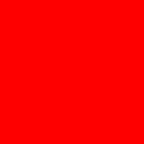




ORACLE®

Oracle Communications Network Integrity 7.0
Product Introduction and Overview



The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of any features or functionality described for Oracle's products remains at the sole discretion of Oracle.



ADDRESSING A PROBLEM

The Need for Data Integrity

Data Integrity is Essential for everyday Network Operations & Accurate Network Planning

→ But Inventory is typically 20% inaccurate!

“Today the typical industry norm for the level of discrepancy between what an NSP thinks it has in its network, and what it really has, is in the range of 20-40%”

Yankee Group

“Inventory accuracy can be as low as 40%, and many service providers report accuracy levels around the 80% mark.”

Stratecast Partners

The Telecom Operator's Objectives

Eliminate data inaccuracy in Inventory & OSS

Enable good business planning based on accurate Inventory and other data

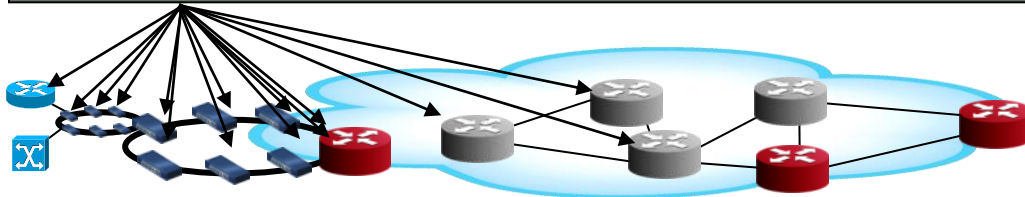
Introduce an easy-to-use GUI to solve a complex operational problem with minimal cost

Support a continuous audit process to ensure alignment of Inventory with the Network



ROLE OF NETWORK INTEGRITY

Network Integrity Typical Process Flow



- Keeps Inventory synchronized with the network & other systems
- Flexible, configurable, extensible & easy-to-use
- Supports any type of network, service & data source

1. Discover networks and services by scanning devices, EMSs, NMSs
 - Ex 1: Poll NE to find all interfaces, cards, ports and if each port is free or assigned
 - Ex 2: Poll EMS to find unused ports

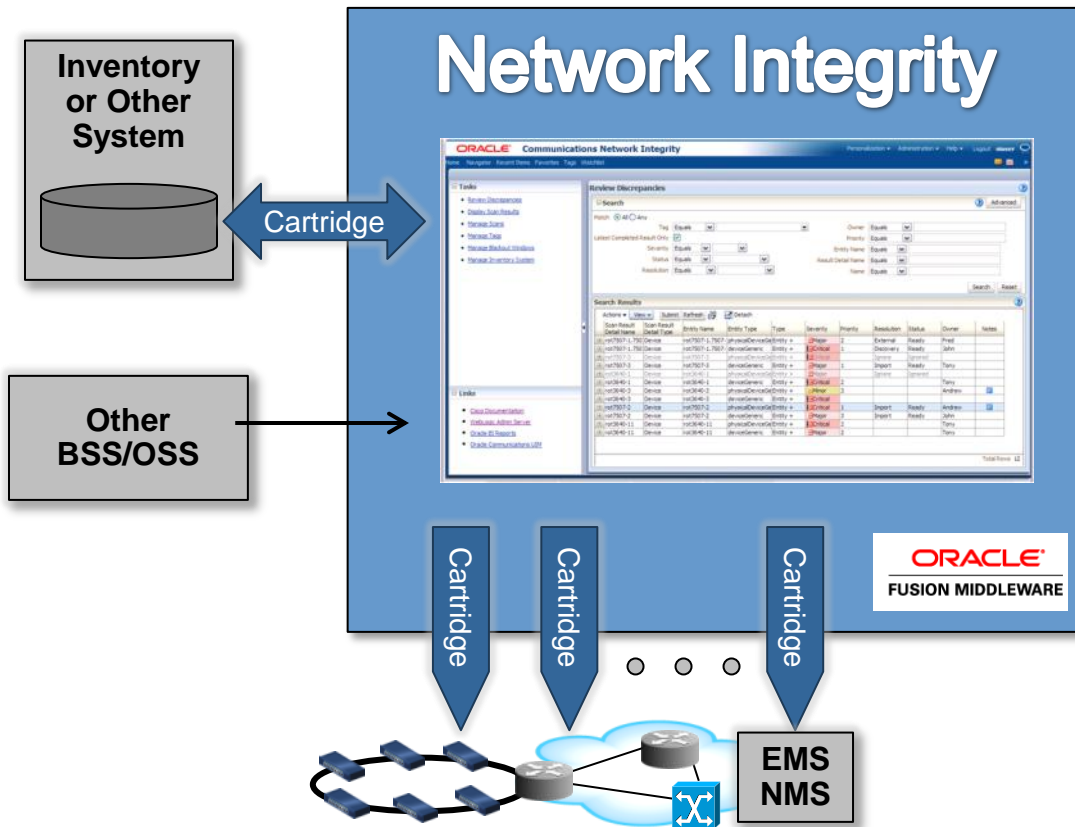
2. Import Inventory or other data with which to compare
 - Bulk or selective import depending on needs
 - Model and transform as required

