

OS3 Suite's support for TM Forum Information Framework (SID)

July 2010

- OS3 SID is a subset of the full TM Forum Information Framework (SID) classes and is implemented within BMC Software's Atrium CMDB
 - Extends the capability of Atrium CMDB to support the specific needs of Communication Service Providers (CSP)
 - SID class structures facilitate easier interoperability with other CSP tool vendors
- OS3 Suite 'Change Management' processes maintain the integrity of information held in the SID and also other federated CMDB sources

- BMC Atrium uses a CDM (Common Data Model) CI class structure which is similar to DMTF CIM (Distributed Management Task Force, Common Information Model). Both class structures are driven from ITIL standards and have been designed specifically to support internal IT infrastructures
- The TM Forum Information Framework (SID) has been designed to support the Business Information Framework - eTOM (enhanced Telecom Operations Map) business processes to provide information based interoperability between different CSP B/OSS operating domains and systems
- n-Tier relationships between multiple Network CI's, Service CI's, Product CI's and Customers is an inherent requirement of SID
- The OS3 Suite employs a subset of the full SID class definition to specifically support CSP network infrastructures

- In summary, the CSP network domain is much more complex than an IT domain
 - The relationships between the various ‘pieces’ of the network spread across multiple sites with relationships between the ‘various pieces’ and multiple service instances and multiple customers and supported and maintained by multiple vendors is very complex !
- As a complete entity, the CSP network is also potentially more business critical than an IT domain:
 - This adds more complexity as it is important that there is a tightly integrated and dynamic relationship between ‘service assurance’ /OSS domains and the customer focused BSS domains. This is encapsulated in the CSP industry’s eTOM Business Information Framework which is underpinned by the SID

- SID relationship information enables the OS3 Suite to support key CSP business requirements
 - Impact analysis relating to Troubles/Incidents, Network Changes and Maintenance tasks
 - Automatic notification of impacts to internal support groups and third parties including customers
- OS3 SID underpins OS3 Suite processes e.g.
 - Links Maintenance information to Network CI's
 - Links enhanced Location information to Network CI's
 - Links enhanced Vendor and Third party information to Network CI's
 - Enables 'holistic' reporting and analysis
- Other B/OSS systems and processes could also make use of information held in the OS3 SID

OS3 SID Fundamentals

Market / Sales

Product

Customer

Service

Resource

Supplier / Partner

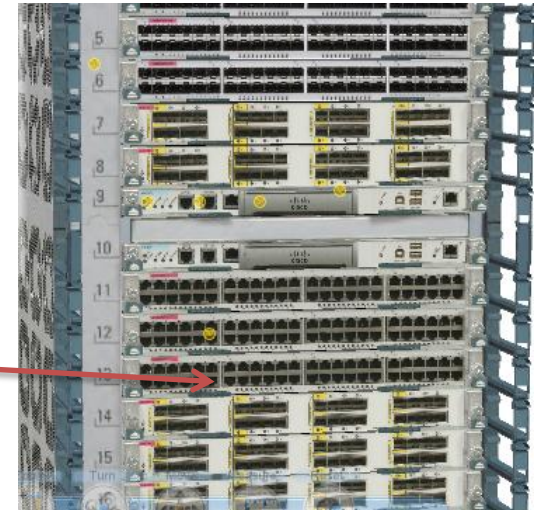
Enterprise

Common Business

- The SID is divided into a number of domains
- OS3 SID is primarily concerned with the *Resource* and *Service* Domains
- OS3 SID includes some elements of Product and Common Business
- The domains are further broken down into *Abstract Business Entities*.
- An *Abstract Business Entity* is a collection of classes which model key business concepts

- Service Specification contains the invariants of a service
- Service Instance contains details of individual service instances
- Easy Example
 - A business could offer an 8Mb ADSL connection with no greater than 20-1 contention ratio, 8Mb down, 512K up. The dynamics of this would be a Service Specification.
 - A customer could order and have the 8Mb ADSL connection offered by the business. This would be a Service instance.
- **This allows for *change management of service specifications independent to Service Instances***

