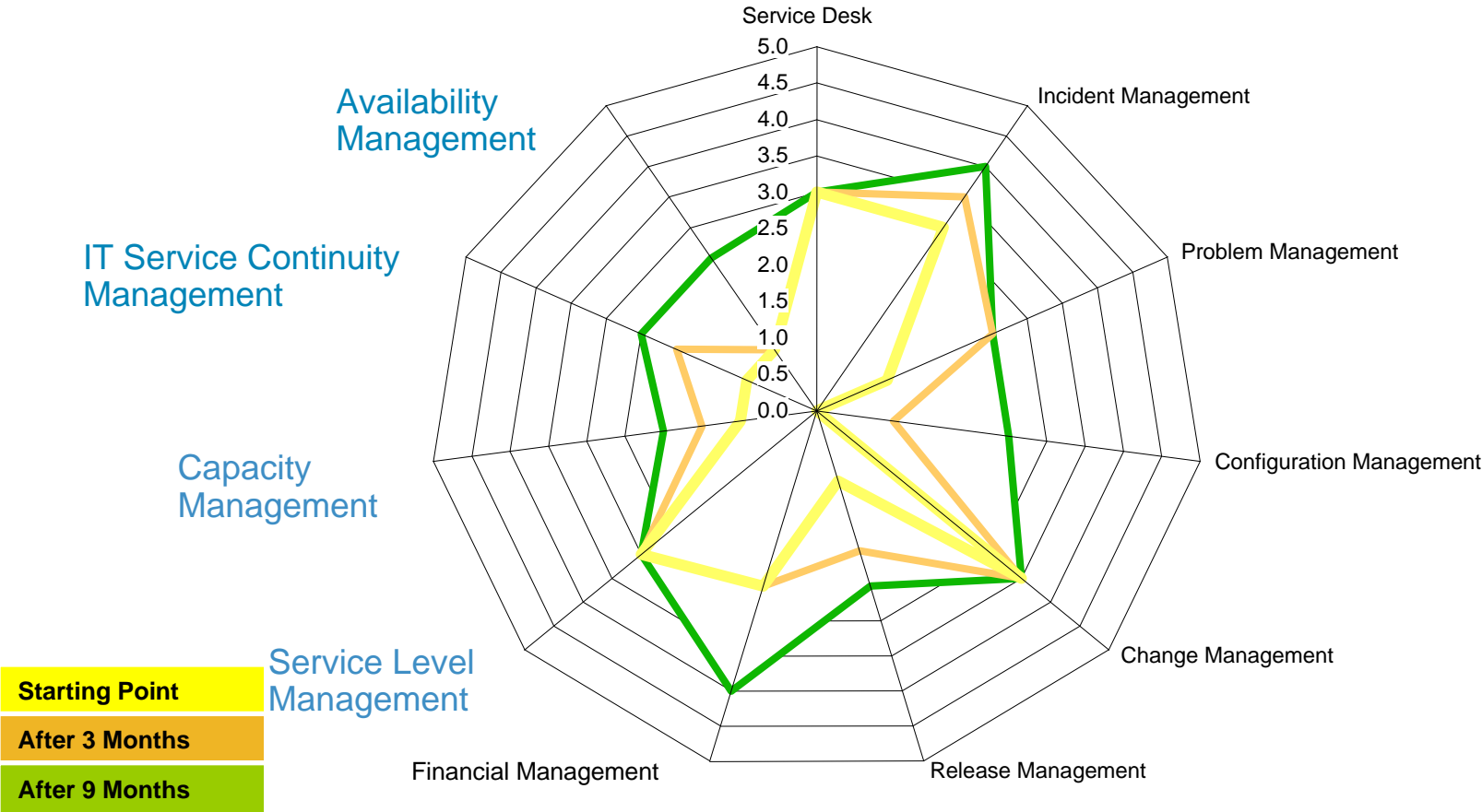


# Process Maturity Model

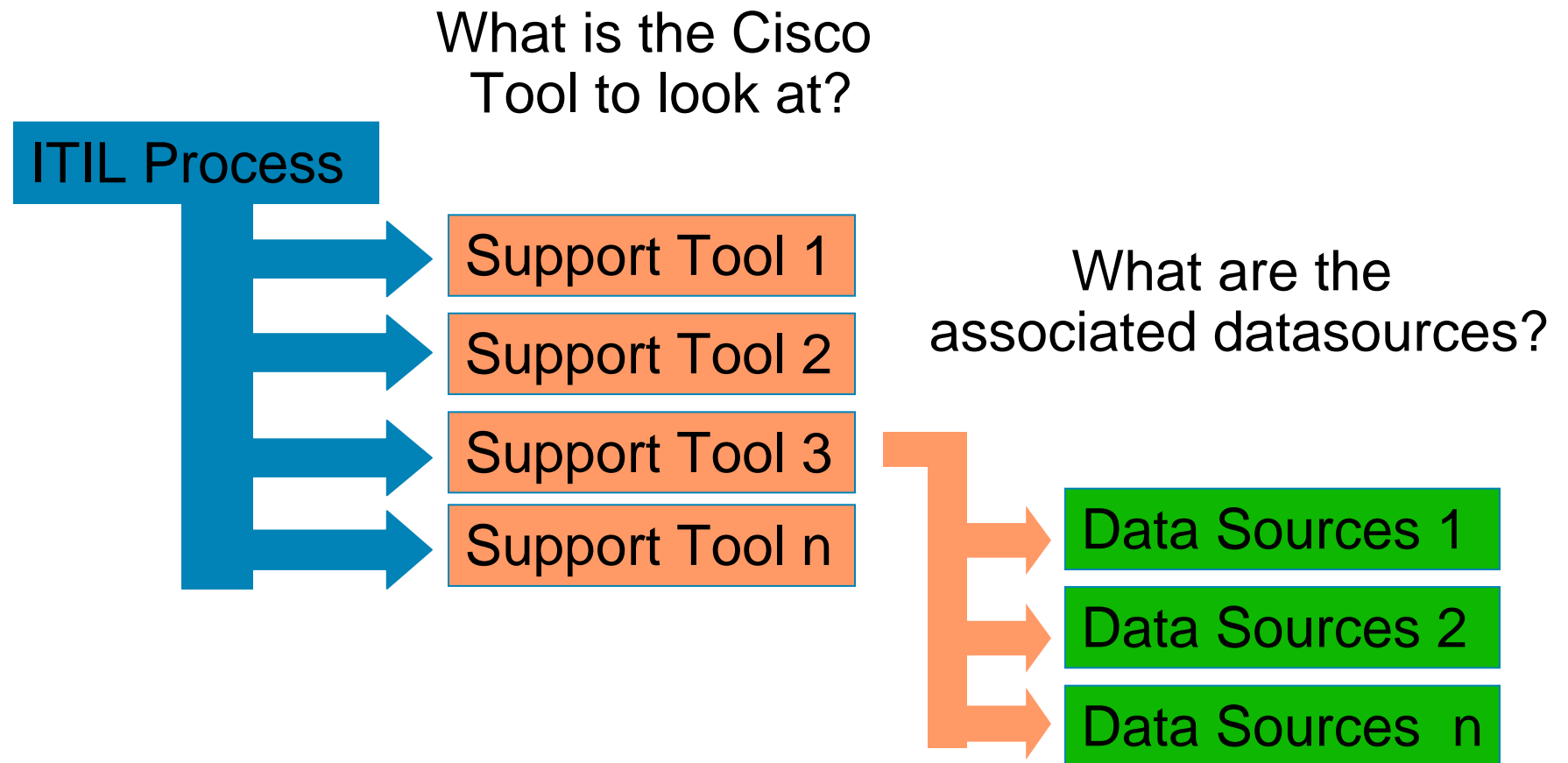
## ITIL Maturity Measures

Level	Name	Description
5	Optimizing	Continuous improvement with feedback
4	Managed	Metrics for deliverables and processes -supported by automated tools
3	Defined	Documented, standardized policies and procedures
2	Repeatable	Proactive, trained people
1	Initial	Ad-hoc, reactive, “firefighting”

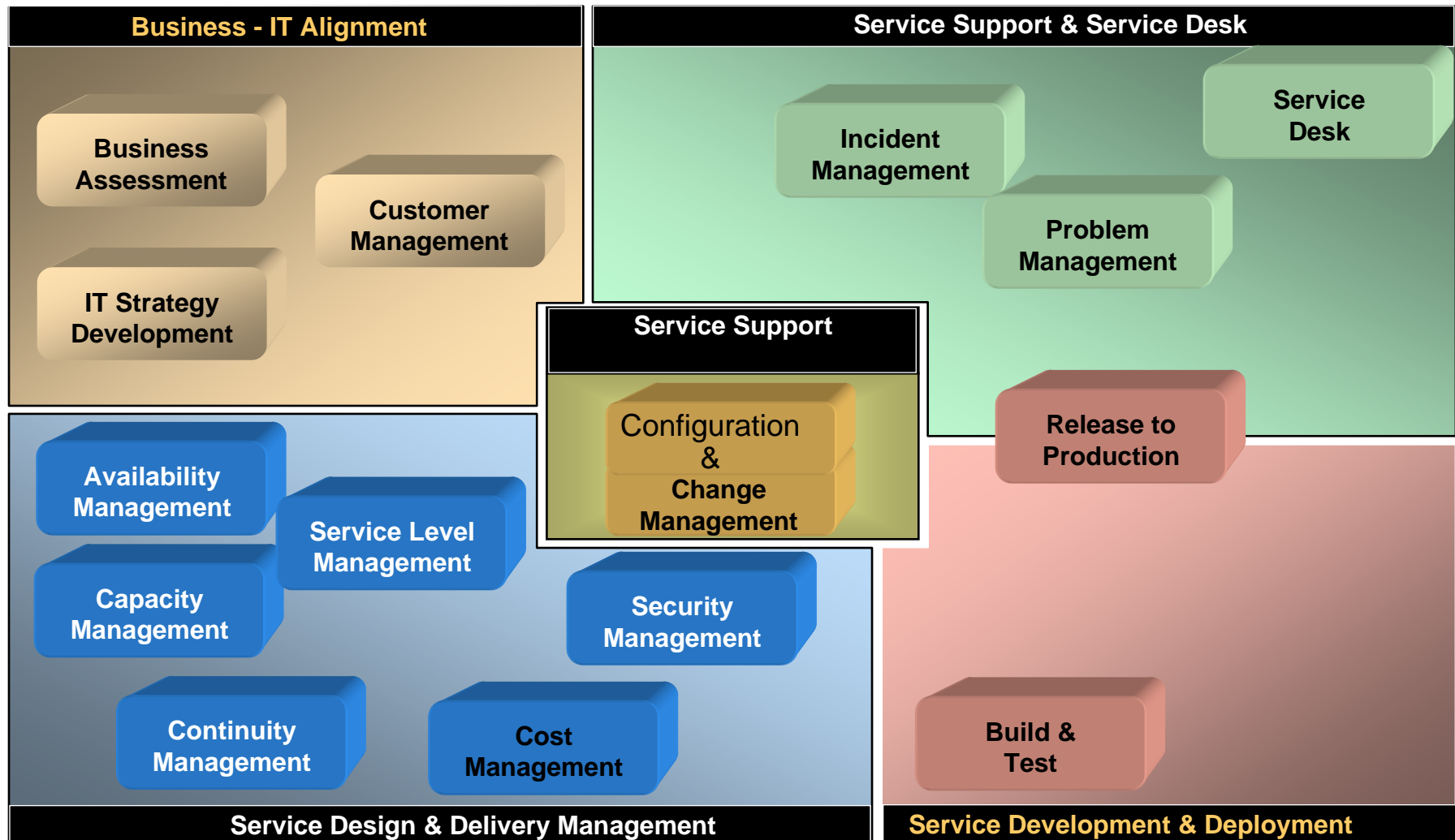
# Best Practices ITIL Maturity Measures



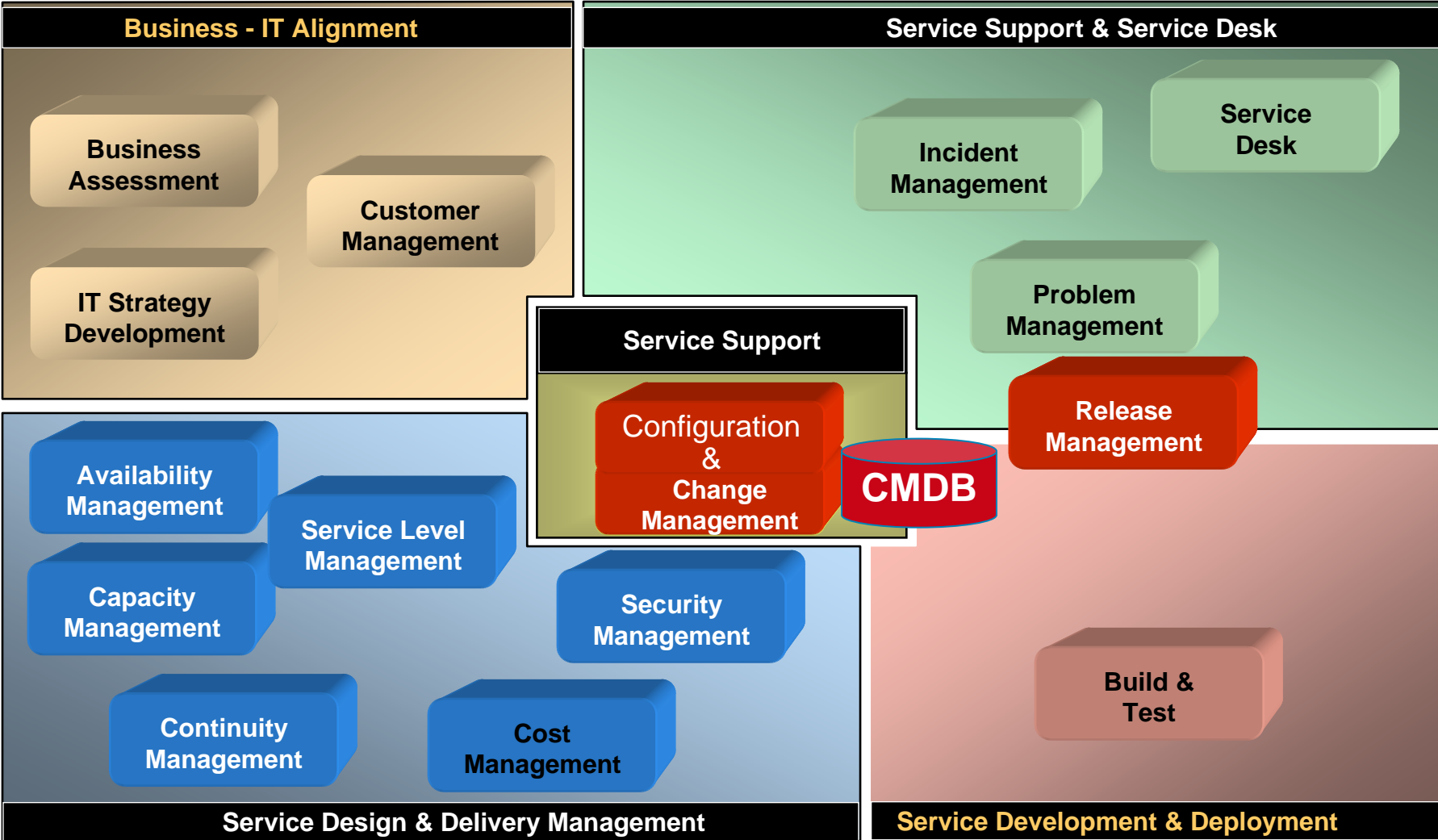
# Generic Approach for Tools and Datasources



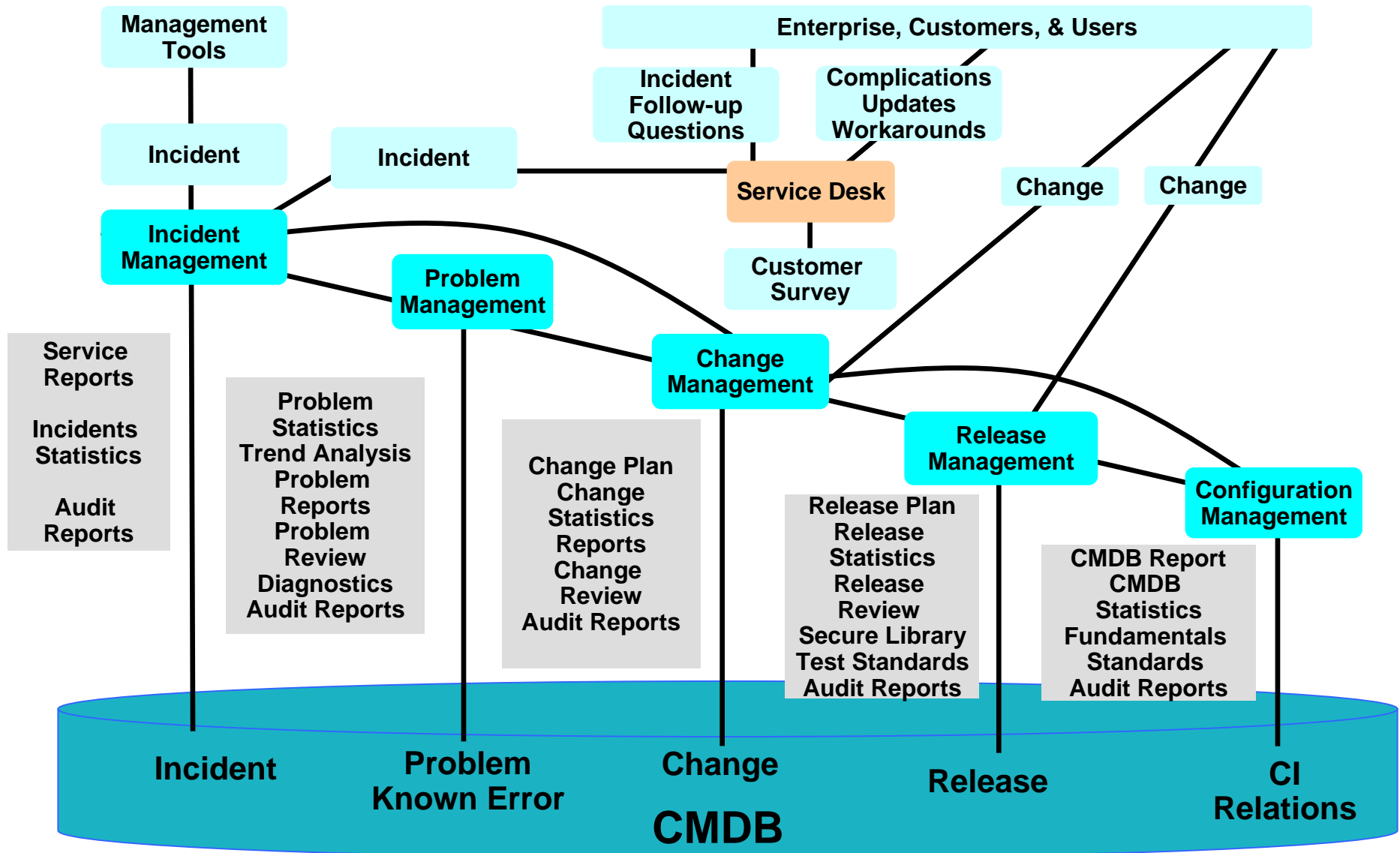
# ITIL Process Overview



# Configuration and Change Management

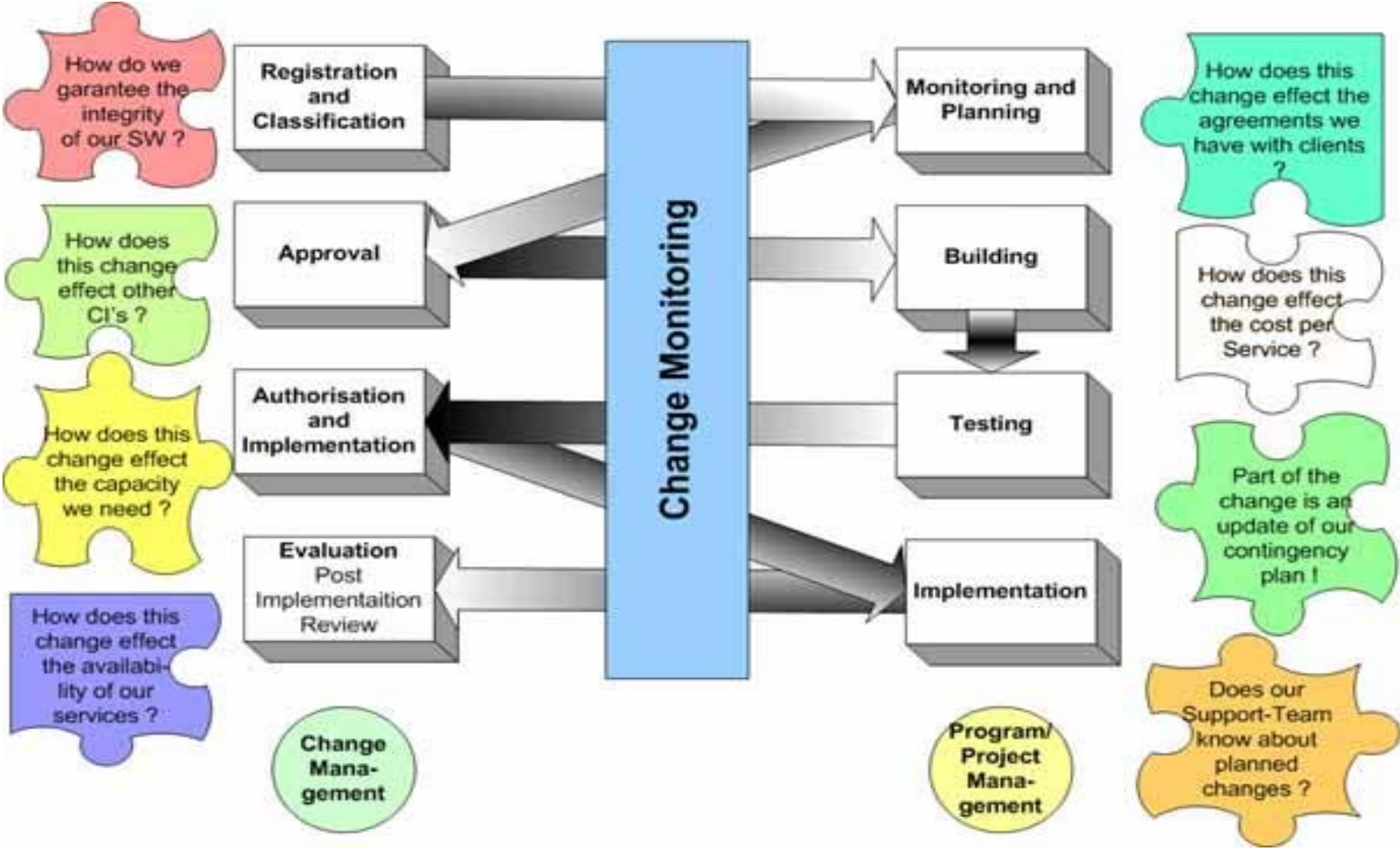


# Overview on Service Support





# Change Management



# Change Management

**Mission : Ensure that standardized methods and procedures are used for efficient and prompt handling of all changes, in order to minimize the impact of Change-related incidents upon service quality, and consequently to improve the the day-to-day operations of the organization**