3. Match Discovered device and service objects with Imported view and generate discrepancies (errors)
 - GUI and Reports used to see discrepancies
 - Severity and problem clearly visible

4. Correct discrepancies with easy-to-use reconciliation functions from the GUI
 - Rapidly make single or bulk corrections
 - Assign, rank and annotate discrepancies

Next Generation of Network Integrity

Synchronise the Front and Back office



- ❖ Browser-based client, for intuitive management of discovery scans, results & discrepancy reconciliation
- ❖ Pre-Integrated & Architecturally-aligned with Oracle Communications UIM; also supports other BSS/OSS
- ❖ Cartridge Extensibility through Design Studio
- ❖ SOA-Based, JEE-Compliant Application with extensive Web Services APIs
- ❖ Built on Oracle Fusion Middleware 11g and DB 11g



ABOUT NETWORK INTEGRITY 7.0

Network Integrity Strategic Direction



Strategic Objectives:

- Increase functional breadth and depth
- Consolidate to a single application
- Ease deployment and extensibility
- Align to Oracle Communications UIM & Product portfolio
- Leverage Oracle Technologies

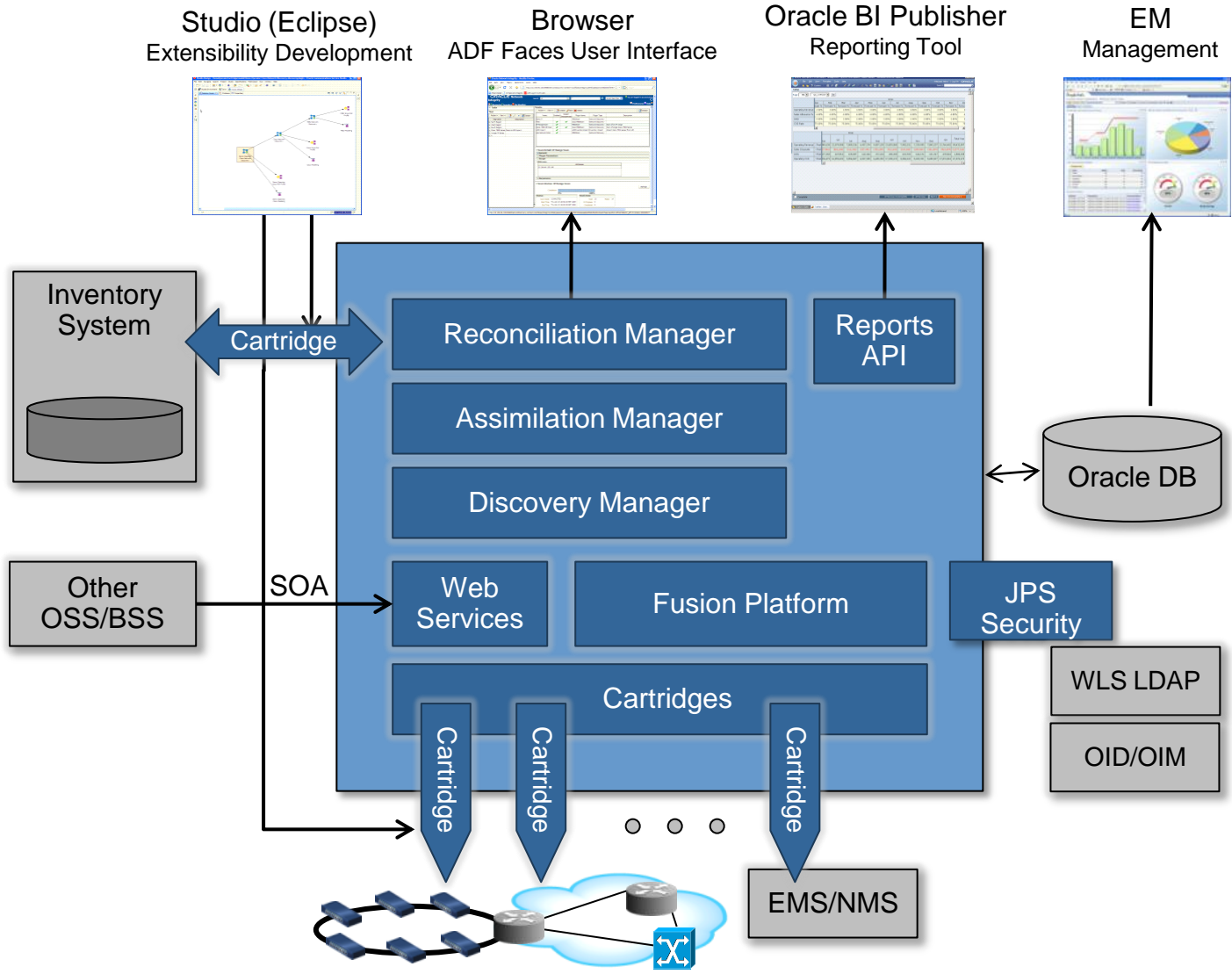
Communications Information Model (CIM)