- A physical resource is something you can touch
- A logical resource represents the functional aspects of a physical resource
- Easy Example
 - Take the portion shown of the Cisco Nexus 7000 switch opposite (this is a logical device)
 - **Logically**, the arrowed item is a 'Gb port' of the switch
 - **Physically**, it is an RJ45 Socket
- This allows for management of the function of the port as well as maintenance & replacement of the connector



- A single device may perform many roles and as such, the roles should be modelled separately
- Easy Example
 - The picture opposite shows the Cisco AS5350 universal Gateway which supports up to 8-T1 configurations
 - This single device can be configured to provide data, voice and/or fax services on any port at any time
 - Therefore, the 'overall' device could be role modeled as providing Data, Voice and Fax and/or each individual port can be configured for any combination of these roles as well
- Allows management of devices as functions

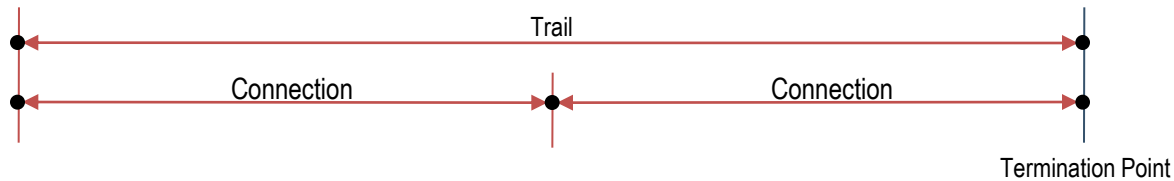


- The SID model implements well defined relationships between all of its data. Data can be 'visualized' at various levels as defined by business need.



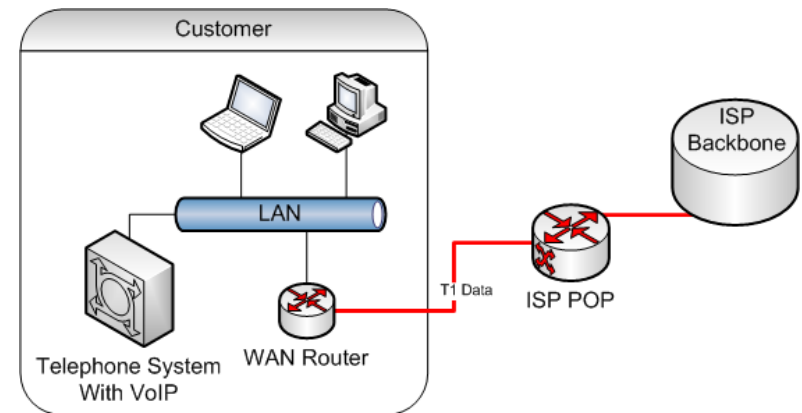
- Easy Example
 - The business is going to implement a new VoIP Product for an existing edge customer. The existing network connects through the pictured device, which can be visualized as supporting the required Product
 - The Device can be visualized as having expansion capability for the customers edge network, is capable of performing a VoIP Role with Low Latency management, QoS and Codec Services
 - The device can be visualized as connecting to a network that has the correct bandwidth availability to provide faultless operation

- Model support for Termination Points, Connections and Trails - essential concepts for modelling complex Telecoms networks

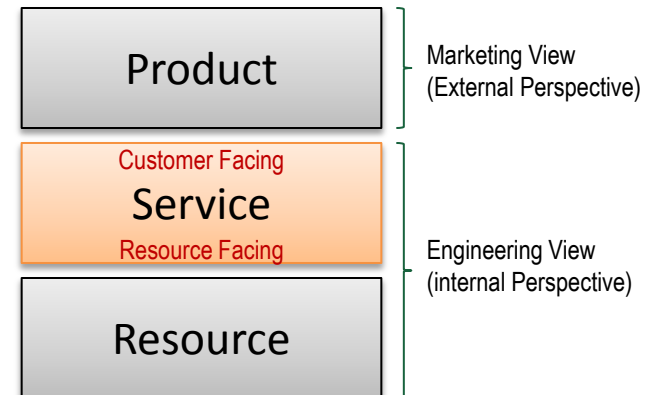


➤ Easy Example

- A trail could be visualized as the route between a customer's WAN Router and the ISP's Backbone network
- This trail could be made up of the connection from the Customer's WAN Router to the ISP POP and then from the ISP POP to the ISP Backbone