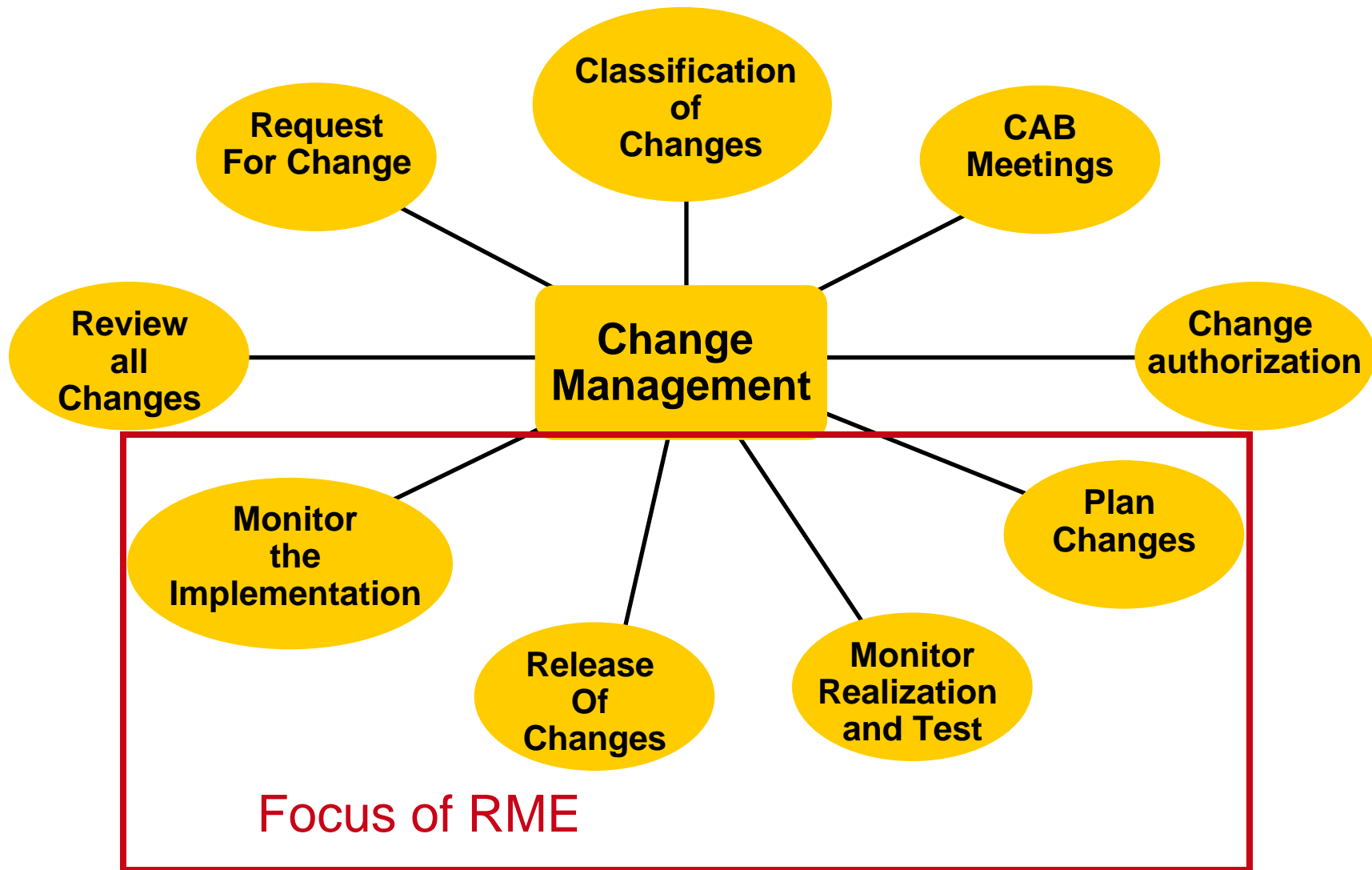
## Activities

- Accept Changes
- Prioritize and classify changes
- Coordinate change impact assessment
- Coordinate approval of changes
- Coordinate scheduling
- Coordinate implementation of changes
- Conduct post implementation reviews
- Provide management information about Change Management quality and operations  
Key Performance Indicators (KPIs)

## Benefits

- Better alignment of IT service to business requirements
- Increased visibility and communication on changes to both business and service support staff
- Improved risk assessment
- Reduced adverse impact of changes on the quality of services and on SLAs
- Improved problem and availability management through the use of valuable management information relating to changes
- Fewer changes to be backed-out

# Change Management



# Release Management

**Mission: Implement changes to IT services taking a holistic (people, process, technology) view which considers all aspects of a change including planning, designing, building, testing, training, communications and deployment activities.**

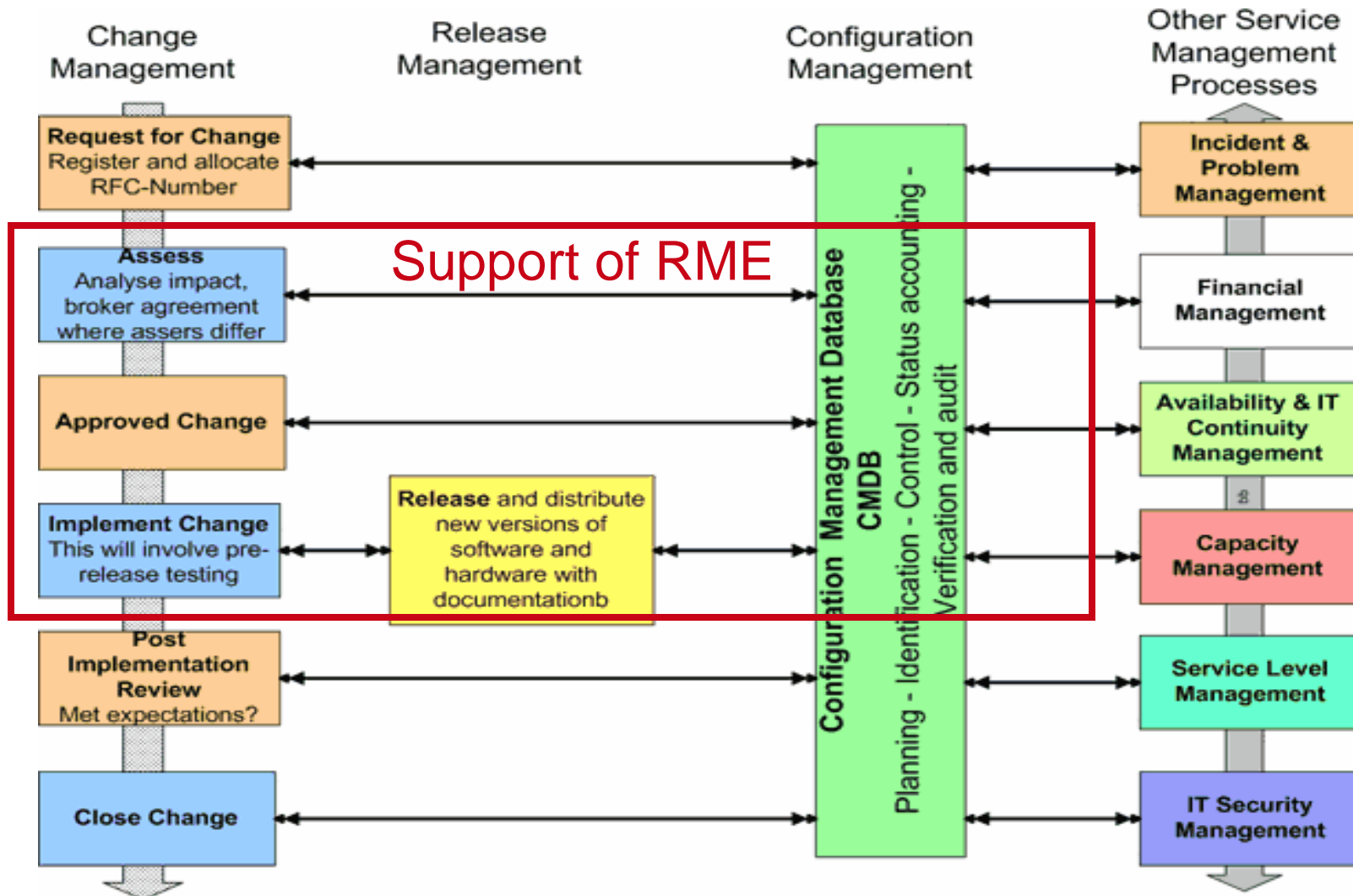
## Best Practice

- When Installing Software, only Software out of the DSL can be installed
- Integration of Release-, Change-, Configuration Management, SW Development and Project Management

## Advantages

- Better Service Quality because of predictable Release Changes
- Consistent Release Management
- Better Quality as only Certified SW and HW will be used
- Consistent HW and SW throughout the Company
- Better guidance of expectations through a Release Outlook

# Configuration Management Database



# Configuration Management

Mission: Providing information on the IT infrastructure to all other processes and IT management. Enabling control of the infrastructure by monitoring and maintaining information on all the resources needed to deliver services

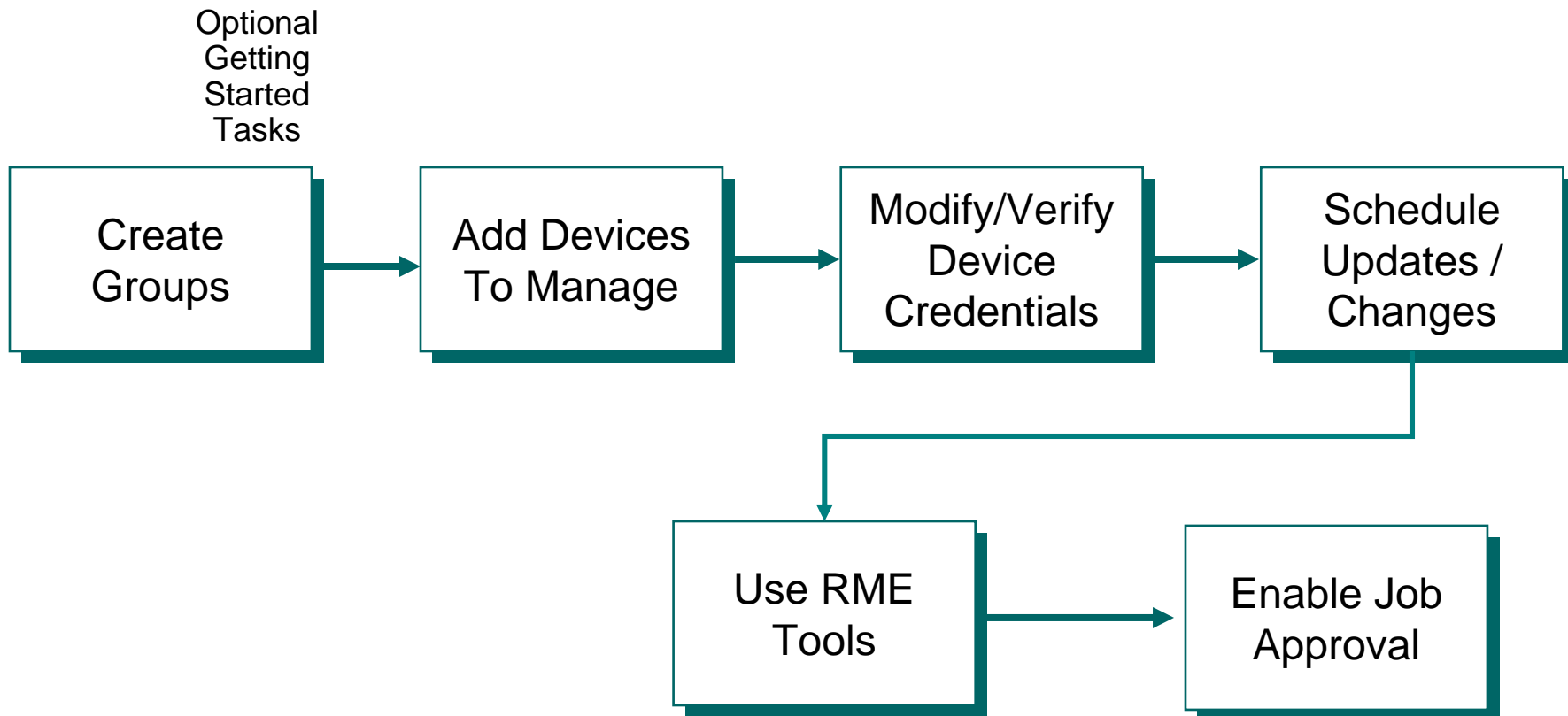
## Activities

- Plan for Configuration Management databases and activities
- Identify Configuration Items
- Control Configuration Item information
- Perform status accounting
- Perform verification and audit of Configuration Management databases
- Provide management information about Configuration Management quality and operations

## Benefits

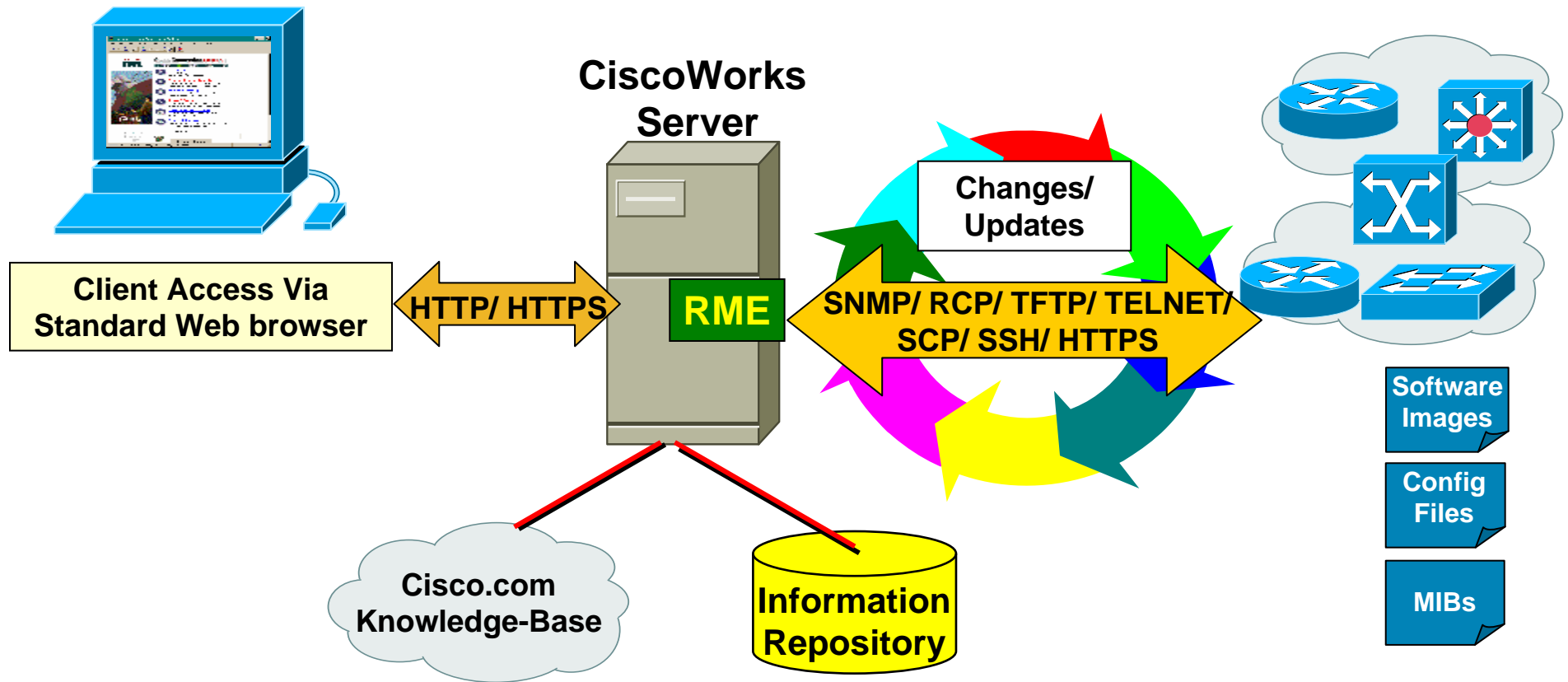
- Providing accurate information on Configuration Items (CIs) and their documentation
- Controlling valuable CIs
- Facilitating adherence to legal obligations
- Helping with financial and expenditure planning
- Making software changes visible
- Contributing to contingency planning
- Supporting and improving Release management
- Allowing the organization to perform impact analysis and schedule changes safely and efficiently
- Providing problem management with data on trends

# Resource Manager Essential Workflow



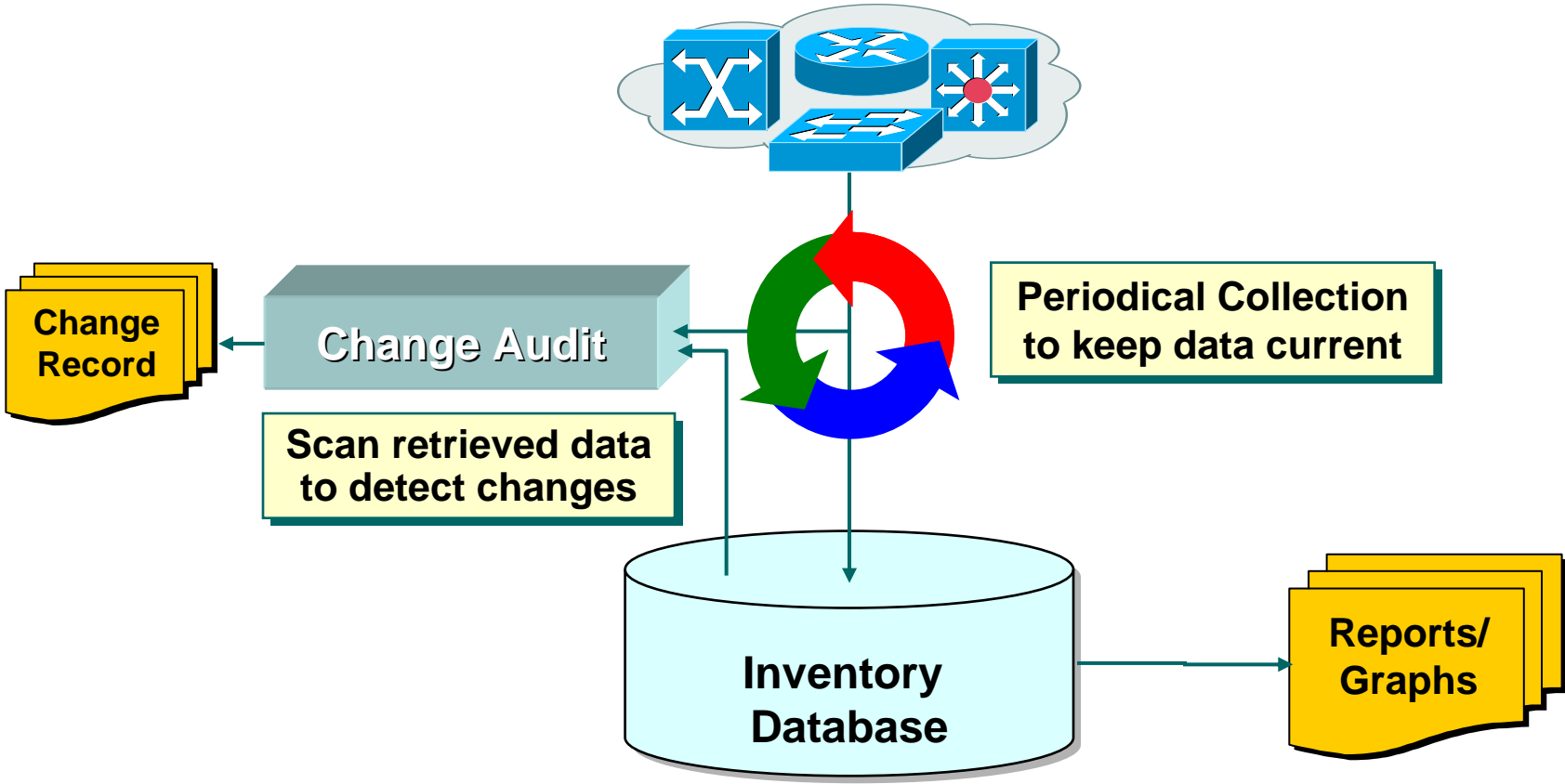
# Functional Flow

## Resource Manager Essential





# Inventory Management Resource Manager Essential



# Inventory Management

## Generating and Scheduling Reports

- 24 Hour Inventory Change Report
- Chassis Slot Details
- Chassis Slot Summary
- Chassis Summary Graph
- Detailed Device Report**
- Hardware Report
- Hardware Summary Graph
- MultiService Port Report
- Software Report
- Software Version Graph

### Detailed Device Report

Generated on Jan 03 2005 15:55:46

**Report can be generated for one or more devices**

Total number of devices: 1  
 Devices with Report Data: 1  
 Devices without Report Data: None

Device Name : nmtg-hq-core-3725.cisco.com

#### System Information

Updated At	System Name	Domain Name	Description	Serial Number
Jan 03 2005 12:41:37	nmtg-hq-core-3725		Cisco IOS Software, 3700 Software (C3725-IPBASE-M), Version 12.3(4)XD2, RELEASE SOFTWARE (fc1) Technical Support: <a href="http://www.cisco.com/techsupport">http://www.cisco.com/techsupport</a> Copyright (c) 1986-2004 by Cisco Systems, Inc. Compiled Mon 12-Apr-04 02:33 by cmong	JMX0709L4Q

#### Chassis Information

Index	Description	Chassis Serial Number	Chassis Vendor Type	Chassis Model Name	Physical Entity Name	Slot Configuration	Manufacturer
0	Two Network Module slot, three VMC slot, two Fast Ethernet port MARS router	JMX0709L4QR	c3725				