Based on TMF SID



- Network Integrity 7 has adopted the UIM/CIM model, based on SID, for modeling discovered/imported data
 - Reduces complexity, deployments don't have to map different models together
 - Aligned extensibility user experience: Customers learn one way of extending the model, reducing their implementation costs
- TMF SID Model - Open foundation for universal inventory
 - Flexible and extensible data model
 - Can represent almost any kind of object or relationship found in information/communications domains
 - Contributions from a large community validate broad applicability
 - Common language simplifies integration between systems

Network Integrity 7.0 - Overview





KEY BENEFITS AND VALUES

Key Benefits & Values

Consolidation to a Single Application

Enhanced Integration & Alignment with UIM

Powerful Extensibility using Design Studio

Functional Enhancements

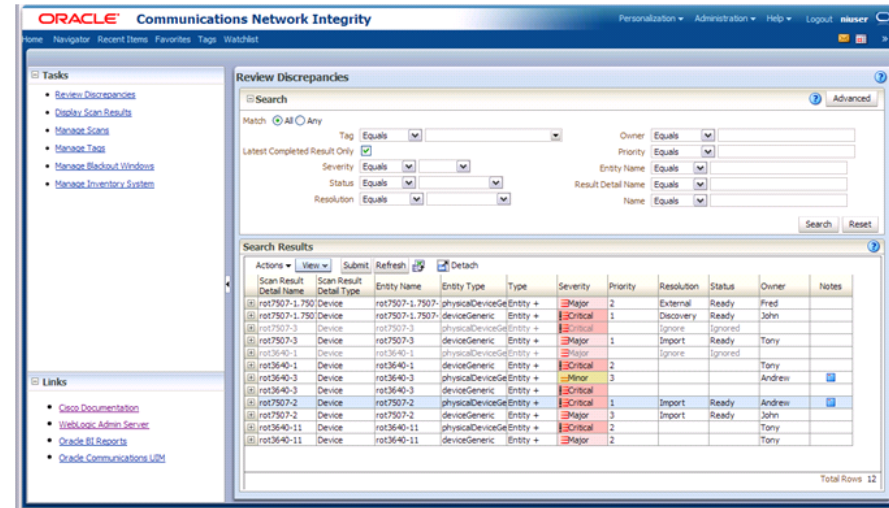
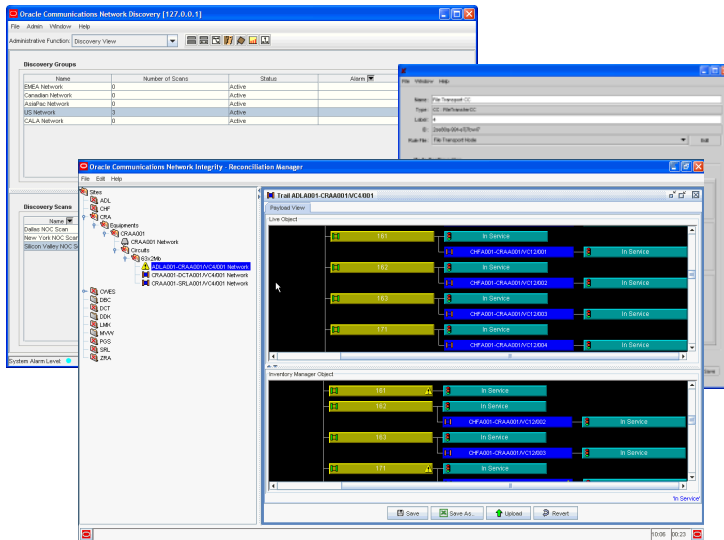
SOA-Based, JEE Compliant Application

