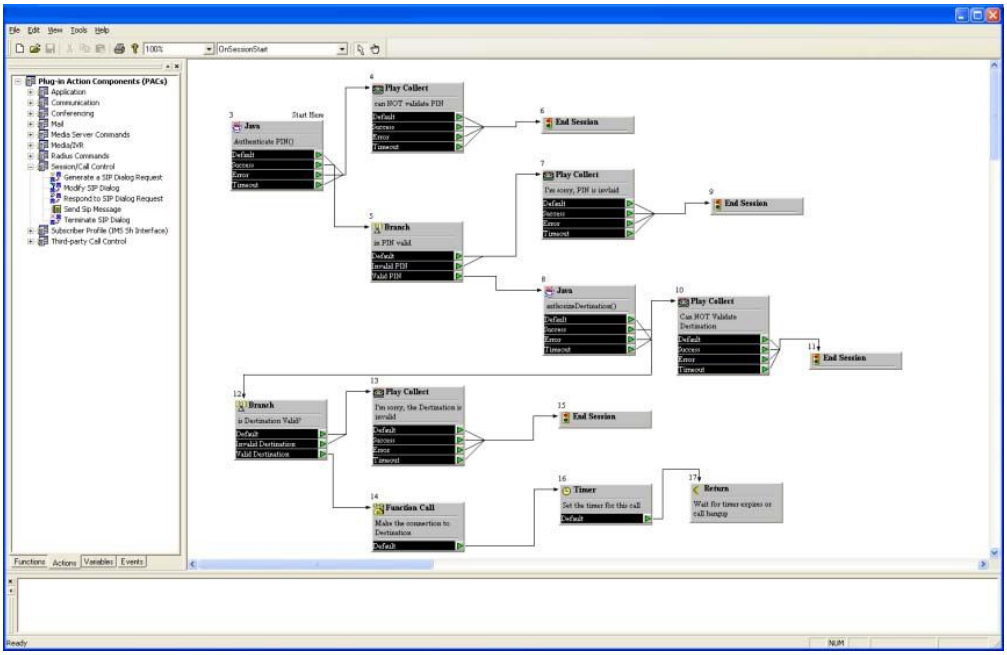
IMSWorkX

XpressWorkX™ Service Creation Environment

Flexible, Fully Visual Call Flow Environment for Rapid Development of Service Applications



Product Overview

The XpressWorkX Service Creation Environment (SCE) is an industry-leading visual service development environment that enables developers to build sophisticated applications using drag-and-drop Plug-in Action Components (PACs) to enable a variety of built-in operations and link them in a visual call flow. This windows-based, intuitive interface makes applications faster to develop, customize, and modify to meet changing market needs.

The XpressWorkX SCE is a Windows-based visual application that allows developers to quickly and easily create multimedia communication services for next generation VoIP, VoLTE, IMS, and converged networks. The SCE offers drag and drop simplicity in a feature-rich environment that includes everything developers need to create full-featured applications. Unlike traditional Java or C++ environments that are altered to provide only a thin API for the SIP protocol, the SCE offers a palette of rich object types that include support for managing multimedia sessions using SIP dialogs, controlling media streams to provide IVR, processing AIN transactions, and conferencing controls. These objects come together quickly to create applications for subscriber authentication, conferencing, billing, and enhancing the user experience.

Highlights:

- *Visual call flow representation provides intuitive development user interface*
- *Plug-in Action Components allow straightforward drag and drop development of next generation network applications − including actions for:*
  - *Applications*
  - *Communications*
  - *Intelligent Networks*
  - *Mail*
  - *Media/IVR Session/ Call Control*
  - *Subscriber Profile*
  - *Third Party Call Control*
- *"Drop to Java" feature allows full programmatic control for custom features directly in the call flow*
- *Applications are automatically translated into XTML to deliver enhanced voice services with speed and flexibility comparable to XML-based Internet applications*
- *Protocol support includes SIP, HTTP (REST/SOAP), RADIUS, SIGTRAN, Mail, and select DIAMETER interfaces*

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Visual Call Flow Representation

Developers build applications using drag and drop PACs to enable a variety of built-in operations and then link them in a visual call flow. This simple, intuitive interface makes applications faster to develop, customize, and modify to meet changing market needs.

XTML Language Flexibility

Applications built with the XpressWorkX SCE are automatically saved into XTML (eXtensible Telephony Markup Language), an XML-based service description language. These XTML-based applications run natively on the XpressWorkX Application Server. With its extensive use of XTML, users of the XpressWorkX SCE are able to deliver enhanced voice services with speed and flexibility comparable to XML-based Internet applications.