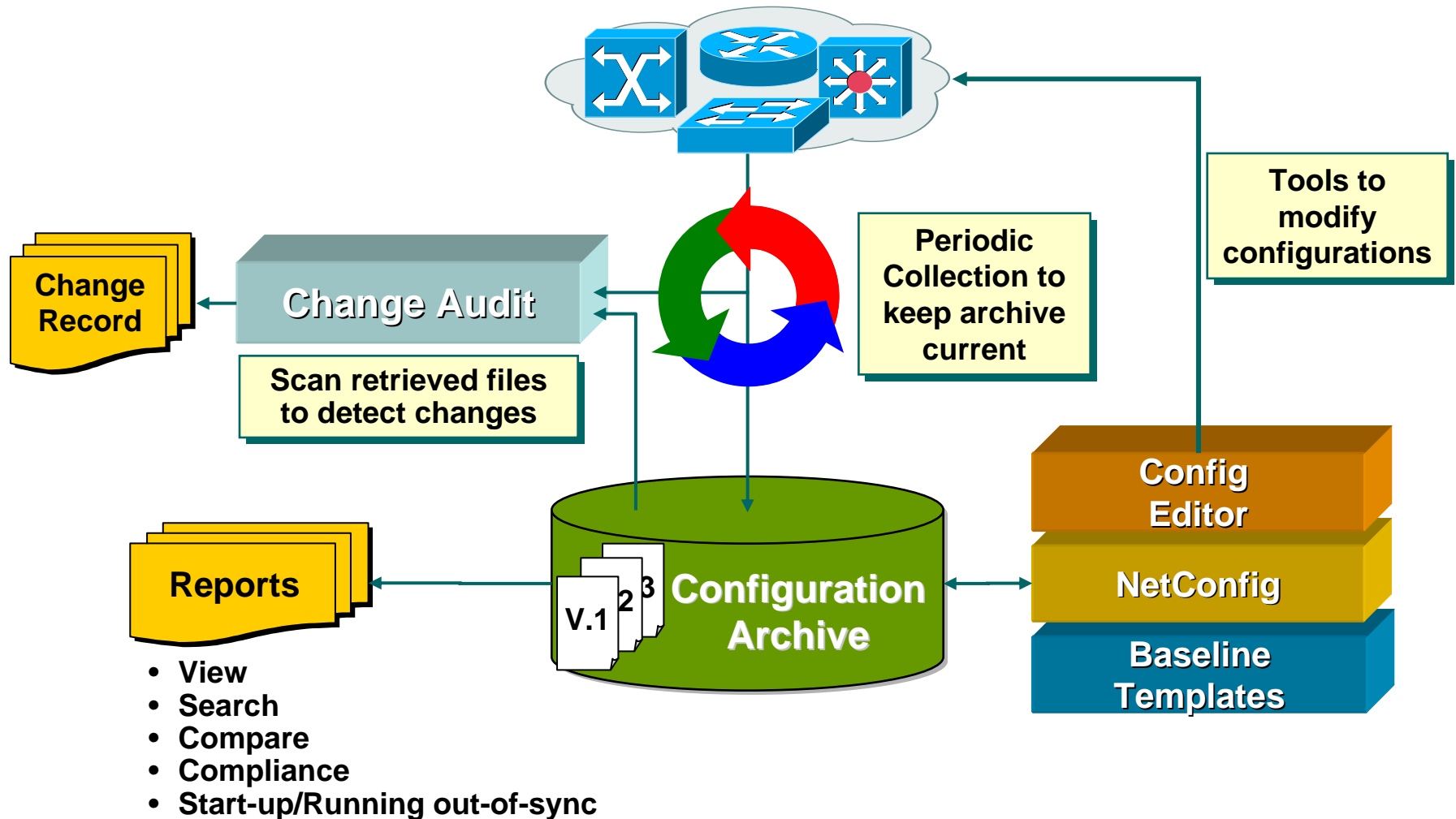
#### Bridge Information

Base Bridge Address	Number of Ports
00:0b:5f:30:40:18	0

#### Processor Information

Index	Parent Index	Parent Type	Slot Number	Description	Serial Number	Vendor Type	Model Name	Physical Entity Name	Slot Configuration	Manufacturer Name	Operational Status	RAM Size (MB)	NVRAM Size (KB)	NVRAM Used (KB)	Config Register Value	Reboot Config Register Value	H/W Version	SW Version	FW Version	Number of Slots	Number of Ports
1	0	chassis	0	c3725 Motherboard with Fast Ethernet	0	cpu-c3725-2fe					OK	96.00	55.99	5.47	0x2102	0x2102	0.1				

# Device Configuration Management Resource Manager Essential

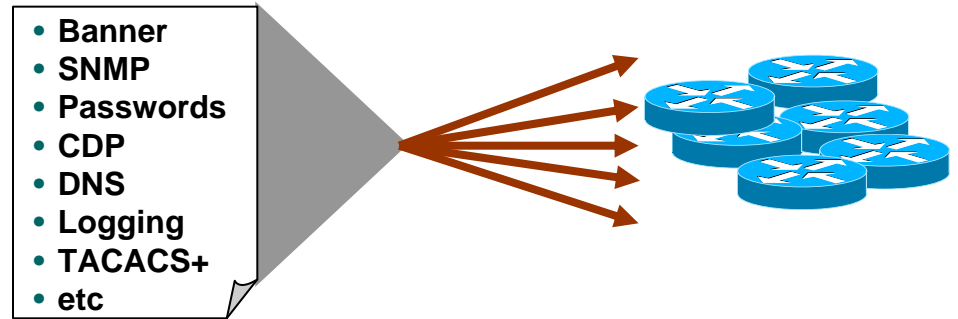


# Device Configuration Management

## NetConfig Example (Resource Manager Essential)

### ➤ NetConfig

- ✓ Same change(s) to multiple devices in one highly controllable download job
- ✓ Template-based configuration changes to eliminate typos and the need to memorize syntax
- ✓ More than 30 pre-defined templates including an Adhoc (blank) template. Administrator can also create new templates



**Syslog Configuration Template**

A screenshot of the Syslog Configuration web interface in Microsoft Internet Explorer. The interface is titled "Syslog Configuration" and is divided into two main sections: "Common Parameters" and "IOS Parameters".

**Common Parameters:**

- Logging Host:** Action: Add, Hosts (comma separated): 192.168.138.21

**IOS Parameters:**

- Logging On:** Action: Enable
- Logging Facility:** Action: Enable
- Logging Level:**
  - Buffered:** Action: Enable, Conditions: informational
  - Console:** Action: No Change, Conditions: Default
  - Monitor:** Action: Enable, Conditions: informational
  - Trap:** Action: No Change, Conditions: Default

**Parameters are the same for all devices in the job**

# Device Configuration Management

## Baseline Templates Example (Resource Manager Essential)

### ➤ Baseline Templates

- ☑ Set of commands containing placeholders for device-specific values to be substituted.
- ☑ Use to add baseline commands to a new device being brought on-line
- ☑ Use to check that all devices comply with company regulations for specific configuration practices

**BaseLine Compliance Report**  
Generated on Jan 25 2005 14:02:47

Go to:

Template Name:	LoggingCheck
Number of Non-Compliant device(s):	1
Number of Compliant device(s):	3
Number of Failed device(s):	0

**Compliance Details**

DeviceName	Version	Misconfigurations
nmtg-demo-6000.cisco.com	2	+ logging 192.168.138.22

Back to Top

**Compliant Devices**

DeviceName	Version
nmtg-demo-2955c.cisco.com	2
	2
	2

**Compliance report, checks to see which devices meet criteria defined in baseline template**

**Baseline Templates**

**Device List**

- Devices
  - nmtg-remote-7200.c
  - nmtg-branch-7200.c

**Device**  
nmtg-remote-7200.cisco.com

**CommandLets**

- All
  - Global[0]
  - ATM[0]
  - PVC[0]

**Templates**

```
[#pcv.*#]
+ encapsulation aal5 [encap-type]
+ abr [output-pcr1] [output-mcr]
+ ubr [output-pcr2]
+ vbr-nrt [output-pcr3] [output-scr] [output-mbs]
+ vbr-rt [peak-rate] [average-rate] [burst]
+ protocol ip [proto-ip] [type]
+ exit
```

**Device Data**

burst[0]	<input type="text"/>
output-pcr2[0]	<input type="text"/>
output-pcr1[0]	<input type="text"/>
output-scr[0]	<input type="text"/>
output-mbs[0]	<input type="text"/>

**Add Instance**

**Same commands but different parameters for multiple devices in one job**

**Allows for sub mode commands**

**User supplies values for each device for various parameters**

# How to access RME data? (1)

Data Extracting Engine (cwexport -config .....) Contains SW configuration:

```
<ConfigArchive>
<RMEServer><Name>LMS-2</Name>
<TimeStamp>Mon Nov 27 02:11:39 GMT+01:00 2006</TimeStamp></RMEServer>
<Device name="10.10.10.40">
<Global>
  <command>! Last configuration change at 01:45:11 UTC Mon Mar 1 1993</command>
  <command>! NVRAM config last updated at 01:28:53 UTC Mon Mar 1 1993</command>
  <command>version 12.1</command>
  <command>no service single-slot-reload-enable</command>
  <command>service timestamps debug uptime</command>
  <command>service timestamps log uptime</command>
  <command>no service password-encryption</command>
  <command>hostname R2600-MCH-1</command>
  <command>enable secret 5 $1$vDqU$02DZG7HfjSivkCaArd87r1</command>
  <command>no ip domain-lookup</command>
  <command>ntp master 6</command>
  <command>ntp server 10.1.107.206</command>
</Global>
<Interface>
  <Interface_Loopback0>
    <command>interface Loopback0</command>
    <command>ip address 10.10.20.40 255.255.255.0</command>
  </Interface_Loopback0>
  <Interface_FastEthernet0_0>
    <command>interface FastEthernet0/0</command>
    <command>ip address 10.1.107.10 255.255.255.0</command>
    <command>rate-limit input access-group 102 32000 32000 32000 conform-action set-prec-transmit 1 exceed-
action drop</command>
    <command>speed 100</command>
    <command>full-duplex</command>
  </Interface_FastEthernet0_0>
  <Interface_FastEthernet0_1>
    <command>interface FastEthernet0/1</command>
    <command>no ip address</command>
```

# How to access RME data ? (1)

....and the HW inventory (cwexport -inventory ...) as well....

```
<InvDetails>
  <SchemaInfo>
    <RMEServer>VMS-2</RMEServer>
    <CreatedAt>Mon Nov 27 02:12:30 GMT+01:00 2006</CreatedAt>
    <SchemaVersion>1.0</SchemaVersion>
  </SchemaInfo>
  <RMEPlatform>
    <Cisco_Chassis>
      <InstanceID>1</InstanceID>
      <HardwareVersion>0x100</HardwareVersion>
      <SerialNumber>JAD0647063M (3349967766)</SerialNumber>
      <ChassisSystemType>c2611XM      </ChassisSystemType>
      <NumberOfSlots>2</NumberOfSlots>
      <Cisco_Card>
        <InstanceID>1</InstanceID>
        <SerialNumber>0</SerialNumber>
        <LocationWithinContainer>0</LocationWithinContainer>
        <CardType>cpu-2600      </CardType>
        <HardwareVersion>1.0</HardwareVersion>
        <Description>C2600 Mainboard</Description>
      </Cisco_Card>
      <NumberOfSlots>2</NumberOfSlots>
      <SoftwareIdentity>
      </SoftwareIdentity>
      <Cisco_FlashDevice>
        <InstanceID>1</InstanceID>
        <InstanceName>flash</InstanceName>
        <Size>33554432 Bytes</Size>
        <NumberOfPartitions>1</NumberOfPartitions>
        <ChipCount>4</ChipCount>
        <Description>System flash</Description>
        <Removable>>false</Removable>
        <Cisco_FlashPartition>
          <InstanceID>1</InstanceID>
          <InstanceName>flash:1</InstanceName>
          <Upgrade>direct</Upgrade>
          <NeedsErasure>>false</NeedsErasure>
          <PartitionStatus>readWrite</PartitionStatus>
        </Cisco_FlashPartition>
      </Cisco_FlashDevice>
    </Cisco_Chassis>
  </RMEPlatform>
</InvDetails>
```

# RME XML Config in Excel

The screenshot displays a Microsoft Excel spreadsheet titled "Microsoft Excel - config". The spreadsheet contains XML configuration data for a Cisco device. The data is organized into columns A through O and rows 104 through 149. The XML content is as follows:

```
104 <command>speed auto</command>
105 </Interface_FastEthernet0_1>
106 <Interface_Ethernet1_0>
107 <command>interface Ethernet1/0</command>
108 <command>ip address 10.10.10.30 255.255.255.0</command>
109 <command>half-duplex</command>
110 </Interface_Ethernet1_0>
111 </Interface>
112 <Line>
113 <Line_con_0>
114 <command>line con 0</command>
115 <command>password*****</command>
116 <command>login</command>
117 </Line_con_0>
118 <Line_aux_0>
119 <command>line aux 0</command>
120 </Line_aux_0>
121 <Line_vty_0_4>
122 <command>line vty 0 4</command>
123 <command>password*****</command>
124 <command>login</command>
125 </Line_vty_0_4>
126 </Line>
127 </Device>
128 <Device name="10.10.10.254">
129 <Global>
130 <command>version 12.1</command>
131 <command>no service pad</command>
132 <command>service timestamps debug uptime</command>
133 <command>service timestamps log datetime</command>
134 <command>no service password-encryption</command>
135 <command>service sequence-numbers</command>
136 <command>hostname Cisco2950</command>
137 <command>enable secret 5 $1$TPTc$MLYenfB.KE82HPmylOBdM.</command>
138 <command>enable password*****</command>
139 <command>clock timezone MESZ 2</command>
140 <command>clock summer-time MESZ recurring 1 Sun May 0:00 last Sun Sep 0:00</command>
141 <command>wr-queue bandwidth 25 25 25 25</command>
142 <command>no ip finger</command>
143 <command>logging history informational</command>
144 <command>logging 10.10.10.11</command>
145 <command>cdp timer 10</command>
146 <command>ntp clock-period 17180164</command>
147 <command>ntp peer 10.10.10.10</command>
148 <command>ntp peer 10.10.10.100</command>
149 </Global>
```

The status bar at the bottom of the Excel window shows "Bereit". The Windows taskbar at the bottom of the image shows the Start button, several open applications (7 Windows Explorer, Private..., 3 Microsoft..., 2 Skype..., 2 Firefox, inventory..., D:\It\Inv..., Microsoft...), and the system tray with the date "Dienstag, 26.11.2006" and time "22:59".



# How to access RME data ? (2)

use dbreader to explore the RME DB

Ad-hoc Retrieval of Database - Microsoft Internet Explorer provided by Cisco Systems, Inc.

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Refresh Print Mail Stop

Address http://lms-demo1.cisco.com:1741/dbreader/dbreader.html Go

- To execute a SQL statement, enter it in the text window, then click on the **Execute SQL Statement** button at the bottom of the page. This is useful to retrieve a subset of data or perform adhoc changes to the database.
- To retrieve a list of the tables from which the contents of a table can be displayed, click on the **Get Database Tables** button at the bottom of the page.

**User Id**

**Password:**

**Database Name**

**SQL statement to execute: (changes will be committed immediately)**

**Examples:**

1. insert into GROUP\_USAGE values (2, 101, 1, 'december 01, 1996')
2. To insert/update a row containing single quotes (') in the data, enter two consecutive single quotes ('' ). See example below.  
update dev\_group set group\_description = 'Joe''s description'  
where group\_id = 10000  
This will set the **group\_description** column value to **Joe's description**.
3. select \* from av\_if\_now
4. delete from Group\_Usage where Group\_Id = 2 and Function\_Id = 101

Done Local intranet

# How to access RME data ? (2)

## use dbreader to explore the RME DB (Chassis inventory)

<i>deviceid bigint</i>	<i>card_RAM_Size decimal</i>	<i>card_NVRAM_Size decimal</i>	<i>card_NVRAM_Used decimal</i>	<i>model_name varchar (255)</i>	<i>vendor_type varchar(255)</i>	<i>port_count integer</i>	<i>serial_number varchar(255)</i>
442	28.80	128.00	.01		cpu-800	4	1309832732
445				WS-X6K-SUP1A-2GE	wsx6ksup1a2ge	2	SAD04010F43
445				WS-X6K-SUP1A-2GE	wsx6ksup1a2ge	2	SAD04010F43
445				WS-X6K-SUP1A-2GE	wsx6ksup1a2ge	2	SAD04010F43
445				WS-X6K-SUP1A-2GE	wsx6ksup1a2ge	2	SAD04010F43
445				WS-X6K-SUP1A-2GE	wsx6ksup1a2ge	2	SAD04010F43
446					cpu-1700	7	2125827691
446	83.15	28.99	.01		cpu-1700	7	2125827691
446					cpu-1700	7	2125827691
447	19.27	32.00	.01			15	
448	8.00	32.00	0.00			16	
449	15.00	128.00	0.00		cpu-800	3	34298643
450	16.00	32.00	0.00			18	
451	116.00	512.00	0.00		cevModuleCat375024PS	27	

# How to access RME data ? (3)

## Direct DB Access via ODBC

The screenshot shows the Microsoft Access interface with the ODBC configuration dialog box open. The dialog box is titled "ODBC-Konfiguration für Adaptive Server Anyw..." and has tabs for "ODBC", "Login", "Datenbank", "Netzwerk", and "Erweitert". The "ODBC" tab is selected, and the "Datenquellenname" field contains "CMF1". The "Beschreibung" field is empty. The "Isolationsstufe" is set to "1". The "System Data Source" section shows a table with the following data:

Name	Driver
CMF1	Adaptive

The "Erweitert" tab is also visible, showing options for "Microsoft-Anw.", "Delphi-Anwendungen", "Fetch-Warnungen unterdrücken", and "Fehlermeldungen zu Treiberfunktionen verhindern". The "AutoCommit nach Anweisungsende" checkbox is checked. The "Cursor neu beschreiben" section has "Nie" selected. The "Übersetzer" field contains "<Kein Übersetzer>".

Below the ODBC dialog box, a table window titled "cmfDBA\_DCR\_device\_detail : Tabelle" is open, displaying the following data:

device_id	display_name	mdf_type	sysObjectID	management_ip	host_name	domain_name	device_identity	transaction_id
1	10.10.10.240	270568143	1.3.6.1.4.1.9.1.	10.10.10.240	10.10.10.240			13
2	10.10.10.250	277523496	1.3.6.1.4.1.9.1.	10.10.10.250	10.10.10.250			12
3	10.10.20.40	268437948	1.3.6.1.4.1.9.1.	10.10.20.40	10.10.20.40			7
4	10.10.10.30	268437951	1.3.6.1.4.1.9.1.	10.10.10.30	10.10.10.30			9
5	dsl-pix.local.hae	268437951	1.3.6.1.4.1.9.1.	10.10.10.1	dsl-pix	local.haertlein.c		14

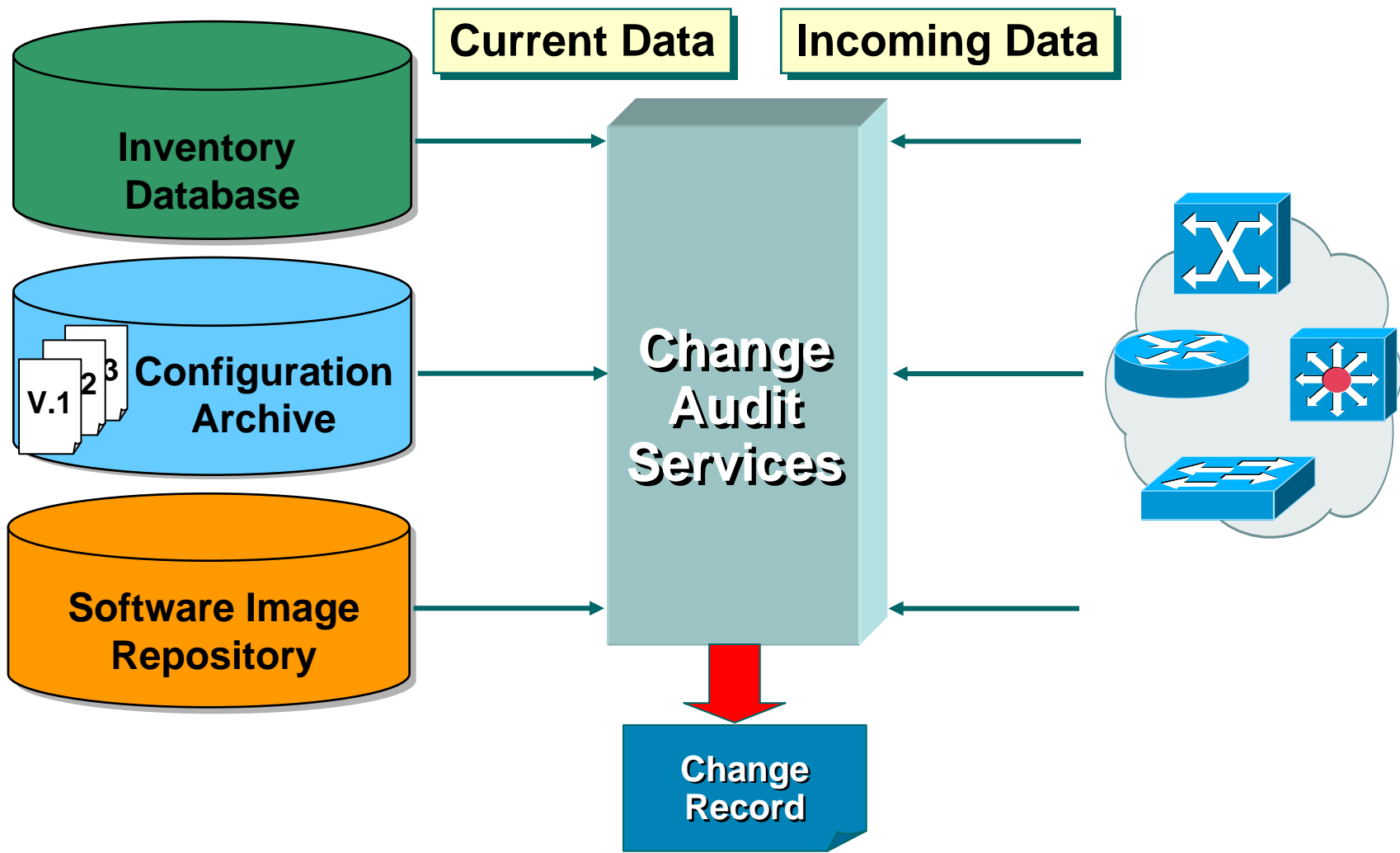
On the right side of the screenshot, a Notepad window titled "dbaccess - Note" contains the following text:

```
UID=cws1SA
PWD=????????????
Start=dbsrv9
DB_ServerName=anIDb
EngineName=anIDb
ServerPort=43443

UID=cmfDBA
PWD=????????????
Start=dbsrv9
DmPrefix=Cmf
DatabaseName=cmfDB
DB_ServerName=cmfEng
ServerPort=43441

UID=DBA
PWD=????????????
Start=dbsrv9
DatabaseName=rmenqdb
DB_ServerName=rmenqEng
AutoStop=yes
ServerPort=43455
```

# Change Audit Resource Manager Essential



# Change Audit Sample Report (Resource Manager Essentials)

**CISCO SYSTEMS** Resource Manager Essentials  
Change Audit 24 Hour Report at Jan 12 2005 16:37:21 Pacific Standard Time(GMT -08:00:00)

Showing 1-2 of 2 records

	Device Name	User Name	Application Name	Host Name	Creation Time	Connection Mode	Message	Details	Grouped Records
1.	nmtg-demo-6000.cisco.com	admin	NetConfig	STAGE-2	Jan 12 2005 16:29:19	TFTP	Configuration Download (Job : 1023)	<a href="#">Details</a>	<a href="#">More Records</a>
2.	nmtg-demo-2955c.cisco.com	admin	NetConfig	192.168.138.22	Jan 12 2005 16:29:28	SNMP	Configuration Download (Job : 1023)	<a href="#">Details</a>	<a href="#">More Records</a>

Rows per page: 20

- Which device changed
- Who made change
- Type of change
- From what host
- Time of discovered
- How change made
- How change was found

Details of change

CiscoWorks finds the changes for you!