Built on Oracle Fusion Middleware 11g

- Single user experience for discovery and reconciliation
- Control, schedule, review scan, imports and results in one GUI
- Fully browser-based

Harmonizing the user experience, quicker & cheaper deployment and lower ongoing management time & cost

Application Development Framework Provides a Rich Client Feel in a Browser UI



- Provides advanced Browser and GUI functionality:
 - Rich interactive user interface → Improved user experience
 - Internationalization → Rapidly localize in single or multi-byte
 - Oracle standard technology → Proven, quality components
 - Common look & feel with Oracle Fusion Apps → Easier for you to adopt

Key Benefits & Values

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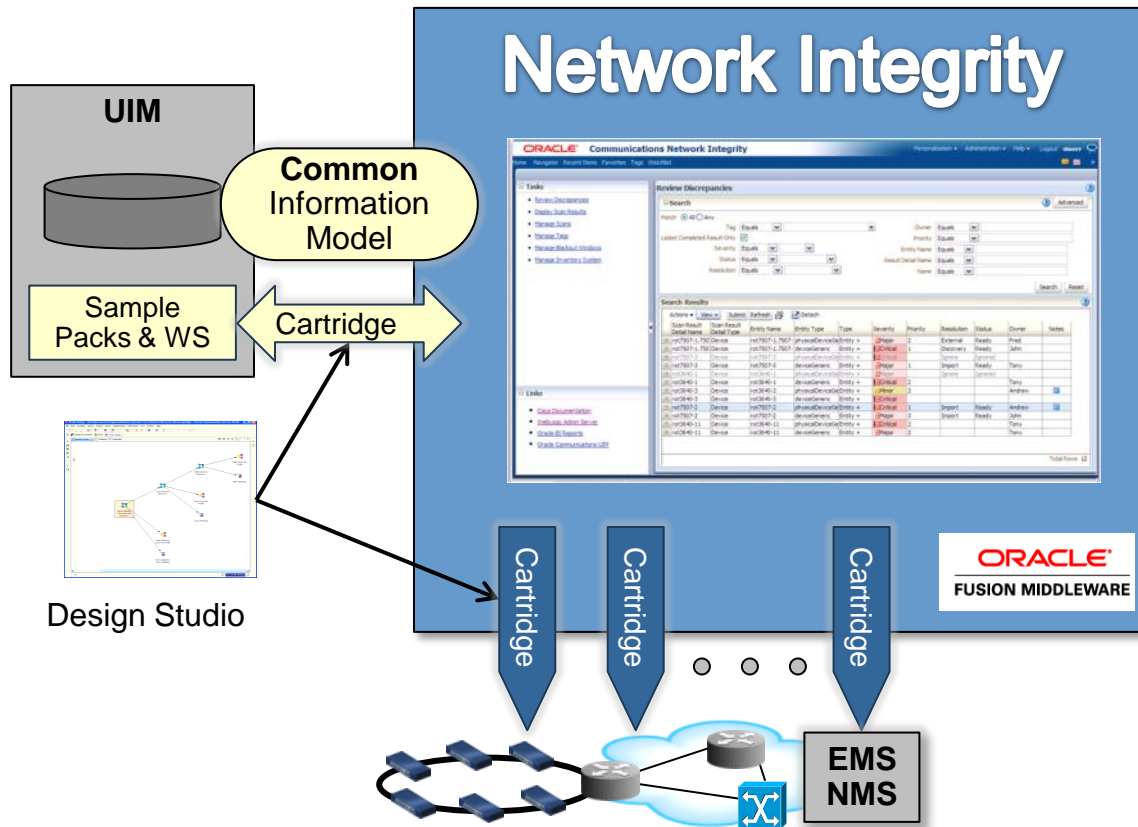
SOA-Based, JEE Compliant Application

