TIBCO ACTIVEMATRIX BUSINESSWORKS CONCEPTS

This is another entry of the series of articles that expose the Certification notes for the TIBCO BusinessWorks Certification exam. This information has been extracted from the TIBCO ActiveMatrix BusinessWorks documentation

TIBCO ActiveMatrix BusinessWorks Fundamentals

- TIBCO ActiveMatrix is a scalable, extensible and easy to use integration platform that allows development of integration projects.
- Integration platform requirements.
- Short Development Cycle
- Scalability and Extensibility
- Ease of use
- TIBCO ActiveMatrix BusinessWorks prerrequisites
- TIBCO Runtime Agent
- TIBCO Designer
- TIBCO Administrator
- TIBCO ActiveMatrix BusinessWorks engine runs the business process in test mode and at run-time.
- TIBCO ActiveMatrix BusinessWorks Service Container hosts multiple application simultaneously.
- TIBCO ActiveMatrix BusinessWorks design-time plug-in provides the palettes and resources to TIBCO Designer for creating processes.
- TIBCO ActiveMatrix BusinessWorks was designed using a plug-in architecture.
- TIBCO Administration domain is a collection of users, machines, and TIBCO ActiveMatrix BusinessWorks components that a TIBCO Administration Server monitors and manages.
- There is only one Administration Server for each administration domain.
- Although components within an administration domain can communicate with systems outside the domain, the administration domain is the administrative boundary for an enterprise integration project.
- When administration Server goes down, all process engines and adapters continue to run.
- Support for Standards
- J2EE Compliant. JMS, EJB, JNDI
- Protocols. Web services (SOAP, WSDL), HTTP, HTTPS
- Messaging. JMS TIBCO Rendezvous
- Data Description. Native support for DTD, XSD and TIBCO AS Schema
- Data Representation and Expressions. Native support for XML, XPath
- Data Transformation. XSLT
- A plug-in for B2B interactions

- Integrated Development Environment. With TIBCO ActiveMatrix BusinessWorks, the process design, deployment and runtime environment are tightly integrated even though the runtime environment supports a distributed architecture.
- Extensibility and Scalability. Scalability to support higher volume of data and extensibility to support additional applications or a larger number of process engines or adapter instances.
- Better Resource Utilization and Less Maintenance Overheads

- Enterprise Archive. The Enterprise Archive resource allows to create an EAR file which can be deployed. It contains shared archives and process archives that you specify.
- When project is deployed, each component is individually started from TIBCO Administrator.
- After all adapters and process engines have been started, process instances are created by process starters. Process instances are created based on process definitions.
- While different process instances are running, any alerts scheduled during deployment configuration are sent to the specified recipient by the TIBCO Administration Server.
- TIBCO Administrator allows monitoring of the running project at different levels of detial and can collect tracing information for later analysis.

- TIBCO ActiveMatrix BusinessWorks features
  - Messaging
  - Guaranteed delivery and fault tolerance
  - Distributed architecture
  - High throughput
  - Scalability
  - Protocols supported are TIBCO Rendesvouz, JMS and HTTP

- Adapters. Help making information available to business process by ‘adapting’ the applications to a common messaging system.
  - Easy configuration with Design-Time adapter
  - Easy inclusion in Business Processes
  - Easy deployment and monitoring

- TIBCO ActiveMatrix BusinessWorks integrates with the following adapters:
  - Technology adapters. Files or databases
  - Application adapters. PeapleSoft, SAP R/3, Siebel, etc
  - Other adapters can be loaded into TIBCO Designer, but cannot be installed nor monitored with Administrator though.
  - Business Process Modelling
  - Schemas and Data Mapping

- The process data is the list of available data for a specific activity.
- The input schema defines input values for an activity.
- Process data can be mapped to input schema using a drag and drop interface. XPath can be used to specify conditional mapping.

Administration Domain Components

- TIBCO Administration Server
  - Components. Component software includes TIBCO ActiveMatrix BusinessWokrs engine and adapters
  - Machines. Each administration domain contains one or more machines. One machine can be added to an administration domain when a TIBCO ActiveMatrix BusinessWorks component or adapter is installed. All machines within an administration domain are expected to be in the same network subnet. However, TIBCO Rendezvous rvrd can be set up and can then use TIBCO ActiveMatrix BusinessWorks across subnets.
  - User and access information. User and authorization information is specified with the TIBCO Administrator GUI and stored in the domain data store.
  - Projects. A project that is created with TIBCO Designer GUI, then created an EAR file and sent to the machine where the TIBCO Administration Server resides. The EAR file can be deployed and it becomes visible in the TIBCO Administrator GUI and its components can be starte, stopped and monitored from there.
- The TIBCO Administration Server supports centralized authentication and authorization. Users with full administrative privileges can define which users should have access to which part of the system.
- Authentication. Verification of identity
- Authorization. Permission to view or execute. An administrator gives users access rights to the functionality of the product they need.
- Monitoring activities to perform with TIBCO Administrator over administration domain.
- View, add and delete users and assign access privileges to each user
- Monitor and manage the machines in the administration domain.
- Monitor deployments. This includes viewing component status and throughput and looking at traces, which can also be exported to a file.
- Manage deployment. This includes stopping and starting process engines and adapters.