**CISCO SYSTEMS** Archive Mgmt  
Config Diff Viewer: nmtg-demo-6000.cisco.com Config Wed Jan 12 16:37:56 PST 2005

Show:  Raw  Processed

**Configlets**

- Configlets
- Diff Only**
- All

**Current Config**  
nmtg-demo-6000.cisco.com:RUNNING: Version:2

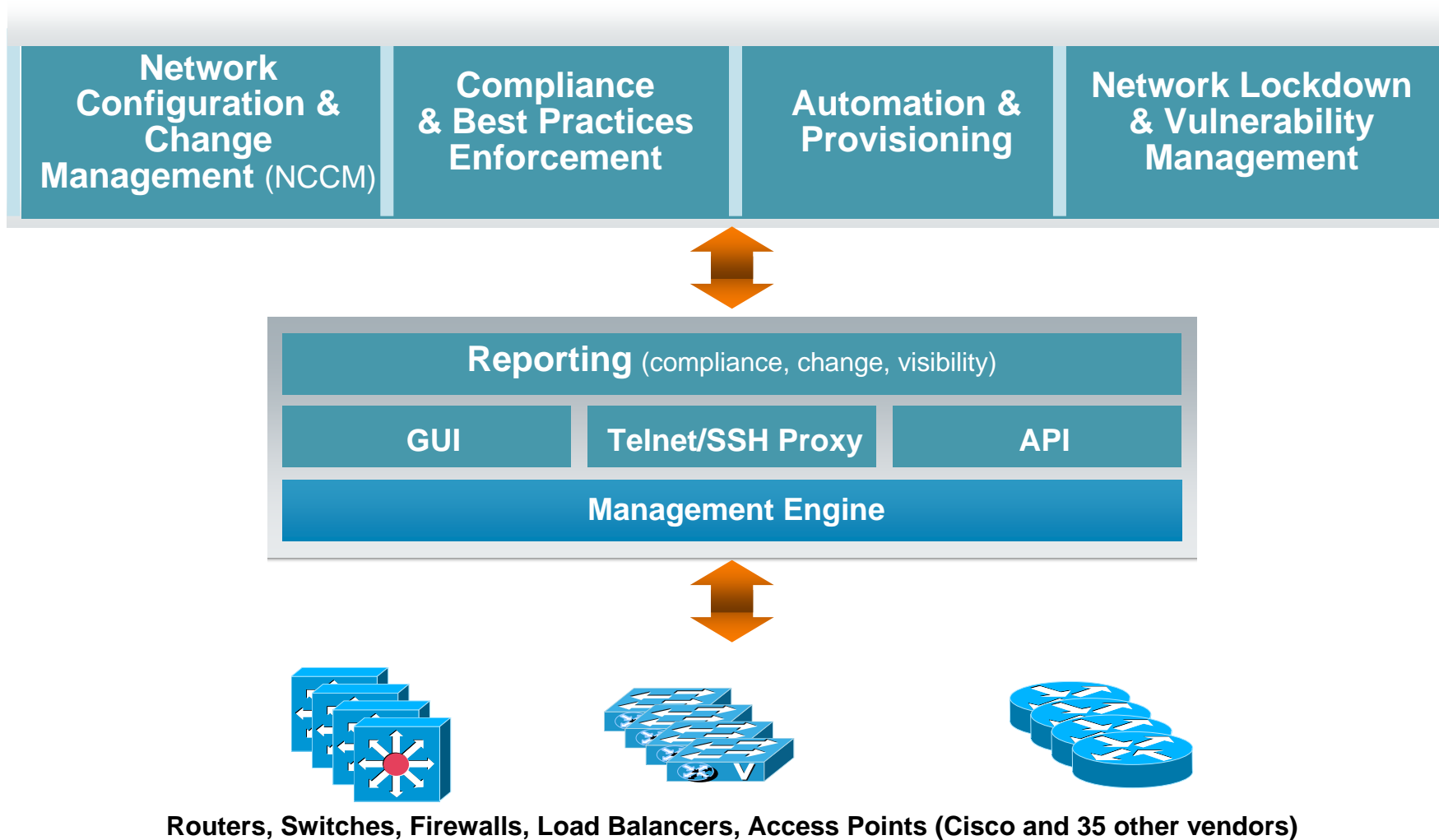
```
syslog
set logging server 192.168.138.22
```

**Previous Config**  
nmtg-demo-6000.cisco.com:RUNNING: Version:1

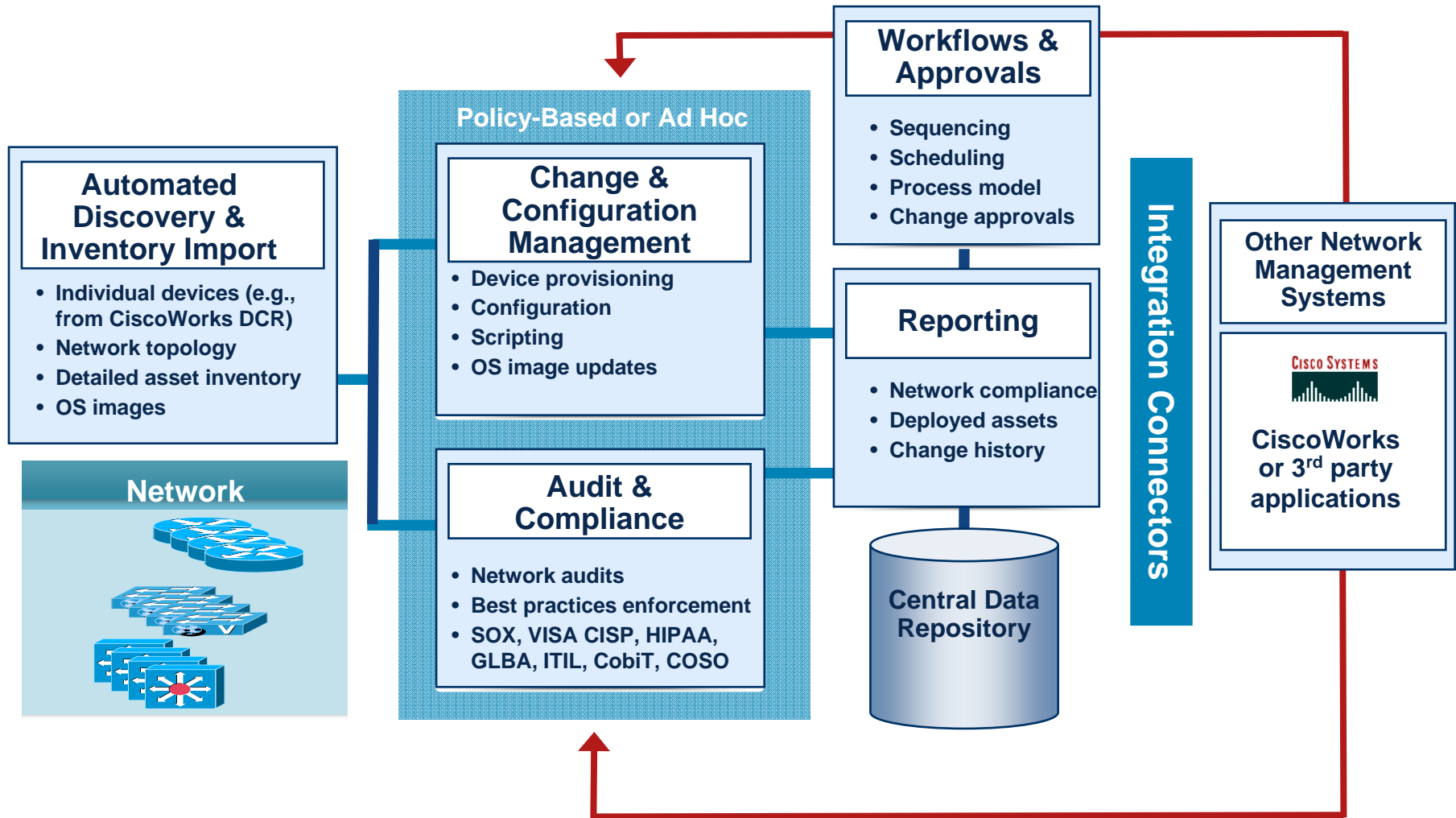
```
syslog
```

New line in config file

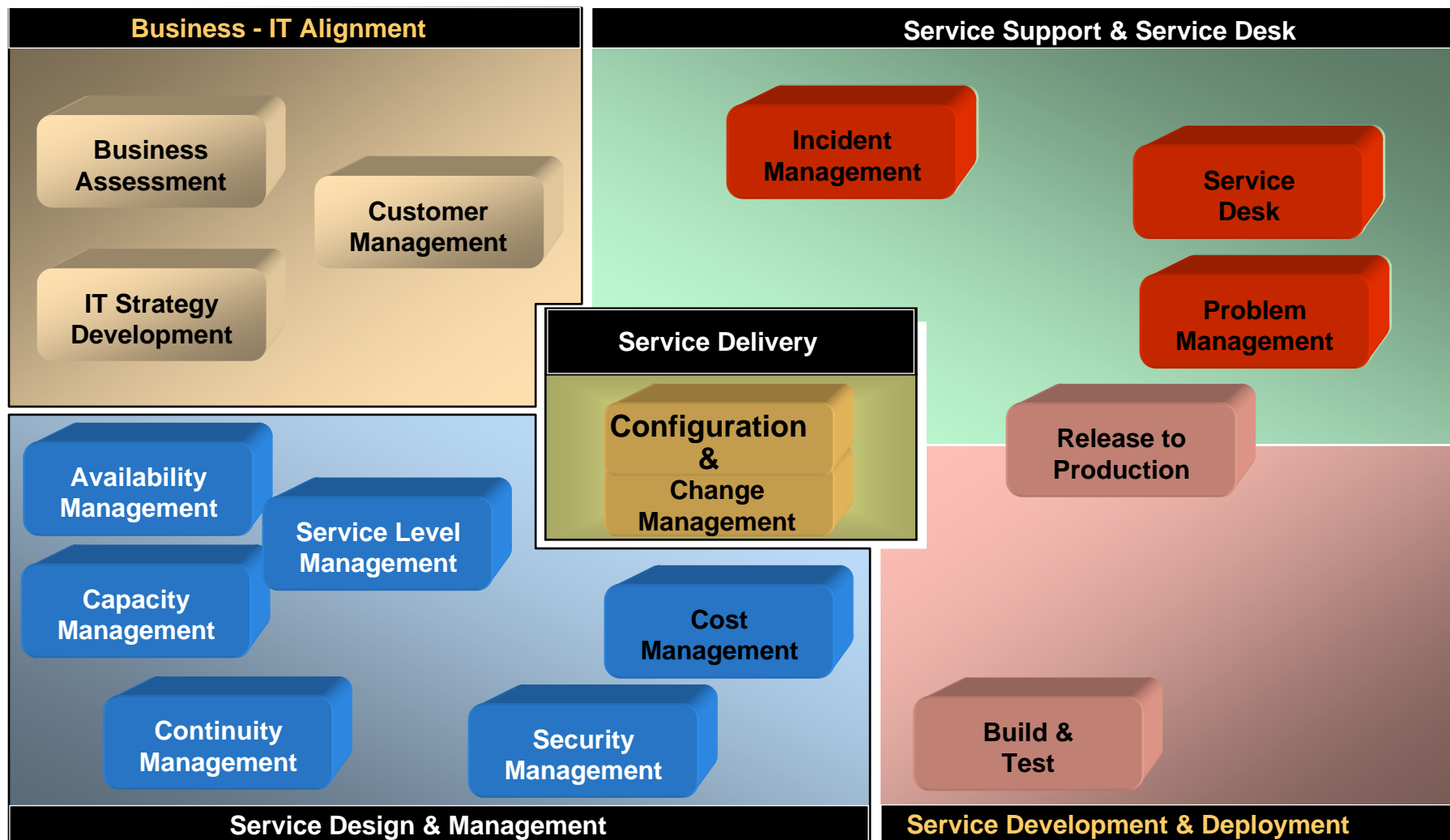
# CiscoWorks Network Compliance Manager Architectural Overview



# CiscoWorks Network Compliance Manager



# ITIL Service Support





# Incident Management

Mission:

Restore normal state IT service operations as quickly as possible to minimize the adverse impact on business operations.

Why Incident Management?

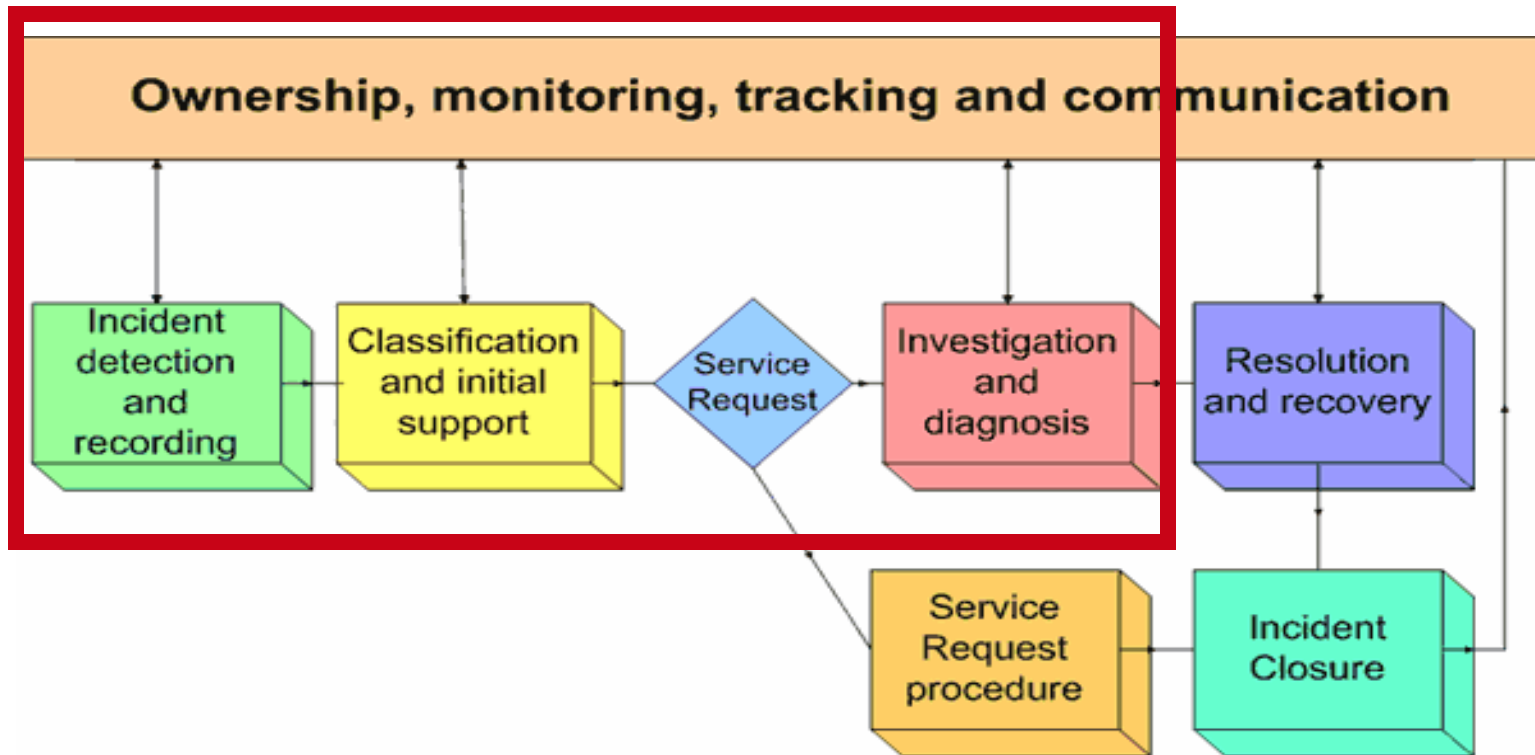
- Use the available Resources in the most economic manner in order to support the goals of the Enterprise
- Maintain helpful Documentations on all incidents
- Develop and use a consistent procedure used for all incidents

Responsibilities and Duties

- Registers all Incidents
- Classifies all Incidents
- 1st and 2nd Line Support
- Removal of Incidents
- Is the Owner of the Trouble Ticket


# Incident Management (2)

Support by DFM







**Incident Management does not solve Problems!**

# Cisco's Device Fault Management Alerts & Activities (detection)



## Device Fault Manager

Alerts and Activities as of Tue 22-Feb-2005 15:11:31 PST







Showing: Core Routers with 1 alerts

	Alert ID	Device Type	Duration	Last Change	Device Name	Description	Status
!	00000SB	Routers	122 hr 24 min	21-Feb-2005 13:53:52	nmtg-hq-core-3725.cisc...	Utilization	Active


**Views**

- All Alerts
- Suspended Devices
- ! Core Rout...
- LRE
- ! Routers
- ! Switches



## Alerts and Activities Detail

as of Tue 22-Feb-2005 15:16:42 PST



! **Device Name:** nmtg-hq-core-3725.cisco.com  
**Device Type:** Routers **Status:** Active **Alert ID:** 00000SB **Duration:** 122 hr 29 min **Last Change:** 21-Feb-2005 13:53:52

**Events: (2)**

#	Event ID	Description	Component	Time	Status	Tools
1.	00001LD	HighUtilization	IF-nmtg-hq-core-...	21-Feb-2005 13:53:52	Active	-- Select --
2.	00000X3	OperationallyDown	IF-nmtg-hq-core-...	17-Feb-2005 12:47:26	Active	-- Select --

**Notes:**

# Cisco's Device Fault Management Alerts & Activities

**CISCO SYSTEMS** Alerts and Activities Detail  
as of Tue 22-Feb-2005 15:28:33 PST

**Device Name:** nmtg-hq-core-3725.cisco.com  
**Device Type:** Routers **Status:** Active **Alert ID:** 00000SB **Duration:** 122 hr 41 min **Last Change:** 22-Feb-2005 15:28:33

**Events: (2)**

#	Event ID	Description	Component	Time	Status	Tools
1.	00001LD	HighUtilization	IF-nmtg-hq-core-...	21-Feb-2005 13:53:52	Active	-- Select --
2.	00000X3	OperationallyDown	IF-nmtg-hq-core-...	17-Feb-2005 12:47:26	Active	-- Select --

**Notes:**

22-Feb-2005 15:28:33: interface for the time be [Fa1/0]is operationally o

**Property Value**

Event_Description	OperationallyDown
Component	IF-nmtg-hq-core-3725.cisco.com/5 [Fa1/0]
Type	ETHERNETCSMACD
OperStatus	DOWN
InterfaceCode	CODEUNKNOWN
DuplexMode	FULLDUPLEX
AdminStatus	UP
LastChangedAt	17-Feb-2005 12:47:26 PM
IsFlapping	false
MaxSpeed	100000000
Mode	NORMAL

**Use tools to launch CiscoView**

Tools: -- Select --  
Fault History  
Device Ctr.  
UT Report  
**CiscoView**

Buttons: Refresh Acknowledge Suspend Notify Close

# Alerts & Activities

## Resolution – Change Port Status (Continue ...)

CISCO SYSTEMS

CiscoView 6.1 (STAGE-2)

Device Name/IP : 192.168.159.21

Color Legend Preferences

WARNING!! Shut down NM-NAM application before removing or power cycling.

FASTETHERNET 0

FASTETHERNET PORTS

15x 7x 14x 6x 13x 5x 12x 4x 11x 3x 10x 2x 9x 1x 8x 3x

192.168.159.21 : Interface FastEthernet1/0

Category: Interface Configuration

VLAN Id : N/A

Description: FastEthernet1/0

Type : ethernetCsmacd

Mtu : 1500

Speed : 100.0 Mbps

Physical Address : 000b.5f30.4018

Admin Status : up

Operational Status: down

Last Changed: 8:51:22 PST

Local Description:

OK Apply Cancel Refresh Print Help

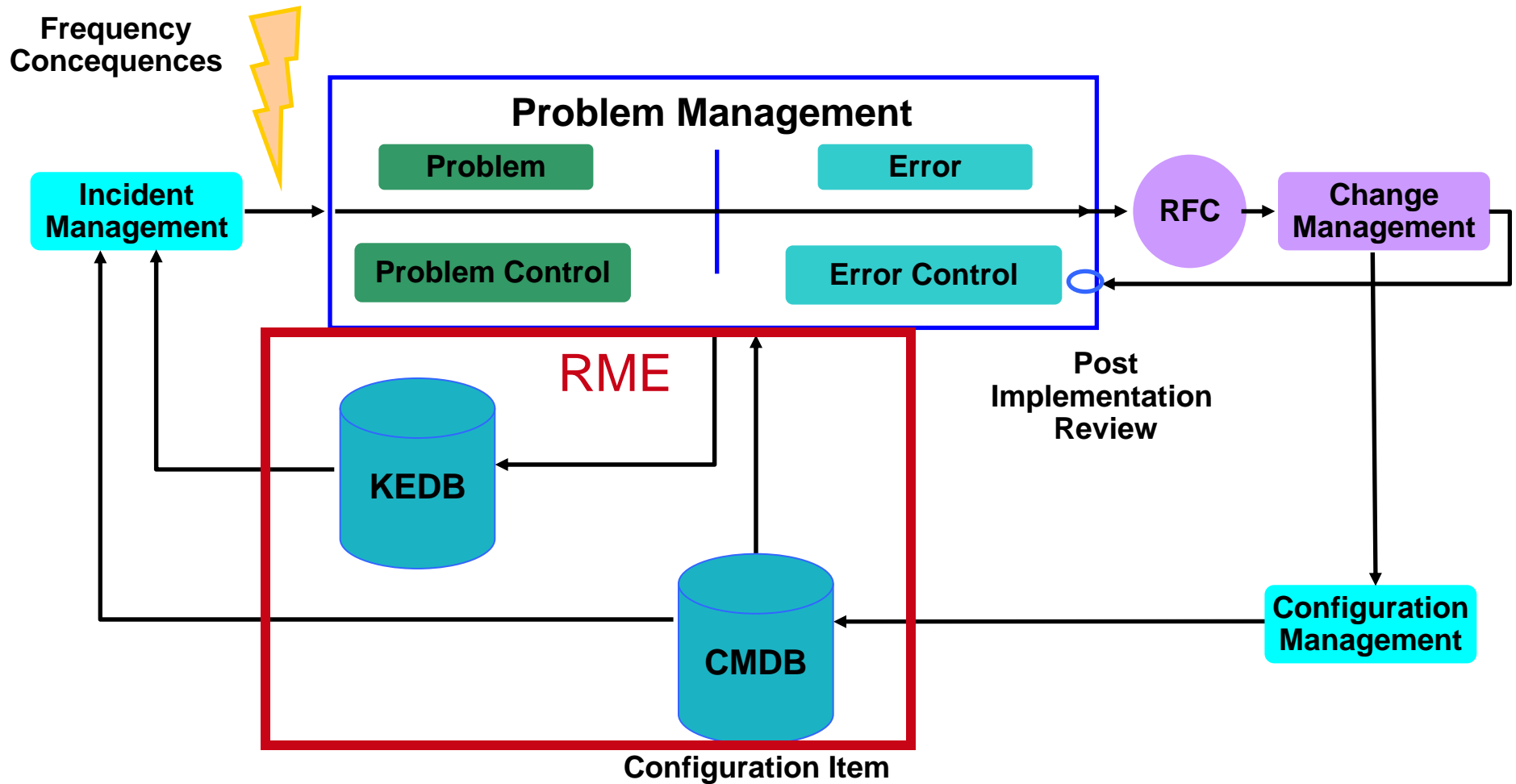
OBJECT SELECTOR

Right click on interface, select "Interface" and change Admin Status to "down"