Built on Oracle Fusion Middleware 11g

- Productized integration with Oracle Communications UIM
- Comprehensive: Import, discrepancy detection & resolution
- Shared Common Information Model (CIM) based on TMF SID

Delivering rapid value with Oracle Communications inventory, maximising value of any inventory product or products

Integration with UIM



- Shared Common Information Model (CIM) – reduces complexity and integration time
- UIM Cartridge – For importing Inventory data and resolving discrepancies
- Sample Web Services for UIM
- Design Studio – Common tool for extensibility and integration

Key Benefits & Values

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Powerful Extensibility using Design Studio

Functional Enhancements

SOA-Based, JEE Compliant Application

Built on Oracle Fusion Middleware 11g

- Adopting Design Studio to create, configure, extend cartridges
- Common extensibility tool for Oracle Comms OSS applications
- Cartridge-based integration with network & applications

Moving more focus from coding to configuration for extending/building cartridges and system integration

Extensibility through Design Studio

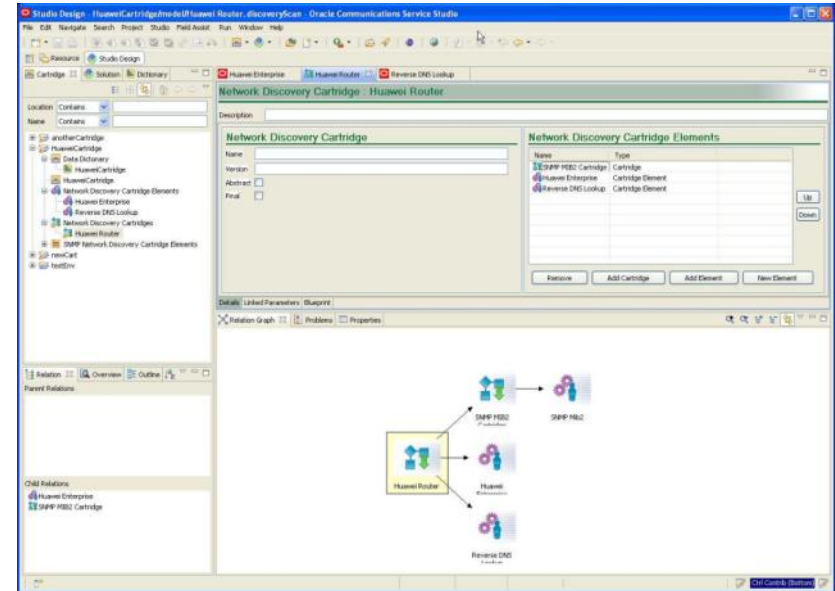
Studio
for
Activation

Studio
for
OSM

Studio
for
UIM

Studio
for Network
Integrity

Oracle Communications
Design Studio



- Studio - Single tool to create, manage & extend cartridges
 - Graphical environment
 - Moves the effort from coding to configuration
 - Maximizes cartridge re-use & extensibility
- Network Integrity 7.0 will share a single cartridge extensibility environment with the Oracle Communications OSS portfolio
 - UIM, Activation and OSM