SIP, IN, and IMS Protocol Support

Just like the XpressWorkX Application Server, the XpressWorkX SCE supports SIP (RFC 3261 and others), AIN via SIGTRAN (RFC 2719 and others), as well as important IMS protocols. Developers need not become SIP or signaling “experts” because the SCE abstracts protocol specifics and handles implementation details; developers simply specify the policies to be applied to the multimedia sessions the application creates and controls. The environment offers native support for protocols including HTTP (REST/SOAP), RADIUS, Mail, and select Diameter interfaces.

Built-In Programming Tools

The XpressWorkX SCE includes a JavaScript editor that can be invoked from any PAC, and an integrated XML parser for checking SCE XML output. Developers can also add Java code using the “Drop to” PAC to easily incorporate their own programming logic into a call flow.

Extensive Set of Plug-in Action Components and Plug-in Event Components

The XpressWorkX SCE has a rich set of PACs and PECs for creating next generation network services. Plug-in Action Components (PACs) PACs are the building blocks of a function and each one performs a specific action. These PACs are

Plug-in Action Components (PACs)

PACs are the building blocks of a function and each one performs a specific action. These PACs are selected, customized, and then linked in the call flow to create the application.

- **Application**: Call a Function, Drop to Java – static method, End the Session, Generic Action, Import Application Properties, Perform Timer Operations, Return from a Function, Sleep, Test Values and Branch
- **Communication**: Handoff the Call to another Application, HTTP Request, Send a Message, Wait for an Event
- **Conferencing**: Create a Conference, Delete a Conference, Modify a Conference, Modify Party in Conference, Remove Party from Conference
- **IN Calling Name Delivery** (GR-1188): Return Error, Return Result Last
- **IN Service Control Point Interface** (GR-1299): Analyze Route, Authorize_Terminiation, Continue, Disconnect, Forward_Call, Info_Analyzed, Info_Collected, Send_To_Resource,Terminiation_Notification, Update, Update_Data, Update_Request
- **IN Toll Free** (GR-533): Connect, Provide Instructions/Start
- **Mail**: Create Mailbox, Delete Mailbox, Get Mailbox Status, Read Mail, Search Mailbox, Send Mail, Update Mail
- **Media Server Commands**: Audit Media Server, Connect to Media Server
- **Media/IVR**: Create/Modify/Delete Connection, Notify Request, Play and Collect, Record Audio Stream, RTP Relay, Set Digit Map
- **Radius Commands:** Send a Radius Message
- **Session/Call Control**: Generate a SIP Dialog Request, Modify SIP Dialog, Respond to SIP Dialog Request, Send SIP Message Terminate SIP Dialog
- **Subscriber Profile (IMS Sh Interface)**: Profile Update Answer/Request, Push Notification Answer/Request, Subscribe Notification Answer/Request, User Data Answer/Request
- **TCAP**: TCAP Forward Message
- **Third-Party Call Control**: Outdial from Application Server, Place a Call on Hold

Plug-in Event Components (PECs)

The comprehensive set of PECs can be specified as call flow functions to trigger logic at any point during a call. PECs simplify the design of call flows by eliminating embedded conditional logic that would otherwise be needed to handle these events explicitly.

- **Application**: SigtranNotification
- **Application Server Events:** ServiceLoad, ServiceUnload, SessionStart, SessionEnd, Timer
- **Communication Events:** Handoff
- **Conferencing Events:** ActiveSpeakerNotification
- **IN Calling Name Delivery Events (GR-1188)**: ParameterProvideValue
- **IN Service Control Point Events (GR-1299)**: Analyze_Route, Close, Continue, Disconnect,Info_Analyzed, Info_Collected, Resource_Clear, Termination_Attempt, Termination_Notification,Update_Data
- **IN Toll Free Events (GR-533)**: Connect, ProvideInstructionsStart
- **Media/IVR Events:** MediaActiveSpeaker, MediaDTMF, MediaInactiveSpeaker, MediaPlayDone,MediaPlayFailed, MediaRecordDone, MediaRecordFailed
- **Radius Events:** AccessAccept, AccessChallenge, AccessReject, AccessRequest, AccountingRequest, AccountingResponse, ClientStatus, ServerStatus
- **Session Call/Control Events:** SIPDialogRequested, SIPDialogTerminated, SIPMsgOutsideDialog, SIPMsgWithinDialog
- **Subscriber Profile Events (IMS Sh Interface)**: ShMessage
- **User/Device Registration Events:** RegisterRequest, UnregisterRequest

Facilities to Provision XTML Applications

Once an application is created, developers can transfer application XTML files from the SCE directly to an XpressWorkX Application Server.

Complete Voice Service Solution

IMSWorkX provides powerful service layer applications for VoIP, VoLTE, IMS and Converged IP/TDM networks that are flexible to meet the needs of any network and subscriber. The highly scalable XpressWorkX software platform brings added value to service providers because of its proven ability to provide current services on legacy networks while simultaneously allowing rapid development of new services for evolving networks.

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