# Problem Management

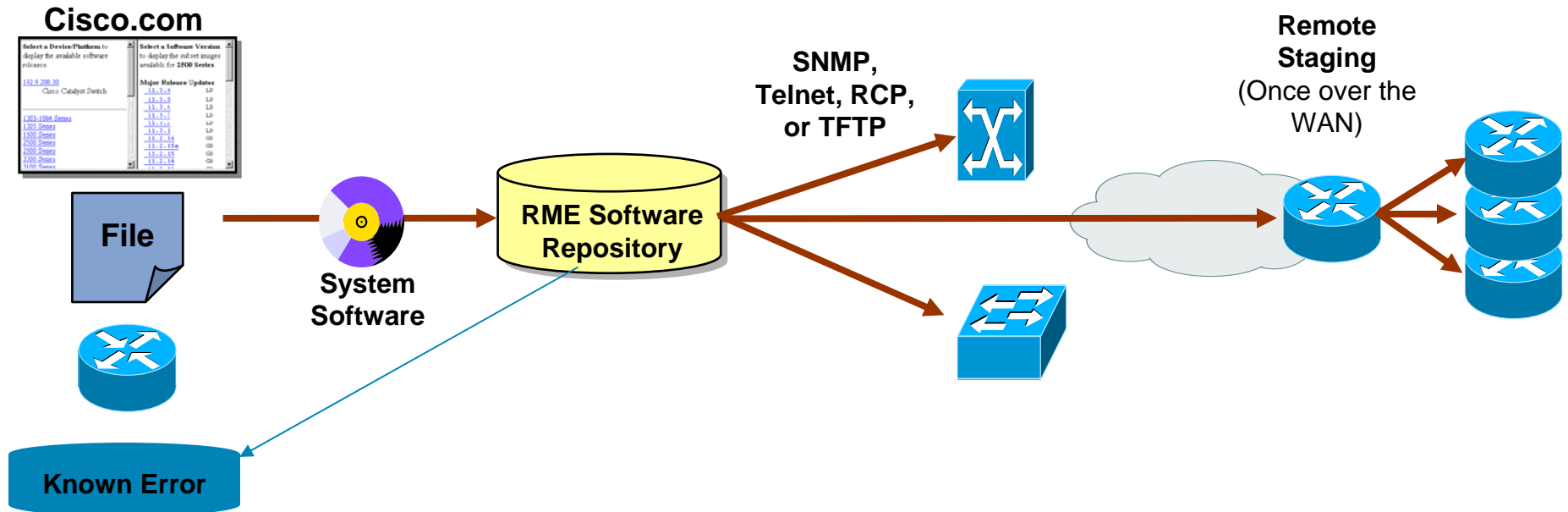
- The objective of Problem Management is to minimize the impact of problems on the organisation. Problem Management plays an important role in the detection and providing solutions to problems (work arounds & known errors) and prevents their reoccurrence.
- A 'Problem' is the unknown cause of one or more incidents, often identified as a result of multiple similar incidents.
- A 'Known error' is an identified root cause of a Problem.
- Request for Change - Change Request made by the Problem Management to the Change Management in order to eliminate the Problem

# Problem Management (2)




# Software Management & Known Error DB

## Resource Manager






# Image Management & Bugs Summary Report



## Total Bugs Summary Report

Generated on Jan 18 2005 15:00:07 PST



**Reported bugs for selected devices**

### Cisco 7200 Series Routers


Device Name	Category	Image Version	Image Status	Total Bugs	Catastrophic	Severe
nmtg-remote-7200.cisco.com	Cisco 7204 Router	12.1(2)	NA	1007	31	265
nmtg-branch-7200.cisco.com	Cisco 7204 Router	12.1(2)	NA	1007	31	265
nmtg-hq-core-7200vyr.cisco.com	Cisco 7204VXR Router	12.3(7)T	ED	2500	155	1322

[Back to Top](#)

### Cisco 2600 Series Multiservice Platforms



Device Name	Category	Image Version	Image Status	Total Bugs	Catastrophic	Severe
nmtg-remote-2620.cisco.com						

**Drill down to view bug details**



## BugToolkit Summary Report:Bug Details

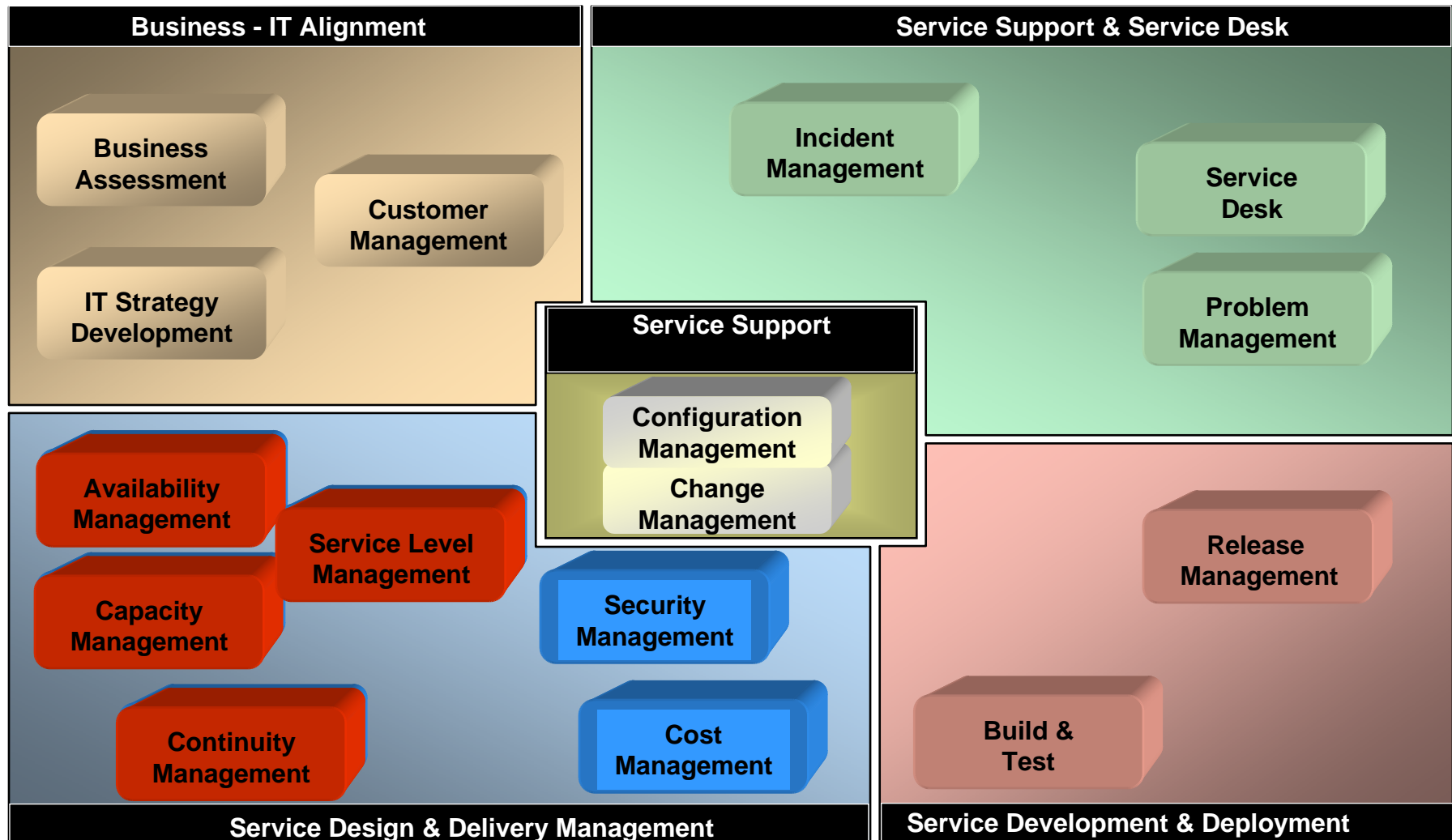
Generated on Jan 18 2005 15:08:58 PST

Showing 1-20 of 31 records Go to page:  of 2 pages [Go](#)

Bug ID	Subject	Found Version	Fixed Version	Feature	Severity	Status
1. CSCef00611	Crash on %FIB-2-IFINDEXILLEGAL:An internal software error occured	12.2(17d)SXB01		OTHERS	1	D
2. CSCee86005	fail to read disk0 once flash disk is removed and reinsert	12.0(25)SX06		OTHERS	1	D
3. CSCef65571	IP interface flaps when SNMP copy of config is performed	12.1(14)E03		SNMP	1	C
4. CSCeg01297	System crash caused by pkt of incorrect length/IP header checksum	12.2(18.06.03)SX	12.2(18)SXD03,12.2(17d)SXB06,12.1(25.4)E	OTHERS	1	R

# ITIL Service Design & Delivery



# Availability Management

## Mission :

**Optimize the capability of the IT infrastructure, services and supporting organization to deliver a cost effective and sustained level of service availability that meets business requirements.**

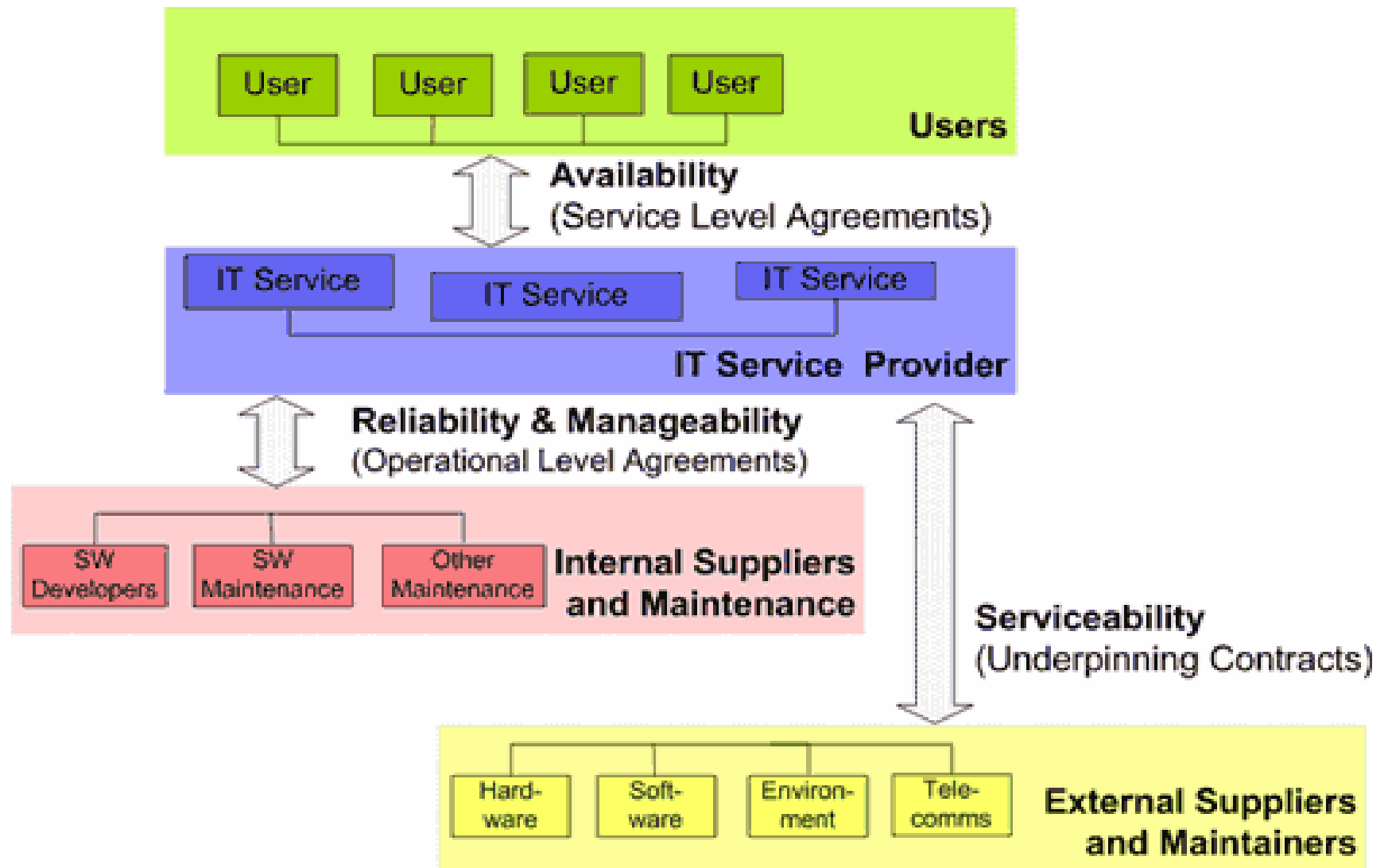
## Why Availability Management

- AM Is responsible for that IT Services are available when Customers need them
- Identifies the Vital Business Function, defines the availability and develops them through reliable components
- Reaches Availability through Fault Tolerance, Maintainability and Serviceability
- Reports on reached Availability and continuously improves the availability of IT Services

## Responsibilities and Duties

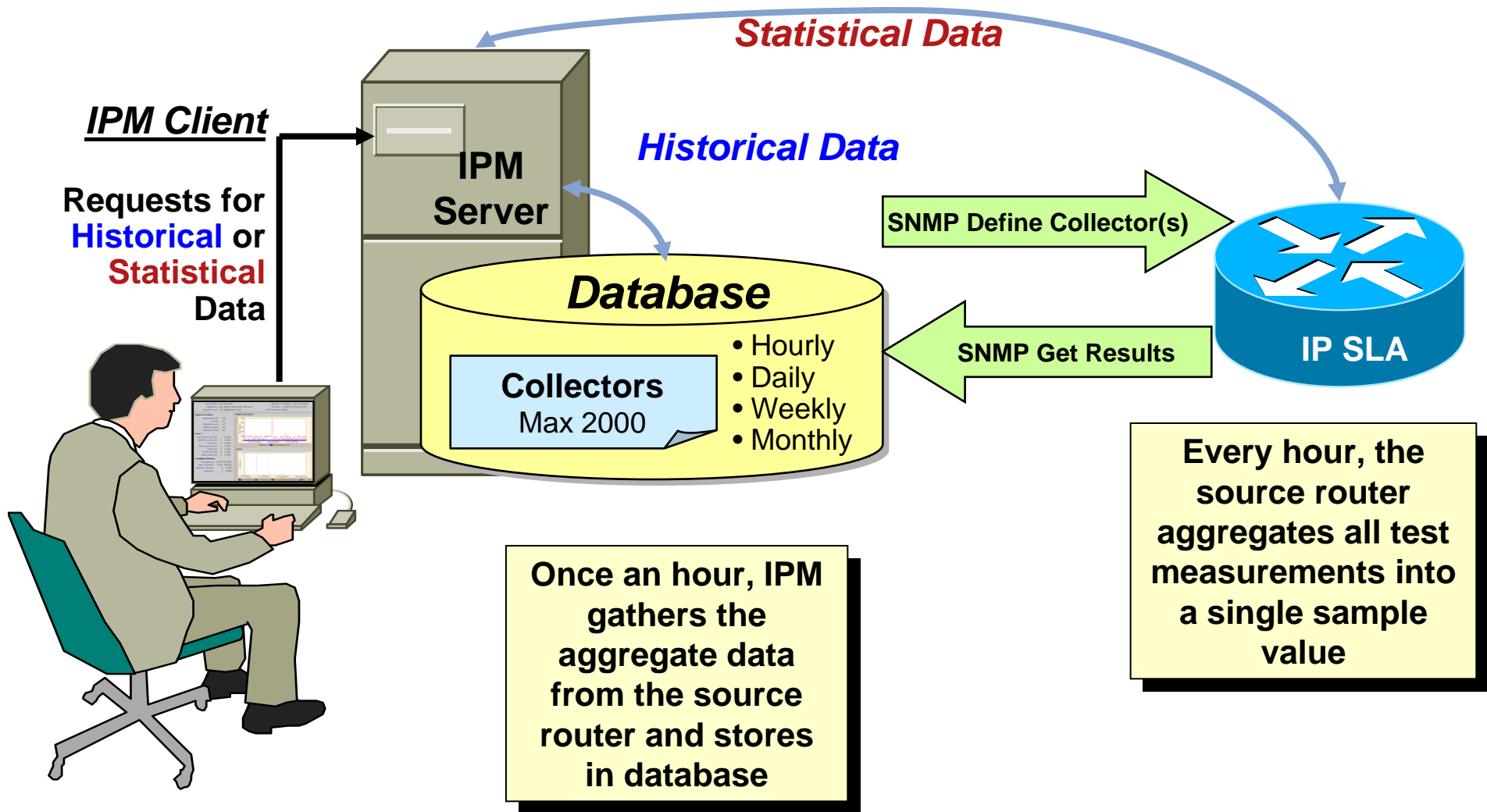
- Builds a Availability Plan for all IT Services
- Defines the availability requirements in conjunction to the Business
- Continuous monitoring and improvement on Availability

# Availability Management



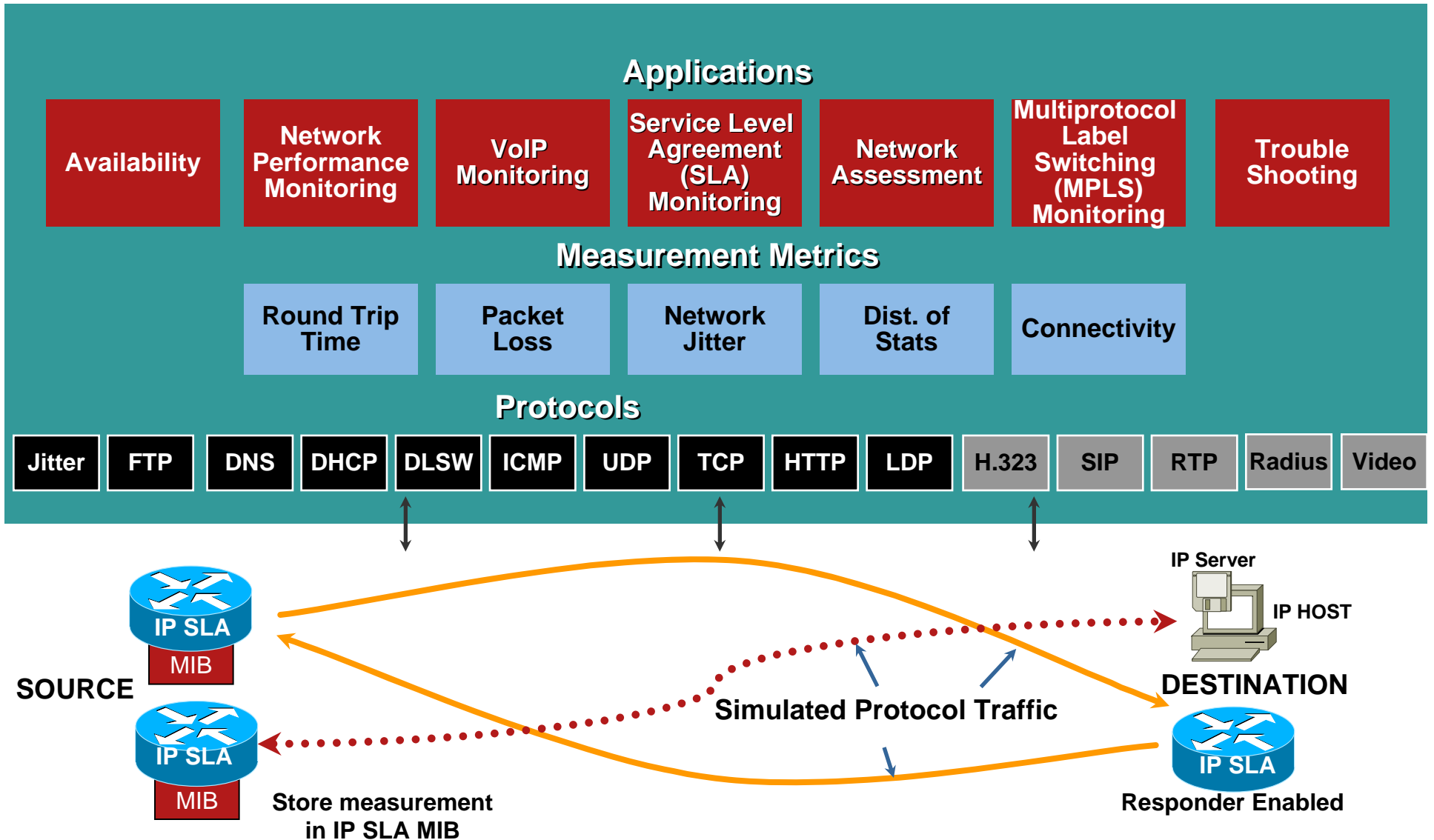
# Gathering Service Availability & Performance Data

## Internetwork Performance Manager (IPM)



# Cisco IOS IP SLA Built in Tests

## Cisco IOS IP Service Level Agreements



# Service Availability Reports

## Internetwork Performance Manager (IPM)

**CISCO SYSTEMS** CiscoWorks | Help | About

**Internetwork Performance Monitor**

Client Reports Admin

Configuration Reports Latency Reports **Jitter Reports** HTTP Reports

You Are Here Reports Jitter Reports Daily

**Daily Jitter Reports**

**Daily Jitter Alert Report**  
01/18/2005

Collector Info		Round Trip Latency		Src Dest Jitter		Dest Src Jitter		Completions			
Collector	Operation	Avg (msecs)	Avg Max (msecs)	Avg (msecs)	Avg Max (msecs)	Avg (msecs)	Avg Max (msecs)	Trys	Over %	End-To-End Error %	Packet Error %
<a href="#">Video Stream High Priority</a>	<a href="#">Video Stream - high priority TOS7</a>	46.06	55.25	1.04	3.79	1.08	7.04	1440	0%	0.21%	0%
	Last Week	46.08	66.92	1.04	1.73	1.11	15.05	5040	0%	0%	0%
	Last Month	0	0	0	0	0	0	0	0%	0%	0%
<a href="#">Video Stream Low Priority</a>	<a href="#">Video Stream - low priority TOS1</a>	46.04	52.88	1.05	3.70	1.07	4.76	1443	0%	0.21%	0%
	Last Week	46.13	74.42	1.04	1.96	1.12	17.30	5040	0%	0%	0%
	Last Month	0	0	0	0	0	0	0	0%	0%	0%

# Daily –Latency Report / Service Latency Report

## Internetwork Performance Manager (IPM)

<u>Daily IP-Echo Latency Summary Report</u>														
10/26/2005														
Collector Info		Daily Statistics					Last Week's Statistics				Last Month's Statistics			
Collector	Operation	Avg (msecs)	Avg Max (msecs)	Trys	Over %	Error %	Avg (msecs)	Avg Max (msecs)	Over %	Error %	Avg (msecs)	Avg Max (msecs)	Over %	Error %
<a href="#">PEcho_Source</a> if <a href="#">DefaultIpEcho</a>	<a href="#">DefaultIpEcho</a>	286	376	1440	0%	0.63%	0	0	0%	0%	0	0	0%	0%
<a href="#">MyColl</a>	<a href="#">DefaultIpEcho</a>	280	364	180	0%	0%	0	0	0%	0%	0	0	0%	0%
<a href="#">Coll_IPEcho</a>	<a href="#">DefaultIpEcho</a>	1	3	1440	0%	0%	0	0	0%	0%	0	0	0%	0%

<u>Daily Services Latency Summary Report</u>														
10/26/2005														
Collector Info		Daily Statistics					Last Week's Statistics				Last Month's Statistics			
Collector	Operation	Avg (msecs)	Avg Max (msecs)	Trys	Over %	Error %	Avg (msecs)	Avg Max (msecs)	Over %	Error %	Avg (msecs)	Avg Max (msecs)	Over %	Error %
<a href="#">Collector1</a>	<a href="#">DefaultTelnet</a>	282	789	1416	0%	0%	0	0	0%	0%	0	0	0%	0%
<a href="#">Collector5</a>	<a href="#">DefaultTelnet</a>	61	309	1416	0%	0%	0	0	0%	0%	0	0	0%	0%
<a href="#">Collector6</a>	<a href="#">DefaultTelnet</a>	60	236	1416	0%	0%	0	0	0%	0%	0	0	0%	0%
<a href="#">CollectorOD4</a>	<a href="#">DefaultTelnet</a>	0	0	0	0%	0%	0	0	0%	0%	0	0	0%	0%
<a href="#">CollectorOD3</a>	<a href="#">DefaultTelnet</a>	0	0	0	0%	0%	0	0	0%	0%	0	0	0%	0%
<a href="#">CollectorOD2</a>	<a href="#">DefaultTelnet</a>	0	0	0	0%	0%	0	0	0%	0%	0	0	0%	0%
<a href="#">CollectorOD1</a>	<a href="#">DefaultTelnet</a>	0	0	0	0%	0%	0	0	0%	0%	0	0	0%	0%
<a href="#">Collector4</a>	<a href="#">DefaultUDPEcho</a>	0	0	1440	0%	100.00%	0	0	0%	0%	0	0	0%	0%
<a href="#">Collector2</a>	<a href="#">DefaultUDPEcho</a>	0	0	1440	0%	100.00%	0	0	0%	0%	0	0	0%	0%