Key Benefits & Values

Consolidation to a Single Application

Enhanced Integration & Alignment with UIM

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Functional Enhancements

SOA-Based, JEE Compliant Application

Built on Oracle Fusion Middleware 11g

- Simultaneously process multiple scans in parallel
- Comprehensive historical results access with search and filtering
- Manage discrepancies - assign Priority & Owner, add Notes

Working with customers and looking forward, the product evolves to make users more efficient and effective

Feature Functions

- Security
 - User UI & API Leverage WebLogic's security capabilities & embedded LDAP
 - Extensible to support even more sophisticated security providers
- Manage Scans
 - Concurrent Scans
 - Integrated discrepancy detection
 - IPv6 & multiple address formats
 - Intuitive scheduling & blackouts
- Review Discrepancies
 - Extensive Search
 - Color-Coded Severity
 - Correct Discrepancies
 - Assign a Priority & Owner, track progress in Notes

Entity Name	Entity Type	Type	Severity	Priority	Resolution	Status	Owner	Notes
rot3640-1	deviceGeneric	Entity +	Critical	2			Tony	
rot3640-11	physicalDeviceGe	Entity +	Critical	2	Import	Ready	Tony	
rot7507-3	physicalDeviceGe	Entity +	Critical		Ignore	Ignored		
rot7507-2	physicalDeviceGe	Entity +	Critical	1	Import	Ready	Andrew	
rot3640-3	deviceGeneric	Entity +	Critical					
rot7507-1.7507-	deviceGeneric	Entity +	Critical	1	Discovery	Ready	John	
rot7507-2	deviceGeneric	Entity +	Major	3	Import	Ready	John	
rot3640-11	deviceGeneric	Entity +	Major	2			Tony	
rot3640-1	physicalDeviceGe	Entity +	Major		Ignore	Ignored		
rot7507-3	deviceGeneric	Entity +	Major	1	Import	Ready	Tony	
rot7507-1.7507-	physicalDeviceGe	Entity +	Major	2	External	Ready	Fred	
rot3640-3	physicalDeviceGe	Entity +	Minor	3			Andrew	

Key Benefits & Values

Consolidation to a Single Application

Enhanced Integration & Alignment with UIM

Powerful Extensibility using Design Studio

Functional Enhancements

SOA-Based, JEE Compliant Application

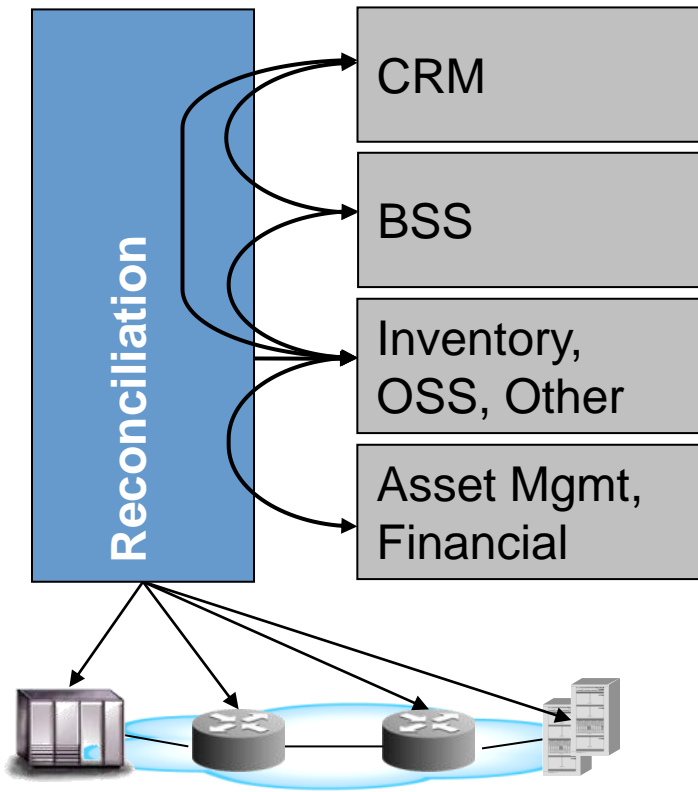
Built on Oracle Fusion Middleware 11g

- SOA-based architecture, Web Services API
- Oracle Communications Platform - Industry-specific common framework services supporting multiple applications