- Customer Facing Services are provided via products
- Resource Facing Services are internal services that support Customer Facing Services
- Easy Example
 - A customer purchases a real-time broadcast of a football match (the Product)
 - A Customer Facing Service would be the video streaming connection to the customers PDA
 - A Resource Facing Service would be the wireless network utilized by the video streaming connection



TM Forum - Information Framework (SID) - Windows Internet Explorer

http://www.tmforum.org/InformationFramework/1684/home.html


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Information Framework (SID)

John Reilly
TM Forum, Senior Program Manager

TM Forum's Information Framework (SID) is a key element of the TM Forum [Framework](#) Integrated Business Architecture and is in use worldwide by service providers and vendors. It provides a **common reference model for Enterprise information** that service providers, software providers, and integrators use to describe management information.

Information Framework allows easier, more effective integration between software applications. It provides the concepts and principles needed to define a shared information model, the entities of the model, as well as the business-oriented UML class models.



tmforum Framework

Integrated Business Architecture
Information Framework
Application Framework
Business Process Framework
Integration Framework

Online Community

Information Framework (SID)

- Members
- Discussions
- Wiki
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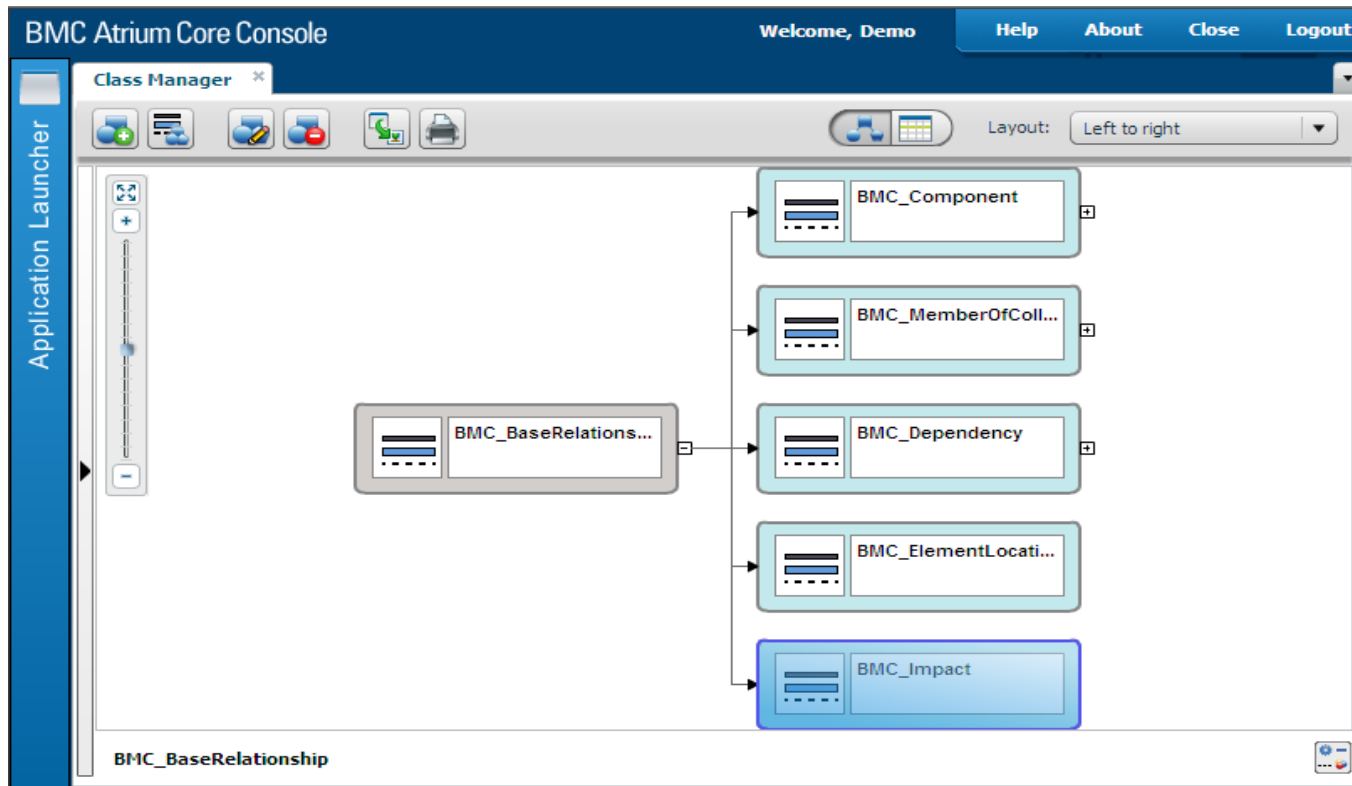
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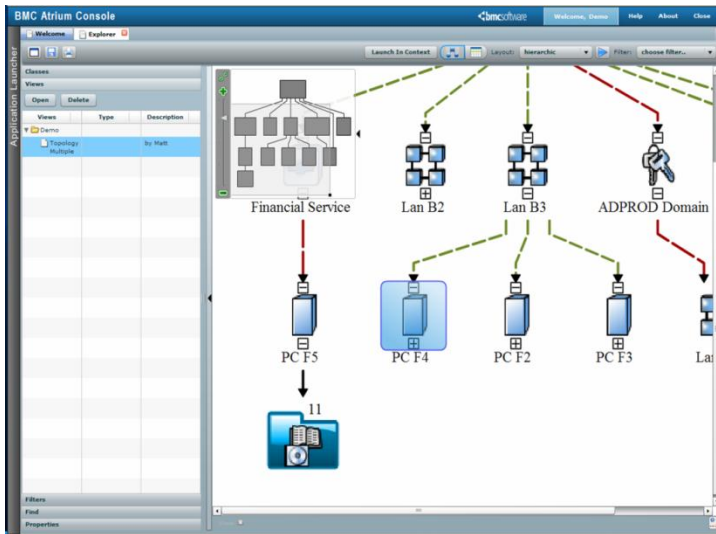
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Implementation of OS3 SID in BMC Atrium CMDB