# Capacity Management

## Mission:

**Capacity Management is the discipline that ensures IT infrastructure is provided at the right time in the right volume at the right price, and ensuring that IT is used in the most efficient manner.**

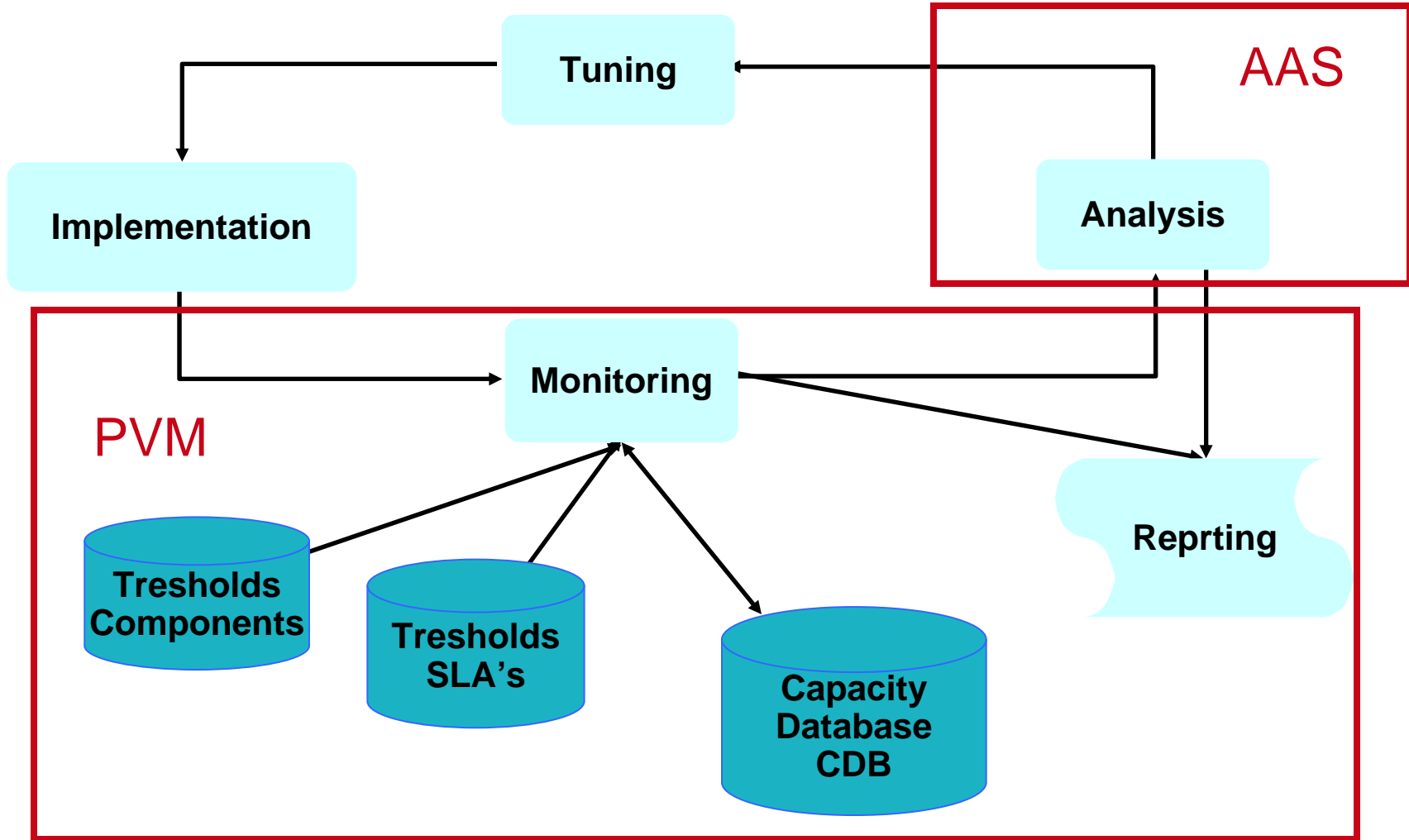
## Why Capacity Management

- Plan and Monitor all IT Capacity in order to provide Capacity in a timely and cost efficient manner as required by the Business
- Understand the actual and future demand on IT Capacity.
- Influence IT Capacity Demand

## Responsibilities and Duties

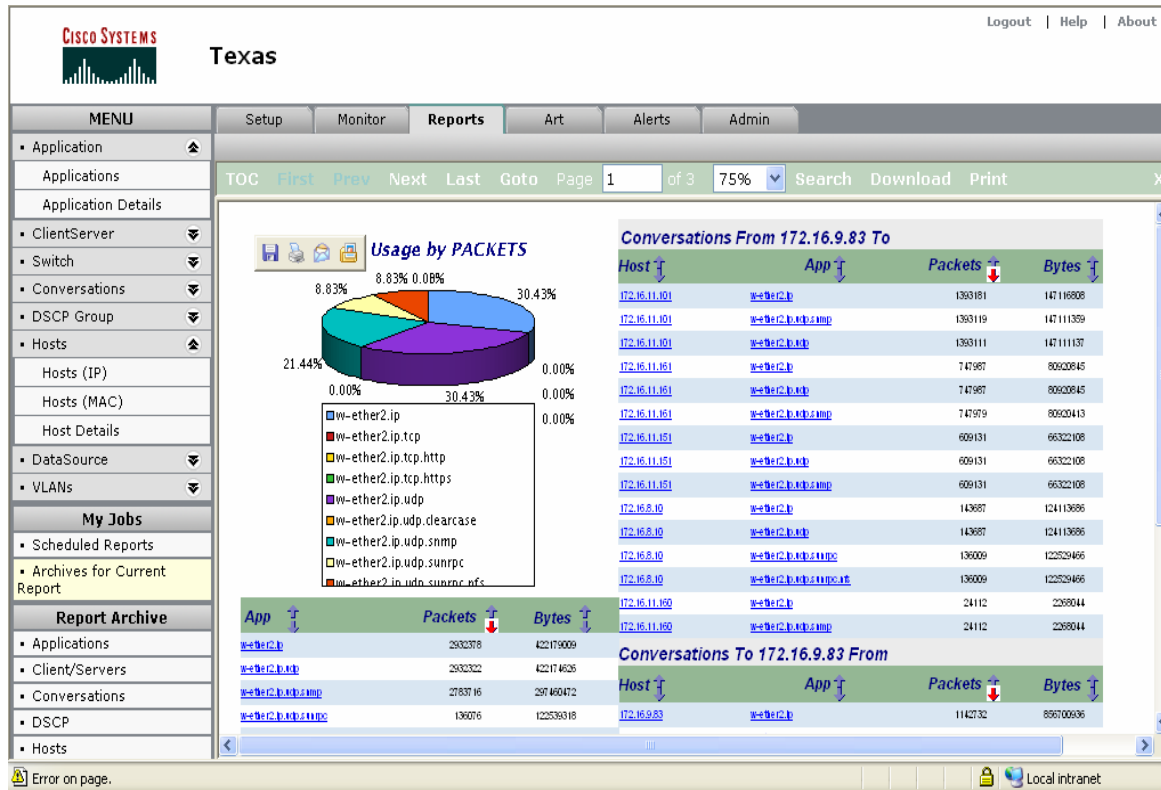
- Business Capacity Management  
Responsible that future Business demands get planned and implemented on time
- Service Capacity Management  
Focus on improving customer oriented IT Services
- Resource Capacity Management  
Focus on IT Infrastructure Resources and its Management

# Capacity Management



# Traffic & Bandwidth Utilization Analysis

## Performance Visibility Manager



- **Top-N Analysis**
  - Which applications are using the most bandwidth
  - Which locations are using the most bandwidth
  - Which hosts are using the most bandwidth
- **Application Analysis**
  - Fully leverage NAM's capabilities to differentiate traffic based on, static ports, dynamic ports, HTTP sub-classification by URL, etc.
- **Hosts & Conversations Analysis**
  - Identify top talkers and Who talk to who
- **VLAN Analysis**
  - Identify and drill down which applications, protocols and hosts are consuming bandwidth
- **Port & Interface Statistics Analysis**

# Proactively Monitoring and Reporting

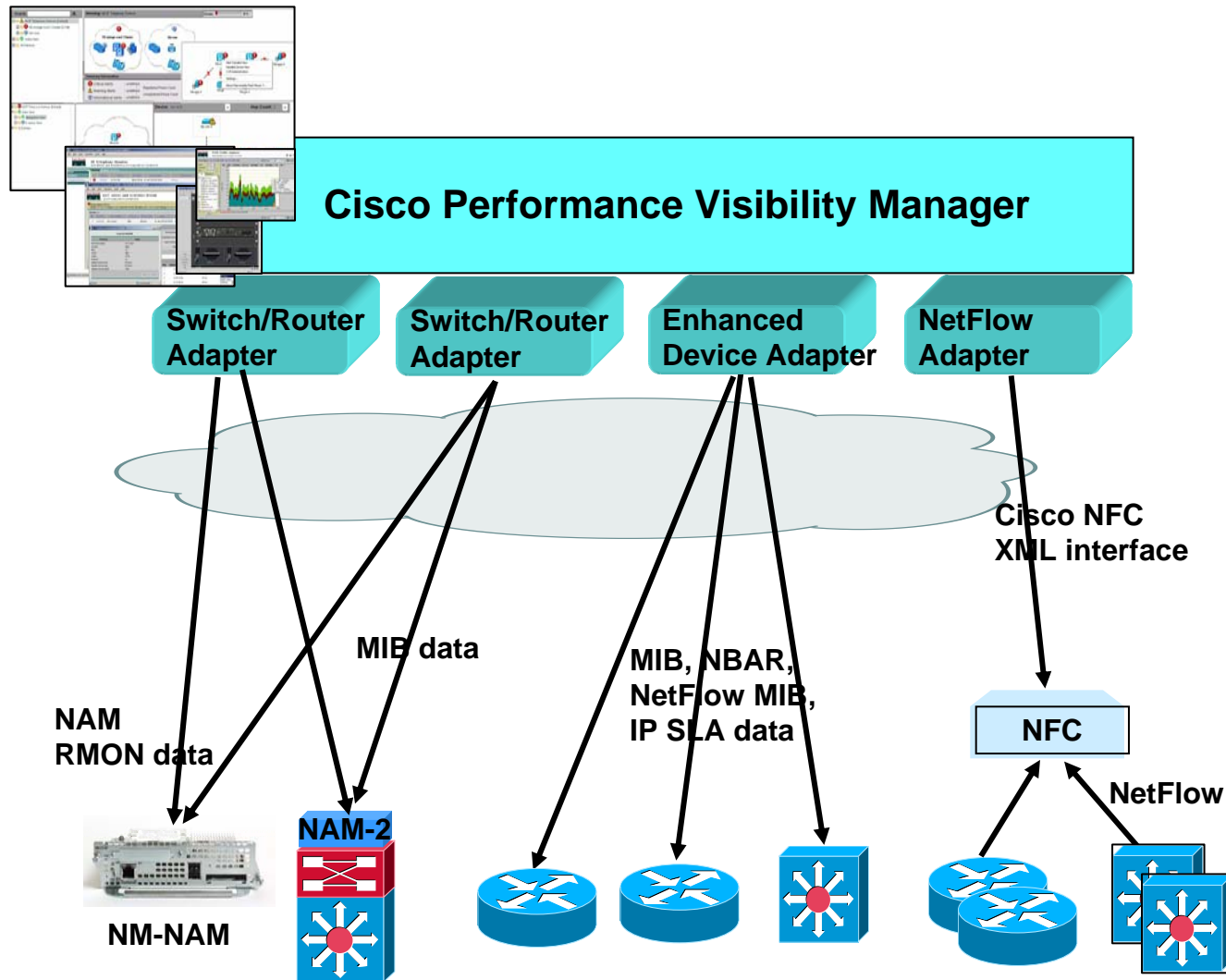
## Performance Visibility Manager

Severity	Date	Log Type	Source	Traffic Type	Log Source Ty
Minor	11/04/2005 14:00:07	Falling Threshold Crossed	sep octets		NAM
Warning	11/04/2005 14:00:02	PVM System Health	PVM		PVM
Warning	11/04/2005 14:00:02	PVM System Health	PVM		PVM
Critical	11/04/2005 13:59:02	PVM System Health	PVM		PVM
Minor	11/04/2005 13:59:01	Rising Threshold Crossed	sep octets		NAM
Critical	11/04/2005 13:58:02	PVM System Health	PVM		PVM
Critical	11/04/2005 13:57:32	PVM System Health	PVM		PVM
Critical	11/04/2005 13:57:32	PVM System Health	PVM		PVM
Minor	11/04/2005 13:57:04	Falling Threshold Crossed	sep octets		NAM
Critical	11/04/2005 13:57:02	PVM System Health	PVM		PVM
Critical	11/04/2005 13:57:02	PVM System Health	PVM		PVM
Warning	11/04/2005 13:57:02	PVM System Health	PVM		PVM
Minor	11/04/2005 13:56:56	Falling Threshold Crossed	new sep		NAM
Minor	11/04/2005 13:56:56	Falling Threshold Crossed	Latest IP host		NAM

- Automatic baselining of normal pattern of normal network behavior based on current and previous performance data
- Proactive monitoring and alerts generated as threshold crossing events
- Real-time reports, Historical reports & Trending reports
- Schedule reports & request on demand reports
- Preconfigured standard reports such as executive views, health reports and technical details per device
- Reports in CVS and PDF format

# Performance Management Solution

## Performance Visibility Manager



### Phase 1

Centralized NAM solution

### Phase 2

–Cisco NetFlow Collector (NFC)

- IP SLA

- Device Instrumentation Package - IP SLA, NetFlow MIB, etc.

### Phase 3 (Q4 CY2007)

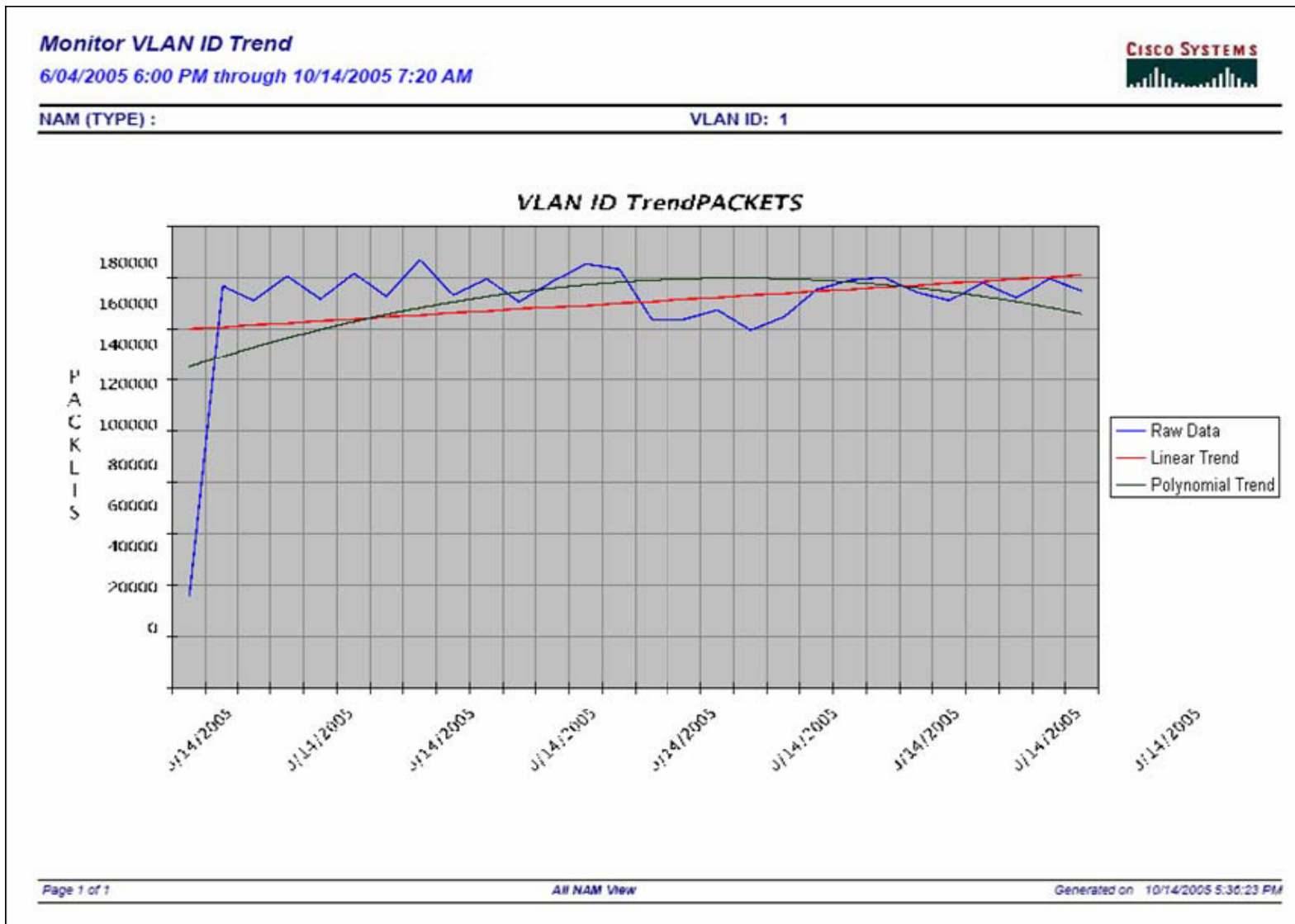
- Application Networking Service (ANS) package

- Cisco NFC 6.0 (2-tier architecture, Flexible NetFlow)

- QoS, NBAR

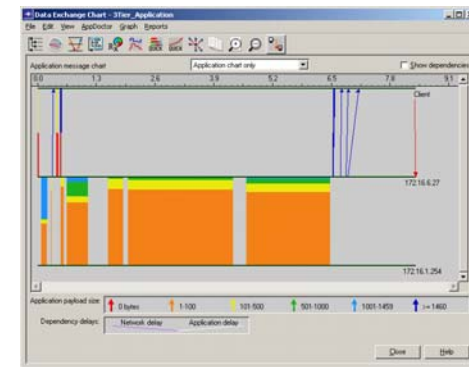
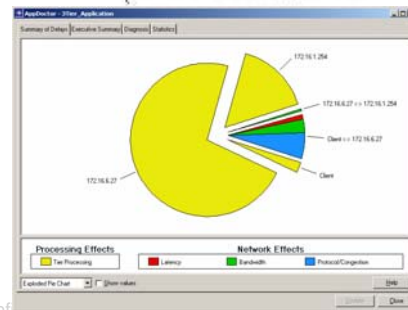
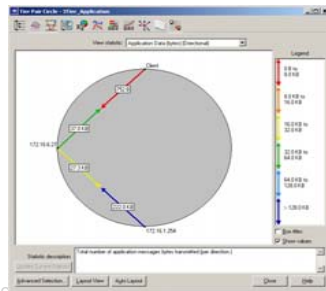
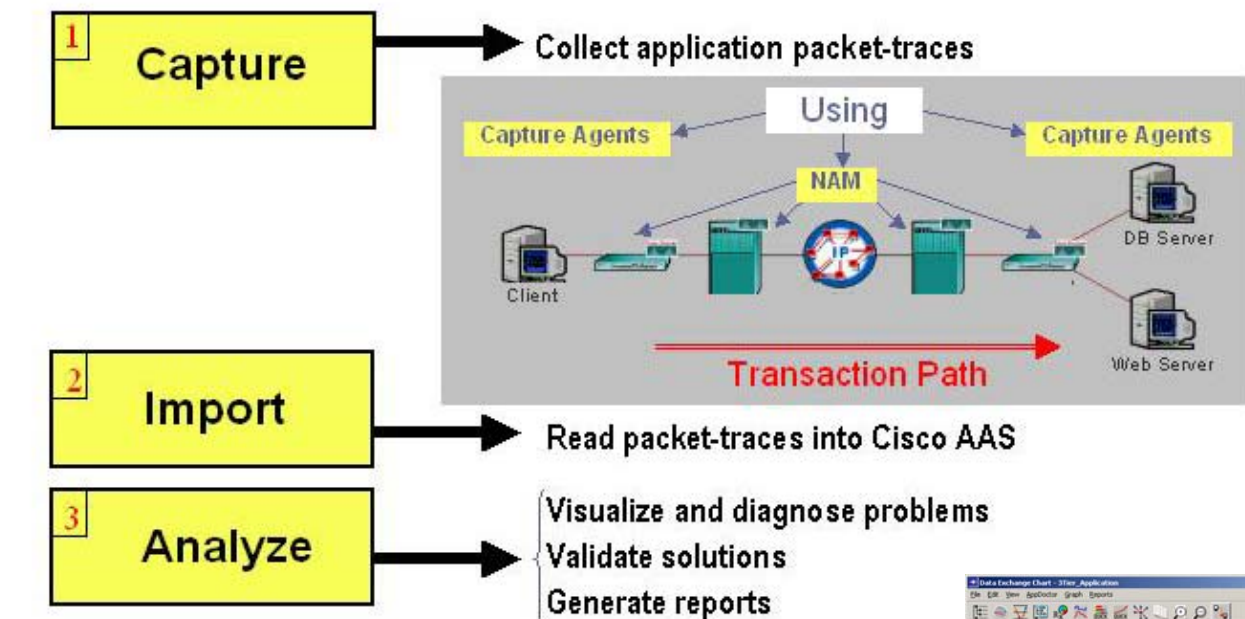
# Cisco PVM – Trending report

## Performance Visibility Manager

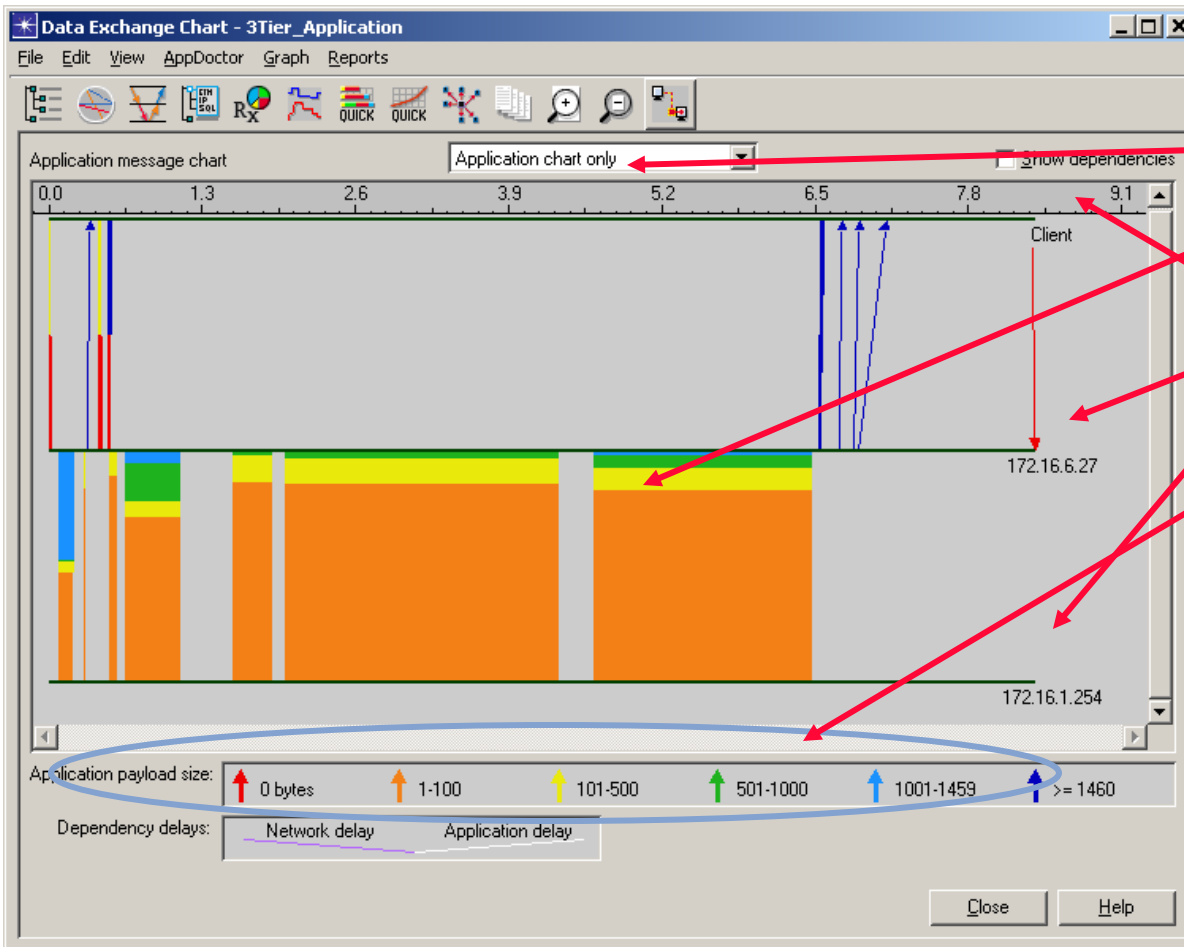


# Cisco Application Analysis Solution (AAS)

- Rapidly isolate the causes of e2e problems, and determine if they are network or application related.