Providing a flexible & open application, extensive OOB functionality that can be integrated with other systems

Business Communications Services

Data Integrity across BSS, OSS and the Network



- The value of maintaining data integrity between Network & Inventory is well understood
- Data integrity across all BSS, OSS and network entities is critical to support:
 - Accurate billing of customers
 - Avoiding over-payment to suppliers
 - Quality customer service
- Examples
 - Billing & CRM
 - Payment & Inventory Alignment
 - Billing & Inventory Alignment
 - Asset Management & Inventory Alignment
 - CRM & Inventory Alignment

Key Benefits & Values

Consolidation to a Single Application

Enhanced Integration & Alignment with UIM

Powerful Extensibility using Design Studio

Functional Enhancements

SOA-Based, JEE Compliant Application

Built on Oracle Fusion Middleware 11g

- IT Infrastructure: WebLogic, DB, Sun & Linux
- Oracle application components: UI built on Fusion, EM
- Industry leading tools: BI Publisher, Identity Management

Scale, manage & control the application easily using the market's Number 1 application server & middleware

Oracle Technology Adoption

- Oracle Fusion Middleware 11g
 - Oracle WebLogic Application Server
 - Oracle Enterprise Manager
 - Oracle App Development Framework
 - Oracle Business Intelligence (optional)
 - Oracle Identity Management (optional)
- Oracle DB 11g R2
- Oracle Linux & Sun Solaris

ORACLE
FUSION MIDDLEWARE **11g**

ORACLE
DATABASE **11g**

 Sun
ORACLE

Unbreakable
Linux
ORACLE

Reduce Total Cost of Ownership

Consolidated IT infrastructure: OS, DB, application server & middleware

Simplify Integration & Speed Deployment

Consistent installation, maintenance & UIs

Enhanced Features & Functionality

Reduced time for Return on Investment

ORACLE

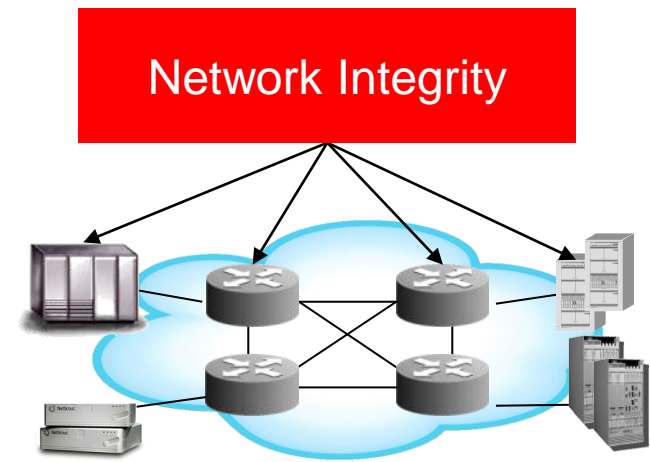


CARTRIDGES

Productized MIB-II SNMP Cartridge

Logical

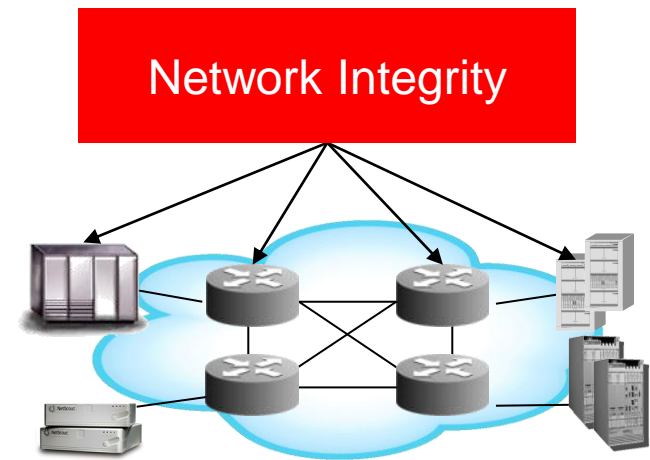
- SNMP Cartridge with pre-defined poll profiles & modeling of data collected
 - Works OOB including collection and modeling
 - Polls
 - MIB II RFC1213,
 - IF MIB RFC1573
 - IP-MIB for IPv6
 - Uses IANA MIB for support
- All SNMP Devices support at least part of MIB-II
- Retrieves device & interface information from the network
 - Device: Name, description, sysObjectId, mgmtIpAddress
 - Interface: Name, description, type, speed, status, alias, etc.