Graphical Class Manager

Extend and customize CMDB class data model (used to support TM Forum Information Framework (SID))





Atrium Explorer

Graphical tool to view CIs and relationships

Job Monitoring Console

Track progress of current and previous jobs

Name	Status	Start Time	End Time
BMC Sample - Identification and Merge	Success	Fri Oct 3 14:20:50 GMT+0530 2008	Fri Oct 3 14:21:07 GMT+0530 2008
BMC Sample - Identification and Merge	Success	Fri Oct 3 14:29:49 GMT+0530 2008	Fri Oct 3 14:29:58 GMT+0530 2008
BMC Sample - Identification and Merge	Success	Wed Oct 8 13:52:07 GMT+0530 2008	

The screenshot displays the BMC Atrium Core Console interface. The top navigation bar includes the BMC Software logo and menu items: Welcome, Demo, Help, About, Close, and Logout. The main window is titled 'Normalization' and features an 'Application Launcher' on the left side. Two application status cards are visible: 'BMC.ASSET' and 'BMC.SAMPLE'. The 'BMC.ASSET' card shows a status of 'Active', 4 successful runs, 0 failed runs, and an average time of 0.00194 Hrs. The 'BMC.SAMPLE' card shows a status of 'Active', 0 successful runs, 0 failed runs, and an average time of NaN Hrs. The main content area is titled 'BMC.ASSET' and contains a 'Job Schedules' section. A table lists the schedule details:

Schedule Id	Start Time	Recurrence Type	Recurrence Details
▼ BMC.ASSET			
▼ OI-439FDEDCC02045548	12:00 a.m.	DAILY	Mon,Tue,Wed,Thu,Fri,Sat,Sun

Below the table is an 'Edit Schedule' section. It includes a 'Recurrence Type' section with radio buttons for 'Daily' (selected), 'Weekly', and 'Monthly'. The 'Recurrence Details' section shows a grid of checkboxes for days of the week: Mon, Tue, Wed, Thu, Fri, Sat, and Sun, all of which are checked. The 'Schedule id' is 'OI-439FDEDCC0204554' and the 'Start time' is '12:00 a.m.'.

- Normalization Engine ensures data quality through policy enforcement
- Continuous Reconciliation Engine keeps data clean and relevant

**Please do not hesitate to ask for
more information**