# Cisco AAS Workflow: Visualize



## Multi-Tier Database Application Data Exchange Chart

Graphs displays and highlights:

- Time line of transaction
- Application messages
- Application tiers
- Message dependencies
- Application payload

Merge n-tier traces for complete end-to-end analysis

### Results:

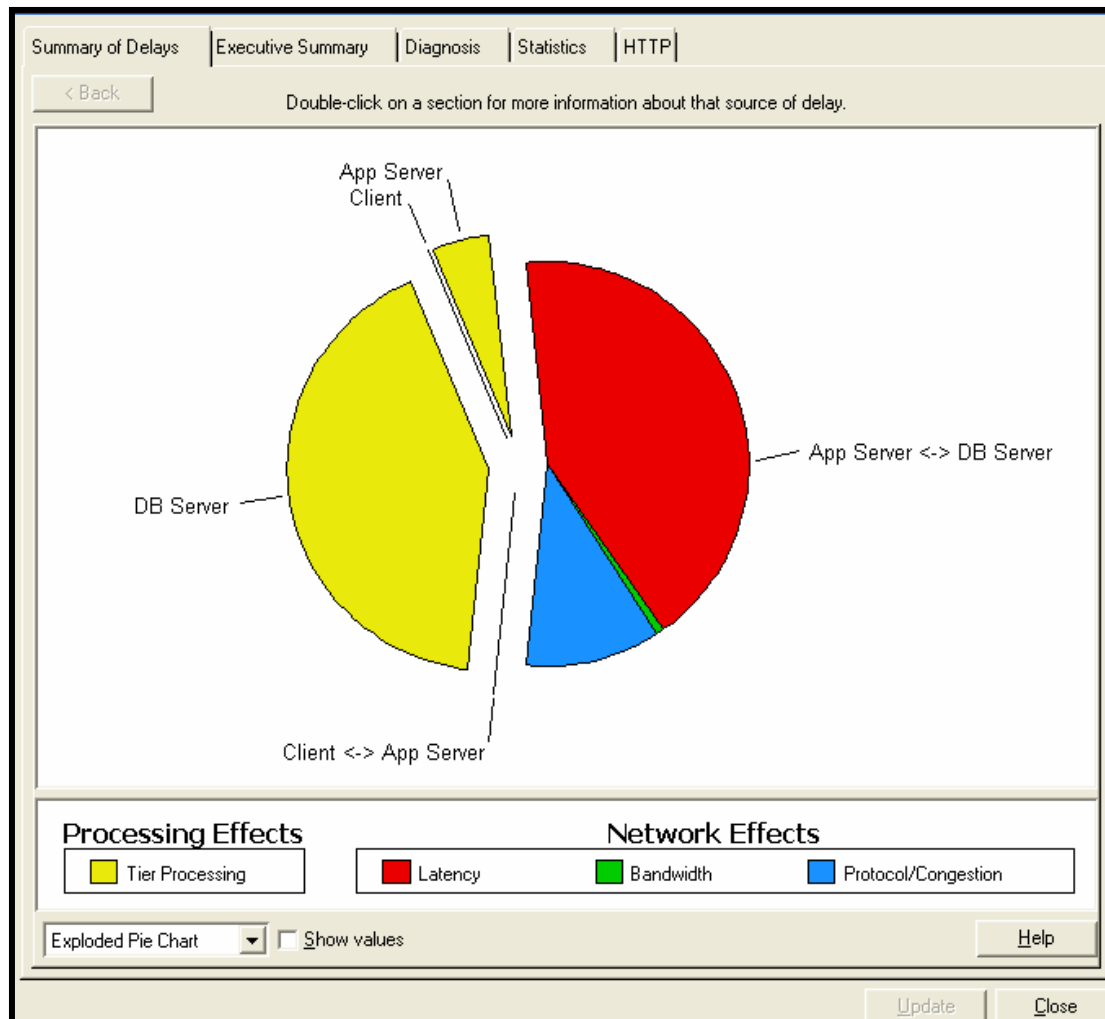
Most activity is between the two servers,

Most of the traffic consists of very small messages

Very little of the end-to-end response time is due to the WAN



# Cisco AAS Workflow: Diagnose



## Summary of Delays:

Breaks down transactions into Processing and Network effects

## Processing Effects:

Identifies Application Tiers

Shows % of Processing effect in each tier

## Network Effects:

Effect in each tier

Breakdown into three components

Latency

Bandwidth

Protocol/Congestion

# Service Level Management

- Mission:

**Plan, coordinate, negotiate, report and manage the quality of IT services at acceptable cost.**

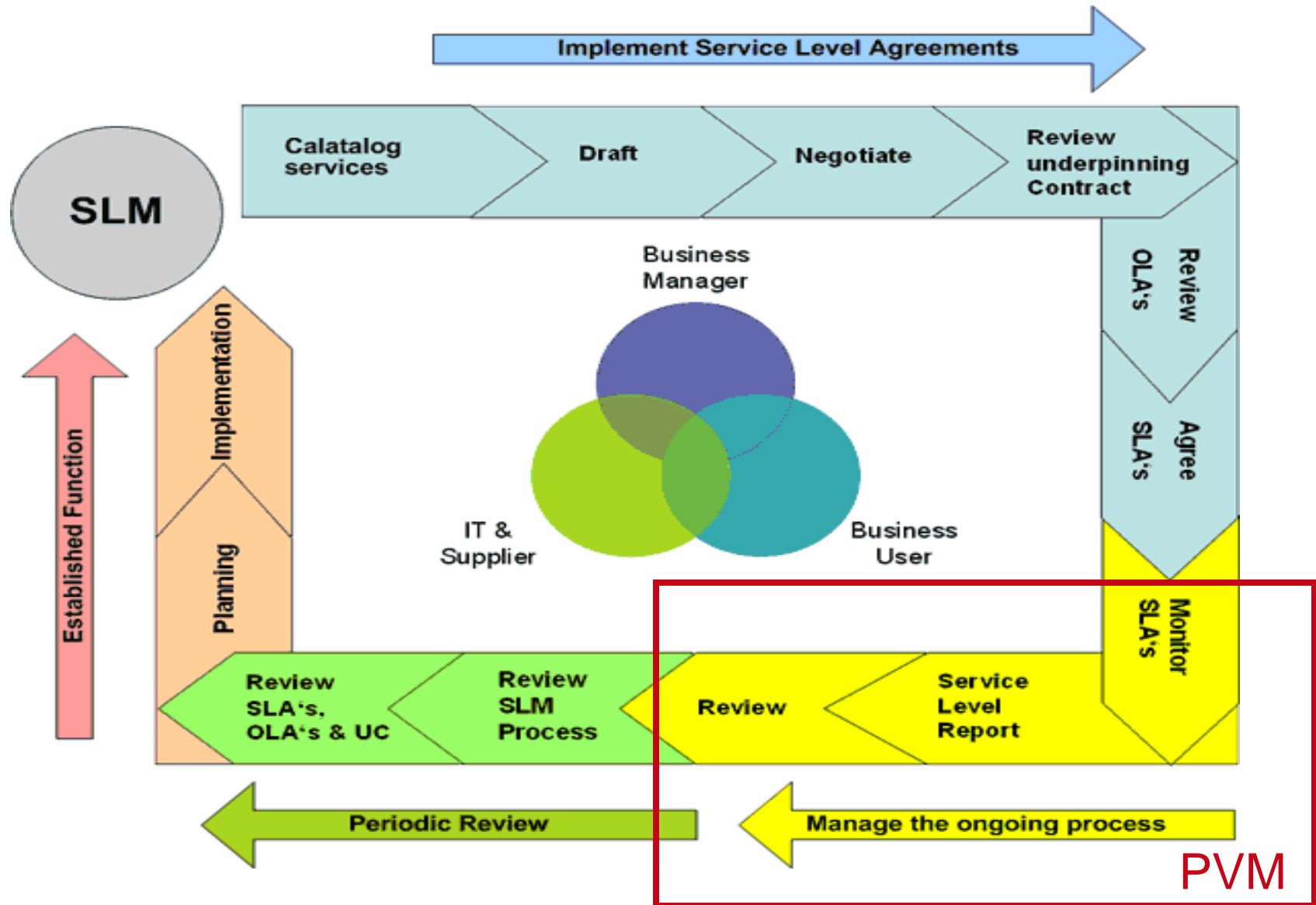
## Why Service Level Management

- The goal is to maintain and improve IT Service Quality for business aligned Operations
- SLM documents the Service Goals in SLA's
- Manages and Monitors the fulfillment of SAL's

## Responsibilities and Duties

- Negotiations with Customers on Service Requirements.
- Improving the SLA's by Service Improvement Programs
- Report on Cost of Service, Resources and meeting the SLA's

# Service Level Management



# Cisco PVM - Application Response Time

## Performance Visibility Manager

### Network Flight Time Per Protocol

For Time Period: 9/26/2005 10:59 AM - 9/26/2005 11:22 AM



Server: 172.16.11.101

Client: 172.16.11.43

ART Group: ARTGROUP3

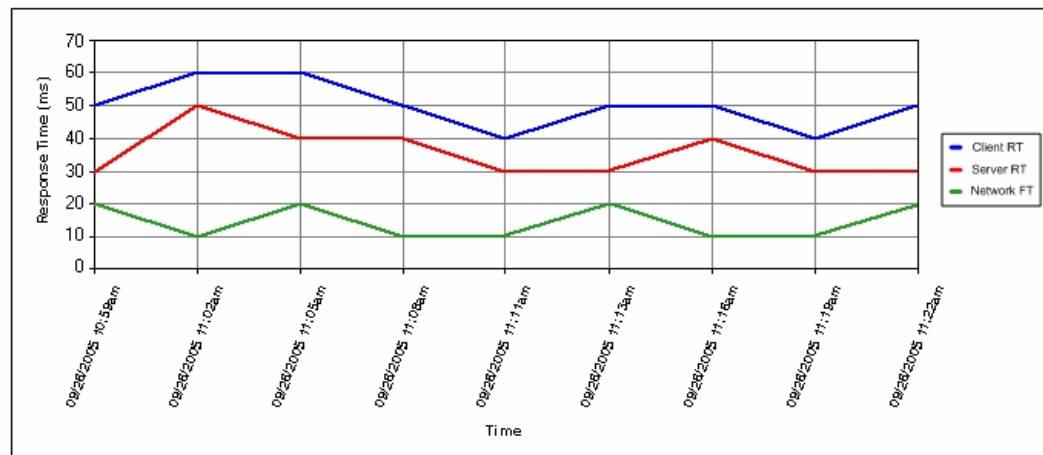
Application Name: w-ether2.ip.tcp.http

Server NAMS: namlab-2800-1

(NAM\_1)

Client NAMS: namlab-6500-1

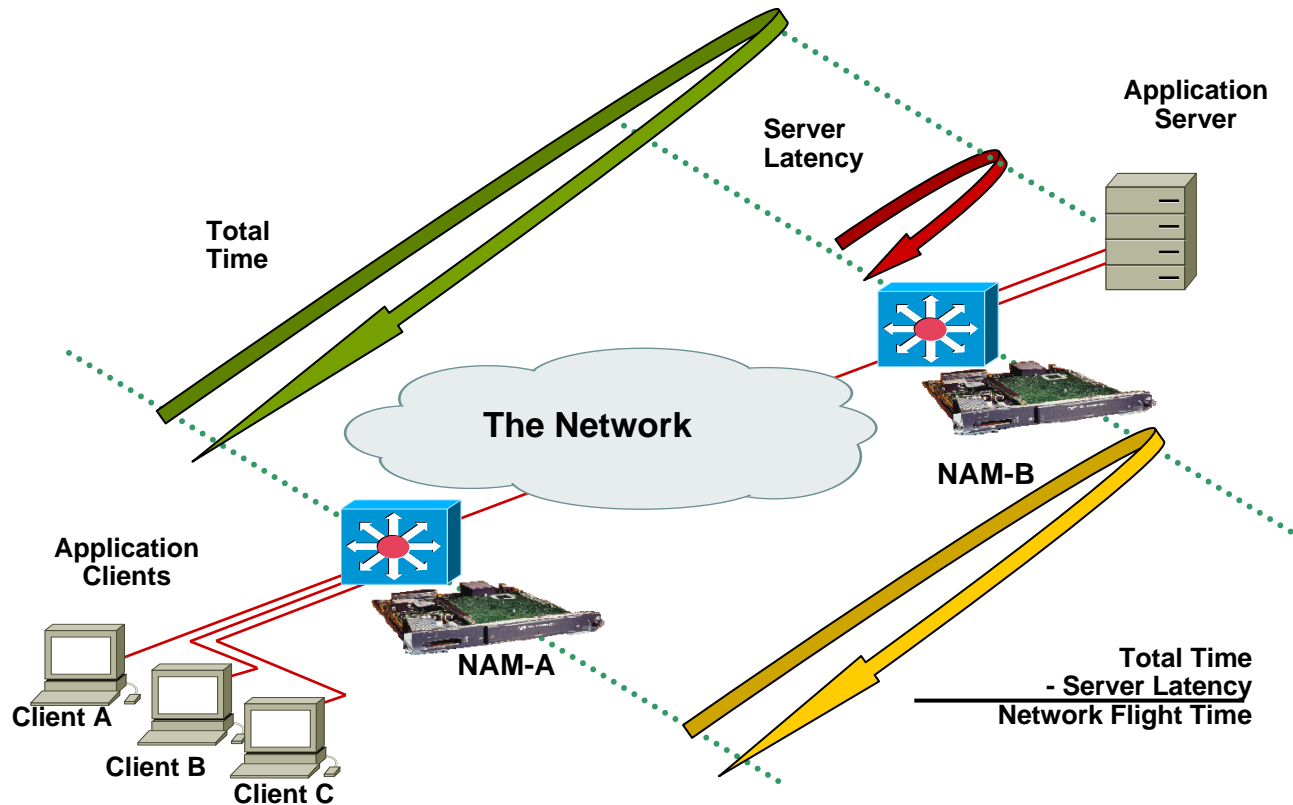
(NAM\_2)



# Cisco PVM - Application Response Time

Performance Visibility Manager

## Is It the Network or the Application?



# Cisco PVM – Baselining & Thresholds

## Performance Visibility Manager

The screenshot shows a Microsoft Internet Explorer browser window displaying the Cisco Performance Visibility Manager (PVM) web interface. The browser's address bar shows the URL: `https://safi:8443/acapweb/texas/thresholds.do`. The page title is "Add A New Threshold - Microsoft Internet Explorer".

The main content area is titled "Cisco Performance Visibility Manager" and includes a navigation menu with tabs for "Setup", "Monitor", "Reports", "ART", "Alerts", and "Admin". The "Setup" tab is active, and the sub-tab "Add A New Threshold" is selected. A notification at the top right states: "Your EVAL license will expire in 25 days." The server time is displayed as "01/27/2006 1:23:13 PM EST".

The left sidebar contains a "Generate Reports" menu with the following items: "NAM", "DSG", "Thresholds" (highlighted), and "Preferences".

The main form area contains the following fields and controls:

- \* Name:** Text input field.
- \* Description:** Text input field.
- \* Severity:** Dropdown menu.
- Fixed Threshold:**  checkbox.
- Severity Fixed Value:** A table with the following structure:

Severity	Fixed Value
Critical:	<input type="text"/>
Major:	<input type="text"/>
Minor:	<input type="text"/>
Warning:	<input type="text"/>
- SNMP Trap:**  checkbox.
- \* Aggregation Period:** Dropdown menu set to "5 min".
- \* Statistic:** Dropdown menu set to "Application Statistics".
- \* Metric:** Dropdown menu.
- \* Data Source Group:** Dropdown menu.
- Application:** Text input field with a "Filter" button.

A note at the bottom left of the form area states: "\* Required field".

# Cisco PVM - Alerts

## Performance Visibility Manager

**CISCO SYSTEMS** Cisco Performance Visibility Manager

Logout | Help | About

MENU

- Alerts

Setup Monitor Reports ART Alerts Admin

Alerts

From Date: 12/29/2005 02:54 PM To Date: 12/29/2005 03:54 PM Source:  Clear

Log Type:  Severity:  Cause:  Filter

206 items found, displaying 1 to 16. [First/Prev] 1, 2, 3, 4, 5, 6, 7 [Next/Last]

Severity	Date	Log Type	Source	Traffic Type	Log Source Type
Critical	12/29/2005 15:54:32	Generic	172.16.11.151		
Critical	12/29/2005 15:54:31	Generic	172.16.11.161		
Critical	12/29/2005 15:54:31	Generic	172.16.11.165		
Critical	12/29/2005 15:53:32	Generic	172.16.11.151		
Critical	12/29/2005 15:53:31	Generic	172.16.11.161		
Critical	12/29/2005 15:53:31	Generic	172.16.11.165		
Critical	12/29/2005 15:52:32	Generic	172.16.11.151		
Critical	12/29/2005 15:52:31	Generic	172.16.11.161		
Critical	12/29/2005 15:52:31	Generic	172.16.11.165		
Minor	12/29/2005 15:51:35	Rising Threshold Crossed	Giga4_47_packets		Switch
Critical	12/29/2005 15:51:32	Generic	172.16.11.151		
Critical	12/29/2005 15:51:31	Generic	172.16.11.161		
Critical	12/29/2005 15:51:31	Generic	172.16.11.165		
Critical	12/29/2005 15:50:50	Cisco PVM System Health	CPU		Cisco PVM
Critical	12/29/2005 15:50:50	Cisco PVM System Health	CPU		Cisco PVM
Warning	12/29/2005 15:50:49	Cisco PVM System Health	CPU		Cisco PVM

# Continuity Management

**Continuity management is the process by which plans are put in place and managed to ensure that IT Services can recover and continue should a serious incident occur. It is not just about reactive measures, but also about proactive measures - reducing the risk of a disaster in the first instance.**

## Best Practice

- BCM delivers the critical Business Process which must be protected
- ITSC Plan must have a Risk Assessment
- The ITSC must be adapted to changing Infrastructure

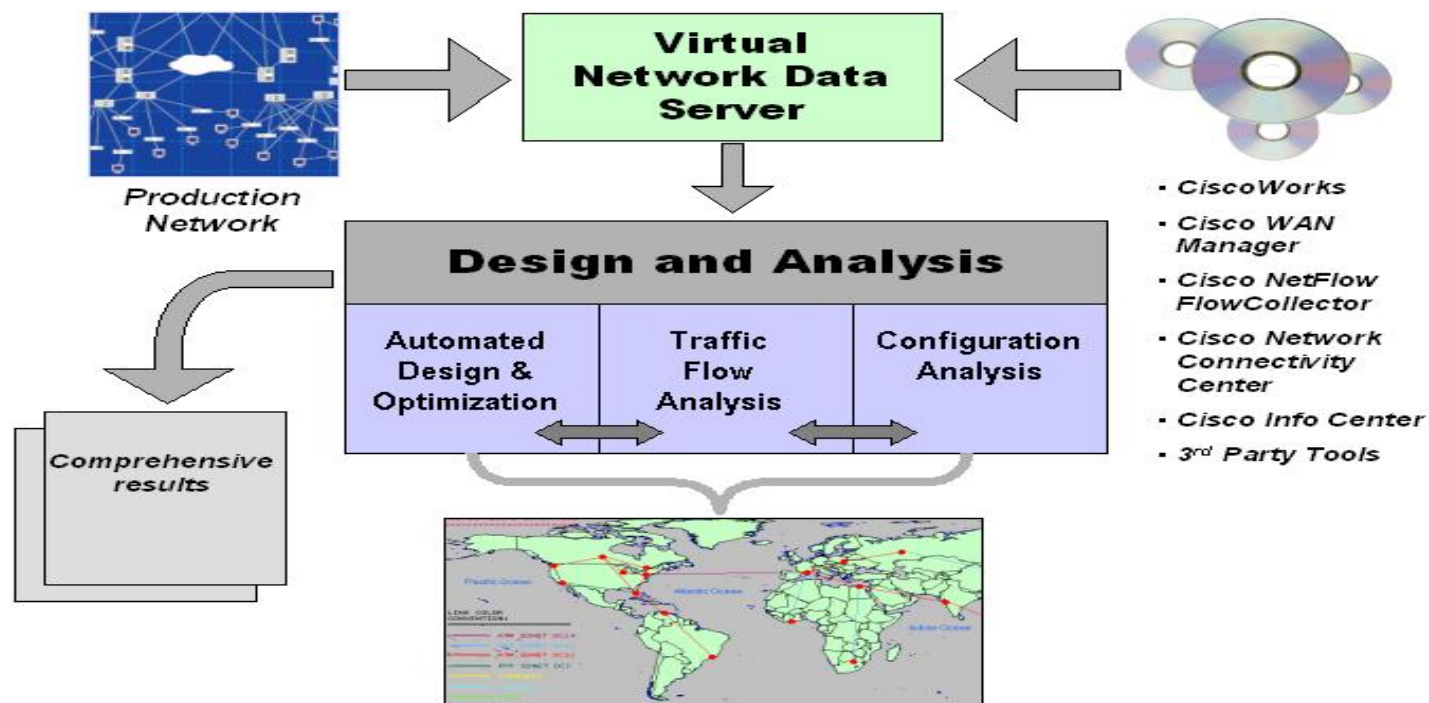
## Advantages

- Proactive handling on Business Risks
- Disaster Recovery Plans increase trusts in Customers and Investors
- Having assessments criterion if Disaster strikes
- Clear competencies in case of Disaster