Productized Cisco SNMP Cartridge

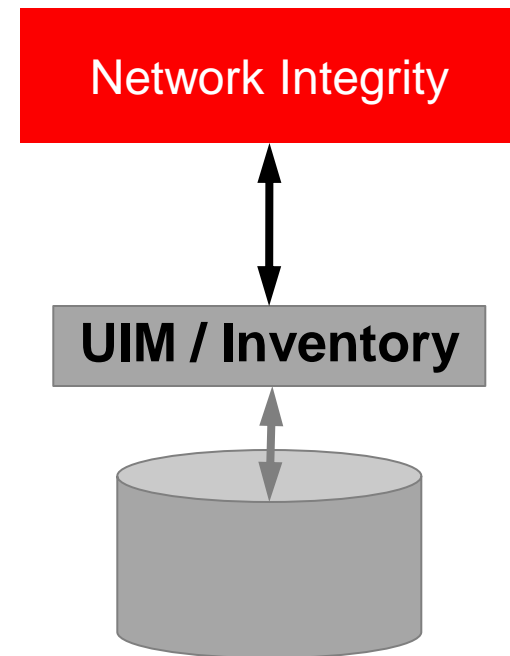
Physical & Logical

- SNMP Cartridge with pre-defined poll profiles & modeling of data collected
- Specialized Cisco Cartridge, discovers significantly more info than the MIB-II cartridge
 - Physical: ENTITY-MIB (RFC 2737)
 - Logical: MIB II Cartridge poll list plus:
 - ATM-MIB
 - CISCO-CONFIG-MAN-MIB
 - CISCO-FRAME-RELAY-MIB
 - CISCO-VLAN-MEMBERSHIP-MIB
 - CISCO-VLAN-IFTABLE-RELATIONSHIP-MIB
 - RFC1315-MIB (Frame Relay)
- Physical Hierarchy
 - Device -> Shelf -> Slots -> Card -> Port
 - Includes Fans, Power Supplies, etc.
- Physical resources at each layer of the hierarchy
 - Ex. Physical Device: Name, Description, sysObjectId, location, mgmtIpAddress
- Logical Resources (L2 Endpoints, etc.)



UIM and Inventory Integration Cartridges

- UIM integration demonstrates functionality and capability
 - UIM deployments are adaptable
 - UIM samples devices for physical and logical models and hierarchy
 - UIM web services for device management
 - Consider NI early in UIM plans
- Other inventory
 - NI7 is “inventory agnostic”
 - Data model analysis
 - API investigation
 - Experience proves we can do it

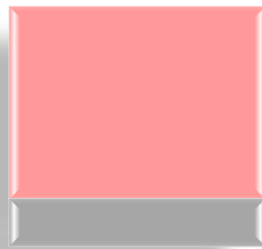


Design Studio for Cartridge Extensibility

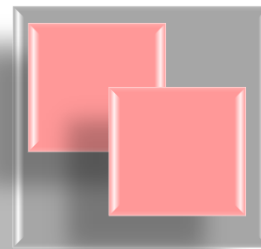
- Network Integrity Fully leverages Design Studio Platform
 - Customer can extend CIM using the Common Data Dictionary
 - Auto-generates Appropriate infrastructure
- Extensibility models
 - Extending and existing Cartridge
 - Cartridges build on each other
 - New Cartridges from “scratch”



**Out of the box
cartridge**



**Extended OOTB
cartridge**



**Combining
cartridges**



**Custom
cartridge**



SUMMARY

Key Benefits of Network Integrity

- **Identify Stranded Assets - Save Capital**
- **Minimize Fallout in Flow Through Service Fulfillment**
- **Ensure Inventory Accuracy for Operations & Planning**
- **Automate Manual & Error Prone Procedures**
- **Quickly Load Inventory or other systems**

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COMMUNICATIONS

Network Integrity on www.oracle.com