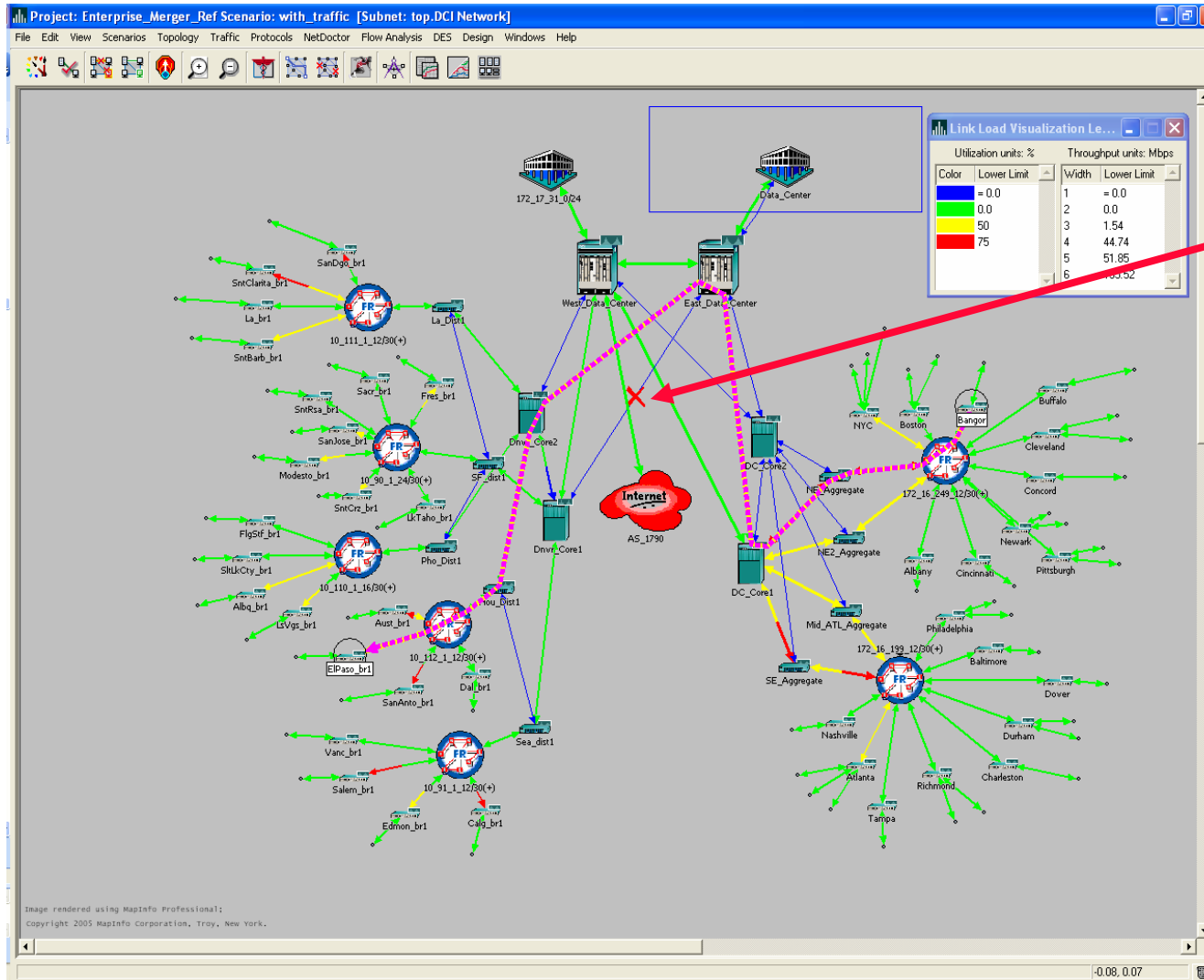
# Cisco Network Planning Solution (NPS)

- Predict the impact of changes to topology, configuration, traffic, and technology on performance
- Proposed network changes validated against policies prior to deployment
- Automate capacity planning and topology design
- Optimize link size for resiliency and cost/performance



# Cisco NPS Workflow

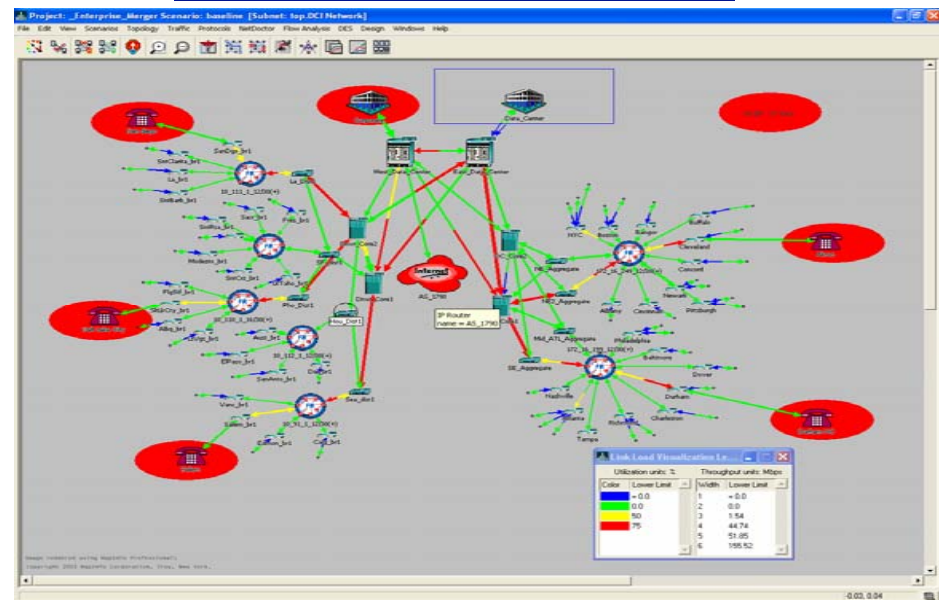
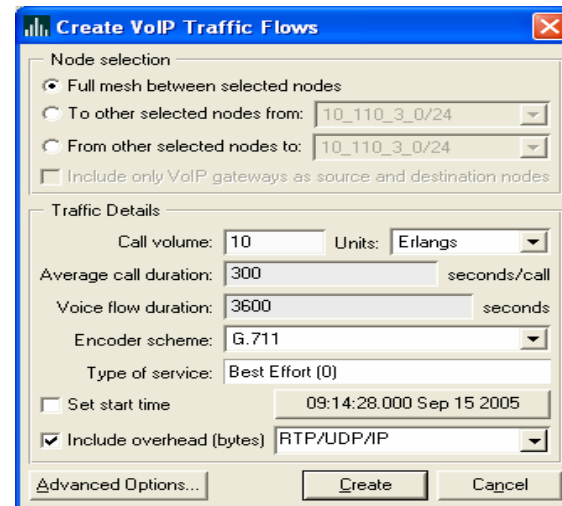
## Flow Analysis – Failure Analysis



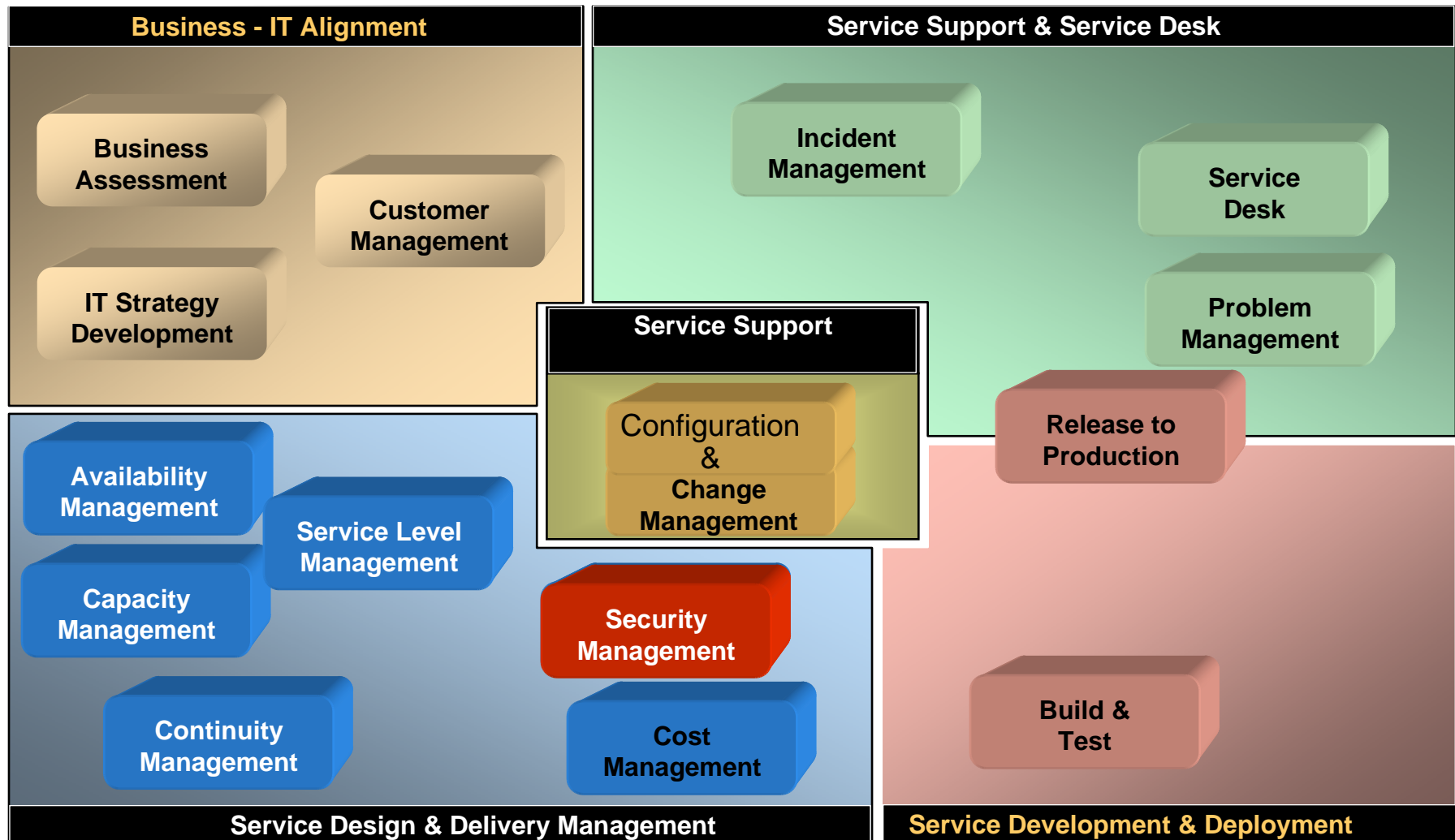
- Study many failure scenarios automatically
- Select resources to fail singly or in groups
- Flows recomputed for each failure case
- Sort results to identify “worst cases”

# Cisco Network Planning Solution

- Enable "cause and effect" understanding to:
  - Predict the impact of changes to topology, configuration, traffic, and technology on performance and policy compliance
  - Optimize link size for resiliency and cost/performance
- Integrated end-to-end planning workflow consisting of "what-if" analysis, traffic trending and forecasting, and exclusive design and optimization algorithms



# ITIL Security Management



# Security Management

**Mission: To prevent the occurrence of security-related incidents by managing the confidentiality, integrity and availability of IT services and data line with business requirements at acceptable cost.**

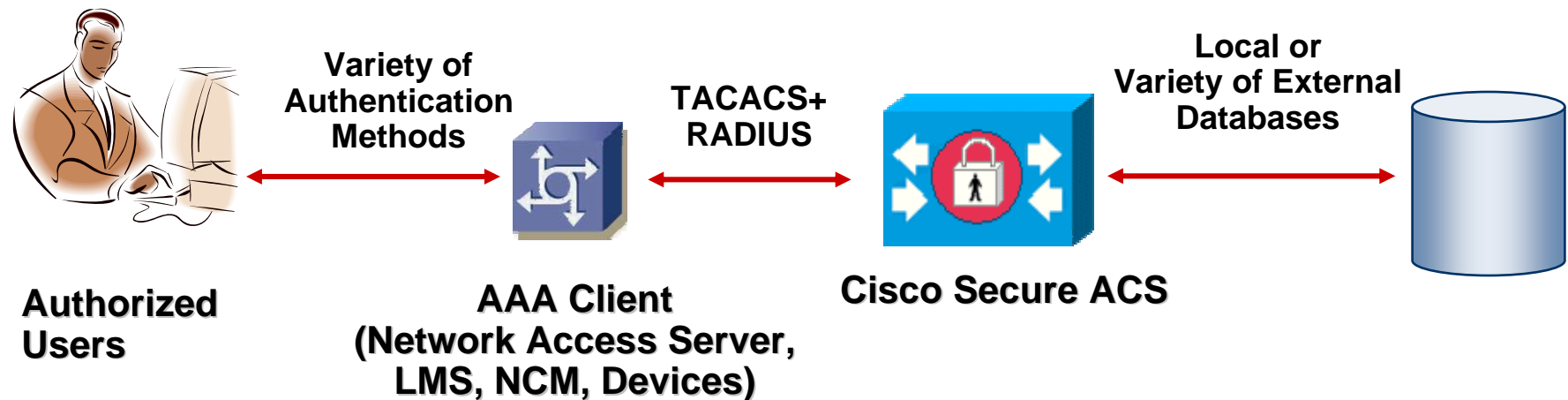
## Why Security Management

- **Confidentiality** - Information is accessible only to those authorized.
- **Integrity**- Safeguarding the accuracy and completeness of information
- **Availability**– Authorised users have access to information when required.

## Responsibilities and Duties

- Plan, Implement, Assess and Improve Security
- Implements physical, technical process oriented personal Security actions
- Takes counteractions against Security breaches

# Cisco Secure Access Control Server (ACS)



- **AAA Client/Server**

- AAA Client defers authorization to centralized AAA server
- Highly scalable
- Uses standards-based protocols for AAA services

# ACS Secured Access

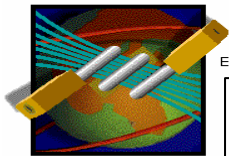
Cisco Secure ACS v4.0

Administration login required to access the system.

Centralized authentication

TACACS+, RADIUS, LDAP, AD,  
RSA SecureID support

Secure device, network and  
application access



Enter a username and password then click the "Login" button.

Network Device Group	AAA Clients	AAA Servers
<a href="#">PACE SERVERS</a>	2	0
<a href="#">DEVICES</a>	1	0

External User Database Configuration

Choose which external user database type to configure.

- [Windows Database](#)
- [Generic LDAP](#)
- [External ODBC Database](#)
- [LEAP Proxy RADIUS Server](#)
- [RADIUS Token Server](#)
- [RSA SecurID Token Server](#)

[List all database configurations](#)

Cancel

# CiscoWorks Network Compliance Manager

## Best-in-breed Network Configuration and Change Management (NCCM)

- real-time change detection
- device config and OS provisioning
- pre-deployment validation
- policy enforcement

## Sophisticated Audit and Compliance Analysis

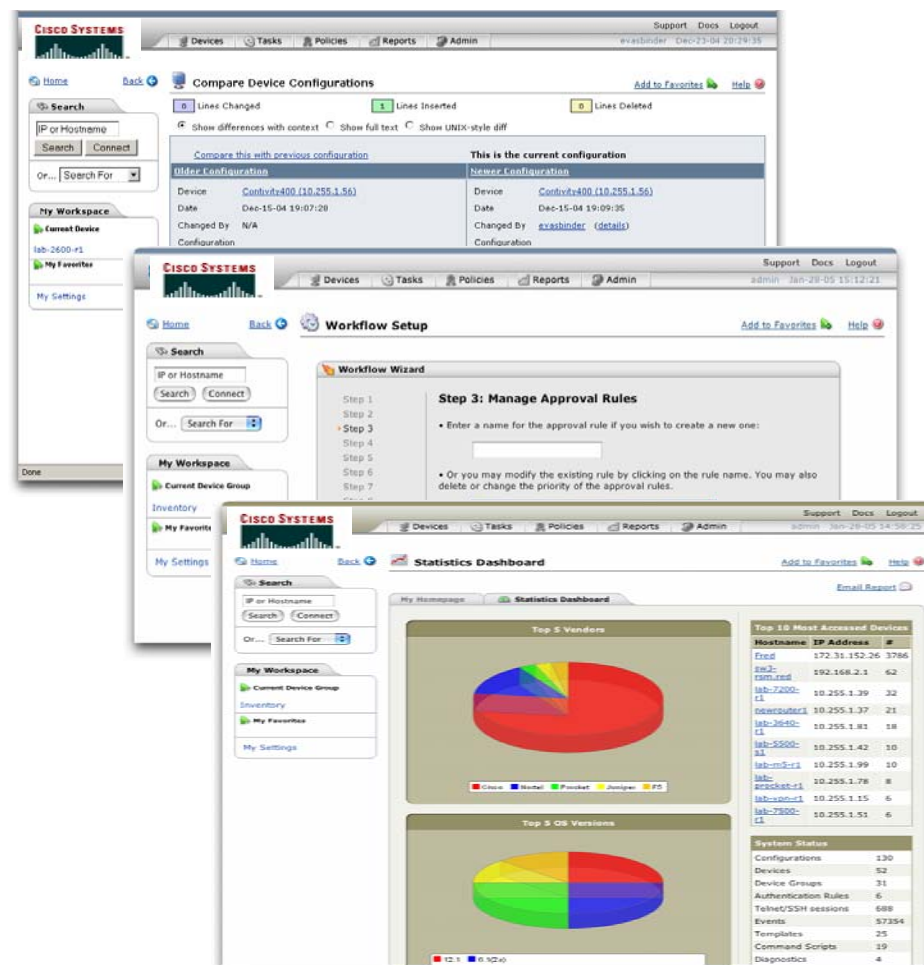
- set policy to track config and OS compliance
- automated generation of compliance reports (SOX, VISA CISP, HIPAA, GLBA, ITIL, CobiT, COSO)

## Advanced Workflows

- model complex projects
- define custom approval policies

## Extensive Reporting

- network status
- compliance





# Audit & Compliance

## Network Compliance Manager

The screenshot displays the CiscoWorks Network Compliance Manager interface. The top navigation bar includes 'Home', 'Back', 'Edit Configuration Rule', 'Add to Favorites', and 'Help'. Below the navigation, there is a search bar and a section titled 'Configuration Policies that Apply to Device' for device 'DALAB-2600-40 (10.255.6.2)'. A table lists the following policies:

Policy Name	Rule Name	Importance
NSA Router Security Best Practices	Access Lockout - Cisco IOS	High Importance
	Debug & Log Messages - Cisco IOS	Medium Importance
	Disable Bootp - Cisco IOS	Low Importance

A legend indicates the importance levels: High Importance (red square), Medium Importance (yellow square), and Low Importance (green square). A note states: 'The device is currently out of compliance with any highlighted rules.'

The bottom section shows the 'Compliance Center - Home' page. It features a globe icon and a blue book icon. The text describes the tool's capabilities for ensuring compliance with government regulations and industry standards. It lists the following standards:

- ◆ Sarbanes-Oxley (Section 404)
- ◆ COBIT
- ◆ COSO
- ◆ ITIL

Each standard has a corresponding 'Compliance Status' link.

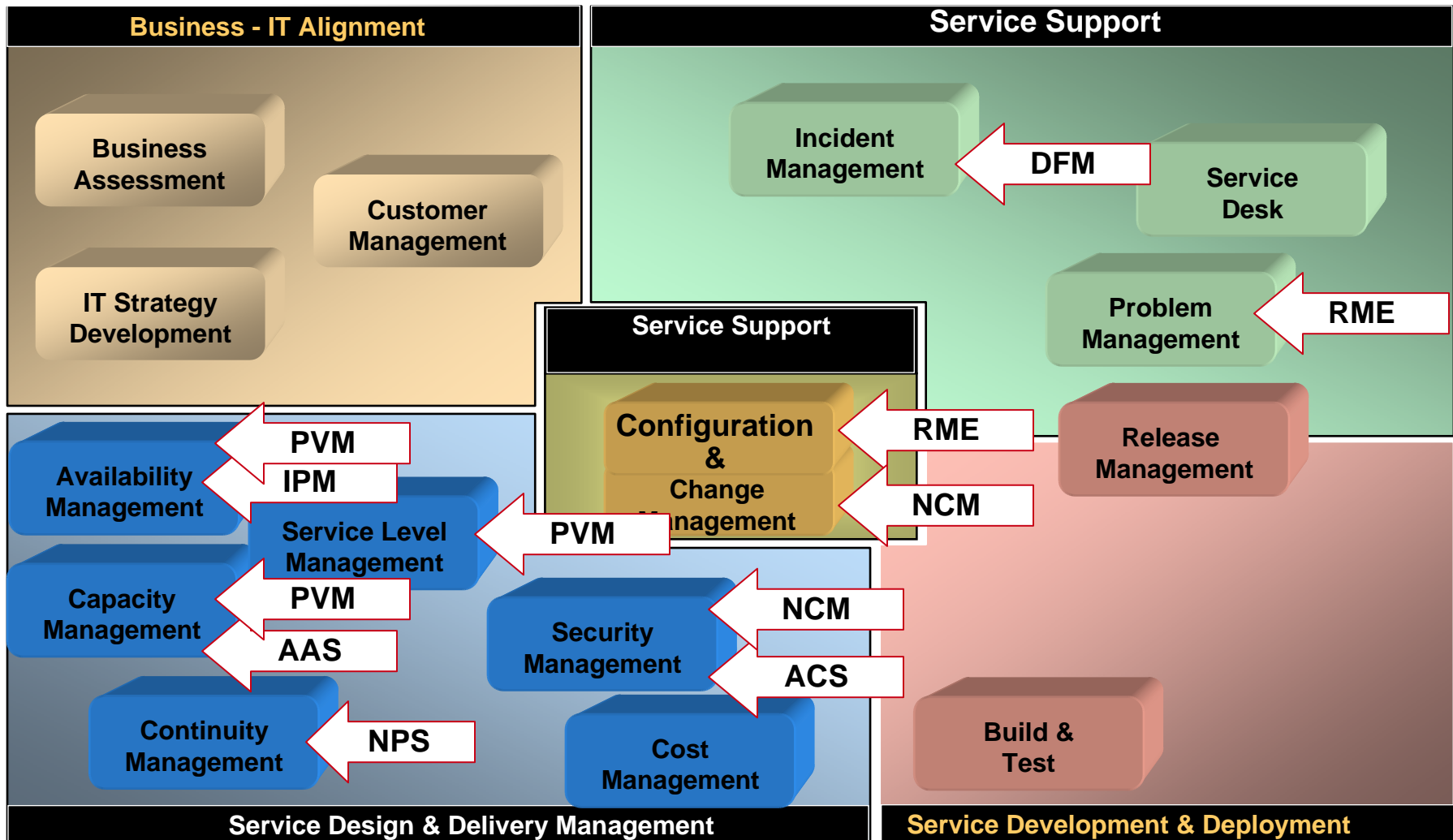
**Extremely flexible, and granular policy enforcement model**

**Check device configurations against policies**

**Adhere to standards compliance**

**Packaged Compliance Reports**

# ITIL Processes & Cisco Tools



# Summary

- Cisco's Tool Focus Today is clearly on Configuration and Change Management and on Service Delivery for the Network.
- There is no one2one match of ITIL Processes and Cisco Tools (Tools support multiple Processes and vice versa)
- CMDB Data as one of the major ITIL Data Store could be partially extracted from the RME Database
- PVM will become the Cisco Network Performance Datawarehouse with all kind of Availability, Capacity and Service Level Data for Applications and the Network

**Yes we support a lot of ITIL Process with CISCO tools !!!**

# Meet the Experts

## Management & Operations

- **Benoit Claise**  
Distinguished Service Engineer
- **Bruno Klauser**  
Consulting Systems Engineer
- **Emmanuel Tychon**  
Technical Marketing Engineer
- **Ralph Droms**  
Technical Leader
- **Stephen Mullaney**  
Technical Marketing Engineer
- **Stuart Parham**  
Consulting Systems Engineer



# Q and A



